From:	Demchuk, Tania MEM:EX
To:	Rothman, Stephen MEM:EX; Meade, Laurie MEM:EX; Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; Bellefontaine, Kim MEM:EX; Howe, Diane J MEM:EX; Nakatsuka, Caroline M MEM:EX; Pocklington, Cheryl M MEM:EX; Morel, David P MEM:EX
Subject:	Inspector Check-in Call: Mount Polley

Daily check-in with Inspectors on site.

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Hemphill, Naomi MEM:EX; Naomi Hemphill; Nakatsuka, Caroline M MEM:EX; Pocklington, Cheryl M MEM:EX; Rothman, Stephen MEM:EX; McLean, Greg MEM:EX; Meade, Laurie MEM:EX; Kuppers, Haley MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Morel, David P MEM:EX; Narynski, Heather M MEM:EX
Subject:	Mount Polley - update from Sept 5 phone calls
Date:	Friday, September 5, 2014 5:16:47 PM

Highlights from call with MPMC/MOE/MEM

- Polley Lake level at 922.91 m
  - 7 pumps running with a total output of 15,000 gpm.
- Upstream dyke is being toed into the tailings on the other side of the breach. 16.5 m of advancement yesterday.
- Feel that water management on the downstream side of the breach is getting better.
  - Drainage from the breach is being intercepted and pumped to the till borrow.
  - Plans to construct settling channels downstream of the breach sump over the weekend.
  - A new pump (from the mill) and a diesel back-up pump are scheduled to be installed at the breach sump on Saturday.
- The central sump working as planned.
  - Water in the till borrow is being reduced.
  - Surge capacity is being built in other flooded borrow pits.
- Settling pond is also being constructed higher in the TSF. Pumps are on order to arrive in ~6 wks. Two smaller pumps will be installed prior to that.
- They will be removing wood debris floating at the mouth of Hazeltine over the weekend and should have silt curtains installed by Monday.
- Monitoring (water quality, sediment, etc) continues, as does work from survey boats on Quesnel Lake
- Minimal management/environmental staff on site this weekend.
  - I requested that Art ensures MEM's comments on the safe work plan for Hazeltine Creek are addressed.
- It sounds like there will be MOE staff accessing Hazeltine Creek via the safe work plan sometime next week.

Highlights from call with MEM/MOE

- MOE may be issuing a letter to the company with respect to violation of the pollution abatement order.
- Ongoing planning around longer term management of the site.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hemphill, Naomi MEM:EX
Subject:	FW: Mt. Polley - update from calls September 4, 2014
Date:	Friday, September 5, 2014 9:03:54 AM

From: Bellefontaine, Kim MEM:EX
Sent: Thursday, September 4, 2014 4:29 PM
To: Hoffman, Al MEM:EX; Warnock, George MEM:EX; Kuppers, Haley MEM:EX; Thorpe, Rolly MEM:EX; Demchuk, Tania MEM:EX; Howe, Diane J MEM:EX; Morel, David P MEM:EX; Rothman, Stephen MEM:EX; Meade, Laurie MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX
Subject: Mt. Polley - update from calls September 4, 2014

Highlights from EMBC call today:

- Weather report is mainly sunny through Saturday. Cloudy with scattered showers on Sunday and Monday.
- Polley Lake level at 922.96 (down 37 cm since breach).
- Main dyke at 80% complete.
- Polley Lake plug stability assessment submitted.
- Clearing of debris at mouth of Hazeltine creek should be starting on Friday.
- Safe work procedure shared with Steve Rothman and submitted to us late this afternoon.
- Emergency management BC looking for ways to rescind Local State of Emergency order restricting public access.

Main Highlights from call with MOE/MPMC/MEM:

- MOE asking about how long it would take to increase the capacity of the breach sump (to further prevent overflow). MOE suggested they would issue a letter to request they do it.
- These are conflicting priorities with health and safety in the area and completing the berm as quickly as possible. I suggested that MOE have a call with Steve Rothman to help them assess the situation.
- Archeologist confirmed obsidian flakes found near mouth of Hazeltine Creek. May have implications for sediment and erosion control works going forward.
- Data from transects on the Quesnel Lake is being received. Plume is deep.
- Calls will continue over the weekend.

Kim Bellefontaine, M.Sc., P.Geo.
Manager Environmental Geoscience & Permitting
B.C. Ministry of Energy and Mines
Phone: (250) 952-0489
E-mail: Kim.Bellefontaine@gov.bc.ca

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX
Cc:	Thorpe, Rolly MEM:EX; Warnock, George MEM:EX; Hemphill, Naomi MEM:EX; Naomi Hemphill; Kuppers, Haley MEM:EX; Rothman, Stephen MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX
Subject:	RE: Mount Polley - highlights from Sept 2 phone call with site
Date:	Saturday, September 6, 2014 3:00:33 PM

NOTE: this is the update from September 2… I am getting caught up on the notes.

From: Hoffman, Al MEM:EX
Sent: Saturday, September 6, 2014 3:00 PM
To: Demchuk, Tania MEM:EX
Cc: Thorpe, Rolly MEM:EX; Warnock, George MEM:EX; Hemphill, Naomi MEM:EX; Naomi Hemphill; Kuppers, Haley MEM:EX; Rothman, Stephen MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX
Subject: Re: Mount Polley - highlights from Sept 2 phone call with site

Interesting dump appeared to be collecting all water from breach yesterday. Did it rain?

Sent from my iPhone

On Sep 6, 2014, at 2:57 PM, "Demchuk, Tania MEM:EX" <Tania.Demchuk@gov.bc.ca> wrote:

> Highlights from the September 2 call with MPMP/MOE/MEM
>
> - Long ditch water being captured in the Central (Love) Sump and pumped to the Springer pit
> - Breach sump still over topping and challenging to manage. Process engineer tasked with sorting out pumps. Don Parsons stated this is a priority.
> - Upstream berm has crossed a main discharge from the impoundment. Appears to be blocking some solids from escaping.
> - Safe Work Procedure for Hazeltine Creek expected today.
> - General update on Quesnel Lake surveys: side scan sonar, plume mapping, noted sockeye schools appear at ~30 m depth. Plume modelling to commence within a week.
> - Williams Lake Indian Band have assigned a co-ordinator to work with crews on arch assessments. Role sounds like it is still being fully defined.
> - Site is returning water quality results from local house intakes to residents. Not supplying interpretation.
>
> Tania
>
> **Tania Demchuk, MSc, GIT**
> Senior Environmental Geoscientist
> Mines and Mineral Resources Division
> Ministry of Energy and Mines
> 250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Warnock, George MEM:EX; Hemphill, Naomi MEM:EX; Naomi Hemphill; Kuppers, Haley MEM:EX
Cc:	Rothman, Stephen MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX
Subject:	Mount Polley - highlights from Sept 3 phone call with site
Date:	Saturday, September 6, 2014 2:57:41 PM

Highlights from September 3 update call with MPMC/MOE/MEM:

- Discussed plans to add series of pumps to improve containment of breach discharge, and noted that existing pump was moved to a more central location on the flow.
- Long ditch and SERD ditch captured in Central Sump and pumping to Springer Pit. The Springer Pit has 15 million cubic metres of capacity available.
- Safe Work Plan is developed but not yet shared externally (we have not received it).
- Lengthy discussion around ongoing unauthorized discharge and the need for site to be doing more to control and also get sediment and erosion control measures in place in Hazeltine (at mouth and in creek when safe work procedure is in place).
- Ongoing work in Quesnel Lake: plume mapping, fish sampling, arch surveys.
- s.22 on lake to monitoring newly reported plume. Unclear about cause of this plume outside mouth of Hazeltine.
- SNC soil sampling in Hazeltine will commence.
- Planning for rock check dams in Hazeltine - will provide access and sediment control. Much discussion about having sediment and erosion control measures in place ahead of major construction activities. MOE requires 24 hrs notice prior to any work occurring in the creek.

Highlights from call with MOE:

- MOE highly concerned that site is not doing everything possible to control the flow. Considering appropriate follow-up actions.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX; Naomi Hemphill; Hemphill, Naomi MEM:EX; Kuppers, Haley MEM:EX; Warnock, George MEM:EX; McLeod, Harvey
Cc:	Bellefontaine, Kim MEM:EX; Morel, David P MEM:EX; Howe, Diane J MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX
Subject:	Mount Polley - September 6 highlights of site update
Date:	Saturday, September 6, 2014 3:43:21 PM

Highlights of September 6th site update call with MPMC/MOE/MEM

- Weather: sunny, 20 degrees
- Polley Lake at 922.88 m – down 3 cm from yesterday.
- Main dyke: 15.3 m advancement; Satellite dyke: 30 m advancement; good progress on settling pond inside impoundment.
- Pumping system at breach sump is working well. Completed work this afternoon to capture a side channel into the pumping area.
    - Design for settling channel downstream of breach sump is being worked on this weekend by Art, Ryan and others. Art will send a drawing (Monday?).
- Electrical line for new sump is strung; hope to wire by end of day today/tomorrow.
- Received confirmation that the silt curtain for mouth of Hazeltine Creek is on site and ready for installation following completion of woody debris removal.
- Art Frye confirmed that equipment and people capacity should not be an issue that holds up construction of sediment and erosion control works in Hazeltine Creek. (note: there is a skeleton crew on this weekend as many people have taken a break. Expect work to be full steam ahead on Monday)
- Requested written response to comments on safe work procedure: these will be received on Monday once Sal and Dale are back on site.
- Preparing materials for Open House.
- Will have SNC rep on Monday's call to provide more detailed update about works for Hazeltine Creek.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX; Naomi Hemphill; Hemphill, Naomi MEM:EX; Kuppers, Haley MEM:EX; Warnock, George MEM:EX; McLeod, Harvey
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Bellefontaine, Kim EMPR:EX; Kim EMPR:EX> >
Subject:	Mount Polley - September 7 highlights of site update
Date:	Sunday, September 7, 2014 3:55:16 PM

Highlights of the September 7 call with MPMC/MOE/MEM:

- Polley lake level unchanged from yesterday due to pump manifold maintenance. Pumps back to full capacity today.
- weather: overcast, forecast for 1mm of rain over night.
- main dyke: 13.5 m advance
- satellite dyke: 64.5 m advance
- Art will be speaking to BGC regarding concerns about water buildup behind the main dyke. Looking at options for monitoring levels safely, will be at least 2 weeks before pumping system behind the satellite dyke is in place.
- characterized current water build-up as flushing/pulsing through the dyke every so often prior to any large build up.
- expect to follow-up with George Warnock about BGC's recommendations for management and monitoring of this water by Wednesday.
- also discussing option for spillway through main dyke.
- understands concerns about radio traffic and will follow-up with those in charge of safe work procedure.
- we indicated that safe work procedure may also now need contact with spotter on main dyke as well as Polley lake plug.
- will have update on log boom removal and silt curtain installation for tomorrow's call.

Tania

Tania Demchuk, MSc, GIT
Sr Environmental Geoscientist
Ministry of Energy and Mines
(250) 952-0417

From my mobile device

On Sep 6, 2014, at 3:42 PM, "Demchuk, Tania MEM:EX" <Tania.Demchuk@gov.bc.ca> wrote:

> Highlights of September 6th site update call with MPMC/MOE/MEM
>
> <!--[if !supportLists]-->• <!--[endif]-->Weather: sunny, 20 degrees
> <!--[if !supportLists]-->• <!--[endif]-->Polley Lake at 922.88 m – down 3 cm from yesterday.
> <!--[if !supportLists]-->• <!--[endif]-->Main dyke: 15.3 m advancement; Satellite dyke: 30 m advancement; good progress on settling pond inside impoundment.

<!--[if !supportLists]-->• <!--[endif]-->Pumping system at breach sump is working well. Completed work this afternoon to capture a side channel into the pumping area.

<!--[if !supportLists]-->o <!--[endif]-->Design for settling channel downstream of breach sump is being worked on this weekend by Art, Ryan and others. Art will send a drawing (Monday?).

<!--[if !supportLists]-->• <!--[endif]-->Electrical line for new sump is strung; hope to wire by end of day today/tomorrow.

<!--[if !supportLists]-->• <!--[endif]-->Received confirmation that the silt curtain for mouth of Hazeltine Creek is on site and ready for installation following completion of woody debris removal.

<!--[if !supportLists]-->• <!--[endif]-->Art Frye confirmed that equipment and people capacity should not be an issue that holds up construction of sediment and erosion control works in Hazeltine Creek. (note: there is a skeleton crew on this weekend as many people have taken a break. Expect work to be full steam ahead on Monday)

<!--[if !supportLists]-->• <!--[endif]-->Requested written response to comments on safe work procedure: these will be received on Monday once Sal and Dale are back on site.

<!--[if !supportLists]-->• <!--[endif]-->Preparing materials for Open House.

<!--[if !supportLists]-->• <!--[endif]-->Will have SNC rep on Monday's call to provide more detailed update about works for Hazeltine Creek.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Demchuk, Tania MEM:EX
Subject:	Mount Polley - highlights from the Sept 8 site update call
Date:	Monday, September 8, 2014 5:58:50 PM

Highlights from the September 8 call with MPMC/MOE/MEM:

- Discussion of safe work procedures (TD missed this portion of the call).
- Polley Lake level: 922.86 m; pumping rate between 9000 and 15,000 gpm.
- Polley Lake shoreline and discharge sampling reduced to weekly.
- No changes to water management in the breach sump area.
- No update on any construction of settling channels downstream of breach sump
- Woody debris still be removed from mouth of Hazeltine Creek. No indication of when silt fences will be installed. This is a change from the weekend when we heard they would be installed on today.
- MOE will be sending a letter to MPMC advising the company that abatement of the discharge in accordance with their pollution abatement order has not been completed. They are hoping this will assist with getting additional resources on site to address requirements for work downstream of the breach.
- Site intends to conduct heli-seeding of the Hazeltine Creek channel later this week (Wednesday?).

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From: Hoffman, Al MEM:EX
To: Narynski, Heather M MEM:EX
Cc: Warnock, George MEM:EX; Hemphill, Naomi MEM:EX
Subject: Re: Mt. Polley DRAFT letters
Date: Tuesday, September 9, 2014 9:25:15 PM

I would also change the person to contact to George or Heather. I won't be able to answer specific questions... If they're concerned they can talk to me and I will get legal advice if required.

Al

Sent from my iPhone

On Sep 9, 2014, at 7:09 PM, "Narynski, Heather M MEM:EX" <Heather.Narynski@gov.bc.ca> wrote:

> George, Naomi
>
> I have reviewed the draft letters intended to be distributed for interviews and questionnaires and have made some minor modifications. Please feel free to accept or reject as you see fit.
>
> I did notice that there was no statement in the "Interview letter" formally requesting interview presence or the availability for an interview for a specific period in time for those individual that are required? Will this be sent as a separate letter directly to individuals in addition to this letter (which in its current state only requests documentation)? If not, this language should be included (I have not added text in this regard). If this language is to be included in this letter, I would suggest that the tone be more assertive than that in the "Letter of Questionaire" which provides an option to be interviewed if they would 'like". There is already a strong possibility there will be resistance with participating in an interview as part of the investigation.
>
> I also noticed that s.22 were not on the list of required interviewees. I am sure you have made this decision for some reason, but I just wanted to be sure as s.22 s.22 had oversight at a higher level, but may not be able to provide the kind of detail the other two may.
>
> [George – you may wish to review prior to Al finalizing as I do not have the full background on the scope of the requests]
>
> Heather
>
> ---
>
> **From:** Hemphill, Naomi MEM:EX
> **Sent:** Tuesday, September 9, 2014 5:40 PM

To: Narynski, Heather M MEM:EX
Subject: Mt. Polley DRAFT letters

Hi Heather,

As discussed, here are the letters intended for the engineering consultants. They have not yet been reviewed or approved.

The mail merge spreadsheet will tell you who we were thinking of sending the letters to, as well as whose contact information is still missing. The other two documents are draft letters.

Thanks!
Naomi

<Interview Letter (AMEC Template) mail merge - DRAFT-HN edits.doc>

<Letter or Questionaire mail merge - DRAFT-HN edits.doc>

<Copy of Engineering Consultants for Mail Merge - AMEC KP.xlsx>

Title	First	Last	Position	Company	Address

s.22

Suite	City	Province	Postal Code

s.22

Title	First	Last	Address	Suite

s.22

City **Postal Code**

s.22

April 26, 2016

«Title» «First» «Last»
«Position»
«Company»
«Address»
«Suite»
«City», «Province» «Postal_Code»

«GreetingLine»

On August 4, 2014 at approximately 01:00 hours the Mount Polley Tailings Storage Facility (TSF) failed. As a result of the failure, an investigation has initiated under section 7 of the *BC Mines Act.*

In support of the investigation, the investigation team is collecting information that may assist in determining the root cause of the TSF failure.

It is my understanding you or your company was involved in the design and oversight of a portion of the breech of the TSF. To support the investigation I require your office to provide:

1. Monthly hours by professional staff and technicians
    a. Field hours
    b. Office hours
2. Data
    a. Site Investigations (eg: logs, lab testing, etc.)
3. Calculations (eg: stability, water balance)
4. Deliverables
    a. Reports
    b. Technical Memo
    c. Minutes of Meetings
    d. Letters
5. Construction Records
    a. As built survey documentation
    b. Daily, weekly, monthly reports
    c. Site visit letters, reports, memo's, notes
    d. QA/QC Data
    e. Photographs

Ministry of Energy and Mines
Chief Inspector of Mines
Mines and Mineral Resources Division
Mailing Address:
PO Box 9320, Stn Prov Govt
Victoria, BC V8W 9N3
Ph: (250) 952-0494
Facsimile: (250) 952-0491
Location:
6th Floor
1810 Blanshard Street
Victoria

To assist the review I would request all the material to be supplied in an electronic .PDF format.

If you have any further questions, please contact Al Hoffman, Chief Inspector of Mines at 250 952-0494 or by email Al.Hoffman@gov.bc.ca.

Thank you, in advance, for your cooperation.

Sincerely,

Al Hoffman
Chief Inspector of Mines

April 26, 2016

s.22

Attn s.22

You are most likely aware of the tailings dam breach that occurred at Mount Polley on August 4, 2014. The Ministry of Energy and Mines (MEM) is conducting an investigation to determine the root cause(s) of the breach and any factors that may have contributed to the breach. It is our hope that this will help to prevent a similar occurrence at other mining dams in the province. It is understood that you were involved in the design or construction of the tailings facility in the past. If you are aware of any information that would aid in the investigation, or if you would like to participate in an interview, please contact the undersigned at your earliest convenience.

Sincerely,

Al Hoffman
Chief Inspector of Mines

Ministry of Energy and Mines

Chief Inspector of Mines

Mines and Mineral Resources Division

Mailing Address:
PO Box 9320, Stn Prov Govt
Victoria, BC V8W 9N3
Ph: (250) 952-0494
Facsimile: (250) 952-0491

Location:
6th Floor
1810 Blanshard Street
Victoria

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 9 site update call
Date:	Wednesday, September 10, 2014 9:00:57 AM

Highlights from the September 9 call with MPMC/MOE/MEM:

- Polley Lake at 922.87 m (down 1 cm from last report)
- Upstream berm is 77-78% complete. Construction has slowed as they are moving over tailings again. Work is under way to determine a way of measuring water building up behind the berm.
- Satellite berm construction is complete for now as they have reached the edge of the channel cut by tailings. If they decide to extend this berm it will have to be built higher.
- Debris clean up at the mouth of Hazeltine Creek is ongoing.
- Quesnel Lake and River levels have dropped, monitoring equipment is being adjusted to reflect this.
- Heli-seeding scheduled to take place Friday-Sunday. This may include seeding over the impoundment area if there is enough seed. Was also suggested they consider seeing the plug.
- Detailed erosion and sediment control plan is forthcoming from SNC.
- Site is waiting on arch. permits.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Pocklington, Cheryl M MEM:EX; McLean, Greg MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 10 site update call
Date:	Wednesday, September 10, 2014 5:15:38 PM

Highlights from the September 10 call with MPMC/MOE/MEM:

- Polley Lake at 922.82 m (down 5 cm from last report)
- Upstream berm is 80% complete. They have crossed the eastern gully and are approaching the south side of the breach.
- Water is flowing through the berm, appears to be at a more constant rate at the time of the update. Engineers have started discussions with survey crew on how to survey water behind the berm.
- Debris clean up at the mouth of Hazeltine Creek is ongoing. It is noted that this has prevented required sampling at the mouth of Hazeltine Creek for 2 days in a row. This is a key sampling location.
- Ongoing monitoring on Quesnel Lake. Samplers indicated constant turbidity of approx. 1.3 NTU observed. Also noted that the lake is a “glacial green colour” across the whole lake.
- Heli-seeding scheduled to take place Thurs through Saturday. A safety advisory was noted on the call. No people should be working below the load-bearing helicopter. Some concern raised from MOE science panel about metal uptake in vegetation.
- SRK on site yesterday/today conducting geochemical sampling.
- Detailed erosion and sediment control plan is forthcoming from SNC.
- Site clarified that they have not yet submitted the arch permit application but that it is ready to go. Will likely be filed tomorrow and they are waiting for letters from First Nations.
- The time of this call may change (later in the day or earlier) to work better for MPMC. It will still be daily.

From MOE/MEM call:

- Fish tissue data has been released today. This data indicates higher levels of Mercury. This is comparable to levels in fish from nearby lakes and also to levels in data from 2009/2010. Expect more to come from Interior Health on this issue (longer term discussion).
- MOE has confirmed they would like MEM assistance in reviewing geochemical characterization plans and work when they are received.
- MOE would like input from MEM on the detailed Erosion and Sediment Control Plan expected later this week.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division

Ministry of Energy and Mines
250-952-0417

From: Narynski, Heather M MEM:EX
To: Hemphill, Naomi MEM:EX
Subject: RE: Mt. Polley Interviews and Notes
Date: Wednesday, September 10, 2014 3:12:02 PM

Hi Naomi,

I do have field notes from my preliminary days on site, but was hoping to re-write these so they are legible (which I understand is OK). I will also collect the rough notes from Chris Carr (contract inspector) who accompanied me for this site inspection. Chris also compiled an inspection report to document our site inspection but I have yet to review this document and finalize.

Was this information specifically requested by George and Al or are you just looking to make sure we have a complete database at the end of the investigation?

Subsequent to Chris and I's inspection, Rolly and Haley were provided with information we had obtained to-date in an in-person transition meeting in Williams Lake when they replaced us onsite. Haley and Rolley took notes during this meeting while we presented the material we had gathered.

Heather

From: Hemphill, Naomi MEM:EX
Sent: Wednesday, September 10, 2014 2:19 PM
To: Narynski, Heather M MEM:EX
Subject: Mt. Polley Interviews and Notes

Hi Heather,

I heard that you had some notes taken early in the investigation from your conversations with Luke Moger. Are those notes digitized, and if so, are they accessible to us? We're working on setting up a secure folder, and I would love to be able to provide those notes to Al and George if necessary.

I was also told that you, Tania, and/or Kim have some information on the engineers on the interview list. Is it possible for me to look at what has been collected thus far?

Thanks!
Naomi

From: Hoffman, Al MEM:EX
To: Hemphill, Naomi MEM:EX
Subject: Fwd: Mount Polley - highlights from the Sept 11 EMBC call
Date: Thursday, September 11, 2014 9:20:45 PM

I think you're saving these?

Sent from my iPhone

Begin forwarded message:

From: "Demchuk, Tania MEM:EX" <Tania.Demchuk@gov.bc.ca>
Date: September 11, 2014 at 5:27:46 PM PDT
To: "Hoffman, Al MEM:EX" <Al.Hoffman@gov.bc.ca>, "Thorpe, Rolly MEM:EX" <Rolly.Thorpe@gov.bc.ca>, "Pocklington, Cheryl M MEM:EX" <Cheryl.Pocklington@gov.bc.ca>, "McLean, Greg MEM:EX" <Greg.McLean@gov.bc.ca>, "Kuppers, Haley MEM:EX" <Haley.Kuppers@gov.bc.ca>, "Hemphill, Naomi MEM:EX" <Naomi.Hemphill@gov.bc.ca>, "Warnock, George MEM:EX" <George.Warnock@gov.bc.ca>, "McLeod, Harvey" <HMcLeod@klohn.com>
Cc: "Morel, David P MEM:EX" <David.Morel@gov.bc.ca>, "Howe, Diane J MEM:EX" <Diane.Howe@gov.bc.ca>, "Bellefontaine, Kim MEM:EX" <Kim.Bellefontaine@gov.bc.ca>, "Narynski, Heather M MEM:EX" <Heather.Narynski@gov.bc.ca>, "Rothman, Stephen MEM:EX" <Stephen.Rothman@gov.bc.ca>
Subject: RE: Mount Polley - highlights from the Sept 11 EMBC call

- No MPMC/MOE/MEM call took place this afternoon due to conflicting requirements for MPMC staff on site.

Highlights from the September 10 EMBC call:

- Update from Dale Reimer (MPMC)
  - Polley Lake at 922.83 m.
    - ASIDE: On August 9, prior to commissioning of pumping, lake level was 923.28 m.
    - Overall decrease of Polley Lake to date is 45 cm; goal is to lower by at least 170 cm.
  - 490 m of 620 m of the upstream dyke is constructed.
  - Turbid water is flowing through the dyke but being collected in the breach sump area. No tailings impoundment discharge is flowing to the environment.
  - Three pumps are located at the breach sump. Collected flow is pumped to the perimeter till borrow pit → Central Sump → Springer pit.

<!--[if !supportLists]-->o <!--[endif]-->The Springer pit currently has remaining capacity of 14.5 million m^3. Site has been asked to provide bi-weekly updates on capacity.

<!--[if !supportLists]-->o <!--[endif]-->Fish tissue analyses show elevated mercury and selenium, but similar results are seen in previous studies and mercury levels are comparable to nearby lakes.

<!--[if !supportLists]-->o <!--[endif]-->Silt curtain is expected to be installed at mouth of Hazeltine Creek this weekend.

<!--[if !supportLists]-->o <!--[endif]-->Heli-seeding preparations are underway. We do not have confirmation that is has actually commenced. MOE has provided the go-ahead for this work.

<!--[if !supportLists]-->o <!--[endif]-->Still working on getting the arch permit.

<!--[if !supportLists]-->• <!--[endif]-->Detailed erosion and sediment control plan is forthcoming from SNC – expected by MOE tomorrow.

<!--[if !supportLists]-->• <!--[endif]-->MOE is following up on reports of burning of small piles of debris on the north shore of Quesnel Lake. Likely Community Forests group was going to seek burn permits. Also reports of residents conducting burning on their property.

<!--[if !supportLists]-->• <!--[endif]-->Reports indicated that the open house was well received. There are plans to continue hosting an open house every 2 weeks in Likely.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Day, Alan MEM:EX; Cumming, Rory MEM:EX
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 12 site update call
Date:	Saturday, September 13, 2014 4:07:01 PM

** FROM FRIDAY'S CALL, see previous email for Saturday's update.

Highlights from the September 12 call with MPMC/MOE/MEM:

- Polley Lake level: 922.74 m
- Berm at 85% complete.
- Channel downstream of breach being constructed with sediment settling basins (as back-up in case of rain or pump failure).
- Woody debris still being removed from mouth of Hazeltine Creek, photo shown on call indicates there is a lot of material left to remove. No indication of when silt fences will be installed. MOE noted that excavators are working on undisturbed ground in this area, questions about what they are doing.
- Request from government to ensure that First Nations observers are invited to observe the installation of the silt curtain. Contact information provided to site by MOE.
- Erosion and sediment control plan expected to MOE by end of day.
- Observations form Quesnel Lake sampling crews (site and MOE) are that the lake is "glacial flower green".
- Water sample at the Likely bridge by MOE was 7 degrees – noted this is a large change (decrease) from a couple days ago. Farther into lake temperature is 13 degrees.
- Discussion of fish sampling.
- Heli-seeding nearly complete. Records of seed volume/coverage requested by MOE.
- Imperials Mount Polley website has been updated with info shared at Open House. Discussion around keeping this website more up to date, including posting weekly reports that go to MOE.

Highlights from call with MOE/MEM:

- Very helpful to have Chief Inspector present at Open House.
- MOE requested MEM's assistance with reviewing the Erosion and Sediment Control Plan. Comments requested by Wednesday Sept. 17.
- MOE spoke to Bruce Clark of WorkSafe. He indicated a concern that wind events (tree falls) are not covered in the safe work procedure.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Day, Alan MEM:EX; Cumming, Rory MEM:EX
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 13 call with MPMC
Date:	Saturday, September 13, 2014 3:48:18 PM

Highlights from the September 13 MPMC/MOE/MEM call:

- Polley Lake at 922.73 m.
- Weather is good.
- Upstream dyke is 90% constructed.
  - Next steps are ramping down of upstream face to construct platform for pumps to address water on upstream side, and
  - Sloping of downstream face to increase stability and provide safer work environment for the forensic investigation. Confirmed that this work needs to be complete before equipment will be able to move in. Currently engineers from Thurber have been accessing area by foot for surveying.
- Water behind dyke is behaving as expected. Surveyors will be reporting first water survey information later today.
- Downstream of breach sump a channel and series of small settling basins have been constructed as emergency structures in case of pump failure or rain event. Site has been asked to address concerns related to sediment control from stockpiles created during excavation of this feature.
- Debris removal continues at mouth of Hazeltine Creek, no update on timing for installation of silt curtain.
- Heli-seeding is complete – covered Hazeltine channel, plug area and TSF.
- Detailed erosion and sediment control plan has been received. MOE has requested MEM's assistance to review.
- Anticipate commencing work to install bridge across Ditch Road sometime next week.
- Ongoing monitoring on Quesnel Lake. Water temp at Quesnel River research centre is getting colder. MOE has made similar observation.

No 3:00 call on Sunday.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Demchuk, Tania MEM:EX; Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Day, Alan MEM:EX; Cumming, Rory MEM:EX
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX
Subject:	Mount Polley - Sept 13 breach area overview photo
Date:	Saturday, September 13, 2014 5:45:20 PM
Attachments:	TSF breach overview Sept 13 .pdf

Attached is a photo overview of work at the TSF, taken by site environmental staff this morning.
Labels added to show areas commonly noted in the daily summary notes.

Tania


Satellite Dyke
Upstream Dyke
Perimeter Sump
Till Borrow
Breach Sump
Central Sump
Settling Channel


Satellite Dyke
Upstream Dyke
Perimeter Sump
Till Borrow
Breach Sump
Central Sump
Settling Channel

From:	Hemphill, Naomi MEM:EX
To:	Narynski, Heather M MEM:EX
Subject:	Mt. Polley DRAFT letters
Date:	Tuesday, September 9, 2014 5:40:00 PM
Attachments:	Interview Letter (AMEC Template) mail merge - DRAFT.doc Letter or Questionaire mail merge - DRAFT.doc Engineering Consultants for Mail Merge - AMEC KP.xlsx

---

Hi Heather,

As discussed, here are the letters intended for the engineering consultants. They have not yet been reviewed or approved.

The mail merge spreadsheet will tell you who we were thinking of sending the letters to, as well as whose contact information is still missing. The other two documents are draft letters.

Thanks!
Naomi

January 25, 2016

«Title» «First» «Last»
«Position»
«Company»
«Address»
«Suite»
«City», «Province» «Postal_Code»

«GreetingLine»

On August 4, 2014 at approximately 01:00 hours the Mount Polley Tailings Storage Facility (TSF) failed. As a result of the failure, an investigation has initiated under section 7 of the *BC Mines Act.*

In support of the investigation, the investigation team is collecting information that may assist in determining the root cause of the TSF failure.

It is my understanding you or your company was involved in the design and oversight of a portion of the breech of the TSF. To support the investigation I require your office to provide:

1. Monthly hours by professional staff and technicians
    a. Field hours
    b. Office hours
2. Data
    a. Site Investigations (eg: logs, lab testing, etc.)
3. Calculations (eg: stability, water balance)
4. Deliverables
    a. Reports
    b. Technical Memo
    c. Minutes of Meetings
    d. Letters
5. Construction Records
    a. As built survey documentation
    b. Daily, weekly, monthly reports
    c. Site visit letters, reports, memo's, notes
    d. QA/QC Data
    e. Photographs

Ministry of Energy and Mines
Chief Inspector of Mines
Mines and Mineral Resources Division
Mailing Address:
PO Box 9320, Stn Prov Govt
Victoria, BC V8W 9N3
Ph: (250) 952-0494
Facsimile: (250) 952-0491
Location:
6th Floor
1810 Blanshard Street
Victoria

To assist the review I would request all the material to be supplied in an electronic .PDF format.

If you have any further questions, please contact Al Hoffman, Chief Inspector of Mines at 250 952-0494 or by email Al.Hoffman@gov.bc.ca.

Thank you, in advance, for your cooperation.

Sincerely,

Al Hoffman
Chief Inspector of Mines

January 25, 2016

s.22

Attn: s.22

You are most likely aware of the tailings dam breach that occurred at Mount Polley on August 4, 2014. The Ministry of Energy and Mines (MEM) is conducting an investigation to determine the root cause(s) of the breach and any factors that may have contributed to the breach. It is our hope that this will help to prevent a similar occurrence at other mining dams in the province. It is understood that you were involved in the design or construction of the tailings facility in the past. If you are aware of any information that would aid in the investigation, or if you would like to participate in an interview, please contact the undersigned at your earliest convenience.

Sincerely,

Al Hoffman
Chief Inspector of Mines

Ministry of Energy and Mines

Chief Inspector of Mines

Mines and Mineral Resources Division

Mailing Address:
PO Box 9320, Stn Prov Govt
Victoria, BC V8W 9N3
Ph: (250) 952-0494
Facsimile: (250) 952-0491

Location:
6th Floor
1810 Blanshard Street
Victoria

Title	First	Last	Position	Company	Address

s.22

Suite	City	Province	Postal Code
	s.22		

Title	First	Last	Address	Suite

s.22

City **Postal Code**

s.22

From:	Day, Alan MEM:EX
To:	Demchuk, Tania MEM:EX
Cc:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Pocklington, Cheryl M MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Nakatsuka, Caroline M MEM:EX; Cumming, Rory MEM:EX; Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX
Subject:	Re: Mount Polley - highlights from the Sept 16 phone calls
Date:	Wednesday, September 17, 2014 7:53:37 AM

A note about the bear population.
There are two sows with cubs, that we have seen, plus, at least two maybe three males in the area as well. They seem to be non plussed by human activity but they are aware of our presence and not at all interested in engaging us.
I don't think any of the workers are feeding these animals.

Alan Day
Inspector of Mines,
Health and Safety
North Central/North East
250-893-9543
Sent from my iPhone

> On Sep 17, 2014, at 6:47 AM, "Demchuk, Tania MEM:EX" <Tania.Demchuk@gov.bc.ca> wrote:
>
>
> Highlights from 11:00 am EMBC call (from Kim Bellefontaine):
>
> · Weather today is sunny and warm. Cloudy tomorrow with rain Wednesday evening; 5-10mm expected overnight. Thursday scattered showers with 2-5mm expected. Return to sunny and warm conditions Friday through Monday next week.
> · The main dyke is now 100% complete. They are monitoring the dyke and there have been no signs of instability and no rock falls.
> · Work will begin tomorrow on a ramp on the upstream side to provide access to the sump.
> · Geotech engineers have given a maximum 4m elevation of slurry in the upstream sump before it has to be pumped out. Current level is 3.6m, but is increasing gradually. They have the ability to drop in a pump if needed. New slurry pumps are expected to be on-site on Friday and should be in place in the upstream sump by early next week.
> · All breach water is currently contained.
> · Polley Lake is at elevation 922.69 (down 66 cm since the breach); pumping at a rate of 17,000 gpm. The sediment plug is stable.
> · MPMC has engineered bridge drawings for Gavin Road. Hope to proceed soon.
> · The silt curtain is in place at the mouth of Hazeltine Creek. The company continues to make progress with removing debris in this area.
> · Sampling is occurring by MOE and company in Polley Lake. Company reports that elevated turbidity continues at depth in Quesnel Lake, and that they have seen some improvement yesterday.
> · Company taking some residential intake sampling.
> · Company has conducted grass seeding of the plug, Hazeltine Creek and TSF areas.
> · MOE will have more results posted on its website later this week.
> · The State of Local Emergency has been extended for another week.
>
>
> Highlights from 3:00 pm MPMC/MOE/MEM call (from Tania Demchuk): (building on the above notes)
>
> * Polley Lake level at 922.66 m. (NOTE: clarification from Al Day that one one pipeline is currently in use as the site adjusts the alignment of the other)
> * Ponded water on the upstream side of the main dyke increased approx 5 cm, however Greg (BGC) indicated this

may be related to construction causing tailing to shift in the area.
> * When installed the pumps on the upstream side will convey water to an area between the satellite dyke and the main dyke where there is good flow through the main dyke.
> * The breach sump was not working for a period of time, however secondary pumps continued to pump water and there was no discharge to the receiving environment.
> * The piles of sediment beside the newly constructed channel will be "knocked down" and seeded.
> * 18 soil sampling transects at 500 m intervals have been completed by SNC and SRK. > 500 samples have been collected.
> * Monitoring is ongoing. Noted that Quesnel Lake is appearing darker and clearer. Have added 3 new residential sampling sites.
> * Work in the area of the TSF is being challenged by 3 bears (mom and 2 cubs). They have been around the area for a while, appear habituated. Site has been in contact with the conservation service. (note: these are the same 3 bears discussed in mid-August).
>
> * ASIDE: Mount Polley gave notification to MEM that they will be submitting an application for permit amendment to install water treatment to discharge from the Springer pit to Bootjack Lake. Similar notice has been sent to MOE. They would like to have MEM and MOE approvals in place ahead of freshet to ensure there continues to be adequate storage capacity for site contact water in the Springer Pit.
>
>
> Tania
>
> Tania Demchuk, MSc, GIT
> Senior Environmental Geoscientist
> Mines and Mineral Resources Division
> Ministry of Energy and Mines
> 250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Day, Alan MEM:EX; Cumming, Rory MEM:EX
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Nakatsuka, Caroline M MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 17 call with MPMC and MOE
Date:	Wednesday, September 17, 2014 6:00:21 PM

Highlights from the September 13 MPMC/MOE/MEM call:

- Rain is expected tonight or tomorrow.
- Polley Lake level: 922.64 m. Level was stable (no change) over night.
- Report is that both pipelines are now functioning.
- Main dyke: Work is ongoing to create pumping locations to address water accumulation.
    - Currently water height behind main dyke is 3.6 m. Emergency pumps in place to be turned on if 4 m height is reached.
    - Additional slurry pumps being shipped to site for installation.
- Confirmed all water leaving the breach is still being contained on site.
- Continuing work on Central Sump excavation
- Getting ready to start work on Gavin Lake Rd Bridge. In communication with MOE and working with FLNRO.
- MPMC has placed a memo related to E.Coli on their website.
- MPMC met with First Nations today; they have a standing invitation to attend this 3:00 call (currently they are not)
- MOE asked a series of questions regarding biosolids, contaminated soils and PAG rock on site. All related to release of Annual Reports on the MOE website (see below)

- The new schedule for this meeting is M/W/F @3:00.

Highlights from September 17 MEM/MOE meeting:

- MoE is releasing Annual Environmental and Reclamation reports of the company that are publically accessible at the Likely Library tomorrow morning. They have produced a Q&A document of anticipated follow-up questions.
    - MEM may get follow-up requests as well.
- There will be discussions next week regarding how MEM and MOE will handle the permit amendment applications that have been (or will be) submitted shortly.
- Discussion that MEM (Tania) had not heard of any issues with the Safe Work Procedure for working downstream of the plug this week.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Luke Moger
To:	Narynski, Heather M MEM:EX
Cc:	Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; "Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)"; "Michael Cullen s.22)"; Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
Subject:	RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #2
Date:	Friday, June 20, 2014 2:32:09 PM
Attachments:	image001.png MPMC & Design Engineer Plan and Timeline (Update #2) - Mount Polley Mine - 2014 06 19.pdf

Hi Heather,

Please find attached Update #2 attached, as outlined in the original MPMC & Design Engineer Plan and Timeline - Mount Polley Mine - 2014 06 05.pdf.

Kindest Regards,

Luke Moger, PMP
Project Engineer, Mining Operations
Mount Polley Mining Corporation

Tel: +1 (250) 790-2215 ext. 2113
Fax: +1 (250) 790-2613
Email: LMoger@MountPolley.com

From: Luke Moger
Sent: June-13-14 11:41 AM
To: Narynski, Heather M MEM:EX
Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 ; Howe, Diane J MEM:EX; 'Warnock, George MEM:EX'
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #1

Hi Heather,

Please find attached Update #1 attached, as outlined in the original MPMC & Design Engineer Plan and Timeline - Mount Polley Mine - 2014 06 05.pdf.

Kindest Regards,

Luke Moger, PMP
Project Engineer, Mining Operations
Mount Polley Mining Corporation

Tel: +1 (250) 790-2215 ext. 2113
Fax: +1 (250) 790-2613
Email: LMoger@MountPolley.com

From: Warnock, George MEM:EX [mailto:George.Warnock@gov.bc.ca]
Sent: June-06-14 4:54 PM
To: Luke Moger

Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; Narynski, Heather M MEM:EX; 'Michael Cullen s.22 '; Howe, Diane J MEM:EX
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan)

Hello Luke,

s.22 I will respond on behalf of MEM.

Thank you for the update. The actions taken to date and the plan moving forward seem appropriate. Continued updates would be appreciated until the normal operating freeboard is re-established. Michael Cullen will follow this up with you further during his upcoming site inspection.

Regards,

George

From: Luke Moger [mailto:lmoger@mountpolley.com]
Sent: Friday, June 6, 2014 12:42 PM
To: Narynski, Heather M MEM:EX
Cc: Warnock, George MEM:EX; Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan)

Hi Heather;

As outlined in the Geotechnical Incident Form submitted by Mount Polley Mining Corporation (MPMC) on May 28, 2014 *Advice of Geotechnical Incident - Mount Polley - 2014 05 2.pdf*, please find attached a document (MPMC & Design Engineer Plan and Timeline - Mount Polley Mine - 2014 06 05.pdf) that provides the Joint MPMC/Design Engineer Plan and Timeline in remediating the loss of operating condition freeboard at tailings storage facility.

Kindest Regards,

Luke



Direct: +1 (250) 790-2215 ext. 2113
Fax: +1 (250) 790-2613
E-mail: LMoger@MountPolley.com

MOUNT POLLEY MINING CORPORATION
A DIVISION OF IMPERIAL METALS CORPORATION

June 20, 2014

Heather Narynski, P.Eng
Sr. Geotechnical Inspector
Ministry of Energy and Mines
1810 Blanshard St.
Victoria. B.C
V8W 9N3

Dear Ms. Narynski:

RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) – Update #2

As outlined in the document *MPMC & Design Engineer Plan and Timeline – Mount Polley Mine – 2014 06 0.pdf*, this document provides the weekly update regarding the, "loss of operating condition freeboard at tailings storage facility" as indicated in the Geotechnical Incident Form submitted by Mount Polley Mining Corporation (MPMC) on May 28, 2014 *Advice of Geotechnical Incident - Mount Polley - 2014 05 2.pdf*.

MPMC has been mitigating the loss of operating freeboard since established on Saturday, May 24th, 2014, working with the Design Engineer (AMEC). Please find below an update of the work completed in executing the plan and timeline for establishing operating freeboard condition (1.3m).

Summary of Measures Taken to Date

- All water collection systems have been diverted from the Tailings Storage Facility (TSF)
    - Water has been routed for storage in the Cariboo Pit
    - TSF pond elevations have seen no increase over the last seven days (966.4m)
        - **June 12, 2014 update - TSF pond elevation remains at El. 966.4m**
        - **June 19, 2014 update - TSF pond elevation remains at El. 966.4m**
- Using previous survey data, all low areas of Zone S (Till) construction have been identified and remedied
    - Minimum freeboard is 0.6m, for a length of 1,225m (chainage 15+50 to Station 27+75) along the Main Embankment (El. 967.0m)
        - **June 12, 2014 update – minimum freeboard is 0.9m, for a length of 925m (Station 15+50 to Station 24+75) along the Main Embankment and 1,150m along the South Embankment (Station 04+00 to Station 15+50)**
        - **June 19, 2014 update – minimum freeboard is 0.9m, for a length of 400m (Station 15+50 to Station 19+50) along the Main Embankment and 1,150m along the South Embankment (Station 04+00 to Station 15+50m)**
    - Minimum freeboard for the rest of the embankment (~3,300m) is 0.9m (El. 967.3m)
        - **June 12, 2014 update – minimum freeboard for the remainder of the Main Embankment (~300m) and for the Perimeter Embankment (~2,200m) is 1.2m (El. 967.6m)**
        - **June 19, 2014 update – minimum freeboard for the remainder of the Main Embankment (~825m) and for the Perimeter Embankment (~2,200m) is 1.2m (El. 967.6m)**

- Upstream armouring of Zone S (Till) material is present around the entire embankment
- Upstream Zone U (CBL) berms to provide wave run-up protection are present for all but ~100m (work continues on the remaining area along the Main Embankment)
    - **June 12, 2014 update – berms to provide wave run-up protection are complete along the Main Embankment**
    - **June 19, 2014 update – complete (as noted above)**

Outline of the Plan and Timeline for Establishing Operating Freeboard (1.3m)

- July 1, 2014 target to have Zone S (Till) construction completed to El. 967.9m
    - With existing pond level (966.4m) this would provide 1.5m of freeboard (allowance of 0.2m pond level increase due to rain events during timeline)
        - **June 12, 2014 update – still projected to be on schedule**
        - **June 19, 2014 update – still projected to be on schedule**
- Water will continue to be diverted to the Cariboo Pit
    - **June 12, 2014 update – water continues to be diverted to the Cariboo Pit**
    - **June 19, 2014 update – water continues to be diverted to the Cariboo Pit**

Proposed Reporting to the MEM

- Weekly update of above-outlined plan including current freeboard at the TSF, any projected deviation from the construction schedule
    - Weekly reporting to be continued until 1.0m freeboard re-established at TSF
- Immediate notification of freeboard below 0.5m during this period
- Notification when 1.3m operating freeboard has been re-established

Should you have any questions, please do not hesitate to contact me at (250) 790-2215 ext. 2113 or Dale Reimer at ext. 2600.

Sincerely,



Luke Moger, Project Engineer
Mount Polley Mining Corporation
lmoger@mountpolley.com

Reviewed and Endorsed:

Dmitri Ostritchenko, Project Manager
AMEC
Dmitri.Ostritchenko@amec.com

Cc. Diane Howe, George Warnock, Stephen Rothman, Michael Cullen, Jack Green, Dale Reimer, Art Frye, Dmitri Ostritchenko

From:	Narynski, Heather M MEM:EX
To:	"Luke Moger"
Cc:	Rothman, Stephen MEM:EX; "Dale Reimer"; "Art Frye"; "Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)"; "Michael Culle s.22 ; Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
Subject:	RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3
Date:	Thursday, July 10, 2014 2:13:56 PM
Attachments:	image001.png

Thanks Luke.

From: Luke Moger [mailto:lmoger@mountpolley.com]
Sent: Thursday, July 10, 2014 1:46 PM
To: Narynski, Heather M MEM:EX
Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3

Hi Heather,

Please accept this e-mail as formal confirmation that the 1.3m standard operating freeboard at the TSF has been re-established. An AMEC representative is currently on site, and we will be completing an internal review and providing a freeboard management strategy update early next week.

Kindest Regards,

Luke Moger, PMP
Project Engineer, Mining Operations
Mount Polley Mining Corporation

Tel: +1 (250) 790-2215 ext. 2113
Fax: +1 (250) 790-2613
Email: LMoger@MountPolley.com

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Sent: July-04-14 1:20 PM
To: Luke Moger
Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3

Thanks Luke,

I appreciate the final update on the May 24th geotechnical incident regarding operating freeboard at MPMC's TSF . I'm pleased to hear the standard operating freeboard of 1.3 m is expected to be achieved by days-end (and that the minimum freeboard of 1.0 m has been achieved along all embankments).

As mentioned, please forward AMEC's freeboard management plan to MEM for our records once complete.

Kind Regards,
Heather

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Sent: Friday, July 4, 2014 9:13 AM
To: Narynski, Heather M MEM:EX
Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3

Hi Heather,

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From: Luke Moger
Sent: June-27-14 11:04 AM
To: 'Narynski, Heather M MEM:EX'
Cc: 'Rothman, Stephen MEM:EX'; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 ; 'Howe, Diane J MEM:EX'; 'Warnock, George MEM:EX'; jack.green@gov.bc.ca
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Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #2

Hi Heather,

Please find attached Update #2 attached, as outlined in the original MPMC & Design Engineer Plan and Timeline - Mount Polley Mine - 2014 06 05.pdf.

Kindest Regards,

Luke Moger, PMP
Project Engineer, Mining Operations
Mount Polley Mining Corporation

Tel: +1 (250) 790-2215 ext. 2113
Fax: +1 (250) 790-2613
Email: LMoger@MountPolley.com

From: Luke Moger
Sent: June-13-14 11:41 AM
To: Narynski, Heather M MEM:EX
Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 Howe, Diane J MEM:EX; 'Warnock, George MEM:EX'
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #1

Hi Heather,

Please find attached Update #1 attached, as outlined in the original MPMC & Design Engineer Plan and Timeline - Mount Polley Mine - 2014 06 05.pdf.

Kindest Regards,

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Mount Polley Mining Corporation

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Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; Narynski, Heather M MEM:EX; 'Michael Cullen s.22 ; Howe, Diane J MEM:EX
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Hello Luke,

s.22 I will respond on behalf of MEM.

Thank you for the update. The actions taken to date and the plan moving forward seem appropriate. Continued updates would be appreciated until the normal operating freeboard is re-established. Michael Cullen will follow this up with you further during his upcoming site inspection.

Regards,

George

From: Luke Moger [mailto:lmoger@mountpolley.com]
Sent: Friday, June 6, 2014 12:42 PM
To: Narynski, Heather M MEM:EX
Cc: Warnock, George MEM:EX; Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)
Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan)

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Kindest Regards,

Luke



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Cc:	Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; "Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)"; "Michael Cullen s.22 ; Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
Subject:	RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #2
Date:	Friday, June 20, 2014 2:32:09 PM
Attachments:	image001.png MPMC & Design Engineer Plan and Timeline (Update #2) - Mount Polley Mine - 2014 06 19.pdf

Hi Heather,

Please find attached Update #2 attached, as outlined in the original MPMC & Design Engineer Plan and Timeline - Mount Polley Mine - 2014 06 05.pdf.

Kindest Regards,

Luke Moger, PMP
Project Engineer, Mining Operations
Mount Polley Mining Corporation

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Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #1

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Mount Polley Mining Corporation

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Luke



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MOUNT POLLEY MINING CORPORATION
A DIVISION OF IMPERIAL METALS CORPORATION

June 20, 2014

Heather Narynski, P.Eng
Sr. Geotechnical Inspector
Ministry of Energy and Mines
1810 Blanshard St.
Victoria. B.C
V8W 9N3

Dear Ms. Narynski:

RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) – Update #2

As outlined in the document *MPMC & Design Engineer Plan and Timeline – Mount Polley Mine – 2014 06 0.pdf*, this document provides the weekly update regarding the, "loss of operating condition freeboard at tailings storage facility" as indicated in the Geotechnical Incident Form submitted by Mount Polley Mining Corporation (MPMC) on May 28, 2014 *Advice of Geotechnical Incident - Mount Polley - 2014 05 2.pdf*.

MPMC has been mitigating the loss of operating freeboard since established on Saturday, May 24th, 2014, working with the Design Engineer (AMEC). Please find below an update of the work completed in executing the plan and timeline for establishing operating freeboard condition (1.3m).

Summary of Measures Taken to Date

- All water collection systems have been diverted from the Tailings Storage Facility (TSF)
  - Water has been routed for storage in the Cariboo Pit
  - TSF pond elevations have seen no increase over the last seven days (966.4m)
    - **June 12, 2014 update - TSF pond elevation remains at El. 966.4m**
    - **June 19, 2014 update - TSF pond elevation remains at El. 966.4m**
- Using previous survey data, all low areas of Zone S (Till) construction have been identified and remedied
  - Minimum freeboard is 0.6m, for a length of 1,225m (chainage 15+50 to Station 27+75) along the Main Embankment (El. 967.0m)
    - **June 12, 2014 update – minimum freeboard is 0.9m, for a length of 925m (Station 15+50 to Station 24+75) along the Main Embankment and 1,150m along the South Embankment (Station 04+00 to Station 15+50)**
    - **June 19, 2014 update – minimum freeboard is 0.9m, for a length of 400m (Station 15+50 to Station 19+50) along the Main Embankment and 1,150m along the South Embankment (Station 04+00 to Station 15+50m)**
  - Minimum freeboard for the rest of the embankment (~3,300m) is 0.9m (El. 967.3m)
    - **June 12, 2014 update – minimum freeboard for the remainder of the Main Embankment (~300m) and for the Perimeter Embankment (~2,200m) is 1.2m (El. 967.6m)**
    - **June 19, 2014 update – minimum freeboard for the remainder of the Main Embankment (~825m) and for the Perimeter Embankment (~2,200m) is 1.2m (El. 967.6m)**

- Upstream armouring of Zone S (Till) material is present around the entire embankment
- Upstream Zone U (CBL) berms to provide wave run-up protection are present for all but ~100m (work continues on the remaining area along the Main Embankment)
    - **June 12, 2014 update – berms to provide wave run-up protection are complete along the Main Embankment**
    - **June 19, 2014 update – complete (as noted above)**

Outline of the Plan and Timeline for Establishing Operating Freeboard (1.3m)

- July 1, 2014 target to have Zone S (Till) construction completed to El. 967.9m
    - With existing pond level (966.4m) this would provide 1.5m of freeboard (allowance of 0.2m pond level increase due to rain events during timeline)
        - **June 12, 2014 update – still projected to be on schedule**
        - **June 19, 2014 update – still projected to be on schedule**
- Water will continue to be diverted to the Cariboo Pit
    - **June 12, 2014 update – water continues to be diverted to the Cariboo Pit**
    - **June 19, 2014 update – water continues to be diverted to the Cariboo Pit**

Proposed Reporting to the MEM

- Weekly update of above-outlined plan including current freeboard at the TSF, any projected deviation from the construction schedule
    - Weekly reporting to be continued until 1.0m freeboard re-established at TSF
- Immediate notification of freeboard below 0.5m during this period
- Notification when 1.3m operating freeboard has been re-established

Should you have any questions, please do not hesitate to contact me at (250) 790-2215 ext. 2113 or Dale Reimer at ext. 2600.

Sincerely,



Luke Moger, Project Engineer
Mount Polley Mining Corporation
lmoger@mountpolley.com

Reviewed and Endorsed:

Dmitri Ostritchenko, Project Manager
AMEC
Dmitri.Ostritchenko@amec.com

Cc. Diane Howe, George Warnock, Stephen Rothman, Michael Cullen, Jack Green, Dale Reimer, Art Frye, Dmitri Ostritchenko

From:	Narynski, Heather M MEM:EX
To:	"Luke Moger"
Cc:	Rothman, Stephen MEM:EX; "Dale Reimer"; "Art Frye"; "Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)"; "Michael Cullen s.22 "; Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
Subject:	RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3
Date:	Thursday, July 10, 2014 2:13:56 PM
Attachments:	image001.png

Thanks Luke.

From: Luke Moger [mailto:lmoger@mountpolley.com]
Sent: Thursday, July 10, 2014 1:46 PM
To: Narynski, Heather M MEM:EX
Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 '; Howe, Diane J MEM:EX; Warnock, George MEM:EX; Green, Jack E ENV:EX
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Subject: RE: Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #2

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Kindest Regards,

Luke Moger, PMP
Project Engineer, Mining Operations
Mount Polley Mining Corporation

Tel: +1 (250) 790-2215 ext. 2113
Fax: +1 (250) 790-2613
Email: LMoger@MountPolley.com

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To: Narynski, Heather M MEM:EX
Cc: Rothman, Stephen MEM:EX; Dale Reimer; Art Frye; 'Ostritchenko, Dmitri (Dmitri.Ostritchenko@amec.com)'; 'Michael Cullen s.22 ; Howe, Diane J MEM:EX; 'Warnock, George MEM:EX'
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Mount Polley Mining Corporation

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Kindest Regards,

Luke



Direct: +1 (250) 790-2215 ext. 2113
Fax: +1 (250) 790-2613
E-mail: LMoger@MountPolley.com

From: Metcalfe, Megan MEM:EX
To: Hemphill, Naomi MEM:EX
Subject: RE: Mt Polley Investigation email
Date: Thursday, September 18, 2014 1:01:49 PM

Oops, Julie was going to set it up a while back but we both forgot about it. I will submit an order to get one ready for you guys.

Maybe you can help me answer some of the questions though so I'm not just guessing…

Who will be the owner of the mailbox (ie: who will be the main person who controls permissions on who has read/write access):
Name of the mailbox: Mount Polley Investigation Panel?
Email address: MountPolleyInvestigationPanel@gov.bc.ca ? << might be awkward and long…
What users should have immediate access (can be changed later):

And I can do the rest.

Let me know what you guys decide on!

-Megan

From: Hemphill, Naomi MEM:EX
Sent: Thursday, September 18, 2014 11:27 AM
To: Metcalfe, Megan MEM:EX
Subject: Mt Polley Investigation email

Hi Megan,

I heard that there might be a specific email address for the mt. polley investigation team (something general, that we could pass access to as necessary, so that we can send it out instead of someone's personal address).

Is there something like that set up? If not, how can we go about doing that/is it possible?

Thanks!
Naomi

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Day, Alan MEM:EX; Cumming, Rory MEM:EX
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Nakatsuka, Caroline M MEM:EX; Olsen, Michael MEM:EX; Pocklington, Cheryl M MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 19 call with MPMC
Date:	Friday, September 19, 2014 4:48:56 PM

Highlights from MPMC/MOE/MEM 3:00 pm phone call September 19, 2014:

- Weather: nice today, no rain expected over weekend.
- Polley Lake level: 922.62 m above sea level (continuing to drop slowly)
- Temporary dyke construction:
    - Started constructing a second satellite dyke today to help form the upstream 1 sump (between the satellite dyke and main dyke).
    - Water levels are still above 4 m cutoff. No work allowed downstream of the main dyke in Hazeltine Creek
        - Dale R. noted that he expects workers to be able to go back in tomorrow.
    - Additional pumps arrived on site today (2) with more expected early next week. These will be used as replacements and to support water management within the TSF.
- Breach sump functioned as expected during rain and kept up with pumping requirements.
- Quesnel Lake has returned to normal colour following turnover.
    - Sampling ongoing
    - They will be removing more debris from western end of the lake.
    - Silt curtain at mouth of Hazeltine in place and functioning correctly.

NOTE: MOE is also taking formal minutes of these meetings now and will be sharing those with MEM.

Next call: Monday September 22 at 3:00 pm.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

Date: Sept. 22, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00001

Document: Tailings Storage Facility Design Report (No. 1625/1) Volume I - Main Report

Date Published: May 26, 1995 Firm: Knight Piesold

Author(s): Not signed, Submission letter by K. Brouwer

- Hard copy version includes letter of submission from K Brouwer to George Hadley

- This review is screening level only – a more detailed review may be required.
- "Embankment raises above the proposed final crest elevation of 960m would be constructed as required by incorporating a downstream extension of the embankment toe." (p. 29)
- 1995 Stage 1b construction to include stripping and clearing of Perimeter Embankment footprint up to 931m El. minimum (p. 24)
- Stage 1b also to include Perimeter Embankment toe drain outlet pipes (p. 24)
- Stage 1b " " Construction of PE to 931m
- "A toe drain will be installed along the upstream face of the Stage 1b crest to depress the phreatic surface in the tailings and thus minimize seepage through the embankment. The drain will extend to the abutments where pipeworks will extend to the drain monitoring sump
- See embankment drainage details in Section 6.3.5 (p. 37)
  - every second embankment raise to include the installation of a new toe drain (p 39)
- Min FOS of 1.3 and 1.5 adopted for static conditions during operations and closure (p 47)
- CU Triaxial used to obtain strengths for embankments and foundation (p. 48)

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00001 Cont'd.

Document: _____

Date Published: _____ Firm: _____

Author(s): _____

- See cycloned sands (CS) zone (p. 48)
- Water Balance - see Section 8.2 (p. 58)
- Toe Drains shown on Dwg No. 1625.111 (p. 70) + 1625.102
- Drain monitoring sumps = 1.8 m ø x 4 m deep manholes with a low level outlet to the seepage collection ponds (p. 70)
- Table 6.1 Summary of Design Criteria
  - "Swamp areas" to be stripped to limits of access...
- Figure 6.7 - shows 2H:1V downstream slopes
  - see chimney drain to 940 m el.
- Dwg 1625.111 - S Zone compacted to 95% Modified Proctor - 0.3 m lifts

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: No MP(?)

Document: MPMC Mount Polley Project TSF: Updated Design Report (1627/2)

Date Published: June 6, 1997 Firm: KP

Author(s): Ken Brouwer and Ken Embree

- This review screening level only - a more detailed review may be required.
- Updated version of 1625/1 including as-builts for Stage 1a/1b emb. (p.2)
- "These results indicate that the tailings are not acid producing and have a significant net neutralization potential." (p.12)
- "The CPT program was also conducted to investigate low SPT N-values encountered in a saturated non-plastic silt layer during the drilling for the 1996 Vibrating Wire Piezometer Installations. The CPT investigations confirmed that the low N-values were due to drilling disturbance and not weak foundation soils." (p.19)
- Ablation Till over Glaciolacustrine/Glaciofluvial over Basal Till over BR p.20-23
- The glaciolacustrine/glaciofluvial sequence thickens from W to E and from N to S at terminates at ~928 m (p.21)
- "The glaciolacustrine sediments are often highly over-consolidated and very stiff to hard." (p.22)
- top 7-15m of BR V. poor to poor rock quality (p.24)
- At the NE BR dips from W to E (p.24)
- Stage 1a to 927 m in late 1996 (p.28)
- Stage 1b to 934 m in early 1997 (p.28)
- "The final embankment is projected to reach El. 965 metres." (p.28)
- "Detailed stability analyses must be performed in the design of all future embankment raises." (p.29).

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: _____

Document: Updated Design (June 1997 report 1627/2) Cont'd

Date Published: _____ Firm: _____

Author(s): _____

- "The prepared embankment foundations were inspected by the Engineer and written foundation approval was required before fill placement..." (p.32)
- Original Zone S spec of 95% of modified proctor was unattainable due to high in-situ MC. Revised spec of 98% of SPMDD with MC = 2% wet of opt. (p34)
- "Ongoing embankment expansions may incorporate cycloned sand for the upstream fill, should an acceptable and economic product be produced." (p.37)
- "... Stage Ia/Ib construction was completed under winter conditions." (p.42)
- FOS = 1.3 (Operations) and 1.5 (Closure) adopted for static cond. (p.48)
- "Pore pressures will be routinely monitored during construction of on-going raises using piezometers installed into the embankment fill and foundations." (p.54)
- See Water Balance Results starting on p.60

Date: Sept. 19/14

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00104

Document: Dam Safety Review

Date Published: Dec 2006

Firm: AMEC

Author(s): Michael Davies Rev: Todd Martin

Key Concepts:

- "... the Mount Polley tailings are well-designed and well-constructed entities from a dam safety perspective." (p. iii)
- "The lack of determination of the nature of potential presheary in the glaciolacustrine foundation leads to uncertainty in terms of present and post closure stability..." (p. iv)
- "This issue also impacts certainty on consequence classification." (p. iv)

Link?

- "... the Mount Polley TSF is adhering to an excellent dam safety program." (p. iv)
- Low consequence classification (p v) Aside: pre-2007 classification scheme.
- Mine was on Care & Maintence from Oct. 2001 to Feb 2005 (p. 4)
- Stage 5 was under construction during DSR (p. 5)
- See 11x17 Sheets in App A of hard copy for commentary on documents reviewed during the DSR (p. 5)
- "The lack of a tailings beach and inconsistency with beach profile... are notable but do not represent immediate dam safety concerns." (p. 7)
- Recommends longer than 24 hr PMF event, except in closure w/ spillway (p. 7)
- "There is very little redundancy in the [piezometer] system and some of the piezometers lost should be replaced" (p. 7)
- Glaciolac. tested by triaxial to date → rec. direct shear. (p. 11)

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00104 Cont'd.

Document: _____

Date Published: _____

Firm: _____

Author(s): _____

Key Concepts:

(A) - "Where geologic conditions are such that there is a potential for pre-shearing, it is often considered prudent to assume pre-sheared features are present and then to proceed, via field and laboratory investigations, to prove that they are not." (p. 11)

- Future tests need to include direct shear "even if no evidence of pre-shearing exists, as concern would remain for highly brittle response ... in response to even to minor straining. If this material is found to exhibit brittle response, then stability analyses considering reduced (or residual) shear strength conditions would be prudent." (p. 11).

- "... evaluating the potential ramifications for a subhorizontal presheared plane in the glaciolacustrine (or similar) soil would be prudent dam safety engineering." (p. 12) + see paragraph one on p. 13

- "Lack of such a beach represents a deficiency that should be rectified as soon as practical ... not designed as a water dam." (p. 19)

- Next DSR in 2016 (p. iv)

Date: Sept. 24, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00077

Document: Tailings Storage Facility Report on 2007 Annual Inspection

Date Published: Dec. 19, 2007 Firm: KP

Author(s): Les Galbraith, P.Eng. Approved by Ken Brouwer, P.Eng.

- Stage 5 Construction (to 951m) underway at time of DSI (p. I)
- Toe of beach at ME "has resulted in increased flows in the Main Embankment upstream toe drain and the foundation drains..." (p. I)
- "The TSF is required to have sufficient live storage capacity for containment of runoff from the 72-hour PMP at all times, plus 0.7meters of freeboard for wave run-up." (p. I)
- "The site water balance is updated regularly by MPMC with periodic reviews by Knight Piesold. The water balance is kept current on a monthly basis." (p. I)
- TSF instrumentation includes four SI's at the ME and a total of 63 operating VW piezos in the ME, PE, and SE. (p. II)
- "A Dam Safety Review (DSR) was performed by AMEC in November 2006. The next Dam Safety ~~Inspection~~ SW Review should be carried out by 2011..." (p. II)
- See App. C for KP comments on 2006 DSR.
- Previous classification of "High" [pre-2007 Guidelines] reduced to "Low" after it was agreed that owner's costs should not be included in classification (p. 3)
- Design basis has been updated to include storm water freeboard for the 72 hour PMP event [based on DSR rec] which is equiv to 0.6m WL↑. (p. 7)
- Freeboard requirement for wave runup has been reduced to 0.7m ∴ updated freeboard requirement = 1.3m (p. 7)
- PE u/s toe drain installed Oct/06 w/ first flows July/07 (p. 7)

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00077 (Cont'd)

Document: _____

Date Published: _____ Firm: _____

Author(s): _____

- PE u/s toe drain clear at ~4 l/s (p. 8)
- "A beach width of at least 20m is to be maintained along the abutments and at least 10m elsewhere." (p. 9)
- "MPMC should develop a plan and schedule to enable the minimum target beach widths to be re-established within a 2 week period should they be infringed upon." (p. 9)
- "MPMC shall increase the frequency of measurements for embankment instrumentation i.e. to at least once per week during any periods [when beach not maintained]" (p. 9)
- "TSF was observed to be in good condition with no geotechnical issues outstanding." (p. 10)
- 5 SF 1:4 and buttress at ME added as contingency in the event that pre-sheared or weak layers are present in lacustrines. (p. C2)
- "Samples of the lacustrine material have recently been collected for direct shear testing, as recommended in the DSR, however the testing had not been completed at the time this report was issued." [Check Stage 6 Design Report]
- Zone 5 glacial till (core) – "... pore pressures have increased during fill placement activities and subsequently decreased following the construction programs as the pore pressures dissipate." (p. C4)

Date: Sep. 24, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00035

Document: Tailings Storage Facility Report on 2008 Annual Inspection.

Date Published: Feb 25, 2009 Firm: KP

Author(s): Les Galbraith, P. Eng Approved by Ken Brouwer, P. Eng.

- Stage 6a (954m) construction in process at time of inspection (p. I)
- Updated classification of "Significant" based on 2007 DSG (p. I)
- Still 72hr PMP containment + 0.7m* freeboard for wave run-up. (p. I).
- SI01-02 showing sl. deviation @ 10m bgl in lacustrine silts. Rec. increasing instr. readings to weekly, and increasing buttress at ME. (p. I)
- "The next Dam Safety Review should be carried out by 2011.." (p. II)
- Details of Stage 6a construction program "will be issued in the construction report following the Stage 6a construction program." (p. 5)
- 72 hr PMP (0.6m freeboard) + 0.8m** wave run-up for a total of 1.4m (p. 7)
- ME u/s toe drain averaged ~ 11 l/s in 2008 } (p. 7)
- PE u/s toe drain averaged ~ 3 l/s in 2008 }
- Discussion of sand cell construction (p. 8)
- "The TSF was observed to be in good condition with no geotechnical issues outstanding." (p. 9)
- VW piezos have been installed along nine plaes. (p. 11)
  - 19 in tailings / 11 operational
  - 21 in foundation / 12 operational
  - 32 in emb fill / 22 operational
  - 20 in embank drains / 15 operational

  92 60
- 4 functioning inclinometers at ME (p. 12)

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: _____

Document: MP00035 Cont'd.

Date Published: _____ Firm: _____

Author(s): _____

- Dwg # 225 shows ultimate embankment el = 970m.
- Plane G instrumentation (Stn. 4+300) has most relevance (Dwg 345)
- Plan G shown on dwg # 358 [also shows d/s @ 2:1]

Date: Sept. 25, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP 10034

Document: Tailings Storage Facility Report on 2009 Annual Inspection

Date Published: Dec. 18, 2009 Firm: KP

Author(s): Les Galbraith, P.Eng. Rev & Appved Ken Brouner, P.Eng.

- 72 hr (0.6m) PMF + 0.8 m wave run-up = 1.4m (p. I) and (p. 5)
- "SI01-02 is showing slight deviations at an approximate depth of 10m below ground in the lacustrine silts. This is being closely monitored by MPMC who have increased the monitoring frequency of the inclinometers to weekly. MPMC has also expanded the buttress at the Main Embankment as a result of the measured displacements in SI01-02." (p. I)
- "The next Dam Safety Review should be carried out by 2011..." (p. II).
- Current crest elevation of embankments is 954m. (p. 2)
- Still "Significant" consequence classification. (p. 3)
- 2009 Construction Activities (p. 4)
  - Complete Stage 6a to 954 m in Oct. 2008 – Zone 4 sand cells
  - Expand TSF ME buttress – u/s toe drain at SE
- "The TSF was observed to be in good condition with no geotechnical issues outstanding." (p. 5)
- June 2009 flow from PE u/s toe drain ~8 l/s "consistent" w/ 2008 (p. 6)
- Still 4 places of piezometers (p. 6)
  - 18 in tailings / 13 operational
  - 19 in foundation / 9 operational
  - 35 in emb. fill / 25 operational
  - 19 in drains / 15 operational

91 — 62

aside: inconsistent w/ 2008 report

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP 10034 Cont'd.

Document: _____

Date Published: _____ Firm: _____

Author(s): _____

(4) - "Mount Polley Mine is currently developing a program to re-establish / replace the damaged piezometers." (p. 8)
- Four functioning inclinometers at the NE.
- SI01-02 showing sl. deviations (< 3mm) at ~ 10 m bgl in lacustrine silts. (p. 8)
- buttress expanded at NE as a result of the measured displacements in SI01-02". The expansion of the buttress appears to have been effective as no additional displacements have been measured in inclinometer SI01-02" (p. 8)
- "The next Dam Safety Review should be carried out by 2011..." (p. 12)
- Drg # 225 shows "interim slope for Zone C rockfill approx. 1.4H:1V" (p. 84 DW225)

Date: Sept 25, 2014

Geotechnical Review of Mt Polley Document ~~G. Warnock~~ Haley Kuppers + G. Wanah p. 2

Document ID: MP00037

Document: Tailings Storage Facility Report Annual Inspection 2010 Oct.

[Aside: 1 month before KP letter to MMG]

Date Published: January 25, 2011 Firm: Knight Piésold

Author(s): Les Galbraith

- Classification "Significant" as ~~recommended in 2006 OSR, based on 1999 EDA guidelines~~ per 2007 OSG. (p. I)
- "It is Recommended that TSF classification be reviewed with specific reference to potential damage to downstream fish and/or wildlife habitat following a hypothetical dam breach after the TSF has reached its ultimate elevation." (p. I)

Q. Was this done?

- Tension crack [~3+400 → 800m from breach] was observed at the Perimeter Embankment on downstream side of crest in Zone C rockfill material. Likely the result of localized settlement in loosely compacted material, Possible may be a relationship between tension crack and excavation of the glacial till borrow area immediately downstream (p. II)
- D/S of Main Embankment slope 1.4H:1V, constructed as interm slope (p. II)
- Slight deviations measured lacustrine unit in Inclinometer S101-02 resulted in the requirement for a buttress at Main Embankment. (p. II)
- Buttress was constructed along west side of the dam in 2010, extent of buttress should be re-evaluated in 2011. (p. II)

Q. Was this done?

- Lack of tailings beach development, identified as deficiency by MEM. in 2008. (p. II)
- 40% vibrating wire piezometers installed at TSF not functioning. Outstanding item from 2006 OSR. Replacing instrumentation should be high priority by MPMC. No additional raises of TSF should be constructed until lost instrumentation replaced. (p. II)

Q. Was this done?

- MPMC operating with a water surplus. Seeking regulatory approvals to discharge water from the site to reduce the increasing water storage requirements. (p. III)
- Main components of the TSF, zones include Zone S, Zone F, Zone T, Zone C, Zone U (p. 2)

Date: Sept 25, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00037 Cont'd.

Document: _____

Date Published: _____ Firm: _____

Author(s): _____

Not Yet Done Planned for 2015

- Enviromental impacts resulting from theoretical dam breach not evaluated Recommended that a Dam Breach and Inundation Analysis be completed in 2011 (p.5)
- Tension Crack observed at PF approximate chainage of 3+400 Head apparently been identified two months earlier by grader operator and was approximately 10 to 15m Long. (p.6)
- Recommended that stability assessment be completed for area. Any abnormal observation at the tailings dam should be reported to design engineer immediately and prior to any remedial action being taken.

G. Warnock Additional Review

Q. Was this done? ⑧ - Check: was the effect of the glacial borrow area investigated during the Stage 7 Design (re: Cracks in Zone C) "... any additional excavation within the borrow area should be reviewed and approved by the TSF design engineer." (p.II) + (p.6) [1:1 interim]

Q. Was this done? ⑧ - "It is recommended that the downstream slope of the Dam Embankment be evaluated during the Stage 7 design phase to assess whether it requires flattening..." p.(II) + (p.6)

Q. Why this done? ⑧ - "Develop a tailings deposition plan to deposit tailings around the perimeter of the facility to facilitate the development of tailings beaches..." (p.II)

- Stage 6b raised to 958m in 2010 (an increase of 4m from Stg 6a) (p.3)
- "The latter also recommended that the buttress be constructed prior to the commencement of the Stage 6b construction program, which did not happen." (p.6).

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00037 Cont'd

Document: _____

Date Published: _____ Firm: _____

Author(s): _____

- KP reiterates (i) min 20m beach @ abutment / 10m elsewhere.
  (ii) Develop plan & schedule to enable the minimum targeted beach widths to be re-established within a 2 week period should they be infringed upon
  (iii) Piezos to be read weekly when no beach

check (8) - "An instrumentation installation program has been proposed to MPMC to replace the lost instrumentation. This program is expected to be carried out toward the end of 2010." [Aside → this DSI authored 2011?] (p. 9)

- 10 functioning tailings piezos
  8 functioning foundation piezos
  23 " " embankment fill piezos
  15 " " drain piezos
  56
  (p. 10 & 11)

- 4 functional SW SI's (p. 11)
- "The next Dam Safety Review should be carried out by 2016." (p15)
- DWG 215 shows 970 m elev. (DWG 215)

(?) - PW6 258 shows As-built of 2:1 for Plates D & G. (PW6 258)

Date: Sept 26, 2014

Geotechnical Review of Mt Polley Document ~~– G. Warnock~~ Haley Kuppers

Document ID: MP00039

Document: TSF Stage 7 2011 Construction Monitoring Manual

Date Published: 20 April 2011 Firm: AMEC

Author(s):

- Two-dimensional limit equilibrium stability analysis. For 2011 raise (Appendix A,
- Construction monitoring and QA/QC "MPMC will take a greater role and responsibility in this regard than has been previous practice" (pg. 1)
- "Specifically, MPMC will engage its own engineers, technicians, or summer student to provide full-time construction monitoring and field inspection"
"This monitor will, working under the direct supervision of Mr. Luke Moger of MPMC, produce daily progress/technical reports for MPMC and for AMEC". (pg 1)
- 2011 Construction Organization Chart, MPMC and AMEC, (pg 5)
- Estimated Fill Volumes Stage 7, greater estimated fill volumes (pg 10) for perimeter embankment than ME/SE, PE "Zone-C: 87,000M³, Zone-U: 144,000M3"
- "The dam foundation areas for 2011 construction will be drained (where required) and will be stripped of all organic material, loose or soft soils, and all other (pg 11) deleterious materials".
- "The exposed subgrade is to be protected from moisture softening due to (pg 11) surface water runoff or excessive precipitation"
- "Water seeping into the cutoff trench excavation will be removed by pumping, and will not be permitted to collect and remain in the excavation" (pg 11)
- "Field copies of the construction drawings and a photographic record will be maintained to identify foundation areas that have been inspected and approved, clearly indicating their date of inspection" (pg 12)
- Areas not approved or unacceptable foundation, not to be covered with Fill, reported by Support Engineer to MPMC field inspector, Project Manager

Date: Sept 26, 2014

Geotechnical Review of Mt Polley Document ~~G. Warnock~~ IK.

Document ID: MP00039 cont'd

Document: _____

Date Published: _____ Firm: _____

Author(s): _____

* Zone F, Manufactured sand and gravel, crushed on-site NAG. (pg 16)
Max lift thickness 0.6m, compaction pattern minimum four passes 10 ton vibratory smooth dr
- Zone T, Fine NAG rock, gradation limits Drawing 560.2011-03

(*) "The importance of conformance with gradation specifications for both of (pg 16)
these Filter zones cannot be over emphasized"

Max lift thickness Zone T 0.6m, compacted by haul trucks and spreading eq (pg 16)
- Zone C Coarse NAG, particles no larger than 1m, placed lift thickness 2m or less
- Zone U upstream fill, constructed of total tailings - Areas of dam (Main Embankment
(#) not sufficient tailings line pressure to deposit with all method, NAG waste rock substituted
- Reporting. MPMC Field Inspector document monitoring and testing program
by means of daily construction reports, Field and laboratory test sheets, weekly progress repor
Survey reports, notes from relevant on-site meetings, discussions, decisions pg 20.
- Stability analyses results. Appendix A Figure 3-3
(IK) [Glaciolacustrine / Glaciofluvial sediments aprox 915 - 932 m elevation, (pg 5 + Appendix A)
observed in Perimeter Embankment ~~Section~~ HK (Ch 39+90)]

Geotechnical Review of Mt Polley Document – G. Warnock *October 7, 2014*

Document ID: *MP10012*

Document: *2011 Geotechnical Site Investigation - FINAL*

Date Published: *March 28, 2012* Firm: *AMEC*

Author(s): *Laura Wiebe, P.Eng., Sealed by Todd Martin, P.Eng., Reviewed by Michael Davies, P.Eng.*

- AMEC assumed EOR role on January 28, 2011. (p.1)
- Geotechnical investigation undertaken in October 2011. (p.1)
- As of June 2011, of the 93 piezometers, approximately 40% were functioning. (p.1) [Aside: check to see if this should read "approximately 40% were NOT functioning".]
- "Both these documents [2006 DSR and 2011 Instrumentation Review} also recommend further characterization of glaciolacustrine soils ...as this had been postulated from very early in the mine life as being a potential stability concern but was not effectively addressed prior to the 2011 TSF review and recommendations." (p.2)
- This report undertaken to address: 1.) GLU soils, 2.) PE crack, and 3.) SE foundation conditions. (p.2)
- "Perimeter Embankment Crack: Drill holes were advanced both on the embankment crest and adjacent to the downstream embankment toe at chainage 3+400. One inclinometer was installed at the crest while one piezometer was installed at the toe." (p.4)
- Table 3.1: 11 piezometer holes, 3 SI holes / Table 3.2: 23 piezometers in 11 holes (p.5)
- Atterberg Limits and Grain Size testing (p. 9-13)
- Direct shear testing (on clay varves) not discussed.
- "Further, even if not pre-sheared, such clay varves could be driven to low shear strength as a result of movements induced by ongoing raising of the dam." (p.20) [Aside: should this have lead to the use of residual strengths, or the use of higher FOS with peak strengths?]
- "The samples were closely examined, peeling them apart along the varves by a pocket knife, to check for any indications of slickenside features: none were found..." (p.21)
- "In summary, inclinometer data to date is consistent with the GLU comprising a competent foundation for the dams. There is no indication of pervasive pre-shearing nor is there indication there would be significant brittle behaviour upon shearing..." (p.21)
- AMEC considered phi of 28 degrees to be "..appropriate, and potentially somewhat conservative." (p.23)
- GLU in PE had clay and silt varves < 5mm thick. (p.23)
- AMEC interpreted GLU within PE foundation to be "discontinuous" (p.24)
- "In general, the results above present no indication that the crack observed in the downstream rockfill near station 3+400 (KP, 2011) was due to the presence of weak soil conditions in the area. Based upon available information, foundation conditions along the Perimeter Embankment appear more favourable than those along the Main Embankment, in terms of presence and extent of clay-rich zones within the GLU." (p.25)

Date: Sept 25, 2014

Geotechnical Review of Mt Polley Document ~~**G. Warnock**~~ Haley Kuppers' + G. Warnock p.2,

Document ID: MP00041

Document: As-Built Report and Annual Review - TSF 2011 Construction

Date Published: 30 March 2012 Firm: AMEC

Author(s): Todd Martin, Daryl Dufault, Dmitri Ostritchenko (EIT), Rev: Steve Rice, P.Eng.

- Pore pressures in foundation soils, (D1) upward trending piezometer readings (p.3)
- AMEC present on-site for critical, non-routine aspects of foundation preparation and fill placement. (p.4)
- AMEC reduced their monitoring presence to monthly visits, with monitoring of construction progress via reports and photographs issued by MPMC; done once AMEC was satisfied that MPMC's Field inspectors were fully trained and prepared to undertake construction monitoring and reporting role (p.4)
- 2011 construction mid-spring to mid-November. Zone S and Zone F placement by Peterson Contracting. Zone U, Zone T and Zone C placed by MPMC. (p.4) Abutment preparations conducted by MPMC.
- Observations and data obtained in 2011 indicate tailings management facility continues to perform in satisfactory manner. (p. 4)
- Addition of new instrumentation and updated surveillance and reporting plan will form component of OMS manual update in 2012. (p.8)
- Freeboard requirements: 1.3 m, allows for storage of 72-hour PMP event (p.8)
- Perimeter embankment discharge into ditches which carry flow to respective seepage collection ponds where it is measured at end of pipe. (Flow data ~~Fig 2.2~~ pg)
- AMEC Support Engineer, on-site Supervision: Pre-construction meeting May 31 - June 1 Construction kick off June 13-16, 20-24, 27-28; July 25-28; August 19-25 (p.11)
- Construction Monitoring Program: Responsibilities of AMEC support Engineer, (pg 11-12) AMEC Senior support, MPMC Field Inspector.
- Senior Support Eng. T. Martin on-site June 20, 21 & Daryl Dufault July 25, 26

Date: Sept 25, 2014

Geotechnical Review of Mt Polley Document ~~**– G. Warnock**~~ Haley Kuppers

Document ID: MP 00041 cont

Document: _____

Date Published: _____ Firm: _____

Author(s): _____

- TSF Summary of Material Quantities and Laboratory testing (pg 16)
- Total Fill Volume placed 283,350 m^3 (p. 16)
- S111-04 [PE] indicated displacement suggestive of compression rather than lateral displacement (p. 18)
- Comprehensive review and update of the site water balance should be undertaken (p. 24)
- Toe drain Flow needs to be measured and recorded as per OMS Manual (p. 24)

G Warnock Notes:

- ~~AF~~ BW AMEC EOR Since January 28, 2011 (p. 1)
- Classification remains at "Significant" (p. 1)
- KP Piezometers renamed. (p. 1)
- (★) In 2011, pre-instrumentation installs: 58 pieces + 23 pieces = 81 pieces post installs (p. 3)
  4 inclos + 3 inclos = 7 inclos
- Formal OSR planned for 2016 (p. 4)
- Stage 7 raised crest to 960.1m (p. 4) [2.1m] (p. 13)
- Summary of lift raises by year from 1996 to 2011 (p. 5) [Same as 0175]
- (★) Sec. 2.2 "Tailings Discharge and Beach Management" [no discussion of beach widths] (p. 7)
- (★) Zone U "Composed of tailings or waste rock where tailings placement infeasible. (p. 10)
  "NAG/PAG rock fill can be utilized where the tailings placement is not possible." (p. 10)
- Till Core compacted to 95% of SPDD (p. 10).
- Zone T "comprises relatively fine waste rock" (p. 10).

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00041 Cont'd.

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Date Published: _____ Firm: _____

Author(s): _____

- piezos & inclinometers monitored once every two weeks during construction. (p. 13)

(A) - After 2011 construction period through end of 2011, "the recommended instrumentation surveillance schedule was not maintained" (p. 13)

- Zone T - historically included manually sorting Zone C material
  - during Stage 7 MPMC switched to manufactured product of 75 mm (-) (p. 15)

- "... the 2011 Stage 7 raise of the dams was carried out in conformance with design intent." (p. 17)

Q. Where is SI11-02? A. ME

- SI 11-02 showed ~5mm over the year. "The observed displacement is well within tolerable limits." (p. 18)

- 2012 Stage 8 raise (to 963.5m) targeted for completion by end Sept. 2012 (p. 21)

- Fig 2011AB.05 shows 1.3:1 slope and ultimate design slope. (Fig 2011ABD5)

- Map of SI's and VW's (Figure 2011AB.07)

- Sections D:6 w/ instrumentation (Figure 2011AB.16)

Date: Oct. 9/14

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP 00040

Document: Tailings Storage Facility - Stage 8 2012 Construction Monitoring Manual

Date Published: Mar. 30, 2012 Firm: AMEC

Author(s): Dmitri Ostritchenko, EIT / Rev Michael Davies / Daryl Dufault / Sealed Todd Martin

- "Mr. Luke Moger of MPMC will oversee the overall construction monitoring." (p.2)
- "The day to day monitoring, reporting and instrumentation reading tasks will be the responsibility of the MPMC Field Inspectors and mine technicians." (p.2)
- AMEC full time 10 days, and then monthly. (p.2)
- Todd Martin or Daryl Dufault to conduct one visit (part of annual inspection (p.2)
- Organization Chart (p.4)

  Field Inspector: monitor daily construction (p.5)

  AMEC Support Engineer [Dmitri O]: 10 days FT, then monthly (p.5)

  AMEC Project Manager [Daryl Dufault]: "overall responsibility for AMEC's role with upcoming and future dam raises." (p.7).

  Senior Geotechnical Engineer [Todd Martin]: EOR. (p.7)

  PG Soil Lab: lab technician → Dmitri → Luke Moger.

  MPMC Proj Mgr [Luke Moger]: "overall responsibility for MPMC construction management and MPMC supervision, monitoring, and quality control testing activities when AMEC is not on site." (p.8)

- Stage 8 Expansion estimated Zone C Fill of 160,400 m^3 (p.9)
- Foundation prep for 2012 to consist of "foundation preparation to the current ultimate design (El. 970.0 m)." (p.11) [Aside: Stage 8 → 963.5m, Stage 8A → 965m]
- "Foundation preparation is to be conducted when AMEC's Support Engineer is on site." (p.11)

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Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00040 Cont'd

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Author(s): _____

- Zone 5 Spec = 95% of SPMDD (p.15)
- Table 3.2 Inclinometer "Green" threshold < 7mm bi-weekly (p.18)
  [Asish: Seems high given that SI01-02 (check) only showed total movement of 10 mm]
- "AMEC Support Engineer will review the test results [submitted by MPMC Field Inspector] and submit them in the monthly report, or sooner if immediate actions are needed." (p.19)
- Reporting (p.20)
  Daily Construction Reports → by MPMC Field Inspectors → to AMEC Support Engineer [Dmitri] and MPMC project manager [Luke M.] (p.21)
  Monthly Progress Reports → by AMEC Support Engineer [Dmitri] → to MPMC Proj. Mgr [Luke], AMEC Proj. Mgr [Doug D.], and AMEC Sr. Geot. Eng [Todd M.] (p.21)
  As-Built / Annual Review (p.21)
- "In 2011, additional instrumentation was installed to replace defective and damaged instruments. No new instrumentation is planned to be installed during the 2012 construction program." (p.22)
- During active construction → Slope inclinometers to be read bi-weekly / monthly otherwise (p.22)
- During active construction → Piezometers to be read bi-weekly / monthly otherwise (p.22)
- Appendix A (Stability Analysis)
- "The material properties used for the analyses are based on previously established parameters assumed by KP (2007) with minor modifications deemed appropriate by AMEC." (p.1)

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- Appendix A Cont'd
- "... no indication of pre-shearing within the glaciolacustrine ... therefore a shear strength of $c'=0$, and $\phi'=28°$ is judged reasonable..." (p.2)
  [Aside: Ignores potential for brittle behaviour]
- "The minimum factor of safety (FOS) criteria for design is 1.3 for short-term (during construction) and 1.5 for long-term (closure) steady state conditions." (p.3)
- Section 3+990 used for PE (p.4)
  FOS_{Static} = 1.9 (tailings drained) or 1.8 (undrained) (p.4)
- "Similar to the 2011 expansion the stability analyses identified that the main embankment was the critical section for the 2012 expansion..." (p.4)
- Pore pressure trigger levels – Red (FOS <1.1) / Yellow (FOS 1.1-1.3) / Green (FOS >1.3) (p.5)
- "... applies only for the main embankment piezometers. Factor of safety values for the perimeter and south embankments are sufficiently high that monitoring of piezometric trends, without defined trigger levels, is deemed sufficient." (p.6)
- (*) Figure 2.2 (PE) Stability Analysis – circles pass through basal till. Glaciolacustrine too deep to affect FOS. (p.8)

Date: Sep. 26, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00043

Document: Tailings Storage Facility 2012 Annual Review

Date Published: Apr. 8, 2013 Firm: BGC

Author(s): Todd Martin, Daryl Dufault, rev. by Thomas Harper, PE

- TSF is "Significant" consequence class, but IDF and EDGM (flood & seismic design criteria) are consistent with a "High" consequence classification. (p. i)
- 2012 Stage 8 targeted 963.5m, but in early summer, MPMC requested an engineering design package to support raise to 965m [Stage 8a] (p. i)
- Switched from "modified centerline" to centerline core raise above (963.5m)
- "Pore pressures in foundation soils in and around the TSF embankment were noted as stable with minor fluctuations." (p. i)
- two replacement inclinometers (total of 9 functional) installed along PE in 2012. (p. i)
- "... the 3.7m Stage 8/8A crest raise had a negligible impact on the factor of safety of the dams, with values still in excess of 1.3 under static loading, short term conditions." (p. iii).
- Formal DSR planned for 2016 (p. iv)
- Stage 8/8A raise of 3.7m from 960.1m to 963.8m (p. iv)
- "... the tailings storage facility continues to perform in a satisfactory manner" (p. iv)
- See Summary of TSF elev by year, same as previous documents + 2012 to 963.8m (p. 1)
- "AMEC assumed the design consultant role for the TSF embankment as of January 28, 2011. AMEC's leads on the project were Todd Martin, P.Eng., and Daryl Dufault, P.Eng., both now with BGC Engineering Inc. (BGC), and co-authors of this annual review report." (p. 4)
- Tailings delivery line being redesigned to allow for U/S sand cell const. along ME in 2013. (p. 5)

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00043 Cont'd.

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Date Published: _____ Firm: _____

Author(s): _____

- 24 hr PMP event + wave run-up = 1.3m (Normal Op. Level)
- Max Op. Level = freeboard of 1m.
- "Tailings deposition would cease if the pond level reaches max op. level..." (p. 7)
- Piezometer Thresholds (NE Foundation) (p. 13)
  - All foundation piezos in green zone through 2013.
- Inclinometer Thresholds (p. 14)
- "The TSF embankment is reaching the final crest elevation (El. 970 m) considered in the original design. Should additional capacity be needed for future mine expansion, additional design will need to be completed..." (p. 18)
- "The second zone of seepage was observed from where the upgraded mine haul road intersects the Perimeter Embankment near Corner 1. The area where this seepage was observed was different than in previous years and it was determined that the recent haul road upgrade has impeded the flow path of the seepage flow." (p. 20)
- "A new design for the TSF will be required should mining continue past 2014" (p. 21)

Date: Rev. Aug 2014 / Notes Sep. 18, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP 00045

Document: Tailings Storage Facility - Stage 9 : 2013 Construction Monitoring Manual

Date Published: Apr. 11, 2013

Firm: ANEC

Author(s): Laura Wiebe Rev: Steve Rice

Key Concepts:

- Stage 9 (970 m) stability analyses in App. A. (p. 1)
- MPMC assumed greater responsibility for QA/QC in 2011 (p. 2)
- ANEC to provide full-time supervision for first 14 days of construction, then monthly "once ANEC is satisfied that the design intent is being met and that the MPMC Field Inspectors are fully trained..." (p. 2)
- Laura Wiebe and/or Steve Rice to visit site annually (p. 2)
- ANEC Support Engineer (Dmitri Ostritchenko, P.Eng.) to visit monthly (p. 6)
- ANEC Project Manager (Laura Wiebe) identified as EOR (p. 7)
- ANEC to complete monthly construction reports (p. 9)
- "MPMC's Project Manager (Luke Mager) shall assume overall responsibility for MPMC construction management and MPMC supervision, monitoring, and quality control testing activities when ANEC is not on site." (p. 10)
- Zone S (0.2) min fines = 20% Zone F (filter) 2" (-)
  Zone T (transition) 6" (-) and max fines = 20% Zone C max ϕ = 1m (p. 12/13)
- Use NAG ROM Waste Rock where insufficient lime pressure (p. 23)
- PE Piezo Alerts Red 939m Yellow 935m Green <935m (App. A).

Date: Rev. Aug 2014 / Notes Sep. 19, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00046

Document: Tailings Storage Facility Operation, Maintenance and Surveillance Manual

Date Published: July 1, 2013

Firm: MPMC

Author(s): Luke Moger Approved by Tim Fisch

Key Concepts:

- Luke Moger "responsible for planning of tailings construction activities and daily management of the construction activities..." (p.3)
- Laura Wicbe identified as the Engineer of Record (p.3)
- "MPMC" Tailings Project Manager [Luke Moger] shall assume overall responsibility for MPMC construction management and MPMC supervision, monitoring, and quality control testing activities when ANEC is not on site." (p.7)
- "... overall responsibility of the tailings management falls under Don Parson..." (p.9)
- 9 functional inclinometers and 81 functional piezometers. (p.34)
- "ANEC assumed the role of Engineer of Record for the TSF as of January 28th, 2011" (p.59)
- Modified centerline to 963.5m, now centerline (p.59)

- 1996	Starter Dam to 927m	2005	946m
1997	934 m	2006	949 m
1998	936 m	2007	950.9m
1999	937m	2008	951.9m
2000	941m	2009	953.9m
2001	942.5m	2010	958m
2004	944m	2011	960.1m
		2012	963.5m

(p.59)

Date: _____

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP000046 Cont'd.

Document: _____

Date Published: _____

Firm: _____

Author(s): _____

Key Concepts:

- 24 hr PMP ~ rise of 0.39m / 0.9m for wave run-up
  Normal Freeboard 1.3m / Freeboard @ Max Operating Level 0.9m (p.61)

☆ - "Tailings deposition will cease if the pond level reaches maximum operating level and the removal of water from the pond will commence using the reclaim barge." (p.61)

↳ Aside: see "Update #1" dated June 13, 2014 → min freeboard = 0.6m for a length of 1225m (chainage 15+50 to 27+75).
Also see June 6, 2014 letter from LM to HN. (MP00195)

- "During active construction, piezometers are to be read, recorded, and submitted to the ANEC Support Engineer bi-weekly." (p.67)
- The next DSR for TSF is scheduled for 2016. (p.74)
- See Section 9.0 Emergency Procedures (p.75-77)

Date: Oct. 6, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00044

Document: Tailings Storage Facility Stage 9 2013 As-Built and Annual Review Report

Date Published: Mar. 12, 2014 Firm: AMEC

Author(s): Luke Marquis, EIT / Laura Fidel, P.Eng. (sealed) / Steve Rice, P.Eng. (Reviewed).

- "... TSF is classified under "Significant" category..." (p.1)
- "From the end of August to the completion of construction activities, an AMEC representative provided full daytime coverage..." (p. 2/3)
- MPMC → Zones U, T, C Peterson → Zones S & F (p. 3)
- Pore pressures in foundation soils stable w/ minor fluctuations. (p.3)
- Pore pressures in all filter & drain pizzos (except D3) unchanged. D3 indicated a slight increase in pore pressure. (p.3)
- Surveys of SI's in and below d/s shell of PE indicate minor movement (p.3)
- Stage 9 suspended in November 2013. "The raise... is projected to provide storage and freeboard through to summer 2014." (p.5)
- "Insufficient tailings line pressure prevented cell construction along the central portion of the ME." (p.8)
- Freeboard requirement of 1.3m for 72-hour PMP + wave run-up (p.10)
- "The Stage 9 raise maintains a downstream slope of 1.3H:1V, which is temporary given that the final dam downstream slope is currently planned to be flattened to 2H:1V." final design may be revised after the current target el of 970m is reached. (p.12)
- "Zone T was obtained by selectively sorting run-of-mine waste rock..." (p.12)
- AMEC Support Eng. Apr. 23-26, May 1-3, May 7-9, May 13, June 4-6, June 17-19, June 26-28, July 3-5, Aug. 3, Aug 12-14 (p.13) [Aside → compare w/ 2014 on-site]
- QA/QC in Table 4.1 (p.16)
- "During the 2013 construction period, the instrumentation was generally read once every two (2) weeks... During more critical construction activities (ie. Main Embankment buttress construction), the VWPs were usually read every day or every other day..." (p.17)

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Author(s): _____

- For the period prior to and after the 2013 construction period through the end of 2013, instrumentation monitoring was reduced to readings once a month." [ASIDE: Consistent w/ OMS?]
- "Foundation preparation was also conducted downstream of the Perimeter Embankment within the final dam footprint. The area was stripped of all organics and soft and over wet soils to expose the dense inorganic native soils ... Inspection of the prepared foundation between Station 4+100 and 4+300 was attempted late in the season but was covered with snow. It should be noted that this section will require approval prior to any backfilling activities." (p.19)
- NAG waste rock substituted for Zone U along central DE. (p.19)
- "AMEC's Support Engineer inspected the NAG waste rock ... to ensure that large boulders (diameter > 1m did not exist near the Zone U / Zone S interface." (p.19)

Q. When? - Section of Zone S slumped on u/s side and design width of 5m "had to be re-established" (p.20)

- 95% of Standard Proctor = Spec for fill. (p.22)
- 9 Functioning SI's and 77 functioning VWP (p.25)
- See DWG 2013AB.06 for instrumentation layout (p.25)
- SI06-01 and SI11-01 only read to 50m (less than total depth) (p.26)

When? - SI12-02 (@ 3+270) → no displacement (p.30)

- Water balance NOT reviewed by AMEC. (p.31)
- "The WB projects that ... 967.0m is sufficient until August 2014" (p.31)

Date: Oct. 10, 2014

Geotechnical Review of Mt Polley Document – G. Warnock

Document ID: MP00192

Document: Memo: Mt. Polley Tailing Facility Field Review

Date Published: May 30, 2014 Firm: AMEC

Author(s): Dmitri Ostritchenko, EIT

- May 25 Recommendation: "Divert inflow water to the TSF, and start removing water from the TSF to re-establish the required 0.8m minimum freeboard as outlined in the OMS manual (Section 6.0, revision 11)." (p.1)
- May 26 Recommendation: "Reconfirmed the recommendation to divert water away from the TSF, and remove water from the TSF..." (p.2)
- May 27 Observation: "A low spot in the core was observed at the perimeter pipe crossing ... Standing water noted to be present on the core..." (p.2)
- May 27 Recommendation: "Lower the pond level to establish the required freeboard." (p.3)
- May 28 Recomendation: "No new recommendations were provided, addressing the low core areas and lowering the pond elevation was reiterated." (p.3)
- May 29 Recommendation: "... addressing the low core areas and lowering the pond elevation was reiterated, however to date no extensive effort to lower the pond elevation was implemented." (p.3)

Geotechnical Review of Mt Polley Document – G. Warnock *October 7, 2014*

Document ID: *MP00208*

Document: *Tailings Storage Facility Stage 10 Raise Design Report*

Date Published: *July 25, 2014* Firm: *BGC*

Author(s): *Todd Martin, P.Eng, Daryl Dufault, P.Eng., and Bill Burton, P.Eng.*

- Stage 10 Construction in two phases. Phase 1 = raising crest (Zones U,S,F,T and C) to 972.5m immediately following completion of Stage 9a raise to 970m, and Phase 2 = Raising the buttress (Zone C) along the d/s slope of the ME and PE. (p.i)
- "The Stage 10 crest raising will precede the downstream slope buttress raising, to take advantage of summer weather conditions for till core construction. For the Stage 10 crest raising, addition of fill prior to fill placement against the downstream slope of the dam is acceptable as the factors of safety were checked for the El. 972.5 m crest without buttress raising, and were found to be adequate although below target factor of safety criteria in some instances." (p. i)
- "Commencing with the construction of the raise to El. 972.5 m, BGC Engineering Inc. will assume the role of Engineer-of-Record." (p.i)
- Work for the Stage 10 raise included..."Evaluation of the shear strength of glaciolacustrine foundation soils that largely govern the stability of the dams" (p.i)
- "...the TSF is assigned a "significant" consequence classification. However, recommended earthquake and inflow design flood (IDF) criteria are more stringent than required...Updaed earthquake and IDF criteria are recommended herein." (p.ii)
- "Wide, above-water tailings beaches separating the embankments from the reclaim water pond constitutes a fundamental structural element of the dam, and should be established at the earliest possible date, and maintained thereafter. MPMC is in the process of implementing a water treatment system that will facilitate this..." (p.ii).
- No dam break and inundation study, as described in the CDA (2007) dam safety guidelines, has yet been carried out for the Mount Polley TSF. There is no permanent population at risk between the TSF and Quesnel Lake. Earthquake and IDF design criteria recommended for the TSF are consistent with "very high" and "extreme" consequence classifications under the CDA (2007) guidelines, so it is unclear if there is any benefit to undertaking such a study for the Mount Polley TSF. This should be reviewed between MPMC and the B.C. MEM. (p.2)
- "The ratio of the Zone S till core width to the hydraulic head will, for portions of the core, be lower than the typically accepted ratio of 0.25, a criterion developed for water retaining dams. This will be mitigated by..." (p.ii)
- "Stability analyses for the dams considered a worst case scenario with residual shear strength assumed for the glaciolacustrine foundation unit, in which case a minimum factor of safety of 1.1 is assumed. There is no evidence, neither from site investigations nor inclinometer monitoring, that the operative shear strength is residual, but this approach is

consistent with application of the observational method for a dam with a potentially brittle foundation." (p.iii)

- "As MPMC proceeds with Zone C downstream shell placement over the next year, priority should be placed on completion of that portion of the downstream buttress required to achieve factor of safety criteria, as outlined in Table 6-3." (p.iii)
- "Modifications to the gradation specifications for Zones F and T are recommended as outlined in Sections 7.3.4 and 7.3.5 respectively." (p.iii)
- "MPMC has scheduled the next DSR for 2015..." (p.9)
- "The design criteria for the embankment dams at the Mount Polley TSF, in terms of earthquake and inflow design flood criteria, are consistent with a "high" consequence classification." (p.9)
- KP (1995) 24 hr PMF....203 mm + freeboard allowance above PMF storage = 1m (p.11)
  KP (2007) 72 hr PMF....319 mm + freeboard allowance above PMF storage = 0.7m (p.11)
  BGC (2014) 20 hr PMF...406mm + freeboard allowance above PMF storage = 1m (p.11)
- "MPMC indicates that the maximum rate at which water can be pumped out of the TSF is currently 10,000 gpm (54,410 m^3/day)." (p.12)
- EDGM AEP (planned) of 1/5000 (operational) and 1:10,000 (closure) [Aside > "High"] (p.13)
- "The core zone of the Mount Polley tailings dam is relatively narrow, and was based on a final projected dam crest elevation of 970 m. With continued raising of the dam to be undertaken, the width of the core relative to the height of the dam will further decrease...the width of the completed sections of the dam core does not represent an impediment to further raising of the dam above El. 970 m." (p.14)
- "By the time the pond level rises to the maximum elevation at which IDF storage and freeboard compliance criteria are reached, by which time the Stage 11 crest raising must be well advanced, the W/H ratio at El. 951 m will already be less than 0.25, and will decrease further thereafter." (p.16)
- "...the 0.25 criterion is less important if a wide, above-water tailings beach separates the core from the water pond..." (p.17)
- "One example is the L-L tailings dam at the Highland Valley Copper Mine (Singh et al., 2008, 2014). For this dam, the core width to head ratio as of 2013 was about 0.15, and with continued raising to the permitted design crest, will eventually reduce to about 0.11." (p.18).
- "Once wide beaches are achieved and maintained, the governing factor in terms of the core W/H ratio will therefore be the continuity of the filter sequence downstream of it, which in turn will be governed by the potential deformation that the dam could experience during a design earthquake..." (p.18)
- "As an interim target, a minimum above-water beach width of 400 m is judged a reasonable criterion for planning of tailings deposition operations once the volume of water within the TSF has been reduced." (p.19).
- "For static loading conditions, for the best estimate of material shear strengths and parameters...specified minimum factor of safety (FoS) criteria, for every stage raise of the TSF, are as follows: FoS ≥ 1.5 based on dissipation of any stage raised induced excess pore pressures. This FoS also applies for the closure phase. FoS ≥ 1.3 considering no dissipation of any stage raised induced excess pore pressures. (p.20) [Aside – this interpretation aligns with the CDA guidelines, and is more conservative than the previous interpretation which used a FOS of 1.3 during operations – not just during construction.]

- "Portions of the Mount Polley TSF dams are underlain by glaciolacustrine and glaciofluvial soils. There is evidence of a varved structure (e.g. see AMEC, 2011) within the glaciolacustrine unit, which raises the potential of brittle behavior..." (p.20)
- FOS of 1.1 for "worst case scenario for residual shear strength within the glaciolacustrine foundation soils. A similar contingency design approach has been taken for the L-L Dam at the Highland Valley Copper mine...A portion of that dam is founded on sedimentary bedrock which, if sufficiently strained, could experience a significant reduction in shear strength...the design of the portion of the L-L Dam underlain by sedimentary bedrock is based on a minimum FoS of 1.1 considering residual shear strength conditions, and a minimum FoS of 1.5 based on the best estimate of operative shear strength conditions." (p.21) [Aside – Was a FoS of 1.3 appropriate with peak strengths vs 1.5 to ensure that peak strengths were not affected.]
- "These circumstances have increased the potential for flood storage and freeboard requirements to be infringed upon as a result of larger than anticipated water accumulation within the TSF. To resolve this and the issues noted above, MPMC is advancing the permitting and design for the construction of a reverse osmosis water treatment plant (WTP), capable of treating and discharging up to 3 Mm3 per year on a year-round basis. MPMC anticipates commissioning of the WTP, and initiation of discharge to Polley Lake, in October 2014." (p.23)
- "assumption of a piezometric line at pond level extending across the Zone S core, and then following the downstream limit of Zone S, overstates pore pressures within Zone S, and is therefore conservative for use in stability analyses." (p.27)
- "No inclinometers are installed as of yet along the South Embankment owing to the lack of significant glaciolacustrine soils indicated by drilling to date in that area." (p.28)
- "As indicated in Table 5-1, of the nine inclinometers installed to date, only two, in the deepest section of the Main Embankment, indicate any discrete shear zones within the glaciolacustrine unit. The most significant movement to date occurred in SI01-02, at Sta. 1+930 m, where a cumulative shear strain of about 0.7% has been monitored for a 3 m depth interval within the glaciolacustrine unit." (p.30)
- "The other inclinometer that has indicated a zone of discrete shear is SI06-03, located about 105 m to the northwest of SI06-01. At approximately the same elevation as the discrete shear in SI01-02, SI06-03 has recorded about 0.8% cumulative shear strain to date." (p.30)
- "The discrete movements observed to date within the glaciolacustrine unit, in two of the nine installed inclinometers, are minor and support the use of peak shear strengths as the basis for design stability analyses. As discussed in Section 6.5.6.3, site investigations to date have yielded no evidence of pre-shearing within the glaciolacustrine unit that would validate the use of residual shear strengths as the design basis." (p.30)
- "Should yellow or red light threshold criteria be exceeded, and the piezometer / inclinometer readings checked and validated, buttressing of the dam by placement of waste rock at the toe may be required. Buttressing only represents a valid contingency if MPMC has the capability of quickly implementing it." (p.32)
- "MPMC anticipates that, prior to May 2015, when crest raising above the Stage 10 crest El. 972.5 m would commence, the downstream buttress will have been raised to about El. 950 m along the Perimeter Embankment and the Main Embankment. Currently, the buttress along the Main Embankment is at about El. 928 m, and there is no buttress along the Perimeter or South Embankments." (p.32)

- "Given these plans, MPMC will be in a position to quickly deliver waste rock to any area of the Perimeter and Main Embankments if instrumentation data indicates there to be a need for rapid buttressing. Moreover, the shell extension will result in significant increases in the factors of safety for the Perimeter and Main Embankments over those reported in Section 6.0." (p.33)
- "Piezometric coverage within the impounded tailings, upstream Zone U, Zone S till core, and the filter and drainage blanket zones is judged adequate at the present time." (p.33)
- "The following sections outline specific recommendations for additional drilling and instrumentation installation for execution in 2014, in support of the next design phase for the TSF..." (p.33)
- "As the dam continues to be raised and expanded, additional piezometric coverage within the foundation soils, and in particular the glaciolacustrine/glaciofluvial soils, will be required." (p.33)
- "Additional inclinometers are recommended to expand coverage, and to establish multiple inclinometers on individual sections in order to evaluate continuity of any potential discrete shear zones that may develop. Recommended expansion of the inclinometer network is as outlined in Table 5-6." (p.34)
- "Based on Table 5-5 and Table 5-6, a total of six piezometer boreholes, and six inclinometer boreholes, are recommended for 2014." (p.35)
- Six representative dam and foundation sections were selected for analysis... on the PE: Station 3+500 m: Selected due to the excavated till borrow pit where the excavation could affect stability for slip surfaces extending that far downstream. Station 3+990 m (cross section D): This section extends through the Perimeter Embankment seepage recovery pond, which will not be relocated until 2015 at the earliest." (p.36)
- Analyses use downstream slope of 1.3H:1V "(per existing slopes on the dam)" (p.38)
- Table 6-1: Used peak friction angle of 28 degrees and residual of 18 degrees (p.41)
- "The residual strength was estimated on the basis of index property data (derived from the AMEC 2011 site investigation program) and the empirical approach described by Stark and Eid (1994)..." (p.45)
- "All results, with the exception of one (a sample from drill hole Sl11-02), have a liquid limit less than 50%, and classify as clay of low plasticity (CL) to clay of intermediate plasticity CI)." (p.45)
- "The results indicate that raising of the toe buttress against the existing dam is required to achieve FoS criteria along a portion of the Perimeter Embankment..." (p.49)
- "Given current scheduling for Zone C placement, the crest raise to El. 972.5 m will likely be complete prior to substantial progress being made on the buttress. However, for all of the stability analyses summarized in Table 6-2, the factors of safety for the peak and residual cases were in excess of 1.4 and 1.0 respectively, which are judged acceptable on an interim basis." (p.51)
- "As indicated in Table 3-5, CDA (2007) recommends FoS ≥ 1 considering pseudo-static analysis. Three of the analyzed sections [to 972.5m] yielded lower pseudo-static factors of safety. However, post-earthquake and seismic deformation analyses are the more appropriate means of evaluating the seismic stability of the dams, and such analyses will be undertaken in support of the next phase of design." (p52)
- "Zone T is to comprise 150-mm minus, relatively fine, graded waste rock." (p.61)

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Day, Alan MEM:EX; Cumming, Rory MEM:EX
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Nakatsuka, Caroline M MEM:EX; Olsen, Michael MEM:EX; Pocklington, Cheryl M MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 22 call with MPMC
Date:	Monday, September 22, 2014 5:56:51 PM

Highlights from MPMC/MOE/MEM 3:00 pm phone call September 22, 2014:

- Weather: nice today, possible rain later this week.
- Polley Lake level: 922.51 m above sea level (total of 79cm drop so far).
- Site was asked to provide an update on design of the Polley Lake discharge channel at the Wednesday meeting – when it will be complete and timing for construction. This is under the purview of SNC.
- Temporary dyke: work was conducted over the weekend to reduce the height of water behind the dyke. Update received by email this morning that safe work levels were achieved around 5:00 pm on Sunday evening. Slurry/muck was removed by equipment as there was not enough water for the pump to work effectively.
    - Currently there is no pump in place in the sump.
    - Additional slurry pumps are scheduled to arrive on site Wednesday.
- Quesnel Lake monitoring is ongoing but has been challenged by weather (wind). Colour is good right now, high turbidity at depth of ~50 m.
- Silt curtain was installed by contractors looking, was set to be 2 m above the lake bottom, although this will be changing now as the lake level drops.
- Grasses from heli-seeding is starting to germinate in the Hazeltine Creek channel.
- Williams Lake Indian Band representatives are also attending this call now.
- Permits from FLNRO are in place for bridge replacements. Expecting additional permits from FLNRO for other work in Hazeltine Creek area in next few days.

Highlights from MEM/MOE 4:00 pm phone call:

- Discussion of safety
    - MOE noted that on Thursday last week they were doing radio check-ins as per safe work procedure and receiving no response from the spotter. They remained on the lake only because they were out with a Mount Polley boat who was in contact with the spotter.
    - MOE also interested in design for Polley Lake channel.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey; Day, Alan MEM:EX; Cumming, Rory MEM:EX
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Nakatsuka, Caroline M MEM:EX; Olsen, Michael MEM:EX; Pocklington, Cheryl M MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 23 call with MPMC
Date:	Wednesday, September 24, 2014 6:34:36 PM

Highlights from MPMC/MOE/MEM 3:00 pm phone call September 23, 2014:

- Weather: rain from 2:00 am to approximately 7:30 am this morning.
- Polley Lake level: 922.45 m above sea level (total of 85 cm drop so far).
- Environment Department had a 1.5 hour safety meeting with safety department this morning. Discussions included winter work – PPE requirements, frosty conditions, limited daylight, etc.
- Site was asked to provide an update on design of the Polley Lake discharge channel for today's meeting. This was not prepared, and the request for this information or a timeline for when it would be available was reiterated.
- Temporary dyke: no water build-up behind the dyke due to the rain event.
    - Expecting to install pumps powered by a diesel generator later this week (?). It was unclear if these pumps had arrived on site. This will be followed up on Friday.
- There are plans to construct a road access into the area between the breach sump and the Polley Lake plug. This will be followed by construction of a large sump/settling pond to act as back-up in the case of an event that overwhelms the breach sump.
    - MEM has requested that a notice of work for this construction be submitted to MEM and MOE. MOE would like clarification of
- Springer Pit capacity available is 14.4 million m^3.
- Gavin Lake bridge construction under way. Expect to be placing decking tomorrow.
- Quesnel Lake monitoring is ongoing.
- Grasses from heli-seeding is starting to germinate in the Hazeltine Creek channel, some are now 2 inches high.

Highlights from MEM/MOE 4:00 pm phone call:

- Discussion of safety
    - MOE is following safe work procedure as per previous work.
    - Discussions around permit application review and consultation approach.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From: Nakatsuka, Caroline M MEM:EX

To: Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Pocklington, Cheryl M MEM:EX; Demchuk, Tania MEM:EX; Hemphill, Naomi MEM:EX s.22 m; Warnock, George MEM:EX

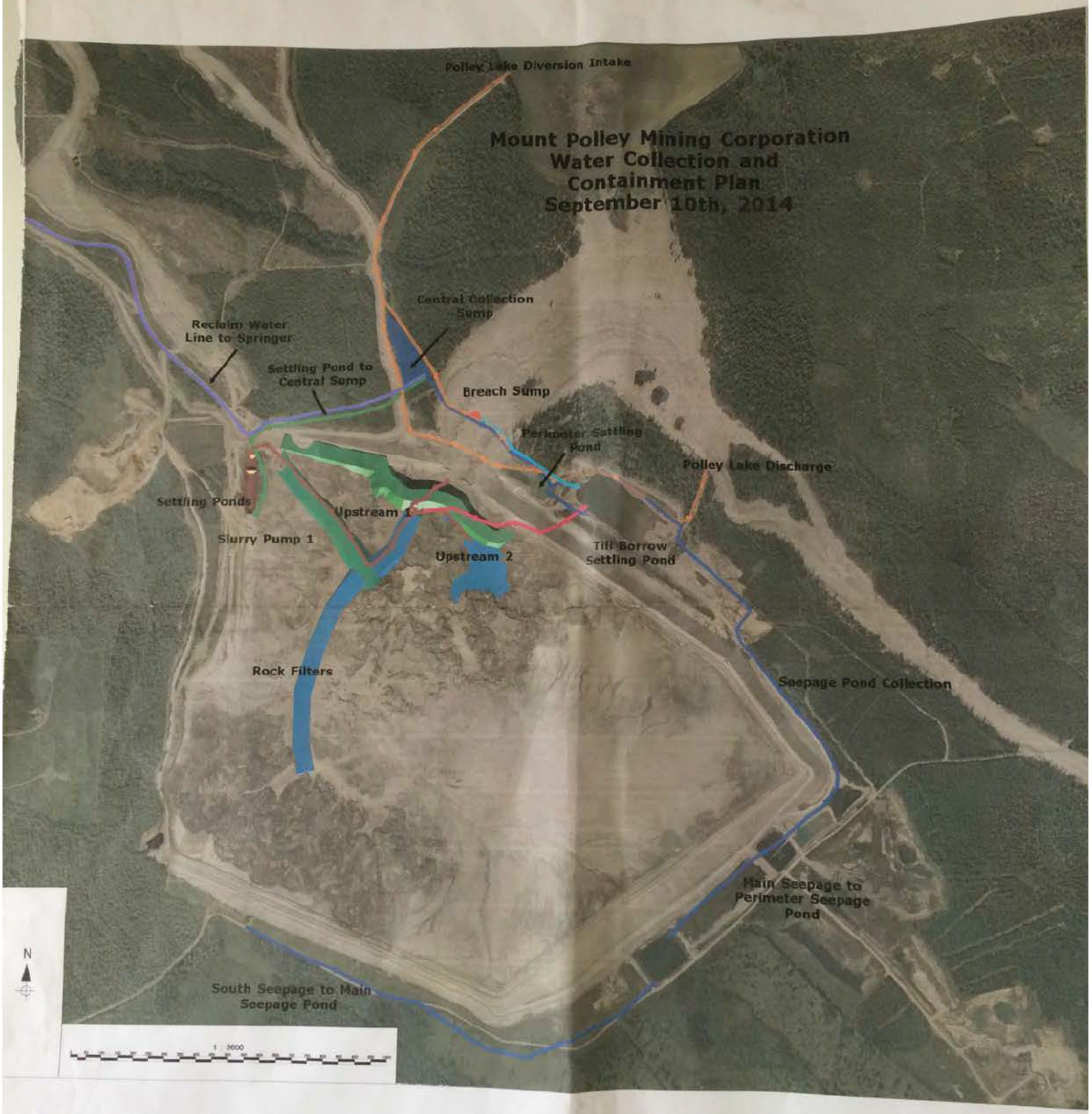
Cc: Olsen, Michael MEM:EX

Subject: Mt Polley Diagram of water management

Date: Wednesday, September 24, 2014 3:41:36 PM

Attachments: image.jpeg
ATT00001.txt
image.jpeg
ATT00002.txt
image.jpeg
ATT00003.txt

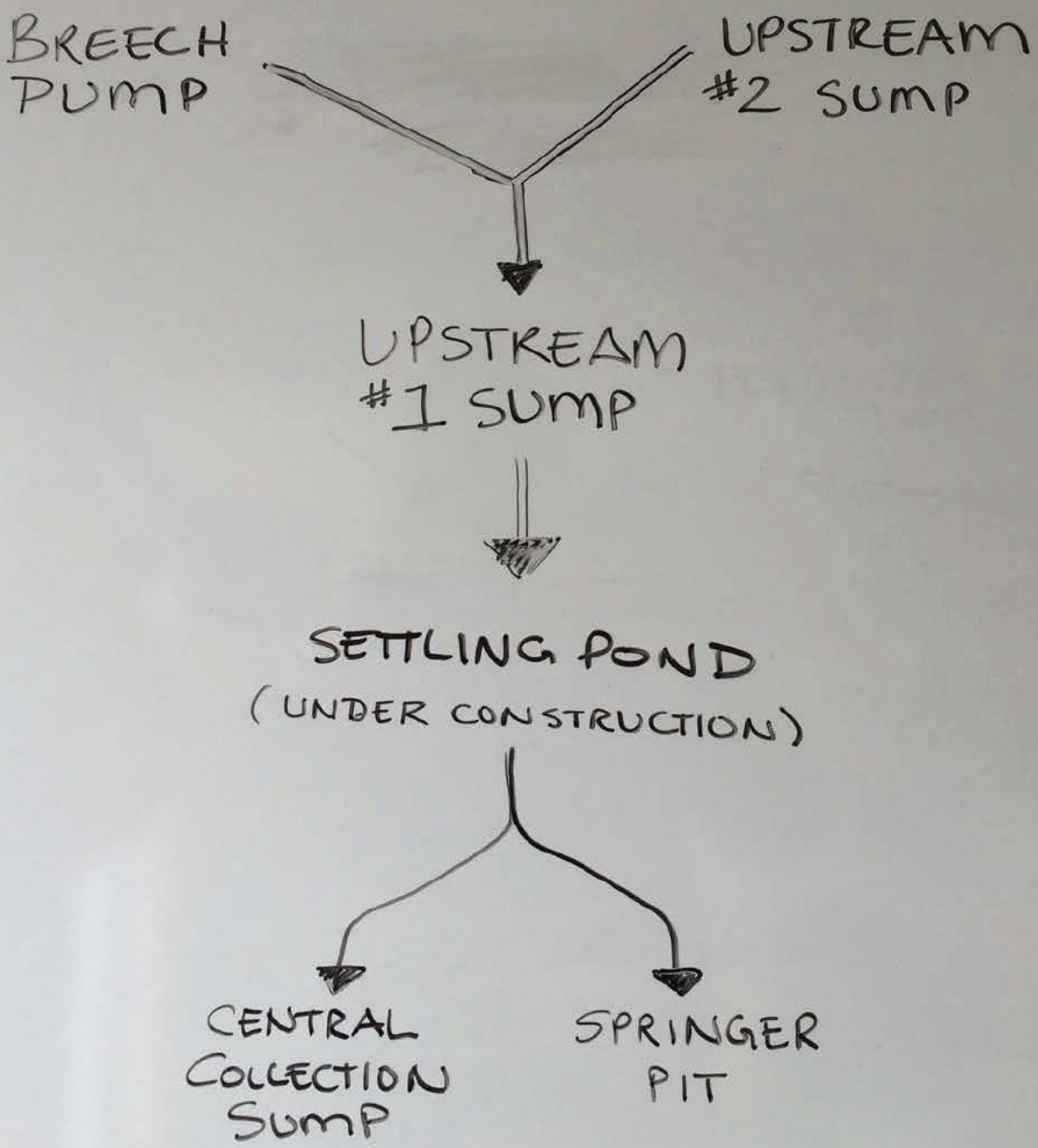
We will explain the diagrams on the conference call this afternoon.


Polley Lake Diversion Intake
Mount Polley Mining Corporation
Water Collection and
Containment Plan
September 10th, 2014
Central Collection Sump
Reclaim Water Line to Springer
Settling Pond to Central Sump
Breach Sump
Perimeter Settling Pond
Polley Lake Discharge
Settling Ponds
Upstream 1
Slurry Pump 1
Upstream 2
Till Borrow Settling Pond
Rock Filters
Seepage Pond Collection
Main Seepage to Perimeter Seepage Pond
South Seepage to Main Seepage Pond
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Sent from my iPhone

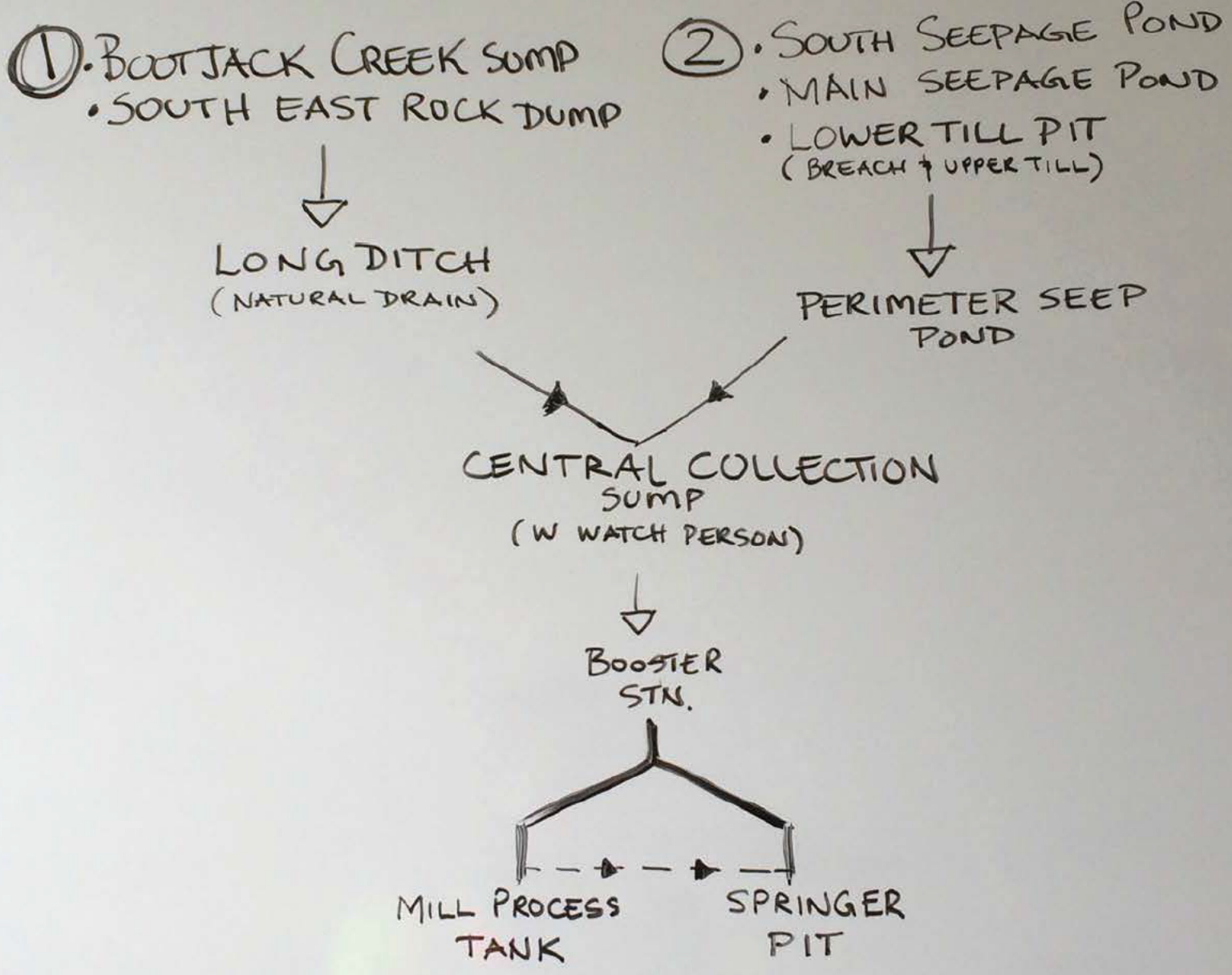
SEPT 24

WATER COLLECTION SYSTEM - MT POLLEY (FUTURE)



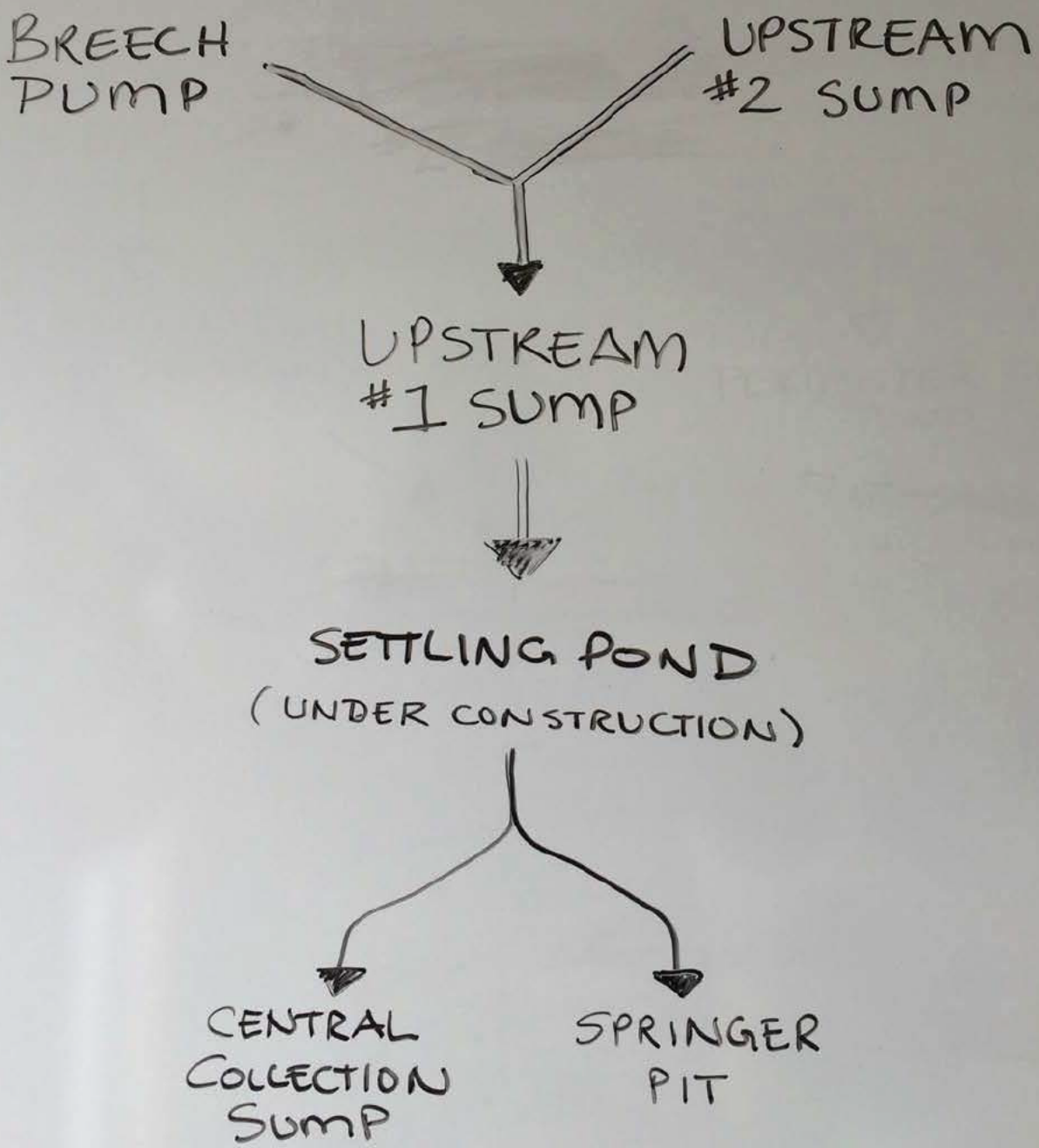
SEPT 24/14

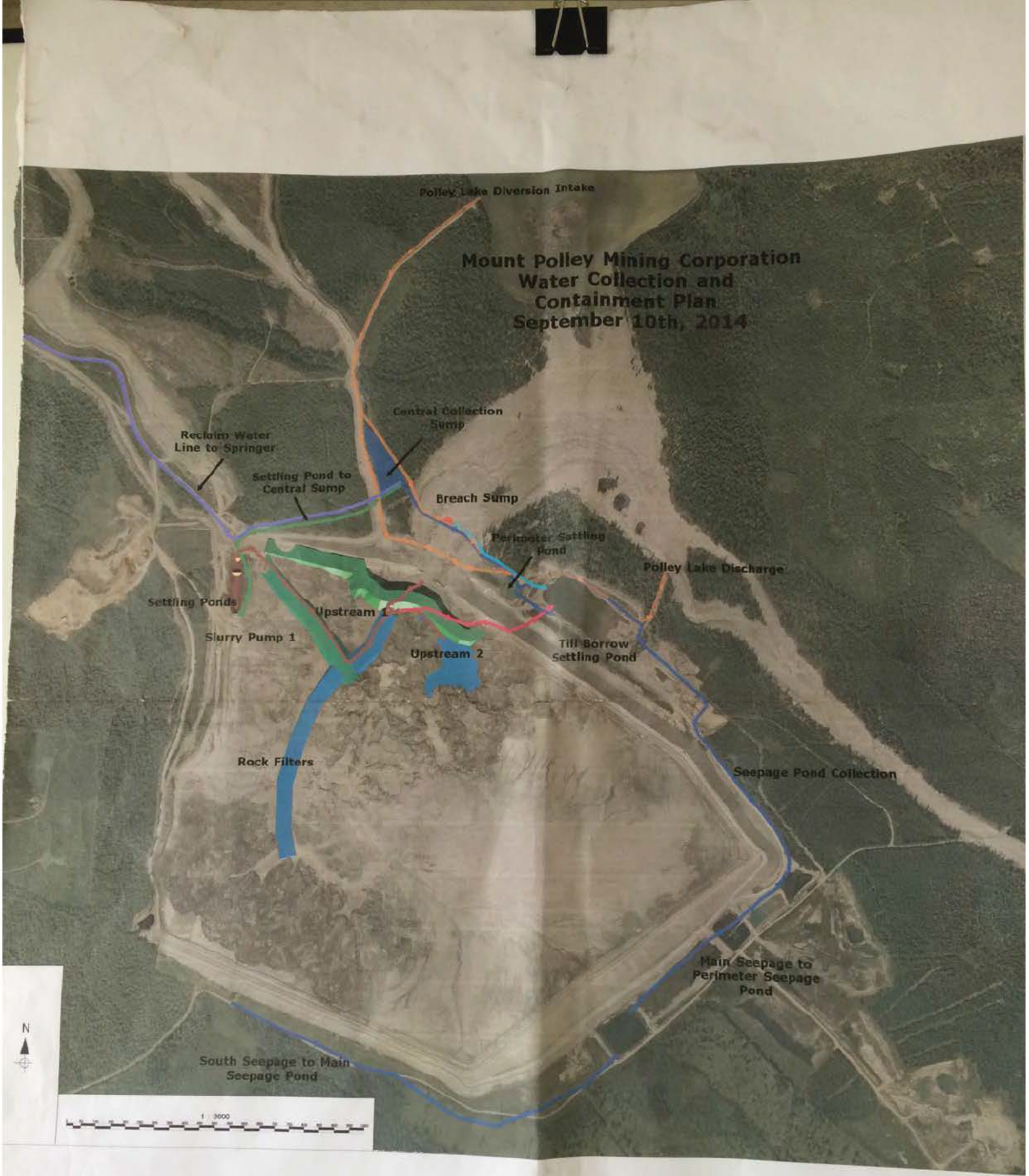
WATER COLLECTION SYSTEM (MT. POLLEY)



SEPT 24

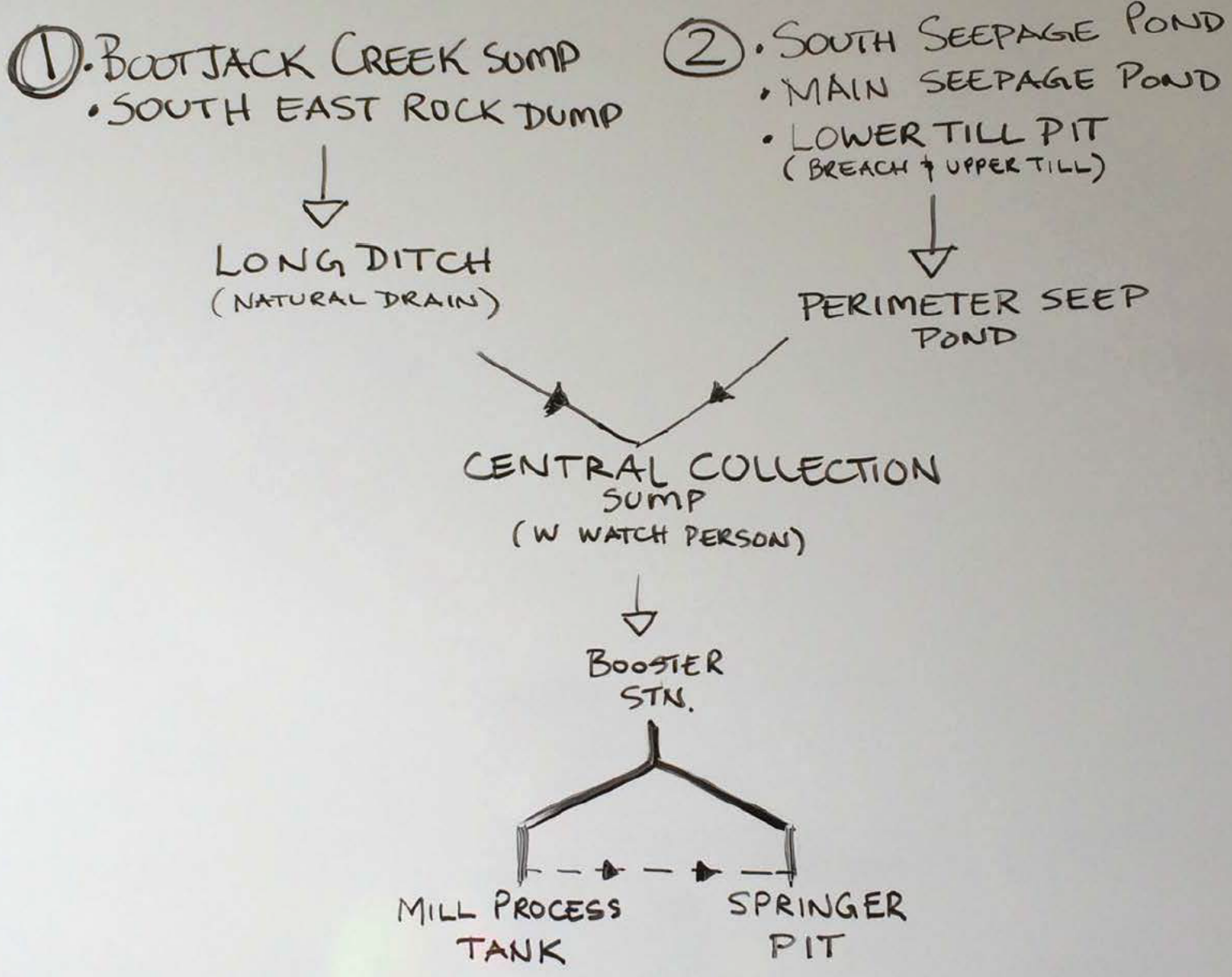
WATER COLLECTION SYSTEM - MT POLLEY (FUTURE)




Polley Lake Diversion Intake
Mount Polley Mining Corporation
Water Collection and
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Seepage Pond Collection
Main Seepage to Perimeter Seepage Pond
South Seepage to Main Seepage Pond
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1 : 3600

SEPT 24/14

WATER COLLECTION SYSTEM (MT. POLLEY)



Mount Polley Mining Corporation

IMPERIAL METALS CORPORATION

September27, 2014

Al Hoffman
Chief Inspector and Executive Director, Health & Safety
Ministry of Energy and Mines
6th Flr - 1810 Blanshard Street
Victoria BC
V8W 9N3

Dear Mr Hoffman,

RE: Notice of Work (Access road and Breach sump) – Tailings Breach Remediation

As requested by the Ministry of Energy and Mines (MEM), please find below an outline of the work planned by MPMC to provide an access road across the flow path below the breach and the construction of a water collection sump below the breach pump.

The road will provide monitoring access along the water collection system including the breach pump. It will also provide rock truck access to the Gavin lake road to supply materials for the remediation work in the Hazeltine creek channel. In future this road will be used to provide equipment access for the stabilization work around the breach. The road has been designed to avoid the investigation area and to allow the passage of the breach water flow to the breach sump.

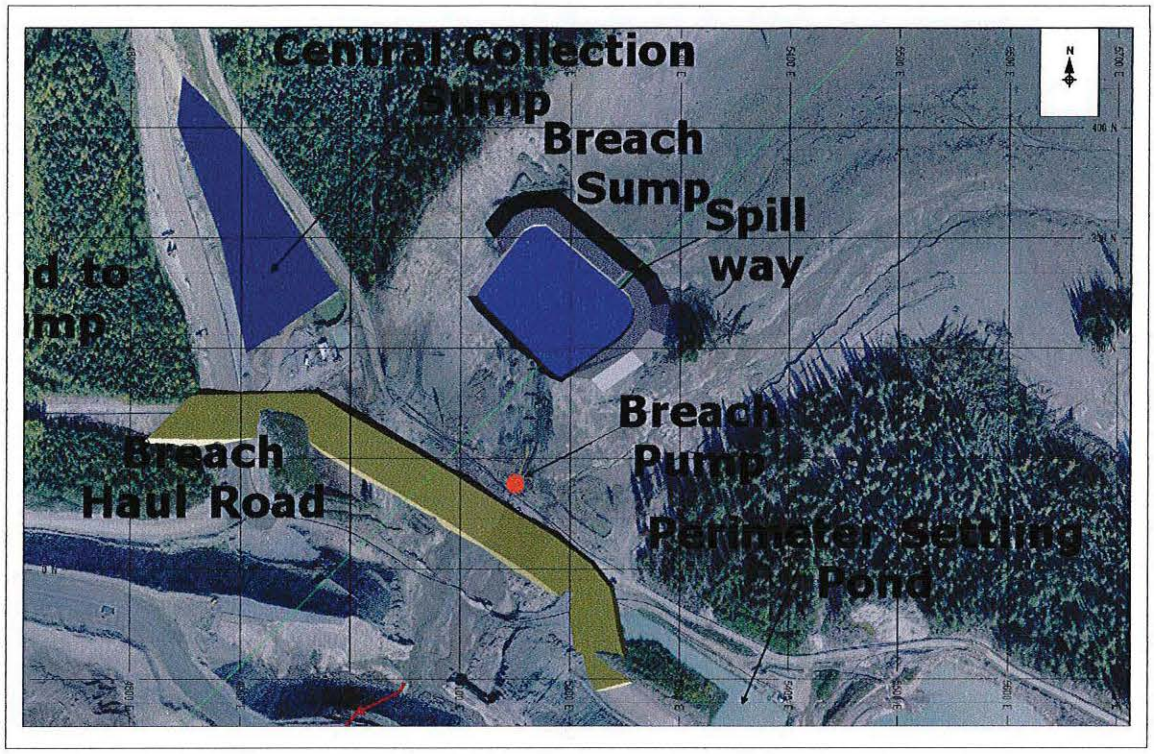
The breach sump is designed to provide backup capacity to the breach sump for future potential rain events. The sump is a shallow (5M) cut excavation with a low dyke across the downstream side containing a spillway. The sump is designed to contain the water for pumping across to the central sump and has a capacity of 50,000M3. The sump replaces the settling ditch which doesn't allow the collection of the breach water.

Work is to commence immediately on these projects and updates will be provided to MEM as per regularly scheduled meetings.

Sincerely,

Art Frye

Art Frye, Mine Operations Manager
Mount Polley Mining Corporation
afrye@mountpolley.com


Central Collection
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From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Pocklington, Cheryl M MEM:EX; Feldinger, Grant M MEM:EX
Subject:	RE: Mount Polley - highlights from the Sept 29 call with MPMC
Date:	Tuesday, September 30, 2014 8:33:16 AM
Attachments:	2014-09-28 MOE Request for Short Term Plan.pdf Breach access road and sump - Notice of work.pdf

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Highlights from MPMC/MOE/MEM 3:00 pm phone call September 29, 2014:

- Weather: light rain
- Polley Lake level: 922.26 m above sea level (down a total of 1.04 m)
    - Expect that pumps can continue to operate through winter.
    - Route has been selected for longer-term channel between the lake and Hazeltine. This has not been shared. Design work is ongoing, expect to take several weeks. Proposed construction timing is not defined.
- The Site has submitted a notice of work for construction of an access road in the breach area (downstream of the breach) and a settling pond downstream of the current breach pump location (attached).
    - This notice of work was shared with MEM, MOE and First Nations.
    - MEM has sent comments back to site and requested discussion on Wednesday's 3:00 conference call (invited participants include company, MOE, and First Nations).
- Gavin Lake Rd bridge is complete. Ditch Road bridge is 90% complete.
- Quesnel Lake still being described as green in colour.
    - Sampling ongoing
    - SCN is back in Hazeltine Creek completing follow-up soil sampling.
    - Planning is underway to start implementing the erosion and sediment control plan for Lower Hazeltine Creek
- MOE sent a letter September 28th requesting an integrated contingency and mitigation plan by October 3. (attached)

Next call: Wednesday October 1 at 3:00 pm.

Tania

Tania Demchuk, MSc, GIT
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

Mount Polley Mining Corporation

IMPERIAL METALS CORPORATION

September27, 2014

Al Hoffman
Chief Inspector and Executive Director, Health & Safety
Ministry of Energy and Mines
6th Flr - 1810 Blanshard Street
Victoria BC
V8W 9N3

Dear Mr Hoffman,

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The road will provide monitoring access along the water collection system including the breach pump. It will also provide rock truck access to the Gavin lake road to supply materials for the remediation work in the Hazeltine creek channel. In future this road will be used to provide equipment access for the stabilization work around the breach. The road has been designed to avoid the investigation area and to allow the passage of the breach water flow to the breach sump.

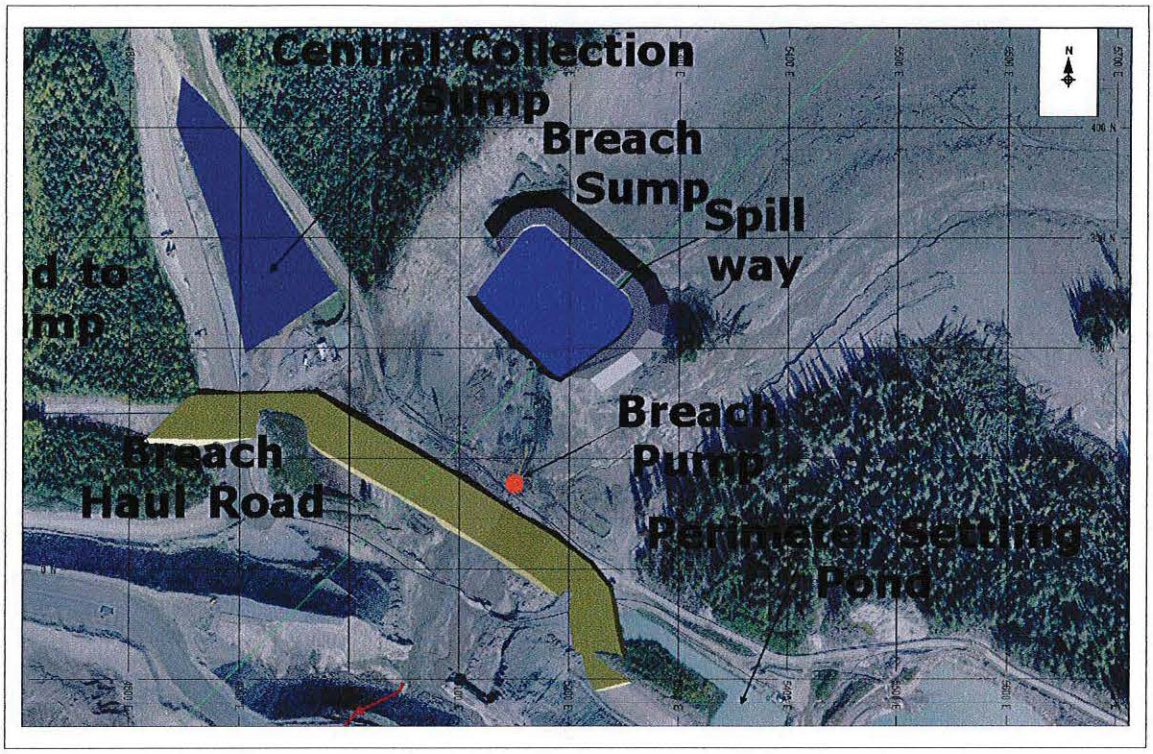
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Work is to commence immediately on these projects and updates will be provided to MEM as per regularly scheduled meetings.

Sincerely,

Art Frye

Art Frye, Mine Operations Manager
Mount Polley Mining Corporation
afrye@mountpolley.com


Central Collection
Sump
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Haul Road
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Pump
Perimeter Settling
Pond

September 28, 2014 File: Order 107461

Via Email: dreimer@mountpolley.com, chughes@mountpolley.com

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

Attention: Dale Reimer, Mine Manager and Colleen Hughes, Environmental Coordinator

Re: Integrated Contingency and Mitigation Plan for the Short Term

The Ministry of Environment (the ministry) is concerned that multiple aspects of the response may not be properly integrated and short term planning may not be adequate to address foreseeable events for which contingencies are needed.

As such, the ministry requires Mount Polley Mining Corporation (MPMC) to produce a Contingency and Mitigation Plan (the plan) for the short term that integrates contingency planning and mitigation activities with monitoring. For this situation, the short term is up to and including spring freshet in 2015.

The plan must be designed to meet the following objectives during the short term:

a. Cease all discharges from the tailings impoundment to Hazeltine Creek;
b. Effluent at the mouth of Hazeltine Creek entering Quesnel Lake must meet background (conditions not influenced by the breach) or water quality guidelines for the most sensitive user;
c. Water quality at the outer edge of the impact zone around the mouth of Hazeltine Creek - where the log booms and silt curtain are - must meet background or water quality guidelines for the most sensitive user.

Note: When background levels are used instead of water quality guidelines, MPMC must identify the parameters, the background level used and provide a rationale.

The plan must have contingencies for including but not limited to: lake overturn (fall and spring), rainfall events, spring freshet, sump pump failures, breach-work failures, Polley Lake plug failures, and plume migration in Quesnel Lake.

The plan must describe the water management strategy for the site and specify all works, activities and monitoring that pertain to this part of the plan.

Any proposed works related to mitigation activities and contingencies need to be included in the plan. Engineered designs for works will need to be made available to the ministry before proceeding.

The plan must describe the monitoring program for all foreseeable events, contingency and mitigation activities.

As the purpose of the plan is to address short term issues, the work undertaken may be concurrent with the Comprehensive Environmental Impact Assessment and may occur before longer-term decisions are made for how Hazeltine Creek will be rehabilitated.

Furthermore, the ministry recognizes that adjustments to this plan may be required. As such, the ministry must be notified of adjustments by receiving revised versions of the plan and given an opportunity to review before MPMC proceeds.

Please electronically submit the plan to the ministry by Friday October 3, 2014.

Sincerely,



Hubert Bunce
A/Director, Mount Polley Incident
Environmental Protection Division, Regional Operations

cc: Al Hoffman, Chief Inspector, Ministry of Energy and Mines, Al.Hoffman@gov.bc.ca
Tania Demchuk, Senior Environmental Geologist, Ministry of Energy and Mines, Tania.Demchuk@gov.bc.ca
Amy Crook, Fair Mining Collaborative, amy@fairmining.ca
Aaron Higginbottom, Williams Lake Indian Band, Aaron.higginbottom@williamslakeband.ca
Kirk Dressler, Willisams Lake Indian Band, kirk.dressler@willisamslakeband.ca
Julia Banks, Xatsull First Nation, nrcoordinator@xatsull.com

September 28, 2014 File: Order 107461

Via Email: dreimer@mountpolley.com, chughes@mountpolley.com

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

Attention: Dale Reimer, Mine Manager and Colleen Hughes, Environmental Coordinator

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Please electronically submit the plan to the ministry by Friday October 3, 2014.

Sincerely,

Hubert Bunce
A/Director, Mount Polley Incident
Environmental Protection Division, Regional Operations

cc: Al Hoffman, Chief Inspector, Ministry of Energy and Mines, Al.Hoffman@gov.bc.ca
Tania Demchuk, Senior Environmental Geologist, Ministry of Energy and Mines, Tania.Demchuk@gov.bc.ca
Amy Crook, Fair Mining Collaborative, amy@fairmining.ca
Aaron Higginbottom, Williams Lake Indian Band, Aaron.higginbottom@williamslakeband.ca
Kirk Dressler, Willisams Lake Indian Band, kirk.dressler@willisamslakeband.ca
Julia Banks, Xatsull First Nation, nrcoordinator@xatsull.com

From:	Demchuk, Tania MEM:EX
To:	Hoffman, Al MEM:EX; Thorpe, Rolly MEM:EX; Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX; Warnock, George MEM:EX; McLeod, Harvey
Cc:	Morel, David P MEM:EX; Howe, Diane J MEM:EX; Bellefontaine, Kim MEM:EX; Narynski, Heather M MEM:EX; Rothman, Stephen MEM:EX; Pocklington, Cheryl M MEM:EX; Padley, Emmanuel MEM:EX
Subject:	RE: Mount Polley - highlights from the October 1 and 3 call with MPMC
Date:	Friday, October 3, 2014 5:52:58 PM

Highlights from MPMC/MOE/MEM 3:00 pm phone call October 3, 2014:

- Weather: expected to improve for Saturday and chances of showers for Sunday/Monday.
- Polley Lake level: 922.10 m above sea level (down a total of 1.2 m)
- Breach area access road route has been modified to accommodate geotechnical investigation areas.
    - An updated notice of work reflecting the road and sump modifications has been requested from the site and is expected early the week of October 6. This is expected to include a figure with current water management practices as well.
    - MOE has requested details of the 24 hr 1 in 10 year rain event to support the design of the channel.
- Quesnel Lake has become more turbid and there is some indication that the thermocline is weakening. A turnover event may be occurring, influenced by recent strong winds on the lake
    - Sampling efforts were increased for October 3.
- Hazeltine Creek is picking up a large sediment load as it passes through the canyon area. This is a concern for MOE.
- Next Community Meeting in Likely is October 9, 2014

Highlights from MPMC/MOE/MEM 3:00 pm phone call October 1, 2014:

- Weather: mixed sun and overcast with minor thunder showers
- Polley Lake level: 922.21 m above sea level (down a total of 1.10 m)
- The site has re-evaluated their recent notice of work submission and changed the plan. They will now construct the road as proposed and a 10,000 m^3 breach sump with a channel to discharge to the till borrow. The till borrow has sufficient capacity to hold major rain events.
    - This updated information has not been presented in a formal notice of work.
    - MOE has requested details of the 24 hr 1 in 10 year rain event to support the design of the channel.
- Gavin Lake Rd bridge is complete. Ditch Road bridge is 90% complete.
- Quesnel Lake still being described as light green in colour.
    - Sampling ongoing. Continuous monitor has been removed from the Quesnel River because of risk of freezing (this equipment cannot freeze)
- Next Community Meeting in Likely is October 9, 2014

Next call: Monday October 6 at 3:00 pm. Calls for the week of October 6 will be taken by Diane.

Tania

Tania Demchuk, MSc, PGeo
Senior Environmental Geoscientist
Mines and Mineral Resources Division
Ministry of Energy and Mines
250-952-0417

From:	Hoffman, Al MEM:EX
To:	Hemphill, Naomi MEM:EX
Subject:	FW: Oct 6 2014 Letter to MBB Mount Polley
Date:	Monday, October 6, 2014 4:32:33 PM
Attachments:	release of information .pdf

Save this letter in the appropriate spot please

From: Brody, Margo X MEM:EX
Sent: Monday, October 6, 2014 3:53 PM
To: Hoffman, Al MEM:EX; Musgrove, Kate MEM:EX
Subject: FW: Oct 6 2014 Letter to MBB Mount Polley

I gave the signed letter to Kate.
Margo

From: Margo.Brody@gov.bc.ca [mailto:Margo.Brody@gov.bc.ca]
Sent: Monday, October 6, 2014 3:49 PM
To: Brody, Margo X MEM:EX
Subject: Oct 6 2014 Letter to MBB

BRITISH COLUMBIA

October 6, 2014

Honourable Bill Bennett
Minister of Energy and Mines
Room 301
Parliament Buildings
Victoria, BC V8V 1X4

Dear Minister Bennett:

As you are aware, as Chief Inspector of Mines, I am conducting an independent investigation under the *Mines Act* to determine the root cause of the breach of the tailings pond at Mount Polley mine. My investigative team has been at the mine site examining every aspect of the failure – collecting information, conducting geotechnical studies and interviewing individuals associated with operation of the mine. All documents related to the history, design, construction, operation, and monitoring of the tailings facility are being thoroughly reviewed. The team has already interviewed over 50 individuals and compiled many volumes of information. This investigation is expected to take several more months.

The Conservation Officer Service, an independent law enforcement body, is conducting their own independent investigation with the authority to forward any recommendations for charges if warranted directly to the provincial Crown Counsel.

Government must protect the integrity and independence of these investigations to ensure we determine how the breach occurred, and that we do not compromise the integrity of the collection of information and evidence. For that reason, I have advised the Ministry of Energy and Mines as has the Ministry of Justice, not to release or comment on materials directly or indirectly related to the Mount Polley investigation, including annual dam safety inspection reports (Reports) submitted by Imperial Metals in accordance with the Health, Safety and Reclamation Code for Mines in British Columbia.

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Ministry of Energy and Mines
Chief Inspector of Mines

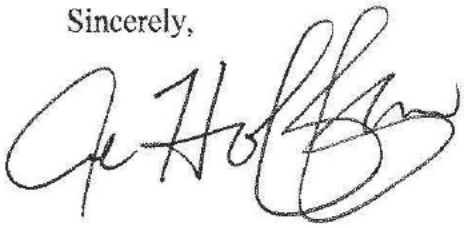
Mines and Mineral Resources
Division

Mailing Address:
PO Box 9320, Stn Prov Govt
Victoria, BC V8W 9N3
Ph: (250) 952-0494
Facsimile: (250) 952-0491

Location:
6th Floor
1810 Blanshard Street
Victoria

It is important to note that upon completion of the investigations, and within the law, it is my intent that findings and other appropriate documentation will be made available to the public and media.

Sincerely,



Al Hoffman
Chief Inspector of Mines

pc: David Nikolejsin
Deputy Minister

David Morel
Assistant Deputy Minister

From:	Chad Cameron
To:	Art Frye; Meade, Laurie MEM:EX; Ryan Brown; Rothman, Stephen MEM:EX; Luke Moger; Greg Wenger; ghunchuk@bgcengineering.ca; Nakatsuka, Caroline M MEM:EX; Dale Reimer; Padley, Emmanuel MEM:EX; Nicholson, Joe E MEM:EX; Hemphill, Naomi MEM:EX
Subject:	Mount Polley - Oct 5th Advancement
Date:	Monday, October 6, 2014 12:42:48 PM

Polley Lake Water Elevation (Oct 6 - 7:35am)

Current = 922.00

24-Hour Change = -.05m

Cumulative Change = -1.30m

Oct 3 Advancement

Main Dyke

Volume = 15,629 cubic meters

Tonnage = 31,259 tonnes

Oct 4 Advancement

Main Dyke

Volume = 18,221 cubic meters

Tonnage = 36,442 tonnes

Oct 5 Advancement

Main Dyke

Volume = 20,666 cubic meters

Tonnage = 41,332 tonnes



Mount Polley Mining Corporation

an Imperial Metals company

Mount Polley Responds to Vancouver Sun Article Published on September 26, 2014

October 3, 2014

Mount Polley Mining Corporation (MPMC), a wholly owned subsidiary of Imperial Metals Corporation, has always engaged, worked with, and followed the recommendations of qualified and reputable independent engineering firms in the design, construction and operation of the Mount Polley tailings facility.

The article published in the Vancouver Sun on September 26th under the header “Crack in Mount Polley mine’s dam noted in 2010 inspection report” was based on the reading of four annual reports which describe only a small portion of the processes and information gathering involved in the construction and operation of the Mount Polley tailings facility.

The independent panel and other authorities reviewing the root cause of

the breach at Mount Polley have access to and will review all of the information that MPMC and the Province have with respect to the Mount Polley tailings facility and will collect additional information, including new drilling data.

MPMC has adopted a policy of not commenting on the possible causes of the breach or responding to questions concerning the management and operation of the tailings facility at Mount Polley, until such time as these reviews are complete. However, MPMC feels compelled to offer the following clarifications to the September 26th article, and provide the necessary context to lend perspective to the concerns raised in this article.

The article highlights certain elements discussed in the Report on 2010 Annual Inspection ("2010 Report") submitted to MPMC in December, 2010. This was the last report by Knight Piésold, and it is normal during a transition from one Engineer of Record to a new Engineer of Record for the annual inspection to provide a very detailed update so nothing will be missed in the transition.

The main concern identified in the September 26th article was a crack in the perimeter embankment that appeared during the construction of the 2010 embankment raise. This crack occurred approximately 900 meters from the August 2014 breach and, in fact, was raised as a concern by MPMC to Knight Piésold's senior engineer during his inspection in October of 2010. In addition, Knight Piésold engineers were on site to monitor and inspect all dam construction activities in 2010, when the crack was first observed.

The crack was thought to be associated with localized settlement of loosely compacted material along the downstream slope of the embankment. No signs of distress were identified anywhere else in the tailings embankments.

The 2010 Report recommended that the crack be evaluated as part of the Stage 7 design phase and that any additional excavation within the borrow area should be reviewed and approved by the Engineer of Record. This recommendation from the 2010 Report was implemented in 2011 by MPMC under the direction of the Engineer of Record and

included a review of available information and a geotechnical investigation in the vicinity of the crack. This geotechnical investigation included drilling a hole and installation of a piezometer. An inclinometer was also installed in this area in 2012.

October 3, 2014

Mount Polley Mining Corporation

an Imperial Metals company

Mount Polley Responds to Vancouver Sun Article Published on September 26, 2014 continued...

The 2010 Report also recommended a stability assessment be carried out. The stability assessment was completed by the Engineer of Record in 2011 and confirmed that the factor of safety in the vicinity of the crack was more than adequate, exceeding the required safety standards.

To date, no further cracking or other indication of distress has been observed in the vicinity of the crack, supporting the original assessment associating it with localized settlement of loosely compacted material.

The 2010 Report also noted the presence of broken instrumentation and recommended they be replaced. In compliance with this recommendation, a significant instrument replacement program was carried out in 2011 with installation of 23 piezometers and 3 inclinometers. Two additional inclinometers were installed in 2012.

The concern expressed in the September 26th article about buttressing was addressed by completing a stability analysis in 2011, for this purpose, as recommended in the 2010 Report. This analysis indicated that no additional buttress was required. The need for additional buttress was again evaluated by the Engineer of Record as part of the design for construction of additional dam in 2012. It also indicated that no additional buttress was required. The stability analysis completed as part of the design in 2013 indicated that a buttress along the Main Embankment was recommended. This buttress was completed in 2013 by MPMC under the direction of the Engineer of Record.

Since the date of the 2010 Report, MPMC has enhanced the tailings system to provide more sand to all locations around the dam, and has changed the methods used to build sand cells to provide the buffer between the embankment and the water stored in the pond.

In conclusion, the crack referred to in the 2010 Report and the Vancouver Sun article was 900 metres from the August 2014 breach. The crack was the subject of a series of recommendations by the Engineer of Record, which were fully complied with by MPMC under the direction of the Engineer of Record. After carrying out the recommended measures, MPMC received no indication that there remained any issues of concern. MPMC has always operated the Mount Polley tailings facility in a prudent manner and under the guidance of the Engineer of Record and that practice was adhered to in this case.

Mount Polley Statement

The Province of BC is making extensive efforts to investigate the Mt. Polley dam failure that occurred on August 4, 2014 to determine root cause and contributing factors in order to ~~minimize~~ reduce the risk of a similar event occurring in the future. It is recognized that this failure has shaken the confidence of the public and First Nations regarding dam safety in BC - and the worldwide mining community at large. The Province has committed to full transparency and disclosure once the investigations are completed. Lessons learned from the investigation will be used to inform required regulatory changes and ministry practices.

A minimum of two inspectors of mines have been maintaining an ongoing presence at the mine site seven days per week since the day of the breach. This is expected to continue for the next several weeks during construction of the temporary remediation works. A temporary berm has now been constructed to block the breach opening, and all water and sediment flowing out of the breach is fully contained on the mine site.

The Chief Inspector of Mines has also issued a number of orders which must be satisfied by December 1, 2014. These include 3rd party reviews of Dam Safety Inspections and consequence classifications, as well as updated emergency preparedness and response plans including formal dam break inundation studies. The results of these reviews will similarly be released in the public domain.

I am not in a position to comment further on additional aspects related to the Mt. Polley dam failure as this could compromise any one of the multiple ongoing investigations. I have personal confidence in the professional experts that have been selected to carry out the geotechnical investigations, and believe we couldn't have selected better candidates for the entrusted undertakings. The Ministry of Energy and Mines will be looking at the results of their findings to determine areas where improvements can be realized.

BRITISH COLUMBIA

October 6, 2014

Honourable Bill Bennett
Minister of Energy and Mines
Room 301
Parliament Buildings
Victoria, BC V8V 1X4

Dear Minister Bennett:

As you are aware, as Chief Inspector of Mines, I am conducting an independent investigation under the *Mines Act* to determine the root cause of the breach of the tailings pond at Mount Polley mine. My investigative team has been at the mine site examining every aspect of the failure – collecting information, conducting geotechnical studies and interviewing individuals associated with operation of the mine. All documents related to the history, design, construction, operation, and monitoring of the tailings facility are being thoroughly reviewed. The team has already interviewed over 50 individuals and compiled many volumes of information. This investigation is expected to take several more months.

The Conservation Officer Service, an independent law enforcement body, is conducting their own independent investigation with the authority to forward any recommendations for charges if warranted directly to the provincial Crown Counsel.

Government must protect the integrity and independence of these investigations to ensure we determine how the breach occurred, and that we do not compromise the integrity of the collection of information and evidence. For that reason, I have advised the Ministry of Energy and Mines as has the Ministry of Justice, not to release or comment on materials directly or indirectly related to the Mount Polley investigation, including annual dam safety inspection reports (Reports) submitted by Imperial Metals in accordance with the Health, Safety and Reclamation Code for Mines in British Columbia.

s.14

. . . /2

Ministry of Energy and Mines
Chief Inspector of Mines

Mines and Mineral Resources
Division

Mailing Address:
PO Box 9320, Stn Prov Govt
Victoria, BC V8W 9N3
Ph: (250) 952-0494
Facsimile: (250) 952-0491

Location:
6th Floor
1810 Blanshard Street

It is important to note that upon completion of the investigations, and within the law, it is my intent that findings and other appropriate documentation will be made available to the public and media.

Sincerely,

Al Hoffman
Chief Inspector of Mines

pc: David Nikolejsin
Deputy Minister

David Morel
Assistant Deputy Minister



Mount Polley Mining Corporation

an Imperial Metals company

Mount Polley Responds to Vancouver Sun Article Published on September 26, 2014

October 3, 2014

Mount Polley Mining Corporation (MPMC), a wholly owned subsidiary of Imperial Metals Corporation, has always engaged, worked with, and followed the recommendations of qualified and reputable independent engineering firms in the design, construction and operation of the Mount Polley tailings facility.

The article published in the Vancouver Sun on September 26th under the header “Crack in Mount Polley mine’s dam noted in 2010 inspection report” was based on the reading of four annual reports which describe only a small portion of the processes and information gathering involved in the construction and operation of the Mount Polley tailings facility.

The independent panel and other authorities reviewing the root cause of

the breach at Mount Polley have access to and will review all of the information that MPMC and the Province have with respect to the Mount Polley tailings facility and will collect additional information, including new drilling data.

MPMC has adopted a policy of not commenting on the possible causes of the breach or responding to questions concerning the management and operation of the tailings facility at Mount Polley, until such time as these reviews are complete. However, MPMC feels compelled to offer the following clarifications to the September 26th article, and provide the necessary context to lend perspective to the concerns raised in this article.

The article highlights certain elements discussed in the Report on 2010 Annual Inspection ("2010 Report") submitted to MPMC in December, 2010. This was the last report by Knight Piésold, and it is normal during a transition from one Engineer of Record to a new Engineer of Record for the annual inspection to provide a very detailed update so nothing will be missed in the transition.

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From:	Hynes, Michelle MEM:EX
To:	Kuppers, Haley MEM:EX; Hemphill, Naomi MEM:EX
Cc:	s.22 Hoffman, Al MEM:EX
Subject:	RE: [New post] Tailings and Mine Waste 2014: Mt Polley in Focus
Date:	Tuesday, October 7, 2014 11:30:28 AM

Ok sounds good.

Michelle Hynes
Senior Policy Analyst **I** Mines and Mineral Resources Division
Ministry of Energy and Mines

Mailto Michelle.Hynes@gov.bc.ca

From: Kuppers, Haley MEM:EX
Sent: Tuesday, October 7, 2014 9:43 AM
To: Hynes, Michelle MEM:EX; Hemphill, Naomi MEM:EX
Cc: s.22 ; Hoffman, Al MEM:EX
Subject: FW: [New post] Tailings and Mine Waste 2014: Mt Polley in Focus

FYI.. need to discuss briefing upwards and messaging to the Panel.

Haley

From: Warnock, George MEM:EX
Sent: Monday, October 6, 2014 10:28 PM
To: Narynski, Heather M MEM:EX
Cc: Douglas Kiloh; Kuppers, Haley MEM:EX
Subject: Re: [New post] Tailings and Mine Waste 2014: Mt Polley in Focus

s.22

Sent from my iPhone

On Oct 6, 2014, at 9:30 PM, "Narynski, Heather M MEM:EX" <Heather.Narynski@gov.bc.ca> wrote:

Thanks for sharing, Kim.

Possibly we should be reminding the Panel that information must be kept confidential in order to avoid compromising the other investigations. The Panel is being held in a very high regard with much weighting being placed on their findings. As such, even the perception that these discussions may have occurred s.22 As a minimum, they should be made aware of what is being publicly posted regarding comments they may (or may not) have made.

s.22

s.22

Sent from my iPhone

On Oct 6, 2014, at 8:10 PM, Bellefontaine, Kim MEM:EX <Kim.Bellefontaine@gov.bc.ca> wrote:

FYI

Kim Bellefontaine, M.Sc., P.Geo.
Manager Environmental Geoscience and Permitting
BC Ministry of Energy & Mines
250-952-0489
Kim.Bellefontaine@gov.bc.ca

Begin forwarded message:

From: I THINK MINING <comment-reply@wordpress.com>
Date: October 6, 2014 at 7:03:55 PM PDT
To: "Bellefontaine, Kim MEM:EX" <Kim.Bellefontaine@gov.bc.ca>
Subject: [New post] Tailings and Mine Waste 2014: Mt Polley in Focus
Reply-To: I THINK MINING <comment+lydphoxtqjta09wcua_58k@comment.wordpress.com>

Jack Caldwell posted: " The first day of presentations at the Tailings and Mine Waste 2014 Conference. Gordon McPhail delivered a talk in honor of Geoff Blight, who passed away earlier this year. Geoff made so many contributions to tailings that we were talking for at least "

Respond to this post by replying above this line

New post on **I THINK MINING**

Copyright

Copyright

Copyright

Copyright

Copyright

From:	Chad Cameron
To:	Art Frye; Meade, Laurie MEM:EX; Ryan Brown; Rothman, Stephen MEM:EX; Luke Moger; Greg Wenger; ghunchuk@bgcengineering.ca; Nakatsuka, Caroline M MEM:EX; Dale Reimer; Padley, Emmanuel MEM:EX; Nicholson, Joe E MEM:EX; Hemphill, Naomi MEM:EX
Cc:	Braden Fontaine; Bradly Brown-John
Subject:	Mount Polley - Oct 6th Advancement
Date:	Tuesday, October 7, 2014 4:24:31 PM

Good afternoon everyone. s.22 **Braden or Brad will be sending this data out for the next week.**

Brad/Braden: FYI:I have added a couple new people to the list.

Polley Lake Water Elevation (Oct 7 - 7:48am)

Current = 921.96

24-Hour Change = -.04m

Cumulative Change = -1.34m

Oct 6 Advancement

Main Dyke

Volume = 18,298 cubic meters

Tonnage = 36,596 tonnes

From:	Howe, Diane J MEM:EX
To:	Hemphill, Naomi MEM:EX; Kuppers, Haley MEM:EX; Hoffman, Al MEM:EX
Cc:	Bellefontaine, Kim MEM:EX; Morel, David P MEM:EX; Warnock, George MEM:EX; Rothman, Stephen MEM:EX; Demchuk, Tania MEM:EX
Subject:	RE: Mount Polley - highlights from the October 6th MPMC & MOE
Date:	Wednesday, October 8, 2014 4:11:55 PM
Attachments:	image001.png

Highlights from MPMC/MOE/MEM 3:00 pm phone call October 8, 2014: (Kate and Greg,(BGC contractor) for MPMC, Hubert Bunce and Gabi for MOE)

- Weather: reasonable, still mild
- Polley Lake level: 921.96 m above sea level (down a total of 1.34 m); nearing normal levels so company is thinking they may be shifting into maintenance mode soon.
- Have added a second pump to center control pond, which is being expanded,
- Rock berm in east gully nearing completion
- Starting haul road to access plug area. Once east rock berm complete will start using rock trucks to help build out this road over the plug,
- BGC starting testing in plug area for design considerations for diversion ditch
- Plume appears to be migrating easterly, company doing profiling and additional surveys. There has been no change in the plug one way or another in terms of NTU.

Highlights from MOE/MEM 4:00 pm phone call October 8, 2014: (Hubert Bunce only)

- MOE has their Environmental working group meeting tomorrow in Williams lake with First Nations.
- MOE is expecting to finalize the Sediment and Erosion control plan with the company by Friday; looking for contingency i.e. triggers to be included for when additional samples may be required
- MOE is continuing their benthic sampling in the Quesnel and Fraser Rivers.

Regards, Diane

Diane Howe
Deputy Chief Inspector, Reclamation and Permitting
Ministry of Energy and Mines
Victoria, BC
(250) 952-0183

From: Howe, Diane J MEM:EX
Sent: Wednesday, October 8, 2014 8:02 AM
To: Hemphill, Naomi MEM:EX; Kuppers, Haley MEM:EX; Hoffman, Al EMNG:EX (Al.Hoffman@gov.bc.ca)
Cc: Bellefontaine, Kim MEM:EX; Morel, David P MEM:EX (David.Morel@gov.bc.ca); Warnock, George EMNG:EX (George.Warnock@gov.bc.ca); Rothman, Stephen MEM:EX
Subject: FW: Mount Polley - highlights from the October 6th MPMC & MOE

Regards, Diane

-

Diane Howe
Deputy Chief Inspector, Reclamation and Permitting
Ministry of Energy and Mines
Victoria, BC
(250) 952-0183



From:	Hynes, Michelle MEM:EX		
To:	Hoffman, Al MEM:EX; Kuppers, Haley MEM:EX; MEM:EX	s.22	; Nakatsuka, Caroline M
Cc:	Hemphill, Naomi MEM:EX		
Subject:	FW: Latest Mount Polley water sample results		
Date:	Thursday, October 9, 2014 1:33:43 PM		

Not sure if you get these. This came out today.

Michelle Hynes
Senior Policy Analyst **I** Mines and Mineral Resources Division
Ministry of Energy and Mines

Mailto Michelle.Hynes@gov.bc.ca

Feed: Government Wide NEWS
Posted on: Thursday, October 9, 2014 1:15 PM
Author: Government Wide NEWS
Subject: Latest Mount Polley water sample results

The latest water samples from Quesnel Lake and Quesnel River are consistent with previous results and Interior Health reaffirms water located outside the impact zone remains safe to drink.

View article...

Mount Polley Mine MEM File Documentation

Document #	Box #	Discipline	Type	Title	Author	To	date	canned pag	description	nit/amendment	Information of interest (KCB)	Information of interest (HM)
MP00000		geotechnical	table	Mount Polley TSF Geotechnical Files - Panel	Kim Bellefontaine		25-Aug-14	xls	Datafile of digital geotechnical documents related to Mount Polley TSF.			
MP00001		geotechnical	report	Imperial Metals Corp. Mt. Polley Project Tailings Storage Facility Design Report (Ref. No. 1625/1) Volume 1	Knight Piesold		26-May-95	149	Original TSF design documents.	03-Aug-95	Site selection criteria; identefication of construction material; and general design features. Design drawings plan, construction stages, instrumentation; 2 tables with summary test results, stability analyses.	precip. 810 mm; evap. 423 mm; 70 Mt @1.28 t/m3; SG 2.78; Dam Classification - LOW; 24 hr PMP -203 mm; 10 day PMP 406 mm, vol 1.36 Mm3 --Design Criteria states 24 hr PMP, but freeboard implies 7 day PMP;design to El. 960 m; glaciolacustrine & glaciofluvials; 95% Modified Proctor;toe drain @u/s face of Stage 1b crest; {transverse drain along axis of Main Dam;u/s blanket drain for Ic and II expansion; toe drains @ Main and Perimeter - perforated along full length of dams with solid pipes leading to sumps; extend drainage systems} modified centreline & settlement calcs.; FoS 1.3 for operations FoS 1.1 for resdual; residual tailings 10 kPa; ru 0.14; seepage flows Total 2 L/s;
MP00002		geotechnical	report	Imperial Metals Corp. Mt. Polley Project Tailings Storage Facility Design Report (Ref. No. 1625/1) Volume II - Appendices	Knight Piesold		26-May-95	220	Original TSF design documents. Included as an appendix, a site investigation report that included test pit logs, borehole logs, and laboratory testing (index tests and triaxial testing) on foundation and embankment materials from the 1989-90 investigations, along with additional test pits undertaken in 1995.		Test pit location, geological logs, detailed laboratory test work (TX, atterberg limits, grain-size distr., settlement). Only one sample was taken from TSF for TX test (TP95-18). Extracts from "Report on Geotechnical Investigations and Design of Open Pit, Wate Dumps and Tailings Storage Facility (Ref. No. 1621/1)" dated February 19, 1990.	No data on undisturbed GL. Page 11 of Appendix B indicates tests on 95% MPD; GT 10% to 20% mc; GL 15% to 30% mc;
MP0 0003		geotechnical	report	Imperial Metals Corp. Mt. Polley Project Tailings Storage Facility Site Inpsection Manual (Ref. No. 1625/2)	Knight Piesold		26-May-95	44	TMF site inspection manual.	03-Aug-95	Nothing useful	Straight forwards SI Manual
MP00004		geotechnical	report	Mount Polley Test pit logs and photos	Knight Piesold		18-Oct-95	56	Main embankment test pit logs and sediment pond test pit logs.		Main embankment Test pits plan; test pit logs; photos.	Test pits indicate variability in the glacial till, GL and GF; GL stiff to hard
MP00005		geotechnical	report	Imperial Metals Corporation Mt. Polley Project, Respons to Review Comments on Tailings Embankment Design (Ref. No. 1625/6)	Knight Piesold		25-Jan-96	70	Company response to government review of initial TSF design.		Gov. requests to drill 2 more boreholes in the main embankment area. In response to the question about revmoval of the sediments, MP states " basin liner is merely an extension of this natural loow permeability glacial till cover and is only required in those areas where the natural glacial till deposit has been removed by recent surface erosion which has locally exposed the glaciolacustrine sequence in the vicinity of the proposed embankment". Test pit excavations showed that the underlying highly overconsolidated sediments have suficient strength characteristics to allow placement and compaction of the liner. (p.7)	Concerns with settlement of u/s sloping core (CB); indicated that MPD spec. would be more brittle (KP countered)
MP00006		geotechnical	inspection report	Mt. Polly Tailings Dam	Chuck Brawner		23-Oct-95	5	Inspection conducted for MEM.		Test pits indicated Sand horizon exists near the surface over a portion of the west flank of the damsite area based. The sand might have a moderate permeability and under moderate head could develop piping. Development of seepage cutoff to prevent this was srecommended by the Ministry.	Noted medium strength GL
MP00007		geotechnical	drawings	Mount Polley Construction Drawings, various revisions	Knight Piesold		03-Jun-97	35	TSF construction drawings May 30 1997.		Construction drawings; geological investigations.	Good set of drawings
MP00008		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility, Report on On-going Construction Requirements (Ref.No.10162/9-3)	Knight Piesold		02-Dec-97	170	Contains design summary, stability analyses and on-going construction requirements.	07-Apr-98	Stage 2. Mentioned about placement of type 1 Geotextile filter fabric on the tailings beach at the main embankment, placement of the coarse bearing layer on the geotextile filter fabric during Stage 2A. (p.52) Design basis and operating criteria; monthly water balance and precipitation conditions; results of stability analyses; grain-size distributions; drawings; instrumentation; selected apapers that were used during the design.	MCE - M6.5, pg 0.13g; CDA consequence "LOW" and Closure "HIGH"; GL/GF thickens towards the west; Flood design 24-hr PMP + 1 m . Proposed crest elev. 965 m. Seepage flux estimates; Modified centerline incorrectly compared to centerline; Upstream drainage system installed. Pipes through dam in dense foundation till; piezometers in fill showed pore presssure response; founation response 2 to 3 m; 98% SPD;Filter zone2" minus - < 10% fines; Emphasizes benefit ? of modified centerline.
MP00009		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility, Operation, Maintenance and Surveillance Manual for Stage 1B Embankment (El.	Knight Piesold		24-Nov-97	144	OMS for Stage Ib	07-Apr-98	Stage 1b embankment (EL.934m). As-built drawings; summary of vibrating wire piezometers and trigger levels	"Dam-Coordinator" (mill sup't)-- "Dam Operator" (mill shifter); depostion sequence using multiple spigots to form a segregated beach; Ultimate dam height 53 m;4.4 km long;
MP00010		geotechnical	report	Mount Polley Holding Company Limited Mount Polley Mine, 1998 Water	Mt. Polley		08-Apr-98	13	1998 water management plan.		nothing useful	

Mount Polley Mine MEM File Documentation

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MP00011		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility,1998 Annual Insepction Report	Knight Piesold		26-Jun-98	87	1998 annual inspection by KP.		Observations made at the TSF "small (less than 50 mm wide) tension cracks had developed in isolated areas along the upstream portion of the Main Emb., Especially from Ch. 22+20 to Ch. 22+70. There was no appreciable vertical displacement across the cracks. The cracks were likely caused by differential settlement of finer tailings deposited between spigots. the cracks are of little significance to the design and performance of the embankment and have been infilled with fine grained material to prevent water from infiltrating the embankment fill; a significant amount of wood debris accumulated along the face of the Main Emb. Ths debris will be covered by tailings after deposition from the embankment recommences and could decompose over time, causing differential settlement and cracking in fil materials placed above the tailings." (p.13) "Artesian pore pressures near the right abutment of the Main Emb from glaciofluvial/glaciolacustrine sediments have been identified. (p.17) The foundation pp increased by up to 4 m in some piezometers (Plane C) at the right abutment of the Main Emb. Te pp probably increasing due to seepage caused by the accreting tailings ponds." Summary of piezometric readings; comparison of pre-construction to current pore pressures (1998 June 16); drawings; photos.	Updated design of TSF
MP00012		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility,Report on 1998 Construction and Annual Inspection (Ref.No. 11162/10-1)	Knight Piesold		16-Jun-99	225	1998 construction and annual inspection by KP.		Stage 2A/2B construction. Laboratory tests moisture content, particle size distribution, specific gravity, atterberg limits, field density, triaxial compression (zone S). Minor amount of wood debris along the face of the Main Embankment where the tailings pond is in contact with the embankment. The Main emb. outlet drains continued to seep. Flows were about 1 l/min in OD-1 and about 0.5 l/min in OD-2 and OD-3. Artesian pressures were developed at the topd of the glaciolacustrine/glaciofluvial material (p.36) (Appendix G2). The settlement (movement in the vertical direction) ranges from 0 (TH 54) to -0.174 mm (TH50). (p.41) (Table 3.7) The main emb. outlet drains continue to seep slightly and should be monitored regularly. Springs at the existing basin liner need to be sealed off or connected to the upstream toe drains planned for future construction program (p.60). TSF 1998 piezometer installation, monitoring data, summary of found. drain flows., records of displacement, density and compaction histograms, drawings. Summary of basin liner investigation 1998, 1999 (GLU, w.c., gsd). CU TX test results for R/ZS-12 (remoulded samples), photos.	Zone B till upstream and downstream of core. Tailings density 1.35 t/m3
MP00013		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility,Evaluation of Cycloned Tailings for Embankment Construction (Ref. No. 11162/11-1)	Knight Piesold		16-Jun-99	114	Application for cyclone sand.	13-Jun-00 and 30-May-01	Stage 2C. Results from survey monument data indicate that horizontal movements were along the axis of the embankment and that these displacements ranged from 3 to 33 mm. Vertical displacements reached a maximum value of 25 mm (p.43, Table 4.2)Discuss advantages of using cycloned sands for in construction of tailings embankments (preffered option-uses cycloned sand zones both upstream and downstream of an embankment core zone). Summary of gradations, settlements, permeability, evaluation of underflow split using particle size analyses, embankment crest survey monuments-record of displacements, psd of feed, overflow and underflow samples, drawings, instrumentation, lab test results (permeability, consolidation, triaxial shear on cyclone sand), photos.	Design report for going to a cyclone sand dam; Went to centerline construction. Carried out cyclone trials.L24

Mount Polley Mine MEM File Documentation

Document #	Box #	Discipline	Type	Title	Author	To	date	canned pag	description	nit/amendment	Information of interest (KCB)	Information of interest (HM)
MP00014		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility, Report on Cycloned Sand Construction of Stage 3 and On-Going Stages of the Tailings Storage Facility (Ref.No. 11162/12-2) Volume I of II			13-Dec-99	170	Application for cyclone sand.	13-Jun-00 and 30-May-01	Effective strength parameteres for the embankment fill and foundation materials used for stability analyses were obtained from consolidated-undrained triaxial test from 1995 geotechnical investigations and reported in the (Knight Piesold Ref. No. 1623/1). Results of SHAKE analyses are discussed. Description of cycloned sand trial program. Summary of soils laboratory test work (moisture content, max dry density, gradation, permeability, consoldiation, shear strength. Stage 3, Stage 4-7 Ddrawings. Upstream trial berm photos, underflow gradations, overflow gradations.	
MP00015		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility, Report on Cycloned Sand Construction of Stage 3 and On-Going Stages of the Tailings Storage Facility (Ref.No. 11162/12-2) Volume II of II	Knight Piesold		13-Dec-99	269	Application for cyclone sand.	13-Jun-00 and 30-May-01	Downstream trial berm photos; pore pressure and outlet drain flow monitoring; phase I test trenches; laboratory data (triaxial compression, consolidated drained, remolded silty sand, consolidation test, permeability test, proctor test report, cpt data (upstream and downstream trial berm).	
MP00016		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility, Operation, Maintenance and Surveillance Manual for Stage 1A Embankment (El. 927m) (Ref No. 1627/1)	Knight Piesold		11-Mar-97	77	OMS for Stage Ia		Drawings from July 15, 1996; June 2, 1995 (probably repeated from earlier reports, probably nothing useful).	
MP00017		geotechnical	report	Report to Imperial Metals Corporation, Geotechncial Review, Drainage Aspects Main Embankment Dam Tailings Storage Facility, Mt. Polley Project, British Columbia	MAJM		01-Mar-97	42	Independent review of TSF by Fred Matich.			Indicated drainage system is complex and will require care. Recommended additional redundancy
MP00018		geotechnical	report	Geotechnical Review, Drainage Aspects Main Embankment Dam Tailings Storage Facility Mt. Polley Project, BC	MAJM	George Headley	22-Apr-97	60	Reference materials from Fred Matich.			
MP00019		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facility, Report on Stage Ia/Ib Construction (Ref.No. 10162/7-5)	Knight Piesold		14-Aug-97	161	Report on Stage Ia/Ib construction.	07-Apr-98		
MP00020		geotechnical	report	Mount Polley Mining Corporation Mount Polley Project Tailings Storage Facilityand Ancillary Features May 1, 1997 Site Inspection (Ref.No. 1627/4)	Knight Piesold		03-Jun-97	22	1997 Site Inspection by KP.			
MP00021		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Addendum to Report on Cycloned Sand Construction of Stage 3 and On-Going Stage of the Tailings Storage Facility (Ref. No. 11162/13-4)	Knight Piesold		11-May-00	78	Application for cyclone sand.	13-Jun-00 and 30-May-01		Response to review comments by Brawner regarding suitability of cyclone sand (high fines content -20% to 33%)
MP00022		geotechnical	report	Final Progress Report, No. 1 to 19, 2000 and 2001	Knight Piesold		12-Sep-01	452	Construction monitoring reports September 1 2000 to September 12, 2001			Field reports and testing summaries
MP00023		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine, Tailings Cyclone Sands Geochemical Evaluation	Mt. Polley		02-Dec-98	161	Geochemistry of cyclone sands.	13-Jun-00 and 30-May-01		
MP00024		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine, Tailings Cyclone Sands Geochemical Evaluation Update	Mt. Polley		01-Feb-00	32	Geochemistry of cyclone sands.	13-Jun-00 and 30-May-01		cyclone sand is not PAG
MP00025		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine, Operation, Maintenance and Surveillance Manual for (Ref. No. VA101-00001/9-1)	Knight Piesold		22-Dec-04	71	OMS Manual			DSR to completed in 2006, and then every 5 years. Seismic design MDE- 50% of 1 2500 or MCE (M 6.5, PGA 0.065g); 95% SPD; Density 1.45 t/m3; 24 hr PMF plus 1 m;
MP00026		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine, Design of the Tailings Storage Facility to Ultimate Elevation (Ref. No. VA101-001-08-1	Knight Piesold		14-Mar-05	184	Application design Stage 4; raising the dam to cres El. 965m.	25-May-05		Design for 84 Mt @ 1.36 t/m3;Up to El. 965 m;Modified upstream method; Buttress for main dam required at closure. Dam Classification Significant (based on $1M)
MP00027		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine, Stage 5 Design of the Tailings Storage Facility (Ref. No. VA101-01/12-1)	Knight Piesold		12-Jun-06	55	Application design Stage 5.	02-Aug-06		
MP00028		geotechnical	inspection report	Ministry of Energy, Mines and Petroleum Resources, Mt. Polley Mine, N. Rose Geotechnical Inspection of Open Pit, Waste Dumps and Tailings Dams, Field Notes and Photos	Nick Rose		30-Aug-06	35	Government Inspection by Nick Rose.			

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MP00029		geotechnical	inspection report	Ministry of Energy, Mines and Petroleum Resources, Mt. Polley Mine, N. Rose Geotechnical Inspection of Open Pit, Waste Dumps and Tailings Dams, Field Notes and Photos	Nick Rose		31-Jul-07	46	Government Inspection by Nick Rose.			
MP00030		geotechnical	report	Mount Polley Mining Coprproation Mount Polley Mine Tailings Storage Facility, Operation, Maintenance and Surveillance Manual	Mt. Polley		28-Aug-06	110	OMS manual.			Prepared by MPMC. Emergency procedures if freeboard < 1.39 m Trigger levels for piezometers and inclinometers.Stage 4 Sand Cell construction
MP00031		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Report on Stage 4 Construction (Ref.No. Va101-1/10-1)	Knight Piesold		13-Mar-07	252	Report on Stage 4 dam raising construction report including borehole logs for installed inclonometers.			
MP00032		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Stage 6 Design of the Tailings Storage Facility	Knight Piesold		18-Jun-07	69	Application design for Stage 6; design to crest El. 958m and responses to the AMEC (2006) dam safety review (DSR).	19-Feb-08		Indicated mine plans revised up to 100 Mt, and TSF to 970 m; Trigger level for piezometers on Main Dam if FoS reduces to 1.1; MDE 0.096g Has a berm, and 1.3 1 slope on Main Embankment section, Perimeter Embankment at 2H 1V
MP00033		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Report on Stage 5 Construction (Ref.No. Va101-1/14-1)	Knight Piesold		27-Mar-08	294	Report on Stage 5 Construction.			63 operating piezometers; Zone U is random fill and sand cells;Zone F 2% to 10% fines; 25% tests on coarse side- described due to sampling in pit not the dam; Foundation piez. Up to 3 m artesian presssure; steel pipe used in Perimeter core crossing drain; Construction near north end of Perimter Dam; upstream toe drain at elev. 946.3 (DWG 225); placement of Zone C in 3 m lift (photo 50)
MP00034		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Report on Stage 6A Construction (Ref.No. Va101-1/23-1)	Knight Piesold		10-Jul-09	277	Report on Stage 6A construction.			SI101-02 in main embankment showed movement at 10 m in GL (2 mm) - placed buttress. Drilling program in May 2008 - 11 holes; GL at west end of pit variable thickness and depth; Till SPT 40-60; Piezometer D2-PE-02 in foundation till indicated some pore pressure response due to fill placement (~ru 0.2); Zone C lifts kept to < 2 m (Photo 22); Zone F placed on slope (fine) and Zone T (coarse); Zone F 3% to 12% fines - few tests out of spec;
MP00035		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Report on 2008 Annual Inspection (Ref. No. VA101-1/24-1)	Knight Piesold		25-Feb-09	98	2008 Annual inspection by KP.			Dam classification - "SIGNIFICANT"; 68 operating piezometers; RESPONDED to DSR review comments - indicated residual strength of 24 degrees and that tests were in progress. Piezometer review does not indicate pore pressure response to fill, just artesian pressures.
MP00036		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Report on Stage 6B Construction (Ref.No. Va101-	Knight Piesold		25-Jan-11	251	Report on Stage 6B construction.			Zone C on Main Dam at 1.4 1 with buttress; Zone F < 10% fines and 10% out of spec on coarse size; artesian up to 2.7 m; Recommend stability analysis of Main Dam be carried out for future raises;
MP00037		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Report on 2010Annual Inspection (Ref. No. VA101-1/24-1)	Knight Piesold		25-Jan-11	93	2010 Annual inspection by KP.			Transverse tension crack noted on Perimter Dam - noted that stability for Stage 7 should be checked.Noted that instrumentation replacement has not been carried out (40% lost) ; suggest an inundation study as referenced in CDA; Recommended that buttress be constructed prior to Stage 6b and this was not done.Recommended Main Dam buttress and stability be assessed for Stage 7 design. MPMC should develop a plan for getting a minim um 20 m beach; 56 operating piezometers; SI01-02 4 mm movement; recommend updating water balance model for Stage 7. Next DSR recommended for 2016, or during detailed closure design.
MP00038		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility, Report on Stage 3C Construction (Ref.No. VA101-1/5 2)	Knight Piesold		23-Sep-05	153	Report on Stage 3C construction.			Suggest that Zone F out of spec on coarse due to dry sieves versus wet sieve; < 10% fines;
MP00039		geotechnical	report	Mount Polley Mines, Tailing Storage Facility Stage 7, 2011 Construction Monitoring Manual	Amec		20-Apr-11	140	Application for Stage 7.	15-Aug-11		Luke Moger "Project Manager" overseeing Inspectors, AMEC and Survey; Defines responsibilities and requirements for construction monitoring and QA/QC. Zone C < 2 m lifts; Zone U sand cell or rockfill; Appendix A on Stability Analysis references CDA for FoS 1.3 for construction; used KP parameters with "minor" modifications; "rockfill high UC & well graded angular with moderate compaction"; GL 33 degrees and 24 degrees residual; no ru; More comprehensive assessment to be done after 2011 drilling and instrumentation program. GL shown on stability analysis of Permiter Dam as being near surface (not shown on any other drawings or figures)

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MP00040		geotechnical	report	Mount Polley Mines, Tailing Storage Facility Stage 8, 2012 Construction Monitoring Manual	Amec		30-Mar-12	54	Application for Stage 8.	29-Jun-12		Prepare abutments to El. 970 m (ultimate dam). MPMC assumed responsibiltiy for all day to day work on the dam, having hired engineers and inspectors; Luke Moger designated as "oversee the overall construction monitoring" Organization Chart Figure 2.1; AMEC to be involved enough to be confortable with "sign off" for annual inspection reports and as-built stages.{NOTE AMEC DID NOT INCORPORATE DRILL HOLE NEAR 4+400 INTO THEIR DESIGN AND STABILITY CONSIDERATION}
MP00041		geotechnical	report	Mount Polley Mines, Tailing Storage Facility, 2011 Construction As-Built and Annual Review	Amec		30-Mar-12	143	2011 As built and annual dam safety inspection.			Dam classification - "SIGNIFICANT"; Piezometer D-01 noted upward trend; 58 functional piezometers+ 21 new for 81 total; 7 Inclinometers; 28 Mt stored up until 28 Mt to Oct. 2011; OMS to be updated in 2012; Zone U rockfill between 1+900 and -02 and2+400; Zone T processed as 3" minus; SI-02 showed 5 mm over the year.SI-06-02 and SI06-03 showed cumulative up to 6 mm;
MP00042		geotechnical	report	2012 Stage 8A Tailings Storage Facility Construction Drawings and Stability Analyses for Embankment Raise El. 965m	Amec		10-Sep-12	29	Stage 8A construction drawings and stability analsysis.			Dam raise to 965 m. Stability analysis of Permiter Embankment continues to use Section D. Plan to switch to centerline after elevation 963.5 m. Indicates ultimate design slope of 2H 1V; "Glacial till was the only soil unit encountered in the drill hole at Stn. 4+500" (Page 20)
MP00043		geotechnical	report	Mount Polley Mining Coporation, Mount Polley Mine, Tailings Storage Facility 2012 Annual Review	BGC		08-Apr-13	98	2012 annual dam safety inspection; instrumentation review and interpreation through 2012.			Dam to 963.8 m; Next DSR in 2016; OMS updated EOR; References (page 7) 24 hr PMP and 1 m freeboard?(Confusing); Perimter U/S drains flows increasing 40 L/s (2012); 81 functional piezometers; Anomalous behaviour of SI11-04.Seepage zone near Corner 1 (page 20). Reviewed by Tom Harper.
MP00044		geotechnical	report	Mount Polley Mine Tailings Storage Facility Stage 9, 2013 As-Built and Annual Review Report	Amec		12-Mar-14	212	2013 as-built and annual dam safety inspection; instrumentation review and interpretation through 2013, and as-built report for 2013 construction.		Lab data extracted; instrumentation; construction photos; drawings	
MP00045		geotechnical	report	Mount Polley Mine Tailings Storage Facility Stage 9, 2013 Construction Monitoring Manual	Amec		11-Apr-13	76	Application for Stage 9 of the TSF	09-Aug-13	Summary of construction activities; technical specifications for the construction of the TSF embankment; requirements for instrumentation, monitoring, sampling, testing and reporting, instrumentation. TSF Stage 9 (970 m) expansion stability analyses. Good set of drawings for stage 9 tailings embankment.	
MP00046		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Tailings Storage Facility, Operation, Maintenance and Surveillance Manual	Mt. Polley		01-Jul-13	90	2013 OMS manual	09-Aug-13	Description of the roles and reponsibilities of MP site personnel for the management of the TSF and associated facilities; detailed descripction of the facility, engineering and design of the components.	
MP00047		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Tailings Storage Facility, Operation, Maintenance and Surveillance Manual (Appendices)	Mt. Polley		01-Jul-13	portfolio	2013 OMS manual appendixes in pdf portfolio format	09-Aug-13	Nothing useful	
MP00048		geotechnical	drawings	June 1995 TSF design drawings, various revisions	Knight Piesold		02-Jun-95	8	June 1995 TSF design drawings		TSF instrumentation; sections and details; foundation preparation and basin liner section and details. Revisions 3, 4, 5 and 6.	
MP00049		geotechnical	drawings	June 1995 TSF design drawings, various revisions	Knight Piesold		02-Jun-95	17	June 1995 TSF design drawings		TSF material specifications; sedo,emt cpmtrp; amd seepage collection; surface water control structures; tailings distribution and reclaim system and instrumentation.	
MP00050		geotechnical	presentation	Mount Polley Project Tailings Storage Facility	Knight Piesold		03-Feb-05	40	Powerpoint presentation		Extracts from geological investigations section B; south section 1; tailings properties; extracts from CU triaxial test results (stress path); summary of phi and su vs depth; general information about geotechnical design.	
MP00051		geotechnical	airphotos	Untitled				10	Pre mine development air photos.		Nothing useful	
MP00052		geotechnical	miscellaneous	Permit Conditions Response, Mount Polley Mine	Mt. Polley		undated	10	Company responses to review comments by Diane Howe and Chris Carr of Nov 1, 2010 Application "Mine Permit Amendment Application". This review included Stage 7 dam construction. Includes 2010 Water Balance Update response. Received January 25, 2011.	15-Aug-11	Responses to questions regarding the mine Permit Amendment application for MPM. (nothing useful)	precipitation 755 mm, evaporation same;
MP00053		geotechnical	letter	Mt. Polley Project Surface Water Control	KJ Brouwer	Malcolm Swallow	05-May-95	11	Minesite surface water management design parameter.		Letter about surface water control. Extracts from 1995 report drainage plan mine site, sections, details	
MP00054		geotechnical	letter	Mt. Polley Tailings Storage Facility Design Report	KJ Brouwer	George Headley	26-May-95	3	Cover letter for final design report.		Nothing useful	

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MP00055		geotechnical	letter	Mt. Polley Project	LA Bergman	George Headley	14-Jul-95	12	Water resource engineer comment on TSF design		Bergman (Senior Engineer, Water resources Branch, Ministry of environement, lands and parks) in the letter expresses his concerns about water content being higher than desirable to achieve maximum compaction in the impervious zone fill. Then he gave some recommendations for the constraction in that zone from his experience. He emphysizes the importance of quality supervision during constrcution, since ithe lengh of the embankment more than 2.5 miles long.	
MP00056		geotechnical	letter	Mt. Polley Tailings Dam	George Headley	Chuck Brawner	05-Sep-95	1	Scope of review requested on TSF design.		Request of an independent review of the tailings facility with the following key aspects potential for weak and wet glaciolacustrine silts in part or all of main dam foundation; soil for construction is wet of optimum density; modified center line construction, etc.	
MP00057		geotechnical	letter	Mt. Polley Tailings Storage Facility Sediment Pond	KJ Brouwer	George Headley	14-Sep-95	5	Sediment pond for TSF. Includes photos of swamp areas.		Nothing useful	
MP00058		geotechnical	letter	Mt. Polley Tailings Impoundment Site Inspection -Observations and Recommendations	KJ Brouwer	Bill Ruffo	25-Sep-95	8	Knight Piesold inspection. Includes seepage collection pond testpits.		Nothing useful	
MP00059		geotechnical	memo	Mt. Polley Site Inspection	Ken Embree	George Headley	02-Oct-95	2	Notification to MEM of Knight Piesold inspection and soil stockpile location.		Nothing useful	
MP00060		geotechnical	memo	Mt. Polley Site Inspection	Ken Embree	George Headley	06-Oct-95	4	Knight Piesold inspection observations.		Inspection observations on test pits in glaciolacustrine, glaciofluvial sediments.	
MP00061		geotechnical	letter	Mt. Polley Tailings Dam	Chuck Brawner	Tim Eaton	13-Oct-95	4	Brawner reivew of Knight Piesold design report		Comment on having only one hole drilled in main embankment area and recommendation to drill 2 more holes. Mentioned difficulties in obtaining good compaction and density of the till liner over the sediments due to poor underlying support of sediments. Recommendations on excavation of weak soil in the main dam area.	
MP00062		geotechnical	letter	Mt. Polley Tailings Impoundment 1996 Construction	KJ Brouwer	George Headley	04-Apr-96	26	Detailed design drawings of TSF.		Detailed design drawings for the project (1996)	Air photos
MP00063		geotechnical	memo	Mt. Polley Tailings Construction Schedule	Ken Embree	George Headley	05-Jun-96	2	TSF construction schedule		Nothing useful	
MP00064		geotechnical	letter	Mt. Polley Project - Tailings Storage Facility	KJ Brouwer	George Headley	14-Jun-96	30	Detailed design drawings.	23-Sep-96	Revised construction drawings	
MP00065		geotechnical	letter	Mt. Polley Tailings Dam	George Headley	Tim Eaton	23-Jul-96	2	Technical concerns with starter dam, upstream portion of the dam and tailings line.	13-Jul-96	Weak foundation soils are mentioned, static liquefaction of foundation soil, failure behavior of 2 weak soil layers, etc.	
MP00066		geotechnical	email	Telephone call with Ken Brouwer	George Headley	Tim Eaton	23-Jul-96	1	Requesting drill logs, SPT, work plan for site investigation etc.		Nothing useful	
MP00067		geotechnical	memo	Geotechncial Information Obtained from 1996 Borehole Investigation	KDE/PJP	Ken Brouwer	26-Jul-96	42	Borehole data.	23-Sep-96	3 borehole logs (15 m) in main dam area	
MP00068		geotechnical	memo	Borehole Logs for PRW 96-1 to 4	Peter Proctor	Graham Greensway	30-Jul-96	8	Borehole data PRW 96-1 to 96-4	23-Sep-96	Borehole logs	
MP00069		geotechnical	letter	Mt. Polley Tailings Dam	George Headley	Brian Kynoch	30-Jul-96	2	Expressing concern re drainage system and requiring independent thrid party review.		Comment about complex internal drainage pipe system, recommendation to review all aspects of the dam site conditions. Request to retain a qualified tailings dam e xpert, independent of the current consultant to review the foundation conditions for the dam site, etc.	
MP00070		geotechnical	note	Mt. Polley Tailings Dam Review	George Headley		02-Aug-96	2	Outstanding technical concerns G Headley		Quote "CPT test ng holes showed that foundation soils were not weak and the deep weak soils were strong. Soil samples could liquefy with vibration. Confirmation that soil conditions in main embankment appear okay".	
MP00071		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Report on 2000 and 2001 Annual Inspection (Ref.No. 11162/14-2)	Knight Piesold		03-Oct-01	86	2000 and 2001 annual dam safety inspections.		Detailed drawings, instrumentation, photos	
MP00072		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Report on Stage 3 Construction (Ref.No. 1162/14-3)	Knight Piesold		19-Oct-01	139	Report on Stage 3 construction.		Detailed drawings, instrumentation, photos, design modifications.	
MP00073		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Tailings Storage Facility Report on 2002 Annual Inspection (Ref.No. Va101-00001/3-1)	Knight Piesold		30-Apr-03	115	2002 annual dam safety inspection.		Detailed drawings, additional instrumentation, airphotos. Stage 3, Rev. 4, 5.	
MP00074		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Tailings Storage Facility Report on 2004 Annual Inspection (Ref.No. Va101-00001/7-1)	Knight Piesold		08-Feb-05	68	2004 annual dam safety inspection.		Drawings, instrumentation, photos, airphotos. Stage 3. Annual inspection. Good condition.	
MP00075		geotechnical	report	Mt. Polley Mine Geotechnical Inspection, Ministry of Energy, Mines and Petroleum Resources	Piteau		13-Oct-05	29	2005 inspection for government.		Detailed photos. Hand written notes (hard to read). Some comments.	

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MP00076		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Tailings Storage Facility Report on 2005 Annual Inspection (Ref.No. Va101-01/11-1)	Knight Piesold		03-May-06	100	2005 annual dam safety inspection.		No readings from piezometers from Sep 22, 2005 to Apr 30, 2006 (damaged cable). No geotechnical issues outstanding. Stage 4. Detailed drawings, airphotos, photos, instrumentation. Dam safety guideline.	
MP00077		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Tailings Storage Facility Report on 2007 Annual Inspection (Ref.No. Va101-01/11-1)	Knight Piesold		19-Dec-07	101	2007 annual dam safety inspection.		Khight Piesold recommended to MPMC to increase frequency of measurements for embankment instrumentation system, develop a plan to enable the minimum target beach width. Requirement to reinstate minimum beach requirements along a section of the main embankment (increased flows in the main embankment upstream toe drain). Drawings, instrumentation, photos. Stage 5	
MP00078		geotechnical	report	Weekly Construction Monitoring Reports from January 7, 1998 to December 7, 1998.	Knight Piesold		1998	383	Weekly construction monitoring reports January 7, 1998 to December 7, 1998		Detailed instrumentation, grain size curves, construction report. Stage 2B.	
MP00079		geotechnical	report	Weekly Construction Monitoring Reports from August 16, 1999 to March 6, 2000.	Knight Piesold		1999 2000	456	Weekly construction monitoring reports August 16, 1999 to March 6, 2000.		Stage 2C. Construction progress report, detailed instrumentation, drawings, concrete test report.	
MP00080		geotechnical	report	Mount Polley Mining Corporation, Mount Polley Mine, Tailings Storage Facility, Operation, Maintenance and Surveillance Manual for Stage 3 (El. 944) Embankment (Ref.No. 1162/13-3	Knight Piesold		17-Aug-00	148	Stage 3 OMS manual.		Stage 3. Embankment. Second updated version with revised procedures that incorporates procedures for changes in operating condictions and the incorporation of cyconed tailings underflow as embankment construction materials for the main and perimeter embankments. Drawings, depth-capacity and filling schedule, checklists and procedures, construction requirements.	
MP00081		geotechnical	notes and drawings	MAJM Design Brief - Mt. Polley Mine	Fred Matich	unknown	26-Aug-96	12	Topics discussed with Third Party Expert reviewer Fred Matich pencil notes by G. Headley.		Handwritten notes and site investigation drawings.	
MP00082		geotechnical	Notes	Mt. Polley meeting notes with Fred Matich	George Headley		27-Aug-96	2	George Headley notes on meeting with Fred Matich.		Nothing useful	
MP00083		geotechnical	Fax cover letter and Figure 1 design drawings	Embankment Chimney Drain	Knight Piesold	Ken Embree	29-Aug-96	4	KP info on TSF chimney drain filter zone.		Additional chimney drain filter zone for the tailings embankment (drawings)	
MP00084		geotechnical	Letter and design drawings	Mt. Polley Tailings Embankment - Amendment to Systems Work Application	Imperial Metals Corporation	George Headley	05-Sep-96	9	Design for TSF to Elevation 934 metres.	23-Sep-96	Stage 1b. Drawings. Notes about construction of the longitudinal drain into the compacted Zone B fill and backfilling with filter sand; placement of the sand along th length of the filter zone and compaction.	
MP00085		geotechnical	report	Tailings storage facility weekly progress Report No. 9, Sept 5 to 11, 196	Knight Piesold	Knight Piesold	14-Sep-96	24	Construction progress reports Sepember 1996.		Test summary and gradation curves of filter sand, structural fill, glacial till, zone S, lower basin liner and drain gravel in main embankment. Stage 1B.	
MP00086		geotechnical	letter	Mount Polley Tailings Facility Surface Water Control During Construction	Mount Polley Mining Corporation	Roman Navratil, MOE	02-Oct-96	3	Water balance/managment information.		Nothing useful	
MP00087		geotechnical	letter	Mt. Polley Tailings Dam Winter Construction Standards	George Headley	Ken Brouwer	04-Nov-96	1	Request from MEM for information on winter construction standards.		Nothing useful	
MP00088		geotechnical	letter and table	Winter Construction of Tailings Embankment	Knight Piesold	Mr. Swallow, KP	04-Nov-96	4	Response from KP to MEM request for information on TSF winter construction standards.		Nothing useful	
MP00089		geotechnical	email	Mt. Polley Construction File Number 14745-40-MTPO/01	George Headley	Tim Eaton, John Errington of El	18-Dec-96	1	Internal MEM email regarding stopage of winter construction by Mt. Polley.		Nothing useful	
MP00090		geotechnical	Fax cover letter	Mount Polley Tailings Facility	Ken Brouwer	Fred Matich	18-Jan-97	1	Request from Knight Piesold for report from Third Party reviewer Fred Matich.		Nothing useful	
MP00091		geotechnical	email	Mt. Polley File Number 14745-40-MTPO/01	George Headley	Tim Eaton	24-Dec-96	1	Internal MEM email with notes from phone call with KP re TSF aspects.		Nothing useful	
MP00092		geotechnical	letter	Geotechnical Review, Drainage Aspects, Tailings Retention Structions, Mt. Polley Project, BC	Fred Matich	Ken Brouwer	03-Mar-97	5	Information and topics to be discussed at March 10, 1997 meeting with Third Party reviewer.		Nothing useful	
MP00093		geotechnical	letter	Tailings Dam Inspection Manual	Theresa Leonard	George Wight, Imperial Metals	13-Mar-97	1	Providing copy of Tailings Dam Inspection Manual to Imperial Metals from MEM.		Nothing useful	
MP00094		geotechnical	letter	Mount Polley Tailings Dam Permission to Impound Water	George Headley	Brian Kynoch	14-Mar-97	1	Review of OMS by MEM and request for updated design and as-built with updated OMS to reflect, and final report by Third Party reviewer Fred Matich.		Nothing useful	

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MP00095		geotechnical	letter	Mt. Polley Project - Operation, Maintenance and Surveillance Manual for Stage 1a, El. 927 m	Ken Brouwer	Brian Kynoch	12-Mar-97	2	Cover letter submitting OMS Manual for Stage 1a.		Nothing useful	
MP00096		geotechnical	letter	Application for License to Discharge Tailings	Mount Polley Mining Corporation	George Headley	23-May-97	1	Letter from Mount Polley to MEM noting water storage in reservoir and the desire to start mill in June 1997.		Nothing useful	
MP00097		geotechnical	fax memo	Operation, Maintenance and Surveillance Manual, Mount Polley Project, Tailings Storage Facility	William Jolley, Senior Dam Safety Officer	Ken Brouwer	27-Mar-97	1	Comments on OMS manual by Dam Safety Officer, BC Minsitry of Environment.		Nothing useful	
MP00098		geotechnical	Fax cover sheet and letter	Geotechnical Review, Tailings Dam, Mt. Polley Project, BC	Fred Matich	George Headley	28-Apr-97	3	Third Party Reviewer providing reference information to MEM.		Nothing useful	
MP00099		geotechnical	Letter	Application for License to Discharge Tailings	George Headley	Brian Kynoch	03-Jun-97	1	Letter from MEM granting permission to operate the TSF.		Nothing useful	
MP00100		geotechnical	Letter and diagram	South East Sediment Pond	Mt. Polley Mining Corp. George Wight	George Headley	21-Jul-97	2	Response to MEM inspection report of May 27, 1997 with information on the south east sediment pond.		Nothing useful	
MP00101		geotechnical	Letter	Construction Approval Request for Tailings Dam Works	Mt. Polley Mining Corp. Don Parsons	George Headley	27-Mar-98	2	Letter of application for approval of Stage 2 dam raise.	07-Apr-98	Nothing useful	
MP00102		geotechnical	email	Mt. Polley	George Headley	Tim Eaton	29-Jun-98	2	Internal government email discussing scope of Fred Matich review work.		Nothing useful	
MP00103		geotechnical	email	Polley tsf	George Headley	Tim Eaton	29-Jun-98	1	Internal government email noting status of TSF construction and approvals.		Nothing useful	
MP00104		geotechnical	report	Dam Safety Review Mount Polley Mine, Likely British Columbia	Amec		06-Dec	44	Independent dam safety review(DSR) of the TSF, with commentary on consequence classification, design criteria, instrumentation coverate, and uncertainties associated with the glaciolacustrine unit.		DSR by Amec. Final report. Recommendations on conducting additional DSS testing; description of potential failure modes; existance of artesian pressure at the base of main embankment and wells to depressurize glaciofluvial deposits. Photos.	
MP00105		geotechnical	Letter and drawings	Mount Polley Stge 2B TSF 936-937 Elevation Embankment Raise Construction	Eric LeNeve, Mountl Polley Mining Corp.	George Headley	25-Sep-98	6	Company request for permission for Stage 2B dam raise.		Reduced copies of drawings with permit to start stage 2.	
MP00106		geotechnical	Report , drawings, tables	Site Meeting, Evaluation of Cycloned Tailings for Embankment Construction Nov. 4/98 Mt. Polley Mine	Knight Piesold		04-Nov-98	15	Presentation on evaluation of cyclone sand use for embankment construction.	04-Nov-98	Drawings, test summary tables. Presentation.	
MP00107		geotechnical	Letter	Tailings Storage Facility Annual Report 1997	George Headley	George Wight, Mt. Polley Mine	23-Apr-99	1	Ministry review of the 1998 Annual Inspection by Knight Piesold.		Nothing useful	
MP00108		geotechnical	email	Mt. Polley Cyclone sand dam permit	George Headley	Ed Beswick, John Errington, Tim Eaton, Brian McBride, Bill Price, David Morgan	02-Jan-00	1	Internal government email regarding status of review of cyclone sand dam application.		Nothing useful	
MP00109		geotechnical	letter (faxed)	Mount Polley Tailings Dam Cyclone Sand Dam Proposal	George Headley	Ken Brouwer	24-Jan-00	3	Government request for additional geotechnical information to support permitting of cyclone sand for dam construction.		Nothing useful	
MP00110		geotechnical	letter	Letter covering submission of 3 reports, Dec. 13, 16 and 23, 1999	Tim Eaton, Prov. MEM	Chuck Brawner	04-Feb-00	2	Government sending reports on cyclone sand construction to contract reviewer Chuck Brawner. Note duplicate file of MP00115.	04-Feb-00	Letter from the ministry. The till core shift upstream was mentioned. Lower permeabtiliy of cycloned sand was brought up briefly.	
MP00111		geotechnical	meeting agenda	Mt. Polley Mining Corp - Mt. Polley Mine - Proposed Agenda	Unknown	unknown	17-Jun-99	1	Proposed Agenda with government hand written notes on back (looks like G. Headley writing)		Nothing useful	
MP00112		geotechnical	Fax cover letter, letter, diagrams	Trial Downstream Cycloned Sand Berm	Knight Piesold	George Headley	02-Sep-99	10	Additional information from company to support cyclone sand dam construction.	03-Sep-99	Proposal for the construction of the trial berm. Drawings.	
MP00113		geotechnical	One main letter and 3 other letters	Waste Management Act Permitting Requirements for Tailings Cycloning Operation	Douglas Hill, Min. of Environment, Lands and Parks	Ministry of Energy and Mines	23-Nov-99	6	Ministry of Environment comments on proposal for cyclone sand dam construction.	21-Dec-99	Mentioning Review of Waste Dump Instability report by Golder Associates Ltd. The report addresses a "small, shallow seated slough" which occurred on June 15, foundation material conditions and alternative stragies for development.	
MP00114		geotechnical	Letter and diagrams	Mt. Polley Tailings Storage Facility - Interim Approval to Construction Stage 2C to Elev. 941 m.	Don Parsons, Mt. Polley Mining Corp.	George Headley	22-Dec-99	5	Company request for permission for Stage 2C dam raise. Hand written note on cover shows verbal approval given by Tim Eaton and George Headley.		Nothing useful	

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MP00115		geotechnical	Letter	Letter covering submission of 3 reports, Dec. 13, 16 and 23, 1999	Tim Eaton, MEM	Ken Brouwer	04-Feb-00	2	Government sending reports on cyclone sand construction to contract reviewer Chuck Brawner. Note duplicate file of MP00110.	04-Feb-00	Same document as M00110	
MP00116		geotechnical	Fax	Meeting Minutes - January 26 Meeting	Knight Piesold	Don Parsons	13-Feb-00	4	Meeting minutes regarding Stage 3 Cyclone Sand construction.		Nothing useful	
MP00117		geotechnical	Letter	Mt. Polley Mining Corp Tailings Storage Facility Cyclone Sand Review	C. Brawner	Tim Eaton	16-Feb-00	4	Chuck Brawner review comments on Cyclone Sand Construction of the TSF dam for MEM.	14-Feb-00	Brawner Engineering Ltd. Revision of TSF cyclon sand consruction of Stage 3 the report by Knight Piesold Ltd.	
MP00118		geotechnical	Letter and diagrams	Mt. Polley Tailings Storage Facility - Application to Construct to Elevation 944 Metres Amendment to Permit M-200	Don Parsons, Mt. Polley Mining Corp.	George Headley	25-May-00	9	Application letter to increase dam to elevation 944 meters.	13-Jun-00	Request for approval from the Mines Branch to construct the Stage 3 embankment to a crest elevation of 944m.	
MP00119		geotechnical	Fax - letter	Mount Polley Stage 3 TSF	Jeremy Kinch, Knight Piesold	George Headley	02-Jun-00	3	Company submission of information on core zone thickness and QA/QC for Zone F and T placement for Stage 3 of TSF.		Nothing useful	
MP00120		geotechnical	Letter	Mount Polley Stage 3 Dam Design Review	George Headley	Don Parsons, Mt. Polley Mining Corp	22-Jun-00	2	MEM final review comments on Stage 3 dam design.		Nothing useful	
MP00121		geotechnical	email	Mount Polley Project	Chris Carr, EM	Jeremy Kinch	29-Jan-01	1	Email and notes with questions on monitoring to be addressed in company progress report.		Nothing useful	
MP00122		geotechnical	Cover letter and diagrams	Mt. Polley Tailings Storage Facility - Application to Construct to Elevation 945 Metres - Amendment to Permit M-200	Don Parsons, Mt. Polley Mining Corp.	Chris Carr	30-Apr-01	22	Application letter to increase dam to elevation 945 meters.	30-May-01	Application letter to increase dam to elevation 945 meters.	
MP00123		geotechnical	email	Weekly Report 22 May to 25 May	Chris Carr, EM	Brian McBridge, EM	25-May-01	2	Internal government email requesting reclamation inspector Brian McBride to followup with Mount Polley on the importance of moving the leaking tailings pipeline.		Nothing useful	
MP00124		geotechnical	email	Mt. Polley Weekly Progress reports No 15-18 - 40/MTPO/01	George Headley	Chris Carr	24-Aug-01	1	G. Headley review of Mt. Polley progress reports noting information is acceptable.		Nothing useful	
MP00125		geotechnical	email	File note Mt. Polley 147-45-40/MTPO/01	George Headley	Vanessa Hagar, EM	17-Sep-01	1	G. Headley review of Mt. Polley progress report noting information it is acceptable.		Nothing useful	
MP00126		geotechnical	Letter	Mt. Polley Storage Facility and Ancillary Works, Report on 2000 and 2001 Annual Inspection Permit M-200	Don Parsons, Mt. Polley Mining Corp.	George Headley	09-Oct-01	2	Company letter with site status of TMF for 2001 and 2001.		Nothing useful	
MP00127		geotechnical	Letter	Mt. Polley Mine Tailings Storage Facility, Report on Stage 3 Construction Permit M-200	Don Parsons, Mt. Polley Mining Corp.	George Headley	25-Oct-01	2	Company letter with site status with respect to Stage 3 dam construction.		Nothing useful	
MP00128		geotechnical	Letter	Annual Dam Safety Inspection Report and Operations Manual	Chris Carr, EM	G. Wight, Mt. Polley Mining Corp	22-Apr-02	3	Reminder of overdue Annual Dam Safety Insepction and OMS.		Nothing useful	
MP00129		geotechnical	Letter	Annual Dam Safety Inspection Report and Operations Manual	George Wight, Mt. Polley Mining Corp.	Chris Carr	07-May-02	1	Company response that overdue Annual dam safety inspection and OMS manual will by submitted by July 31, 2002.		Nothing useful	
MP00130		geotechnical	Letter	Acknowledging receiving report Tailings Storage Facility, Report on 2002 Annual Inspection	Chris Carr, EM	Greg Smyth, Mt. Polley Mining Corp.	26-Jun-03	1	Review of 2002 Annual inspection requesting plans for water removal for freeboard requirements and discussions of slope inclinometer displacement data.		Nothing useful	
MP00131		geotechnical	Letter	Mount Polley Mine - Application for Amendment to M-200 Mine Plan and Reclamation Program	Brian Kynoch, Imperial Metals Corp.	Ed Pittman, EM	03-Aug-04	1	Cover letter for application to restart the mine.	01-Nov-04	Nothing useful	
MP00132		geotechnical	email	Mount Polley - application for permit amendment	Chris Carr, EM	Ed Pittman, EM	13-Sep-04	1	Geotechnical review comments on mine restart application. Requests updated OMS manual and the Annual Dam Saftey Inspection for 2003.		Nothing useful	
MP00133		geotechnical	letter	Referral of "Mines Act Permit M-200 Amendment Application, Northeast Zone, Mount Polley Mining Corporation	David Pow, Mt. Polley Mining Corp.	Chris Carr	05-Oct-04	2	Response by company to Geotechnical review comments on mine restart application. Commitment to providing updated OMS and 2003 Annual Dam Safety Inspection.		Mentioning about the analysis of the Wight Pit by Golder Associates to determine the stability of the pit walls and to provide design and operational parameters. Also, stating that Golder Associates are preparing a report on the establishment of the waste dump that will include a failure consequence classification for the dump.	
MP00134		geotechnical	emails	Mount Polley - application for permit amendment	Chris Carr, EM	Diane Howe	13-Oct-04	3	Internal government email with status of geotechnical issues for mine restart application.		Comments related to the geotechnical components of the project in the Northeast Zone that includes construction of the Wight Pit, haulage road and expansion of the East waste rock dump. (Probably not useful)	
MP00135		geotechnical	email	Mt. Polley - Notes to file	Chris Carr, EM	Chris Carr	2005	1	Note to file with review of OMS updated manual.		Nothing useful	

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MP00136		geotechnical	email	Mount Polley - notes to file	Chris Carr, EM	Chris Carr	07-Apr-05	1	Note to file with review notes of TSF design to ultimate elevation with darft permit conditions.		Nothing useful	
MP00137		geotechnical	email	Permit Review - TSF	Chris Carr, EM	Ron Martel	07-Apr-05	1	Email to company with questions for KP re design to ultimate elevation regarding till core construction during winter conditions and the presence of glaciolacustrice deposits.		Question about glaciolacustrine deposit characteristics and extent and its influence on dam stability locally from the Ministry. (Nothing useful)	
MP00138		geotechnical	email	Mount Polley - Permit for TSF dam raise	Chris Carr, EM	Carole Howel, EM	18-Apr-05	2	Draft permit conditions for mines act permit preparation.		Geotechnical permit conditions	
MP00139		geotechnical	Letter and diagram	Mount Polley Mine Tailings Storage Facility Design of the Tailings Storage Facility to Ultimate Evaluation	Les Galbraith, Knight Piesold	Chris Carr	14-Apr-05	3	Response to government review comments on TSF design to ultimate elevation.	25-May-05	Responses to questions concerning the Design of the TSF to ultimate elvation at MPM. KP states that glaciolacustrine deposit encountered in GW96-1A is a discontinous unit and will not adversely affect the dam stability. Based on an SPT N value of 6, the material was described as firm.	
MP00140		geotechnical	Letter	Advising of digital and hard copy of an application to amended Mines Act Permit M-200	David Pow, DJP Consulting	Glen Wonders, EM	11-Jul-05	1	Cover letter for submission of application to mine the southeast zone.	24-Nov-05	Nothing useful	
MP00141		geotechnical	Letter and audit information	Enclosure of results of Health and Safety Audit, Sept. 27 and 28, 2005	R. Booth, EMPR	Howard Bradley, Mt. Polley Mining Corp.	12-Oct-05	14	Ministry health and safety audit; includes audit on aspects of permit compliance.		Health and safety audit. The Geotechnical program received the highest rank. (not useful)	
MP00142		geotechnical	Inspection report	Response to Your Request for Information of October 25, 2005	Howard Bradley, Mt. Polley Mining Corp.	Nick Rose, Piteau Associates Engineering Ltd.	16-Feb-06	6	Letter response to government inspection by N. Rose.		Response to geotechnical inspection of Oct 13, 2005. Mainly comments about dump construction, pit slope manual, design for overburden soils in the southeast quadrant of wight pit. (probably not useful)	
MP00143		geotechnical	Letter	Advising of audit to take place March 6, 2006	R. Booth, EMPR	Howard Bradley, Mt. Polley Mining Corp.	27-Feb-06	2	Notification of follow-up health and safety audit by ministry.		Nothing useful	
MP00144		geotechnical	email and spreadsheets	PolleyResponseNewFormatSection6&10.xls	Chris Carr, EM	David Morgan, EMPR, Stephen Rothman, EMPR	01-Mar-06	9	Comments for follow-up audit by Ministry.		Extract from MP00141 audit program (nothing useful)	
MP00145		geotechnical	Letter	Mount Polley Tailings Operating Manual 2006	Ron Martel, Mt. Polley Mining Corp.	Chris Carr	02-May-06	1	Cover letter for submission of 2006 Tailing Operating Manual.		Nothing useful	
MP00146		geotechnical	email	Mt. Polley Permit Conditions for TSF Stage 5 Construction (draft attached)	Nick Rose	Chris Carr	26-Jul-06	3	Government review notes and draft permit conditions for Stage 5 design of TSF.		Nothing useful	
MP00147		geotechnical	email	Mount Polley permit amendment - Tailings Storage Facility (draft attached)	Chris Carr, EM	Carole Howel, EM	26-Jul-06	3	Draft permit conditions for mines act permit preparation for Stage 5.		Nothing useful	
MP00148		geotechnical	email	Mt. Polley Permit Conditions for TSF Stage 5 construction	Chris Carr, EM	Nick Rose, Piteau Associates Engineering Ltd. Vancouver	26-Jul-06	2	Internal discussion re permitting approach.		Nothing useful	
MP00149		geotechnical	Inspection report	Mount Polley Geotechnical Inspection - August 30th, 2006	Tim Fisch, Mt. Polley Mining Corp.	Ministry of Energy and Mines	05-Oct-06	3	Response to government inspection dated August 30, 2006.		Nothing useful	
MP00150		geotechnical	email	Inspection Report for August 30, 2006 Geotechnical Inspection	Nick Rose	Tim Fisch	06-Nov-06	2	Followup questions by government to company response to Aug 30, 2006 inspection report. TSF questions were adequately addressed.		Nothing useful	
MP00151		geotechnical	emails	Mount Polley TSF Stage 6 Permit	Chris Carr, EM	Derek Apel, EMPR	08-Jan-08	2	Email with draft geotechnical permit conditions for Stage 6 design amendment.		Request by Geotechnical Mines Inspector to provide the following information cross-sections showing stablity analyses for dam raise to elevation 958; slope inclinometer depth vs. cumulative displacement plots showing cumulative displacement from date of installation; results of direct shear testing on lacustrine soils, if these tests have been completed.	

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MP00152		geotechnical	Report	Annual TP Report 1998	Knight Piesold	George Headley	03-Jun-98	2	Excerpt from annual TP Report 1998.		Comments aout piezometer readings during fill placement during Stage 2 A. Embankment fill piezometers responded quickly to the placement of fill materials. The high pore pressures were slowly dissipating, showing the low permeabilityin the fill materials. Brief comments about drain flows, survey monuments, inclinometers.	
MP00153		geotechnical	Letter	Mount Polley Tailings Storage Facility Engineer of Record	Ken Brouwer	Brian Kynoch	10-Feb-11	1	Notification by KP of handover of Engineer of Record. KP engineer of record up to and including completion of Stage 6B.		Knight Piesold states that they are no longer responsible for any aspects of the on-going operations, or any modifications to the facilities that are undertaken from 10-Feb-2011. KP mentionedd that tailings impoundment are getting large and it is extremenely important that they be monitored, constructed and operated properly to prevent problems in the future.	
MP00154		geotechnical	Inspection report	Geotechnical Inspection	George Headley		20-Sep-95	2	Government Inspection by G. Headley.		Nothing useful	
MP00155		geotechnical	Inspection report	Geotechnical Inspection - Response	George Headley		20-Sep-95	2	Company response to government inspection.		Same document as M00154	
MP00156		geotechnical	Inspection report	Geotechnical Inspection Report	George Headley		Oct. 11 & 19, 1995	1	Government Inspection by G. Headley.		Nothing useful	
MP00157		geotechnical	Inspection report	Geotechnical Inspection - Response	George Headley		Oct. 11 & 19, 1995	1	Company response to government inspection.		Same document as M00156	
MP00158		geotechnical	Inspection report	Geotechnical Inspection Report	George Headley		July 9 & 13, 1996	1	Government Inspection by G. Headley.		Nothing useful	
MP00159		geotechnical	Inspection report	Geotechnical Inspection Report	George Headley		26-Aug-96	2	Government Inspection by G. Headley.		Comment on embankment fill that was placed to approximately 2-3 meters above the foundation. Soil wet-of-optimum had been placed and was being dried on the dam. Wet weather, wet borrow materials, and a limted soil variety has slowed construction. A redesign of the starter dam and drainage was being carried out. (probably nothing useful)	
MP00160		geotechnical	Inspection report	Geotechnical Inspection Report	George Headley		Sept. 27 & 28, 1996	2	Government Inspection by G. Headley.		Nothing useful	
MP00161		geotechnical	Inspection report	Report of Geotechnical Inspector - May 27, 1997	George Headley		05-Jun-97	2	Government Inspection by G. Headley.		Seepage was observed on the embankment and at the toe at the south corner. Tension cracking, soil sloughing, toe erosion, ponded water and soft soils were observed in various parts of the soil spoil below the embankment toe. Recommendation to regrade or remove the loose soils, install drainage, and inspect this area periodically to ensure stability of the main embankment.	
MP00162		geotechnical	Inspection report	Report of Geotechnical Inspector - Response	George Headley		21-Jul-97	2	Company response to government inspection.		Same as MP00161	
MP00163		geotechnical	Inspection report	Report of Geotechnical Inspector - June 4, 1998	George Headley		11-Jun-98	3	Government Inspection by G. Headley.		Minor tension cracking was observed over a 100 m long by 5 m wide segmet along the upstream crest side. Settlement of fine tailings between spigotting locations caused the cracking. KP stated that there wold be no effect on core stability or permeability performance.	
MP00164		geotechnical	Inspection report	Report of Geotechnical Inspector - Response	George Headley		June 11 & 25, 1998	2	Company response to government inspection.		Same as MP00163	
MP00165		geotechnical	Letter, diagram	Wood Debris Along Upstream Face of Tailings Embankment	Ken Brouwer	Eric Leneve, Mt. Polley Mining Corp.	07-Aug-98	3	KP response to Mt. Polley re MEM concern with woody debris against dam.		Concern about wood debris along the dam face that could result in settlement at a future date, and/ or create a higher permeability zone. (nothing useful)	
MP00166		geotechnical	Inspection report	Geotechnical Inspection Report - Mount Polley Mine	George Headley	George Wight, Mt. Polley Mining Corp.	12-Jul-99	4	Government Inspection by G. Headley.		Waste dump 20,000 tonne failure of the south side of the dump was inspected. The failure was caused by wet weak foundation soils and excess pore pressures in a swampy flat area. These conditions appear to exist over much of the area south of the dump (wet ground and willows are obvious indicators). Therefore potential failure conditions will continue for the foreseeable future. No wire extensometers were in place or being read.	
MP00167		geotechnical	Inspection report	Geotechnical Inspection Report - Mount Polley Mine	George Headley	George Wight, Mt. Polley Mining Corp.	11-Sep-00	3	Government Inspection by G. Headley.		Good comments aboutprocedures for advancing the dump across weak foundation locations.	

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MP00168		geotechnical	Inspection report	Inspection Report dated September 11, 2000	George Wight	Ministry of Energy and Mines	03-Oct-00	2	Company response to government inspection.		same as MP00167	
MP00169		geotechnical	Inspection report	Report of Geotechnical Inspector Date of Inspection - September 24, 2012	Michael Cullen, Energy, Mines & Natural Gas		03-Oct-12	9	Government inspection by M. Cullen.		General observations and comments about C2, Boundary zone pits and TSF. Photos. Stage 8.	
MP00170		geotechnical	Inspection report	Geotechnical Inspection Report - Mount Polley Mine April 25, 2001 Response at 218)	Chris Carr, EM	George Wight, Mt. Polley Mining Corp.	03-May-01	3	Government inspection by C. Carr.		Request to redesign and construct accordingly Wst Dumps due to the failure of the proposed west dumps towards Bootjack Lake. Request to install two slope inclinometers at the downstream toe buttress to monitor potential dam and/or foundation movement. The slope inclinometers should extend through the underlying glaciolacustrine sediments.	
MP00171		geotechnical	Inspection report	Mount Polley Mine - Geotechnical Site Visit April 12, 2012	George Warnock	Luke Moger - Mt. Polley Mining Corp.	13-Apr-12	2	Geotechnical site visit by G. Warnock.		Nothing useful	
MP00172		geotechnical	Inspection report	Mine Inspection February 3, 2005 Property Mount Polley Mine	Chris Carr, EM	Howard Bradley, Mt. Polley Mining Corp.	17-Feb-05	6	Government inspection by C. Carr.		Nothing useful	
MP00173		geotechnical	Inspection report	Mine Inspection February 3, 2005 Property Mount Polley Mine - response	Howard Bradley, Mt. Polley Mining Corp.	Chris Carr	10-Mar-04	2	Company response to government inspection.		Nothing useful	
MP00174		geotechnical	Inspection report	Mine Inspection October 13, 2005 Property Mount Polley Mine	Nick Rose	Howard Bradley, Mt. Polley Mining Corp.	25-Oct-05	4	Government inspection by N. Rose		Comment about not following recommended design by Golder Associates (Oct 19,2004 report) during Northeast Zone Waste Dumps and Haulage Road construction. An overburden soil stockile showed signs of instability on the northern portion of the Northeast Zone Dump. Material from the stockpile have slumped down-slope of the TSF Haulage Road.	
MP00175		geotechnical	Inspection report	Mine Inspection Wednesday, August 30, 2006 Property Mount Polley Mine (response at 216)	Nick Rose	Tim Fisch	22-Sep-06	3	Government inspection by N. Rose		Nothing useful	
MP00176		geotechnical	email	Inspection Report for August 30, 2006 Geotechnical Inspection - Response	Nick Rose	Chris Carr	15-Dec-06	4	Company response to government inspection.		Nothing useful	
MP00177		geotechnical	Inspection report	Mine Inspection Tuesday, July 31, 2007 Property Mount Polley Mine	Nick Rose	Tim Fisch	13-Sep-07	3	Government inspection by N. Rose		Nothing useful	
MP00178		geotechnical	Insepction report	Mount Polley Geotechnical Inspection - July 31, 2007 Response	Tim Fisch	Nick Rose, MEM	02-Oct-07	2	Company response to government inspection.		Nothing useful	
MP00179		geotechnical	Letter	Tailings Storage Facility, 2007 Annual Inspection	Chris Carr, EM	General Manager, Mount Polley Mining	22-Apr-08	1	Review of 2007 Annual Safety Inspection.		Comment about the tailings pipline rupture and release of tailings that occurred on Oct 23, 2007. Additional piezometers were to be installed during Stage 6 dam construction to replace damaged or destroyed instrumentation on the dam embankments.	
MP00180		geotechnical	Letter and attachments	Your review of the 2007 Annual Inspection by KP - Response	Tim Fisch	Chris Carr	05-Jul-08	4	Response to MEM review of 2007 Annual Dam Safety Inspection.		KP says that 22 foundation piezometers at the Main Embankment were damaged during the Stage 4 construction program. Only 9 piezometers were functioning at that time. Artesian conditions were present in three of the nine foundation piezometers installed under the Main Embankment. No unexpected pore pressure increases observed. Planning to install additional piezometers in the tailings mass, fill materials, foundation and drain materials during the St 6 construction program.	
MP00181		geotechnical	Inspection report	Mine Inspection June 7, 2008 Property Mount Polley Mine	Derek Apel, EMPR	Tim Fisch	07-Jul-08	6	Government inspection by D. Apel.		Comment about tailings line break and release of tailings. It is considered to be a potential dangerous occurrence. Request to remove rock inclusions larger than 4 inches prior to compaction from the till used in the construction of the dam core (Zone S). Rock boulders over 12 inch. No beach was observed in the vicinity of the SE corner of the main embankment. Request to re-establish it to meet the design objectives.	

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MP00182		geotechnical	Inspection report	Date of Inspection - September 13, 2013	Michael Cullen, Energy, Mines & Natural Gas	Dale Reimer, Mount Polley Mining Corp.	13-Sep-13	8	Government inspection by M. Cullen.		An inspection around the dams revealed no indicators of instability and no significant seepage on the face or toe of the dams. Stage 9. Some photos of the tension crack and slump on south west crest of Wight Pit.	
MP00183		geotechnical	Email	Mount Polley Mine Tailings Storage Facility Stage 9 2013 As-Built and Annual Review Report	Luke Moger, Mt. Polley Mining Corp.	George Warnock	14-Sep-14	2	Notification of sending Stage 9 Asbuild and 2013 Annual Dam Safety inspection via hightail.com.		Nothing useful	
MP00184		geotechnical	Email	Mount Polley Mine Tailings Storage Facility Stage 9 2013 As-Built and Annual Review Report	Heather Narynski	Luke Moger - Mt. Polley Mining Corp.	31-Mar-14	2	Acknowledge receipt of Stage 9 Asbuilt and 2013 Annual Dam Safety Inspection and request to address any recommendations made by consultants.		Nothing useful	
MP00185		geotechnical	Email	2013 Construction Monitoring Manual + 2012 As-Built + 2012 Annual Review	Luke Moger, Mt. Polley Mining Corp.	George Warnock	23-Apr-13	2	Email chain between government and company regarding 2013 Constuction Monitoring Manual (ie. Application for Stage 9 construction) and response to request for 2012 As-built and 2012 annual Dam Safety Inspection.		A comment about toe drain monitoring in response to a recommendation from the 2013 Annual Review. The work had commenced on a new sampling design structure. (probably nothing useful)	
MP00186		geotechnical	Email	M-200 Amendment Approving Tailings Storage Facility Stage 9 Construction May 2013 draft	Heather Narynski	Diane Howe	30-Jul-13	3	Draft permit conditions for Stage 9 dam construction.		Comment about dam configuration change including a "toe berm" as well as shift to "center-line" construction. Additional permit condition for an as-built report.	
MP00187		geotechnical	Email	Mt. Polley - Stage 9 Dam Raise Application	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	31-Jul-13	2	Email chain between government re receipt of 2013 OMS Manual and comments on stability analysis for main embankment. Government requests commitment from Mount Polley to move toward increasing factors of safety for the main embankment.		Quote " The stability analyses indicate that the FOS for the "Main Embankment" only marginally achieves the short term CDA design criteria of 1.3. This FOS includes modifications incorporating a centerline design abov El. 963.5m and the construction of a waste rock toe buttress to El. 925.0m. Previous correspondence from MEM has highlighted the difference in interpretation of the CDA Guidelines. MEM required a commitment from MP that they are moving toward increasing these FOS for the main embankment as part of subsequent dam raises in an effort to move toward achieving a long term FOS equal to 1.5."	
MP00188		geotechnical	Email	Mt. Polley TSF dam freeboard	Heather Narynski	George Warnock	27-May-14	2	May 27 2014 TSF freeboard incident and followup.		Important email about "overtopping" the dam that occurred on Saturday, Mai 24 2014 as a result of a large rainfall event (approx 24 mm in 24 hrs).	
MP00189		geotechnical	Email	Advice of Geotechnical Incident Form	Heather Narynski	Luke Moger - Mt. Polley Mining Corp.	27-May-14	1	May 27 2014 TSF freeboard incident and followup.		Request to comlete geotechnical incident form. The event shold be classified as per Section 1.7.3 (2) of the Code which includes "cracking or subsidence of a dam or impoundment dike, unexpected seepage or appearance of springs on the outer face of a dam or dike, any of which may adversely affect the intergrity of such structures."	
MP00190		geotechnical	Email	Advice of Geotechnical Incident Form	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	28-May-14	2	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00191		geotechnical	Email	Mount Polley Mine Short Term Water Treatment/Storage Facility Design	Luke Moger, Mt. Polley Mining Corp.	Diane H., Tania D., Jennifer McConnachie, Heather N., George W., Shelley Metcalfe, Gabriele Matscha	29-May-14	1	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00192		geotechnical	Letter with attached AMEC's report	MPMP Geotechnical Incident Memo May 30	Dmitri Ostritchenko, AMEC Environment & Infrastructure	Heather Narynski	02-Jun-14	8	May 27 2014 TSF freeboard incident and followup.		AMEC recommended to place additional fine grained core (till) material in the affected area upstream of the core to maintain freeboard; divert inflow water to the TSF and start removing water from the TSF to re-establish the required 0.9 m mi freeboard as outlined in the OMS manual; increase instrumentation monitoring frequencey; maintaing ongoing surveilance of the localized low spots along the TSF core and establish upstream berms to provide temporary required freeboard for the TSF, etc.	

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MP00193		geotechnical	Email	Advice of Geotechnical Incident Form	Michael Cullen, Energy, Mines & Natural Gas	George Warnock	03-Jun-14	2	May 27 2014 TSF freeboard incident and followup.		Mention about the plan to complete work to the 970 m el under the supervision of AMEC. The work was approved under tha Phase 9 amendment last year, but was halted in the fall due to inclement weather. Plan to apply for a permit amendment to allow for construction to the 972.5 m el - the work will be supervised by BGC. BGC will be undertakng design for raises to the 982m, and later to the ultimate el (991-100 m).	
MP00194		geotechnical	Email	Advice of Geotechnical Incident Form - Follow-up (Design Plan)	George Warnock	Luke Moger - Mt. Polley Mining Corp.	06-Jun-14	1	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00195		geotechnical	Letter	Advice of Geotechnical Incident Form Follow-up (Design Plan)	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	06-Jun-14	4	May 27 2014 TSF freeboard incident and followup.		Summary of taken measures water had been routed in the Cariboo Pit; increase in TSF pond eleations; all low areas of Zone S (till) had been identified and remedied; upstream arouring of Zone S; upstream Zone U berms to provide wave run-up protection (work continues on the remaining area along the Main Embankment).	
MP00196		geotechnical	Letter	Advice of Geotechnical Incident Form Follow-up (Design Plan - Update #1	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	13-Jun-14	2	May 27 2014 TSF freeboard incident and followup.		June 12 ,2014 update - completion of the berm along the Main Embankment (app. 300 m) and for the Perimeter Embankment (app 2,200 m) is 1.2 m (El. 967.6m). Upstream armouring of Zone S (till) material is present around the entire embankment.	
MP00197		geotechnical	Email	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #1	Heather Narynski	Luke Moger - Mt. Polley Mining Corp.	18-Jun-14	2	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00198		geotechnical	Letter	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #2	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	20-Jun-14	2	May 27 2014 TSF freeboard incident and followup.		Update 2, June 19, 2014 - min freboard for the remainder of the Main Emb (825 m) and for the Perimeter Embankment (2200) is 1.2m (El. 967.6 m).	
MP00199		geotechnical	Emails	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #2	Michael Cullen, Energy, Mines & Natural Gas	Luke Moger - Mt. Polley Mining Corp.	20-Jun-14	3	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00200		geotechnical	Letter	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	27-Jun-14	3	May 27 2014 TSF freeboard incident and followup.		Update 2, June 26, 2014 - min freboard is 0.9m, for a length of 1,150m along the South Embankment; min freeeboard for the remainder of the Perimeter Embankment (app. 200 m) is 1.2m (El. 967.6m) - the rest of the dam (app3200m) is minimum 1.5m (El. 967.9m).	
MP00201		geotechnical	Emails	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3	George Warnock	Luke Moger - Mt. Polley Mining Corp.	27-Jun-14	3	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00202		geotechnical	Letter	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #4	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	04-Jul-14	3	May 27 2014 TSF freeboard incident and followup.		Update 4 - July 3, 2014 - TSF pond elevation has risen to El. 966.6 m; min freeboard is 1.0 m, for a length of 100 m along the Main Embankment; min freeboard for the remainder of the embankments is 1.3m.	
MP00203		geotechnical	Emails	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Update #3	Heather Narynski	Luke Moger - Mt. Polley Mining Corp.	10-Jul-14	4	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00204		geotechnical	Letter	Advice of Geotechnical Incident Form Follow-up (Design Plan) - Water Management Plan	Luke Moger, Mt. Polley Mining Corp.	Heather Narynski	18-Jul-14	2	May 27 2014 TSF freeboard incident and followup.		The normal operating level freeboard (1.3m) was met for 2,450 m of the TSF, and exceeded (by minimum of 0.6m) for the remaining 1,950m of the TSF. Construction was ongoing alng the Perimeter Embankment to establish increased freeboard (0.3m lift) to be followed by the Main Embankment similarly. Planned to complete work by July 28th.	

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MP00205		geotechnical	Email	Mount Polley Mine - Water Management Plan	Heather Narynski	Luke Moger - Mt. Polley Mining Corp.	18-Jul-14	1	May 27 2014 TSF freeboard incident and followup.		Nothing useful	
MP00206		geotechnical	report	Mount Polley Mines, Mine Emergency Response Plan 2010	Mt. Polley		2010	109	Emergency response plan.		Nothing useful	
MP00207		geotechnical	report	Mount Polley Mine Tailings Storage Facility Operation, Maintenance and Surveillance Manual	Mt. Polley		30-Mar-10	133	2010 OMS manual.		Figures TSF Bathymetric Survey, groundwater monitoring well locations, inspection log, instrumentation data sheet, as-built drawings Stage 6A, selected photos.	
MP00208		geotechnical	report	Mount Polley Mine Tailings Storage Facility Stage 10 Raise Design Report	BGC		25-Jul-14	117	Stage 10 dam raise design. **Note NOT reviewed or permitted.	p	Table 5-1 two inclinometers in the deepest section of the Main Embankment indicate significant movement to date occurred in SI01-02 at Sta 1+930 m, where cumulative shear strain of about 0.7% was monitored for a 3 m depth interval within the glaciolacustrine unit. The other inclinometer indicated a zone of discrete shear (SI06-03) located about 105 m to the northwest of SI06-01. The rcorded shear strain was about 0.8 % cumulative shear strain. Peak shear strength was used as the basis for stability analyses (p. 42). Quote " no higher end (eg triaxial) testing was contemplated. DSS testing of glaciolacustrine samples may be undertaken if samples that are predominantly clay retrieved". Recommend to compensate the lower ratio of the Zone S till core width to the hydraulic head by the following actions establishing and maintaing wide above-water beaches; design of the downstream shell to provide sufficient lateral restraint (76). Detailed drawings Stage 10.	
MP00209		geotechnical	letter	Tailings Storage Facility – Stage 10 (2014 Construction)	Luke Moger	George Warnock	28-Jul-14	1	Transmittal letter for submission of Stage 10 dam design to Ministry of Energy and Mines.		Request for permission to increase elevation to 972.5m during Stage 10. (Nothing interesting)	
MP00210		geotechnical	image	Satellite image pre tailings dam breach on July 29 2014	Nasa		29-Jul-14	1	http //earthobservatory.nasa.gov/IOTD/view.php?id 84202&src fb		Satellite image pre tailings dam breach on July 29 2014	
MP00211		geotechnical	image	Satellite image post-tailings dam breach on August 5 2014	Nasa		05-Aug-14	1	http //earthobservatory.nasa.gov/IOTD/view.php?id 84202&src fb		Satellite image post-tailings dam breach on August 5 2014	
MP00212		geotechnical	presentation	Mount Polley Mine Short Term Water Treatment/TSF Design, Joint MEM/MOE Presentation	Imperial Metals		02-Jun-14	38	Powerpoint presentation to government agencies regarding short and long term water management strategies for the TSF.		General information. Airphotos.	
MP00213		geotechnical	permits	Table of all Mines Act permits and permit amendments	BC Ministry of Energy and Mines		05-Aug-14	1	Table of all Mines Act permit and permit amendments for Mount Polley Mine		Nothing useful	
MP00214		geotechnical	permits	Complete Mines Act permit M-200 and amendments for Mount Polley Mine	BC Ministry of Energy and Mines		24-Jun-14	211	Contains complete permit and all amendments.		Contains complete permit and all amendments.	
MP00215		geotechnical	permits	Select Mines Act permits for TSF geotechnical design, construction, operation.	BC Ministry of Energy and Mines		09-Aug-13	80	A subset of permits related to approving the geotechnical designs of the TSF facility.		A subset of permits related to approving the geotechnical designs of the TSF facility.	
MP00216		geotechnical	Inspection report	Mount Polley Geotechnical Inspection - August 30, 2006	Tim Fisch	Chris Carr	05-Oct-06	3	Response to inspection report by N. Rose.		Nothing useful	
MP00217		geotechnical	report	Mount Polley Mine Tailings Storage Facility Stage 8/8A 2012 As-Built Report	Amec		27-Mar-13	122	2012 Construction As-built for Stage 8/8A.		The design of the Stage 8 raise has not changed from the previously approved and constructed Stage 7 raise. The design of The Stage 8A raise included the modification from the modified (upstream) centerline design to a centerline design above El. 963.5m (drawings 2012AB.02-2012AB.06). In late 2012, reading from inclinometer located downstream of the Perimeter embankment (SI11-04) showed compression failure deformation consistent with settlement at depths from ground surface to 15 m below ground surface. Drawings, photos, summary of lab results.	
MP00218		geotechnical	letter	Geotechnical Inspection Report - Mt. Polley Mine April 25, 2001	George Wight, Mt. Polley Mining Corp.	Chris Carr	21-May-01	3	Response to Chris Carr 2011 Inspection report.		Comment about failure of west dumps and request to be designed and constructed accordingly. Recommendation to strip weak soils and avoid of steep terrain. Request to install two slope inclinometers at the downstream toe buttress to monitor potential dam and/or foundation movement.	
MP00219		geotechnical	letter	CPT Investigations @ Main Embankment	Knight Piesold		30-Jul-96			23-Sep-96		
MP00220		geotechnical	letter	CPT Investigation	Knight Piesold		29-Jul-96			23-Sep-96		
MP00221		geotechnical	email	Mount Polley Mine - 2012 Tailings Construction	George Warnock	Diane Howe	27-Jun-12	8	MEM review of Stage 8 and draft permit conditions.		Nothing useful	

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MP00222		geotechnical	email	Mount Polley TSF Stage 6 Permit	Chris Carr	Ron Martel	10-Dec-07	1	Request for cross sections of stability analyses for dam raise to 958m, slope inclinometer data and results of shear testing on lacustrine soils.		Request to provide the following information cross-sections showing stability analyses for dam raise to elevation 958m; slope inclinometer depth vs cumulative displacement plots showing cumulative displacement from date of installation; results of direct shear testing on lacustrine soils, if these test have been completed.	
MP00223		geotechnical	email	Mount Polley Mine - 2012 Tailings Construction [Additional Raise]	George Warnock	Diane Howe	19-Sep-12	4	MEM review of Stage 8A and draft permit conditions.		MEM review of Stage 8A and draft permit conditions.	
MP00224		geotechnical	email	Mount Polley Mine - 2012 Tailings Construction [Additional Raise]	George Warnock	Diane Howe	19-Sep-12	2	MEM discussions with company re Stage 8A dam raise.		Comment from the Ministry of Mines "that AMEC has interpreted Table 6-2 from Dam Safety Guidelines somewhat differently thanI have seen in the past. This table recommends a minimum factor of safety of 1.3 at the end of construction and "before reservoir filling" and a factor of safety of 1.5 at the "normal reservoir level." AMEC has interpreted the construction period as the entire pre-closure period, and this is open to debate."	
MP00225		geotechnical	letter	Mount Polley Stage 6 TSF design	Knight Piesold	Chris Carr	19-Dec-07	13	Response to MEM request for additional information and analysis to support Stage 6 dam raise.	19-Feb-08	Comment from the Ministry of Mines "that AMEC has interpreted Table 6-2 from Dam Safety Guidelines somewhat differently thanI have seen in the past. This table recommends a minimum factor of safety of 1.3 at the end of construction and "before reservoir filling" and a factor of safety of 1.5 at the "normal reservoir level." AMEC has interpreted the construction period as the entire pre-closure period, and this is open to debate."	
MP00226		geotechnical	letter	Stage 6 Design Report for the Tailings Storage Facility - Mount Polley Mine	Ron Martel	EMPR	04-Jul-07	1	Cover letter of application for Stage 6 dam raise.	19-Feb-08	Nothing useful	
MP00227		geotechnical	report	M-200 Mine Permit Amendment Application (Water Treatment Plant)	Luke Moger	Diane Howe	29-Jul-14	portfolio	Application for water treatment. Received by MEM, but not reviewed or permitted.	not reviewed or permitted	Nothing useful	
MP00228		geotechnical	table	2013 Site Water Balance	Mt. Polley		21-May-13	xls	2013 site water balance.	09-Aug-13	2013 site water balance.	
MP00229		geotechnical	report	Mine Permit Amendment Application	Tim Fisch	Diane Howe	01-Nov-10	portfolio	Application for mining of the C2 and Boundary Zone Pits.	15-Aug-11	Application for mining of the C2 and Boundary Zone Pits.	
MP00230		geotechnical	email	2013 Construction Monitoring Manual + 2012 As-Built + 2012 Annual Review	George Warnock	Heather Narynski	29-Apr-13	2	Email trail including company requesting 2012 As-built and 2012 Annual review.		Nothing useful	
MP00231		geotechnical	email	Teck - CMO 2012 Annual Pit Slope Stability review	George Warnock	Heather Narynski	30-Apr-13	2	Internal email noting request to company for OMS and water balance report.		Nothing useful	
MP00232		geotechnical	email	Request OMS and Water Balance Status	Luke Moger	Heather Narynski	08-May-13	1	Response from company to MEM request for OMS manual and water balance.		Nothing useful	
MP00233		geotechnical	email	Request OMS and Water Balance Status	Heather Narynski	Luke Moger	08-May-13	2	Response from MEM to company email re OMS and water balance.		Nothing useful	
MP00234		geotechnical	email	Request OMS and Water Balance Status	Heather Narynski	Luke Moger	17-May-13	2	MEM additional request for OMS and water balance information to support Stage 9 dam raise.		Nothing useful	
MP00235		geotechnical	email	Request OMS and Water Balance Status	Luke Moger	Heather Narynski	21-May-13	1	Providing updated water balance to MEM.		Nothing useful	
MP00236		geotechnical	email	Mt Polley/Haul Road and PAG Dump Amendment	Heather Narynski	George Warnock	30-May-13	3	Internal MEM email discussing lack of updated OMS manual.		Nothing useful	
MP00237		geotechnical	email	Mt Polley/Haul Road and PAG Dump Amendment	George Warnock	Heather Narynski	30-May-13	3	Internal MEM email discussing lack of updated OMS manual.		Internal MEM email discussing lack of updated OMS manual.	
MP00238		geotechnical	email	Request OMS	Luke Moger	Heather Narynski	29-Jul-13	2	Email notification of OMS manual provided.		Nothing useful	
MP00239		geotechnical	email	Mount Polley Mine Tailings Storage Facility Stage 9 2013 As-Built and Annual Review Report	Luke Moger	George Warnock	01-Apr-14	2	Email notification of submission on Stage 9 As-built and Annual Dam Safety Inspection.		Nothing useful	
MP00240		geotechnical	email	Mount Polley Mine Tailings Facility Stage 9 2013 As-Built and Annual Review Report	Heather Narynski	Luke Moger	31-Mar-14	2	Acknowledge download of 2013 TSF As-built and Annual Review Report.		Nothing useful	
MP00241		geotechnical	letter	Tailings Storage Facility, 2007 Annual Inspection	Chris Carr	Mt. Polley	22-Apr-08	1	Ministry review of 2007 Annual inspection by Knight Piesold.		Comment about tailings pipeline rupture and release of tailings that occurred on Oct 23, 2007. Request to confirm that the condition of the tailings pipeline has been checked and tests completed to ensure that the pipeline meets operating requirements. Note about installing additional piezometers during Stage 6 to replace damaged or destroyed instrumentation on the dam embankments.	

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MP00242		geotechnical	letter	Untitled	Chris Carr	Tim Fisch	16-Mar-10	1	Ministry review of 2008 Annual inspection by Knight Piesold.		Ministry requires to confirm there would be no significant loss or deterioration of important fish or wildlife habitat in the event of a tailings dam failure and release of tailings downstream and provide basis for this assessment; 1.4 m freeboard is maintained in the tailings impoundment for flood control, update tailings impoundment water balance, confirm that additional slope inclinometers have been installed or provide schedule, submit copy of updated OMS manual for the tailings facility.	
MP00243		geotechnical	table	Key Design Reports and Engineers Involved with Mount Polley TSF	MEM		25-Aug-15	xls	Table listing key TSF design reports and engineers involded; also includes some construction monitoring reports.		Table listing key TSF design reports and engineers involded; also includes some construction monitoring reports.	
MP10000		geotechnical	logs	Construction Daily Reports (MPMC) April 2013 to August 2014	Mt. Polley		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Construction Daily Reports (MPMC) April 2013 to August 2014	
MP10001		geotechnical	logs	TSF Weekly Reports (MPMC) January 2014 to August 2014	Mt. Polley		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		TSF Weekly Reports (MPMC) January 2014 to August 2014	
MP10002		geotechnical	photos	Construction Photographs - chainage 41+00 to 45+00	Mt. Polley		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Construction Photographs - chainage 41+00 to 45+00	
MP10003		geotechnical	report	1990 Feasibility Study - Geotechnical and Tailings Disposal	Wright Engineers Limited		21-Aug-14	173	Provided by Mt. Polley post breach.		Drawings, logs, permeability test results, settling test on tailings, grain-size distributions, discontinuity data and point load test restults.	
MP10004		geotechnical	report	1995 Knight Piesold TSF Design Report (original design)	Knight Piesold		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		extracted and reviewed	
MP10005		geotechnical	report	1996 GS Monitoring Installation (KP)	Knight Piesold		21-Aug-14	49	Provided by Mt. Polley post breach.		Drillholelogs; gw well completion details.	
MP10006		geotechnical	report	Instrumentation Triggers (2013 AMEC Construction Manual)	Amec		20-Aug-14	1	Provided by Mt. Polley post breach.		Nothing useful	
MP10007		geotechnical	report	1997 Geotechnical Review Darinage Aspects Main Embankment Dam (MAJM)	MAJM		21-Aug-14	41	Provided by Mt. Polley post breach.		Conclusions and recommendations on drainage aspects main embankment dam. Photos.	
MP10008		geotechnical	drawings	1997 Geological Investigation Drawings (KP)	Knight Piesold		21-Aug-14	12	Provided by Mt. Polley post breach.		TSF. Geological investigation. Drawings plan and profiles.	
MP10009		geotechnical	report	1997 TSF Updated Design Reprot (KP)	Knight Piesold		21-Aug-14	294	Provided by Mt. Polley post breach.		Summary of lab tests (grain size, Atterberg limits, CU triaxial), CPT, drillhole logs, precipitation, drawings, instrumentation.	
MP10010		geotechnical	data	Instrumentation Data (Piezo and SI)	Amec		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Extracted in folder MP10010_Instrumentation Data 2014 Pezometer Readings; 2014 SI readings; historicap (up to 2014) Piezometer readings; startup - 2014 SI Readings.	
MP10011		geotechnical	report	1996 KP Geotech Investigations	Knight Piesold		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Extracted files in folder MP10011 GeotechInvestigations. Tables with precipitation; report on geotech. Investigations and design of open pits and waste dumps (July 5, 1996); discontinuity data nad point load test results; test pit logs; maps; drainge.	
MP10012		geotechnical	report	2011 TSF Site Investigation Report (AMEC)	Amec		20-Aug-14	138	Provided by Mt. Polley post breach.		Drawings, grain size distribution, drill hole investigation logs, photos, vibrating wire pressure transducer calibration report, instrumentation readings, monitoring well driill hole logs.	
MP10013		geotechnical	report	Dam Breach Report (Shift Electrician)	Mt. Polley		20-Aug-14	1	Provided by Mt. Polley post breach.		Nothing useful	
MP10014		geotechnical	data	QA (Offsite Sampling Tracking Table)	Mt. Polley		20-Aug-14	xls	Provided by Mt. Polley post breach.		QA (Offsite Sampling Tracking Table)	
MP10015		geotechnical	drawings	Stage 9 IFC Drawings (Including Materials Specifications)	Amec		20-Aug-14	14	Provided by Mt. Polley post breach.		Stage 9 drawings.	
MP10016		geotechnical	data	Stage 9 AMEC Site Visits	Mt. Polley		20-Aug-14	xls	Provided by Mt. Polley post breach.		Nothing useful	
MP10017		geotechnical	report	MO 19. Sand Cell Construction - Communication procedure Rev0	Mt. Polley		22-Aug-14	2	Provided by Mt. Polley post breach.		Nothing useful	
MP10018		geotechnical	drawing	August 3, 2014 TSF Configuration	Mt. Polley		20-Aug-14	1	Aerial Photo; Provided by Mt. Polley post breach.		Aerial Photo; Provided by Mt. Polley post breach.	
MP10019		geotechnical	logs	Daily Contractor Plans and Contact Information	Mt. Polley		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Extracted in MP10019 folder. Nothing useful.	
MP10020		geotechnical	logs	Daily TSF Inspector Reports	Mt. Polley		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Nothing useful	
MP10021		geotechnical	logs	Daily TSF Mine Operations Logs and Contact Information	Mt. Polley		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Extracted in MP10021. Nothing useful.	
MP10022		geotechnical	logs	Shifter Logbooks	Mt. Polley		22-Aug-14	portfolio	Provided by Mt. Polley post breach.		Joshua Lammi reported that at 4.05 on Aug.4, 2014 "performed checks on the Main seeepage pond and the South seepage pond. South seepage had approximately 1.5 meters of freeboard. The main is discharging into the environment. While checking the main seepage pond I noticed that the gate behind the holding tank adfacent to the pond was unlocked - thus bypassing the locked gate at the ABR."	
MP10023		geotechnical	data	TSF Toe Drain Flow Data 07 10 2014	Mt. Polley		20-Aug-14	xls	Provided by Mt. Polley post breach.		Flow rates mostly in Main embankment up to July 8, 2014.	
MP10024		geotechnical	table	MEM Electronic File Transfer Request - 2014 08 20	MEM/Mt. Polley		21-Aug-14	1	Provided by Mt. Polley post breach.		Nothing useful.	
MP10025		geotechnical	data	Inclinometer Raw Data	Mt. Polley		22-Aug-14	folder	Raw data, requires data reader. Provided by Mt. Polley post breach.			

EMAILS_Part 7-1 Page 333 of 500

Mount Polley Mine MEM File Documentation

Document #	Box #	Discipline	Type	Title	Author	To	date	canned pag	description	mit/amendment	Information of interest (KCB)	Information of interest (HM)
MP10026		geotechnical	data	Piezometer Raw Data	Mt. Polley		22-Aug-14	folder	Raw data, requires data reader. Provided by Mt. Polley post breach.			
MP10027		geotechnical	data	Zone F - 2014 Filter Sampling	Mt. Polley		20-Aug-14	xls	Provided by Mt. Polley post breach.		Moisture content, sieve analyses for samples in zone F.	
MP10028		geotechnical	data	Zone F&T - 2014 Oversized Material Tracking Sheet	Mt. Polley		20-Aug-14	xls	Provided by Mt. Polley post breach.		Nothing useful.	
MP10029		geotechnical	data	Zone S - 2014 Nuclear Guage Compaction Test	Mt. Polley		20-Aug-14	xls	Provided by Mt. Polley post breach.		Zone S - 2014 Nuclear Guage Compaction Test	
MP10030		geotechnical	logs	Logs for Tailings Checklist May to August 2014	Mt. Polley		25-Aug-14	portfolio	Provided by Mt. Polley post breach.		Nothing useful.	
MP10031		geotechnical	logs	Dam Breach Report Shifters Log Book Aug 3	Mt. Polley		25-Aug-14	5	Provided by Mt. Polley post breach.		Greg Walter reported that at 2.05 AM on Aug. 3, 2014 that " the Dam might have let go at corner 2. at 2.10 am I arrived at 2 corner and visually confirmed that the Dam embankment at 2 corner had failed and there was a large amount of water and debris flowing toward Polley Lake."	
MP10032		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine Tailings Storage Facility Report on 1999 Construction (Ref. No. 11162/13-5)	Knight Piesold		30-Aug-00	130	1999 Construction Report. Provided by Mt. Polley post breach.		Stage 2 construction report drawings, geological investigation; construction quality assurance control test summary sheets (Zone S, CS and F) and gradation plots; design modifications, photos.	
MP10033		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine, Report on 1999 Annual Inspection (Ref. No. 11162/13-9)	Knight Piesold		16-Oct-00	129	1999 Annual Dam Safety Inspection. Provided by Mt. Polley post breach.		Stage 2C Instrumentation, drawings, photos, summary of drain flow data, drain piezometers monitoring data, photos. The main embankment outlet drains continued to seep slightly. Recommendation to revome saturated loose material on downstream slopes prior to the next phase of construction.	
MP10034		geotechnical	report	Mount Polley Mining Corporation Mount Polley Mine, Tailings Storage Facility Report on 2009 Annual Inspection	Knight Piesold		18-Dec-09	90	2009 Annual Dam Safety Inspection. Provided by Mt. Polley post breach.		Stage 6A. Drawings, maximum artesian head values for embankment foundation piezometers, foundation drain flows, upstream toe drain flows, instrumentation, photographs. "Inclinometer SI01-02 showed slight deviations at an approximate depth of 10 m below ground in the lacustrine silts. This is being closely monitored by MPMS who have increased the monitoring frequency of the inclinometers to weekly. MPMS has also expanded the buttres at the Main Embankment as a result of the measured displacements in SI01-02" (p.17).	
MP10035		geotechnical	letter	Mt. Polley Mine Tailings Facility Optimization Potential - Follow Up from Dam Safety Review	Amec	Ron Martel	23-Feb-07	23	Provided by Mt. Polley post breach.		AMEC is suggesting to reduce the width of the core zone saying that acceptable rule of thumb is to have the core width be a minimum of 30% of the maximum head on the core. Also, asking to consider elimination of the top 1 m of core, above the max pond storage level because impervious core is not required in this upper part of the crest. Amec proposes to use a bituminous liner as core alternatives for the final few raises of the embankment section. Questioning why a buttressing berm has been specified for the closure geometry of the TSF. "Provided that the foundation parameters are consistent with the glacial till reported in the documents to date, there should not be a foundation concern with the existing Main Emb. Dam geometry." Optimization workshop attached.	
MP10036		geotechnical	memo	Mount Polley Tailings Storage Facility, Stage 9 2013 Construction Monitoring Manual Clarification (Zone S Compaction Specifications)	Laura Wiebe	Luke Moger	06-Jun-13	1	Provided by Mt. Polley post breach. Detailed compaction specifications for till (Zone S).		Nothing useful.	

From:	Howe, Diane J MEM:EX
To:	Demchuk, Tania MEM:EX; Hemphill, Naomi MEM:EX
Cc:	Hoffman, Al MEM:EX; Warnock, George MEM:EX; Kuppers, Haley MEM:EX
Subject:	FW: Weekly Tailings Breach Monitoring Update - October 10, 2014
Date:	Friday, October 10, 2014 3:09:15 PM
Attachments:	Weekly Monitoring Report_October 10_Final.pdf 621717-005_20141008.pdf Tables_SW_September15+.pdf Turbidity Profile Dwg 621717-001 Oct 1 to 7.pdf Turbidity Profiles_621717-002.pdf Appendix A QAQC Flow Chart.pdf image001.png

Hi all,

No calls Friday (nor Monday Tania). This is the latest update from the mine.

Regards, Diane

Diane Howe
Deputy Chief Inspector, Reclamation and Permitting
Ministry of Energy and Mines
Victoria, BC
(250) 952-0183

From: Katie McMahen [mailto:kmcmahen@mountpolley.com]
Sent: Friday, October 10, 2014 2:49 PM
To: Bunce, Hubert ENV:EX
Cc: Zacharias-Homer, Christa ENV:EX; Hoffman, Al MEM:EX; Jack Love; Dale Reimer; Colleen Hughes; 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; Don Parsons; 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)'; Weir, David J FLNR:EX; Fenwick, Leigh-Ann ENV:EX; Langlin@imperialmetals.com; Halls, Lori D ENV:EX; Alethea Andy
Subject: RE: Weekly Tailings Breach Monitoring Update - October 10, 2014

Good afternoon Hubert,

Please find attached the weekly environmental monitoring report for the week of October 1 – 7, 2014.

Best regards,

Katie McMahen, P. Ag

Environmental Technologist
Mount Polley Mining Corporation
Phone: (250) 790-2215 ext. 2120

Email: kmcmahen@mountpolley.com

Mount Polley Mining Corporation

an Imperial Metals company

Box 12 • Likely, BC V0L 1N0 • T 250.790.2215 • F 250.790.2613

October 10, 2014

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

WEEKLY TSF BREACH MONITORING REPORT – WEEK OF OCTOBER 1 – 7, 2014

Water Management

Polley Lake Dewatering	Polley Lake level elevation = 921.96 m Pumping rates from Polley Lake to Hazeltine Creek are now decreasing because the lake level is within its natural range. Maintenance rate pumping will continue to prevent the lake level from increasing until the geotechnical review of the tailings plug is complete.
Breaches	No breaches of the water management system containing water flow from the Tailings Storage Facility (TSF) occurred this week.

Sediment and Erosion Control Measures

Silt Curtain	The silt curtain attached to the log boom at the mouth of Hazeltine Creek continues to remove sediment from the water column. The curtain is in good condition.
Sediment Control Works	Implementation of the Lower Hazeltine Creek Sediment and Erosion Control Plan is underway, with the preparations for the sedimentation ponds, such as surveying, being completed. All work is being supervised by qualified environmental monitors. The new bridges across Hazeltine Creek on the Ditch Road and the Gavin Lake Forest Service Road are complete. The bridges will allow for improved access to lower Hazeltine Creek to carry out sediment control works.

Routine Water Quality Monitoring Program

Drawings 621717-005-P1 through 621717-005-P8 (Figure 5, attached) show locations that have been sampled as part of the water quality monitoring program. The following table is a summary of sampling locations completed as part of the routine water quality monitoring program from October 1 to October 7, 2014. No samples were missed this week; however no sample was taken at HAC-03 due to the flow being extremely low.

Monitoring Program	Frequency	Area	Sample Locations
Routine Water Quality Monitoring	Daily	Quesnel River	QUR-1
		Hazeltine Creek	HAC-01a
	Weekly	Quesnel Lake	QUL-2, QUL-2a, QUL-18, QUL-21, QUL-21a, QUL-22, QUL-23, QUL-31a, QUL-40, QUL-40a, QUL-66, QUL-66a, QUL-87, QUL-119, QUL-zoo-8
		Hazeltine Creek	HAD-01, HAD-02, HAC-03, HAC-05
		Polley Lake	P1, P2, POL-5, POL-6
	2x/week	Quesnel Lake	QUL-20, QUL-79, QUL-112, QUL-120

Event Based Water Quality Monitoring Program

Additional event based samples are collected in response to physical changes in Quesnel Lake (tubidity, conductivity, colour, etc.) due to weather and/or mixing events. The following table is a summary of additional samples that were collected in the we October 1 to 7, 2014 as part of the event based monitoring program.

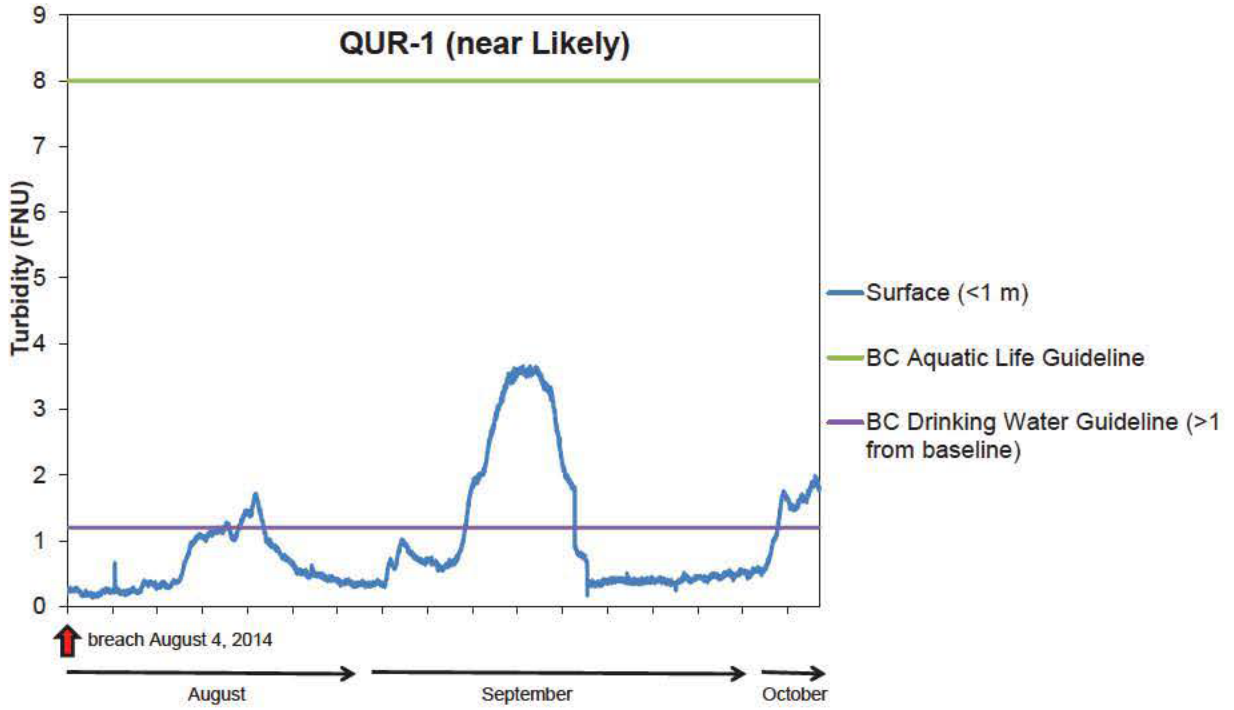
Monitoring Program	Date	Area	Rationale	Sample Locations
Event Based Water Quality Monitoring	October 3, 2014	Quesnel Lake	Additional locations near Likely sampled in response to an increase in turbidity following a severe rain/wind event on October 2, 2014.	QUL-20 QUL-38 (residential location)

Water Chemistry and Turbidity Results

Water chemistry results received in the last two weeks from Quesnel Lake, Polley Lake, and Hazetline Creek are attached (Tables 1a, 3a, and 4a, attached). Summary tables showing exceedances of drinking water and protection of aquatic life guidelines have also been attached for Quesnel Lake, Polley Lake, and Hazeltine Creek in Tables 5 through 7, respectively.

Turbidity data at key monitoring locations in Quesnel Lake collected during the week of October 1 – 7, 2014 are presented on plots shown on Drawing 621717-001 (attached). Data collected since late august have been presented for key location on plots shown on Drawing 617212-002 (attached).

Turbidity results from sample location QUR-1 accessed at the Quesnel River Research Centre are summarized as a time series in the figure below.



Water Toxicity Testing Results

The following tables summarizes finalized data for samples submitted for lethal and sublethal toxicity sampling to date.

Sample ID	Sample Date	Lab Workorder	Test Type	LC25 (% v/v)	LC50 (% v/v)	IC25 (% v/v)	IC50 (% v/v)	Interim or Final?
QUR-1	2014 08 06	14512	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14513	48-h D. magna LC50	>100	>100	n/a	n/a	Final
		14521	7-d C. dubia survival and reproduction	>100	>100	>100	>100	Final
POL-2	2014 08 09	14522	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14523	48-h D. magna LC50	>100	>100	n/a	n/a	Final
		14524	7-d C. dubia survival and reproduction	>100	>100	>100	>100	Final
HAD-1	2014 08 13	14535	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14536	48-h D. magna LC50	>100	>100	n/a	n/a	Final
		14537	7-d C. dubia survival and reproduction	>100	>100	>100	>100	Final
		14538	7-d fathead minnow survival and growth	>100	>100	>100	>100	Final
		14539	72-h P. subcapitata growth inhibition	n/a	n/a	>95.2	>95.2	Final
HAD-1	2014 08 20	14559	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14560	48-h D. magna LC50	>100	>100	n/a	n/a	Final
QUL66-40m	2014 08 21	14567	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14568	48-h D. magna LC50	>100	>100	n/a	n/a	Final
QUL-66-40m-140828	2014 08 28	14600	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14601	48-h D. magna LC50	>100	>100	n/a	n/a	Final
POL-6-14M-140916	2014 09 16	14661	48-h D. magna LC50	>100	>100	>100	>100	Final

QA/QC Summary

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

Summary of Modifications to the Monitoring Program

General

- No samples were collected on October 2, 2014 due to field staff participating in a training workshop for equipment calibration, use, and maintenance.

Polley Lake

- No changes.

Hazeltine Creek

- No changes.

Quesnel Lake

- Sampling at water intakes for residents who have requested that Mount Polley Mining Corporation sample their water sources is almost complete. Outstanding samples have not been completed due to residents not being home or returning phone messages to provide permission to access their properties. Moving forward, residential event-based sampling will be implemented for Likely neighborhoods based on turbidity triggers at specific sampling locations.

- Additional deep sampling locations (QUL-2a, QUL-21a, QUL-31a, QUL-40a, and QUL-66a) continue to be monitored on a weekly basis as part of the Comprehensive Environmental Impact Assessment with the intention of replacing the original shallow locations as part of the core monitoring program. Equipment for measuring in situ parameters to depths of 250m has been obtained, and plans are being made to conduct concurrent profiles with EBA-Tetra Tech for inter-comparison purposes.

Quesnel River

- The ISCO automatic sampler at QUR-1 has been removed due to temperatures dropping below 0° C at night. A grab sample at QUR-1 will continue to be collected daily and the continuous monitoring sonde which logs every 15 minutes will remain in the river during freezing conditions.

ATTACHMENTS

Tables:

Tables 1a, 1b, 1e, 3a, 3b and 4a: Summary of Analytical Results for Quesnel Lake, Polley Lake, and Hazeltine Creek (since September 15, 2014)

Tables 6, 7, and 8: Summary of Exceedances for Quesnel Lake, Polley Lake, and Hazeltine Creek

Drawings:

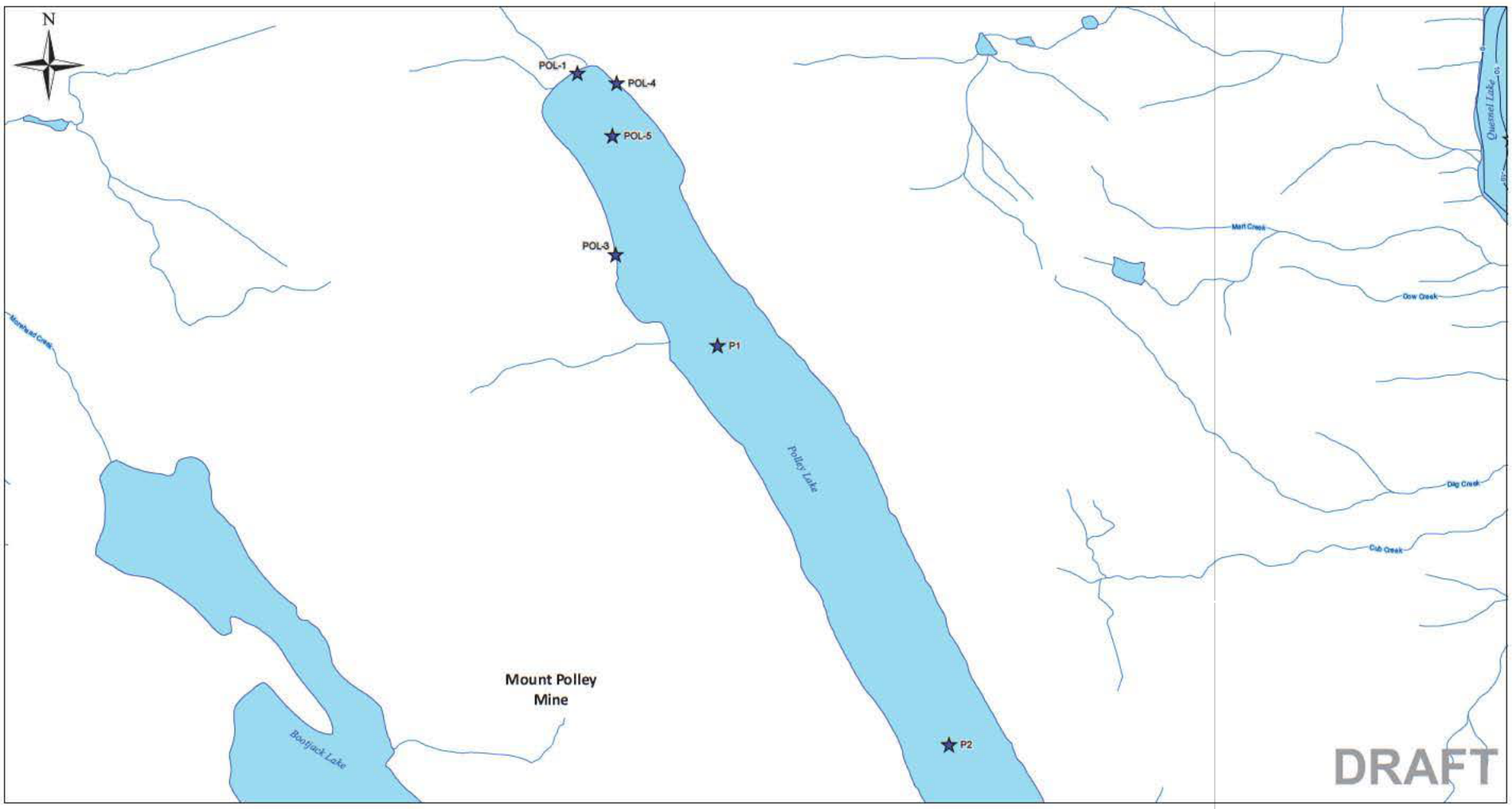
612717-005-P1 through 612717-005-P8: Current Monitoring Locations (Figure 5)

621717-001: Turbidity Profiles – October 1 to 7, 2014

621717-002: Complete Turbidity Profiles - QUL-21, 66, 79, 112 & 120

Appendices:

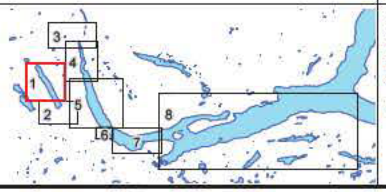
Appendix A: QA/QC Data Management Flow Chart



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 125 250 500 750 1,000 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

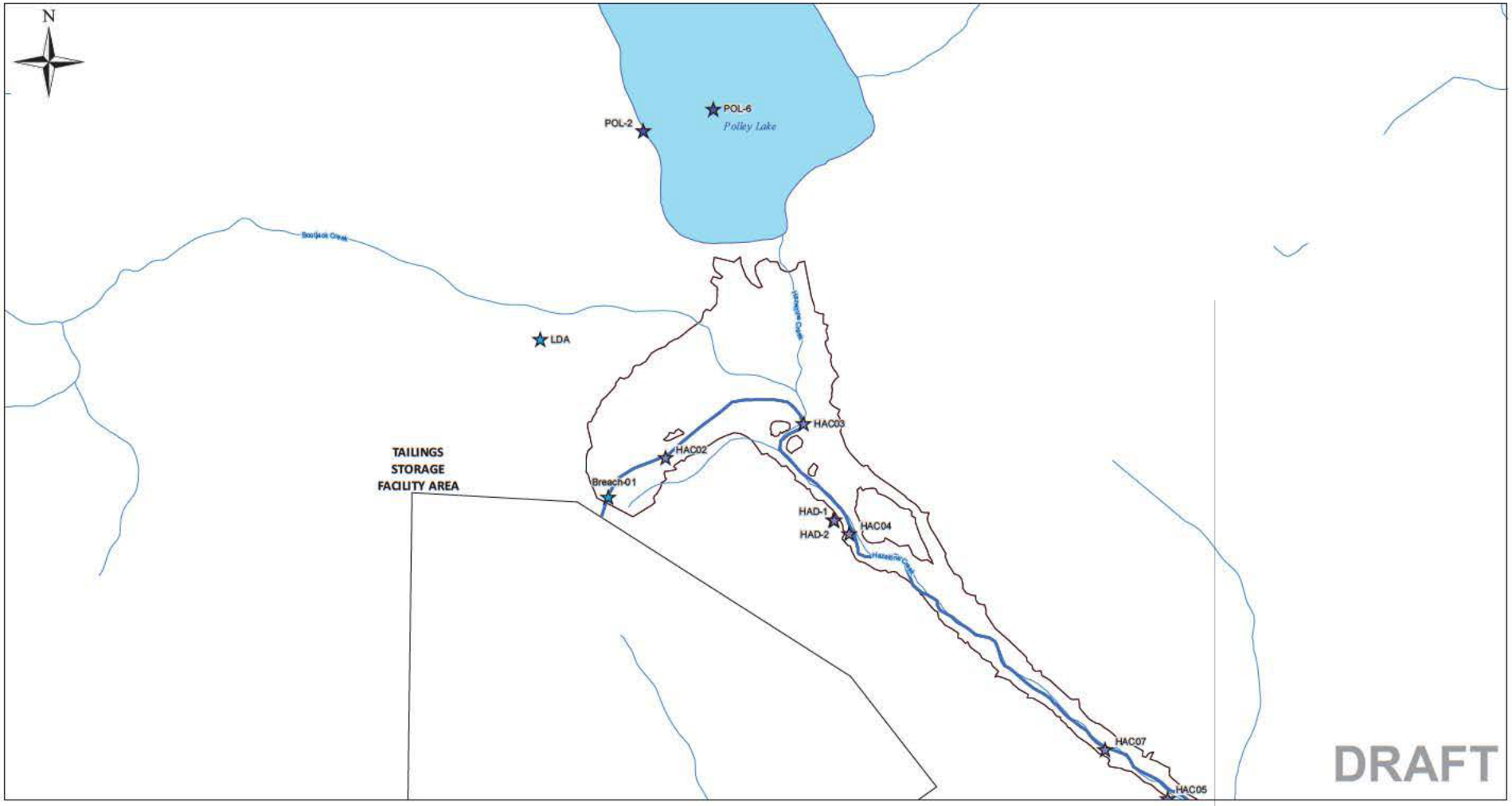
Figure 5: Current Monitoring Locations
Page 1 of 8

BY: CJW	SCALE: 1:24,500	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P1	

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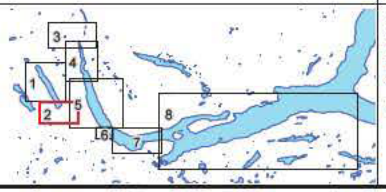
EMAIL S, Part 1, Page 2 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas
- New Hazeltine Creek Channel (Approximate)



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 70 140 280 420 560 Meters

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

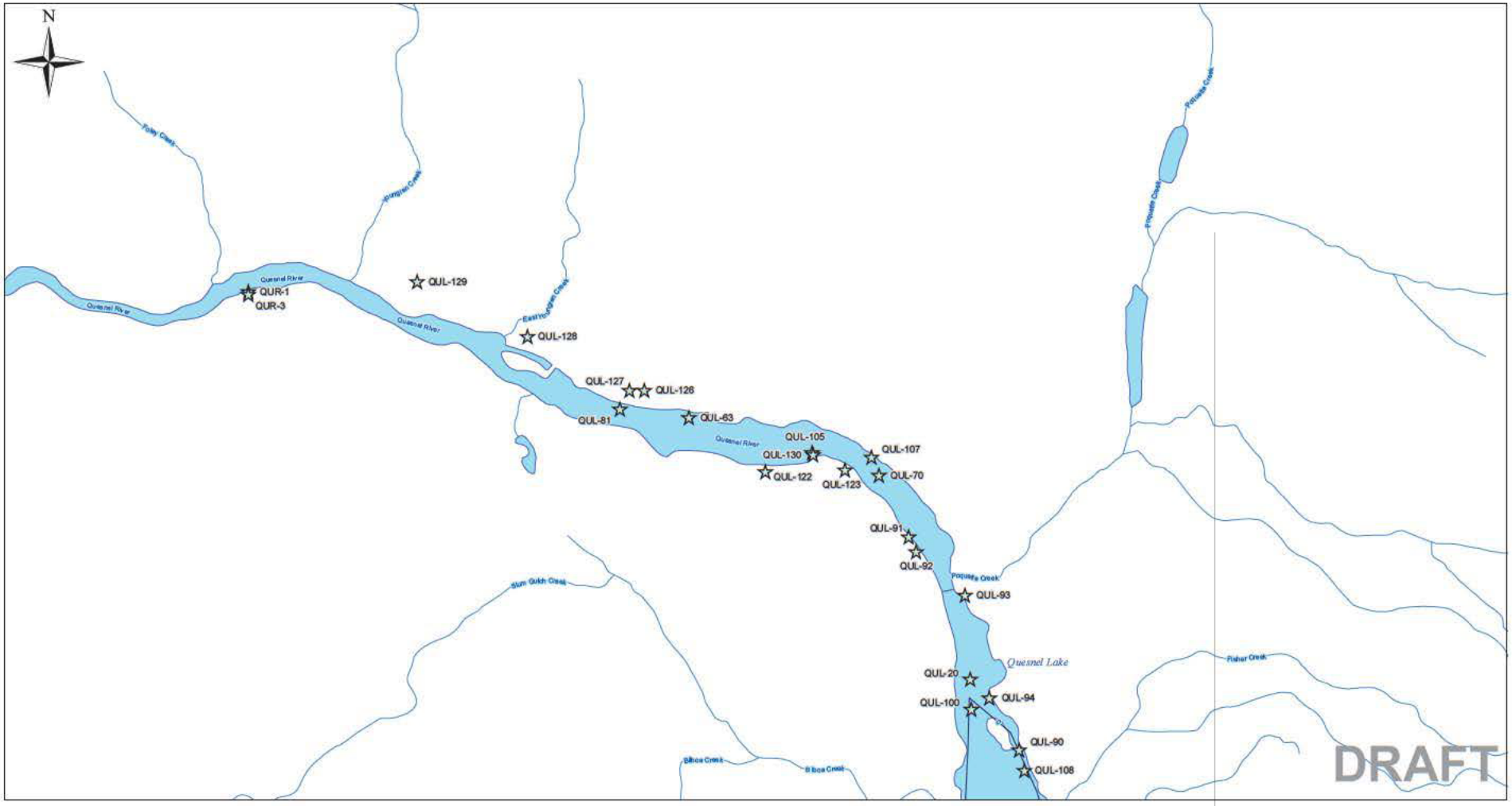
Figure 5: Current Monitoring Locations
Page 2 of 8

BY: CJW	SCALE: 1:13,800	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P2	

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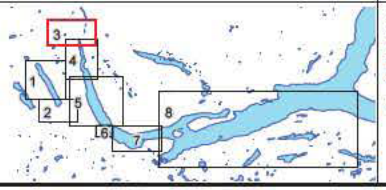
EMAIL S_Part 1 Page 2 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

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2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 80 160 320 480 640 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

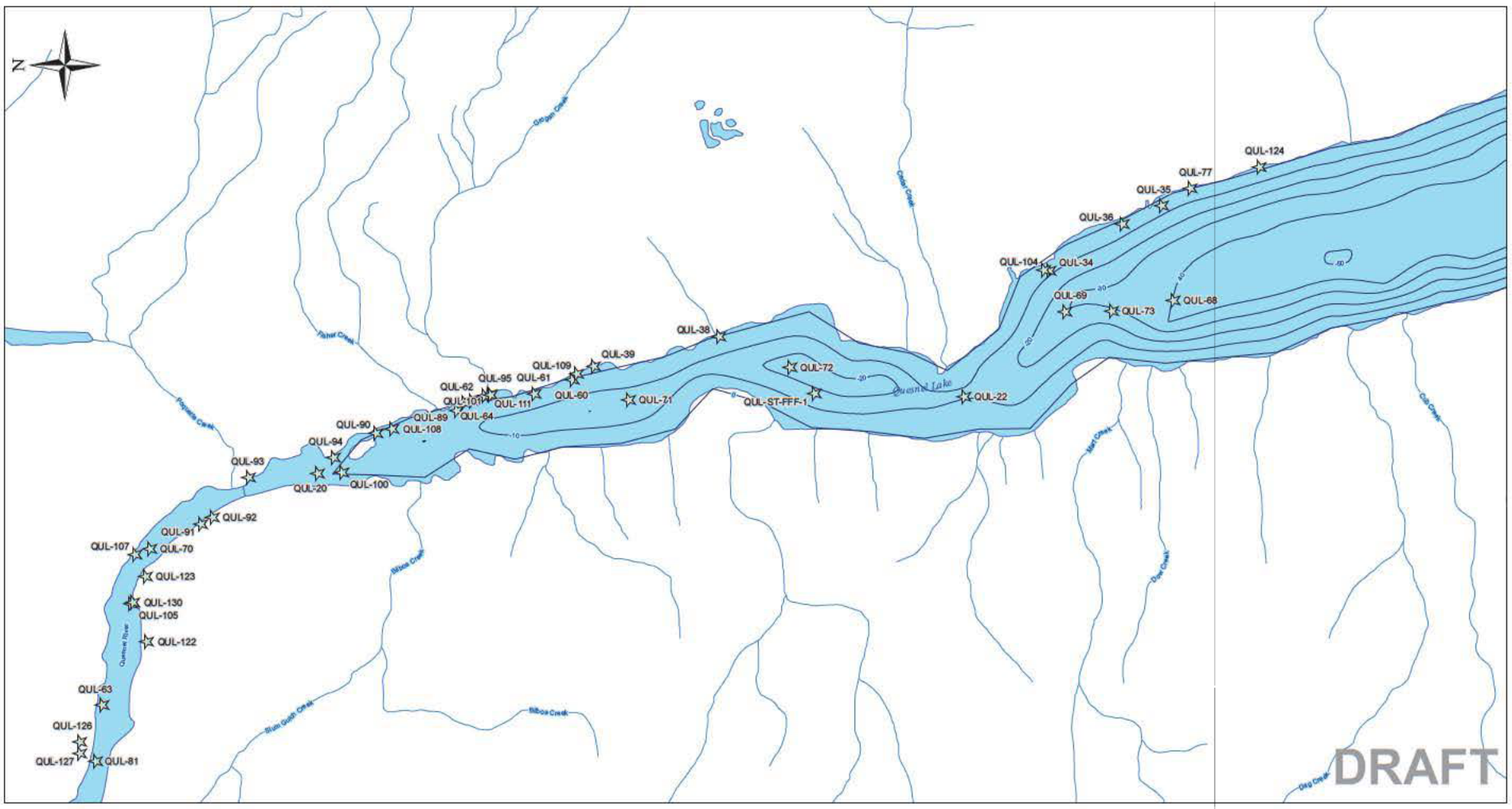
Figure 5: Current Monitoring Locations
Page 3 of 8

BY: CJW	SCALE: 1:16,200	DATE: 2014/10/09	REF No.	REV 0
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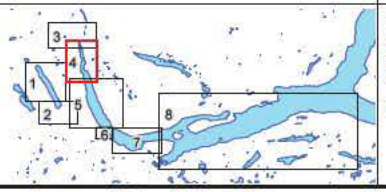
EMAIL S, Part 1, Page 247 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 100 200 400 600 800 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

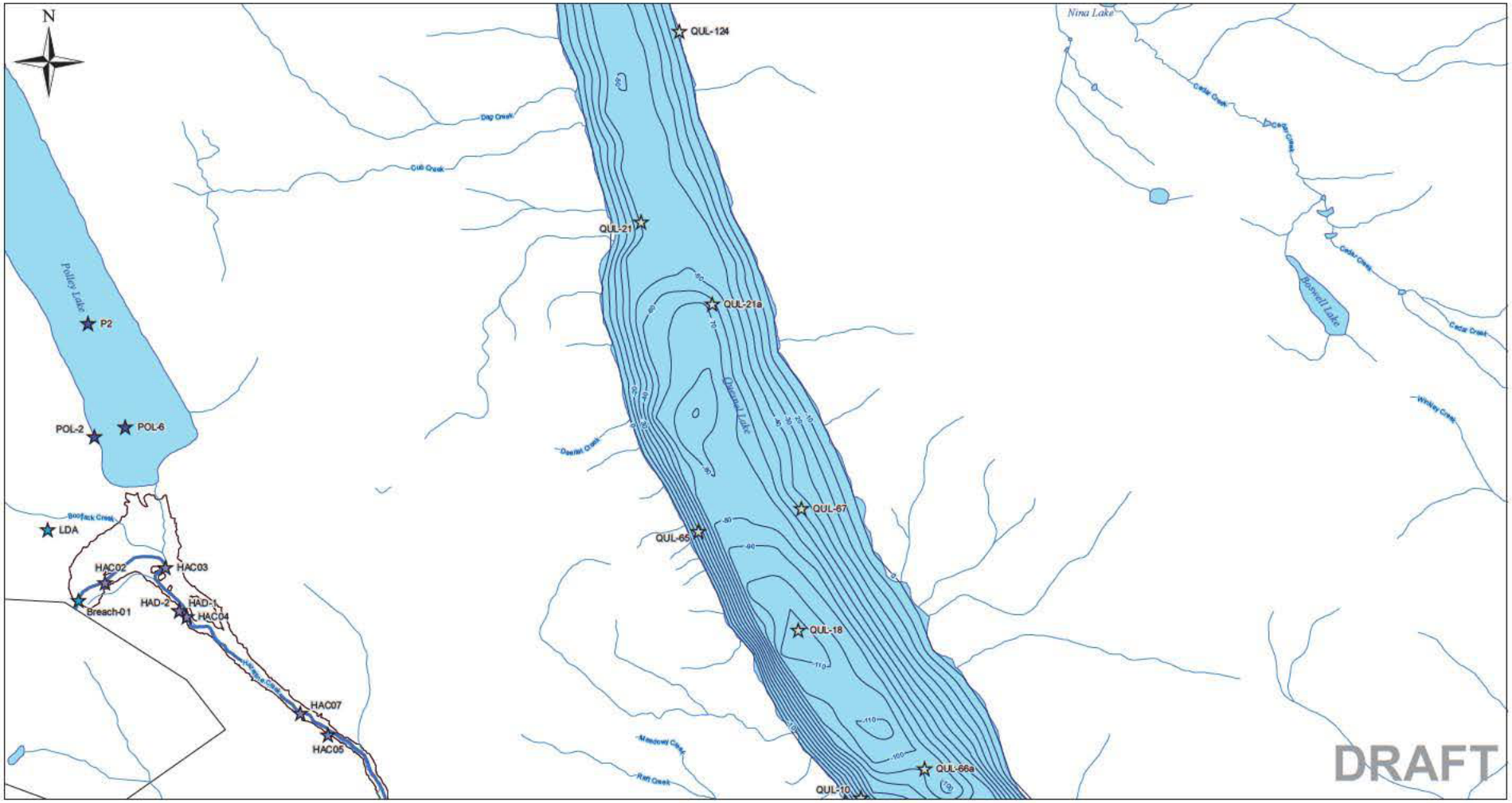
Figure 5: Current Monitoring Locations
Page 4 of 8

BY: CJW	SCALE: 1:19,700	DATE: 2014/10/09	REF No.	REV 0
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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

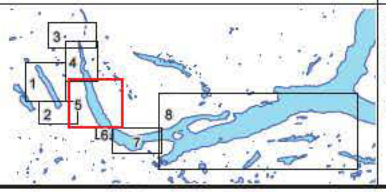
EMAIL S_Part_1.pdf, Page 2 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas
- New Hazeltine Creek Channel (Approximate)



NOTES

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3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 155 310 620 930 1,2 0 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

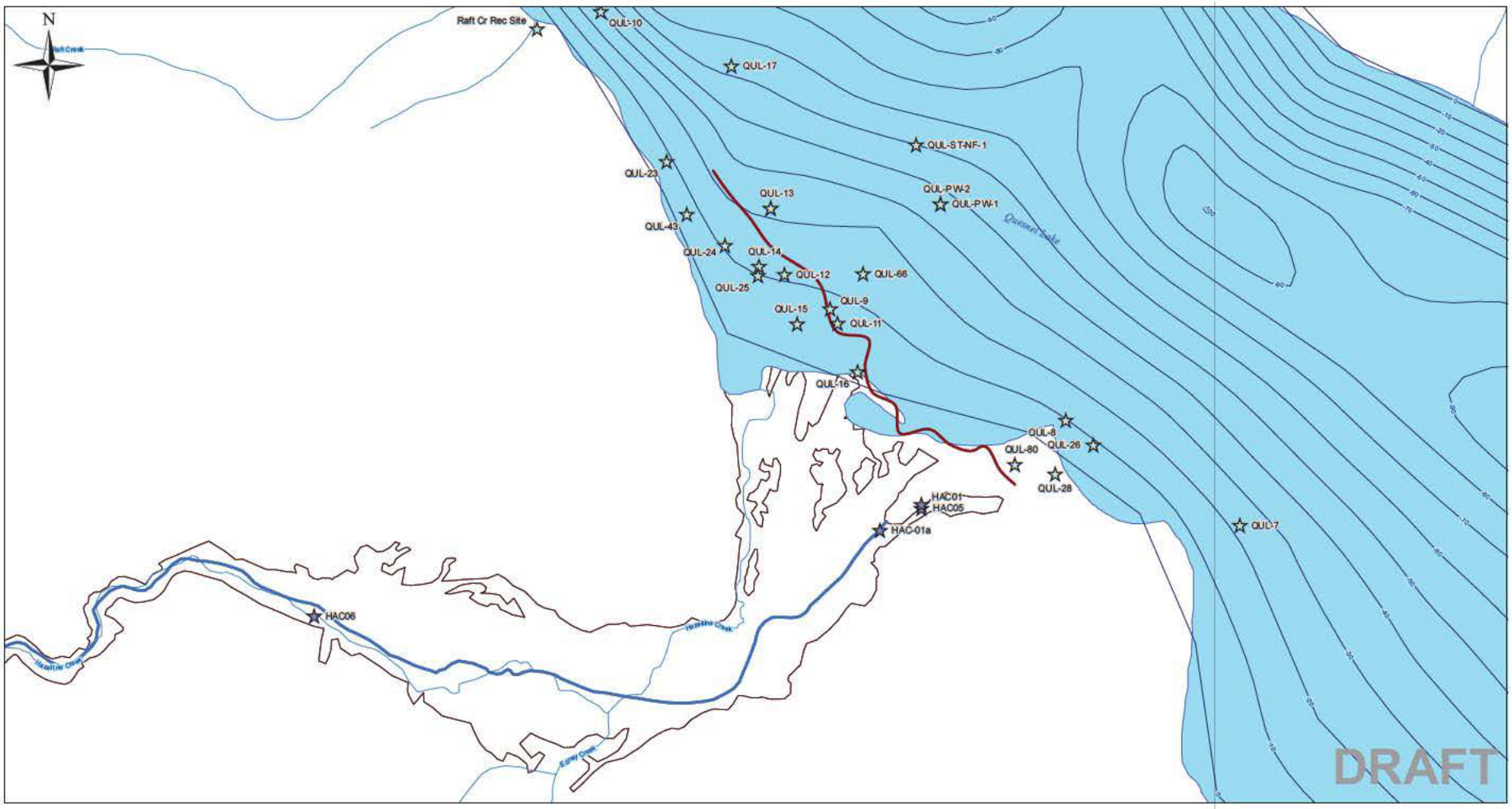
Figure 5: Current Monitoring Locations
Page 5 of 8

BY: CJW	SCALE: 1:30,900	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P5	

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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

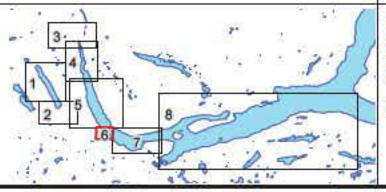
EMAIL S_Part 1_Page 2 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas
- Silt Curtain/Log Boom
- New Hazeltine Creek Channel (Approximate)



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 37.5 75 150 225 300 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

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CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

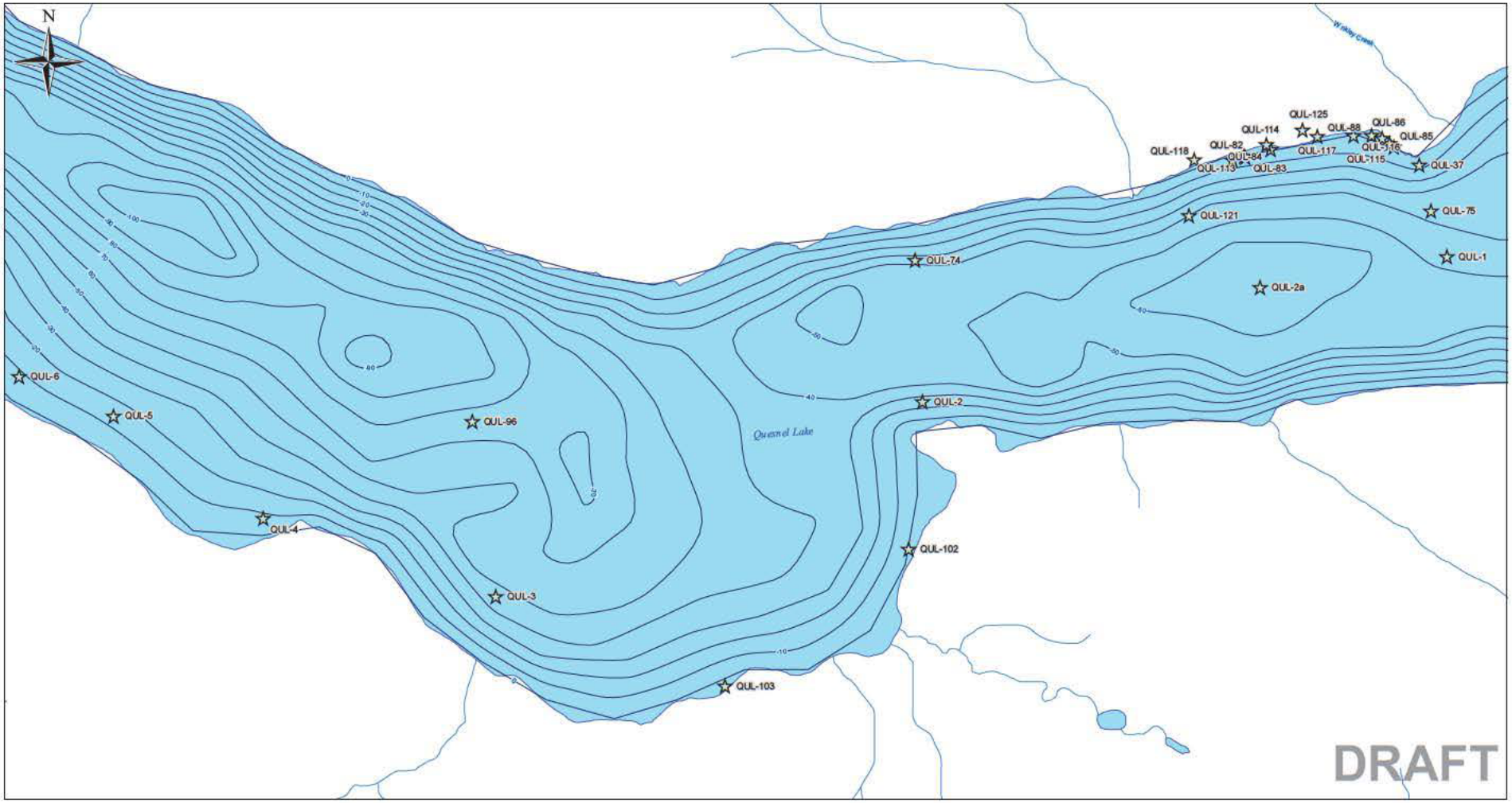
Figure 5: Current Monitoring Locations
Page 6 of 8

BY: CJW	SCALE: 1:7,400	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P6	

Project Path: P:\Current Projects\Mount Polley\621717\

MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

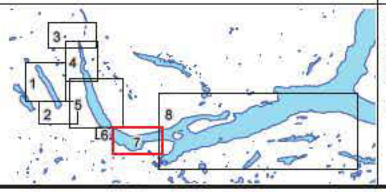
EMAIL S_Part 1_Page 3 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 85 170 340 510 680 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

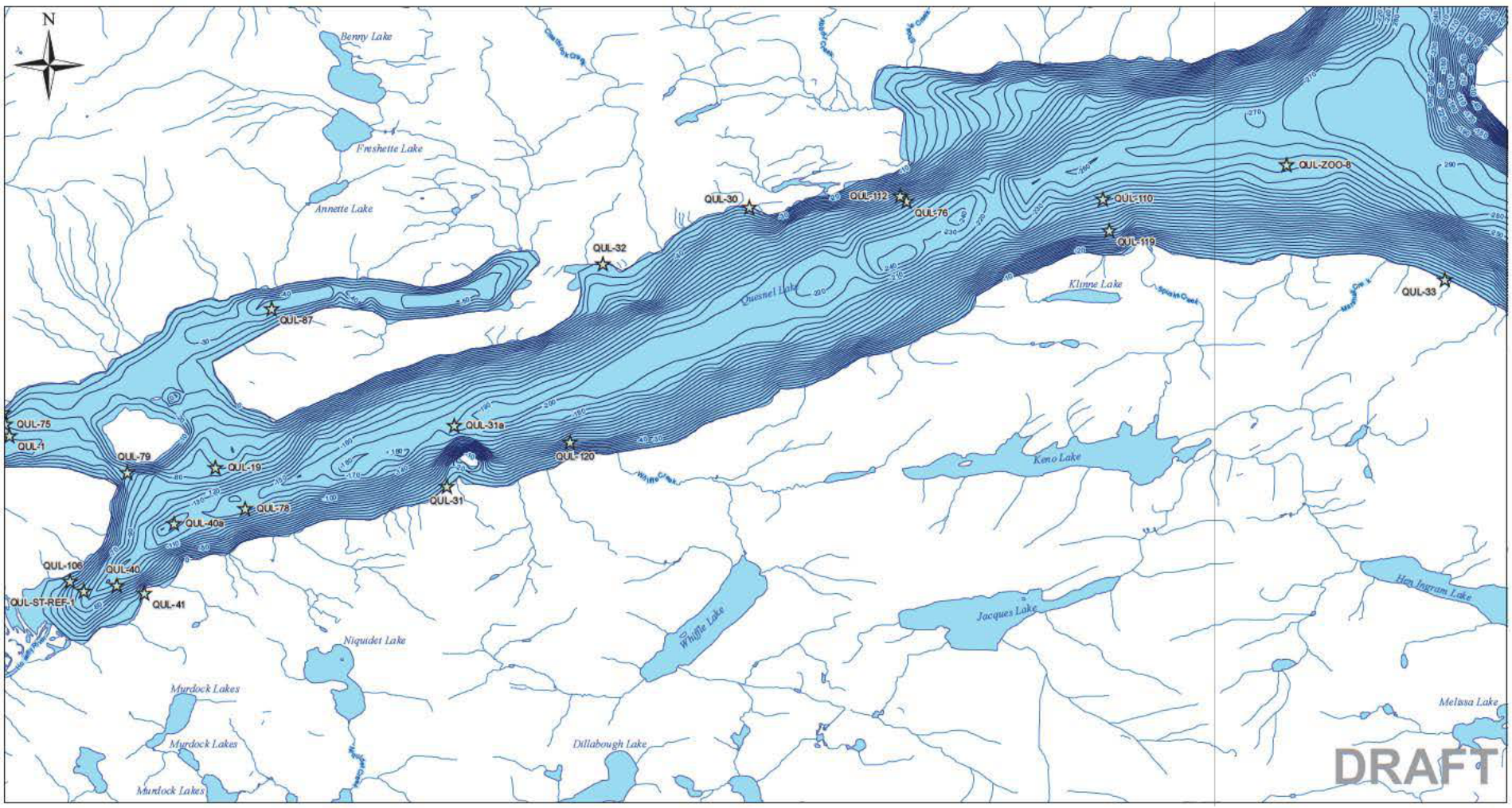
Figure 5: Current Monitoring Locations
Page 7 of 8

BY: CJW	SCALE: 1:16,600	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P7	

MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.3 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

Project Path: P:\Current Projects\Mount Polley\621717\

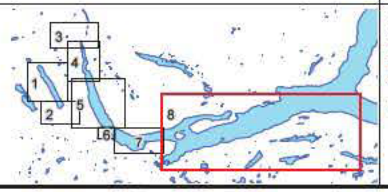
EMAIL S. Part 1, Page 331 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 3 0 600 1,360 2,0 0 2,720 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

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CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

Figure 5: Current Monitoring Locations
Page 8 of 8

BY: CJW	SCALE: 1:66,800	DATE: 2014/10/09	REF No. 621717-005-P8 REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		

Project Path: P:\Current Projects\Mount Polley\621717\

MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

EMAIL S_Part 1_Page 332 of 500

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LEGEND

- Sampling Locations
- 30m Depth

NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

1. Imagery from DigiGlobe World Imagery via ArcGIS Online
2. Bathymetry from MPMC

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CLIENT NAME: MPMC		PROJECT LOCATION: Mount Polley Mine, British Columbia	
	Turbidity Profiles - Oct 1-7, 2014		
DESIGN: LH	SCALE: 1:100,000	DATE: 2014/10/08	PROJECT No: 621717-001 REV: 0
CHECKED: CLKR	HORIZONTAL COORDINATE SYSTEM: NAD 1983 UTM Zone 10N		

Project Path: M:\0_Projects\621717_Mount Polley Mining Corporation\621717-MXD-TurbPro tle\Graphs_Oct1-7.mxd

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LEGEND

- Sampling Locations
- 30m Depth

NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

1. Imagery from DigiGlobe World Imagery via ArcGIS Online
2. Bathymetry from MPMC

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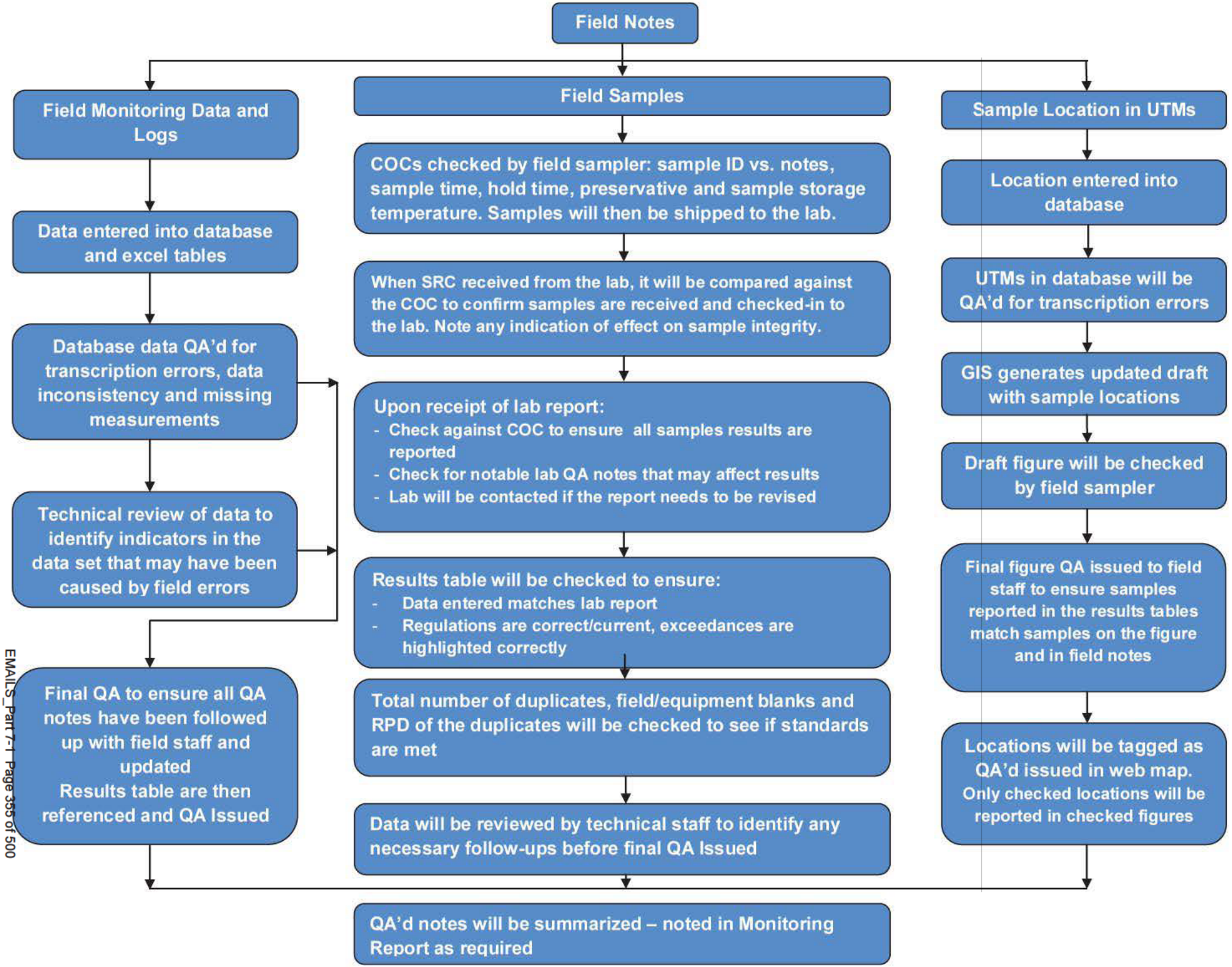
CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

Complete Turbidity Profiles - QUL-21, 66, 79, 112 & 120

DESIGN: LH	SCALE: 1:100,000	DATE: 2014/10/08	REF No: 621717-002 REV: 0
CHECK: CLKR	PROJ. COORDS: NAD 1983 UTM Zone 10N		

Project Path:

M:\0 Path: P:\LOB\EAM-BC Current Projec ts\Mount Polley Mining Corporation\621717_Mount Polley Mine\...\5 GIS and Drawings\GIS\Water Qu ity - Pro ile Graph Mxds\621717-WQ-1cdPro ileGraphs_QUL-21-66-79-112.mxd


Field Notes
Field Monitoring Data and Logs
Data entered into database and excel tables
Database data QA'd for transcription errors, data inconsistency and missing measurements
Technical review of data to identify indicators in the data set that may have been caused by field errors
Final QA to ensure all QA notes have been followed up with field staff and updated
Results table are then referenced and QA Issued
Field Samples
COCs checked by field sampler: sample ID vs. notes, sample time, hold time, preservative and sample storage temperature. Samples will then be shipped to the lab.
When SRC received from the lab, it will be compared against the COC to confirm samples are received and checked-in to the lab. Note any indication of effect on sample integrity.
Upon receipt of lab report:
- Check against COC to ensure all samples results are reported
- Check for notable lab QA notes that may affect results
- Lab will be contacted if the report needs to be revised
Results table will be checked to ensure:
- Data entered matches lab report
- Regulations are correct/current, exceedances are highlighted correctly
Total number of duplicates, field/equipment blanks and RPD of the duplicates will be checked to see if standards are met
Data will be reviewed by technical staff to identify any necessary follow-ups before final QA Issued
Sample Location in UTMs
Location entered into database
UTMs in database will be QA'd for transcription errors
GIS generates updated draft with sample locations
Draft figure will be checked by field sampler
Final figure QA issued to field staff to ensure samples reported in the results tables match samples on the figure and in field notes
Locations will be tagged as QA'd issued in web map. Only checked locations will be reported in checked figures
QA'd notes will be summarized – noted in Monitoring Report as required

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

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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 09 15	52.5	7.88	7.98	13.6	0.54	103	71	< 3	2.05	-	0.134	< 5	71.4	< 1	-	< 0.5	35	6.13	50.4	-	< 0.001	< 0.002[a]
	QUR-1-00 00	2014 09 15	52 2	-	7 8	-	0 57	106	-	< 3	-	-	-	-	76 1	< 1	-	< 0 5	35	6 12	-	-	-	-
	QUR-1-08 00	2014 09 15	50 5	-	7 91	-	0 49	101	-	< 3	-	-	-	-	76 6	< 1	-	< 0 5	35	6 15	-	-	-	-
	QUR-1-16 00	2014 09 15	49.2	-	7.96	-	0.72	102	-	< 3	-	-	-	-	69.2	< 1	-	< 0.5	31	6.13	-	< 0.05	-	-
	QUR-1	2014 09 16	52 5	7 9	7 87	14 3	0 41	101	71	< 3	1 6	-	0 131	< 5	65 8	< 1	-	< 0 5	32	6 13	47 6	-	< 0 001	< 0.002[a]
	QUR-1-00 00	2014 09 16	48 8	-	7 97	-	0 53	103	-	< 3	-	-	-	-	69 1	< 1	-	< 0 5	31	6 13	-	< 0 05	-	-
	QUR-1-08 00	2014 09 16	50 7	-	7 97	-	0 48	102	-	< 3	-	-	-	-	69 3	< 1	-	< 0 5	31	6 13	-	< 0 05	-	-
	QUR-1-16 00	2014 09 16	49.2	-	7.98	-	0.35	103	-	< 3	-	-	-	-	65.5	< 1	-	< 0.5	36	6.09	-	-	-	-
	QUR-1	2014 09 17	52 4	7 94	7 97	14 3	0 4	103	68	< 3	1 79	-	0 136	< 5	64 5	< 1	-	< 0 5	36	6 09	49 2	-	< 0 001	< 0.002[a]
	QUR-1-00 00	2014 09 17	49 6	-	7 97	-	0 47	103	-	< 3	-	-	-	-	67 6	< 1	-	< 0 5	38	6 09	-	-	-	-
	QUR-1-8 00	2014 09 17	51.2	-	7.96	-	0.51	103	-	< 3	-	-	-	-	69.7	< 1	-	< 0.5	37	6.1	-	-	-	-
	QUR-1-16 00	2014 09 17	50.2	-	7.9	-	0.73	102	-	< 3	-	-	-	-	64.1	< 1	-	< 0.5	37	6.05	-	-	-	-
	QUR-1	2014 09 18	51 5	7 96	7 98	14 3	0 37	103	63	< 3	1 66	-	0 124	< 5	63 6	< 1	-	< 0 5	36	6 05	49	-	< 0 001	< 0.002[a]
	QUR-1-0 00	2014 09 18	50.9	-	7.97	-	0.54	103	-	< 3	-	-	-	-	64.7	< 1	-	< 0.5	37	6.05	-	-	-	-
	QUR-1-8 00	2014 09 18	49.8	-	7.96	-	0.59	103	-	< 3	-	-	-	-	65.2	< 1	-	< 0.5	37	6.05	-	-	-	-
	QUR-1-16 00	2014 09 18	53.6	-	7.96	-	0.34	101	-	< 3	-	-	-	-	63.3	< 1	-	< 0.5	33	6.1	-	-	-	-
	QUR-1	2014 09 19	53.5	7.98	8	14.5	0.42	102	70	< 3	1.75	-	0.133	< 5	62.4	< 1	-	< 0.5	34	6.11	47.9	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 19	53.5	-	8	-	0.45	101	-	< 3	-	-	-	-	63.9	< 1	-	< 0.5	33	6.13	-	-	-	-
	QUR-1-8 00	2014 09 19	53	-	8	-	0.39	101	-	< 3	-	-	-	-	63.3	< 1	-	< 0.5	33	6.11	-	-	-	-
	QUR-1-16 00	2014 09 19	49.9	-	7.98	-	0.53	101	-	< 3	-	-	-	-	62	< 1	-	< 0.5	35	6.06	-	-	-	-
	QUR-1	2014 09 20	51.8	7.68	7.84	14.6	0.44	99.3	62	< 3	1.91	-	0.135	< 5	60	< 1	-	< 0.5	34	6.06	47.3	-	< 0.001	< 0.002[a]
	QUR-1X	2014 09 20	52 3	7 68	7 89	14 6	0 41	99 8	62	< 3	1 79	-	0 136	< 5	60 2	< 1	-	< 0 5	33	6 05	48 9	-	< 0 001	< 0 002[a]
	QUR-1-0 00	2014 09 20	50.2	-	7.94	-	0.48	100	-	< 3	-	-	-	-	61.5	< 1	-	< 0.5	34	6.06	-	-	-	-
	QUR-1-8 00	2014 09 20	50.4	-	7.95	-	0.52	100	-	< 3	-	-	-	-	60.4	< 1	-	< 0.5	34	6.11	-	-	-	-
	QUR-1-16 00	2014 09 20	-	-	7.92	-	0.28	101	-	< 3	-	-	-	-	59.4	< 1	-	< 0.5	34	5.98	-	-	-	-
	QUR-1	2014 09 21	51.9	7.81	7.94	14.4	0.29	102	65	< 3	1.64	-	0.141	< 5	61	< 1	-	< 0.5	34	6.06	48.4	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 21	-	-	7.95	-	0.57	102	-	< 3	-	-	-	-	61.4	< 1	-	< 0.5	35	6.11	-	-	-	-
	QUR-1-8 00	2014 09 21	-	-	7.96	-	0.38	102	-	< 3	-	-	-	-	61.7	< 1	-	< 0.5	34	6.1	-	-	-	-
	QUR-1-16 00	2014 09 21	51 2	-	7 94	-	0 33	100	-	< 3	-	-	-	-	59 5	< 1	-	< 0 5	35	5 93	-	-	-	-
	QUR-1	2014 09 22	52.2	7.86	8.02	14.8	0.31	103	65	< 3	1.86	-	0.132	< 5	58.6	< 1	-	< 0.5	34	6.13	49.9	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 22	52.7	-	7.96	-	0.35	103	-	< 3	-	-	-	-	61.6	< 1	-	< 0.5	36	6.13	-	-	-	-
	QUR-1-8 00	2014 09 22	50 4	-	7 98	-	0 33	103	-	< 3	-	-	-	-	60 1	< 1	-	< 0 5	36	6 13	-	-	-	-
	QUR-1	2014 09 22	49 5	-	7 92	-	0 33	105	-	-	-	-	-	-	58 5	< 1	-	< 0 5	37	6 05	-	-	-	-
	QUR-1	2014 09 23	49.8	7.88	7.9	15.15	0.32	104	66	< 3	1.71	-	0.123	< 5	56.7	< 1	-	< 0.5	36	6.07	49.4	-	< 0.001	< 0.002[a]
	QUR-1-00 00	2014 09 23	49 7	-	7 96	-	0 32	104	-	-	-	-	-	-	58 7	< 1	-	< 0 5	36	6 03	-	-	-	-
	QUR-1-08 00	2014 09 23	49 2	-	7 96	-	0 29	103	-	-	-	-	-	-	58 1	< 1	-	< 0 5	36	6 06	-	-	-	-
	QUR-1-16 00	2014 09 23	52.3	-	7.82	-	0.35	103	-	-	-	-	-	-	55.4	< 1	-	< 0.5	31	6.14	-	-	-	-
	QUR-1	2014 09 24	51 5	7 88	7 88	15 15	0 44	100	62	< 3	1 92	-	0 111	< 5	53 9	< 1	-	< 0 5	32	6 08	49 4	-	< 0 001	< 0.002[a]
	QUR-1-0 00	2014 09 24	51	-	7 93	-	0 34	100	-	-	-	-	-	-	55 9	< 1	-	< 0 5	31	6 1	-	-	-	-
	QUR-1-8 00	2014 09 24	52.5	-	7.96	-	0.33	101	-	-	-	-	-	-	55.1	< 1	-	< 0.5	31	6.08	-	-	-	-
	QUR-1-16 00	2014 09 24	52.2	-	7.04	-	0.29	100	-	-	-	-	-	-	53.6	< 1	-	< 0.5	31	6.04	-	< 0.05	-	-
	QUR-1	2014 09 25	52	7 89	7 08	15 14	0 43	101	70	< 3	1 79	-	0 118	< 5	53 3	< 1	-	< 0 5	33	6 06	51 5	-	< 0 001	< 0.002[a]
	QUR-1-0 00	2014 09 25	50.8	-	7.26	-	0.32	101	-	-	-	-	-	-	54.5	< 1	-	< 0.5	34	6.04	-	< 0.05	-	-
	QUR-1-8 00	2014 09 25	52.2	-	7.37	-	0.35	101	-	-	-	-	-	-	55.1	< 1	-	< 0.5	33	6.06	-	< 0.05	-	-
	QUR-1	2014 09 29	50 9	7 83	7 84	14 6	0 41	100	70	< 3	1 72	-	0 098	5 3	55 6	< 1	-	< 0 5	37	6 07	51 2	-	< 0 001	< 0.002[a]
	QUR-1-0 00	2014 09 29	51	-	7.77	-	0.44	99.9	-	< 3	-	-	-	-	55.7	< 1	-	< 0.5	34	6.06	-	-	-	-
	QUR-1-16 00	2014 09 28	51.6	-	7.68	-	0.61	101	-	< 3	-	-	-	-	55.4	< 1	-	< 0.5	35	6.09	-	-	-	-
	QUR-1-8 00	2014 09 29	51.3	-	7.81	-	0.55	99.3	-	< 3	-	-	-	-	57	< 1	-	< 0.5	34	6.07	-	-	-	-
	QUR-1-16 00	2014 09 29	50.1	-	7.71	-	0.48	100	-	< 3	-	-	-	-	55	< 1	-	< 0.5	30	6.08	-	-	-	-
	QUR-1	2014 09 30	52.4	7.83	7.84	14.67	0.41	99.2	64	< 3	2	-	0.136	5.1	55.7	< 1	55.7	< 0.5	32	6.1	48.5	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 30	50.6	-	7.66	-	0.37	107	-	< 3	-	-	-	-	56.3	< 1	-	< 0.5	31	6.08	-	-	-	-
	QUR-1-8 00	2014 09 30	51.5	-	7.81	-	0.55	102	-	< 3	-	-	-	-	53.9	< 1	-	< 0.5	31	6.1	-	-	-	-
	QUR-1	2014 10 02	51 8	-	7 69	-	1 17	103	62	< 3	1 87	-	0 139	5 8	63 1	< 1	-	< 0 5	34	6 11	49 2	-	< 0 001	< 0 002[a]

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUR-1	QUR-1	2014 09 15	8.4	17.8	< 30	1.96	0.406	0.458	0.871	< 0.1	0.11	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.64	< 0.05	0.72	-	0.281	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUR-1-00 00	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08 00	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 16	9	17 8	< 30	1 99	0 263	0 458	0 827	< 0 1	0 11	5 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 59	< 0 05	0 75	-	0 258	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 14	< 1	< 3
	QUR-1-00 00	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08 00	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 17	14 5	17 7	< 30	1 99	0 348	0 463	0 84	< 0 1	0 12	5 04	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 57	< 0 05	0 74	-	0 272	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 137	< 1	< 3
	QUR-1-00 00	2014 09 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 18	9 2	17 4	< 30	1 96	0 238	0 454	0 83	< 0 1	< 0 1	5 02	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 54	< 0 05	0 85	-	0 275	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
	QUR-1-0 00	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 19	8.5	18.2	< 30	1.97	0.258	0.421	0.809	< 0.1	0.11	4.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.71	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUR-1-0 00	2014 09 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 20	7.4	17.5	< 30	1.94	0.237	0.444	0.817	< 0.1	< 0.1	4.79	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.82	-	0.244	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
	QUR-1X	2014 09 20	9 1	17 7	< 30	1 95	0 255	0 444	0 818	< 0 1	0 1	4 86	< 0 1	< 10	0 011	< 0 5	< 0 1	0 5	< 0 05	0 8	-	0 254	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUR-1-0 00	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 21	8.3	17.6	< 30	1.94	0.214	0.445	0.836	< 0.1	< 0.1	4.89	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.83	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
	QUR-1-0 00	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 22	8.9	17.7	< 30	1.93	0.278	0.443	0.822	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.82	-	0.251	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
	QUR-1-0 00	2014 09 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 23	9.2	17	< 30	1.81	0.29	0.435	0.821	< 0.1	0.11	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.8	-	0.252	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUR-1-00 00	2014 09 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08 00	2014 09 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 24	8 6	17 5	< 30	1 92	0 237	0 443	0 8	< 0 1	< 0 1	4 93	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 74	-	0 235	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUR-1-0 00	2014 09 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 25	8 8	17 7	< 30	1 92	0 252	0 443	0 806	< 0 1	0 11	4 97	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 5	< 0 05	< 0 5	-	0 259	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUR-1-0 00	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 29	7 8	17 2	< 30	1 92	0 211	0 443	0 801	< 0 1	0 1	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 53	< 0 05	0 91	-	0 261	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 152	< 1	< 3
	QUR-1-0 00	2014 09 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 30	9.4	17	< 30	1.86	0.085	0.466	0.845	< 0.1	0.1	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	< 0.5	-	0.284	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.16	< 1	< 3
	QUR-1-0 00	2014 09 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 10 02	7 7	17 6	< 30	1 89	0 384	0 473	0 909	< 0 1	0 13	5 04	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 87	< 0 05	0 57	-	0 315	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 158	< 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.

[a] Laboratory detection limit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2013.
[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 or chloride
[e] Health Canada Drinking Water Guidelines, 2012. 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 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 Guidelines																																	
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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 09 15	32	< 0.1	0.12	5.64	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	1.12	< 30	< 0.05	0.85	1,960	1.93	-	0.293	< 0.5	472	< 0.5	1,540	< 0.01	893	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUR-1-00 00	2014 09 15	39	< 0 1	0 14	5 95	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	1 43	32	< 0 05	0 85	1 980	2 36	-	0 326	< 0 5	496	< 0 5	1 630	< 0 01	922	< 0 01	< 0 1	< 10	0 141	< 1	< 3
	QUR-1-08 00	2014 09 15	35 5	< 0 1	0 13	5 67	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	1 26	33	< 0 05	0 86	1 900	2 2	-	0 313	< 0 5	471	< 0 5	1 570	< 0 01	886	< 0 01	< 0 1	< 10	0 147	< 1	< 3
	QUR-1-16 00	2014 09 15	32.3	< 0.1	0.13	5.35	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	1.14	44	< 0.05	0.87	1,910	1.89	-	0.304	< 0.5	459	< 0.5	1,480	< 0.01	826	< 0.01	< 0.1	< 10	0.14	< 1	3.2
	QUR-1	2014 09 16	30 6	< 0 1	0 13	5 35	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 8	< 30	< 0 05	0 81	1 970	1 44	-	0 292	< 0 5	452	< 0 5	1 490	< 0 01	823	< 0 01	< 0 1	< 10	0 14	< 1	< 3
	QUR-1-00 00	2014 09 16	24	< 0 1	0 12	5 18	< 0 1	< 0 5	< 10	< 0 01	16 400	< 0 5	< 0 1	0 98	< 30	< 0 05	0 76	1 900	1 85	-	0 278	< 0 5	440	< 0 5	1 430	< 0 01	795	< 0 01	< 0 1	< 10	0 133	< 1	< 3
	QUR-1-08 00	2014 09 16	29 7	< 0 1	0 13	5 28	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 88	< 30	< 0 05	0 84	1 940	1 67	-	0 293	< 0 5	452	< 0 5	1 490	< 0 01	813	< 0 01	< 0 1	< 10	0 141	< 1	< 3
	QUR-1-16 00	2014 09 16	27	< 0.1	0.13	5.07	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.88	< 30	< 0.05	0.82	1,870	1.79	-	0.316	< 0.5	446	< 0.5	1,430	< 0.01	819	< 0.01	0.12	< 10	0.14	< 1	< 3
	QUR-1	2014 09 17	22 5	< 0 1	0 13	4 99	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	0 85	< 30	< 0 05	0 77	1 890	1 2	-	0 278	< 0 5	454	< 0 5	1 400	< 0 01	813	< 0 01	< 0 1	< 10	0 137	< 1	< 3
	QUR-1-00 00	2014 09 17	32 8	< 0 1	0 13	5 11	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	0 9	33	< 0 05	0 78	1 900	2 06	-	0 27	< 0 5	434	< 0 5	1 450	< 0 01	798	< 0 01	< 0 1	< 10	0 136	< 1	< 3
	QUR-1-8 00	2014 09 17	29.3	0.12	0.12	5.2	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.85	< 30	< 0.05	0.88	1,960	1.67	-	0.282	< 0.5	455	< 0.5	1,500	< 0.01	826	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUR-1-16 00	2014 09 17	28.3	< 0.1	0.14	5.31	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	1.1	< 30	< 0.05	0.91	1,930	1.9	-	0.285	< 0.5	458	< 0.5	1,490	< 0.01	840	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1	2014 09 18	23 2	< 0 1	0 15	5 15	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	1 06	< 30	0 086	0 88	1 900	1 47	-	0 291	< 0 5	448	< 0 5	1 440	< 0 01	843	< 0 01	< 0 1	< 10	0 154	< 1	< 3
	QUR-1-0 00	2014 09 18	16.7	< 0.1	0.13	5.2	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.78	< 30	< 0.05	0.93	1,950	1.14	-	0.276	< 0.5	451	< 0.5	1,500	< 0.01	832	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1-8 00	2014 09 18	18.3	< 0.1	0.13	4.96	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.69	< 30	< 0.05	0.97	1,880	1.12	-	0.295	< 0.5	442	< 0.5	1,460	< 0.01	802	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUR-1-16 00	2014 09 18	24.9	< 0.1	0.12	5.24	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.85	< 30	< 0.05	0.74	2,000	1.55	-	0.285	< 0.5	455	< 0.5	1,560	< 0.01	875	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUR-1	2014 09 19	27	< 0.1	0.14	5.27	< 0.1	< 0.5	< 10	< 0.01	18,500	< 0.5	< 0.1	0.91	< 30	< 0.05	0.79	2,030	1.42	-	0.291	< 0.5	455	< 0.5	1,580	< 0.01	869	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUR-1-0 00	2014 09 19	26.6	< 0.1	0.14	5.41	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.82	< 30	< 0.05	0.81	1,990	1.7	-	0.281	< 0.5	463	< 0.5	1,560	< 0.01	852	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUR-1-8 00	2014 09 19	23.3	< 0.1	0.14	5.53	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.84	< 30	< 0.05	< 0.5	1,960	1.46	-	0.29	< 0.5	478	< 0.5	1,530	< 0.01	867	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1-16 00	2014 09 19	16	< 0.1	0.12	5.02	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.75	< 30	< 0.05	0.8	1,910	1.12	-	0.272	< 0.5	442	< 0.5	1,430	< 0.01	879	< 0.01	< 0.1	< 10	0.152	< 1	3.8
	QUR-1	2014 09 20	21.4	< 0.1	0.12	4.85	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.69	< 30	< 0.05	0.7	1,860	1.27	-	0.254	< 0.5	431	< 0.5	1,380	< 0.01	826	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUR-1X	2014 09 20	17 9	< 0 1	0 13	4 96	< 0 1	< 0 5	< 10	< 0 01	17 200	< 0 5	< 0 1	0 7	< 30	< 0 05	0 79	1 890	1 27	-	0 268	< 0 5	447	< 0 5	1 420	< 0 01	865	< 0 01	< 0 1	< 10	0 152	< 1	< 3
	QUR-1-0 00	2014 09 20	14.5	< 0.1	0.11	5	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.7	< 30	< 0.05	0.69	1,890	0.994	-	0.264	< 0.5	445	< 0.5	1,420	< 0.01	848	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUR-1-8 00	2014 09 20	16.1	< 0.1	0.11	4.86	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.67	< 30	< 0.05	0.63	1,890	1.02	-	0.261	< 0.5	442	< 0.5	1,420	< 0.01	846	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUR-1-16 00	2014 09 20	17.4	< 0.1	0.11	4.94	< 0.1	< 0.5	< 10	**0.019**	17,100	< 0.5	< 0.1	0.78	< 30	< 0.05	0.81	1,880	1	-	0.276	< 0.5	451	< 0.5	1,420	< 0.01	867	< 0.01	< 0.1	< 10	0.152	< 1	3.9
	QUR-1	2014 09 21	22.6	< 0.1	0.12	5.06	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.79	< 30	< 0.05	0.76	1,910	1.37	-	0.281	< 0.5	451	< 0.5	1,450	< 0.01	873	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUR-1-0 00	2014 09 21	21.2	< 0.1	0.12	5.04	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.67	< 30	< 0.05	0.88	1,880	1.06	-	0.279	< 0.5	456	< 0.5	1,430	< 0.01	856	< 0.01	0.1	< 10	0.161	< 1	< 3
	QUR-1-8 00	2014 09 21	17.7	< 0.1	0.13	4.97	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.75	< 30	< 0.05	0.74	1,880	1.06	-	0.266	< 0.5	454	< 0.5	1,440	< 0.01	868	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUR-1-16 00	2014 09 21	21	< 0 1	0 13	5 18	< 0 1	< 0 5	< 10	< 0 01	17 300	< 0 5	< 0 1	0 81	< 30	< 0 05	0 9	1 930	1 9	-	0 292	< 0 5	454	< 0 5	1 480	< 0 01	865	< 0 01	< 0 1	< 10	0 153	< 1	4 8
	QUR-1	2014 09 22	< 21	< 0.1	0.11	4.94	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.77	< 30	< 0.05	0.77	1,860	1.32	-	0.264	< 0.5	455	< 0.5	1,400	< 0.01	848	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUR-1-0 00	2014 09 22	15.8	< 0.1	0.12	5.17	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.7	< 30	< 0.05	0.79	1,980	1.07	-	0.28	< 0.5	473	< 0.5	1,500	< 0.01	880	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUR-1-8 00	2014 09 22	23 2	< 0 1	0 13	5 02	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 8	< 30	< 0 05	0 84	1 900	1 56	-	0 259	< 0 5	450	< 0 5	1 430	< 0 01	849	< 0 01	< 0 1	< 10	0 147	< 1	< 3
	QUR-1	2014 09 22	16 8	< 0 1	0 14	5 01	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	0 65	< 30	< 0 05	0 81	1 810	1 12	-	0 31	< 0 5	442	< 0 5	1 430	< 0 01	833	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUR-1	2014 09 23	23.2	< 0.1	0.14	5.53	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.88	< 30	< 0.05	0.69	1,830	1.44	-	0.241	0.54	494	< 0.5	1,430	< 0.01	903	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUR-1-00 00	2014 09 23	22	< 0 1	0 13	4 91	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 64	< 30	< 0 05	0 76	1 810	1 26	-	0 278	< 0 5	416	< 0 5	1 420	< 0 01	796	< 0 01	0 1	< 10	0 158	< 1	< 3
	QUR-1-08 00	2014 09 23	23 9	0 13	0 14	4 9	< 0 1	< 0 5	< 10	0 014	16 700	< 0 5	< 0 1	0 75	< 30	< 0 05	0 76	1 790	1 7	-	0 303	< 0 5	438	< 0 5	1 400	< 0 01	817	< 0 01	0 11	< 10	0 167	< 1	< 3
	QUR-1-16 00	2014 09 23	16.3	< 0.1	0.13	5.14	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.59	< 30	< 0.05	0.79	1,960	0.954	-	0.28	< 0.5	459	< 0.5	1,470	< 0.01	844	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUR-1	2014 09 24	21 4	< 0 1	0 13	5 17	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	0 67	< 30	< 0 05	0 75	1 940	1 32	-	0 251	< 0 5	460	< 0 5	1 450	< 0 01	829	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUR-1-0 00	2014 09 24	14 4	< 0 1	0 11	5 01	< 0 1	< 0 5	< 10	< 0 01	17 300	< 0 5	< 0 1	0 77	< 30	< 0 05	< 0 5	1 910	0 937	-	0 277	< 0 5	432	< 0 5	1 430	< 0 01	791	< 0 01	0 12	< 10	0 157	< 1	< 3
	QUR-1-8 00	2014 09 24	16.8	< 0.1	0.13	5.2	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.64	< 30	< 0.05	0.74	1,960	1.01	-	0.276	< 0.5	465	< 0.5	1,460	< 0.01	840	< 0.01	0.11	< 10	0.164	< 1	< 3
	QUR-1-16 00	2014 09 24	15.5	< 0.1	0.13	4.83	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.66	< 30	< 0.05	< 0.5	1,940	0.961	-	0.25	< 0.5	444	< 0.5	1,420	< 0.01	828	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QUR-1	2014 09 25	23 3	< 0 1	0 12	5	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 76	< 30	< 0 05	< 0 5	1 910	1 29	-	0 279	< 0 5	456	< 0 5	1 400	< 0 01	847	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUR-1-0 00	2014 09 25	18.4	< 0.1	0.11	4.95	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.79	< 30	< 0.05	< 0.5	1,870	1.19	-	0.255	< 0.5	450	< 0.5	1,390	< 0.01	834	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUR-1-8 00	2014 09 25	17.7	< 0.1	0.12	5	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.66	< 30	< 0.05	< 0.5	1,940	1.04	-	0.273	< 0.5	460	< 0.5	1,420	< 0.01	853	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUR-1	2014 09 29	23 1	< 0 1	0 12	4 76	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 79	< 30	< 0 05	0 69	1 900	1 3	-	0 274	< 0 5	441	< 0 5	1 390	< 0 01	790	< 0 01	< 0 1	< 10	0 153	< 1	< 3
	QUR-1-0 00	2014 09 29	17	< 0.1	0.12	4.79	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.72	< 30	< 0.05	0.72	1,900	0.962	-	0.27	< 0.5	438	< 0.5	1,400	< 0.01	806	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUR-1-16 00	2014 09 28	31.4	< 0.1	0.14	4.97	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.8	< 30	< 0.05	0.74	1,930	1.68	-	0.279	< 0.5	450	< 0.5	1,430	< 0.01	882	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QUR-1-8 00	2014 09 29	15.5	< 0.1	0.12	4.98	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.73	< 30	< 0.05	0.73	1,910	1.03	-	0.297	< 0.5	444	< 0.5	1,410	< 0.01	800	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUR-1-16 00	2014 09 29	17.8	< 0.1	0.12	5.07	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.71	< 30	< 0.05	0.73	1,980	1.07	-	0.274	< 0.5	464	< 0.5	1,460	< 0.01	858	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUR-1	2014 09 30	22	< 0.1	0.12	5.08	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.8	< 30	< 0.05	0.65	1,970	1.33	-	0.271	< 0.5	458	< 0.5	1,460	< 0.01	852	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1-0 00	2014 09 30	16.6	< 0.1	0.11	4.93	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.69	< 30	< 0.05	0.56	1,900	0.96	-	0.265	< 0.5	449	< 0.5	1,420	< 0.01	838	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUR-1-8 00	2014 09 30	20.1	< 0.1	0.12	5.12	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.73	< 30	< 0.05	0.65	1,940	1.11	-	0.272	< 0.5	456	< 0.5	1,450	< 0.01	843	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QUR-1	2014 10 02	51 8	< 0 1	0 15	5 53	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	1 4	50	< 0 05	< 0 5	1 910	2 55	-	0 339	< 0 5	471	< 0 5	1 540	< 0 01	893	< 0 01	< 0 1	< 10	0 172	< 1	< 3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guid ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012.
Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

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TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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-2	QUL-2-0M	2014 09 15	49.3	8.03	7.96	15.1	0.27	100	62	< 3	1.73	-	0.114	< 5	60.4	< 1	-	< 0.5	31	6.07	47.9	-	< 0.001	< 0.002[a]
	QUL-2X-0M	2014 09 15	50.6	8.03	7.86	15.1	0.24	99.7	64	< 3	1.77	-	0.114	< 5	59.6	< 1	-	< 0.5	32	6.07	46.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		3	0	1	0	12	0	3	*	*	-	*	*	1	*	-	*	*	0	3	-	*	*
	QUL-2-25M	2014 09 15	53.7	7.84	7.96	6.1	7.18	112	71	< 3	1.71	-	0.187	7.5	147	< 1	-	< 0.5	38	7.64	54.7	-	< 0.001	< 0.002[a]
	QUL-2-38M	2014 09 15	62 2	7 65	8 01	5 5	42 1	138	95	6	1 75	-	0 254	31 2	174	2 2	-	< 0 5	71	14 1	57 2	-	< 0 001	**0.0038**
	QUL-2-50M	2014 09 15	65	7.93	8.03	6.3	65.3	146	100	9.7	1.7	-	0.296	44	181	2.4	-	0.5	76	16.3	59.2	-	0.0022	**0.0038**
	QUL-2-0M	2014 09 17	51 5	7 97	8	14 9	0 26	102	69	< 3	1 93	-	0 115	< 5	57 7	< 1	-	< 0 5	35	5 98	48 8	-	< 0 001	< 0.002[a]
	QUL-2-16M	2014 09 17	52	7.82	7.96	11.5	1.88	103	67	< 3	1.99	-	0.139	< 5	80.9	< 1	-	< 0.5	36	6.1	48.8	-	< 0.001	< 0.002[a]
	QUL-2-47M	2014 09 17	63.7	7.76	8.03	6.2	51.2	145	101	9.1	1.92	-	0.28	42.5	179	1.9	-	< 0.5	73	15.7	58.8	-	0.0023	**0.0042**
	QUL-2-0M	2014 09 09	49 3	8 08	7 91	15 8	1 05	101	68	< 3	1 9	-	0 121	< 5	48	< 1	-	< 0 5	33	5 85	47 8	-	< 0 001	< 0.002[a]
	QUL-2-13M	2014 09 09	52.5	7.72	7.92	5.5	2.94	107	74	< 3	1.73	-	0.174	< 5	123	< 1	-	< 0.5	37	6.49	50.5	-	< 0.001	< 0.002[a]
	QUL-2-48M	2014 09 09	64 8	7 77	7 96	5 6	50 9	140	100	13 7	1 73	-	0 29	42	195	1 6	-	< 0 5	62	13 9	58	-	0 0014	**0.003**
	QUL-2-0M	2014 09 19	50 8	7 99	8 15	16	0 24	105	62	< 3	1 75	-	0 122	< 5	55 8	< 1	-	< 0 5	34	6 02	50 6	-	< 0 001	< 0.002[a]
	QUL-2-25M	2014 09 19	53.1	7.62	7.82	5.7	1.85	104	66	< 3	1.75	-	0.184	< 5	125	< 1	-	< 0.5	34	6.38	49.5	-	< 0.001	< 0.002[a]
	QUL-2-48M	2014 09 19	63	7 76	7 95	6 1	35 2	133	88	4 1	1 76	-	0 27	30 4	173	1 1	-	< 0 5	57	13	57 1	-	< 0 001	**0.0024**
	QUL-2-0M	2014 09 22	48.5	8.03	7.93	14.98	0.33	101	65	< 3	1.85	-	0.125	< 5	58.5	< 1	-	< 0.5	30	6.02	48.2	-	< 0.001	< 0.002[a]
	QUL-2X-0M	2014 09 22	48.3	8.03	7.94	14.98	0.41	102	65	< 3	1.84	-	0.125	< 5	57.5	< 1	-	< 0.5	35	6.02	48.1	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	*	< 1	0	*	*	-	*	*	2	*	-	*	*	0	< 1	-	*	*
	QUL-2-25M	2014 09 22	52.7	7.68	7.9	6.08	3.47	110	69	3.4	1.82	-	0.211	6.1	144	< 1	-	< 0.5	38	7.06	50.9	-	< 0.001	< 0.002[a]
	QUL-2X-25M	2014 09 22	52 1	7 68	7 9	6 08	4 18	111	71	< 3	1 62	-	0 207	5 8	146	< 1	-	< 0 5	38	7 17	51 9	-	< 0 001	< 0.002[a]
	QA/QC RPD %		1	0	0	0	19	< 1	3	*	*	-	*	*	1	*	-	*	*	2	2	-	*	*
	QUL-2-47M	2014 09 22	62.5	7.86	7.74	6.4	57.4	148	102	7.5	1.59	-	0.319	42.3	185	2.2	-	0.54	68	16.5	60.3	-	0.0014	**0.004**
QUL-2a	QUL-2A-0M	2014 09 25	52	7.56	6.94	15.05	0.25	101	68	6.2	1.96	-	0.132	< 5	55.4	< 1	-	< 0.5	32	6.06	54.5	-	< 0.001	< 0.002[a]
	QUL-2A-40M	2014 09 25	58.8	7.19	7.04	5.5	13.2	121	89	8	1.92	-	0.345	14.7	157	< 1	-	< 0.5	46	9.68	58	-	< 0.001	< 0.002[a]
	QUL-2A-60M	2014 09 25	66	7.72	7.12	6.21	41.7	143	106	13	2.08	-	0.288	38.6	179	1.5	-	< 0.5	67	15.4	62.5	-	0.0019	**0.0038**

All terms defined w thin 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 applicab e standard.
* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.
[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .
[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.
[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride
[e] Health Canada Drinking Water Guidelines, 2012.
Gu deline for Nitrate applied.
[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.
[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.
[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-2	QUL-2-0M	2014 09 15	8.5	16.7	< 30	1.82	0.201	0.425	0.75	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.243	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-2X-0M	2014 09 15	9.4	17.1	< 30	1.88	0.244	0.427	0.755	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.235	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QA/QC RPD %		*	2	*	3	19	0	1	*	*	2	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	0	*	*
	QUL-2-25M	2014 09 15	7	18.1	< 30	2.04	4.79	0.523	1.15	< 0.1	0.16	6.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.64	< 0.05	0.9	-	0.813	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.193	< 1	< 3
	QUL-2-38M	2014 09 15	11 2	21	< 30	2 35	29 3	0 855	2 65	0 18	0 5	12 5	< 0 1	< 10	< 0 01	< 0 5	< 0 1	4 78	< 0 05	1 04	-	4 18	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 439	< 1	< 3
	QUL-2-50M	2014 09 15	14.6	22.1	< 30	2.35	41.3	1.05	3.51	0.27	0.67	15.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.17	< 0.05	1.15	-	5.98	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.541	< 1	< 3
	QUL-2-0M	2014 09 17	8 8	17 6	< 30	1 85	0 135	0 462	0 8	< 0 1	< 0 1	4 65	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 76	-	0 234	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 149	< 1	< 3
	QUL-2-16M	2014 09 17	8	17.5	< 30	2.01	0.254	0.493	0.903	< 0.1	0.11	5.81	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.15	< 0.05	0.7	-	0.319	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-2-47M	2014 09 17	14.4	21.6	< 30	2.38	37.2	1.04	3.33	0.24	0.62	14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.58	< 0.05	1.06	-	5.11	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.523	< 1	< 3
	QUL-2-0M	2014 09 09	9 6	16 6	< 30	1 89	0 404	0 464	0 829	< 0 1	0 12	5 51	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 85	< 0 05	0 58	-	0 311	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 14	< 1	< 3
	QUL-2-13M	2014 09 09	7.9	17.7	< 30	1.99	1.79	0.485	0.955	< 0.1	0.14	5.75	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.07	< 0.05	0.53	-	0.461	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.16	< 1	< 3
	QUL-2-48M	2014 09 09	12 4	21 9	< 30	2 44	42 6	0 884	2 74	0 2	0 57	13 9	< 0 1	< 10	< 0 01	< 0 5	< 0 1	4 79	< 0 05	0 75	-	4 28	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 49	< 1	< 3
	QUL-2-0M	2014 09 19	8 3	17 3	< 30	1 85	0 197	0 423	0 753	< 0 1	< 0 1	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 72	-	0 234	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QUL-2-25M	2014 09 19	7.6	18	< 30	2	0.724	0.482	0.932	< 0.1	0.1	5.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.49	< 0.05	0.76	-	0.385	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.154	< 1	< 3
	QUL-2-48M	2014 09 19	11 5	21 4	< 30	2 33	30 1	0 875	2 74	0 19	0 49	12 5	< 0 1	< 10	< 0 01	< 0 5	< 0 1	4 77	< 0 05	0 95	-	4 02	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 459	< 1	< 3
	QUL-2-0M	2014 09 22	8.9	16.5	< 30	1.74	0.174	0.432	0.792	< 0.1	< 0.1	4.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.57	-	0.252	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-2X-0M	2014 09 22	9.1	16.5	< 30	1.74	0.15	0.428	0.792	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.61	-	0.258	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.152	< 1	< 3
	QA/QC RPD %		*	0	*	0	*	< 1	0	*	*	< 1	*	*	*	*	*	*	*	*	-	2	*	*	*	*	*	< 1	*	*
	QUL-2-25M	2014 09 22	7.2	17.9	< 30	1.94	5.01	0.516	1.2	< 0.1	0.17	6.85	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.21	< 0.05	0.69	-	0.91	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.204	< 1	< 3
	QUL-2X-25M	2014 09 22	8 9	17 7	< 30	1 93	5 16	0 532	1 2	< 0 1	0 17	7 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	2 4	< 0 05	0 7	-	0 887	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 205	< 1	< 3
	QA/QC RPD %		*	1	*	< 1	3	3	0	*	*	4	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	< 1	*	*
	QUL-2-47M	2014 09 22	17.9	21.3	< 30	2.27	45.1	1.06	3.69	0.3	0.72	15.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.44	< 0.05	0.92	-	6.37	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.635	< 1	< 3
QUL-2a	QUL-2A-0M	2014 09 25	7.9	17.6	< 30	1.97	0.136	0.435	0.754	< 0.1	< 0.1	4.67	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.54	-	0.213	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-2A-40M	2014 09 25	9.9	19.9	< 30	2.21	13	0.653	1.69	< 0.1	0.29	8.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.3	< 0.05	0.84	-	1.97	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.285	< 1	4.6
	QUL-2A-60M	2014 09 25	14.3	22.4	< 30	2.43	36.3	1.03	3.28	0.25	0.61	13.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.24	< 0.05	1.06	-	5.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.535	< 1	< 3

All terms defined within the body of SNC-Lava in's report (ava lable upon request).
< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no app icable 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) guide ine.
BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.
SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.
BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012.
Guideline for Nitrate app ied.
[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 applicab e to single sample resu ts at this point in time.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			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-2	QUL-2-0M	2014 09 15	13.6	< 0.1	< 0.1	4.74	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.85	1,770	0.619	-	0.271	< 0.5	426	< 0.5	1,330	< 0.01	773	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-2X-0M	2014 09 15	14.9	< 0.1	< 0.1	4.76	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.54	< 30	< 0.05	0.88	1,860	0.607	-	0.264	< 0.5	441	< 0.5	1,410	< 0.01	788	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QA/QC RPD %		9	*	*	0	*	*	*	*	2	*	*	*	*	*	*	5	*	-	3	*	3	*	6	*	2	*	*	*	1	*	*
	QUL-2-25M	2014 09 15	***334***	< 0.1	0.24	13.6	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	0.13	**7.34**	191	0.128	1.01	2,170	12	-	0.862	0.54	679	< 0.5	2,560	< 0.01	1,210	< 0.01	< 0.1	14	0.205	< 1	< 3
	QUL-2-38M	2014 09 15	***2,560***	0 24	1 15	73 4	< 0 1	< 0 5	< 10	0 016	21 100	**1.09**	0 81	**46.5**	***1,150***	0 775	2 01	2 870	***66 6***	-	4 61	1 17	2 150	< 0 5	8 360	0 017	3 240	< 0 01	< 0 1	95	0 51	4 3	4 6
	QUL-2-50M	2014 09 15	***3,430***	0.3	1.54	95.7	0.11	< 0.5	11	0.017	22,400	**1.37**	1.04	**65.5**	***1,460***	0.998	2.21	2,960	***91.2***	-	5.73	1.43	2,820	< 0.5	10,000	0.022	4,230	0.011	0.11	112	0.617	5.9	5.8
	QUL-2-0M	2014 09 17	16 4	< 0 1	< 0 1	4 82	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 73	< 30	< 0 05	0 79	1 780	0 677	-	0 233	< 0 5	459	< 0 5	1 370	< 0 01	808	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-2-16M	2014 09 17	83.9	< 0.1	0.15	6.72	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	**2.82**	86	0.056	0.85	1,950	3.9	-	0.348	< 0.5	517	< 0.5	1,700	< 0.01	938	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-2-47M	2014 09 17	***2,990***	0.28	1.35	85.6	< 0.1	< 0.5	11	0.017	22,300	**1.23**	0.9	**57**	***1,310***	1	2.25	3,060	***81***	-	5.64	1.32	2,560	< 0.5	9,260	0.02	4,010	0.012	< 0.1	104	0.631	5	5.5
	QUL-2-0M	2014 09 09	41 1	< 0 1	0 12	5 62	< 0 1	< 0 5	< 10	< 0 01	15 900	< 0 5	< 0 1	1 4	38	< 0 05	< 0 5	1 830	2 05	< 0 01	0 319	< 0 5	463	< 0 5	1 480	< 0 01	819	< 0 01	< 0 1	< 10	0 144	< 1	< 3
	QUL-2-13M	2014 09 09	***157***	< 0 1	0.19	8.81	< 0 1	< 0 5	< 10	< 0 01	17,500	< 0 5	< 0 1	**4.18**	94	0.079	0.51	2,010	7.72	< 0 01	0.585	< 0 5	546	< 0 5	1,920	< 0 01	1,020	< 0 01	< 0 1	< 10	0.187	< 1	< 3
	QUL-2-48M	2014 09 09	***2,510***	0 24	1 2	68	< 0 1	< 0 5	11	0 014	21 400	**1.18**	0 84	**47.6**	***1,240***	0 846	1 49	2 880	***87.8***	< 0 01	4 34	1 24	2 040	< 0 5	7 530	0 02	3 100	< 0 01	< 0 1	92	0 552	4 5	4 9
	QUL-2-0M	2014 09 19	< 18	< 0 1	< 0 1	4 74	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 52	< 30	< 0 05	0 72	1 850	0 602	-	0 268	< 0 5	429	< 0 5	1 370	< 0 01	788	< 0 01	< 0 1	< 10	0 15	< 1	< 3
	QUL-2-25M	2014 09 19	97.5	< 0.1	0.15	7.19	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	**2.84**	65	< 0.05	0.77	2,000	4.22	-	0.438	< 0.5	512	< 0.5	1,790	< 0.01	987	< 0.01	< 0.1	< 10	0.173	< 1	< 3
	QUL-2-48M	2014 09 19	***2,030***	0 21	0 98	57 8	< 0 1	< 0 5	< 10	0 011	20 300	0 83	0 65	**40.1**	***926***	0 676	1 72	2 590	***61.4***	-	4 15	0 97	1 740	< 0 5	6 380	0 013	3 020	< 0 01	< 0 1	72	0 487	3 6	3 8
	QUL-2-0M	2014 09 22	14.9	< 0.1	0.11	4.89	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.55	< 30	< 0.05	0.69	1,790	0.808	-	0.294	< 0.5	443	< 0.5	1,390	< 0.01	835	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-2X-0M	2014 09 22	16.7	< 0.1	0.11	5.05	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.72	< 30	< 0.05	0.69	1,810	0.908	-	0.307	< 0.5	444	< 0.5	1,410	< 0.01	834	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QA/QC RPD %		*	*	*	3	*	*	*	*	< 1	*	*	*	*	*	*	1	*	-	4	*	< 1	*	1	*	< 1	*	*	*	0	*	*
	QUL-2-25M	2014 09 22	***288***	< 0.1	0.23	12.6	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	0.11	**6.7**	162	0.126	0.87	1,950	11.5	-	0.924	< 0.5	628	< 0.5	2,250	< 0.01	1,240	< 0.01	< 0.1	13	0.22	< 1	< 3
	QUL-2X-25M	2014 09 22	***307***	< 0 1	0 26	13 2	< 0 1	< 0 5	< 10	< 0 01	17 700	< 0 5	0 11	**6.76**	174	0 125	0 88	1 990	11 6	-	0 935	< 0 5	641	< 0 5	2 300	< 0 01	1 250	< 0 01	< 0 1	13	0 225	< 1	< 3
	QA/QC RPD %		6	*	*	5	*	*	*	*	2	*	*	*	7	*	*	2	*	-	1	*	2	*	2	*	< 1	*	*	*	2	*	*
	QUL-2-47M	2014 09 22	***3,000***	0.32	1.5	87.6	< 0.1	< 0.5	< 10	0.016	22,100	**1.28**	0.95	**59.7**	***1,450***	1.08	2.09	2,880	***90.1***	-	6.56	1.23	2,410	< 0.5	8,260	0.019	4,180	0.011	< 0.1	106	0.713	5.3	5.1
QUL-2a	QUL-2A-0M	2014 09 25	18	< 0.1	< 0.1	4.88	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.57	< 30	< 0.05	< 0.5	1,880	0.934	-	0.24	< 0.5	433	< 0.5	1,400	< 0.01	773	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-2A-40M	2014 09 25	***1,250***	0.14	0.59	35.8	< 0.1	< 0.5	< 10	< 0.01	20,600	0.61	0.38	**21.1**	***551***	0.369	1.06	2,480	33.5	-	2.3	0.73	1,310	< 0.5	4,880	< 0.01	2,070	< 0.01	< 0.1	44	0.34	2.1	< 3
	QUL-2A-60M	2014 09 25	***3,150***	0.32	1.39	88.2	< 0.1	< 0.5	11	0.017	23,000	**1.28**	0.93	**58.3**	***1,350***	0.994	1.87	3,060	***82.8***	-	5.76	1.32	2,620	< 0.5	9,030	0.021	4,000	0.017	< 0.1	112	0.66	5.2	5.3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.

BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012.
Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[j]	Change of 1	n/a	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	6 5-8 5	n/a[j]	n/a[j]	n/a	500	n/a	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-18	QUL-18	2014 09 15	50	8	7.95	10.2	0.47	101	64	20.6	1.77	-	0.128	< 5	66.6	< 1	-	< 0.5	33	6.06	48.8	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 16	51.8	8.01	7.96	15.5	0.3	101	65	< 3	1.75	-	0.135	< 5	60	< 1	-	< 0.5	34	6.04	48.3	-	< 0.001	< 0.002[a]
	QUL-18-0M	2014 09 17	50.3	8.1	7.84	14.9	0.27	100	64	< 3	1.71	-	0.112	< 5	58.1	< 1	-	< 0.5	35	5.99	47.3	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 18	51 6	7 91	8	15 4	0 24	99 5	67	< 3	1 77	-	0 118	< 5	56 8	< 1	-	< 0 5	32	6 04	47 9	-	< 0 001	< 0.002[a]
	QUL-18	2014 09 19	51.1	8.01	7.94	15.9	0.29	99	59	< 3	1.58	-	0.123	< 5	57.8	< 1	-	< 0.5	34	6.03	48	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 20	48.5	8.09	7.95	15.2	0.44	101	62	< 3	1.59	-	0.123	< 5	55.8	< 1	-	< 0.5	33	6.04	48.3	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 22	47.8	8.03	7.79	15.23	0.51	101	62	< 3	1.49	-	0.131	< 5	55.2	< 1	-	< 0.5	33	6.02	46.9	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 23	51 5	7 55	7 95	15 04	0 45	101	62	< 3	1 94	-	0 131	< 5	54 6	< 1	-	< 0 5	32	6 05	50 1	-	< 0 001	< 0.002[a]
	QUL-18-0M	2014 09 25	51.7	8.08	7.05	15	0.66	101	68	< 3	2.03	-	0.135	< 5	55.9	< 1	-	< 0.5	32	6.09	53.5	-	< 0.001	< 0.002[a]
	QUL-18-40M	2014 09 25	63.7	7.7	7.1	6.35	30.5	140	106	10.7	2.41	-	0.273	31.5	178	1.2	-	< 0.5	63	14.4	61.6	-	< 0.001	**0.0029**
	QUL-18-100M	2014 09 25	71.8	7.88	7.16	6.66	55.8	162	127	27.6	2.42	-	0.37	59.7	202	4.5	-	0.65	83	20	71.2	-	0.0031	**0.0048**
QUL-20	QUL-20	2014 09 16	51.2	7.98	7.96	14.5	0.37	101	56	< 3	1.72	-	0.124	< 5	62.6	< 1	-	< 0.5	34	6	47.8	-	< 0.001	< 0.002[a]
	QUL-20-0M	2014 09 17	50 9	8 05	7 92	14 4	0 36	101	68	< 3	1 81	-	0 133	< 5	60 6	< 1	-	< 0 5	35	5 98	48 3	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 18	52	7 93	7 99	14 4	0 43	101	64	< 3	1 84	-	0 126	< 5	59 6	< 1	-	< 0 5	32	6 03	47 7	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 19	51.2	7.98	7.93	14.6	0.5	100	60	< 3	1.59	-	0.126	< 5	60.1	< 1	-	< 0.5	34	6.01	47	-	< 0.001	< 0.002[a]
	QUL-20	2014 09 20	48.5	8.11	7.96	15	0.44	102	63	< 3	1.57	-	0.124	< 5	57.2	< 1	-	< 0.5	35	6.03	48	-	< 0.001	< 0.002[a]
	QUL-20	2014 09 22	49	8 02	7 89	15 13	0 29	101	61	< 3	1 67	-	0 139	< 5	54 9	< 1	-	< 0 5	33	5 98	47 8	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 23	51 3	8	7 94	15 2	0 43	101	68	< 3	1 94	-	0 123	< 5	55 3	< 1	-	< 0 5	31	6 05	55 7	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 26	51.4	8	7.69	14.99	0.46	99.5	67	< 3	1.9	-	0.098	< 5	54.2	< 1	-	< 0.5	34	6.06	49.2	-	< 0.001	< 0.002[a]
	QUL-20	2014 09 29	50.9	8.06	7.74	14.65	0.57	100	61	< 3	1.6	-	0.124	< 5	53.2	< 1	-	< 0.5	32	6.08	50.6	-	< 0.001	< 0.002[a]
QUL-21	QUL-21-0M	2014 09 16	51 5	7 98	7 97	15 6	0 43	102	55	< 3	1 77	-	0 119	< 5	61 7	< 1	-	< 0 5	33	6 05	48 6	-	< 0 001	< 0.002[a]
	QUL-21-30M	2014 09 16	56.5	7.58	7.96	5.5	8.18	114	68	< 3	1.79	-	0.277	7.1	156	< 1	-	< 0.5	42	7.98	52.7	-	< 0.001	**0.0027**
	QUL-21-46M	2014 09 16	68 2	7 84	8 04	6 3	48 3	148	98	9 7	2 05	-	0 308	44 1	202	2	-	0 53	68	16 3	61	-	0 0015	**0.0034**
	QUL-21-0M	2014 09 18	51.4	7.93	8	15.1	0.24	99.7	68	< 3	1.75	-	0.117	< 5	57.7	< 1	-	< 0.5	32	6.05	45.4	-	< 0.001	< 0.002[a]
	QUL-21-18M	2014 09 18	52.7	7.53	7.96	8.7	1.01	103	73	< 3	1.94	-	0.156	< 5	102	< 1	-	< 0.5	34	6.15	47.8	-	< 0.001	< 0.002[a]
	QUL-21-46M	2014 09 18	64 9	7 7	7 94	6 3	43 9	102	105	5 8	1 93	-	0 284	37 3	167	1 8	-	< 0 5	60	13 6	48 9	-	0 0015	**0.0021**
	QUL-21-0M	2014 09 20	48.8	8.09	7.96	15.9	0.37	100	65	< 3	1.69	-	0.129	< 5	56.2	< 1	-	< 0.5	33	6.03	47.4	-	< 0.001	< 0.002[a]
	QUL-21-30M	2014 09 20	52.5	7.62	7.91	5.3	5.08	110	69	< 3	1.65	-	0.215	< 5	152	< 1	-	< 0.5	39	7.13	51.3	-	< 0.001	< 0.002[a]
	QUL-21-45M	2014 09 20	66.7	7.84	7.99	6.4	61.8	148	102	7.9	1.72	-	0.332	46.8	197	2	-	0.53	68	16.3	59.3	-	0.0022	**0.0025**
	QUL-21-0M	2014 09 23	51.4	7.81	7.95	15.33	0.48	101	65	< 3	1.9	-	0.114	< 5	52.5	< 1	-	< 0.5	31	6.04	48.9	-	< 0.001	< 0.002[a]
	QUL-21X-0M	2014 09 23	50 7	7 81	7 94	15 33	0 4	101	62	< 3	1 97	-	0 117	< 5	52 7	< 1	-	< 0 5	31	6 05	49 7	-	0 0015	< 0.002[a]
	QA/QC RPD %		1	0	< 1	0	*	0	5	*	*	-	*	*	< 1	*	-	*	*	< 1	2	-	*	*
	QUL-21-20M	2014 09 23	51.8	7.64	7.91	8.9	0.79	104	67	< 3	2.08	-	0.167	5.2	102	< 1	-	< 0.5	34	6.18	50.7	-	0.0017	< 0.002[a]
	QUL-21-47M	2014 09 23	66.7	7.54	8	6.37	54.7	147	103	8.2	1.96	-	0.31	44.8	188	2.1	-	0.52	68	16.1	61.7	-	0.0025	**0.004**
	QUL-21-0M	2014 09 29	51.5	8.16	7.74	14.67	0.43	101	63	< 3	1.5	-	0.128	< 5	53.9	< 1	-	< 0.5	32	6.09	50.8	-	< 0.001	< 0.002[a]
	QUL-21-40M	2014 09 29	63.7	7.65	7.76	6.2	38.3	133	94	5	1.71	-	0.285	35.6	179	1.5	-	< 0.5	62	14.4	59.7	-	< 0.001	**0.0021**
	QUL-21X-40M	2014 09 29	62 6	7 65	7 76	6 2	35 7	134	94	6 6	1 6	-	0 284	35 6	179	1 5	-	< 0 5	61	14 3	59 7	-	< 0 001	**0.0021**
	QA/QC RPD %		2	0	0	0	7	< 1	0	*	*	-	< 1	0	0	*	-	*	*	< 1	0	-	*	*
	QUL-21-45M	2014 09 29	64.4	7.77	7.77	6.38	41.1	141	96	3.6	1.68	-	0.315	39.2	184	2.2	-	< 0.5	65	15.3	61.5	-	< 0.001	**0.0021**
QUL-21a	QUL-21A-0M	2014 09 25	51.9	8.03	7.06	15	0.63	101	64	6.8	2.01	-	0.136	< 5	54.6	< 1	-	< 0.5	32	6.08	51.3	-	< 0.001	< 0.002[a]
	QUL-21A-40M	2014 09 25	64 6	7 68	7 12	6 33	32 8	141	101	12 6	2 44	-	0 311	37 1	177	1 2	-	< 0 5	66	15	62 4	-	0 0012	**0.0024**
	QUL-21AX-40M	2014 09 25	64.9	7.68	7.13	6.33	33.7	142	102	10.7	2.34	-	0.298	37.5	179	1.3	-	< 0.5	67	15.4	64.1	-	0.0012	**0.0024**
	QA/QC RPD %		< 1	0	< 1	0	3	< 1	< 1	*	*	-	4	1	1	*	-	*	*	3	3	-	*	*
	QUL-21A-65M	2014 09 25	69 1	7 89	7 13	6 6	46 3	153	108	8 4	2 39	-	0 325	49 5	195	2 7	-	0 56	74	17 7	64 6	-	0 0028	**0.0038**
	QUL-21A-0M	2014 09 27	51.4	8.05	7.67	15.33	0.68	101	65	< 3	1.92	-	0.094	< 5	55.3	< 1	-	< 0.5	34	6.09	49.9	-	< 0.001	< 0.002[a]
	QUL-21A-40M	2014 09 27	67 6	7 75	7 75	6 46	53 4	145	101	6 8	2 05	-	0 274	43 3	185	1 4	-	0 51	68	16	60 8	-	0 0012	**0.0022**
	QUL-21A-60M	2014 09 27	69.7	7.8	7.77	6.56	66.6	154	99	8.5	2.05	-	0.289	55.9	201	2.8	-	0.59	82	17.9	62.9	-	0.0029	**0.0038**
	QUL-21AX-60M	2014 09 27	69 5	7 8	7 79	6 56	65 9	158	105	5 5	1 95	-	0 283	55 6	202	2 9	-	0 58	73	17 8	62 9	-	0 0023	**0.0037**
	QA/QC RPD %		< 1	0	< 1	0	1	3	6	*	*	-	2	< 1	< 1	*	-	*	*	< 1	0	-	*	*

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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)[b,c,h]			50-1000[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)[b,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)[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	n/a	n/a	n/a
QUL-18	QUL-18	2014 09 15	8.5	16.9	< 30	1.91	0.467	0.463	0.816	< 0.1	0.11	5.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	0.82	-	0.297	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-18	2014 09 16	9.3	17.6	< 30	1.92	0.257	0.436	0.758	< 0.1	< 0.1	4.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.232	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-18-0M	2014 09 17	9.2	17.2	< 30	1.81	0.147	0.458	0.82	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.231	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-18	2014 09 18	8 9	17 5	< 30	1 91	0 19	0 427	0 775	< 0 1	< 0 1	4 6	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 76	-	0 22	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 145	< 1	< 3
	QUL-18	2014 09 19	10.3	17.4	< 30	1.88	0.216	0.438	0.779	< 0.1	< 0.1	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.233	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-18	2014 09 20	9.4	16.5	< 30	1.76	0.184	0.427	0.757	< 0.1	< 0.1	4.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.239	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-18	2014 09 22	9	16.3	< 30	1.73	0.294	0.431	0.783	< 0.1	< 0.1	4.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.62	-	0.25	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.153	< 1	< 3
	QUL-18	2014 09 23	8 6	17 5	< 30	1 89	0 192	0 451	0 789	< 0 1	< 0 1	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 52	< 0 05	1 05	-	0 243	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
	QUL-18-0M	2014 09 25	8.3	17.6	< 30	1.9	0.357	0.439	0.773	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	0.76	-	0.257	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-18-40M	2014 09 25	12.8	21.6	< 30	2.37	31.8	0.864	2.7	0.19	0.51	12.7	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.82	< 0.05	0.97	-	4.21	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.464	< 1	< 3
	QUL-18-100M	2014 09 25	21	24.4	< 30	2.63	62.2	1.21	4.19	0.34	0.87	17.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.88	< 0.05	1.15	-	7.5	< 0.5	0.54	< 0.01	< 0.01	< 10	0.726	1.1	< 3
QUL-20	QUL-20	2014 09 16	8.7	17.3	< 30	1.93	0.185	0.439	0.796	< 0.1	< 0.1	4.97	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.82	-	0.276	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-20-0M	2014 09 17	8	17 2	< 30	1 92	0 158	0 455	0 816	< 0 1	< 0 1	4 93	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 5	< 0 05	0 69	-	0 258	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 145	< 1	< 3
	QUL-20	2014 09 18	8 1	17 6	< 30	1 95	0 157	0 44	0 805	< 0 1	< 0 1	4 8	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 54	< 0 05	0 72	-	0 256	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-20	2014 09 19	8.6	17.4	< 30	1.91	0.174	0.434	0.798	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.243	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-20	2014 09 20	8.6	16.5	< 30	1.77	0.237	0.436	0.767	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.78	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-20	2014 09 22	8	16 7	< 30	1 78	0 192	0 429	0 805	< 0 1	< 0 1	4 97	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 5	-	0 228	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 136	< 1	< 3
	QUL-20	2014 09 23	8 6	17 4	< 30	1 9	0 264	0 451	0 844	< 0 1	< 0 1	4 91	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 58	< 0 05	0 76	-	0 239	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 149	< 1	< 3
	QUL-20	2014 09 26	9.5	17.5	< 30	1.9	0.189	0.443	0.794	< 0.1	< 0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.235	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-20	2014 09 29	8.2	17.3	< 30	1.89	0.137	0.448	0.811	< 0.1	0.12	5.02	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.83	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
QUL-21	QUL-21-0M	2014 09 16	10	17 5	< 30	1 92	0 254	0 436	0 776	< 0 1	< 0 1	4 72	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 7	-	0 243	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-21-30M	2014 09 16	7.3	19.1	< 30	2.16	9.52	0.555	1.29	< 0.1	0.19	7.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.36	< 0.05	0.92	-	1.07	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.206	< 1	< 3
	QUL-21-46M	2014 09 16	14 3	23 1	< 30	2 54	53 5	1 02	3 34	0 24	0 67	16	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 93	< 0 05	1 1	-	5 56	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 579	< 1	< 3
	QUL-21-0M	2014 09 18	9.4	17.5	< 30	1.9	0.326	0.436	0.791	< 0.1	0.1	4.66	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.7	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.152	< 1	< 3
	QUL-21-18M	2014 09 18	7	17.8	< 30	2	0.148	0.462	0.875	< 0.1	0.11	5.66	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.82	< 0.05	0.75	-	0.331	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-21-46M	2014 09 18	13 4	22	< 30	2 42	41 7	0 92	2 98	0 21	0 56	13 7	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 47	< 0 05	1 05	-	4 5	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 495	< 1	< 3
	QUL-21-0M	2014 09 20	8.5	16.6	< 30	1.77	0.174	0.423	0.751	< 0.1	0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.78	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
	QUL-21-30M	2014 09 20	6.7	17.8	< 30	1.96	5.73	0.509	1.08	< 0.1	0.16	6.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.79	< 0.05	0.81	-	0.66	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.195	< 1	< 3
	QUL-21-45M	2014 09 20	14.7	22.6	< 30	2.5	51	1.03	3.52	0.26	0.69	16.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.07	< 0.05	1.01	-	5.53	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.606	< 1	< 3
	QUL-21-0M	2014 09 23	8.6	17.4	< 30	1.93	0.169	0.457	0.799	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	1.02	-	0.246	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-21X-0M	2014 09 23	8 6	17 2	< 30	1 89	0 213	0 456	0 795	< 0 1	< 0 1	4 82	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 5	< 0 05	1 03	-	0 242	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QA/QC RPD %		*	1	*	2	*	< 1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
	QUL-21-20M	2014 09 23	7.6	17.5	< 30	1.98	0.205	0.484	0.888	< 0.1	0.11	5.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.52	< 0.05	0.98	-	0.338	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.156	< 1	< 3
	QUL-21-47M	2014 09 23	16.4	22.6	< 30	2.5	45.4	1.05	3.44	0.29	0.68	14.9	< 0.1	< 10	0.011	< 0.5	< 0.1	6.76	< 0.05	1.34	-	5.8	< 0.5	0.55	< 0.01	< 0.01	< 10	0.6	< 1	< 3
	QUL-21-0M	2014 09 29	8.3	17.5	< 30	1.91	0.093	0.418	0.766	< 0.1	< 0.1	4.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.86	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-21-40M	2014 09 29	12.3	21.6	< 30	2.39	31.4	0.913	2.9	0.19	0.54	13.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.4	< 0.05	1.19	-	4.42	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.488	< 1	< 3
	QUL-21X-40M	2014 09 29	12 6	21 2	< 30	2 35	30 9	0 89	2 82	0 18	0 55	12 8	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 25	< 0 05	1 14	-	4 16	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 477	< 1	< 3
	QA/QC RPD %		*	2	*	2	2	3	3	*	2	4	*	*	*	*	*	3	*	*	-	6	*	*	*	*	*	2	*	*
	QUL-21-45M	2014 09 29	14.1	21.8	< 30	2.41	37.1	0.978	3.21	0.22	0.63	14.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.95	< 0.05	1.14	-	4.99	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.53	< 1	< 3
QUL-21a	QUL-21A-0M	2014 09 25	8.3	17.6	< 30	1.93	0.221	0.43	0.766	< 0.1	< 0.1	4.79	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.76	-	0.253	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-21A-40M	2014 09 25	13 9	21 9	< 30	2 4	36 2	0 919	3 02	0 23	0 56	13 7	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 38	< 0 05	1	-	4 73	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 506	< 1	< 3
	QUL-21AX-40M	2014 09 25	13	22	< 30	2.41	34.8	0.902	2.95	0.22	0.55	13.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.31	< 0.05	1.1	-	4.66	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.499	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	4	2	2	*	2	3	*	*	*	*	*	1	*	*	-	2	*	*	*	*	*	1	*	*
	QUL-21A-65M	2014 09 25	21 1	23 5	< 30	2 56	52 2	1 04	3 53	0 29	0 73	15 7	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 97	< 0 05	1 05	-	6 01	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 625	< 1	< 3
	QUL-21A-0M	2014 09 27	8.9	17.5	< 30	1.9	0.204	0.449	0.796	< 0.1	< 0.1	5.18	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	1	-	0.275	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.163	< 1	< 3
	QUL-21A-40M	2014 09 27	17 3	23	< 30	2 5	42 9	1 06	3 6	0 29	0 71	16 1	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 1	< 0 05	1 28	-	6 26	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 629	< 1	< 3
	QUL-21A-60M	2014 09 27	16.9	23.6	< 30	2.58	57.4	1.17	3.97	0.31	0.8	17.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.47	< 0.05	1.31	-	6.97	< 0.5	0.5	< 0.01	< 0.01	< 10	0.721	1	< 3
	QUL-21AX-60M	2014 09 27	17 3	23 5	< 30	2 59	56 5	1 15	3 92	0 31	0 77	17 3	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 55	< 0 05	1 25	-	6 89	< 0 5	0 54	< 0 01	< 0 01	< 10	0 714	1	< 3
	QA/QC RPD %		2	< 1	*	< 1	2	2	1	*	4	< 1	*	*	*	*	*	1	*	*	-	1	*	*	*	*	*	< 1	*	*

All terms defined within the body of SNC-Lava in's report (ava lable upon request).

< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no app icable 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) guide ine.

BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.

[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .

[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de

[e] Health Canada Drinking Water Gu delines, 2012. Guideline for Nitrate app ied.

[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 applicab e to single sample resu ts at this point in time.

[h] Ca culated based on an individual sample bas s, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																	
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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	QUL-18	2014 09 15	26.5	< 0.1	0.12	5.5	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.98	< 30	< 0.05	0.87	1,940	1.25	-	0.316	< 0.5	477	< 0.5	1,520	< 0.01	857	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-18	2014 09 16	16	< 0.1	< 0.1	4.75	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.55	< 30	< 0.05	0.8	1,900	0.705	-	0.262	< 0.5	443	< 0.5	1,400	< 0.01	766	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-18-0M	2014 09 17	17.3	< 0.1	< 0.1	4.9	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.55	< 30	< 0.05	0.7	1,830	0.75	-	0.289	< 0.5	481	< 0.5	1,420	< 0.01	858	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUL-18	2014 09 18	14	< 0 1	< 0 1	4 73	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 77	< 30	< 0 05	0 72	1 900	0 691	-	0 246	< 0 5	433	< 0 5	1 400	< 0 01	783	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-18	2014 09 19	< 15	< 0 1	< 0 1	4 92	< 0 1	< 0 5	< 10	< 0 01	17,200	< 0 5	< 0 1	0 57	< 30	< 0 05	0 7	1,880	0 683	-	0 264	< 0 5	458	< 0 5	1,410	< 0 01	850	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QUL-18	2014 09 20	16.8	< 0.1	< 0.1	4.86	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.61	< 30	< 0.05	0.69	1,750	0.811	-	0.298	< 0.5	436	< 0.5	1,360	< 0.01	773	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QUL-18	2014 09 22	24.8	< 0 1	0.11	5.08	< 0 1	< 0 5	< 10	< 0 01	16,600	< 0 5	< 0 1	0.8	< 30	< 0 05	0.75	1,770	1.19	-	0.261	< 0 5	430	< 0 5	1,390	< 0 01	806	< 0 01	< 0 1	< 10	0.158	< 1	< 3
	QUL-18	2014 09 23	22 1	< 0 1	0 13	5 06	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	0 84	< 30	< 0 05	1 07	1 970	1 16	-	0 313	< 0 5	516	< 0 5	1 470	< 0 01	869	< 0 01	< 0 1	< 10	0 162	< 1	< 3
	QUL-18-0M	2014 09 25	66.1	< 0.1	0.11	5.53	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	1.44	68	< 0.05	< 0.5	1,940	2.36	-	0.334	< 0.5	472	< 0.5	1,520	< 0.01	834	< 0.01	< 0.1	< 10	0.166	< 1	< 3
	QUL-18-40M	2014 09 25	***2,110***	0.24	1	61.9	< 0.1	< 0.5	< 10	0.013	21,400	0.95	0.62	**37.4**	***930***	0.652	1.48	2,720	***65.6***	-	4.41	1.02	1,940	< 0.5	6,930	0.014	3,150	< 0.01	< 0.1	73	0.521	3.6	3.9
	QUL-18-100M	2014 09 25	***4,100***	0.39	1.85	117	< 0.1	< 0.5	13	0.02	24,500	**1.7**	1.23	**73.2**	***1,770***	1.25	2.25	3,370	***124***	-	7.73	1.63	3,280	0.59	11,400	0.028	5,220	0.015	0.11	142	0.842	**6.8**	6.9
QUL-20	QUL-20	2014 09 16	22.9	< 0.1	< 0.1	5.21	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.73	< 30	< 0.05	0.8	1,950	1.23	-	0.297	< 0.5	457	< 0.5	1,470	< 0.01	828	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-20-0M	2014 09 17	23 7	< 0 1	0 13	5 27	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	1 05	< 30	< 0 05	0 78	1 990	1 23	-	0 353	< 0 5	485	< 0 5	1 540	< 0 01	874	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-20	2014 09 18	21 3	< 0 1	0 11	5 18	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 74	< 30	< 0 05	0 74	1 940	1 22	-	0 275	< 0 5	452	< 0 5	1 460	< 0 01	828	< 0 01	< 0 1	< 10	0 159	< 1	< 3
	QUL-20	2014 09 19	< 24	< 0.1	0.11	5.33	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	0.77	< 30	< 0.05	0.77	1,950	1.3	-	0.287	< 0.5	476	< 0.5	1,490	< 0.01	877	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QUL-20	2014 09 20	18.4	< 0.1	0.12	4.94	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.59	< 30	< 0.05	0.69	1,760	0.97	-	0.262	< 0.5	434	< 0.5	1,370	< 0.01	779	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-20	2014 09 22	17 6	< 0 1	0 1	5 16	< 0 1	< 0 5	< 10	< 0 01	16 300	< 0 5	< 0 1	1 28	< 30	< 0 05	0 63	1 750	1 01	-	0 277	< 0 5	428	< 0 5	1 360	< 0 01	810	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUL-20	2014 09 23	19	< 0 1	0 11	4 91	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 64	< 30	< 0 05	0 96	1 890	1 12	-	0 31	< 0 5	469	< 0 5	1 420	< 0 01	835	< 0 01	< 0 1	< 10	0 167	< 1	< 3
	QUL-20	2014 09 26	20	< 0.1	0.11	4.88	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.68	< 30	< 0.05	0.66	1,880	1.34	-	0.254	< 0.5	438	< 0.5	1,380	< 0.01	794	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-20	2014 09 29	21.3	< 0.1	0.12	5.04	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.77	< 30	< 0.05	0.89	1,890	1.31	-	0.28	< 0.5	443	< 0.5	1,410	< 0.01	803	< 0.01	< 0.1	< 10	0.158	< 1	< 3
QUL-21	QUL-21-0M	2014 09 16	15 9	< 0 1	< 0 1	4 77	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 55	< 30	< 0 05	0 81	1 870	0 683	-	0 307	< 0 5	434	< 0 5	1 380	< 0 01	773	< 0 01	< 0 1	< 10	0 145	< 1	< 3
	QUL-21-30M	2014 09 16	***512***	< 0.1	0.33	18.1	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	0.21	**10.5**	282	0.176	0.97	2,170	21	-	1.13	0.57	763	< 0.5	2,870	< 0.01	1,340	< 0.01	< 0.1	21	0.22	1	< 3
	QUL-21-46M	2014 09 16	***3,450***	0 28	1 55	95 1	< 0 1	< 0 5	< 10	0 019	23 100	**1.51**	1 15	**62.8**	***1,630***	1 04	2 5	3 240	***108***	-	5 89	1 58	2 670	0 51	10 100	0 025	3 900	0 011	< 0 1	122	0 639	5 9	5 9
	QUL-21-0M	2014 09 18	13.7	< 0.1	< 0.1	4.75	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.71	1,880	0.662	-	0.242	< 0.5	432	< 0.5	1,390	< 0.01	792	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-21-18M	2014 09 18	57.1	< 0.1	0.13	6.39	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	2.1	47	< 0.05	0.82	2,000	2.71	-	0.379	< 0.5	491	< 0.5	1,690	< 0.01	901	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-21-46M	2014 09 18	***2,480***	0 24	1 2	69 5	< 0 1	< 0 5	< 10	0 018	21 700	**1.11**	0 8	**46.3**	***1,170***	0 785	1 96	2 890	***78.3***	-	4 53	1 14	2 080	< 0 5	7 540	0 017	3 230	0 01	< 0 1	88	0 531	4 3	4 9
	QUL-21-0M	2014 09 20	16.6	< 0.1	0.1	5.02	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.67	< 30	< 0.05	0.79	1,760	0.829	-	0.265	< 0.5	444	< 0.5	1,370	< 0.01	781	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-21-30M	2014 09 20	***233***	< 0.1	0.24	11.3	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	0.1	**6.32**	144	0.11	0.97	1,970	13.1	-	0.754	< 0.5	604	< 0.5	2,120	< 0.01	1,130	< 0.01	< 0.1	12	0.207	< 1	< 3
	QUL-21-45M	2014 09 20	***3,040***	0.3	1.44	88	< 0.1	< 0.5	< 10	0.019	22,200	**1.32**	0.99	**61.3**	***1,410***	1.04	2.13	2,930	***98.7***	-	5.85	1.39	2,410	0.51	8,940	0.021	4,030	0.012	< 0.1	106	0.684	5.2	5.4
	QUL-21-0M	2014 09 23	22.9	< 0.1	0.13	4.99	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.89	< 30	< 0.05	0.99	1,840	1.02	-	0.292	< 0.5	475	< 0.5	1,390	< 0.01	826	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-21X-0M	2014 09 23	52 1	< 0 1	0 13	4 96	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	0 94	89	< 0 05	1	1 900	1 86	-	0 304	< 0 5	474	< 0 5	1 460	< 0 01	810	< 0 01	< 0 1	< 10	0 158	< 1	< 3
	QA/QC RPD %		78	*	*	< 1	*	*	*	*	1	*	*	*	*	*	*	3	*	-	4	*	< 1	*	5	*	2	*	*	*	< 1	*	*
	QUL-21-20M	2014 09 23	40.9	< 0.1	0.15	6.17	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	1.93	< 30	< 0.05	1.04	1,950	2	-	0.38	< 0.5	504	< 0.5	1,650	< 0.01	928	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-21-47M	2014 09 23	***3,000***	0.32	1.45	84.6	< 0.1	< 0.5	< 10	0.018	22,500	**1.23**	0.93	**58.7**	***1,290***	1.01	2.33	3,060	***94.5***	-	6.1	1.33	2,510	< 0.5	8,200	0.021	4,110	0.012	0.13	102	0.674	5.3	5.1
	QUL-21-0M	2014 09 29	28	< 0.1	0.14	4.8	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.92	< 30	< 0.05	0.81	1,840	1.09	-	0.29	< 0.5	432	< 0.5	1,390	< 0.01	765	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-21-40M	2014 09 29	***2,010***	0.23	1.03	61.6	< 0.1	< 0.5	< 10	0.013	21,500	0.81	0.6	**39.7**	***819***	0.682	1.78	2,710	***64.3***	-	4.66	0.96	1,880	< 0.5	6,320	0.015	3,240	< 0.01	< 0.1	70	0.531	3.5	4
	QUL-21X-40M	2014 09 29	***2,390***	0 23	1 1	69 5	< 0 1	< 0 5	< 10	0 017	22 200	0 95	0 63	**41.9**	***869***	0 698	1 88	2 830	***67.9***	-	4 76	1 02	2 130	< 0 5	7 310	0 014	3 470	< 0 01	< 0 1	78	0 537	3 8	4 2
	QA/QC RPD %		17	*	7	12	*	*	*	*	3	*	5	*	6	*	*	4	*	-	2	*	13	*	15	*	7	*	*	11	1	*	*
	QUL-21-45M	2014 09 29	***2,220***	0.26	1.2	65.8	< 0.1	< 0.5	< 10	0.016	22,100	0.95	0.68	**47.2**	***953***	0.802	1.92	2,850	***75***	-	5.28	1.12	1,990	< 0.5	6,570	0.016	3,590	< 0.01	< 0.1	82	0.598	4	4.6
QUL-21a	QUL-21A-0M	2014 09 25	45.3	< 0.1	0.11	5.31	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	1.18	43	< 0.05	0.6	1,890	1.87	-	0.345	< 0.5	444	< 0.5	1,470	< 0.01	811	< 0.01	< 0.1	< 10	0.164	< 1	< 3
	QUL-21A-40M	2014 09 25	***2,560***	0 28	1 21	76 2	< 0 1	< 0 5	10	0 015	21 800	**1.13**	0 76	**47.1**	***1,100***	0 792	1 8	2 850	***76.3***	-	5 36	1 18	2 320	< 0 5	8 020	0 017	3 600	0 011	< 0 1	89	0 584	4 3	5 5
	QUL-21AX-40M	2014 09 25	***2,500***	0.29	1.21	74.9	< 0.1	< 0.5	10	0.022	22,200	**1.11**	0.78	**47.8**	***1,140***	0.816	1.75	2,920	***76.9***	-	5.36	1.13	2,240	< 0.5	7,910	0.03	3,570	0.018	< 0.1	91	0.596	4.3	4.5
	QA/QC RPD %		2	*	0	2	*	*	*	*	2	*	3	*	4	*	*	2	*	-	0	*	4	*	1	*	< 1	*	*	2	2	*	*
	QUL-21A-65M	2014 09 25	***3,320***	0 34	1 55	96 4	< 0 1	< 0 5	11	0 018	23 800	**1.41**	1 06	**62.4**	***1,630***	1 11	1 99	3 280	***103***	-	6 55	1 44	2 740	0 52	10 100	0 026	4 130	0 013	< 0 1	131	0 728	5 7	5 7
	QUL-21A-0M	2014 09 27	25.5	< 0.1	0.12	5.19	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	1.08	< 30	0.06	0.81	1,930	1.18	-	0.286	< 0.5	466	< 0.5	1,420	< 0.01	846	< 0.01	< 0.1	< 10	0.165	< 1	< 3
	QUL-21A-40M	2014 09 27	***2,700***	0 31	1 35	83 7	< 0 1	< 0 5	11	0 017	22 600	**1.14**	0 83	**54.1**	***1,160***	0 966	1 94	2 950	***85.4***	-	6 17	1 26	2 440	< 0 5	7 930	0 02	4 080	< 0 01	< 0 1	94	0 694	4 8	4 7
	QUL-21A-60M	2014 09 27	***3,470***	0.35	1.57	105	< 0.1	< 0.5	12	0.022	23,400	**1.34**	1.02	**63.6**	***1,450***	1.16	2.25	3,150	***107***	-	6.85	1.41	2,910	0.52	9,840	0.025	4,480	0.011	0.12	118	0.763	5.9	5.9
	QUL-21AX-60M	2014 09 27	***3,270***	0 35	1 53	98 2	< 0 1	< 0 5	12	0 023	23 700	**1.31**	0 96	**63.2**	***1,370***	1 19	2 27	3 150	***104***	-	6 94	1 37	2 800	0 54	9 350	0 022	4 530	0 011	0 13	111	0 786	5 5	5 9
	QA/QC RPD %		6	*	3	7	*	*	*	*	1	*	6	*	6	*	*	0	*	-	1	*	4	*	5	*	1	*	*	6	3	7	*

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics												
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																								
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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-22	QUL-22-0M	2014 09 16	51.6	7.98	7.97	15.4	0.38	102	71	< 3	1.73	-	0.131	< 5	61.1	1.1	-	< 0.5	35	6.04	48.4	-	< 0.001	< 0.002[a]
	QUL-22-8M	2014 09 16	51.1	7.99	7.96	14.1	0.39	102	62	< 3	1.75	-	0.125	< 5	63.5	< 1	-	< 0.5	34	6.02	47.9	-	< 0.001	< 0.002[a]
	QUL-22-0M	2014 09 18	51.6	7.93	7.99	14.9	0.34	101	67	< 3	1.88	-	0.139	< 5	56.9	< 1	-	< 0.5	32	6.03	46.8	-	< 0.001	< 0.002[a]
	QUL-22-9M	2014 09 18	51 7	7 83	7 98	13 7	0 51	101	60	< 3	1 96	-	0 128	< 5	63 3	< 1	-	< 0 5	33	6 03	47 9	-	< 0 001	< 0.002[a]
	QUL-22-0M	2014 09 20	50	8.07	7.96	15.8	0.35	101	66	< 3	1.66	-	0.144	< 5	56	< 1	-	< 0.5	34	6.03	48.1	-	< 0.001	< 0.002[a]
	QUL-22X-0M	2014 09 20	48.2	8.07	7.94	15.8	0.35	101	64	< 3	1.56	-	0.142	< 5	55.8	< 1	-	< 0.5	34	6.02	47.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		4	0	< 1	0	*	0	3	*	*	-	*	*	< 1	*	-	*	*	< 1	1	-	*	*
	QUL-22-7M	2014 09 20	48.1	8.03	7.86	14.1	0.47	100	65	< 3	1.72	-	0.139	< 5	62	< 1	-	< 0.5	34	6.01	47.2	-	< 0.001	< 0.002[a]
	QUL-22-0M	2014 09 23	50 7	7 98	7 97	15 44	0 31	102	64	< 3	1 8	-	0 157	< 5	52 9	< 1	-	< 0 5	32	6 04	50 2	-	0 0011	< 0 002[a]
	QUL-22-5M	2014 09 23	50 6	7 97	7 96	15 1	0 38	102	64	< 3	1 98	-	0 134	< 5	53 2	< 1	-	< 0 5	32	6 05	49 4	-	0 0012	< 0 002[a]
	QUL-22-9M	2014 09 23	50.9	7.96	7.83	14.93	0.41	101	62	< 3	1.93	-	0.133	< 5	53.8	< 1	-	< 0.5	32	6.04	48.4	-	0.0014	< 0.002[a]
	QUL-22-0M	2014 09 26	51.4	7.99	7.68	15.04	0.56	99.7	64	< 3	1.86	-	0.098	< 5	54.9	< 1	-	< 0.5	35	6.06	49	-	< 0.001	< 0.002[a]
	QUL-22X-0M	2014 09 26	51 1	7 99	7 68	15 04	0 42	99 6	67	< 3	1 86	-	0 093	< 5	54 2	< 1	-	< 0 5	34	6 06	49	-	< 0 001	< 0 002[a]
	QA/QC RPD %		< 1	0	0	0	*	< 1	5	*	*	-	*	*	1	*	-	*	*	0	0	-	*	*
QUL-23	QUL-23	2014 09 15	51.6	8.06	7.96	14.7	0.51	101	49	< 3	1.73	-	0.129	< 5	61.1	< 1	-	< 0.5	33	6.05	48	-	< 0.001	**0.002**
	QUL-23	2014 09 16	51.2	8.09	7.96	15.2	0.73	101	62	< 3	1.76	-	0.111	< 5	60.3	< 1	-	< 0.5	34	6.04	48.2	-	< 0.001	< 0.002[a]
	QUL-23-0M	2014 09 17	51.6	8.16	7.97	14.7	0.5	101	65	< 3	1.87	-	0.125	< 5	57.6	< 1	-	< 0.5	35	5.99	48.2	-	< 0.001	< 0.002[a]
	QUL-23X-0M	2014 09 17	51	8 16	7 96	14 7	0 33	101	63	< 3	1 84	-	0 119	< 5	58 1	< 1	-	< 0 5	35	5 99	48 5	-	< 0 001	< 0 002[a]
	QA/QC RPD %		1	0	< 1	0	*	0	3	*	*	-	*	*	< 1	*	-	*	*	0	< 1	-	*	*
	QUL-23	2014 09 18	51.5	7.92	7.94	15.2	1.18	99.5	68	< 3	1.71	-	0.125	< 5	55.2	< 1	-	< 0.5	32	6.05	47.1	-	< 0.001	< 0.002[a]
	QUL-23X	2014 09 18	51.8	7.92	7.98	15.2	1.06	99.9	66	< 3	1.88	-	0.133	< 5	55.2	< 1	-	< 0.5	32	6.04	47.5	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	11	< 1	3	*	*	-	*	*	0	*	-	*	*	< 1	< 1	-	*	*
	QUL-23	2014 09 19	51.4	8.09	7.94	16.3	0.55	101	62	< 3	1.69	-	0.122	< 5	54.2	< 1	-	< 0.5	33	6.05	48	-	< 0.001	< 0.002[a]
	QUL-23	2014 09 20	50 2	7 98	7 94	15 4	1 26	101	70	< 3	1 77	-	0 134	< 5	51 5	< 1	-	< 0 5	34	6 05	48 5	-	< 0 001	< 0 002[a]
	QUL-23	2014 09 22	48 2	8	7 8	15 036	0 36	101	63	< 3	1 64	-	0 119	< 5	53 3	< 1	-	< 0 5	34	5 99	47 1	-	< 0 001	< 0 002[a]
	QUL-23	2014 09 23	51.3	7.48	7.97	14.99	0.53	101	55	< 3	2.2	-	0.157	< 5	42.4	< 1	-	< 0.5	23	4.4	49.9	-	< 0.001	< 0.002[a]
	QUL-23	2014 09 26	52.1	7.94	7.68	14.86	0.94	101	66	< 3	1.89	-	0.095	< 5	60.7	< 1	-	< 0.5	34	6.08	49.7	-	< 0.001	< 0.002[a]
QUL-31a	QUL-31A-0M	2014 09 27	52 1	7 88	7 61	14 7	0 33	101	64	< 3	1 79	-	0 1	< 5	59 9	< 1	-	< 0 5	34	6 12	48 3	-	< 0 001	< 0 002[a]
	QUL-31A-40M	2014 09 27	56 4	7 53	7 69	5 23	7 6	112	71	< 3	1 73	-	0 167	7 1	151	< 1	-	< 0 5	41	7 6	52 8	-	< 0 001	< 0 002[a]
	QUL-31A-100M	2014 09 27	55.4	7.52	7.68	4.33	3.18	109	71	< 3	1.72	-	0.159	< 5	151	< 1	-	< 0.5	38	6.84	52	-	< 0.001	< 0.002[a]
QUL-32	QUL-32	2014 08 06	48.7	-	7.96	-	0.38	101	81	< 3	1.89	-	0.162	< 5	77.9	1.5	79.4	< 0.5	34	5.6	46	-	< 0.001	< 0.002[a]
QUL-40	QUL-40-0M	2014 09 19	51 5	7 93	7 94	15 2	0 37	100	53	< 3	1 6	-	0 147	10 1	55 4	< 1	-	< 0 5	34	6 04	48 8	-	< 0 001	< 0 002[a]
	QUL-40-45M	2014 09 19	54 7	7 54	7 87	4 94	3 78	108	69	< 3	1 56	-	0 2	< 5	147	< 1	-	< 0 5	38	6 77	51 6	-	< 0 001	< 0 002[a]
	QUL-40-100M	2014 09 19	55.2	7.55	7.88	4.5	5.35	109	70	< 3	1.58	-	0.203	5.7	149	< 1	-	< 0.5	40	7.12	51	-	< 0.001	< 0.002[a]
	QUL-40-0M	2014 09 22	48.3	7.57	7.93	15.39	1.82	102	68	< 3	1.73	-	0.154	8.2	55.4	< 1	-	< 0.5	33	6.05	49	-	< 0.001	< 0.002[a]
	QUL-40-50M	2014 09 22	52.3	7.19	7.89	5.05	4.97	112	72	< 3	1.64	-	0.203	< 5	148	< 1	-	< 0.5	38	7.18	51.1	-	< 0.001	**0.0021**
	QUL-40-98M	2014 09 22	51.5	7.34	7.89	4.39	3.14	110	83	< 3	1.7	-	0.205	7.2	146	< 1	-	< 0.5	38	6.85	51.3	-	< 0.001	< 0.002[a]
	QUL-40-0M	2014 09 26	52.1	7.68	7.68	14.74	0.85	101	65	< 3	1.84	-	0.124	21.7	59.2	< 1	-	< 0.5	35	6.13	49.5	-	< 0.001	< 0.002[a]
	QUL-40-40M	2014 09 26	55 3	7 44	7 66	5 2	5 07	109	73	< 3	1 9	-	0 165	7 8	151	< 1	-	< 0 5	41	7 48	52 8	-	< 0 001	< 0 002[a]
	QUL-40-80M	2014 09 26	55.3	7.42	7.66	4.35	2.75	108	72	< 3	1.83	-	0.158	< 5	150	< 1	-	< 0.5	37	6.92	54.9	-	< 0.001	< 0.002[a]
	QUL-40-0M	2014 09 29	51.1	8.06	7.76	14.59	0.69	107	62	< 3	1.6	-	0.143	5.3	57	< 1	-	< 0.5	31	6.12	52.1	-	< 0.001	< 0.002[a]
	QUL-40-40M	2014 09 29	51.2	7.63	7.69	5.2	5.64	109	68	3.3	1.46	-	0.214	17.9	147	< 1	-	< 0.5	38	7.48	53.5	-	< 0.001	< 0.002[a]
	QUL-40-80M	2014 09 29	55	7 62	7 69	7 34	2 61	107	67	< 3	1 56	-	0 208	< 5	148	< 1	-	< 0 5	36	6 86	53 8	-	< 0 001	< 0 002[a]
QUL-40A	QUL-40A-0M	2014 09 27	51.5	7.99	7.67	14.88	0.72	102	66	< 3	1.84	-	0.101	6.2	58.3	< 1	-	< 0.5	34	6.12	49.1	-	< 0.001	< 0.002[a]
	QUL-40A-40M	2014 09 27	54.6	7.56	7.68	4.77	3.63	109	69	< 3	1.78	-	0.156	< 5	150	< 1	-	< 0.5	39	6.85	51.9	-	< 0.001	< 0.002[a]
	QUL-40A-100M	2014 09 27	55 5	7 56	7 68	4 37	1 63	109	80	< 3	1 74	-	0 149	< 5	150	< 1	-	< 0 5	37	6 57	52 3	-	< 0 001	< 0 002[a]

All terms defined w thin 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 applicab e standard.
* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.
BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.
SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.
BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.
[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .
[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.
[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride
[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.
[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.
[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.
[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-22	QUL-22-0M	2014 09 16	8.7	17.5	< 30	1.93	0.258	0.444	0.781	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.83	-	0.278	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-22-8M	2014 09 16	8.8	17.3	< 30	1.91	0.151	0.455	0.81	< 0.1	< 0.1	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.8	< 0.05	0.8	-	0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-22-0M	2014 09 18	8	17.5	< 30	1.92	0.205	0.442	0.801	< 0.1	< 0.1	4.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.246	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-22-9M	2014 09 18	8 3	17 5	< 30	1 95	0 091	0 456	0 841	< 0 1	0 1	5 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 65	< 0 05	0 74	-	0 281	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 146	< 1	< 3
	QUL-22-0M	2014 09 20	8.8	17	< 30	1.81	0.21	0.434	0.749	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.77	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-22X-0M	2014 09 20	9.4	16.4	< 30	1.76	0.244	0.421	0.75	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.82	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QA/QC RPD %		*	4	*	3	*	3	< 1	*	*	1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	< 1	*	*
	QUL-22-7M	2014 09 20	9	16.3	< 30	1.77	0.123	0.448	0.775	< 0.1	< 0.1	5.18	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.61	< 0.05	0.76	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-22-0M	2014 09 23	8 2	17 2	< 30	1 91	0 204	0 433	0 784	< 0 1	< 0 1	5 02	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 61	< 0 05	< 0 5	-	0 236	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUL-22-5M	2014 09 23	8 2	17 1	< 30	1 89	0 15	0 434	0 784	< 0 1	< 0 1	4 91	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 94	< 0 05	0 59	-	0 241	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 144	< 1	< 3
	QUL-22-9M	2014 09 23	7.9	17.3	< 30	1.89	0.126	0.437	0.792	< 0.1	0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.88	< 0.05	0.77	-	0.245	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-22-0M	2014 09 26	8.6	17.5	< 30	1.9	0.115	0.431	0.784	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.84	-	0.239	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-22X-0M	2014 09 26	8 4	17 4	< 30	1 89	0 143	0 434	0 776	< 0 1	< 0 1	4 79	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 51	< 0 05	0 79	-	0 242	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 145	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	< 1	1	*	*	2	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	0	*	*
QUL-23	QUL-23	2014 09 15	8.9	17.4	< 30	1.95	0.594	0.453	0.789	< 0.1	< 0.1	5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.89	< 0.05	0.76	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL-23	2014 09 16	9.1	17.3	< 30	1.93	0.737	0.448	0.789	< 0.1	< 0.1	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	0.71	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-23-0M	2014 09 17	9.2	17.5	< 30	1.94	0.216	0.461	0.84	< 0.1	< 0.1	4.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-23X-0M	2014 09 17	9 1	17 4	< 30	1 84	0 247	0 455	0 82	< 0 1	< 0 1	4 87	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 75	-	0 267	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QA/QC RPD %		*	< 1	*	5	*	1	2	*	*	1	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	2	*	*
	QUL-23	2014 09 18	8.8	17.5	< 30	1.91	1.5	0.419	0.76	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.243	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
	QUL-23X	2014 09 18	10	17.6	< 30	1.91	1.08	0.386	0.711	< 0.1	< 0.1	4.42	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.69	-	0.234	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QA/QC RPD %		*	< 1	*	0	33	8	7	*	*	9	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	6	*	*
	QUL-23	2014 09 19	8.7	17.4	< 30	1.9	0.652	0.435	0.789	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	0.75	-	0.249	< 0.5	< 0.5	< 0.01	0.011	< 10	0.154	< 1	< 3
	QUL-23	2014 09 20	9 2	17 1	< 30	1 81	0 827	0 429	0 745	< 0 1	< 0 1	5 16	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 56	< 0 05	0 73	-	0 251	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-23	2014 09 22	8 9	16 4	< 30	1 75	0 372	0 43	0 787	< 0 1	< 0 1	4 99	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 6	-	0 266	< 0 5	< 0 5	< 0 01	0 012	< 10	0 155	< 1	< 3
	QUL-23	2014 09 23	9.2	17.4	< 30	1.91	0.305	0.472	0.813	< 0.1	< 0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.64	< 0.05	1.08	-	0.255	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-23	2014 09 26	8.3	17.7	< 30	1.91	1.83	0.445	0.798	< 0.1	0.11	5.25	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	0.93	-	0.258	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
QUL-31a	QUL-31A-0M	2014 09 27	8 5	17 7	< 30	1 91	0 145	0 449	0 787	< 0 1	< 0 1	4 75	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 82	-	0 239	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 158	< 1	< 3
	QUL-31A-40M	2014 09 27	7 2	19 1	< 30	2 13	4 66	0 561	1 26	< 0 1	0 18	6 95	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 99	< 0 05	1 05	-	1 05	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 231	< 1	< 3
	QUL-31A-100M	2014 09 27	5.4	18.7	< 30	2.08	1.29	0.513	1.03	< 0.1	0.13	5.77	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.17	< 0.05	1.15	-	0.543	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.192	< 1	< 3
QUL-32	QUL-32	2014 08 06	10.9	16.4	< 30	1.85	0.355	0.454	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-40	QUL-40-0M	2014 09 19	10 1	17 4	< 30	1 94	0 491	0 442	0 819	< 0 1	< 0 1	5 02	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 74	-	0 257	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUL-40-45M	2014 09 19	5 6	18 5	< 30	2 05	3 09	0 489	1	< 0 1	0 13	5 78	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 07	< 0 05	0 8	-	0 509	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 176	< 1	< 3
	QUL-40-100M	2014 09 19	6	18.7	< 30	2.03	3.75	0.503	1.07	< 0.1	0.14	6.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.44	< 0.05	0.91	-	0.71	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.191	< 1	< 3
	QUL-40-0M	2014 09 22	8.5	16.4	< 30	1.77	0.371	0.446	0.825	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.58	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-40-50M	2014 09 22	6.5	17.8	< 30	1.92	4.1	0.516	1.17	< 0.1	0.15	6.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.68	< 0.05	0.66	-	0.769	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.194	< 1	< 3
	QUL-40-98M	2014 09 22	5.2	17.5	< 30	1.89	10.1	0.496	1.05	< 0.1	0.13	5.93	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.37	< 0.05	0.68	-	0.597	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.18	< 1	< 3
	QUL-40-0M	2014 09 26	8.9	17.6	< 30	1.98	0.668	0.477	0.839	< 0.1	0.11	5.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.79	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-40-40M	2014 09 26	7 1	18 7	< 30	2 08	6 74	0 548	1 2	< 0 1	0 18	6 64	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 93	< 0 05	0 85	-	0 897	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 196	< 1	< 3
	QUL-40-80M	2014 09 26	5.8	18.7	< 30	2.06	2.27	0.498	1.03	< 0.1	0.13	5.64	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.16	< 0.05	0.97	-	0.561	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.173	< 1	< 3
	QUL-40-0M	2014 09 29	8.3	17.3	< 30	1.9	0.152	0.434	0.78	< 0.1	0.1	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.83	-	0.268	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-40-40M	2014 09 29	7.6	17.4	< 30	1.9	4.11	0.532	1.2	< 0.1	0.17	6.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.1	< 0.05	0.98	-	0.965	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.206	< 1	< 3
	QUL-40-80M	2014 09 29	11 7	18 6	< 30	2 07	2 46	0 497	1 02	< 0 1	0 12	5 66	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 92	< 0 05	0 96	-	0 563	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 177	< 1	< 3
QUL-40A	QUL-40A-0M	2014 09 27	8.2	17.5	< 30	1.91	0.207	0.45	0.794	< 0.1	< 0.1	4.86	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	1	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.161	< 1	< 3
	QUL-40A-40M	2014 09 27	6.2	18.5	< 30	2.07	1.88	0.515	1.05	< 0.1	0.12	5.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.24	< 0.05	1.02	-	0.562	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.185	< 1	< 3
	QUL-40A-100M	2014 09 27	5 1	18 8	< 30	2 09	0 789	0 491	0 949	< 0 1	0 1	5 45	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 81	< 0 05	1 13	-	0 405	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 177	< 1	< 3

All terms defined within the body of SNC-Lava in's report (ava lable upon request).
< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no app icable 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) guide ine.
BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.
SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.
BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012. Guideline for Nitrate app ied.
[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 applicab e to single sample resu ts at this point in time.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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-22	QUL-22-0M	2014 09 16	18	< 0.1	0.1	4.94	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.6	< 30	< 0.05	0.84	1,890	0.837	-	0.258	< 0.5	437	< 0.5	1,400	< 0.01	793	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-22-8M	2014 09 16	25.6	< 0.1	0.12	5.07	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.81	< 30	< 0.05	0.85	1,910	1.26	-	0.28	< 0.5	444	< 0.5	1,460	< 0.01	800	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-22-0M	2014 09 18	16.5	< 0.1	0.12	4.95	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.71	< 30	< 0.05	0.7	1,920	0.959	-	0.277	< 0.5	453	< 0.5	1,440	< 0.01	823	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-22-9M	2014 09 18	30 8	< 0 1	0 11	5 42	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	0 98	< 30	< 0 05	0 82	1 980	1 26	-	0 305	< 0 5	456	< 0 5	1 540	< 0 01	833	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-22-0M	2014 09 20	18.7	< 0.1	0.11	5.16	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.62	< 30	< 0.05	0.68	1,850	0.826	-	0.286	< 0.5	457	< 0.5	1,450	< 0.01	815	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-22X-0M	2014 09 20	16.4	< 0.1	0.12	5.11	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.55	< 30	< 0.05	0.84	1,780	0.752	-	0.265	< 0.5	455	< 0.5	1,380	< 0.01	808	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QA/QC RPD %		13	*	*	< 1	*	*	*	*	4	*	*	*	*	*	*	4	*	-	8	*	< 1	*	5	*	< 1	*	*	*	3	*	*
	QUL-22-7M	2014 09 20	19.9	< 0.1	0.11	5.27	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.81	< 30	< 0.05	0.72	1,780	1.01	-	0.278	< 0.5	450	< 0.5	1,430	< 0.01	795	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL-22-0M	2014 09 23	16	< 0 1	0 1	4 99	< 0 1	< 0 5	< 10	< 0 01	17 000	< 0 5	< 0 1	0 9	< 30	0 07	< 0 5	1 900	0 954	-	0 582	< 0 5	451	< 0 5	1 420	< 0 01	821	< 0 01	< 0 1	< 10	0 153	< 1	< 3
	QUL-22-5M	2014 09 23	17	< 0 1	0 11	4 95	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	1 07	< 30	< 0 05	0 64	1 880	0 934	-	0 267	< 0 5	433	< 0 5	1 400	< 0 01	798	< 0 01	< 0 1	< 10	0 153	< 1	< 3
	QUL-22-9M	2014 09 23	16.1	< 0.1	< 0.1	5.02	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.86	< 30	< 0.05	0.73	1,900	0.941	-	0.259	< 0.5	439	< 0.5	1,420	< 0.01	796	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-22-0M	2014 09 26	20.7	< 0.1	< 0.1	4.8	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.72	< 30	< 0.05	0.73	1,850	1	-	0.263	< 0.5	441	< 0.5	1,360	< 0.01	809	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-22X-0M	2014 09 26	18 6	< 0 1	< 0 1	4 89	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 71	< 30	< 0 05	0 74	1 880	0 936	-	0 271	< 0 5	433	< 0 5	1 380	< 0 01	779	0 01	< 0 1	< 10	0 154	< 1	< 3
	QA/QC RPD %		11	*	*	2	*	*	*	*	1	*	*	*	*	*	*	2	*	-	3	*	2	*	2	*	4	*	*	*	2	*	*
QUL-23	QUL-23	2014 09 15	43.2	< 0.1	0.12	5.62	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	1.19	37	< 0.05	0.91	1,880	1.99	-	0.335	< 0.5	466	< 0.5	1,490	< 0.01	831	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-23	2014 09 16	31	< 0.1	0.1	5.42	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.89	< 30	< 0.05	0.77	1,900	1.38	-	0.285	< 0.5	446	< 0.5	1,450	< 0.01	791	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-23-0M	2014 09 17	22.2	< 0.1	0.11	5.08	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.78	< 30	< 0.05	0.87	1,890	1.02	-	0.304	< 0.5	478	< 0.5	1,440	< 0.01	852	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QUL-23X-0M	2014 09 17	17	< 0 1	0 11	4 94	< 0 1	< 0 5	< 10	< 0 01	17 700	< 0 5	< 0 1	0 75	< 30	< 0 05	< 0 5	1 880	0 886	-	0 301	< 0 5	460	< 0 5	1 460	< 0 01	802	< 0 01	< 0 1	< 10	0 16	< 1	< 3
	QA/QC RPD %		27	*	*	3	*	*	*	*	5	*	*	*	*	*	*	< 1	*	-	< 1	*	4	*	1	*	6	*	*	*	1	*	*
	QUL-23	2014 09 18	51.6	< 0.1	0.13	5.11	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.8	79	< 0.05	0.74	1,930	2.81	-	0.275	< 0.5	430	< 0.5	1,480	< 0.01	784	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-23X	2014 09 18	58.6	< 0.1	0.14	5.27	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.79	91	< 0.05	0.79	1,920	3.15	-	0.272	< 0.5	444	< 0.5	1,490	< 0.01	799	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QA/QC RPD %		13	*	*	3	*	*	*	*	1	*	*	*	*	*	*	< 1	*	-	1	*	3	*	< 1	*	2	*	*	*	3	*	*
	QUL-23	2014 09 19	33.4	< 0.1	< 0.1	5.09	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.95	31	< 0.05	0.74	1,850	1.5	-	0.311	< 0.5	443	< 0.5	1,410	< 0.01	827	< 0.01	< 0.1	< 10	0.161	< 1	< 3
	QUL-23	2014 09 20	50	< 0 1	0 12	5 79	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	1 62	43	< 0 05	0 7	1 800	2 29	-	0 312	< 0 5	446	< 0 5	1 460	< 0 01	785	< 0 01	< 0 1	< 10	0 159	< 1	< 3
	QUL-23	2014 09 22	15 7	< 0 1	0 1	5 25	< 0 1	< 0 5	< 10	< 0 01	16 400	< 0 5	< 0 1	0 73	< 30	< 0 05	0 63	1 760	1 13	-	0 302	< 0 5	446	< 0 5	1 360	< 0 01	837	< 0 01	< 0 1	< 10	0 159	< 1	< 3
	QUL-23	2014 09 23	19.6	< 0.1	0.11	4.98	< 0.1	< 0.5	< 10	0.013	16,600	< 0.5	< 0.1	1.43	< 30	0.087	0.98	1,870	1.32	-	0.285	< 0.5	706	< 0.5	1,380	< 0.01	961	< 0.01	< 0.1	< 10	0.15	< 1	4.9
	QUL-23	2014 09 26	41.9	< 0.1	0.12	5.67	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.43	73	< 0.05	0.75	1,930	3.21	-	0.289	< 0.5	461	< 0.5	1,460	< 0.01	823	< 0.01	< 0.1	< 10	0.157	< 1	< 3
QUL-31a	QUL-31A-0M	2014 09 27	14	< 0 1	0 11	4 78	< 0 1	< 0 5	< 10	< 0 01	17 300	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 73	1 890	0 776	-	0 246	< 0 5	460	< 0 5	1 360	< 0 01	822	< 0 01	< 0 1	< 10	0 163	< 1	< 3
	QUL-31A-40M	2014 09 27	***403***	< 0 1	0 27	15 4	< 0 1	< 0 5	< 10	< 0 01	18 400	< 0 5	0 12	**8.43**	161	0 167	0 97	2 130	12 5	-	1 08	< 0 5	736	< 0 5	2 490	< 0 01	1 340	< 0 01	< 0 1	15	0 239	< 1	< 3
	QUL-31A-100M	2014 09 27	***136***	< 0.1	0.16	8.92	< 0.1	< 0.5	< 10	< 0.01	18,900	< 0.5	< 0.1	**3.73**	64	0.082	0.93	2,150	5.86	-	0.565	< 0.5	595	< 0.5	1,990	< 0.01	1,120	< 0.01	< 0.1	< 10	0.208	< 1	< 3
QUL-32	QUL-32	2014 08 06	61	< 0.1	0.12	5.57	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.68	87	< 0.05	0.83	2,010	2.8	< 0.05	0.256	< 0.5	512	< 0.5	1,660	< 0.01	1,000	< 0.01	< 0.1	< 10	0.155	< 1	< 3
QUL-40	QUL-40-0M	2014 09 19	13 4	< 0 1	0 1	5 03	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 82	1 870	1 83	-	0 294	< 0 5	449	< 0 5	1 370	< 0 01	830	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUL-40-45M	2014 09 19	***158***	< 0 1	0 17	9 13	< 0 1	< 0 5	< 10	< 0 01	18 900	< 0 5	< 0 1	**4.22**	89	0 072	0 95	2 120	8 42	-	0 576	< 0 5	566	< 0 5	2 060	< 0 01	1 100	< 0 01	< 0 1	< 10	0 195	< 1	< 3
	QUL-40-100M	2014 09 19	***225***	< 0.1	0.21	11.2	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	**5.84**	108	0.095	0.91	2,030	9.23	-	0.762	< 0.5	610	< 0.5	2,110	< 0.01	1,160	< 0.01	< 0.1	< 10	0.202	< 1	< 3
	QUL-40-0M	2014 09 22	15.8	< 0.1	0.11	5.02	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.89	< 30	< 0.05	0.56	1,790	1.34	-	0.283	< 0.5	447	< 0.5	1,340	< 0.01	831	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-40-50M	2014 09 22	***320***	< 0.1	0.24	13	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	0.11	**6.52**	150	0.103	0.75	2,000	11.2	-	0.728	< 0.5	647	< 0.5	2,280	< 0.01	1,210	< 0.01	< 0.1	13	0.193	< 1	< 3
	QUL-40-98M	2014 09 22	***200***	< 0.1	0.21	10.2	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	**4.29**	104	0.079	0.86	1,940	15.4	-	0.661	< 0.5	576	< 0.5	2,000	< 0.01	1,110	< 0.01	< 0.1	< 10	0.195	< 1	< 3
	QUL-40-0M	2014 09 26	15.1	< 0.1	0.12	5.26	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	0.54	< 30	< 0.05	0.67	2,000	2.37	-	0.293	< 0.5	463	< 0.5	1,400	< 0.01	840	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-40-40M	2014 09 26	***409***	< 0 1	0 27	15 8	< 0 1	< 0 5	< 10	< 0 01	18 900	< 0 5	0 13	**8.03**	198	0 179	0 92	2 200	15 1	-	0 995	0 53	752	< 0 5	2 800	< 0 01	1 300	< 0 01	< 0 1	17	0 225	< 1	< 3
	QUL-40-80M	2014 09 26	***189***	< 0.1	0.18	9.58	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	**4.26**	89	0.076	0.82	2,060	6.17	-	0.646	< 0.5	583	< 0.5	2,090	< 0.01	1,070	< 0.01	< 0.1	< 10	0.191	< 1	< 3
	QUL-40-0M	2014 09 29	18.5	< 0.1	0.12	4.85	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.68	< 30	< 0.05	0.9	1,870	1.28	-	0.267	< 0.5	444	< 0.5	1,370	< 0.01	771	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-40-40M	2014 09 29	***364***	< 0.1	0.27	14.7	< 0.1	< 0.5	< 10	< 0.01	19,200	< 0.5	0.12	**8.01**	159	0.138	1.14	2,200	12	-	1.04	< 0.5	728	< 0.5	2,570	< 0.01	1,320	< 0.01	< 0.1	15	0.23	< 1	< 3
	QUL-40-80M	2014 09 29	***162***	< 0 1	0 17	9 31	< 0 1	< 0 5	< 10	< 0 01	18 300	< 0 5	< 0 1	**4.09**	83	0 076	1 02	2 080	6 77	-	0 562	< 0 5	557	< 0 5	2 030	< 0 01	1 030	< 0 01	< 0 1	11	0 189	< 1	< 3
QUL-40A	QUL-40A-0M	2014 09 27	21.2	< 0.1	0.11	5.03	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.72	< 30	< 0.05	0.93	1,880	1.21	-	0.273	< 0.5	463	< 0.5	1,360	< 0.01	834	< 0.01	< 0.1	< 10	0.167	< 1	< 3
	QUL-40A-40M	2014 09 27	***220***	< 0.1	0.19	10.5	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	**4.57**	104	0.112	1.05	2,120	7.47	-	0.62	< 0.5	620	< 0.5	2,170	< 0.01	1,110	< 0.01	< 0.1	11	0.21	< 1	< 3
	QUL-40A-100M	2014 09 27	84 7	< 0 1	0 13	7 01	< 0 1	< 0 5	< 10	< 0 01	17 900	< 0 5	< 0 1	**2.26**	44	< 0 05	1 01	2 030	3 41	-	0 41	< 0 5	536	< 0 5	1 790	< 0 01	994	< 0 01	< 0 1	< 10	0 178	< 1	< 3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics												
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																								
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[j]	Change of 1	n/a	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	6 5-8 5	n/a[j]	n/a[j]	n/a	500	n/a	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-66	QUL-66-0M	2014 09 15	51.1	8.01	7.96	15	0.38	102	58	< 3	1.52	-	0.118	< 5	61.6	< 1	-	< 0.5	32	6.05	47.7	-	< 0.001	< 0.002[a]
	QUL-66-24M	2014 09 15	56.1	7.7	7.96	6.2	11.3	113	67	18.5	1.64	-	0.204	5.9	142	< 1	-	< 0.5	38	7.54	52.8	-	< 0.001	< 0.002[a]
	QUL-66-48M	2014 09 15	68 7	7 9	8 02	6 5	60 1	148	102	31 7	1 78	-	0 363	51	188	2 3	-	0 5	73	16 3	58	-	0 0012	**0.0037**
	QUL-66-0M	2014 09 16	51.3	-	7.97	-	0.5	102	63	< 3	1.8	-	0.119	< 5	62.3	< 1	-	< 0.5	34	6.03	48.3	-	< 0.001	< 0.002[a]
	QUL-66-40M	2014 09 16	66	-	8 01	-	48 6	141	92	20 7	1 89	-	0 274	36 5	182	1 4	-	< 0 5	63	14 6	58 8	-	0 0013	**0.0026**
	QUL-66-0M	2014 09 18	51 2	8 04	7 96	14 9	0 31	99 9	74	< 3	1 84	-	0 112	< 5	57 2	< 1	-	< 0 5	32	6 05	47 2	-	< 0 001	< 0.002[a]
	QUL-66-15M	2014 09 18	54.8	7.78	7.95	10.8	21.5	108	75	34.2	1.98	-	0.214	< 5	70.8	< 1	-	< 0.5	35	6.99	50.4	-	< 0.001	< 0.002[a]
	QUL-66-40M	2014 09 18	67 8	7 73	8 03	6 5	58 1	146	105	14	1 92	-	0 298	45 4	184	2 2	-	< 0 5	68	15 8	59 6	-	0 0018	**0.0026**
	QUL-66-0M	2014 09 20	49.8	8.03	7.94	15.1	0.56	102	65	< 3	1.76	-	0.138	< 5	55.4	< 1	-	< 0.5	34	6.04	47.8	-	< 0.001	< 0.002[a]
	QUL-66-15M	2014 09 20	52.6	8.07	7.97	10.7	39.1	113	73	46.7	1.95	-	0.168	7.2	86.6	< 1	-	< 0.5	35	7.22	52.8	-	< 0.001	< 0.002[a]
	QUL-66-45M	2014 09 20	65 5	7 95	8 01	6 6	61 7	149	104	11 7	1 67	-	0 326	44 8	193	2 1	-	0 56	69	16 7	57 2	-	0 0019	**0.0028**
	QUL-66-0M	2014 09 23	51	8	7.96	15.27	0.46	101	63	< 3	1.78	-	0.236	6.5	54.7	< 1	-	< 0.5	31	6.05	50	-	< 0.001	< 0.002[a]
	QUL-66-15M	2014 09 23	51.1	7.94	7.93	14.7	0.58	101	67	< 3	1.86	-	0.124	< 5	53.1	< 1	-	< 0.5	32	6.05	49.6	-	< 0.001	< 0.002[a]
	QUL-66-50M	2014 09 23	66 8	7 81	8	6 5	58 2	148	100	28 2	1 9	-	0 323	45 6	183	2 1	-	0 53	68	16 2	62 5	-	0 0016	**0.004**
	QUL-66-0M	2014 09 29	51.9	8.15	7.76	14.4	0.94	100	64	< 3	1.51	-	0.132	< 5	54.1	< 1	-	< 0.5	32	6.13	50.6	-	< 0.001	**0.0032**
	QUL-66-40M	2014 09 29	64.6	7.75	7.66	6.3	38.8	137	96	8.2	1.51	-	0.361	39	182	2.1	-	< 0.5	62	14.7	59.6	-	0.001	**0.0026**
	QUL-66-50M	2014 09 29	67.3	7.85	7.79	6.5	54.5	149	104	6.8	1.62	-	0.332	47.5	188	2.9	-	0.53	69	16.7	63.3	-	0.0017	**0.0033**
QUL-66A	QUL-66A-0M	2014 09 25	51 6	8	7 07	14 87	0 55	102	68	< 3	2 22	-	0 126	< 5	54 1	< 1	-	< 0 5	32	6 04	51 4	-	< 0 001	< 0.002[a]
	QUL-66AX-0M	2014 09 25	51.4	8	7.06	14.87	0.55	101	64	< 3	2.1	-	0.127	< 5	54.7	< 1	-	< 0.5	32	6.07	51.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	0	< 1	6	*	*	-	*	*	1	*	-	*	*	< 1	< 1	-	*	*
	QUL-66A-40M	2014 09 25	66.3	7.73	7.14	6.44	40.9	144	100	8.8	2.24	-	0.311	40.3	182	1.7	-	< 0.5	67	15.5	64.2	-	0.0019	**0.0033**
	QUL-66A-85M	2014 09 25	70.8	7.86	6.97	6.54	51.3	155	111	14.2	2.11	-	0.345	57.4	207	3	-	0.58	74	18.2	64.9	-	0.0019	**0.0044**
	QUL-66A-0M	2014 09 27	52	8	7.67	15.12	0.87	102	64	< 3	2.1	-	0.088	< 5	57.5	< 1	-	< 0.5	34	6.11	49.4	-	< 0.001	< 0.002[a]
	QUL-66A-40M	2014 09 27	67 1	7 79	7 76	6 47	51 2	145	101	9 7	1 88	-	0 256	45 5	187	2	-	< 0 5	66	15 7	60 7	-	0 0018	**0.0021**
	QUL-66A-80M	2014 09 27	71.1	7.85	7.75	6.5	65.6	153	108	13.3	1.96	-	0.297	59.2	207	3.2	-	0.59	72	17.9	62.9	-	0.0025	**0.0035**
QUL-79	QUL-79-0M	2014 09 15	50 1	7 96	7 95	15	0 26	101	63	< 3	1 63	-	0 112	< 5	58 4	< 1	-	< 0 5	32	6 07	48 3	-	< 0 001	< 0.002[a]
	QUL-79-26M	2014 09 15	55 2	7 59	7 96	5 5	6 76	112	71	4	1 76	-	0 225	9 5	147	< 1	-	< 0 5	39	7 75	51 9	-	< 0 001	< 0.002[a]
	QUL-79-50M	2014 09 15	57.4	7.63	7.96	6	11.8	116	75	3.7	1.5	-	0.209	13.6	153	< 1	-	< 0.5	42	8.65	52.8	-	< 0.001	< 0.002[a]
	QUL-79-0M	2014 09 18	51.5	7.94	7.99	15.2	0.23	98.6	70	< 3	1.7	-	0.123	< 5	55.9	< 1	-	< 0.5	32	6.05	47.2	-	< 0.001	< 0.002[a]
	QUL-79-15M	2014 09 18	51 1	7 68	7 93	12	1 55	101	58	< 3	1 82	-	0 139	< 5	75 8	< 1	-	< 0 5	33	6 15	48 3	-	< 0 001	< 0.002[a]
	QUL-79-50M	2014 09 18	55.8	7.4	7.93	4.2	2.83	107	75	< 3	1.63	-	0.192	< 5	145	< 1	-	< 0.5	36	6.71	50	-	< 0.001	< 0.002[a]
	QUL-79-0M	2014 09 19	51.1	8	7.94	15.5	0.32	100	62	< 3	1.63	-	0.124	< 5	58.3	< 1	-	< 0.5	34	6.04	48.3	-	< 0.001	< 0.002[a]
	QUL-79-25M	2014 09 19	53 3	7 62	7 87	6 4	2 7	106	63	< 3	1 77	-	0 187	< 5	127	< 1	-	< 0 5	36	6 51	50	-	< 0 001	**0.0021**
	QUL-79-58M	2014 09 19	58.6	7.68	7.91	5.5	19.4	119	76	6.5	1.67	-	0.235	16.1	155	< 1	-	< 0.5	45	9.53	52.8	-	< 0.001	< 0.002[a]
	QUL-79-0M	2014 09 22	48.1	8.07	7.93	15.27	0.21	102	67	< 3	1.77	-	0.121	< 5	58.6	< 1	-	< 0.5	30	6.05	48.2	-	< 0.001	< 0.002[a]
	QUL-79-30M	2014 09 22	52.7	7.67	7.9	5.13	7.78	113	72	< 3	1.8	-	0.225	7.1	148	< 1	-	< 0.5	41	7.8	52.2	-	< 0.001	< 0.002[a]
	QUL-79-58M	2014 09 22	53 5	7 61	7 89	4 64	5 71	112	72	< 3	1 62	-	0 208	5 2	150	< 1	-	< 0 5	40	7 48	51 1	-	< 0 001	< 0.002[a]
	QUL-79-0M	2014 09 26	51.5	8.03	7.68	14.69	0.47	100	69	< 3	1.91	-	0.101	5.7	59.5	< 1	-	< 0.5	34	6.11	49.4	-	< 0.001	< 0.002[a]
	QUL-79-40M	2014 09 26	54.1	7.62	7.68	3.89	0.45	105	70	< 3	1.78	-	0.157	< 5	149	< 1	-	< 0.5	40	6.36	51.8	-	< 0.001	< 0.002[a]
	QUL-79-55M	2014 09 26	55 1	7 62	7 68	4 13	1 12	106	66	< 3	1 72	-	0 148	< 5	149	< 1	-	< 0 5	38	6 56	52 3	-	0 0012	< 0.002[a]

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[f] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-66	QUL-66-0M	2014 09 15	8.7	17.3	< 30	1.93	0.405	0.444	0.77	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-66-24M	2014 09 15	8.4	18.9	< 30	2.15	11.1	0.555	1.24	< 0.1	0.19	7.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.74	< 0.05	0.87	-	0.909	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.184	< 1	< 3
	QUL-66-48M	2014 09 15	16	23 3	< 30	2 57	53 1	1 04	3 49	0 26	0 67	15 8	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 04	0 077	1 13	-	5 74	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 563	< 1	3 5
	QUL-66-0M	2014 09 16	8.8	17.4	< 30	1.92	0.451	0.459	0.792	< 0.1	< 0.1	5.12	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.82	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-66-40M	2014 09 16	14 4	22 3	< 30	2 47	44 3	0 978	3 08	0 21	0 61	14 4	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 45	< 0 05	1	-	4 94	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 508	< 1	< 3
	QUL-66-0M	2014 09 18	8 5	17 4	< 30	1 92	0 202	0 422	0 77	< 0 1	< 0 1	4 57	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 78	-	0 228	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 141	< 1	< 3
	QUL-66-15M	2014 09 18	9.1	18.5	< 30	2.1	8.85	0.481	1.06	< 0.1	0.17	7.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.71	< 0.05	0.76	-	0.5	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	< 3
	QUL-66-40M	2014 09 18	14 8	23	< 30	2 52	48 9	1 01	3 4	0 26	0 67	15	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 03	< 0 05	1 09	-	5 53	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 58	< 1	< 3
	QUL-66-0M	2014 09 20	8.6	17	< 30	1.8	0.603	0.439	0.761	< 0.1	0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.7	-	0.233	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-66-15M	2014 09 20	8.9	17.9	< 30	1.92	13.5	0.497	1.06	< 0.1	0.2	8.95	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.83	< 0.05	0.77	-	0.618	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.173	< 1	< 3
	QUL-66-45M	2014 09 20	14 8	22 3	< 30	2 37	51 6	1 04	3 61	0 27	0 71	16 2	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 83	< 0 05	1 15	-	5 92	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 612	< 1	< 3
	QUL-66-0M	2014 09 23	9	17.3	< 30	1.89	0.257	0.454	0.838	< 0.1	0.11	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.64	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-66-15M	2014 09 23	8.2	17.3	< 30	1.91	0.544	0.442	0.832	< 0.1	< 0.1	4.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.68	< 0.05	0.62	-	0.248	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-66-50M	2014 09 23	15 2	22 6	< 30	2 51	49	1 06	3 69	0 29	0 76	15 5	< 0 1	< 10	0 011	< 0 5	< 0 1	6 71	< 0 05	1 09	-	5 8	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 58	< 1	< 3
	QUL-66-0M	2014 09 29	8.3	17.6	< 30	1.92	0.374	0.447	0.806	< 0.1	0.11	5.13	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.77	< 0.05	0.89	-	0.285	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-66-40M	2014 09 29	12.1	21.9	< 30	2.4	35.9	0.924	2.96	0.21	0.54	13.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.7	< 0.05	1.14	-	4.66	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.497	< 1	< 3
	QUL-66-50M	2014 09 29	15.6	22.8	< 30	2.51	47.9	1.1	3.71	0.28	0.73	15.4	< 0.1	< 10	0.012	< 0.5	< 0.1	6.62	< 0.05	1.21	-	6.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.62	< 1	< 3
QUL-66A	QUL-66A-0M	2014 09 25	8 3	17 5	< 30	1 89	0 216	0 45	0 781	< 0 1	< 0 1	4 79	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 6	< 0 05	0 7	-	0 233	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 137	< 1	< 3
	QUL-66AX-0M	2014 09 25	7.8	17.5	< 30	1.9	0.257	0.457	0.802	< 0.1	< 0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.76	-	0.22	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QA/QC RPD %		*	0	*	< 1	*	2	3	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
	QUL-66A-40M	2014 09 25	12.8	22.5	< 30	2.46	41.8	0.982	3.12	0.23	0.63	14.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.1	< 0.05	0.94	-	5.04	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.534	< 1	< 3
	QUL-66A-85M	2014 09 25	17	24	< 30	2.61	63.9	1.15	3.75	0.29	0.78	17.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	7.15	< 0.05	0.97	-	6.36	< 0.5	0.55	< 0.01	< 0.01	< 10	0.656	< 1	< 3
	QUL-66A-0M	2014 09 27	9	17.7	< 30	1.92	0.274	0.45	0.802	< 0.1	< 0.1	5.06	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.67	< 0.05	0.85	-	0.256	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	4.2
	QUL-66A-40M	2014 09 27	13 6	22 8	< 30	2 49	44 9	1 06	3 4	0 26	0 67	15 1	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 53	< 0 05	1 11	-	5 75	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 619	< 1	< 3
	QUL-66A-80M	2014 09 27	15.9	24.1	< 30	2.63	62.8	1.16	3.89	0.29	0.8	17.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.24	< 0.05	1.2	-	6.57	< 0.5	0.55	< 0.01	< 0.01	< 10	0.691	1	< 3
QUL-79	QUL-79-0M	2014 09 15	8 6	17	< 30	1 86	0 202	0 43	0 752	< 0 1	< 0 1	4 71	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 78	-	0 227	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QUL-79-26M	2014 09 15	7 7	18 6	< 30	2 12	6 43	0 538	1 23	< 0 1	0 19	6 88	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 92	< 0 05	0 85	-	1 02	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 198	< 1	< 3
	QUL-79-50M	2014 09 15	7.9	19.4	< 30	2.2	11.2	0.61	1.53	< 0.1	0.22	7.95	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.84	< 0.05	0.93	-	1.62	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.239	< 1	< 3
	QUL-79-0M	2014 09 18	8.7	17.5	< 30	1.9	0.185	0.424	0.753	< 0.1	< 0.1	4.61	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.216	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-79-15M	2014 09 18	8 8	17 2	< 30	1 96	0 193	0 464	0 874	< 0 1	0 1	5 57	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 18	< 0 05	0 75	-	0 316	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QUL-79-50M	2014 09 18	4.7	18.9	< 30	2.11	1.7	0.481	0.976	< 0.1	0.11	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.91	< 0.05	0.89	-	0.446	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.169	< 1	< 3
	QUL-79-0M	2014 09 19	12	17.4	< 30	1.85	0.186	0.419	0.753	< 0.1	< 0.1	4.66	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.233	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-79-25M	2014 09 19	6 6	18	< 30	2	0 782	0 485	0 982	< 0 1	0 13	5 81	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 16	< 0 05	0 8	-	0 465	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 162	< 1	< 3
	QUL-79-58M	2014 09 19	10.3	19.9	< 30	2.18	14.8	0.672	1.81	< 0.1	0.3	8.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.09	< 0.05	0.87	-	2.15	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.299	< 1	< 3
	QUL-79-0M	2014 09 22	9.8	16.4	< 30	1.72	0.197	0.429	0.789	< 0.1	< 0.1	4.71	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.61	-	0.231	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-79-30M	2014 09 22	7.8	17.9	< 30	1.95	6.19	0.542	1.3	< 0.1	0.18	6.92	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.06	< 0.05	0.74	-	1.13	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.222	< 1	< 3
	QUL-79-58M	2014 09 22	6 4	18 2	< 30	1 96	4 95	0 525	1 22	< 0 1	0 14	6 44	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 45	< 0 05	0 73	-	0 898	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 21	< 1	< 3
	QUL-79-0M	2014 09 26	8	17.5	< 30	1.9	0.233	0.436	0.782	< 0.1	< 0.1	4.85	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.86	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-79-40M	2014 09 26	4.7	18.3	< 30	2.03	0.208	0.464	0.878	< 0.1	< 0.1	4.85	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	1	-	0.259	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.153	< 1	< 3
	QUL-79-55M	2014 09 26	5 5	18 7	< 30	2 07	0 925	0 484	0 94	< 0 1	0 1	5 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 72	< 0 05	0 98	-	0 366	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 157	< 1	< 3

All terms defined within the body of SNC-Lava in's report (ava lable upon request).
< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no app icable 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) guide ine.
BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.
SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.
BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012. Guideline for Nitrate app ied.
[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 applicab e to single sample resu ts at this point in time.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																	
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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-66	QUL-66-0M	2014 09 15	22.7	< 0.1	0.1	5.07	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.74	< 30	< 0.05	0.81	1,900	1.05	-	0.275	< 0.5	439	< 0.5	1,460	< 0.01	789	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-66-24M	2014 09 15	***940***	< 0.1	0.53	21.5	< 0.1	< 0.5	< 10	< 0.01	18,900	**1.01**	0.55	**18.2**	***932***	0.377	1.65	2,520	31.8	-	1.03	1.29	872	< 0.5	4,150	< 0.01	1,360	< 0.01	< 0.1	52	0.225	2.4	3.5
	QUL-66-48M	2014 09 15	***3,240***	0 3	1 75	86 5	< 0 1	< 0 5	< 10	0 023	23 000	**1.89**	1 39	**69.3**	***2,050***	1 18	2 68	3 340	***111***	-	5 93	2 03	2 380	0 52	9 470	0 029	3 970	0 012	0 1	143	0 633	**6.9**	6 9
	QUL-66-0M	2014 09 16	28.1	< 0.1	< 0.1	5.22	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.88	< 30	< 0.05	0.79	1,910	1.41	-	0.303	< 0.5	459	< 0.5	1,440	< 0.01	800	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-66-40M	2014 09 16	***2,830***	0 26	1 32	78 3	< 0 1	< 0 5	< 10	0 019	22 500	**1.36**	1 02	**53.6**	***1,480***	0 924	2 24	3 080	***86.5***	-	5 07	1 5	2 270	< 0 5	8 540	0 022	3 480	0 01	< 0 1	103	0 564	5 2	5 2
	QUL-66-0M	2014 09 18	15 3	< 0 1	< 0 1	4 69	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	0 57	< 30	< 0 05	0 79	1 930	0 701	-	0 25	< 0 5	418	< 0 5	1 410	< 0 01	753	< 0 01	< 0 1	< 10	0 151	< 1	< 3
	QUL-66-15M	2014 09 18	***1,280***	< 0.1	0.67	21.5	< 0.1	< 0.5	< 10	0.013	18,500	**1.63**	0.89	**25.2**	***1,580***	0.606	2.06	2,650	39.3	-	0.574	1.93	791	< 0.5	3,830	0.015	1,150	< 0.01	< 0.1	71	0.204	3.5	5
	QUL-66-40M	2014 09 18	***3,120***	0 3	1 49	84 6	< 0 1	< 0 5	11	0 02	23 100	**1.42**	1 05	**58.9**	***1,580***	1 04	2 29	3 180	***98.1***	-	5 71	1 48	2 420	< 0 5	8 660	0 023	3 880	0 014	0 11	115	0 66	5 5	5 6
	QUL-66-0M	2014 09 20	31.3	< 0.1	0.1	5.33	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.91	< 30	< 0.05	0.75	1,770	1.9	-	0.284	< 0.5	453	< 0.5	1,390	< 0.01	792	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-66-15M	2014 09 20	***2,070***	< 0.1	0.98	31.7	< 0.1	< 0.5	< 10	0.016	18,500	**2.46**	1.32	**39.4**	***2,160***	0.891	2.6	2,680	***57.6***	-	0.697	2.74	1,060	< 0.5	5,240	0.019	1,360	< 0.01	< 0.1	95	0.233	5.1	7.3
	QUL-66-45M	2014 09 20	***3,180***	0 31	1 46	92 1	< 0 1	< 0 5	< 10	0 016	22 200	**1.34**	1	**59.7**	***1,500***	1 01	2 1	2 920	***97.2***	-	5 92	1 45	2 510	< 0 5	9 510	0 021	4 150	0 012	0 1	111	0 671	5 4	5 4
	QUL-66-0M	2014 09 23	24.2	< 0.1	0.12	5.36	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	1.04	< 30	< 0.05	0.78	1,960	1.34	-	0.282	< 0.5	482	< 0.5	1,490	< 0.01	888	< 0.01	< 0.1	< 10	0.16	< 1	< 3
	QUL-66-15M	2014 09 23	26.1	< 0.1	0.13	5.44	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1	< 30	< 0.05	0.76	1,890	1.57	-	0.28	< 0.5	463	< 0.5	1,420	< 0.01	866	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-66-50M	2014 09 23	***2,930***	0 32	1 42	85 5	< 0 1	< 0 5	11	0 016	22 100	**1.35**	0 93	**58.5**	***1,390***	0 974	2 15	3 020	***94.5***	-	5 87	1 47	2 410	< 0 5	8 740	0 02	4 070	0 011	< 0 1	108	0 654	5 2	5 4
	QUL-66-0M	2014 09 29	49.9	< 0.1	0.14	5.35	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.34	52	< 0.05	0.95	1,910	2.13	-	0.396	< 0.5	458	< 0.5	1,460	< 0.01	805	< 0.01	< 0.1	< 10	0.164	< 1	< 3
	QUL-66-40M	2014 09 29	***2,260***	0.27	1.12	66	< 0.1	< 0.5	< 10	0.015	22,100	0.97	0.65	**42**	***967***	0.811	2.01	2,800	***71.3***	-	5.07	1.12	2,020	< 0.5	7,090	0.017	3,370	< 0.01	< 0.1	81	0.596	3.9	4
	QUL-66-50M	2014 09 29	***2,960***	0.29	1.4	84.9	< 0.1	< 0.5	< 10	0.019	22,800	**1.19**	0.85	**55**	***1,230***	0.954	2.17	2,990	***89.1***	-	6.03	1.31	2,470	< 0.5	8,480	0.02	4,060	< 0.01	< 0.1	103	0.657	5.1	5.4
QUL-66A	QUL-66A-0M	2014 09 25	60 7	< 0 1	0 11	5 43	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	1 45	56	< 0 05	0 62	1 940	2 02	-	0 306	< 0 5	474	< 0 5	1 530	< 0 01	831	< 0 01	< 0 1	< 10	0 167	< 1	< 3
	QUL-66AX-0M	2014 09 25	46.4	< 0.1	0.11	5.3	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	1.14	45	< 0.05	0.6	1,890	1.78	-	0.265	< 0.5	458	< 0.5	1,490	< 0.01	808	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QA/QC RPD %		27	*	*	2	*	*	*	*	2	*	*	*	*	*	*	3	*	-	14	*	3	*	3	*	3	*	*	*	9	*	*
	QUL-66A-40M	2014 09 25	***2,920***	0.28	1.37	81.8	< 0.1	< 0.5	10	0.017	23,100	**1.3**	0.91	**52.9**	***1,360***	0.934	1.85	3,080	***88.4***	-	5.65	1.38	2,460	< 0.5	8,510	0.02	3,800	0.012	< 0.1	107	0.648	5	5.5
	QUL-66A-85M	2014 09 25	***3,720***	0.37	1.73	105	< 0.1	< 0.5	11	0.022	24,500	**1.67**	1.17	**69.2**	***1,760***	1.18	2.07	3,380	***124***	-	6.88	1.66	2,930	0.59	10,200	0.027	4,540	0.015	< 0.1	139	0.784	**6.7**	6.7
	QUL-66A-0M	2014 09 27	35.8	< 0.1	0.12	5.45	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	1.14	35	< 0.05	0.85	1,930	1.59	-	0.283	< 0.5	466	< 0.5	1,450	< 0.01	834	< 0.01	< 0.1	< 10	0.169	< 1	< 3
	QUL-66A-40M	2014 09 27	***2,500***	0 28	1 25	76 1	< 0 1	< 0 5	10	0 017	22 300	**1.35**	0 74	**49.4**	***1,070***	0 942	1 89	2 870	***82.2***	-	5 57	1 2	2 320	< 0 5	7 540	0 016	3 830	< 0 01	< 0 1	82	0 662	4 3	4 7
	QUL-66A-80M	2014 09 27	***3,540***	0.36	1.66	102	< 0.1	< 0.5	11	0.02	24,500	**1.53**	1.07	**66.1**	***1,530***	1.22	2.17	3,300	***117***	-	6.88	1.5	3,010	0.59	10,000	0.023	4,680	0.013	0.13	124	0.819	**6.1**	5.9
QUL-79	QUL-79-0M	2014 09 15	13 3	< 0 1	< 0 1	4 75	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 77	1 860	0 536	-	0 257	< 0 5	424	< 0 5	1 390	< 0 01	761	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-79-26M	2014 09 15	***483***	< 0 1	0 29	17 4	< 0 1	< 0 5	< 10	< 0 01	18 400	< 0 5	0 17	**10.2**	233	0 167	1 14	2 190	15 3	-	1 1	0 55	765	< 0 5	2 960	< 0 01	1 350	< 0 01	< 0 1	19	0 223	< 1	< 3
	QUL-79-50M	2014 09 15	***908***	0.1	0.43	29.5	< 0.1	< 0.5	< 10	< 0.01	19,200	< 0.5	0.27	**16.7**	***410***	0.286	1.28	2,370	25	-	1.79	0.74	1,090	< 0.5	4,340	< 0.01	1,730	< 0.01	< 0.1	33	0.28	1.6	3.3
	QUL-79-0M	2014 09 18	14.3	< 0.1	< 0.1	4.69	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.63	< 30	< 0.05	0.8	1,910	0.619	-	0.245	< 0.5	417	< 0.5	1,390	< 0.01	759	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-79-15M	2014 09 18	74 4	< 0 1	0 14	6 28	< 0 1	< 0 5	< 10	< 0 01	17 200	< 0 5	< 0 1	**2.25**	70	< 0 05	0 8	1 990	2 84	-	0 316	< 0 5	476	< 0 5	1 630	< 0 01	866	< 0 01	< 0 1	< 10	0 16	< 1	< 3
	QUL-79-50M	2014 09 18	***158***	< 0.1	0.17	8.37	< 0.1	< 0.5	< 10	< 0.01	18,500	< 0.5	< 0.1	**3.45**	83	0.066	0.99	2,110	5.57	-	0.532	< 0.5	555	< 0.5	2,000	< 0.01	1,030	< 0.01	< 0.1	< 10	0.183	< 1	< 3
	QUL-79-0M	2014 09 19	< 15	< 0.1	< 0.1	4.66	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.65	1,830	0.559	-	0.252	< 0.5	427	< 0.5	1,370	< 0.01	795	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-79-25M	2014 09 19	***129***	< 0 1	0 15	7 82	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	**3.13**	72	0 057	0 73	1 980	4 69	-	0 518	< 0 5	527	< 0 5	1 860	< 0 01	1 020	< 0 01	< 0 1	< 10	0 174	< 1	< 3
	QUL-79-58M	2014 09 19	***1,140***	0.13	0.55	33.7	< 0.1	< 0.5	< 10	< 0.01	18,900	0.51	0.35	**21.7**	***495***	0.353	1.3	2,270	33	-	2.28	0.67	1,180	< 0.5	4,200	< 0.01	2,020	< 0.01	< 0.1	38	0.325	1.9	< 3
	QUL-79-0M	2014 09 22	14.5	< 0.1	< 0.1	4.76	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.67	1,740	0.568	-	0.251	< 0.5	436	< 0.5	1,340	< 0.01	802	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-79-30M	2014 09 22	***452***	< 0.1	0.32	17.8	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	0.13	**9.6**	206	0.163	0.93	2,050	15.2	-	1.23	< 0.5	764	< 0.5	2,660	< 0.01	1,440	< 0.01	< 0.1	16	0.24	< 1	< 3
	QUL-79-58M	2014 09 22	***292***	< 0 1	0 25	13 5	< 0 1	< 0 5	< 10	< 0 01	18 200	< 0 5	< 0 1	**6.86**	126	0 141	0 87	2 020	10 6	-	0 968	< 0 5	661	< 0 5	2 320	< 0 01	1 280	< 0 01	< 0 1	11	0 228	< 1	< 3
	QUL-79-0M	2014 09 26	21.6	< 0.1	0.11	4.94	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.76	< 30	< 0.05	0.67	1,910	1.42	-	0.267	< 0.5	437	< 0.5	1,400	< 0.01	792	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-79-40M	2014 09 26	29.1	< 0.1	< 0.1	5.24	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	0.82	< 30	< 0.05	0.8	2,010	1.34	-	0.27	< 0.5	456	< 0.5	1,650	< 0.01	883	< 0.01	< 0.1	< 10	0.157	< 1	< 3
	QUL-79-55M	2014 09 26	54 4	< 0 1	0 11	6 4	< 0 1	< 0 5	< 10	< 0 01	18 300	< 0 5	< 0 1	2 04	< 30	< 0 05	0 8	2 060	2 74	-	0 405	< 0 5	499	< 0 5	1 740	< 0 01	971	< 0 01	< 0 1	< 10	0 166	< 1	< 3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly calculated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012.
[h] Guideline for Nitrate appl ed.
[i] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[j]	n/a	500	n/a	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-87	QUL-87-0M	2014 09 21	51	7.93	7.96	16.5	0.32	102	68	< 3	1.5	-	0.127	< 5	62.8	< 1	-	< 0.5	29	6.05	51.6	-	0.0017	< 0.002[a]
	QUL-87X-0M	2014 09 21	50.7	7.93	7.97	16.5	0.33	101	65	< 3	1.58	-	0.126	< 5	55.9	< 1	-	< 0.5	36	6.08	48.1	-	0.0014	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	*	< 1	5	*	*	-	*	*	12	*	-	*	*	< 1	7	-	*	*
	QUL-87-25M	2014 09 21	53.5	7.49	7.93	5.9	1.76	107	70	< 3	1.68	-	0.193	< 5	145	< 1	-	< 0.5	38	6.59	49.8	-	< 0.001	< 0.002[a]
	QUL-87X-25M	2014 09 21	53 2	7 49	7 94	5 9	1 72	108	70	< 3	1 53	-	0 188	< 5	146	< 1	-	< 0 5	38	6 57	50 3	-	< 0 001	< 0 002[a]
	QA/QC RPD %		< 1	0	< 1	0	2	< 1	0	*	*	-	*	*	< 1	*	-	*	*	< 1	< 1	-	*	*
	QUL-87-53M	2014 09 21	53.4	7.36	7.91	5.3	0.59	107	69	< 3	1.57	-	0.207	< 5	159	< 1	-	< 0.5	37	6.16	49.9	-	< 0.001	**0.0022**
	QUL-87-0M	2014 09 23	51.2	7.99	7.96	15.7	0.29	101	65	< 3	1.86	-	0.109	< 5	54.4	< 1	-	< 0.5	31	6.04	50.3	-	0.0012	< 0.002[a]
	QUL-87-25M	2014 09 23	53 1	7 64	7 93	6 19	1 21	107	68	< 3	1 9	-	0 19	< 5	156	< 1	-	< 0 5	34	6 13	52 2	-	0 0011	**0.0021**
	QUL-87-57M	2014 09 23	53.4	7.44	7.91	5.25	0.53	106	67	< 3	1.91	-	0.21	< 5	141	< 1	-	< 0.5	34	6.33	52.5	-	< 0.001	< 0.002[a]
	QUL-87-0M	2014 09 28	53	8.13	7.69	15.3	0.24	98.9	66	< 3	1.82	-	0.086	< 5	57.5	< 1	-	< 0.5	33	6.06	49.2	-	< 0.001	< 0.002[a]
	QUL-87X-0M	2014 09 28	50 9	8 13	7 63	15 3	0 36	98 7	65	< 3	1 86	-	0 089	< 5	57	< 1	-	< 0 5	35	6 05	49 2	-	< 0 001	< 0 002[a]
	QA/QC RPD %		4	0	< 1	0	*	< 1	2	*	*	-	*	*	< 1	*	-	*	*	< 1	0	-	*	*
	QUL-87-40M	2014 09 28	53	7 48	7 61	5 4	0 56	102	68	< 3	1 93	-	0 155	< 5	149	< 1	-	< 0 5	36	6 13	51 3	-	< 0 001	< 0 002[a]
	QUL-87-50M	2014 09 28	52.4	7.43	7.49	5.3	0.46	100	72	< 3	2.18	-	0.161	< 5	153	< 1	-	< 0.5	35	6.14	50.1	-	< 0.001	< 0.002[a]
QUL-105	QUL-105	2014 09 22	48.7	-	7.93	-	0.3	102	67	< 3	1.78	-	0.126	< 5	50.5	< 1	-	< 0.5	34	6.03	48.3	-	< 0.001	< 0.002[a]
	QUL-105X	2014 09 22	48 2	-	7 92	-	0 28	102	66	< 3	1 85	-	0 119	< 5	51 7	< 1	-	< 0 5	34	6 01	48 1	-	< 0 001	< 0 002[a]
	QA/QC RPD %		1	-	< 1	-	*	0	2	*	*	-	*	*	2	*	-	*	*	< 1	< 1	-	*	*
	QUL-105-TAP	2014 09 22	111	-	7 76	-	0 71	252	169	< 3	< 0 5	-	0 285	< 5	292	< 1	-	18 7	59	9 9	92 8	-	< 0 001	< 0 002[a]
QUL-107	QUL-107-2M	2014 09 15	50 1	7 86	7 82	13 9	0 6	99 8	67	< 3	1 92	-	0 136	< 5	67 3	< 1	-	< 0 5	35	6 04	48 6	-	< 0 001	< 0 002[a]
	QUL-107X-2M	2014 09 15	51	7.86	7.88	13.9	0.61	100	89	< 3	2.09	-	0.137	< 5	67.5	< 1	-	< 0.5	35	6.04	48.7	-	< 0.001	**0.002**
	QA/QC RPD %		2	0	< 1	0	2	< 1	28	*	*	-	*	*	< 1	*	-	*	*	0	< 1	-	*	*
QUL-108	QUL-108-1M	2014 09 15	51.5	8.16	7.91	14.9	0.54	101	67	< 3	2.07	-	0.14	< 5	61.3	< 1	-	< 0.5	35	6.01	49.1	-	< 0.001	< 0.002[a]
QUL-109	QUL-109-5M	2014 09 15	51 2	7 97	7 87	14 1	0 58	94 2	70	< 3	1 93	-	0 14	< 5	66 1	< 1	-	< 0 5	35	6 02	48 4	-	< 0 001	**0.0023**
QUL-110	QUL-110	2014 09 20	48.8	-	7.95	-	0.3	101	60	< 3	1.65	-	0.124	< 5	60.9	< 1	-	< 0.5	33	6.09	47.7	-	< 0.001	< 0.002[a]
QUL-111	QUL-111-0.5M	2014 09 19	51.5	7.17	7.98	16.2	0.84	98.7	63	< 3	1.66	-	0.139	< 5	55	< 1	-	< 0.5	33	6	48.4	-	< 0.001	< 0.002[a]
QUL-112	QUL-112-0M	2014 09 20	49 6	8 02	7 93	15	0 3	101	50	< 3	1 7	-	0 124	< 5	60 1	< 1	-	< 0 5	33	6 08	48 3	-	< 0 001	< 0 002[a]
	QUL-112-30M	2014 09 20	51 5	7 58	7 89	4 9	0 22	105	66	< 3	1 53	-	0 182	< 5	147	< 1	-	< 0 5	37	6 21	49 7	-	< 0 001	< 0 002[a]
	QUL-112X-30M	2014 09 20	51	7.58	7.89	4.9	0.24	106	65	< 3	1.77	-	0.183	< 5	147	< 1	-	< 0.5	36	6.21	50.3	-	< 0.001	< 0.002[a]
	QA/QC RPD %		1	0	0	0	*	1	2	*	15	-	1	*	0	*	-	*	*	0	1	-	*	*
	QUL-112-80M	2014 09 20	52.8	7.6	7.91	3.8	0.24	107	69	< 3	1.38	-	0.19	< 5	147	< 1	-	< 0.5	36	6.33	51.1	-	< 0.001	< 0.002[a]
	QUL-112-0M	2014 09 24	51.3	7.69	7.06	15.85	0.32	101	65	< 3	1.89	-	0.123	< 5	61.4	< 1	-	< 0.5	30	6.12	52.5	-	< 0.001	< 0.002[a]
	QUL-112-40M	2014 09 24	53 1	7 48	7 02	4 19	0 2	106	75	< 3	1 66	-	0 176	< 5	147	< 1	-	< 0 5	35	6 26	54 5	-	< 0 001	< 0 002[a]
	QUL-112X-40M	2014 09 24	54.2	7.48	7.01	4.19	0.18	105	67	< 3	1.67	-	0.181	< 5	146	< 1	-	< 0.5	35	6.27	54.1	-	< 0.001	< 0.002[a]
	QA/QC RPD %		2	0	< 1	0	*	< 1	11	*	*	-	*	*	< 1	*	-	*	*	< 1	< 1	-	*	*
	QUL-112-80M	2014 09 24	53.3	7.53	7.01	3.8	0.15	106	79	< 3	1.67	-	0.177	< 5	146	< 1	-	< 0.5	35	6.32	54.9	-	< 0.001	< 0.002[a]
	QUL-112-0M	2014 09 28	52.1	8.12	7.96	14.03	0.34	100	62	< 3	1.93	-	0.115	< 5	65.6	< 1		< 0.5	34	6.19	51.5	-	< 0.001	< 0.002[a]
	QUL-112-40M	2014 09 28	54 9	7 45	7 65	4 11	0 24	103	75	< 3	1 58	-	0 159	< 5	147	< 1	-	< 0 5	37	6 27	52 3	-	< 0 001	< 0 002[a]
	QUL-112-80M	2014 09 28	55 2	7 49	7 64	3 76	0 16	105	55	< 3	1 66	-	0 146	< 5	149	< 1	-	< 0 5	37	6 32	52 6	-	< 0 001	< 0 002[a]
QUL-113	QUL-113-2M	2014 09 20	51	7.99	7.95	14.8	0.44	102	70	< 3	1.69	-	0.138	< 5	56.5	< 1	-	< 0.5	33	6.06	48	-	< 0.001	< 0.002[a]
	QUL-113X-2M	2014 09 20	50.8	7.99	7.95	14.8	0.3	102	63	< 3	1.74	-	0.128	< 5	57.2	< 1	-	< 0.5	33	6.07	48	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	0	0	*	0	11	*	*	-	*	*	1	*	-	*	*	< 1	0	-	*	*
QUL-114	QUL-114	2014 09 20	51.6	8.03	7.95	15.4	1.03	103	63	10.9	1.67	-	0.128	< 5	56.7	< 1	-	< 0.5	35	6.06	48.8	-	< 0.001	< 0.002[a]
QUL-115	QUL-115	2014 09 20	53 5	8 15	7 96	15 5	0 46	104	62	< 3	1 62	-	0 133	< 5	54 1	< 1	-	< 0 5	35	6 09	49	-	< 0 001	< 0 002[a]
QUL-116	QUL-116	2014 09 20	51.9	8.18	7.97	15.5	0.39	104	66	< 3	1.6	-	0.125	< 5	53.7	< 1	-	< 0.5	34	6.09	49.6	-	< 0.001	< 0.002[a]
QUL-117	QUL-117	2014 09 20	53.1	8.1	7.87	15.8	1.35	105	63	12.4	1.56	-	0.159	< 5	51.2	< 1	-	< 0.5	34	6.09	49.3	-	< 0.001	< 0.002[a]
QUL-118	QUL-118-TAP	2014 09 20	50 3	-	7 93	-	0 15	102	57	< 3	< 0 5	-	< 0 05	< 5	< 5	< 1	-	3 03	31	2 43	47 7	-	0 0038	**0.0037**

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[f] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-87	QUL-87-0M	2014 09 21	8.4	17.3	< 30	1.88	0.215	0.442	0.8	< 0.1	< 0.1	4.73	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.77	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
	QUL-87X-0M	2014 09 21	8.5	17.2	< 30	1.87	0.245	0.43	0.783	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.229	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	3	2	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
	QUL-87-25M	2014 09 21	5.8	18.1	< 30	2.01	0.769	0.481	0.963	< 0.1	0.11	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.86	< 0.05	0.84	-	0.411	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.16	< 1	< 3
	QUL-87X-25M	2014 09 21	6 1	18	< 30	2	0 801	0 475	0 966	< 0 1	0 11	5 35	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 83	< 0 05	0 84	-	0 397	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 16	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	4	1	< 1	*	*	2	*	*	*	*	*	*	*	*	-	4	*	*	*	*	*	0	*	*
	QUL-87-53M	2014 09 21	5.2	18	< 30	2.05	0.218	0.486	0.945	< 0.1	< 0.1	5.13	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.87	-	0.256	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-87-0M	2014 09 23	8.2	17.4	< 30	1.91	0.193	0.43	0.821	< 0.1	< 0.1	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.65	-	0.242	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-87-25M	2014 09 23	6 8	17 9	< 30	2 04	0 442	0 473	0 98	< 0 1	0 11	5 38	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 03	< 0 05	0 86	-	0 34	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 154	< 1	< 3
	QUL-87-57M	2014 09 23	5.6	18	< 30	2.07	0.258	0.474	0.969	< 0.1	< 0.1	5.14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.78	< 0.05	0.72	-	0.27	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-87-0M	2014 09 28	8.3	18	< 30	1.97	0.185	0.441	0.793	< 0.1	< 0.1	4.68	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.63	-	0.23	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-87X-0M	2014 09 28	8 9	17 3	< 30	1 88	0 15	0 447	0 791	< 0 1	< 0 1	4 69	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 74	-	0 234	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QA/QC RPD %		*	4	*	5	*	1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	3	*	*
	QUL-87-40M	2014 09 28	5 5	17 9	< 30	2 02	0 241	0 48	0 909	< 0 1	< 0 1	4 89	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 59	< 0 05	0 9	-	0 282	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-87-50M	2014 09 28	5.8	17.7	< 30	2	0.203	0.479	0.908	< 0.1	0.1	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.98	-	0.275	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
QUL-105	QUL-105	2014 09 22	10.5	16.6	< 30	1.75	0.591	0.437	0.769	< 0.1	0.12	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.69	-	0.253	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-105X	2014 09 22	10 3	16 4	< 30	1 74	0 632	0 435	0 773	< 0 1	0 12	4 81	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 52	< 0 05	0 7	-	0 261	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 141	< 1	< 3
	QA/QC RPD %		*	1	*	< 1	7	< 1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	2	*	*
	QUL-105-TAP	2014 09 22	< 3	36 9	< 30	4 62	1 03	0 669	5 75	0 1	0 13	6 01	< 0 1	27	< 0 01	< 0 5	< 0 1	5 25	0 09	< 0 5	-	0 172	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 022	< 1	4 3
QUL-107	QUL-107-2M	2014 09 15	8 3	17	< 30	1 87	0 347	0 472	0 83	< 0 1	0 11	5 23	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 64	< 0 05	0 7	-	0 28	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 144	< 1	< 3
	QUL-107X-2M	2014 09 15	8.5	17.3	< 30	1.92	0.395	0.455	0.819	< 0.1	0.11	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.62	< 0.05	0.67	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QA/QC RPD %		*	2	*	3	13	4	1	*	*	< 1	*	*	*	*	*	*	*	*	-	4	*	*	*	*	*	7	*	*
QUL-108	QUL-108-1M	2014 09 15	8.7	17.4	< 30	1.95	1.17	0.458	0.838	< 0.1	0.11	5.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.68	-	0.265	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
QUL-109	QUL-109-5M	2014 09 15	8 6	17 3	< 30	1 91	0 283	0 464	0 838	< 0 1	< 0 1	5 18	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 57	< 0 05	0 71	-	0 274	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 14	< 1	< 3
QUL-110	QUL-110	2014 09 20	9.6	16.7	< 30	1.75	0.205	0.428	0.755	< 0.1	0.1	4.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.223	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
QUL-111	QUL-111-0.5M	2014 09 19	9.4	17.5	< 30	1.91	4.52	0.448	0.814	< 0.1	0.31	5.02	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.75	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
QUL-112	QUL-112-0M	2014 09 20	8 4	16 9	< 30	1 77	0 202	0 427	0 758	< 0 1	< 0 1	4 67	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 71	-	0 224	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 146	< 1	< 3
	QUL-112-30M	2014 09 20	4 8	17 5	< 30	1 89	0 089	0 442	0 832	< 0 1	< 0 1	4 9	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 84	-	0 239	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 155	< 1	< 3
	QUL-112X-30M	2014 09 20	5.9	17.3	< 30	1.88	0.102	0.459	0.841	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.89	-	0.238	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QA/QC RPD %		21	1	*	1	*	4	1	*	*	1	*	*	*	*	*	*	*	6	-	0	*	*	*	*	*	3	*	*
	QUL-112-80M	2014 09 20	3.9	18	< 30	1.93	0.097	0.447	0.853	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.86	-	0.229	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-112-0M	2014 09 24	9.1	17.5	< 30	1.85	0.221	0.438	0.776	< 0.1	< 0.1	4.51	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	0.055	0.51	-	0.242	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-112-40M	2014 09 24	5	18	< 30	1 99	0 118	0 467	0 895	< 0 1	< 0 1	4 89	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 98	< 0 05	0 67	-	0 246	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 156	< 1	< 3
	QUL-112X-40M	2014 09 24	5	18.4	< 30	2.02	0.112	0.467	0.9	< 0.1	< 0.1	4.86	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1	< 0.05	0.65	-	0.256	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
	QA/QC RPD %		*	2	*	2	*	0	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	< 1	*	*
	QUL-112-80M	2014 09 24	4.7	18.1	< 30	1.99	0.086	0.471	0.905	< 0.1	< 0.1	4.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.61	< 0.05	0.77	-	0.25	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	< 3
	QUL-112-0M	2014 09 28	8.2	17.7	< 30	1.9	0.134	0.429	0.763	< 0.1	0.11	4.69	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.88	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-112-40M	2014 09 28	4 4	18 6	< 30	2 06	0 106	0 458	0 881	< 0 1	< 0 1	4 83	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 89	-	0 226	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
	QUL-112-80M	2014 09 28	4 1	18 7	< 30	2 07	0 088	0 463	0 873	< 0 1	< 0 1	4 85	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 89	-	0 242	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
QUL-113	QUL-113-2M	2014 09 20	9	17.3	< 30	1.88	0.374	0.422	0.776	< 0.1	< 0.1	4.67	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.81	-	0.237	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-113X-2M	2014 09 20	8.3	17.3	< 30	1.87	0.376	0.433	0.772	< 0.1	0.1	4.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QA/QC RPD %		*	0	*	< 1	< 1	3	< 1	*	*	2	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	0	*	*
QUL-114	QUL-114	2014 09 20	8.7	17.5	< 30	1.91	0.57	0.435	0.784	< 0.1	< 0.1	4.69	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.223	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
QUL-115	QUL-115	2014 09 20	8 4	18 1	< 30	2 02	0 595	0 443	0 808	< 0 1	0 13	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 76	-	0 27	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 157	< 1	< 3
QUL-116	QUL-116	2014 09 20	8.3	17.6	< 30	1.96	0.653	0.441	0.794	< 0.1	0.19	4.81	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.8	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.154	< 1	< 3
QUL-117	QUL-117	2014 09 20	8.6	18	< 30	2.02	0.869	0.44	0.791	< 0.1	0.14	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.25	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
QUL-118	QUL-118-TAP	2014 09 20	4 3	17	< 30	1 87	1 41	0 425	0 79	< 0 1	0 48	44 7	< 0 1	< 10	< 0 01	< 0 5	0 11	15 3	0 723	0 86	-	0 499	2 43	< 0 5	< 0 01	< 0 01	< 10	0 024	< 1	5 7

All terms defined within the body of SNC-Lava in's report (ava lable upon request).

< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no app icable 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) guide ine.

BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.

[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .

[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de

[e] Health Canada Drinking Water Gu delines, 2012. Guideline for Nitrate app ied.

[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 applicab e to single sample resu ts at this point in time.

[h] Ca culated based on an individual sample bas s, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			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-87	QUL-87-0M	2014 09 21	12.9	< 0.1	< 0.1	4.77	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.77	1,830	0.637	-	0.302	< 0.5	438	< 0.5	1,350	< 0.01	818	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-87X-0M	2014 09 21	14	< 0.1	< 0.1	4.74	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.53	< 30	< 0.05	0.68	1,840	0.702	-	0.262	< 0.5	454	< 0.5	1,370	< 0.01	834	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QA/QC RPD %		*	*	*	< 1	*	*	*	*	1	*	*	*	*	*	*	< 1	*	-	14	*	4	*	2	*	2	*	*	*	3	*	*
	QUL-87-25M	2014 09 21	89.5	< 0.1	0.14	7.05	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	**2.22**	48	< 0.05	0.71	1,980	3.88	-	0.419	< 0.5	526	< 0.5	1,840	< 0.01	1,030	< 0.01	< 0.1	< 10	0.168	< 1	< 3
	QUL-87X-25M	2014 09 21	79 9	< 0 1	0 13	7 03	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	2 12	48	< 0 05	0 82	1 980	3 6	-	0 424	< 0 5	507	< 0 5	1 830	< 0 01	1 000	< 0 01	< 0 1	< 10	0 169	< 1	< 3
	QA/QC RPD %		11	*	*	< 1	*	*	*	*	1	*	*	*	*	*	*	0	*	-	1	*	4	*	< 1	*	3	*	*	*	< 1	*	*
	QUL-87-53M	2014 09 21	28.9	< 0.1	0.13	5.76	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.89	< 30	< 0.05	0.85	2,060	1.8	-	0.305	< 0.5	495	< 0.5	1,920	< 0.01	986	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUL-87-0M	2014 09 23	13.8	< 0.1	< 0.1	5.05	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.59	< 30	< 0.05	0.64	1,920	0.807	-	0.333	< 0.5	438	< 0.5	1,420	< 0.01	846	< 0.01	< 0.1	< 10	0.16	< 1	< 3
	QUL-87-25M	2014 09 23	63 6	< 0 1	0 16	6 58	< 0 1	< 0 5	< 10	< 0 01	17 900	< 0 5	< 0 1	1 95	43	< 0 05	0 71	2 080	3 05	-	0 405	< 0 5	502	< 0 5	1 850	< 0 01	1 010	< 0 01	< 0 1	< 10	0 163	< 1	< 3
	QUL-87-57M	2014 09 23	24.8	< 0.1	0.12	5.57	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	1.03	< 30	< 0.05	0.77	2,110	1.39	-	0.303	< 0.5	478	< 0.5	1,920	< 0.01	981	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-87-0M	2014 09 28	13.7	< 0.1	< 0.1	4.65	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.57	< 30	< 0.05	< 0.5	1,910	0.778	-	0.262	< 0.5	422	< 0.5	1,390	< 0.01	820	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-87X-0M	2014 09 28	13 1	< 0 1	0 11	4 67	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	0 59	< 30	< 0 05	0 65	1 910	0 777	-	0 278	< 0 5	448	< 0 5	1 410	< 0 01	821	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QA/QC RPD %		*	*	*	< 1	*	*	*	*	2	*	*	*	*	*	*	0	*	-	6	*	6	*	1	*	< 1	*	*	*	8	*	*
	QUL-87-40M	2014 09 28	33 6	< 0 1	0 12	5 62	< 0 1	< 0 5	< 10	< 0 01	18 600	< 0 5	< 0 1	1 1	< 30	< 0 05	0 56	2 150	2 01	-	0 314	< 0 5	490	< 0 5	1 890	< 0 01	954	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-87-50M	2014 09 28	29.9	< 0.1	0.11	5.24	< 0.1	< 0.5	< 10	< 0.01	17,900	0.85	2.47	0.94	45	< 0.05	0.72	2,030	1.7	-	1.78	< 0.5	479	< 0.5	1,820	< 0.01	931	< 0.01	< 0.1	< 10	0.15	< 1	< 3
QUL-105	QUL-105	2014 09 22	18.1	< 0.1	0.13	4.95	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.7	< 30	< 0.05	0.55	1,830	1.28	-	0.288	< 0.5	463	< 0.5	1,420	< 0.01	818	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUL-105X	2014 09 22	19 3	< 0 1	0 13	4 88	< 0 1	< 0 5	< 10	< 0 01	16 500	< 0 5	< 0 1	0 68	< 30	< 0 05	0 5	1 760	1 31	-	0 276	< 0 5	454	< 0 5	1 380	< 0 01	806	< 0 01	< 0 1	< 10	0 151	< 1	< 3
	QA/QC RPD %		6	*	*	1	*	*	*	*	4	*	*	*	*	*	*	4	*	-	4	*	2	*	3	*	2	*	*	*	< 1	*	*
	QUL-105-TAP	2014 09 22	< 3	0 14	0 18	6 15	< 0 1	< 0 5	31	< 0 01	37 800	< 0 5	< 0 1	**6**	145	0 245	< 0 5	4 730	2 06	-	0 205	< 0 5	687	< 0 5	5 550	0 011	6 030	< 0 01	< 0 1	< 10	0 027	< 1	5 5
QUL-107	QUL-107-2M	2014 09 15	24 5	< 0 1	0 11	5 61	< 0 1	< 0 5	< 10	< 0 01	17 000	< 0 5	< 0 1	0 98	< 30	< 0 05	0 8	1 920	1 6	-	0 297	< 0 5	468	< 0 5	1 520	< 0 01	855	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-107X-2M	2014 09 15	26.7	< 0.1	< 0.1	5.09	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.88	< 30	< 0.05	0.72	1,870	1.61	-	0.292	< 0.5	419	< 0.5	1,490	< 0.01	762	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QA/QC RPD %		9	*	*	10	*	*	*	*	3	*	*	*	*	*	*	3	*	-	2	*	11	*	2	*	12	*	*	*	3	*	*
QUL-108	QUL-108-1M	2014 09 15	24.4	< 0.1	0.14	5.33	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.87	< 30	< 0.05	0.86	1,860	2.29	-	0.288	< 0.5	452	< 0.5	1,460	< 0.01	847	< 0.01	< 0.1	< 10	0.152	< 1	< 3
QUL-109	QUL-109-5M	2014 09 15	26 4	< 0 1	0 11	5 55	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 83	< 30	< 0 05	0 84	1 890	1 47	-	0 286	< 0 5	474	< 0 5	1 510	< 0 01	859	< 0 01	< 0 1	< 10	0 146	< 1	< 3
QUL-110	QUL-110	2014 09 20	14.7	< 0.1	0.1	4.93	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.77	1,820	1.69	-	0.254	< 0.5	446	< 0.5	1,410	< 0.01	799	< 0.01	0.14	< 10	0.164	< 1	< 3
QUL-111	QUL-111-0.5M	2014 09 19	62.7	< 0.1	0.43	5.52	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.01	79	0.108	0.88	1,940	7.74	-	0.265	< 0.5	477	< 0.5	1,520	< 0.01	867	< 0.01	< 0.1	< 10	0.162	< 1	< 3
QUL-112	QUL-112-0M	2014 09 20	16 5	< 0 1	< 0 1	4 74	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 82	1 760	0 567	-	0 252	< 0 5	428	< 0 5	1 340	< 0 01	766	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QUL-112-30M	2014 09 20	12 2	< 0 1	< 0 1	5 04	< 0 1	< 0 5	< 10	< 0 01	17 200	< 0 5	< 0 1	0 63	< 30	< 0 05	0 79	1 860	0 634	-	0 264	< 0 5	457	< 0 5	1 590	< 0 01	863	< 0 01	< 0 1	< 10	0 154	< 1	< 3
	QUL-112X-30M	2014 09 20	11.4	< 0.1	< 0.1	5.14	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.65	< 30	< 0.05	0.8	1,880	0.681	-	0.267	< 0.5	455	< 0.5	1,590	< 0.01	875	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QA/QC RPD %		7	*	*	2	*	*	*	*	1	*	*	3	*	*	1	1	*	-	1	*	0	*	0	*	1	*	*	*	3	*	*
	QUL-112-80M	2014 09 20	16.6	< 0.1	< 0.1	5.14	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.55	< 30	< 0.05	0.89	1,910	0.543	-	0.267	< 0.5	461	< 0.5	1,610	0.013	888	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUL-112-0M	2014 09 24	15.9	< 0.1	< 0.1	4.62	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.61	< 30	< 0.05	< 0.5	1,840	0.716	-	0.239	< 0.5	447	< 0.5	1,340	< 0.01	811	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QUL-112-40M	2014 09 24	10	< 0 1	< 0 1	4 98	< 0 1	< 0 5	< 10	< 0 01	18 100	< 0 5	< 0 1	0 52	< 30	< 0 05	0 62	2 010	0 545	-	0 266	< 0 5	476	< 0 5	1 610	< 0 01	915	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QUL-112X-40M	2014 09 24	11.5	< 0.1	< 0.1	4.87	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.57	< 30	< 0.05	0.62	2,000	0.609	-	0.264	< 0.5	468	< 0.5	1,610	< 0.01	925	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QA/QC RPD %		*	*	*	2	*	*	*	*	< 1	*	*	*	*	*	*	< 1	*	-	< 1	*	2	*	0	*	1	*	*	*	< 1	*	*
	QUL-112-80M	2014 09 24	8.4	< 0.1	0.1	4.93	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.65	2,000	0.532	-	0.262	< 0.5	474	< 0.5	1,580	< 0.01	925	< 0.01	< 0.1	< 10	0.161	< 1	< 3
	QUL-112-0M	2014 09 28	16.4	< 0.1	< 0.1	4.68	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.81	1,910	0.55	-	0.247	< 0.5	428	< 0.5	1,400	< 0.01	790	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-112-40M	2014 09 28	8 9	< 0 1	< 0 1	4 86	< 0 1	< 0 5	< 10	< 0 01	18 100	< 0 5	< 0 1	0 57	< 30	< 0 05	0 65	2 010	0 451	-	0 264	< 0 5	466	< 0 5	1 610	< 0 01	877	< 0 01	< 0 1	< 10	0 156	< 1	< 3
	QUL-112-80M	2014 09 28	8 2	< 0 1	< 0 1	5 03	< 0 1	< 0 5	< 10	< 0 01	18 800	< 0 5	< 0 1	0 58	< 30	< 0 05	0 78	2 090	0 526	-	0 272	< 0 5	487	< 0 5	1 680	< 0 01	934	< 0 01	< 0 1	< 10	0 16	< 1	< 3
QUL-113	QUL-113-2M	2014 09 20	< 18	< 0.1	0.11	4.93	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	0.58	< 30	< 0.05	0.87	1,930	1	-	0.256	< 0.5	462	< 0.5	1,460	< 0.01	853	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUL-113X-2M	2014 09 20	< 15	< 0.1	0.1	4.78	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.53	< 30	< 0.05	0.71	1,800	0.842	-	0.246	< 0.5	423	< 0.5	1,360	< 0.01	784	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QA/QC RPD %		*	*	*	3	*	*	*	*	7	*	*	*	*	*	*	7	*	-	*	*	9	*	7	*	8	*	*	*	8	*	*
QUL-114	QUL-114	2014 09 20	91.1	< 0.1	0.14	5.83	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.93	117	0.074	0.75	1,900	4.31	-	0.266	< 0.5	445	< 0.5	1,500	< 0.01	808	< 0.01	< 0.1	< 10	0.171	< 1	< 3
QUL-115	QUL-115	2014 09 20	< 18	< 0 1	0 13	4 9	< 0 1	< 0 5	< 10	< 0 01	17 900	< 0 5	< 0 1	0 52	< 30	< 0 05	0 76	2 010	1 3	-	0 278	< 0 5	461	< 0 5	1 490	< 0 01	845	< 0 01	< 0 1	< 10	0 167	< 1	< 3
QUL-116	QUL-116	2014 09 20	< 21	< 0.1	0.21	5.11	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.62	31	< 0.05	0.71	2,020	1.78	-	0.279	< 0.5	464	< 0.5	1,510	< 0.01	866	< 0.01	< 0.1	< 10	0.172	< 1	< 3
QUL-117	QUL-117	2014 09 20	***193***	< 0.1	0.38	6.14	< 0.1	< 0.5	< 10	0.011	17,400	0.77	0.16	1.11	***313***	0.117	0.92	2,050	11	-	0.296	0.83	478	< 0.5	1,790	< 0.01	835	< 0.01	< 0.1	12	0.179	< 1	< 3
QUL-118	QUL-118-TAP	2014 09 20	< 15	< 0 1	0 44	52 2	< 0 1	< 0 5	< 10	< 0 01	16 200	< 0 5	0 14	**16.1**	< 30	0 789	0 86	1 810	2 19	-	0 488	3	406	< 0 5	1 720	< 0 01	790	< 0 01	< 0 1	< 10	0 022	< 1	6 7

All terms defined within the body of SNC-Lavalin's report (avai able upon request).

< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.

- Denotes analysis not conducted.

n/a Denotes no appl cable standard.

* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.

BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.

[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .

[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.

[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride

[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.

[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.

[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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-119	QUL-119-0M	2014 09 21	51.2	7.84	7.97	14.5	0.27	102	62	< 3	1.54	-	0.13	< 5	64.2	< 1	-	< 0.5	34	6.11	48.2	-	< 0.001	< 0.002[a]
	QUL-119-20M	2014 09 21	53.6	7.5	7.94	6.3	1.77	108	65	< 3	1.56	-	0.178	< 5	135	< 1	-	< 0.5	37	6.64	50.2	-	< 0.001	**0.002**
	QUL-119-98M	2014 09 21	54 9	7 45	7 93	3 7	0 2	109	66	< 3	1 43	-	0 179	< 5	148	< 1	-	< 0 5	36	6 31	51 7	-	< 0 001	< 0.002[a]
	QUL-119-0M	2014 09 24	50.4	8.1	7.06	14.27	0.29	100	72	< 3	1.84	-	0.112	< 5	64.1	< 1	-	< 0.5	33	6.12	51.8	-	< 0.001	< 0.002[a]
	QUL-119-40M	2014 09 24	54	7.65	7.01	4.36	0.3	105	75	< 3	1.73	-	0.18	< 5	147	< 1	-	< 0.5	35	6.22	53.5	-	< 0.001	< 0.002[a]
	QUL-119-80M	2014 09 24	54 6	7 67	7 01	3 75	0 16	107	74	< 3	1 6	-	0 18	< 5	146	< 1	-	< 0 5	35	6 33	54 6	-	< 0 001	< 0 002[a]
	QUL-119-0M	2014 09 28	52 5	8	7 68	14 21	0 24	98 5	56	< 3	1 84	-	0 1	< 5	63 6	< 1	-	< 0 5	37	6 14	49 3	-	< 0 001	< 0.002[a]
	QUL-119-40M	2014 09 28	53.9	7.55	7.64	4.29	0.24	103	70	< 3	1.75	-	0.165	< 5	147	< 1	-	< 0.5	37	6.22	51.7	-	< 0.001	< 0.002[a]
	QUL-119-80M	2014 09 28	55.7	7.55	7.64	3.71	0.28	105	71	< 3	1.67	-	0.151	< 5	149	< 1	-	< 0.5	36	6.35	52.5	-	< 0.001	< 0.002[a]
QUL-120	QUL-120-0M	2014 09 21	51 5	7 99	7 96	15	0 35	101	63	< 3	1 55	-	0 131	< 5	58 1	< 1	-	< 0 5	33	6 05	48 2	-	< 0 001	< 0 002[a]
	QUL-120-35M	2014 09 21	54 3	7 5	7 93	5	2 97	109	68	< 3	1 62	-	0 193	< 5	148	< 1	-	< 0 5	37	6 74	50 2	-	< 0 001	< 0 002[a]
	QUL-120-88M	2014 09 21	54.7	7.49	7.91	4.3	2.1	109	66	< 3	1.42	-	0.19	< 5	150	< 1	-	< 0.5	38	6.68	51.3	-	< 0.001	< 0.002[a]
	QUL-120-0M	2014 09 24	51	8.07	7.06	14.96	0.27	101	71	< 3	1.84	-	0.122	< 5	60.1	< 1	-	< 0.5	33	6.13	55.7	-	< 0.001	< 0.002[a]
	QUL-120X-0M	2014 09 24	51 3	8 07	7 06	14 96	0 22	102	72	< 3	1 82	-	0 124	< 5	59 9	< 1	-	< 0 5	33	6 13	56 5	-	< 0 001	< 0 002[a]
	QA/QC RPD %		< 1	0	0	0	*	< 1	1	*	*	-	*	*	< 1	*	-	*	*	0	1	-	*	*
	QUL-120-40M	2014 09 24	51 6	7 7	7 04	5 59	0 69	102	71	< 3	1 8	-	0 193	< 5	75 5	< 1	-	< 0 5	34	6 14	52 6	-	< 0 001	< 0 002[a]
	QUL-120X-40M	2014 09 24	51.4	7.7	7.03	5.59	0.78	102	70	< 3	1.91	-	0.196	< 5	75.5	< 1	-	< 0.5	34	6.14	55.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	12	0	1	*	*	-	*	*	0	*	-	*	*	0	6	-	*	*
	QUL-120-80M	2014 09 24	54.7	7.66	7.03	4.09	1.47	107	74	< 3	1.75	-	0.189	< 5	147	< 1	-	< 0.5	36	6.52	54.5	-	< 0.001	< 0.002[a]
	QUL-120-0M	2014 09 28	52	8.11	7.54	15.04	0.26	103	70	< 3	1.86	-	0.091	< 5	59.7	< 1	-	< 0.5	35	6.09	48.1	-	< 0.001	< 0.002[a]
	QUL-120-40M	2014 09 28	54 1	7 55	7 6	4 64	1 41	107	69	< 3	1 86	-	0 152	< 5	148	< 1	-	< 0 5	36	6 38	51 9	-	< 0 001	< 0 002[a]
	QUL-120-80M	2014 09 28	55 8	7 55	7 63	4 14	1 44	107	70	< 3	1 75	-	0 151	< 5	150	< 1	-	< 0 5	39	6 57	52 3	-	< 0 001	< 0 002[a]
QUL-121	QUL-121-16M	2014 09 21	51.4	7.24	7.99	13.6	0.85	103	66	3.2	1.93	-	0.144	< 5	84.3	< 1	-	< 0.5	36	6.14	47.8	-	< 0.001	< 0.002[a]
QUL-122	QUL-122-TAP	2014 09 21	176	7.48	8.06	10.8	0.18	316	184	< 3	1.56	-	< 0.05	< 5	< 5	< 1	-	< 0.5	47	7.2	174	-	< 0.001	< 0.002[a]
	QUL-122X-TAP	2014 09 21	176	7 48	8 07	10 8	0 11	317	186	< 3	1 37	-	< 0 05	< 5	< 5	< 1	-	< 0 5	46	7 2	173	-	< 0 001	< 0 002[a]
	QA/QC RPD %		0	0	< 1	0	*	< 1	1	*	*	-	*	*	*	*	-	*	*	0	< 1	-	*	*
QUL-123	QUL-123-TAP	2014 09 21	58 7	7 2	7 85	14 4	0 17	118	73	< 3	< 0 5	-	0 137	< 5	133	< 1	-	< 0 5	42	5 81	57 3	-	< 0 001	< 0 002[a]
QUL-124	QUL-124	2014 09 21	51.1	8.06	7.96	15.3	0.41	102	63	< 3	1.99	-	0.118	< 5	56.4	< 1	-	< 0.5	35	6.07	48.2	-	< 0.001	< 0.002[a]
	QUL-124X	2014 09 21	51.1	8.06	7.96	15.3	0.5	101	61	< 3	1.98	-	0.12	< 5	55.8	< 1	-	< 0.5	34	6.06	47.8	-	< 0.001	< 0.002[a]
	QA/QC RPD %		0	0	0	0	*	< 1	3	*	*	-	*	*	1	*	-	*	*	< 1	< 1	-	*	*
QUL-125	QUL-125-TAP	2014 09 22	245	7 44	8 12	10 89	< 0 1	435	248	< 3	0 99	-	0 663	< 5	693	< 1	-	1 26	79	7 84	242	-	0 005	0 007
QUL-126	QUL-126-TAP	2014 09 22	64	7.3	7.85	12.45	0.72	167	106	< 3	0.57	-	0.085	< 5	93.8	< 1	-	2.95	40	6.84	78.1	-	< 0.001	< 0.002[a]
QUL-127	QUL-127-TAP	2014 09 22	105	7.58	8.02	11.49	0.16	252	143	< 3	< 0.5	-	0.182	< 5	188	< 1	-	9.84	40	7.52	115	-	< 0.001	< 0.002[a]
QUL-128	QUL-128-TAP	2014 09 22	276	7.43	8.09	12.21	0.16	563	350	< 3	0.76	-	2.47	< 5	2,720	< 1	-	19.6	37	30.6	253	-	< 0.001	< 0.002[a]
QUL-129	QUL-129-TAP	2014 09 22	67 4	7 38	7 92	12 96	0 52	144	94	< 3	< 0 5	-	0 16	< 5	173	< 1	-	1 88	40	7 23	66 4	-	< 0 001	< 0 002[a]

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-119	QUL-119-0M	2014 09 21	9.1	17.4	< 30	1.87	0.133	0.431	0.781	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.213	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-119-20M	2014 09 21	6.3	18.1	< 30	2.02	0.46	0.498	0.978	< 0.1	0.11	5.54	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.04	< 0.05	0.87	-	0.43	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.164	< 1	< 3
	QUL-119-98M	2014 09 21	3.7	18.6	< 30	2.06	0.127	0.462	0.899	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-119-0M	2014 09 24	8.4	17.1	< 30	1.84	0.126	0.451	0.791	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.67	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.153	< 1	< 3
	QUL-119-40M	2014 09 24	5.2	18.3	< 30	2.03	0.13	0.473	0.905	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.65	< 0.05	0.73	-	0.263	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
	QUL-119-80M	2014 09 24	4.3	18.5	< 30	2.04	0.085	0.468	0.901	< 0.1	< 0.1	4.93	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.82	-	0.247	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.156	< 1	< 3
	QUL-119-0M	2014 09 28	9.7	17.9	< 30	1.92	0.134	0.432	0.773	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.87	-	0.225	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-119-40M	2014 09 28	5.4	18.2	< 30	2.04	0.097	0.457	0.874	< 0.1	< 0.1	4.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.97	-	0.245	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-119-80M	2014 09 28	4.1	18.8	< 30	2.1	0.132	0.463	0.892	< 0.1	< 0.1	4.95	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.94	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
QUL-120	QUL-120-0M	2014 09 21	9.2	17.5	< 30	1.9	0.208	0.437	0.799	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.23	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-120-35M	2014 09 21	5.9	18.4	< 30	2.05	1.78	0.491	1.02	< 0.1	0.11	5.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.15	< 0.05	0.87	-	0.487	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.169	< 1	< 3
	QUL-120-88M	2014 09 21	5.1	18.5	< 30	2.04	1.39	0.493	1.03	< 0.1	0.11	5.71	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.09	< 0.05	0.8	-	0.459	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.168	< 1	< 3
	QUL-120-0M	2014 09 24	8.9	17.4	< 30	1.84	0.16	0.431	0.783	< 0.1	< 0.1	4.54	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.69	-	0.234	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
	QUL-120X-0M	2014 09 24	9.4	17.5	< 30	1.85	0.196	0.429	0.782	< 0.1	< 0.1	4.55	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.229	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.154	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	< 1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	< 1	*	*
	QUL-120-40M	2014 09 24	7.8	17.5	< 30	1.95	0.156	0.475	0.886	< 0.1	0.12	5.59	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1	< 0.05	0.62	-	0.325	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-120X-40M	2014 09 24	7.7	17.4	< 30	1.95	0.226	0.466	0.865	< 0.1	< 0.1	5.48	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.04	< 0.05	0.62	-	0.314	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QA/QC RPD %		*	< 1	*	0	*	2	2	*	*	2	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	< 1	*	*
	QUL-120-80M	2014 09 24	5.2	18.5	< 30	2.06	0.844	0.48	0.951	< 0.1	< 0.1	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.92	< 0.05	0.8	-	0.369	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.17	< 1	< 3
	QUL-120-0M	2014 09 28	8.4	17.7	< 30	1.92	0.181	0.424	0.772	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.9	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-120-40M	2014 09 28	5.6	18.3	< 30	2.07	0.507	0.479	0.93	< 0.1	0.12	5.22	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.76	< 0.05	0.92	-	0.359	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-120-80M	2014 09 28	5.3	18.9	< 30	2.11	0.61	0.476	0.958	< 0.1	0.12	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.81	< 0.05	1.05	-	0.399	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.166	< 1	< 3
QUL-121	QUL-121-16M	2014 09 21	8	17.4	< 30	1.93	0.148	0.459	0.848	< 0.1	0.13	5.15	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.77	< 0.05	1.03	-	0.321	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
QUL-122	QUL-122-TAP	2014 09 21	< 3	56	< 30	8.75	< 0.05	0.576	3.4	0.12	0.15	5.98	< 0.1	15	< 0.01	< 0.5	< 0.1	7.46	0.2	0.63	-	0.385	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-122X-TAP	2014 09 21	< 3	55.9	< 30	8.82	< 0.05	0.576	3.46	0.12	0.14	6.03	< 0.1	15	< 0.01	< 0.5	< 0.1	6.95	0.192	0.71	-	0.381	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	0	2	*	*	< 1	*	*	*	*	*	7	*	*	-	1	*	*	*	*	*	2	*	*
QUL-123	QUL-123-TAP	2014 09 21	< 3	19.7	< 30	2.31	0.413	0.545	1.36	< 0.1	0.24	4.51	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.61	0.094	< 0.5	-	0.292	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.058	< 1	< 3
QUL-124	QUL-124	2014 09 21	9.4	17.4	< 30	1.88	0.25	0.442	0.789	< 0.1	< 0.1	4.75	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.7	-	0.221	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-124X	2014 09 21	9	17.4	< 30	1.88	0.249	0.434	0.786	< 0.1	< 0.1	4.75	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.224	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QA/QC RPD %		*	0	*	0	*	2	< 1	*	*	0	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
QUL-125	QUL-125-TAP	2014 09 22	< 3	77.7	< 30	12.5	0.071	1.18	3.77	0.19	0.76	11.4	< 0.1	37	0.022	1.22	< 0.1	14.7	0.284	2.33	-	1.64	< 0.5	5.79	< 0.01	< 0.01	12	0.991	< 1	13.8
QUL-126	QUL-126-TAP	2014 09 22	< 3	21.9	< 30	2.27	0.818	1.16	8.92	< 0.1	0.16	3.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.28	0.363	< 0.5	-	0.31	0.65	< 0.5	< 0.01	< 0.01	< 10	0.027	< 1	37.7
QUL-127	QUL-127-TAP	2014 09 22	< 3	36.9	< 30	3.15	0.143	1.09	12.3	0.12	0.75	3.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.26	0.303	< 0.5	-	0.253	5.12	< 0.5	< 0.01	< 0.01	< 10	0.05	< 1	14.4
QUL-128	QUL-128-TAP	2014 09 22	< 3	90.1	< 30	12.4	0.644	1.13	15.7	0.16	0.63	2.25	< 0.1	62	< 0.01	< 0.5	0.16	4.72	0.157	2.21	-	0.374	< 0.5	2.18	< 0.01	< 0.01	13	0.295	< 1	4.2
QUL-129	QUL-129-TAP	2014 09 22	< 3	22.9	< 30	2.51	1.01	0.617	1.7	< 0.1	0.36	5.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.16	0.196	0.85	-	0.312	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.091	< 1	14.4

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 out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2013.

[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 or chloride

[e] Health Canada Drinking Water Guidelines, 2012. 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 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b c h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			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-119	QUL-119-0M	2014 09 21	15	< 0.1	< 0.1	4.63	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.51	< 30	< 0.05	0.76	1,820	0.599	-	0.244	< 0.5	434	< 0.5	1,360	< 0.01	811	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-119-20M	2014 09 21	90.2	< 0.1	0.13	7.51	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	**2.39**	47	< 0.05	0.84	2,010	3.97	-	0.479	< 0.5	527	< 0.5	1,840	< 0.01	1,030	< 0.01	< 0.1	< 10	0.174	< 1	< 3
	QUL-119-98M	2014 09 21	10 6	< 0 1	< 0 1	4 94	< 0 1	< 0 5	< 10	< 0 01	18 000	< 0 5	< 0 1	0 55	< 30	< 0 05	0 89	1 990	0 631	-	0 274	< 0 5	471	< 0 5	1 640	< 0 01	935	< 0 01	< 0 1	< 10	0 16	< 1	< 3
	QUL-119-0M	2014 09 24	15.5	< 0.1	< 0.1	4.96	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.58	< 30	< 0.05	0.57	1,860	0.656	-	0.253	< 0.5	453	< 0.5	1,370	< 0.01	830	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUL-119-40M	2014 09 24	15.2	< 0.1	0.1	5.12	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	0.56	< 30	< 0.05	0.67	2,010	0.97	-	0.272	< 0.5	488	< 0.5	1,640	< 0.01	941	< 0.01	< 0.1	< 10	0.165	< 1	< 3
	QUL-119-80M	2014 09 24	10 5	< 0 1	< 0 1	5 01	< 0 1	< 0 5	< 10	< 0 01	18 600	< 0 5	< 0 1	0 66	< 30	< 0 05	0 65	2 070	0 578	-	0 261	< 0 5	477	< 0 5	1 630	< 0 01	927	< 0 01	< 0 1	< 10	0 165	< 1	< 3
	QUL-119-0M	2014 09 28	14 7	< 0 1	< 0 1	4 62	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 71	1 890	0 645	-	0 244	< 0 5	424	< 0 5	1 380	< 0 01	786	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-119-40M	2014 09 28	18	< 0.1	< 0.1	5.01	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.69	< 30	< 0.05	0.81	1,970	1.09	-	0.263	< 0.5	450	< 0.5	1,630	< 0.01	870	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-119-80M	2014 09 28	16.9	< 0.1	0.1	4.86	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.64	< 30	< 0.05	0.72	1,980	1.04	-	0.269	< 0.5	449	< 0.5	1,610	< 0.01	870	< 0.01	< 0.1	< 10	0.153	< 1	< 3
QUL-120	QUL-120-0M	2014 09 21	14	< 0 1	0 1	4 85	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 62	1 850	0 757	-	0 246	< 0 5	451	< 0 5	1 370	< 0 01	838	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUL-120-35M	2014 09 21	***143***	< 0 1	0 18	8 62	< 0 1	< 0 5	< 10	< 0 01	17 800	< 0 5	< 0 1	**3.74**	66	0 051	0 84	2 020	5 91	-	0 535	< 0 5	566	< 0 5	1 960	< 0 01	1 070	< 0 01	< 0 1	< 10	0 182	< 1	< 3
	QUL-120-88M	2014 09 21	***148***	< 0 1	0 16	8 56	< 0 1	< 0 5	< 10	< 0 01	18,400	< 0 5	< 0 1	**3.56**	73	0 054	0 85	2,090	5 64	-	0 517	< 0 5	548	< 0 5	2,020	< 0 01	1,070	< 0 01	< 0 1	< 10	0 185	< 1	< 3
	QUL-120-0M	2014 09 24	16.6	< 0.1	< 0.1	4.57	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.61	< 30	< 0.05	0.58	1,850	0.607	-	0.248	< 0.5	434	< 0.5	1,340	< 0.01	809	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-120X-0M	2014 09 24	15 8	< 0 1	< 0 1	4 59	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 59	< 30	< 0 05	0 61	1 860	0 627	-	0 253	< 0 5	448	< 0 5	1 340	< 0 01	830	< 0 01	< 0 1	< 10	0 162	< 1	< 3
	QA/QC RPD %		5	*	*	< 1	*	*	*	*	0	*	*	*	*	*	*	< 1	*	-	*	*	3	*	0	*	3	*	*	*	4	*	*
	QUL-120-40M	2014 09 24	42 7	< 0 1	0 13	6 04	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	1 58	37	< 0 05	0 62	1 970	2 05	-	0 344	< 0 5	476	< 0 5	1 560	< 0 01	908	< 0 01	< 0 1	< 10	0 158	< 1	< 3
	QUL-120X-40M	2014 09 24	40.2	< 0.1	0.13	5.84	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	**58.3**	35	1.85	0.5	1,970	2.05	-	0.322	9.58	479	< 0.5	1,530	< 0.01	881	< 0.01	0.16	< 10	0.161	< 1	**34**
	QA/QC RPD %		6	*	*	3	*	*	*	*	< 1	*	*	*	*	*	*	0	*	-	7	*	< 1	*	2	*	3	*	*	*	2	*	*
	QUL-120-80M	2014 09 24	87.2	< 0.1	0.11	6.85	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	**2.38**	48	< 0.05	0.67	2,060	3.43	-	0.404	< 0.5	530	< 0.5	1,830	< 0.01	1,000	< 0.01	< 0.1	< 10	0.178	< 1	< 3
	QUL-120-0M	2014 09 28	14.2	< 0.1	< 0.1	4.75	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.57	< 30	< 0.05	0.74	1,920	0.752	-	0.248	< 0.5	429	< 0.5	1,390	< 0.01	788	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-120-40M	2014 09 28	99 1	< 0 1	0 12	7 05	< 0 1	< 0 5	< 10	< 0 01	18 100	< 0 5	< 0 1	**4.79**	54	0 126	0 81	2 090	3 94	-	0 405	< 0 5	510	< 0 5	1 910	< 0 01	946	< 0 01	< 0 1	< 10	0 168	< 1	3
	QUL-120-80M	2014 09 28	83 9	< 0 1	0 12	6 61	< 0 1	< 0 5	< 10	< 0 01	17 800	< 0 5	< 0 1	2 16	42	0 056	0 83	2 030	3 12	-	0 426	< 0 5	489	< 0 5	1 800	< 0 01	937	< 0 01	< 0 1	< 10	0 167	< 1	< 3
QUL-121	QUL-121-16M	2014 09 21	43	< 0.1	0.14	5.85	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1.43	37	< 0.05	0.97	1,930	2.19	-	0.333	< 0.5	488	< 0.5	1,590	< 0.01	888	< 0.01	< 0.1	< 10	0.159	< 1	< 3
QUL-122	QUL-122-TAP	2014 09 21	< 3	0.16	0.15	5.92	< 0.1	< 0.5	17	< 0.01	52,800	< 0.5	< 0.1	**8.55**	< 30	0.225	0.61	8,350	< 0.05	-	0.412	< 0.5	559	< 0.5	4,360	< 0.01	3,410	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-122X-TAP	2014 09 21	< 3	0 16	0 14	5 88	< 0 1	< 0 5	17	< 0 01	53 100	< 0 5	< 0 1	**8.82**	< 30	0 221	0 64	8 460	0 071	-	0 399	< 0 5	565	< 0 5	4 430	< 0 01	3 470	< 0 01	< 0 1	< 10	0 134	< 1	< 3
	QA/QC RPD %		*	*	*	< 1	*	*	*	*	< 1	*	*	3	*	*	*	1	*	-	3	*	1	*	2	*	2	*	*	*	6	*	*
QUL-123	QUL-123-TAP	2014 09 21	< 3	< 0 1	0 23	4 72	< 0 1	< 0 5	< 10	< 0 01	19 600	< 0 5	< 0 1	**2.73**	< 30	0 106	< 0 5	2 320	0 519	-	0 328	< 0 5	543	< 0 5	3 130	< 0 01	1 430	< 0 01	< 0 1	< 10	0 066	< 1	4 1
QUL-124	QUL-124	2014 09 21	16.6	< 0.1	< 0.1	4.71	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.69	< 30	< 0.05	0.76	1,820	0.842	-	0.248	< 0.5	439	< 0.5	1,380	< 0.01	798	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-124X	2014 09 21	16.8	< 0.1	< 0.1	4.83	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.71	< 30	< 0.05	0.83	1,860	0.876	-	0.263	< 0.5	451	< 0.5	1,400	< 0.01	816	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QA/QC RPD %		1	*	*	3	*	*	*	*	2	*	*	*	*	*	*	2	4	-	*	*	3	*	1	*	2	*	*	*	10	*	*
QUL-125	QUL-125-TAP	2014 09 22	< 3	0 25	0 72	11 4	< 0 1	< 0 5	38	0 023	76 600	**1.28**	< 0 1	6 58	< 30	0 186	1 96	12 300	0 117	-	1 79	< 0 5	1 170	**5.11**	6 230	< 0 01	3 810	< 0 01	< 0 1	12	1 03	< 1	11 3
QUL-126	QUL-126-TAP	2014 09 22	< 3	< 0.1	0.21	3.28	< 0.1	< 0.5	< 10	< 0.01	22,200	< 0.5	< 0.1	**6.46**	126	0.601	< 0.5	2,320	0.767	-	0.343	0.69	1,190	< 0.5	3,140	< 0.01	9,270	< 0.01	< 0.1	< 10	0.034	< 1	**38**
QUL-127	QUL-127-TAP	2014 09 22	< 3	0.13	0.69	3.88	< 0.1	< 0.5	< 10	< 0.01	36,700	< 0.5	< 0.1	3.29	< 30	0.341	< 0.5	3,180	0.158	-	0.28	2.85	1,100	< 0.5	3,480	< 0.01	12,800	< 0.01	< 0.1	< 10	0.057	< 1	10.7
QUL-128	QUL-128-TAP	2014 09 22	< 3	0.19	0.68	2.31	< 0.1	< 0.5	67	< 0.01	91,300	< 0.5	0.14	5.3	< 30	0.185	2.05	12,800	0.627	-	0.45	< 0.5	1,160	1.97	4,810	< 0.01	16,800	< 0.01	< 0.1	14	0.325	< 1	4.6
QUL-129	QUL-129-TAP	2014 09 22	< 3	< 0 1	0 41	5 65	< 0 1	< 0 5	< 10	< 0 01	23 900	< 0 5	< 0 1	**9.06**	59	0 357	0 74	2 640	1 16	-	0 34	< 0 5	642	< 0 5	2 410	< 0 01	1 780	< 0 01	< 0 1	< 10	0 095	< 1	**14.5**

All terms defined within the body of SNC-Lavalin's report (avai able upon request).

< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.

- Denotes analysis not conducted.

n/a Denotes no appl cable standard.

* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.

BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.

[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .

[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.

[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride

[e] Health Canada Drinking Water Guide ines, 2012.

[f] Guideline not appl cable for site situation.

[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.

[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

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							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[g] (mg/L)
			Hardness (mg/L)	pH (pH)	Turbidity (NTU)	Conductivity (µS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)											
BC Guidelines																				
BCWQG Aquatic Life (AW)[b,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	60-600[d]	32 800[f]	600	988.2-1742[d]	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	+20% of median background	n/a	1,090-1,770[d]	3,000	20-200[d]	3,000[f]	150	n/a	128-429[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	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
QUL-EQUIPMENT BLANK	VAN-1-BLANK-149015	2014 09 15	< 0.5	***5.7***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	DI-BLANK	2014 09 15	< 0 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 09 15	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B	2014 09 15	< 0 5	***5.41***	0 16	< 2	< 10	< 3	0 66	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0.002[a]
	I-SC1	2014 09 21	-	6.56	0.11	3.1	-	< 3	-	-	-	< 5	< 1	-	< 0.5	< 20	< 0.5	-	-	-
	KEM1B	2014 09 22	< 0.5	***5.92***	0.15	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	DI-BLANK	2014 09 25	< 0 5	***5.45***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0 002[a]
	FILTER-BLANK	2014 09 25	< 0 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DI-BLANK	2014 09 29	< 0.5	***5.68***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	FILTER BLANK	2014 09 29	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B-BLANK	2014 09 29	< 0 5	***5.36***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0 002[a]
QUL-FIELD BLANK	QUL-108-FB	2014 09 15	-	***5.44***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0.02[a]
	QUL-79-FB	2014 09 15	-	***5.44***	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	QUR-1-FB	2014 09 16	< 0.5	***5.36***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	QUL-66-FB	2014 09 18	< 0 5	***5.56***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0 002[a]
	QUR-1-FB	2014 09 20	< 0 5	-	-	-	-	-	< 0 5	< 0 05	< 5	-	-	-	-	-	-	-	-	-
	QUL-21-FB	2014 09 25	< 0.5	***5.83***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]

A l terms defined within the body of SNC-Lavalin s report (available upon request).
< Denotes concentration ess than indicated detection lim t or RPD less than ind cated value.
- Denotes analys s not conducted.
n/a Denotes no applicable standard.
* RPDs are not normally ca culated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic L fe (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentration greater than BCWQG Aquatic L fe (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Qua ity (DW) guide ine.

Concentration greater than 5x laboratory detection limit

[a] Laboratory detect on limit out of range.
[b] British Columbia Approved Water Quality Guide ines 2006 Edit on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Brit sh Columbia, updated August
[d] Guideline varies with pH, and/or either Temperature or Hardness or chloride
[e] Hea th Canada Drinking Water Guidelines, 2012. Guide ine for N trate applied.
[f] Guideline not app icable for site situat on.
[g] The total phosphorus guide ine is a measure of lake productivity and is based on spring overturn or an average of summer samp es and is not applicable to sing e 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.

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 (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)	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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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
QUL-EQUIPMENT BLANK	VAN-1-BLANK-1 9015	2014 09 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
	DI-BLANK	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 09 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
	KEM1B	2014 09 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
	I-SC1	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B	2014 09 22	< 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
	DI-BLANK	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DI-BLANK	2014 09 29	< 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 09 29	< 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-BLANK	2014 09 29	< 3	< 0 05	< 30	< 0 1	0 054	< 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	QUL-108-FB	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-79-FB	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-FB	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-66-FB	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-FB	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-21-FB	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

A l terms defined within the body of SNC-Lavalin's report (available upon request).
< Denotes concentration ess than indicated detection lim t or RPD less than ind cated value.
- Denotes analys s not conducted.
n/a Denotes no applicable standard.
* RPDs are not normally ca culated where one or more concentrations are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic L fe (AW) guideline.

BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentrat on greater than BCWQG Aquatic L fe (30day) (AW) guideline.

BOLD Concentrat on greater than or equal to Canadian Drinking Water Qua ity (DW) guide ine.

Concentrat on greater than 5x laboratory detection limit

[a] Laboratory detect on limit out of range.
[b] British Columbia Approved Water Quality Guide ines 2006 Edit on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Brit sh Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012.
Gu deline for Nitrate appl ed.
[g] The total phosphorus gu deline s a measure of lake productivity and s based on spring overturn or an average of summer samples and s not appl cable to single samp e results at th s point in time.
[h] Calcu ated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chron c value, not 30 day mean.
[j] Gu deline not applicab e for site s tuation.

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 Guidelines																																			
BCWQG Aquatic Life (AW)[b,c]			n/a	20	5	5 000	n/a	n/a	1 200	0 016-0 079[d]	n/a	1 (Cr(+6))	110	6.0-27 9[d]	1 000	27 3-297 3[d]	870	n/a	1001-3582[d]		2 000	25-150[d]	373,000-432 000	2	n/a	0 1-3 0[d]	n/a	0 3	n/a	2 000	300	6	33-172 5[d]
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	1,000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]	Methyl mercury analysis in progress	1,000	n/a	n/a	n/a	n/a	0.05-1.5	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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	VAN-1-BLANK-1 9015	2014 09 15	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	DI-BLANK	2014 09 15	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0.01[a]	< 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
	FILTER-BLANK	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B	2014 09 15	4 5	< 0 1	< 0 1	0 138	< 0 1	< 0 5	< 10	< 0.01[a]	< 50	< 0 5	< 0 1	< 0 5	< 30	< 0 05	< 0 5	< 100	0 257	-	< 0 05	< 0 5	< 50	< 0 5	< 50	< 0 01	< 50	< 0 01	< 0 1	< 10	< 0 01	< 1	< 3
	I-SC1	2014 09 21	< 3	< 0.1	< 0.1	0.167	< 0.1	< 0.5	< 10	< 0.01[a]	560	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	0.969	-	< 0.05	< 0.5	< 50	< 0.5	62	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	KEM1B	2014 09 22	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	DI-BLANK	2014 09 25	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0 01[a]	< 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
	FILTER-BLANK	2014 09 25	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0.01[a]	< 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
	DI-BLANK	2014 09 29	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	FILTER BLANK	2014 09 29	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	KEM1B-BLANK	2014 09 29	< 3	< 0 1	< 0 1	0 054	< 0 1	< 0 5	< 10	< 0 01[a]	< 50	< 0 5	< 0 1	< 0 5	< 30	< 0 05	< 0 5	< 100	0 104	-	< 0 05	< 0 5	< 50	< 0 5	< 50	< 0 01	< 50	< 0 01	< 0 1	< 10	< 0 01	< 1	< 3
QUL-FIELD BLANK	QUL-108-FB	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-79-FB	2014 09 15	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	QUR-1-FB	2014 09 16	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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-66-FB	2014 09 18	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0 01[a]	< 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
	QUR-1-FB	2014 09 20	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0.01[a]	< 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-21-FB	2014 09 25	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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

All terms defined w thin the body of SNC-Lava in's report (ava lable upon request).
< Denotes concentration less than indicated detection imit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no app icable standard.
* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guide ine.

BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

Concentration greater than 5x aboratory detect on limit

[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qua ity Gu delines 2006 Edition, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columb a, updated August 2006.
[d] Gu deline var es with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012.
Guideline for Nitrate app ied.
[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 applicab e to single sample resu ts at this point in time.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chron c or chronic value, not 30 day mean.
[j] Guideline not app icable for s te situat on.

TABLE 1e: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (Chlorophyll A) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Misc. Organic Substances Chlorophyll A (ug/L)
BC Standards			
BCWQG Aquatic Life (AW)[a,b]			50mg/m^2/100mg/m^2
BCWQG Drinking Water (DW)[a,b]			n/a
Canadian Drinking Water Quality (DW)[c]			n/a
QUL-2	QUL-2-25M	2014 09 19	0.239
	QUL-2-48M	2014 09 19	0.059
	QUL-2-0M	2014 09 19	0.177
	QUL-2-0M	2014 09 22	0.53
	QUL-2X-0M	2014 09 22	0.351
	QA/QC RPD %		41
	QUL-2-25M	2014 09 22	0.14
	QUL-2X-25M	2014 09 22	0.193
	QA/QC RPD %		32
	QUL-2-47M	2014 09 22	< 0.01
QUL-2a	QUL-2A-0M	2014 09 25	0.367
	QUL-2A-40M	2014 09 25	0.12
	QUL-2A-60M	2014 09 25	< 0.01
QUL-18	QUL-18	2014 09 20	0.595
	QUL-18-0M	2014 09 25	0.196
	QUL-18-40M	2014 09 25	0.084
	QUL-18-100M	2014 09 25	< 0.01
QUL-20	QUL-20	2014 09 20	0.328
QUL-21	QUL-21-0M	2014 09 18	0.283
	QUL-21-18M	2014 09 18	0.279
	QUL-21-46M	2014 09 18	0.054
	QUL-21-0M	2014 09 20	0.287
	QUL-21-30M	2014 09 20	0.105
	QUL-21-45M	2014 09 20	< 0.01
	QUL-21-0M	2014 09 23	0.409
	QUL-21X-0M	2014 09 23	0.496
	QA/QC RPD %		19
	QUL-21-20M	2014 09 23	0.362
	QUL-21-47M	2014 09 23	0.051
	QUL-21-0M	2014 09 29	0.42
	QUL-21-40M	2014 09 29	0.089
	QUL-21X-40M	2014 09 29	0.127
	QA/QC RPD %		35
	QUL-21-45M	2014 09 29	< 0.01
QUL-21a	QUL-21A-0M	2014 09 25	0.243
	QUL-21A-40M	2014 09 25	< 0.01
	QUL-21AX-40M	2014 09 25	< 0.01
	QA/QC RPD %		*
	QUL-21A-65M	2014 09 25	< 0.01
	QUL-21A-0M	2014 09 27	0.106
	QUL-21A-40M	2014 09 27	< 0.01
	QUL-21A-60M	2014 09 27	< 0.01
	QUL-21AX-60M	2014 09 27	< 0.01
	QA/QC RPD %		*
QUL-22	QUL-22-0M	2014 09 18	0.259
	QUL-22-9M	2014 09 18	0.232
	QUL-22-0M	2014 09 20	0.282
	QUL-22X-0M	2014 09 20	0.213
	QA/QC RPD %		28
	QUL-22-7M	2014 09 20	0.551
	QUL-22-0M	2014 09 23	0.395
	QUL-22-5M	2014 09 23	0.791
	QUL-22-9M	2014 09 23	0.601
	QUL-22-0M	2014 09 26	0.095
	QUL-22X-0M	2014 09 26	0.198
	QA/QC RPD %		70
QUL-23	QUL-23	2014 09 20	0.251
QUL-31a	QUL-31A-0M	2014 09 27	0.167
	QUL-31A-40M	2014 09 27	< 0.01
	QUL-31A-100M	2014 09 27	< 0.01
QUL-40	QUL-40-0M	2014 09 19	0.244
	QUL-40-45M	2014 09 19	0.108
	QUL-40-100M	2014 09 19	0.104
	QUL-40-0M	2014 09 22	0.344
	QUL-40-50M	2014 09 22	0.151
	QUL-40-98M	2014 09 22	0.058
	QUL-40-0M	2014 09 26	0.226
	QUL-40-40M	2014 09 26	0.059
	QUL-40-80M	2014 09 26	< 0.01
	QUL-40A-0M	2014 09 27	0.407
	QUL-40-0M	2014 09 29	0.922
	QUL-40-40M	2014 09 29	0.054
	QUL-40-80M	2014 09 29	< 0.01

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.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[b] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[c] Health Canada Drinking Water Guidelines, 2012.

TABLE 1e: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (Chlorophyll A) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Misc. Organic Substances Chlorophyll A (ug/L)
BC Standards			
BCWQG Aquatic Life (AW)[a,b]			50mg/m^2/100mg/m^2
BCWQG Drinking Water (DW)[a,b]			n/a
Canadian Drinking Water Quality (DW)[c]			n/a
QUL-40A	QUL-40A-40M	2014 09 27	0.054
	QUL-40A-100M	2014 09 27	0.065
QUL-66	QUL-66-0M	2014 09 18	0.212
	QUL-66-15M	2014 09 18	0.283
	QUL-66-40M	2014 09 18	0.047
	QUL-66-0M	2014 09 20	0.565
	QUL-66-15M	2014 09 20	0.222
	QUL-66-45M	2014 09 20	< 0.01
	QUL-66-0M	2014 09 23	0.295
	QUL-66-15M	2014 09 23	0.559
	QUL-66-50M	2014 09 23	< 0.01
	QUL-66-0M	2014 09 29	0.931
	QUL-66-40M	2014 09 29	< 0.01
	QUL-66-50M	2014 09 29	< 0.01
QUL-66A	QUL-66A-0M	2014 09 25	0.133
	QUL-66AX-0M	2014 09 25	0.316
	QA/QC RPD %		82
	QUL-66A-40M	2014 09 25	< 0.01
	QUL-66A-85M	2014 09 25	< 0.01
	QUL-66A-0M	2014 09 27	0.248
	QUL-66A-40M	2014 09 27	< 0.01
	QUL-66A-80M	2014 09 27	< 0.01
QUL-79	QUL-79-0M	2014 09 18	0.213
	QUL-79-15M	2014 09 18	0.188
	QUL-79-50M	2014 09 18	0.107
	QUL-79-0M	2014 09 19	0.116
	QUL-79-25M	2014 09 19	0.24
	QUL-79-58M	2014 09 19	0.156
	QUL-79-0M	2014 09 22	0.352
	QUL-79-30M	2014 09 22	0.154
	QUL-79-58M	2014 09 22	< 0.01
	QUL-79-0M	2014 09 26	0.769
	QUL-79-40M	2014 09 26	< 0.01
	QUL-79-55M	2014 09 26	0.062
QUL-87	QUL-87-0M	2014 09 21	0.277
	QUL-87X-0M	2014 09 21	0.259
	QA/QC RPD %		7
	QUL-87-25M	2014 09 21	0.167
	QUL-87X-25M	2014 09 21	0.135
	QA/QC RPD %		21
	QUL-87-53M	2014 09 21	0.18
	QUL-87-0M	2014 09 23	0.426
	QUL-87-25M	2014 09 23	0.136
	QUL-87-57M	2014 09 23	0.103
QUL-87	QUL-87-0M	2014 09 28	0.317
	QUL-87X-0M	2014 09 28	0.098
	QA/QC RPD %		106
	QUL-87-40M	2014 09 28	0.088
	QUL-87-50M	2014 09 28	0.064
QUL-110	QUL-110	2014 09 20	0.414
QUL-112	QUL-112X-30M	2014 09 20	0.085
	QA/QC RPD %		*
	QUL-112-0M	2014 09 20	0.424
	QUL-112-30M	2014 09 20	0.094
	QUL-112-80M	2014 09 20	0.096
	QUL-112-0M	2014 09 24	0.76
	QUL-112-40M	2014 09 24	0.079
	QUL-112X-40M	2014 09 24	0.155
	QA/QC RPD %		65
	QUL-112-80M	2014 09 24	0.102
	QUL-112-0M	2014 09 28	0.575
	QUL-112-40M	2014 09 28	0.064
	QUL-112-80M	2014 09 28	< 0.01

All terms defined within the body of SNC-Lavalin's report (available upon request).

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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.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[b] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[c] Health Canada Drinking Water Guidelines, 2012.

TABLE 1e: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (Chlorophyll A) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Misc. Organic Substances Chlorophyll A (ug/L)
BC Standards			
BCWQG Aquatic Life (AW)[a,b]			50mg/m^2/100mg/m^2
BCWQG Drinking Water (DW)[a,b]			n/a
Canadian Drinking Water Quality (DW)[c]			n/a
QUL-119	QUL-119-0M	2014 09 21	0.292
	QUL-119-20M	2014 09 21	0.228
	QUL-119-98M	2014 09 21	< 0.01
	QUL-119-0M	2014 09 24	0.703
	QUL-119-40M	2014 09 24	0.154
	QUL-119-80M	2014 09 24	0.075
	QUL-119-0M	2014 09 28	0.459
	QUL-119-40M	2014 09 28	< 0.01
	QUL-119-80M	2014 09 28	< 0.01
QUL-120	QUL-120-0M	2014 09 21	0.342
	QUL-120-35M	2014 09 21	0.15
	QUL-120-88M	2014 09 21	0.078
	QUL-120-0M	2014 09 24	0.706
	QUL-120X-0M	2014 09 24	0.774
	QA/QC RPD %		9
	QUL-120-40M	2014 09 24	0.203
	QUL-120X-40M	2014 09 24	0.148
	QA/QC RPD %		31
	QUL-120-80M	2014 09 24	< 0.01
	QUL-120-0M	2014 09 28	0.181
	QUL-120-40M	2014 09 28	< 0.01
	QUL-120-80M	2014 09 28	< 0.01
QUL-EQUIPMENT BLANK	DI-BLANK	2014 09 25	< 0.01
QUL-FIELD BLANK	QUL-21-FB	2014 09 25	< 0.01

All terms defined within the body of SNC-Lavalin's report (available upon request).

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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.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[b] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[c] Health Canada Drinking Water Guidelines, 2012.

TABLE 3a: Summary of Analytical Results for Mount Polley, Polley Lake - Surface Water DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Physical Parameters									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[g] (mg/L)
			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)											
BC Standards																						
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8[k]	n/a	n/a	Change of 25	n/a	n/a	700-5,680[d]	32,800	60-120[d]	32,800[f]	600	1264-1510[d]	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	+/-1 Degree change from ambient	Change of 2[k]	n/a	n/a	Change of 5[k]	+20% of median background	n/a	135-1,090[d]	3,000	20-40[d]	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	6.5-8.5	n/a[i]	Change of 1	n/a	n/a	n/a	n/a	n/a	n/a	10,000	1,000	10,000[f]	250	1,500	500	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[e]			n/a	6.5-8.5	6.5-8.5	n/a[j]	n/a[j]	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
POL-3	POL-3	2014 09 16	114	***8.62***	8.13	16.6	5.55	231	155	10.4	6.64	0.592	12.9	< 5	3.8	-	0.67	76	34.9	87.4	< 0.001	0.0092
POL-4	POL-4	2014 09 16	117	7.6	8.07	17.2	1.66	231	155	4	6.39	0.41	< 5	< 5	< 1	-	0.65	75	34	89.7	< 0.001	0.0076
POL-5	POL-5-0M	2014 09 17	114	***8.9***	8.26	14.6	0.57	227	152	< 3	6.51	0.354	10.7	< 5	3.9	-	0.67	77	34.9	84.9	< 0.001	**0.0039**
	POL-5-11M	2014 09 17	133	7.72	8.11	8	2.62	284	183	3.1	5.71	0.718	200	74	**138**	-	1.46	102	51.9	95	0.003	0.0072
	POL-5-0M	2014 09 23	109	***8.63***	8.36	14.84	0.69	230	153	< 3	6.61	0.443	< 5	< 5	< 1	-	0.66	77	35.1	85.9	< 0.001	**0.004**
	POL-5-11M	2014 09 23	135	7.47	8.02	8.45	5.79	308	199	6.6	5.55	0.862	344	13.9	**145**	-	1.75	111	58.6	99	0.0171	***0.0247***
	POL-5X-11M	2014 09 23	134	7.47	7.95	8.45	5.62	308	204	6.3	5.42	0.879	344	12	**144**	-	1.78	113	59.2	98.8	0.0184	***0.0251***
	QA/QC RPD %		< 1	0	< 1	0	3	0	3	*	2	2	0	*	< 1	-	*	*	1	< 1	7	2
	POL-5-9M	2014 09 30	137	7 69	7 32	9 24	6 12	300	191	3 6	5 74	0 849	278	16 5	**109**	-	1 69	99	55	101	< 0 001	**0.0048**
POL-6	POL-6-14M	2014 09 16	144	6 94	8 03	8 3	5 29	309	200	4 4	5 36	0 905	309	70 4	**221**	-	1 88	108	61	96 7	0 001	0 0053
	POL-6-0M	2014 09 16	115	***8.56***	8 24	14 1	0 97	227	152	< 3	6 7	0 345	< 5	< 5	2 3	-	0 65	72	34 1	85 7	< 0 001	**0.0038**
	POL-6-14M	2014 09 23	139	7 34	8	8 51	3 93	324	204	5 1	5 49	0 929	360	31 5	**215**	-	1 9	117	62 2	100	0 0208	***0.0274***
	POL-6-10M	2014 09 23	109	7.42	8.37	8.55	0.72	233	156	3.6	6.27	0.363	< 5	< 5	< 1	-	0.68	78	35.4	86.4	< 0.001	0.005
	POL-6-12M	2014 09 30	115	7.34	7.18	8.5	4.08	239	150	5.9	6.53	0.404	22.2	< 5	2	-	1.04	74	37	88	< 0.001	0.0054
P1	P1-27M	2014 09 16	155	6.95	8.04	8.2	12.3	337	219	7.1	6.26	1.35	921	< 5	< 1	-	2.11	123	64.5	113	0.0452	***0.0406***
	P1-0M	2014 09 16	114	***6.49***	8.22	15.6	0.56	229	157	< 3	6.64	0.344	14.4	< 5	6.5	-	0.67	72	35	85.5	< 0.001	**0.0037**
	P1X-0M	2014 09 16	115	***6.49***	8.24	15.6	0.89	231	156	< 3	6.52	0.344	14.1	< 5	6.3	-	0.67	72	35	85.8	< 0.001	**0.0038**
	QA/QC RPD %		< 1	0	< 1	0	46	< 1	< 1	*	2	0	*	*	3		*	*	0	< 1	*	*
	P1-0M	2014 09 23	109	***8.59***	8.37	14.68	0.79	230	156	< 3	6.46	0.452	< 5	< 5	< 1	-	0.67	77	35.1	86.5	< 0.001	0.005
	P1-27M	2014 09 23	145	7.18	7.93	8.23	11.1	342	220	12	5.9	1.38	932	< 5	< 1	-	2.06	114	63.6	114	0.0858	***0.092***
P2	P2-27M	2014 09 16	151	6.98	8.06	8.2	14.9	335	220	13.2	6.32	1.17	595	< 5	< 1	-	2.12	123	63.4	111	0.0406	***0.0381***
	P2-0M	2014 09 16	115	8.43	8.22	15.2	1.05	228	144	< 3	6.7	0.344	7.1	< 5	2.5	-	0.65	71	34.3	86.4	< 0.001	**0.004**
	P2-0M	2014 09 23	108	***8.56***	8.39	14.36	0.64	230	150	< 3	6.35	0.395	< 5	< 5	< 1	-	0.68	77	35.3	86.7	< 0.001	**0.0049**
	P2-27M	2014 09 23	145	7 21	8	8 2	13	336	221	7 8	5 94	1 25	816	< 5	< 1	-	2 03	116	63 1	112	0 0782	***0.0761***

All terms defined within the body of SNC-Lava in'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 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 Temperature or Hardness or Chloride.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guide ine 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] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3a: Summary of Analytical Results for Mount Polley, Polley Lake - Surface Water DRAFT

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 Standards																															
BCWQG Aquatic Life (AW)[b,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)[b,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
POL-3	POL-3	2014 09 16	7.2	37.2	< 30	5.25	0.383	0.777	6.18	0.11	0.82	10.6	< 0.1	21	< 0.01	< 0.5	< 0.1	2.82	< 0.05	< 0.5	-	5.6	< 0.5	0.78	< 0.01	< 0.01	< 10	0.17	1.2	< 3
POL-4	POL-4	2014 09 16	4.8	37.9	< 30	5.49	0.846	0.792	6.2	< 0.1	0.57	8.46	< 0.1	19	< 0.01	< 0.5	< 0.1	2.05	< 0.05	< 0.5	-	5.19	< 0.5	0.67	< 0.01	< 0.01	< 10	0.16	< 1	< 3
POL-5	POL-5-0M	2014 09 17	7.7	36.9	< 30	5.25	1.87	0.738	5.87	0.11	0.76	11.1	< 0.1	20	< 0.01	< 0.5	< 0.1	2.87	< 0.05	< 0.5	-	5.61	< 0.5	0.86	< 0.01	< 0.01	< 10	0.165	1.2	< 3
	POL-5-11M	2014 09 17	4.6	43.6	< 30	5.79	55.8	1.39	9.3	0.24	1.03	16.9	< 0.1	26	< 0.01	< 0.5	< 0.1	1.86	< 0.05	0.87	-	12.5	< 0.5	1.51	< 0.01	< 0.01	< 10	0.317	1.4	< 3
	POL-5-0M	2014 09 23	8.3	35.8	< 30	4.77	1.56	0.742	6.2	0.11	0.76	11.1	< 0.1	22	< 0.01	< 0.5	< 0.1	2.65	< 0.05	< 0.5	-	5.67	< 0.5	0.88	< 0.01	< 0.01	< 10	0.172	1.2	< 3
	POL-5-11M	2014 09 23	4.8	44.8	< 30	5.62	400	1.68	11	0.28	1.29	21.8	< 0.1	29	< 0.01	< 0.5	< 0.1	0.83	< 0.05	0.97	-	15.5	< 0.5	1.66	< 0.01	< 0.01	< 10	0.384	1.7	< 3
	POL-5X-11M	2014 09 23	4.7	44.6	< 30	5.58	406	1.72	11.7	0.28	1.28	22	< 0.1	30	< 0.01	< 0.5	< 0.1	0.88	< 0.05	0.94	-	15.5	< 0.5	1.62	< 0.01	< 0.01	< 10	0.392	1.6	< 3
	QA/QC RPD %		*	< 1	*	< 1	2	2	6	*	< 1	< 1	*	*	*	*	*	*	*	*	-	0	*	*	*	*	*	2	*	*
	POL-5-9M	2014 09 30	4	45 2	< 30	5 89	227	1 53	10 2	0 29	1 16	19	< 0 1	29	< 0 01	< 0 5	< 0 1	1 14	< 0 05	1 01	-	15 1	< 0 5	1 73	< 0 01	< 0 01	< 10	0 379	1 5	< 3
POL-6	POL-6-14M	2014 09 16	5 3	47 4	< 30	6 2	375	1 7	11 4	0 32	1 26	21 7	< 0 1	25	< 0 01	< 0 5	< 0 1	0 86	< 0 05	0 98	-	16 2	< 0 5	1 88	< 0 01	< 0 01	< 10	0 411	1 8	< 3
	POL-6-0M	2014 09 16	7 7	37 5	< 30	5 23	2 89	0 698	5 91	0 1	0 71	10 7	< 0 1	18	< 0 01	< 0 5	< 0 1	2 66	< 0 05	< 0 5	-	5 24	< 0 5	0 81	< 0 01	< 0 01	< 10	0 167	1 1	< 3
	POL-6-14M	2014 09 23	5 3	46	< 30	5 73	458	1 86	12 1	0 32	1 38	23 8	< 0 1	31	< 0 01	< 0 5	< 0 1	0 72	< 0 05	1	-	16 9	< 0 5	1 9	< 0 01	< 0 01	< 10	0 411	1 9	< 3
	POL-6-10M	2014 09 23	7.2	35.9	< 30	4.77	1.52	0.774	6.46	0.11	0.76	11.4	< 0.1	22	< 0.01	< 0.5	< 0.1	2.63	< 0.05	< 0.5	-	5.79	< 0.5	0.89	< 0.01	< 0.01	< 10	0.172	1.2	< 3
	POL-6-12M	2014 09 30	7.5	37.7	< 30	5.15	13.5	0.86	6.56	0.13	0.81	12.5	< 0.1	23	< 0.01	< 0.5	< 0.1	2.3	< 0.05	0.61	-	7.22	< 0.5	0.99	< 0.01	< 0.01	< 10	0.206	1.2	< 3
P1	P1-27M	2014 09 16	5.2	50.8	**361**	6.95	692	1.85	12.8	< 0.1	1.8	25.7	< 0.1	28	< 0.01	< 0.5	0.16	< 0.5	< 0.05	0.91	-	16.2	< 0.5	1.25	< 0.01	< 0.01	10	0.365	1.6	< 3
	P1-0M	2014 09 16	8.2	37.1	< 30	5.08	2.73	0.726	6.14	0.1	0.73	10.6	< 0.1	18	< 0.01	< 0.5	< 0.1	2.56	< 0.05	< 0.5	-	5.54	< 0.5	0.89	< 0.01	< 0.01	< 10	0.164	1.1	< 3
	P1X-0M	2014 09 16	7.2	37.3	< 30	5.36	2.43	0.713	6.3	< 0.1	0.7	10.5	< 0.1	18	< 0.01	< 0.5	< 0.1	2.56	< 0.05	< 0.5	-	5.52	< 0.5	0.86	< 0.01	< 0.01	< 10	0.166	1.1	< 3
	QA/QC RPD %		*	< 1	*	5	12	2	3	*	4	< 1	*	*	*	*	*	0	*	*	-	< 1	*	*	*	*	*	1	*	*
	P1-0M	2014 09 23	8.9	35.7	< 30	4.77	1.61	0.764	6.58	< 0.1	0.74	11.3	< 0.1	22	< 0.01	< 0.5	< 0.1	2.77	< 0.05	< 0.5	-	5.68	< 0.5	0.89	< 0.01	< 0.01	< 10	0.167	1.2	< 3
	P1-27M	2014 09 23	5	47.8	344	6.13	802	1.94	13.4	< 0.1	1.74	26.9	< 0.1	33	< 0.01	< 0.5	0.16	< 0.5	< 0.05	0.89	-	16.4	< 0.5	0.62	< 0.01	< 0.01	< 10	0.367	1.7	< 3
P2	P2-27M	2014 09 16	4.9	49.6	232	6.71	628	1.82	12.4	< 0.1	1.69	24.9	< 0.1	28	< 0.01	< 0.5	0.14	< 0.5	< 0.05	0.95	-	16.5	< 0.5	0.99	< 0.01	< 0.01	< 10	0.382	1.5	< 3
	P2-0M	2014 09 16	8	37.3	< 30	5.33	2.79	0.714	5.93	< 0.1	0.74	10.7	< 0.1	18	< 0.01	< 0.5	< 0.1	2.64	< 0.05	< 0.5	-	5.29	< 0.5	0.84	< 0.01	< 0.01	< 10	0.166	1.1	< 3
	P2-0M	2014 09 23	8.3	35.3	< 30	4.74	1.47	0.767	6.36	0.1	0.75	11.4	< 0.1	22	< 0.01	< 0.5	< 0.1	2.67	< 0.05	< 0.5	-	6.01	< 0.5	0.86	< 0.01	< 0.01	< 10	0.172	1.2	< 3
	P2-27M	2014 09 23	5 1	48 1	245	6 16	746	1 94	13	< 0 1	1 76	26 4	< 0 1	33	< 0 01	< 0 5	0 15	< 0 5	< 0 05	0 96	-	16 8	< 0 5	0 72	< 0 01	< 0 01	< 10	0 37	1 7	< 3

All terms defined within the body of SNC-Lavalin's report (available upon request).

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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) guide ine.

BOLD Concentration greater than or equal to Canadian Drinking Water Qual ty (DW) guide ine.

[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 w th pH, and or Temperature or Hardness or Chloride.

[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 resu ts.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3a: Summary of Analytical Results for Mount Polley, Polley Lake - Surface Water 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)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (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)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.0285-0.048[d]	n/a	1 (Cr(+6))	110	9.9-16.57[d]	1,000	65.3-142.6[d]	870	1465-2248[d]	Methyl mercury analysis in progress	2,000	25-110[d]	373,000-432,000	2	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-81.75[d]
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	1,000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	3.4-6.2[d]	n/a	5.9-8.9[d]	14[i]	974-1287[d]		1,000	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-56.25[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	1	250	n/a	n/a	10	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	50	1	n/a	n/a	n/a	10	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
POL-3	POL-3	2014 09 16	***120***	0.14	0.9	12.7	< 0.1	< 0.5	21	< 0.01	36,900	< 0.5	0.12	**6.69**	151	0.103	0.55	38.6	-	5.67	< 0.5	798	0.82	< 0.01	6,210	< 0.01	< 0.1	12	0.176	1.6	< 3
POL-4	POL-4	2014 09 16	60.1	< 0.1	0.64	9.34	< 0.1	< 0.5	20	< 0.01	36,700	< 0.5	< 0.1	3.02	111	< 0.05	< 0.5	19.8	-	5.18	< 0.5	739	0.68	< 0.01	6,000	< 0.01	< 0.1	11	0.161	1.1	< 3
POL-5	POL-5-0M	2014 09 17	22.5	0.11	0.73	10.7	< 0.1	< 0.5	21	< 0.01	35,400	< 0.5	< 0.1	3.43	< 30	< 0.05	0.56	13.1	-	5.7	< 0.5	720	0.85	< 0.01	5,580	< 0.01	< 0.1	< 10	0.17	1.2	< 3
	POL-5-11M	2014 09 17	51.8	0.23	1.02	17.2	< 0.1	< 0.5	26	< 0.01	40,800	< 0.5	< 0.1	3.49	32	< 0.05	0.91	***99.7***	-	12.3	< 0.5	1,370	1.49	< 0.01	8,920	< 0.01	< 0.1	< 10	0.325	1.6	< 3
	POL-5-0M	2014 09 23	19.6	0.13	0.79	11.2	< 0.1	< 0.5	24	< 0.01	35,300	< 0.5	< 0.1	3.18	< 30	< 0.05	< 0.5	12	-	6.13	< 0.5	760	0.87	< 0.01	6,400	< 0.01	< 0.1	< 10	0.181	1.3	< 3
	POL-5-11M	2014 09 23	***199***	0.34	1.44	26.6	< 0.1	< 0.5	33	0.012	45,500	< 0.5	0.17	**7.49**	120	0.082	1.05	***452***	-	16.7	< 0.5	1,820	1.75	< 0.01	11,500	< 0.01	< 0.1	13	0.421	2.1	< 3
	POL-5X-11M	2014 09 23	***198***	0.33	1.44	26.1	< 0.1	< 0.5	33	< 0.01	45,300	< 0.5	0.16	**7.43**	117	0.073	0.94	***447***	-	16.7	< 0.5	1,810	1.76	< 0.01	11,800	< 0.01	< 0.1	13	0.397	2.1	< 3
	QA/QC RPD %		< 1	*	0	2	*	*	*	*	< 1	*	*	*	*	*	*	*	-	0	*	< 1	*	*	3	*	*	*	6	*	*
	POL-5-9M	2014 09 30	90 9	0 34	1 23	21 2	< 0 1	< 0 5	32	0 01	45 000	< 0 5	< 0 1	4 07	63	< 0 05	0 97	***263***	-	15 7	< 0 5	1 580	1 68	< 0 01	10 200	< 0 01	< 0 1	12	0 399	1 8	< 3
POL-6	POL-6-14M	2014 09 16	***168***	0 33	1 34	26 8	< 0 1	< 0 5	28	< 0 01	47 200	< 0 5	0 11	5 65	45	0 051	1 1	***420***	-	17 3	< 0 5	1 870	1 89	< 0 01	12 300	< 0 01	< 0 1	12	0 453	2 1	< 3
	POL-6-0M	2014 09 16	45 5	0 11	0 72	11 7	< 0 1	< 0 5	21	< 0 01	37 100	< 0 5	< 0 1	3 95	32	< 0 05	< 0 5	16 4	-	5 65	< 0 5	722	0 83	< 0 01	6 180	< 0 01	< 0 1	< 10	0 178	1 2	< 3
	POL-6-14M	2014 09 23	***113***	0 34	1 42	26 1	< 0 1	< 0 5	34	< 0 01	46 000	< 0 5	0 12	5 08	45	0 072	1 09	***469***	-	18 1	< 0 5	1 910	1 89	< 0 01	12 200	< 0 01	< 0 1	11	0 426	2 1	< 3
	POL-6-10M	2014 09 23	27.5	0.14	0.84	12.2	< 0.1	< 0.5	26	< 0.01	36,900	< 0.5	< 0.1	3.47	< 30	< 0.05	< 0.5	11	-	6.62	< 0.5	807	0.92	< 0.01	6,640	< 0.01	< 0.1	< 10	0.192	1.4	< 3
	POL-6-12M	2014 09 30	***196***	0.14	0.85	15.3	< 0.1	< 0.5	26	< 0.01	36,500	< 0.5	0.16	**8.39**	137	0.064	0.87	25.9	-	7.31	< 0.5	929	0.91	< 0.01	6,610	< 0.01	< 0.1	14	0.218	1.7	< 3
P1	P1-27M	2014 09 16	***698***	0.23	1.92	44.6	< 0.1	< 0.5	32	< 0.01	50,800	< 0.5	0.34	**18.1**	***599***	0.23	1.18	***722***	-	17.3	< 0.5	2,240	0.85	< 0.01	13,200	< 0.01	< 0.1	32	0.39	2.6	< 3
	P1-0M	2014 09 16	19.6	0.11	0.73	10.9	< 0.1	< 0.5	21	< 0.01	37,200	< 0.5	< 0.1	3.19	< 30	< 0.05	< 0.5	13.4	-	5.84	< 0.5	752	0.88	< 0.01	6,230	< 0.01	< 0.1	< 10	0.178	1.2	< 3
	P1X-0M	2014 09 16	17.5	0.11	0.76	11	< 0.1	< 0.5	21	< 0.01	37,100	< 0.5	< 0.1	3.19	< 30	< 0.05	< 0.5	13	-	5.9	< 0.5	738	0.83	< 0.01	6,210	< 0.01	< 0.1	< 10	0.183	1.3	< 3
	QA/QC RPD %		11	*	4	< 1	*	*	*	*	< 1	*	*	*	*	*	*	*	-	1	*	2	*	*	< 1	*	*	3	*	*	*
	P1-0M	2014 09 23	20.8	0.13	0.78	11.6	< 0.1	< 0.5	25	< 0.01	36,100	< 0.5	< 0.1	**10.4**	< 30	0.414	< 0.5	12.1	-	6.26	< 0.5	765	0.9	< 0.01	6,400	< 0.01	< 0.1	< 10	0.182	1.3	5.3
	P1-27M	2014 09 23	***497***	0.23	1.96	39	< 0.1	< 0.5	37	< 0.01	48,300	< 0.5	0.29	**15.6**	***539***	0.192	1.1	***794***	-	17.4	< 0.5	2,120	0.98	< 0.01	13,300	< 0.01	< 0.1	23	0.392	2.4	< 3
P2	P2-27M	2014 09 16	***809***	0.28	1.96	46.9	< 0.1	< 0.5	32	0.01	50,000	< 0.5	0.34	**19.9**	***519***	0.261	1.34	***651***	-	17.4	< 0.5	2,280	0.87	< 0.01	13,100	< 0.01	< 0.1	33	0.42	2.6	< 3
	P2-0M	2014 09 16	39.8	0.11	0.74	11.1	< 0.1	< 0.5	21	< 0.01	36,800	< 0.5	< 0.1	4.06	< 30	< 0.05	< 0.5	15.9	-	5.82	< 0.5	722	0.87	< 0.01	6,100	< 0.01	< 0.1	< 10	0.178	1.3	< 3
	P2-0M	2014 09 23	22.3	0.13	0.75	11.2	< 0.1	< 0.5	24	0.011	35,600	< 0.5	< 0.1	3.42	< 30	< 0.05	< 0.5	12.2	-	6.07	< 0.5	756	0.88	< 0.01	6,460	< 0.01	< 0.1	< 10	0.182	1.3	< 3
	P2-27M	2014 09 23	***552***	0 23	1 96	40 2	< 0 1	< 0 5	36	0 01	47 200	< 0 5	0 32	**16.1**	***434***	0 198	1 08	***762***	-	17 8	< 0 5	2 230	0 98	< 0 01	13 100	< 0 01	< 0 1	24	0 398	2 6	< 3

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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.

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[d] Guideline varies with pH, and or Temperature or Hardness or Chloride.

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[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 app icable to single sample results at this point in time.

[h] Calculated based on an individual sample basis, not average of 30 day results.

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[j] Guideline not applicable for site situation.

[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3b: Summary of Analytical Results for Mount Polley, Polley Lake - Blanks DRAFT

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)	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[9] (mg/L)
BC Standards																						
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 8[k]	n/a	n/a	Change of 25	n/a	n/a	700-5,680[d]	32,800	60-120[d]	32,800[f]	600	1264-1510[d]	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a		Change of 2[k]	n/a	n/a	Change of 5[k]	+20% of median background	n/a	135-1,090[d]	3 000	20-40[d]	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	6.5-8.5	n/a[j]	Change of 1	n/a	n/a	n/a	n/a	n/a	n/a	10,000	1,000	10,000[f]	250	1,500	500	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[e]			n/a	6.5-8.5	6.5-8.5	n/a[j]	n/a[j]	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
POL-EQUIPMENT BLANK	VAN1B	2014 09 30	< 0.5	-	***6.14***	-	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	**0.0021**
POL-FIELD BLANK	POL-3-FB	2014 09 16	-	-	***5.64***	-	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]

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[d] Guideline varies with pH, and or Temperature or Hardness or Chloride.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guide ine for Nitrate applied.

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TABLE 3b: Summary of Analytical Results for Mount Polley, Polley Lake - Blanks DRAFT

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 Standards																															
BCWQG Aquatic Life (AW)[b,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)[b 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
POL-EQUIPMENT BLANK	VAN1B	2014 09 30	< 3	< 0.05	< 30	< 0.1	0.113	< 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
POL-FIELD BLANK	POL-3-FB	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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TABLE 3b: Summary of Analytical Results for Mount Polley, Polley Lake - 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)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (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)[b c]			n/a	20	5	5,000	n/a	n/a	1,200	0.0285-0.048[d]	n/a	1 (Cr(+6))	110	9.9-16.57[d]	1,000	65.3-142.6[d]	870	1465-2248[d]	Methyl mercury analysis in progress	2,000	25-110[d]	373,000-432,000	2	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-81.75[d]
BCWQG Aquatic Life (30day) (AW)[b c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	3.4-6.2[d]	n/a	5.9-8.9[d]	14[i]	974-1287[d]		1 000	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.5-56.25[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	1	250	n/a	n/a	10	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	50	1	n/a	n/a	n/a	10	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
POL-EQU PMENT BLANK	VAN1B	2014 09 30	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	0.087	-	< 0.05	< 0.5	< 50	< 0.5	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
POL-FIELD BLANK	POL-3-FB	2014 09 16	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3

All terms defined w thin 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 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] Guide ine varies with pH, and or Temperature or Hardness or Chloride.
[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 resu ts 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] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 4a: Summary of Analytical Results for Mount Polley, Hazeltine Creek - Surface Water DRAFT

			Physical Parameters									Total Inorganics										
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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 (mg/L)
BC Standards																						
BCWQG Aquatic Life (AW)[b,c]			n/a	6 5-9 0	6 5-9 0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	700-24,500[d]	32 800	60-600[d]	32,800[f]	600	1324-1982[d]	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	+/-1 Degree change from ambient[g]	Change of 2[k]	n/a	n/a	Change of 5[k]	+20% of median background	n/a	135-17,700[d]	3,000	20-200[d]	3,000[f]	150	n/a	128-429[d]	n/a	n/a	n/a
BCWQG Drinking Water (DW)[b,c]			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	n/a	10 000	1 000	10,000[f]	250	1 000	500	n/a	n/a	0 01
Canadian Drinking Water Quality (DW)[e]			n/a	6 5-8 5	6 5-8 5	n/a[i]	n/a[j]	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
HAD-1	HAD-01	2014 09 24	114	-	7 91	-	1 01	239	149	4 1	6 74	0 526	47 2	24 3	**24.7**	-	0 82	79	38 7	88 6	< 0 001	0 0055
	HAD-1	2014 10 01	114	-	8.23	-	1.14	225	149	< 3	6.73	0.385	8.4	< 5	< 1	-	0.75	79	36.5	86.8	< 0.001	0.004
HAC01	HAC-01	2014 09 15	114	-	8 14	-	***> 4000***	247	181	**7,920**	5 69	1 29	92 8	< 5	5 5	-	0 88	106	38 7	94 7	0 0041	0 0067
	HAC-01	2014 09 16	120	-	8.23	-	***> 4000***	258	171	**4,900**	5.92	1.04	64.2	< 5	3.7	-	0.89	111	37.2	102	0.0029	0.0062
	HAC-01X	2014 09 16	121	-	8.22	-	***> 4000***	257	174	**6,080**	5.99	1.03	66.5	< 5	3.5	-	0.89	98	36.9	101	0.0036	0.0058
	QA/QC RPD %		< 1	-	< 1	-	*	< 1	2	22	1	< 1	4	*	*	-	*	*	< 1	< 1	*	*
	HAC-01	2014 09 17	117	-	8.11	-	***2,550***	250	182	**4,900**	5.87	0.81	54	< 5	3.9	-	0.86	97	36.5	98.4	0.0031	0.0062
	HAC-01	2014 09 18	126	-	8.24	-	***1,640***	270	195	**2,990**	5.49	0.741	45.7	7.4	4.1	-	1.15	97	43.8	107	0.0021	0.0046
	HAC-01	2014 09 19	120	-	8.18	-	***1,750***	251	173	**4,340**	5.82	1.07	71.1	5.4	5.2	-	0.87	107	36.9	99.8	0.0029	0.0063
	HAC-01X	2014 09 19	120	-	8 2	-	***1,800***	251	171	**4,450**	5 78	1 08	73 7	5 7	5 1	-	0 87	90	36 6	99 7	0 0026	0 0059
	QA/QC RPD %		0	-	< 1	-	3	0	1	3	< 1	< 1	4	*	2	-	*	*	< 1	< 1	*	*
	HAC-01	2014 09 22	117	-	8.18	-	***3,200***	242	181	**3,120**	6.13	1.16	78.7	< 5	1.6	-	0.79	84	36	98	0.0035	0.0089
	HAC-01	2014 09 23	116	-	8 14	-	***3 970***	242	190	**5,150**	6 67	1 6	104	< 5	< 1	-	0 79	86	36	100	0 0047	0 0079
	HAC-01	2014 09 24	127	-	7.54	-	***4,140***	251	180	**4,820**	6.51	0.597	117	14.5	14.5	-	0.89	95	38.1	103	0.002	0.0055
	HAC-01	2014 09 25	116	-	7.28	-	***2,080***	245	195	**1,940**	7.43	1.23	74.5	< 5	4.4	-	0.81	85	36.5	101	0.0032	0.0074
HAC-01a	HAC-01A	2014 09 27	120	-	7 89	-	***2,470***	241	187	**3,660**	6 13	1 19	79 5	< 5	2 4	-	0 84	85	36 4	100	0 0019	0 004
	HAC-01A	2014 09 28	119	-	7 87	-	***1 650***	242	158	**3,090**	6 5	1 15	67 8	< 5	2 4	-	0 84	85	36 6	103	0 0021	0 0042
	HAC-01A	2014 09 29	116	-	7 87	-	***1,410***	241	189	**2,700**	6 04	0 997	58 1	< 5	1 5	-	0 85	84	37 3	98 5	0 0014	0 0038
	HAC-01A	2014 09 30	116	-	7.82	-	***1,200***	249	172	**2,020**	6.5	1.12	54.2	< 5	< 1	-	0.97	82	36.2	98.4	0.002	0.0062
HAC03	HAC-03	2014 09 24	455	-	8.23	-	***57.8***	1,010	***718***	**183**	8.76	0.261	39.2	< 50	< 10	-	14.5	300	348	221	< 0.001	< 0.002
HAC05	HAC-05	2014 09 24	116	-	8.06	-	***36.5***	240	174	**128**	7.03	0.421	32.7	11.1	12.6	-	0.84	76	37.8	91.2	< 0.001	0.0056
	HAC-05	2014 10 01	116	-	8 18	-	***19.9***	230	153	**89**	6 9	0 423	9 7	< 5	< 1	-	0 78	80	36 7	89 2	< 0 001	0 0048
	HAC-05X	2014 10 01	116	-	8.18	-	***21.1***	231	162	**114**	6.67	0.392	9.7	< 5	< 1	-	0.78	81	36.6	88.9	< 0.001	0.0042
	QA/QC RPD %		0	-	0	-	6	< 1	6	25	3	8	*	*	*	-	*	*	< 1	< 1	*	*
HAC07	HAC-07	2014 09 24	116	-	8.02	-	***25.9***	237	156	**113**	7.15	0.524	31.8	17.7	11.3	-	0.85	75	37.7	90.3	< 0.001	0.0057

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* RPDs are not normally calculated where one or more concentrations are less than five times MDL.
SHADED Concentration greater than BCWQG Aquatic Life (AW) guide ine.
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) guide ine.

[a] Laboratory detection imit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
[c] A Compendium of Working Water Qua ity Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and or Temperature or Hardness or Chloride
[e] Health Canada Drinking Water Guidelines, 2012. Guideline for Nitrate app ied.
[g] Stream criteria applies to deviation from optimum fish species temperature range. In this case, a reference to ambient is made since the background range (Minnow, 2014) is ~0-20.8°C (upper Hazeltine Creek).
[h] Calculated based on an individual sample basis, not average resu t basis.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not applicable for site s tuation.
[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.34-6.99 NTU and <3-18 mg/L TSS.

TABLE 4a: Summary of Analytical Results for Mount Polley, Hazeltine Creek - Surface Water DRAFT

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)	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 Standards																														
BCWQG Aquatic Life (AW)[b,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
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
BCWQG Drinking Water (DW)[b,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
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
HAD-1	HAD-01	2014 09 24	6 1	36 9	< 30	5 21	1 36	0 928	6 91	0 13	0 85	12 3	< 0 1	23	< 0 01	< 0 5	< 0 1	2 53	< 0 05	0 72	7 12	< 0 5	1 07	< 0 01	< 0 01	< 10	0 213	1 2	< 3
	HAD-1	2014 10 01	6.8	37.2	< 30	5.17	2.08	0.829	6.71	0.11	0.77	11.1	< 0.1	24	< 0.01	< 0.5	< 0.1	2.53	< 0.05	< 0.5	6.85	< 0.5	1.02	< 0.01	< 0.01	< 10	0.208	1.2	< 3
HAC01	HAC-01	2014 09 15	39 6	36 3	< 30	5 68	35 1	1 84	7 87	< 0 5	2	39 7	< 0 5	< 50	< 0 05	< 0 5	< 0 5	25 2	< 0 25	< 2 5	8 73	< 2 5	1 24	< 0 05	< 0 05	< 10	0 69	< 5	< 5
	HAC-01	2014 09 16	33.1	38	< 30	6.07	41.6	1.63	7.57	< 0.5	1.93	34.2	< 0.5	< 50	< 0.05	< 0.5	< 0.5	26.4	< 0.25	< 2.5	7.82	< 2.5	1.13	< 0.05	< 0.05	< 10	0.596	< 5	< 5
	HAC-01X	2014 09 16	28.4	38.5	< 30	6.17	42.7	1.69	7.48	< 0.5	2.03	35	< 0.5	< 50	< 0.05	< 0.5	< 0.5	26.7	< 0.25	< 2.5	7.88	< 2.5	1.09	< 0.05	< 0.05	< 10	0.606	< 5	< 5
	QA/QC RPD %		15	1	*	2	3	4	1	*	*	2	*	*	*	*	*	1	*	*	< 1	*	*	*	*	*	2	*	*
	HAC-01	2014 09 17	24	37.1	< 30	5.82	45.1	1.48	7.66	0.22	1.87	34.9	< 0.2	29	< 0.02	< 0.5	< 0.2	25.4	< 0.1	< 1	7.49	< 1	1.04	< 0.02	< 0.02	< 10	0.575	2.7	< 3
	HAC-01	2014 09 18	***396***	39.8	**446**	6.49	59.6	1.7	8.97	0.23	1.99	44.6	< 0.2	30	< 0.02	< 0.5	0.38	35.5	0.26	1.6	9.03	1.2	1.1	< 0.02	< 0.02	31	0.613	3.4	< 3
	HAC-01	2014 09 19	**63.7**	37.9	39	6.1	35.3	1.31	7.21	< 0.5	1.96	33.2	< 0.5	< 50	< 0.05	< 0.5	< 0.5	23.6	< 0.25	< 2.5	6.99	< 2.5	1.01	< 0.05	< 0.05	< 10	0.599	< 5	< 5
	HAC-01X	2014 09 19	36 6	37 9	< 30	6 12	35 6	1 3	7 06	< 0 5	1 93	32 5	< 0 5	< 50	< 0 05	< 0 5	< 0 5	22 8	< 0 25	< 2 5	7 02	< 2 5	0 97	< 0 05	< 0 05	< 10	0 597	< 5	< 5
	QA/QC RPD %		54	0	*	< 1	< 1	< 1	2	*	*	2	*	*	*	*	*	3	*	*	< 1	*	*	*	*	*	< 1	*	*
	HAC-01	2014 09 22	***117***	36.9	181	5.9	33.8	1.23	7.04	< 0.5	2.07	36.1	< 0.5	< 50	< 0.05	< 0.5	< 0.5	13.1	0.41	< 2.5	7.06	< 2.5	1.01	< 0.05	< 0.05	20	0.62	< 5	7.9
	HAC-01-1	2014 09 23	***132***	36 5	151	6 06	32 5	1 12	6 46	< 0 5	1 94	35 3	< 0 5	< 50	< 0 05	< 0 5	< 0 5	15 7	< 0 25	< 2 5	7 43	< 2 5	1 11	< 0 05	< 0 05	16	0 701	< 5	< 5
	HAC-01	2014 09 24	***1,670***	39.7	**1,990**	6.78	79.8	1.68	7.75	< 0.5	2.29	49.9	< 0.5	< 50	< 0.05	2.66	1.28	31.4	1.17	2.5	6.67	4.1	1	< 0.05	< 0.05	103	0.682	6.5	6.7
	HAC-01	2014 09 25	***462***	36.3	**521**	6.15	38.5	1.3	7.35	< 0.5	1.8	39.1	< 0.5	< 50	< 0.05	0.62	< 0.5	17	0.37	3.2	7.45	< 2.5	1.07	< 0.05	< 0.05	37	0.738	< 5	< 5
HAC-01a	HAC-01A	2014 09 27	44 7	38 3	47	5 82	27 2	1 13	6 87	< 0 5	1 49	28 4	< 0 5	< 50	< 0 05	< 0 5	< 0 5	14 9	< 0 25	< 2 5	7 09	< 2 5	1 01	< 0 05	< 0 05	< 10	0 606	< 5	< 5
	HAC-01A	2014 09 28	**55.2**	38	58	5 81	27 5	1 15	6 98	< 0 2	1 47	29 6	< 0 2	24	< 0 02	< 0 5	< 0 2	10 8	< 0 1	< 1	7 04	< 1	0 95	< 0 02	< 0 02	< 10	0 484	2 5	< 3
	HAC-01A	2014 09 29	23 4	36 7	< 30	5 82	28 2	1 11	7 64	0 21	1 42	30 7	< 0 2	25	< 0 02	< 0 5	< 0 2	12 5	< 0 1	< 1	7 53	< 1	0 99	< 0 02	< 0 02	< 10	0 493	2	< 3
	HAC-01A	2014 09 30	18.7	36.8	< 30	5.81	23.5	1.04	6.89	< 0.2	1.4	31.7	< 0.2	24	< 0.02	< 0.5	< 0.2	9.85	< 0.1	< 1	6.91	< 1	0.97	< 0.02	< 0.02	< 10	0.475	2.2	< 3
HAC03	HAC-03	2014 09 24	7.8	144	< 30	23.1	670	6.24	54	0.41	1.88	42.2	< 0.1	108	0.066	< 0.5	0.96	68.6	< 0.05	6.24	66.5	1.29	1.41	< 0.01	< 0.01	22	2.84	1.4	< 3
HAC05	HAC-05	2014 09 24	8.9	37.4	< 30	5.41	9.25	0.87	6.51	0.13	0.8	14.6	< 0.1	25	< 0.01	< 0.5	< 0.1	7.17	< 0.05	0.83	6.77	< 0.5	1.03	< 0.01	< 0.01	< 10	0.217	1.2	< 3
	HAC-05	2014 10 01	8 3	37 9	< 30	5 27	8 64	0 866	6 88	0 12	0 82	12 5	< 0 1	25	< 0 01	< 0 5	< 0 1	5 97	< 0 05	< 0 5	6 92	< 0 5	0 97	< 0 01	< 0 01	< 10	0 219	1 2	< 3
	HAC-05X	2014 10 01	7.9	37.8	< 30	5.29	8.51	0.854	6.86	0.13	0.82	12.7	< 0.1	25	< 0.01	< 0.5	< 0.1	6.01	< 0.05	< 0.5	7.11	< 0.5	1.01	< 0.01	< 0.01	< 10	0.228	1.2	< 3
	QA/QC RPD %		*	< 1	*	< 1	2	1	< 1	*	0	2	*	*	*	*	*	< 1	*	*	3	*	*	*	*	*	4	*	*
HAC07	HAC-07	2014 09 24	8.4	37.4	< 30	5.4	8.32	0.869	6.54	0.13	0.77	14.4	< 0.1	25	< 0.01	< 0.5	< 0.1	6.76	< 0.05	0.78	6.84	< 0.5	0.97	< 0.01	< 0.01	< 10	0.207	1.3	< 3

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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) guide ine.
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) guide ine.

[a] Laboratory detection imit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
[c] A Compendium of Working Water Qua ity Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and or Temperature or Hardness or Chloride
[e] Health Canada Drinking Water Guidelines, 2012. Guideline for Nitrate app ied.
[g] Stream criteria applies to deviation from optimum fish species temperature range. In this case, a reference to ambient is made since the background range (Minnow, 2014) is ~0-20.8°C (upper Hazeltine Creek).
[h] Calculated based on an individual sample basis, not average result basis.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guide ine not applicable for s te situation.
[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.34-6.99 NTU and <3-18 mg/L TSS.

TABLE 4a: Summary of Analytical Results for Mount Polley, Hazeltine Creek - Surface Water 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)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Standards																																
BCWQG Aquatic Life (AW)[b,c]			n/a	20	5	5 000	n/a	n/a	1 200	0.0325-0.13[d]	n/a	1 (Cr(+6))	110	11.2-49.1[d]	1 000	79.5-635.1[d]	870	n/a	1619-6061[d]	Methyl mercury analysis in progress	2 000	25-150[d]	373,000-432,000	2	0.1-3.0[d]	n/a	0 3	2 000	300	6	38.9-341[d]
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	1,000	5.3[j]	n/a	n/a	n/a	n/a	n/a	4	3.9-20[d]	n/a	6.4-28.1[d]	14[i]	n/a	1036-2809[d]		1,000	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	13.1-316[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	2	n/a	n/a	n/a	5 000
Canadian Drinking Water Quality (DW)[e]			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	200 000	n/a	n/a	20	n/a	5 000
HAD-1	HAD-01	2014 09 24	33 8	0 15	0 85	13 2	< 0 1	< 0 5	29	< 0 01	37 200	< 0 5	< 0 1	3 36	< 30	< 0 05	0 81	5 320	16 8	-	7 49	< 0 5	931	1 05	< 0 01	7 020	< 0 01	< 10	0 216	1 4	< 3
	HAD-1	2014 10 01	37.1	0.14	0.78	12.1	< 0.1	< 0.5	27	< 0.01	36,700	< 0.5	< 0.1	3.4	< 30	< 0.05	0.71	5,160	11.5	-	6.82	< 0.5	825	0.93	< 0.01	6,330	< 0.01	< 10	0.181	1.3	< 3
HAC01	HAC-01	2014 09 15	***114,000***	0 63	***83.2***	***1,160***	4	< 2 5	78	**1.5**	294 000	***133***	**97**	***4,180***	***169,000***	***64.1***	**132**	81 400	***4,690***	-	15 2	**146**	13 500	**4.26**	**1.76**	15 900	**0.472**	**5,940**	6 02	**420**	**424**
	HAC-01	2014 09 16	***89,800***	0.56	***66.4***	993	3.22	< 2.5	65	**1.13**	231,000	***92.6***	**82.3**	***3,820***	***127,000***	***45.9***	**101**	66,100	***3,670***	-	13.6	**101**	11,600	**4.01**	**1.61**	13,900	**0.327**	**4,770**	4.77	**353**	**343**
	HAC-01X	2014 09 16	***89,900***	0.58	***71.5***	***1,010***	3.79	< 2.5	79	**1.14**	233,000	***91.9***	**82.9**	***4,010***	***126,000***	***48.4***	**115**	65,600	***3,820***	-	13.9	102	12,000	**4.16**	**1.85**	14,800	**0.345**	**4,610**	4.96	**355**	**345**
	QA/QC RPD %		< 1	*	7	2	16	*	*	*	< 1	< 1	< 1	*	< 1	*	13	< 1	*	-	2	*	3	4	14	6	5	3	4	< 1	*
	HAC-01	2014 09 17	***53,500***	0.51	***54.1***	704	1.99	< 1	52	**0.91**	171,000	***66.2***	**54.2**	***2,640***	***86,200***	***36.7***	**61.8**	42,200	***2,380***	-	10.1	**76.3**	8,060	**3.14**	1.1	11,500	0.254	**2,600**	3.98	**219**	**226**
	HAC-01	2014 09 18	***50,900***	0.58	***44.1***	665	1.84	< 1	48	**0.709**	152,000	***61.1***	**43.7**	***2,020***	***79,100***	***33.5***	**60.6**	39,200	***1,950***	-	11.1	65.8	8,150	**2.64**	1.04	12,800	0.231	**2,810**	3.19	**196**	**190**
	HAC-01	2014 09 19	***76,300***	0.63	***60.5***	788	2.58	< 2.5	59	**1.1**	186,000	***97.6***	**69.1**	***2,820***	***126,000***	***43.4***	**88.7**	54,700	***2,950***	-	12.5	**106**	10,000	**3.48**	1.32	12,600	**0.351**	**4,230**	4.58	**314**	**310**
	HAC-01X	2014 09 19	***70,400***	0 64	***56***	770	2 43	< 2 5	57	**0.964**	175 000	***86.5***	**63.9**	***2,640***	***109,000***	***41***	**80.4**	50 400	***2,830***	-	12 8	**94.4**	9 630	**3.27**	1 35	12 500	**0.313**	**3,850**	4 2	**289**	**274**
	QA/QC RPD %		8	*	8	2	*	*	*	*	6	12	8	7	15	6	10	8	4	-	2	12	4	6	2	< 1	11	9	9	8	12
	HAC-01	2014 09 22	***62,900***	0.66	***37.7***	600	1.97	< 2.5	< 50	**0.962**	127,000	***110***	**59**	***1,170***	***107,000***	***37.5***	**75.5**	47,100	***2,410***	-	6.71	**128**	8,000	**2.56**	0.811	9,120	**0.417**	**2,850**	3.22	**206**	**269**
	HAC-01-1	2014 09 23	***71 300***	0 57	***42 8***	709	2 25	< 2 5	< 50	**1.06**	165 000	***126***	**70.6**	***1 680***	***126 000***	***46 4***	**86.6**	55 400	***2 920***	-	6 97	**140**	8 940	**2.79**	1 05	9 410	**0.443**	**3,270**	4 08	**242**	**315**
	HAC-01	2014 09 24	***69,500***	0.69	***37.9***	603	1.98	< 2.5	< 50	**1.02**	148,000	***123***	**60.4**	***1,170***	***112,000***	***39.2***	**89**	47,000	***2,470***	-	8.01	**136**	9,170	**2.57**	0.728	10,700	**0.424**	**3,100**	3.56	**214**	**282**
	HAC-01	2014 09 25	***59,100***	0.71	***35.1***	560	1.78	< 2.5	< 50	**0.786**	133,000	***97.8***	**51.1**	***1,070***	***106,000***	***36.3***	**71.3**	43,400	***2,090***	-	7.31	**109**	7,890	**2.46**	0.697	9,880	**0.413**	**3,010**	3.36	**190**	**239**
	HAC-01	2014 09 27	***53,100***	< 0 5	***34.7***	518	1 71	< 2 5	< 50	**0.865**	141 000	***83.8***	**51.4**	***1,400***	***95,800***	***34***	**69.6**	42 700	***2,110***	-	7 8	**98.7**	7 330	**2.14**	0 849	9 770	**0.313**	**2,700**	3 25	**182**	**220**
HAC-01a	HAC-01A	2014 09 28	***48 300***	0 54	***32 7***	472	1 46	< 1	37	**0.65**	131 000	***75 5***	**43.9**	***1 190***	***84 500***	***30***	**59.8**	37 600	***1 850***	-	7 77	**87.3**	6 970	1 98	0 672	9 600	0 298	**2,450**	2 92	**166**	**186**
	HAC-01A	2014 09 29	***41,200***	0 55	***27.9***	459	1 3	< 1	35	**0.636**	115 000	***66.1***	**36.9**	***910***	***68,400***	***27.3***	**50**	32 500	***1,590***	-	7 14	**76**	6 400	1 87	0 554	9 520	0 271	**2,110**	2 52	**130**	**163**
	HAC-01A	2014 09 30	***33,800***	0.48	***18.9***	310	0.96	< 1	34	**0.446**	89,700	***63.7***	**30.3**	**402**	***58,000***	***20.3***	**44.2**	25,600	***1,180***	-	5.97	**73**	5,390	1.36	0.303	8,370	0.23	1,580	1.8	**99.6**	**137**
HAC03	HAC-03	2014 09 24	***5,210***	0.5	**5.88**	132	0.21	< 0.5	119	0.118	149,000	**2.53**	**4.55**	**338**	***6,590***	2.74	10.6	25,500	***837***	-	64.4	3.3	7,580	1.54	0.099	53,200	0.017	420	3.19	**26.9**	15.5
HAC05	HAC-05	2014 09 24	***3,410***	0.18	3.47	72.3	0.13	< 0.5	33	**0.06**	43,600	**2.82**	2.31	**151**	***3,940***	1.81	3.65	7,070	***151***	-	6.47	2.91	1,740	1.04	0.066	6,940	0.013	230	0.442	**14.4**	11.5
	HAC-05	2014 10 01	***1,630***	0 15	1 9	37 3	< 0 1	< 0 5	28	0 015	38 400	**1.13**	1 06	**61.1**	***1,700***	0 733	1 7	5 750	***69.6***	-	6 89	1 2	1 320	1	0 026	6 810	< 0 01	107	0 312	**6.8**	5 2
	HAC-05X	2014 10 01	***1,510***	0.15	1.9	34.2	< 0.1	< 0.5	28	0.021	39,600	**1.19**	1.03	**76.3**	***1,640***	0.721	1.69	5,940	***70.1***	-	7.09	1.24	1,230	1	0.027	6,840	< 0.01	99	0.313	**6.3**	6
	QA/QC RPD %		8	*	0	9	*	*	*	*	3	*	3	22	4	2	*	3	< 1	-	3	*	7	*	*	< 1	*	8	< 1	8	*
HAC07	HAC-07	2014 09 24	***2,040***	0.17	2.14	48.5	< 0.1	< 0.5	29	0.029	39,500	**1.82**	1.33	**70.9**	***2,140***	0.925	2.16	6,340	***84.9***	-	6.76	1.61	1,550	0.97	0.033	6,790	0.015	134	0.321	**8.3**	8

All terms defined w thin the body of SNC-Lavalin's report (ava lable 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) guide ine.
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) guide ine.

[a] Laboratory detection imit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
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[e] Health Canada Drinking Water Guidelines, 2012. Guideline for Nitrate applied.
[g] Stream criteria applies to deviation from optimum fish species temperature range. In this case, a reference to ambient is made since the background range (Minnow, 2014) is ~0-20.8°C (upper Hazeltine Creek).
[h] Calculated based on an individual sample basis, not average resu t basis.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not applicable for site situation.
[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.34-6.99 NTU and <3-18 mg/L TSS.

Table 5: Summary of Exceedances for Mount Pol ey, Quesnel Lake from September 15th to October 1st

	Total Phosphorus	Aluminum	Cadmium	Chromium	Copper	Iron	Manganese	Selenium	Vanadium	Zinc
BCWQG Aquatic Li e (AW)[b c]	QUL-2-38M, QUL-2-50M, QUL-2- 7M, QUL-2- 8M QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21-30M, QUL-21- 6M, QUL-21- 5M, QUL-21- 6M, QUL-21- 7M, QUL-21- 0M, QUL-21- 5M, QUL-21A- 0M, QUL-21A-65M, QUL-21A-60M, QUL-23, QUL- 0-50M, QUL-66- 8M, QUL-66- 0M, QUL-66-5M, QUL-66A- 0M, QUL-66A-85M, QUL-66A-80M, QUL-79 25M, QUL-87-53M, QUL-87-25M, QUR-109 5M, QUL-118-TAP, QUL-119-20M, QUL-66-50M, QUL-66-0M		QUR-1-16:00	QUL-2-38M, QUL 2-50M, QUL-2- 7M, QUL 2- 8M, QUL-2A-60M, QUL-18-100M, QUL-21- 6M, QUL-21- 5M, QUL-21- 7M, QUL-21A- 0M, QUL-21A-60M, QUL-21A 65M, QUL-66-2 M, QUL-66- 8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL-66-50M, QUL-66A- 0M, QUL-66A 85M QUL 66A 80M, QUL 125	QUL-2-25M, QUL-2-38M, QUL-2 50M, QUL-2- 7M, QUL-2- 8M, QUL-2A- 0M, QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21-56M, QUL 21- 6M, QUL-21-30M, QUL-21- 5M, QUL-21- 7M, QUL-21- 0M, QUL-21A- 0M, QUL21A-65M, QUL-21A 60M, QUL-31A- 0M, QUL- 0 50M, QUL- 0- 0M, QUL-66-2 M QUL-66- 8M, QUL-66- 0M, QUL-66-15M,QUL-66- 5M, QUL-66-50M, QUL-66A- 0M, QUL-66A-85M, QUL-66A-80M, QUL-79-28M, QUL-79-50M, QUL-79-58M, QUL-79-30M QUL-118-TAP, QUL-120- 0M, QUL-122-TAP, QUL-126-TAP, QUL-129-TAP	QUL-2-38M, QUL 2-50M, QUL-2- 7M, QUL-2- 8M, QUL-2A-60M, QUL-18-100M, QUL-21-6M, QUL-21- 5M, QUL 27- 7M, QUL-21A-65, QUL-21A- 0M, QUL-21A 60M, QUL 66- 8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL 66-50M, QUL-66A- 0, QUL-66A-85M, QUL-66A 80M		QUL-125-TAP	QUL-18-100M, QUL-66- 8M, QUL-66A-85M, QUL 66A 80M,	QUL-120X-0M, QUL-126-TAP, QUL-129-TAP
BCWQG Aquatic Li e (30day) (AW)[b c h]					QUL-2-25M, QUL-2-38M, QUL-2 50M,- QUL-2-16M, QUL-2- 7M, QUL-2 13M, QUL-2- 8M, QUL-2A- 0M, QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21- 6M, QUL-21-30M, QUL-21- 5M, QUL-21- 7M, QUL-21- 0M, QUL-21A- 0M, QUL21A-65M, QUL-21A 60M, QUL-31A- 0M, QUL-31A 100M, QUL- 0- 5M QUL- 0 100M, QUL- 0-50M, QUL- 0- 0M, QUL- 0-98M, QUL- 0-80M, QUL- 0A- 0M, QUL- 0A 100M, QUL-66-2 M QUL-66- 8M, QUL-66- 0M, QUL-66-15M QUL-66- 5M, QUL-66-50M, QUL-66A- 0M, QUL-66A 85M, QUL-66A-80M, QUL-79 26M, QUL-79-50M, QUL-79-15M, QUL-79-25M, QUL-79-58M, QUL-79-30M, QUL87-25M, QUL-105-TAP, QUL-118-TAP, QUL-119-20M, QUL-120-35M, QUL-120-88M, QUL 120- 0M, QUL-122-TAP, QUL-123-TAP, QUL-126-TAP, QUL-129-TAP, QUL-120-80M						QUL-120X-0M, QUL-126-TAP, QUL-129-TAP
BCWQG Drinking Water (DW)[b c]										
Canad an Drinking Water Qua ity (DW)[e]		QUL-2-25M, QUL 2-38M, QUL-2-50M, QUL-2- 7M, QUL-2 13M, QUL-2- 8M, QUL-2A- 0M, QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21-30M, QUL-21- 5M, QUL-21- 6M, QUL-21A- 0M, QUL-21A-65M, QUL-21A-60M, QUL 31A- 0M, QUL-31A-100M, QUL- 0- 5M, QUL- 0- 0M, QUL- 0-80M, QUL- 0A- 0M, QUL 66-2 M, QUL-66-8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL-66-50M, QUL-66A- 0M, QUL 66A-85M, QUL-66A-80M, QUL-79-26M, QUL-79-50M, QUL-79-25M, QUL-79-58M, QUL-79 30M, QUL-117, QUL-120-35M, QUL-120-88M, QUL-21- 7M, QUL-21- 0M, QUL- 0-50M, QUL- 0-98M				QUL-2-38M, QUL 2-50M, QUL-2- 7M, QUL-2- 8M, QUL-2A-60M, QUL-18-100M, QUL-21- 6M, QUL-21- 5M, QUL 27- 7M, QUL-21A-65, QUL-21A- 0M, QUL-21A 60M, QUL-2A- 0M, QUL-18- 0M, QUL-21- 0M, QUL-21- 5M, QUL 66-2 M, QUL-66- 8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL 66-50M, QUL-66A- 0, QUL-66A-85M, QUL-66A 80M, QUL 79-50M, QUL-79-58M, QUL-117, QUL-21- 0M	QUL-2-38M, QUL-2-50M, QUL-2- 7M QUL-2A-50M, QUL-18- 0M QUL-18-100M, QUL-21- 6M QUL-21- 5M, QUL-21- 7M, QUL-21- 0M, QUL-21A- 0M, QUL-21A-65M, QUL-21A-60M, QUL-66- 8M, QUL-66- 0M, QUL-66-15M, QUL-66-50M, QUL-66A- 0M, QUL-66A-85M, QUL-66A 80M, QUL-2- 8M, QUL-66- 5M			

b Br tish Columbia Approved Water Quality Gu delines 2006 Ed tion, updated 201 .
c A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
h Calculated based on an individual samp e bas s, not average result basis.
e Health Canada Drinking Water Guide ines, 2012.

Table 6: Summary of Exceedances for Mount Polley: Polley Lake from September 15th to October 1st

	pH (Field)	Nitrite Nitrogen	Total Phosphorus	Dissolved Iron	Aluminum	Copper	Iron	Manganese
BCWQG Aquatic Life (AW)[b,c]	P1-0M	POL-5-11M, POL-5-9M, POL-6-14M	POL-5-11M, POL-6-14M, P1-27M, P2-27M, POL-6-0M, POL-5-0M, POL-5-9m, P2-0M, P1-0M	P1-27M		P1-0M, P1-27M, P2-27M		
BCWQG Aquatic Life (30day) (AW)[b,c,h]		POL-5-11M, POL-5-9M, POL-6-14M				POL-5-11M, POL-6-12M, P1-0M, P1-27M, P2-27M, POL-3		
BCWQG Drinking Water (DW)[b,c]	POL-6-0M, P1-0M, P2-0M, POL-3, POL-5-0M		POL-5-11M, POL-6-14M, P1-27M, P2-27M					
Canadian Drinking Water Quality (DW)[e]	POL-6-0M, P1-0M, P2-0M, POL-3, POL-5-0M				POL-5-11M, POL-6-14M, POL-6-12M, P1-27M, P2-27M, POL-3		P1-27M, P2-27M	POL-5-11M, POL-5-9M, POL-6-14M, P1-27M, P2-27M

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.
h Calculated based on an individual sample basis, not average result basis.
e Health Canada Drinking Water Guidelines, 2012.

Table 7: Summary of Exceedances for Mount Polley: Hazel ine Creek from September 15th to October 1st

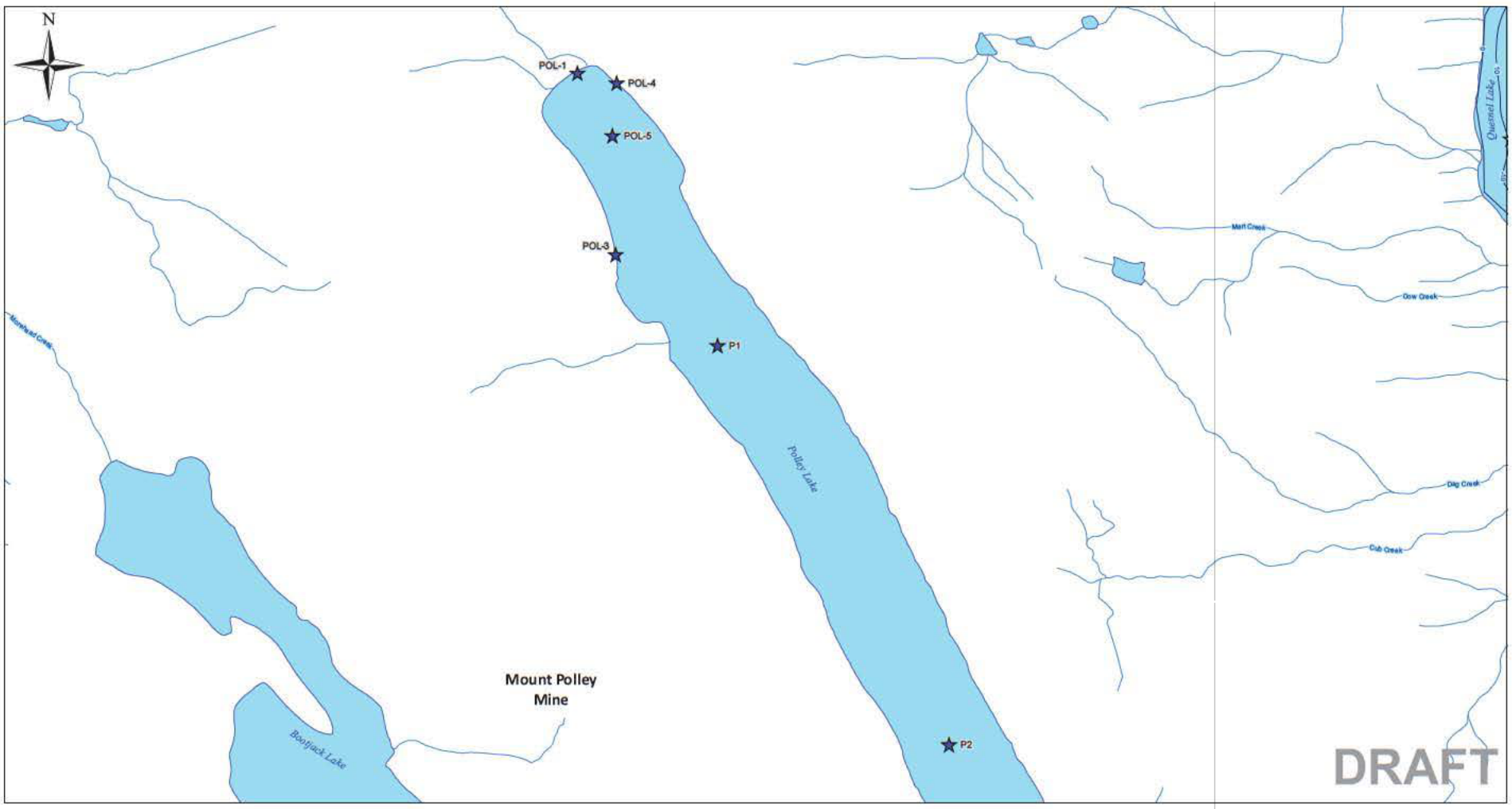
	Turbidity	TDS	TSS	Nitrite Nitrogen	Dissolved Iron	Dissoved Aluminum	Aluminum	Arsenic	Barium	Cadmium	Chromium	Cobalt
BCWQG Aquatic Life (AW)[b,c]	HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01	HAC01		HAC01, HAC01a, HAC03		HAC01, HAC01a, HAC05	HAC01,HAC01a, HAC03, HAC05, HAC07	
BCWQG Aquatic Life (30day) (AW)[b,c,h]	HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01, HAC01a, HAC03, HAC05, HAC07	HAD01		HAC01, HAC01a			HAC01			HAC01, HAC01a, HAC03
BCWQG Drinking Water (DW)[b,c]	HAC01, HAC01a, HAC03, HAC05, HAC07					HAC01		HAC01, HAC01a				
Canadian Drinking Water Quality (DW)[e]		HAC03					HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01, HAC01a	HAC01		HAC01,HAC01a	

b Bri ish Columbia Approved Water Quality Guidelines 2006 Edi ion, updated 2014.
c A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.
h Calculated based on an individual sample basis, not average result basis.
e Health Canada Drinking Water Guidelines, 2012.

Table 7: Summary of Exceedances for Mount Polley: Hazel ine Creek from September 15th to October 1st

	Copper	Iron	Lead	Lithium	Manganese	Nickel	Selenium	Silver	Thallium	Titanium	Vanadium	Zinc
BCWQG Aquatic Life (AW)[b,c]	HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01, HAC01a, HAC03, HAC05, HAC07			HAC01,HAC01a	HAC01,HAC01a	HAC01,HAC01a	HAC01	HAC01	HAC01,HAC01a	HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01,HAC01a
BCWQG Aquatic Life (30day) (AW)[b,c,h]	HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01,HAC01a	HAC01,HAC01a	HAC01,HAC01a							HAC01,HAC01a
BCWQG Drinking Water (DW)[b,c]	HAC01, HAC01a		HAC01									
Canadian Drinking Water Quality (DW)[e]	HAC01, HAC01a	HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01,HAC01a		HAC01, HAC01a, HAC03, HAC05, HAC07							

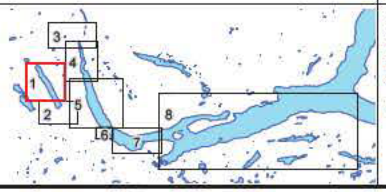
b Bri ish Columbia Approved Water Quality Guidelines 2006 Edi ion, updated 2014.
c A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.
h Calculated based on an individual sample basis, not average result basis.
e Health Canada Drinking Water Guidelines, 2012.



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 125 250 500 750 1,000 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

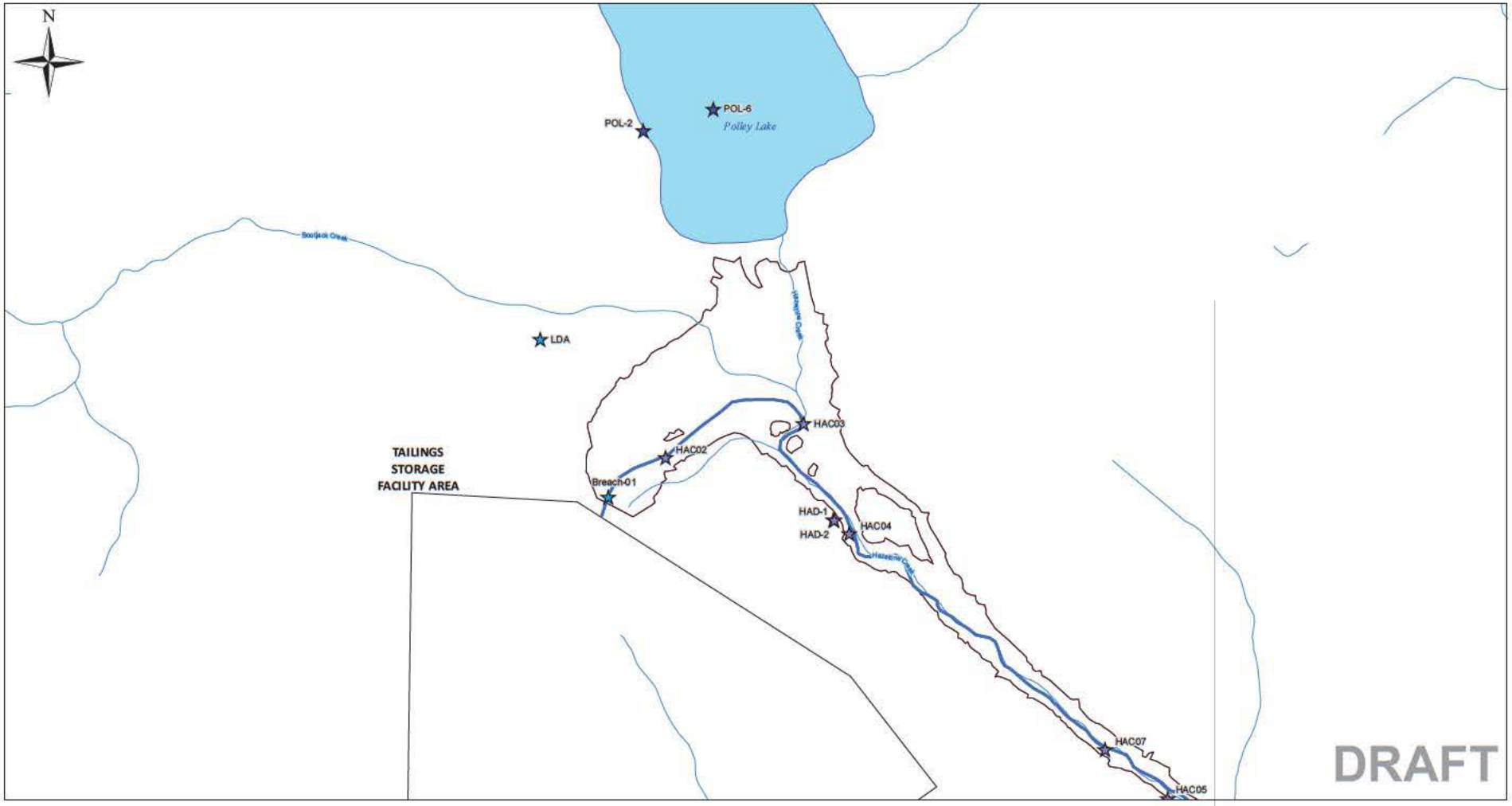
Figure 5: Current Monitoring Locations
Page 1 of 8

BY: CJW	SCALE: 1:24,500	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P1	

Project Path: P:\Current Projects\Mount Polley\621717\

MXD Path: P:\LOB\EAM-SO\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.3 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

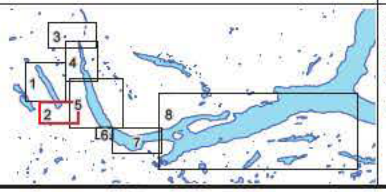
EMAIL S, Part 1, Page 39 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas
- New Hazeltine Creek Channel (Approximate)



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 70 140 280 420 560 Meters

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

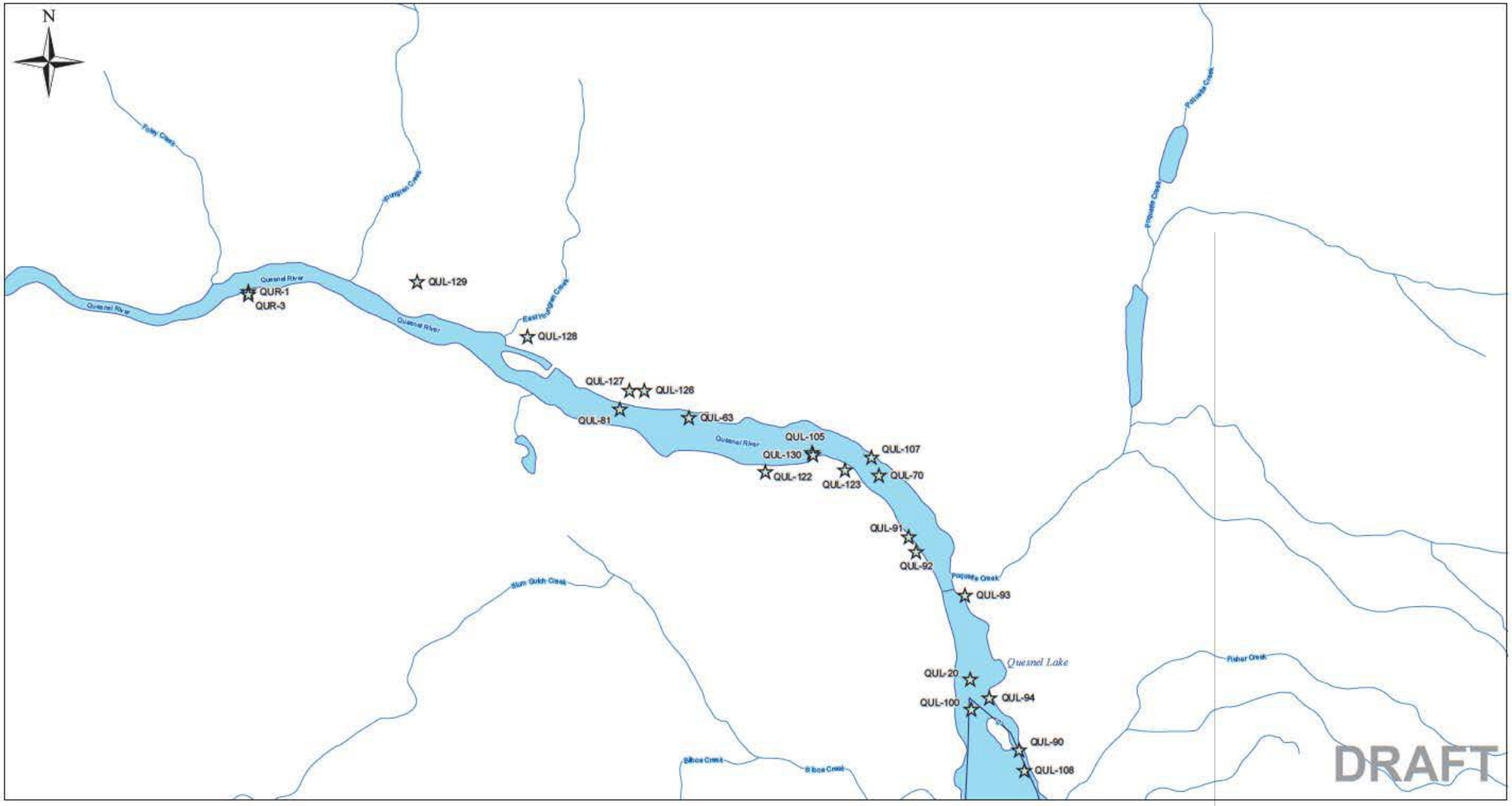
Figure 5: Current Monitoring Locations
Page 2 of 8

BY: CJW	SCALE: 1:13,800	DATE: 2014/10/09	REF No. REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P2

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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

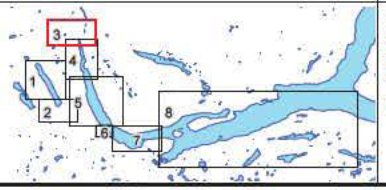
EMAIL S_Part 1 Page 38 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 80 160 320 480 640 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

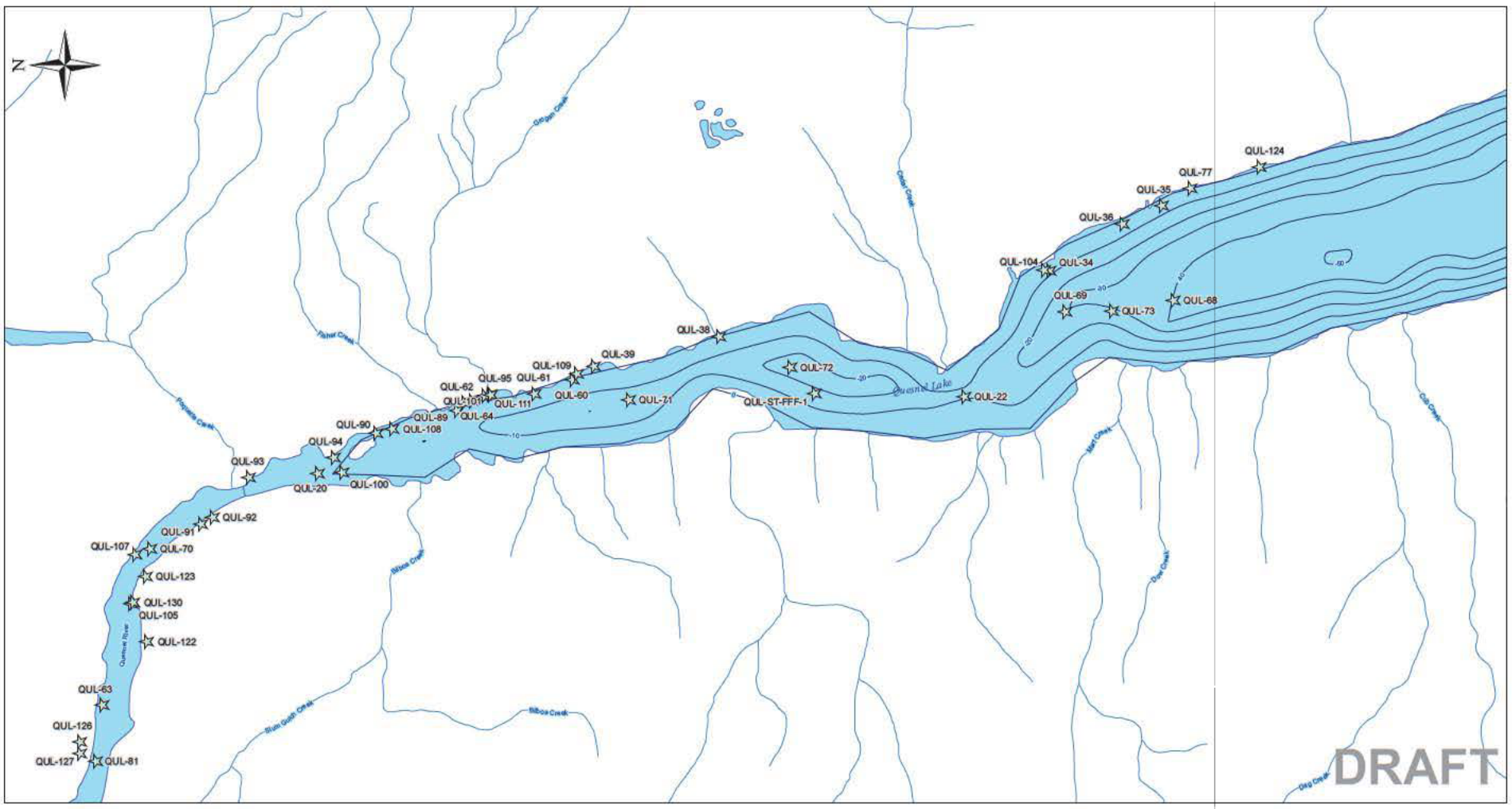
Figure 5: Current Monitoring Locations
Page 3 of 8

BY: CJW	SCALE: 1:16,200	DATE: 2014/10/09	REF No. REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P3

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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

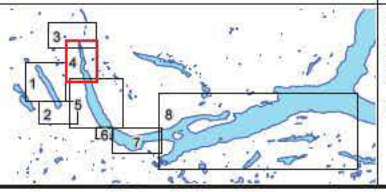
EMAIL'S Part 1 Page 299 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 100 200 400 600 800 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

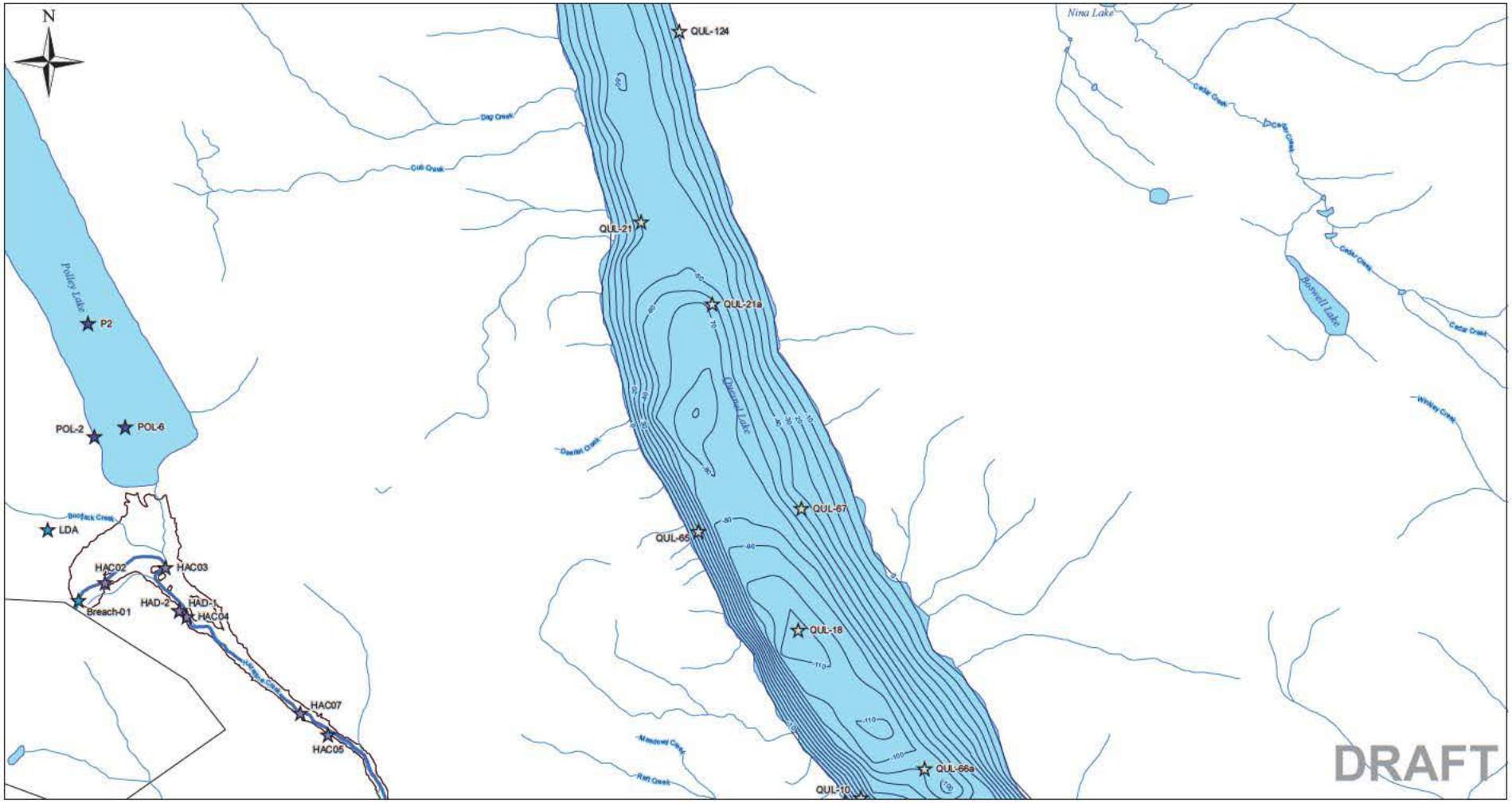
Figure 5: Current Monitoring Locations
Page 4 of 8

BY: CJW	SCALE: 1:19,700	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P4	

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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

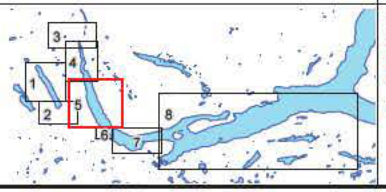
EMAIL S_Part 1_Page 400 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas
- New Hazeltine Creek Channel (Approximate)



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 155 310 620 930 1,2 0 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

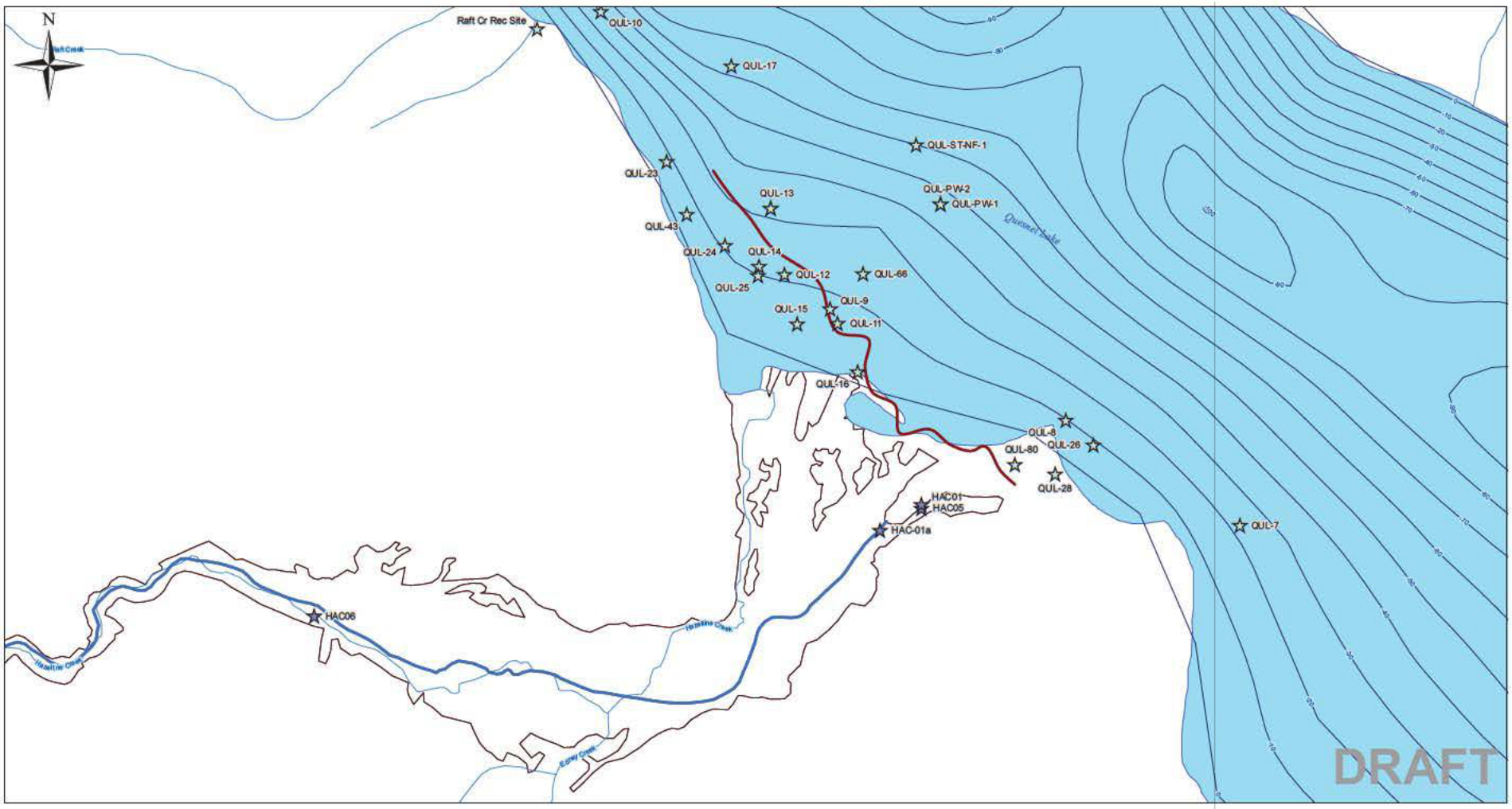
Figure 5: Current Monitoring Locations
Page 5 of 8

BY: CJW	SCALE: 1:30,900	DATE: 2014/10/09	REF No.	REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P5	

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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

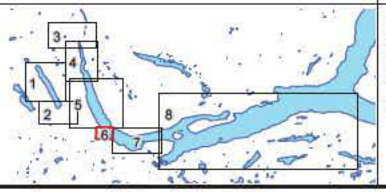
EMAIL S_Part 1 Page 4 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas
- Silt Curtain/Log Boom
- New Hazeltine Creek Channel (Approximate)



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 37.5 75 150 225 300 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

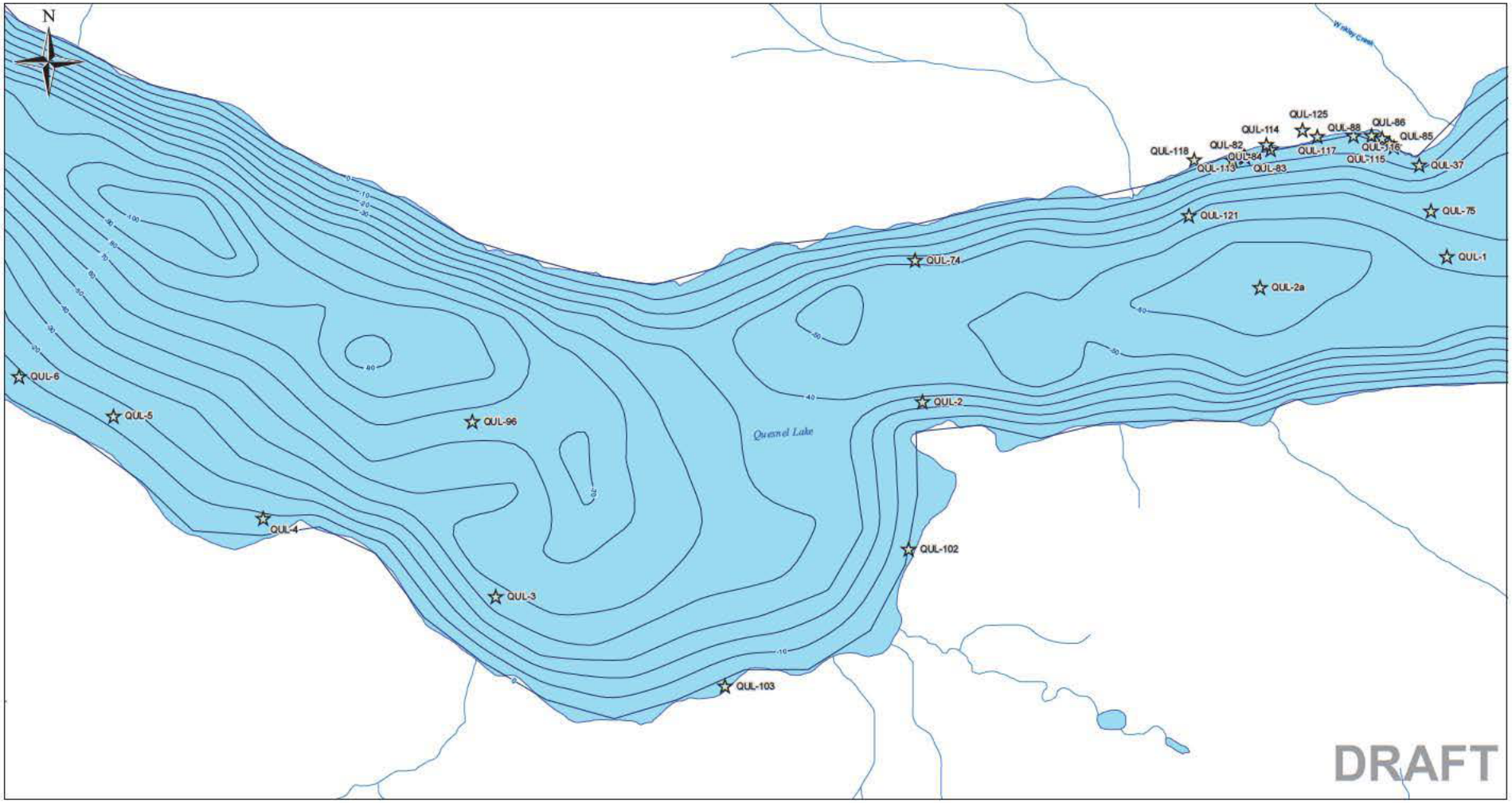
SNC·LAVALIN

CLIENT NAME: MPMC		PROJECT LOCATION: Mount Polley Mine, British Columbia	
Figure 5: Current Monitoring Locations Page 6 of 8			
BY: CJW	SCALE: 1:7,400	DATE: 2014/10/09	REF No. REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		621717-005-P6

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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

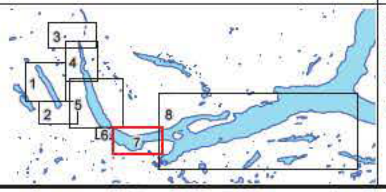
EMAIL S_Part 1_Page 6 of 8.pdf 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 85 170 340 510 680 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

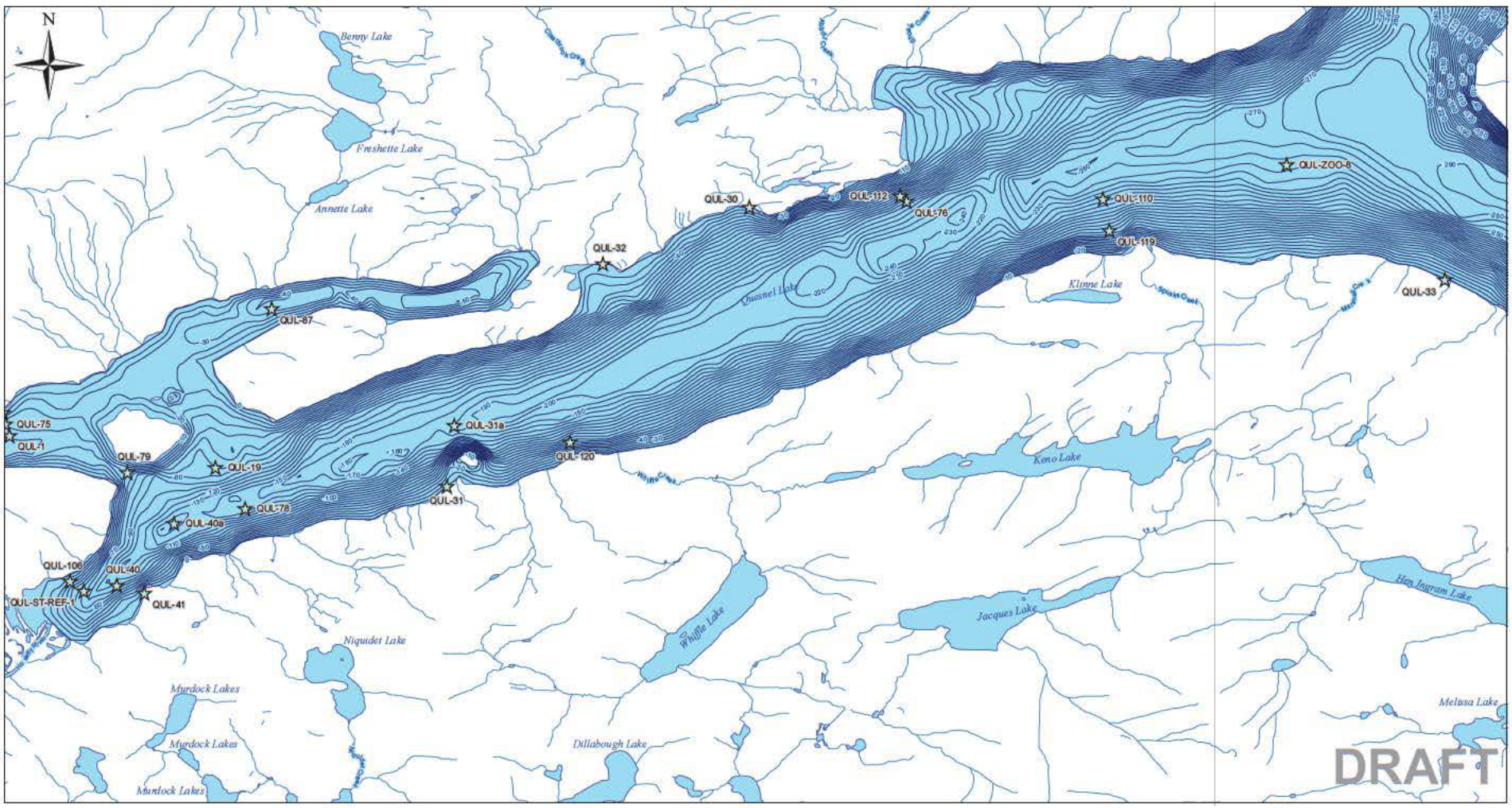
SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia	
Figure 5: Current Monitoring Locations Page 7 of 8		
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CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N	REF No. 621717-005-P7 REV 0

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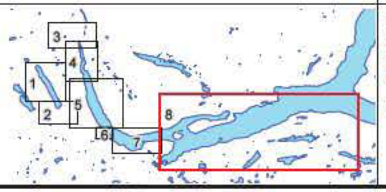
EMAIL S_Part 1_Page 403 of 500



LEGEND

Surface Water Sampling Locations

- Hazeltine Creek
- Polley Lake
- Quesnel Lake
- Other Areas



NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

0 300 600 1,200 2,000 2,720 Metres

1. Data provided by Mount Polley Mining Corporation
2. Data downloaded from Data.GovBC.ca Data Distribution Service.
3. Orthophoto collected by McElhanney on August 5th, 2014

SNC·LAVALIN

CLIENT NAME: MPMC	PROJECT LOCATION: Mount Polley Mine, British Columbia

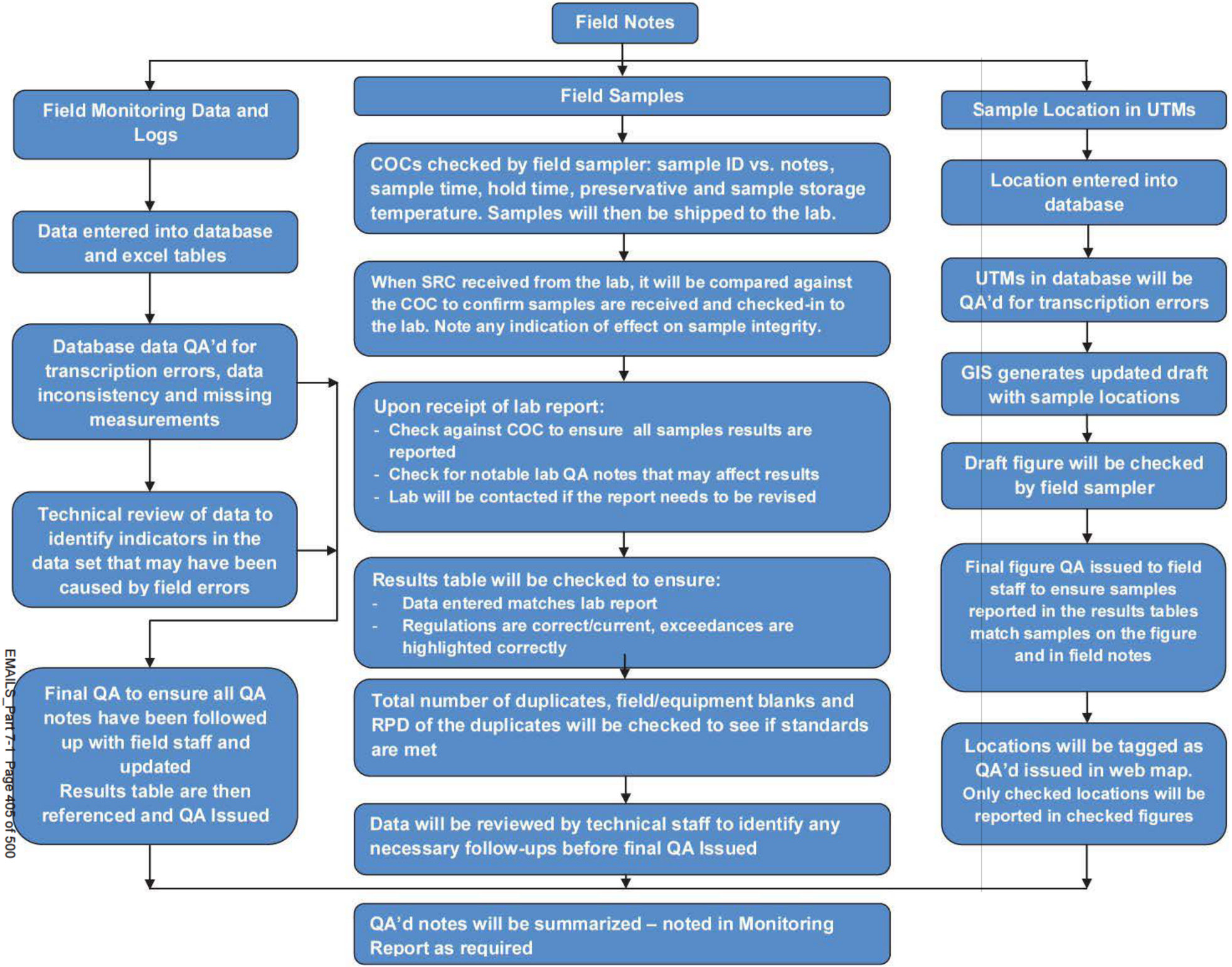
Figure 5: Current Monitoring Locations
Page 8 of 8

BY: CJW	SCALE: 1:66,800	DATE: 2014/10/09	REF No. 621717-005-P8 REV 0
CHKD: JL	PROJ COORD SYS: NAD 1983 UTM Zone 10N		

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MXD Path: P:\LOB\EAM-BC\Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\4.0 Execution\4.5 GIS and Drawings\GIS\621717-005_SampleLocPlanSeries.mxd

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Field Notes
Field Monitoring Data and Logs
Data entered into database and excel tables
Database data QA'd for transcription errors, data inconsistency and missing measurements
Technical review of data to identify indicators in the data set that may have been caused by field errors
Final QA to ensure all QA notes have been followed up with field staff and updated
Results table are then referenced and QA Issued
Field Samples
COCs checked by field sampler: sample ID vs. notes, sample time, hold time, preservative and sample storage temperature. Samples will then be shipped to the lab.
When SRC received from the lab, it will be compared against the COC to confirm samples are received and checked-in to the lab. Note any indication of effect on sample integrity.
Upon receipt of lab report:
- Check against COC to ensure all samples results are reported
- Check for notable lab QA notes that may affect results
- Lab will be contacted if the report needs to be revised
Results table will be checked to ensure:
- Data entered matches lab report
- Regulations are correct/current, exceedances are highlighted correctly
Total number of duplicates, field/equipment blanks and RPD of the duplicates will be checked to see if standards are met
Data will be reviewed by technical staff to identify any necessary follow-ups before final QA Issued
Sample Location in UTMs
Location entered into database
UTMs in database will be QA'd for transcription errors
GIS generates updated draft with sample locations
Draft figure will be checked by field sampler
Final figure QA issued to field staff to ensure samples reported in the results tables match samples on the figure and in field notes
Locations will be tagged as QA'd issued in web map. Only checked locations will be reported in checked figures
QA'd notes will be summarized – noted in Monitoring Report as required

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

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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 09 15	52.5	7.88	7.98	13.6	0.54	103	71	< 3	2.05	-	0.134	< 5	71.4	< 1	-	< 0.5	35	6.13	50.4	-	< 0.001	< 0.002[a]
	QUR-1-00 00	2014 09 15	52 2	-	7 8	-	0 57	106	-	< 3	-	-	-	-	76 1	< 1	-	< 0 5	35	6 12	-	-	-	-
	QUR-1-08 00	2014 09 15	50 5	-	7 91	-	0 49	101	-	< 3	-	-	-	-	76 6	< 1	-	< 0 5	35	6 15	-	-	-	-
	QUR-1-16 00	2014 09 15	49.2	-	7.96	-	0.72	102	-	< 3	-	-	-	-	69.2	< 1	-	< 0.5	31	6.13	-	< 0.05	-	-
	QUR-1	2014 09 16	52 5	7 9	7 87	14 3	0 41	101	71	< 3	1 6	-	0 131	< 5	65 8	< 1	-	< 0 5	32	6 13	47 6	-	< 0 001	< 0.002[a]
	QUR-1-00 00	2014 09 16	48 8	-	7 97	-	0 53	103	-	< 3	-	-	-	-	69 1	< 1	-	< 0 5	31	6 13	-	< 0 05	-	-
	QUR-1-08 00	2014 09 16	50 7	-	7 97	-	0 48	102	-	< 3	-	-	-	-	69 3	< 1	-	< 0 5	31	6 13	-	< 0 05	-	-
	QUR-1-16 00	2014 09 16	49.2	-	7.98	-	0.35	103	-	< 3	-	-	-	-	65.5	< 1	-	< 0.5	36	6.09	-	-	-	-
	QUR-1	2014 09 17	52 4	7 94	7 97	14 3	0 4	103	68	< 3	1 79	-	0 136	< 5	64 5	< 1	-	< 0 5	36	6 09	49 2	-	< 0 001	< 0.002[a]
	QUR-1-00 00	2014 09 17	49 6	-	7 97	-	0 47	103	-	< 3	-	-	-	-	67 6	< 1	-	< 0 5	38	6 09	-	-	-	-
	QUR-1-8 00	2014 09 17	51.2	-	7.96	-	0.51	103	-	< 3	-	-	-	-	69.7	< 1	-	< 0.5	37	6.1	-	-	-	-
	QUR-1-16 00	2014 09 17	50.2	-	7.9	-	0.73	102	-	< 3	-	-	-	-	64.1	< 1	-	< 0.5	37	6.05	-	-	-	-
	QUR-1	2014 09 18	51 5	7 96	7 98	14 3	0 37	103	63	< 3	1 66	-	0 124	< 5	63 6	< 1	-	< 0 5	36	6 05	49	-	< 0 001	< 0 002[a]
	QUR-1-0 00	2014 09 18	50.9	-	7.97	-	0.54	103	-	< 3	-	-	-	-	64.7	< 1	-	< 0.5	37	6.05	-	-	-	-
	QUR-1-8 00	2014 09 18	49.8	-	7.96	-	0.59	103	-	< 3	-	-	-	-	65.2	< 1	-	< 0.5	37	6.05	-	-	-	-
	QUR-1-16 00	2014 09 18	53.6	-	7.96	-	0.34	101	-	< 3	-	-	-	-	63.3	< 1	-	< 0.5	33	6.1	-	-	-	-
	QUR-1	2014 09 19	53.5	7.98	8	14.5	0.42	102	70	< 3	1.75	-	0.133	< 5	62.4	< 1	-	< 0.5	34	6.11	47.9	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 19	53.5	-	8	-	0.45	101	-	< 3	-	-	-	-	63.9	< 1	-	< 0.5	33	6.13	-	-	-	-
	QUR-1-8 00	2014 09 19	53	-	8	-	0.39	101	-	< 3	-	-	-	-	63.3	< 1	-	< 0.5	33	6.11	-	-	-	-
	QUR-1-16 00	2014 09 19	49.9	-	7.98	-	0.53	101	-	< 3	-	-	-	-	62	< 1	-	< 0.5	35	6.06	-	-	-	-
	QUR-1	2014 09 20	51.8	7.68	7.84	14.6	0.44	99.3	62	< 3	1.91	-	0.135	< 5	60	< 1	-	< 0.5	34	6.06	47.3	-	< 0.001	< 0.002[a]
	QUR-1X	2014 09 20	52 3	7 68	7 89	14 6	0 41	99 8	62	< 3	1 79	-	0 136	< 5	60 2	< 1	-	< 0 5	33	6 05	48 9	-	< 0 001	< 0 002[a]
	QUR-1-0 00	2014 09 20	50.2	-	7.94	-	0.48	100	-	< 3	-	-	-	-	61.5	< 1	-	< 0.5	34	6.06	-	-	-	-
	QUR-1-8 00	2014 09 20	50.4	-	7.95	-	0.52	100	-	< 3	-	-	-	-	60.4	< 1	-	< 0.5	34	6.11	-	-	-	-
	QUR-1-16 00	2014 09 20	-	-	7.92	-	0.28	101	-	< 3	-	-	-	-	59.4	< 1	-	< 0.5	34	5.98	-	-	-	-
	QUR-1	2014 09 21	51.9	7.81	7.94	14.4	0.29	102	65	< 3	1.64	-	0.141	< 5	61	< 1	-	< 0.5	34	6.06	48.4	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 21	-	-	7.95	-	0.57	102	-	< 3	-	-	-	-	61.4	< 1	-	< 0.5	35	6.11	-	-	-	-
	QUR-1-8 00	2014 09 21	-	-	7.96	-	0.38	102	-	< 3	-	-	-	-	61.7	< 1	-	< 0.5	34	6.1	-	-	-	-
	QUR-1-16 00	2014 09 21	51 2	-	7 94	-	0 33	100	-	< 3	-	-	-	-	59 5	< 1	-	< 0 5	35	5 93	-	-	-	-
	QUR-1	2014 09 22	52.2	7.86	8.02	14.8	0.31	103	65	< 3	1.86	-	0.132	< 5	58.6	< 1	-	< 0.5	34	6.13	49.9	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 22	52.7	-	7.96	-	0.35	103	-	< 3	-	-	-	-	61.6	< 1	-	< 0.5	36	6.13	-	-	-	-
	QUR-1-8 00	2014 09 22	50 4	-	7 98	-	0 33	103	-	< 3	-	-	-	-	60 1	< 1	-	< 0 5	36	6 13	-	-	-	-
	QUR-1	2014 09 22	49 5	-	7 92	-	0 33	105	-	-	-	-	-	-	58 5	< 1	-	< 0 5	37	6 05	-	-	-	-
	QUR-1	2014 09 23	49.8	7.88	7.9	15.15	0.32	104	66	< 3	1.71	-	0.123	< 5	56.7	< 1	-	< 0.5	36	6.07	49.4	-	< 0.001	< 0.002[a]
	QUR-1-00 00	2014 09 23	49 7	-	7 96	-	0 32	104	-	-	-	-	-	-	58 7	< 1	-	< 0 5	36	6 03	-	-	-	-
	QUR-1-08 00	2014 09 23	49 2	-	7 96	-	0 29	103	-	-	-	-	-	-	58 1	< 1	-	< 0 5	36	6 06	-	-	-	-
	QUR-1-16 00	2014 09 23	52.3	-	7.82	-	0.35	103	-	-	-	-	-	-	55.4	< 1	-	< 0.5	31	6.14	-	-	-	-
	QUR-1	2014 09 24	51 5	7 88	7 88	15 15	0 44	100	62	< 3	1 92	-	0 111	< 5	53 9	< 1	-	< 0 5	32	6 08	49 4	-	< 0 001	< 0 002[a]
	QUR-1-0 00	2014 09 24	51	-	7 93	-	0 34	100	-	-	-	-	-	-	55 9	< 1	-	< 0 5	31	6 1	-	-	-	-
	QUR-1-8 00	2014 09 24	52.5	-	7.96	-	0.33	101	-	-	-	-	-	-	55.1	< 1	-	< 0.5	31	6.08	-	-	-	-
	QUR-1-16 00	2014 09 24	52.2	-	7.04	-	0.29	100	-	-	-	-	-	-	53.6	< 1	-	< 0.5	31	6.04	-	< 0.05	-	-
	QUR-1	2014 09 25	52	7 89	7 08	15 14	0 43	101	70	< 3	1 79	-	0 118	< 5	53 3	< 1	-	< 0 5	33	6 06	51 5	-	< 0 001	< 0 002[a]
	QUR-1-0 00	2014 09 25	50.8	-	7.26	-	0.32	101	-	-	-	-	-	-	54.5	< 1	-	< 0.5	34	6.04	-	< 0.05	-	-
	QUR-1-8 00	2014 09 25	52.2	-	7.37	-	0.35	101	-	-	-	-	-	-	55.1	< 1	-	< 0.5	33	6.06	-	< 0.05	-	-
	QUR-1	2014 09 29	50 9	7 83	7 84	14 6	0 41	100	70	< 3	1 72	-	0 098	5 3	55 6	< 1	-	< 0 5	37	6 07	51 2	-	< 0 001	< 0 002[a]
	QUR-1-0 00	2014 09 29	51	-	7.77	-	0.44	99.9	-	< 3	-	-	-	-	55.7	< 1	-	< 0.5	34	6.06	-	-	-	-
	QUR-1-16 00	2014 09 28	51.6	-	7.68	-	0.61	101	-	< 3	-	-	-	-	55.4	< 1	-	< 0.5	35	6.09	-	-	-	-
	QUR-1-8 00	2014 09 29	51.3	-	7.81	-	0.55	99.3	-	< 3	-	-	-	-	57	< 1	-	< 0.5	34	6.07	-	-	-	-
	QUR-1-16 00	2014 09 29	50.1	-	7.71	-	0.48	100	-	< 3	-	-	-	-	55	< 1	-	< 0.5	30	6.08	-	-	-	-
	QUR-1	2014 09 30	52.4	7.83	7.84	14.67	0.41	99.2	64	< 3	2	-	0.136	5.1	55.7	< 1	55.7	< 0.5	32	6.1	48.5	-	< 0.001	< 0.002[a]
	QUR-1-0 00	2014 09 30	50.6	-	7.66	-	0.37	107	-	< 3	-	-	-	-	56.3	< 1	-	< 0.5	31	6.08	-	-	-	-
	QUR-1-8 00	2014 09 30	51.5	-	7.81	-	0.55	102	-	< 3	-	-	-	-	53.9	< 1	-	< 0.5	31	6.1	-	-	-	-
	QUR-1	2014 10 02	51 8	-	7 69	-	1 17	103	62	< 3	1 87	-	0 139	5 8	63 1	< 1	-	< 0 5	34	6 11	49 2	-	< 0 001	< 0 002[a]

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUR-1	QUR-1	2014 09 15	8.4	17.8	< 30	1.96	0.406	0.458	0.871	< 0.1	0.11	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.64	< 0.05	0.72	-	0.281	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUR-1-00 00	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08 00	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 16	9	17 8	< 30	1 99	0 263	0 458	0 827	< 0 1	0 11	5 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 59	< 0 05	0 75	-	0 258	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 14	< 1	< 3
	QUR-1-00 00	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08 00	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 17	14 5	17 7	< 30	1 99	0 348	0 463	0 84	< 0 1	0 12	5 04	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 57	< 0 05	0 74	-	0 272	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 137	< 1	< 3
	QUR-1-00 00	2014 09 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 18	9 2	17 4	< 30	1 96	0 238	0 454	0 83	< 0 1	< 0 1	5 02	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 54	< 0 05	0 85	-	0 275	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
	QUR-1-0 00	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 19	8.5	18.2	< 30	1.97	0.258	0.421	0.809	< 0.1	0.11	4.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.71	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUR-1-0 00	2014 09 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 20	7.4	17.5	< 30	1.94	0.237	0.444	0.817	< 0.1	< 0.1	4.79	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.82	-	0.244	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
	QUR-1X	2014 09 20	9 1	17 7	< 30	1 95	0 255	0 444	0 818	< 0 1	0 1	4 86	< 0 1	< 10	0 011	< 0 5	< 0 1	0 5	< 0 05	0 8	-	0 254	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUR-1-0 00	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 21	8.3	17.6	< 30	1.94	0.214	0.445	0.836	< 0.1	< 0.1	4.89	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.83	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
	QUR-1-0 00	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 22	8.9	17.7	< 30	1.93	0.278	0.443	0.822	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.82	-	0.251	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
	QUR-1-0 00	2014 09 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 23	9.2	17	< 30	1.81	0.29	0.435	0.821	< 0.1	0.11	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.8	-	0.252	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUR-1-00 00	2014 09 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-08 00	2014 09 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 24	8 6	17 5	< 30	1 92	0 237	0 443	0 8	< 0 1	< 0 1	4 93	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 74	-	0 235	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUR-1-0 00	2014 09 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 25	8 8	17 7	< 30	1 92	0 252	0 443	0 806	< 0 1	0 11	4 97	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 5	< 0 05	< 0 5	-	0 259	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUR-1-0 00	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 29	7 8	17 2	< 30	1 92	0 211	0 443	0 801	< 0 1	0 1	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 53	< 0 05	0 91	-	0 261	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 152	< 1	< 3
	QUR-1-0 00	2014 09 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-16 00	2014 09 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 09 30	9.4	17	< 30	1.86	0.085	0.466	0.845	< 0.1	0.1	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	< 0.5	-	0.284	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.16	< 1	< 3
	QUR-1-0 00	2014 09 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-8 00	2014 09 30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1	2014 10 02	7 7	17 6	< 30	1 89	0 384	0 473	0 909	< 0 1	0 13	5 04	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 87	< 0 05	0 57	-	0 315	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 158	< 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.

[a] Laboratory detection limit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2013.
[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 or chloride
[e] Health Canada Drinking Water Guidelines, 2012. 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 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 Guidelines																																	
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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 09 15	32	< 0.1	0.12	5.64	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	1.12	< 30	< 0.05	0.85	1,960	1.93	-	0.293	< 0.5	472	< 0.5	1,540	< 0.01	893	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUR-1-00 00	2014 09 15	39	< 0 1	0 14	5 95	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	1 43	32	< 0 05	0 85	1 980	2 36	-	0 326	< 0 5	496	< 0 5	1 630	< 0 01	922	< 0 01	< 0 1	< 10	0 141	< 1	< 3
	QUR-1-08 00	2014 09 15	35 5	< 0 1	0 13	5 67	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	1 26	33	< 0 05	0 86	1 900	2 2	-	0 313	< 0 5	471	< 0 5	1 570	< 0 01	886	< 0 01	< 0 1	< 10	0 147	< 1	< 3
	QUR-1-16 00	2014 09 15	32.3	< 0.1	0.13	5.35	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	1.14	44	< 0.05	0.87	1,910	1.89	-	0.304	< 0.5	459	< 0.5	1,480	< 0.01	826	< 0.01	< 0.1	< 10	0.14	< 1	3.2
	QUR-1	2014 09 16	30 6	< 0 1	0 13	5 35	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 8	< 30	< 0 05	0 81	1 970	1 44	-	0 292	< 0 5	452	< 0 5	1 490	< 0 01	823	< 0 01	< 0 1	< 10	0 14	< 1	< 3
	QUR-1-00 00	2014 09 16	24	< 0 1	0 12	5 18	< 0 1	< 0 5	< 10	< 0 01	16 400	< 0 5	< 0 1	0 98	< 30	< 0 05	0 76	1 900	1 85	-	0 278	< 0 5	440	< 0 5	1 430	< 0 01	795	< 0 01	< 0 1	< 10	0 133	< 1	< 3
	QUR-1-08 00	2014 09 16	29 7	< 0 1	0 13	5 28	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 88	< 30	< 0 05	0 84	1 940	1 67	-	0 293	< 0 5	452	< 0 5	1 490	< 0 01	813	< 0 01	< 0 1	< 10	0 141	< 1	< 3
	QUR-1-16 00	2014 09 16	27	< 0.1	0.13	5.07	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.88	< 30	< 0.05	0.82	1,870	1.79	-	0.316	< 0.5	446	< 0.5	1,430	< 0.01	819	< 0.01	0.12	< 10	0.14	< 1	< 3
	QUR-1	2014 09 17	22 5	< 0 1	0 13	4 99	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	0 85	< 30	< 0 05	0 77	1 890	1 2	-	0 278	< 0 5	454	< 0 5	1 400	< 0 01	813	< 0 01	< 0 1	< 10	0 137	< 1	< 3
	QUR-1-00 00	2014 09 17	32 8	< 0 1	0 13	5 11	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	0 9	33	< 0 05	0 78	1 900	2 06	-	0 27	< 0 5	434	< 0 5	1 450	< 0 01	798	< 0 01	< 0 1	< 10	0 136	< 1	< 3
	QUR-1-8 00	2014 09 17	29.3	0.12	0.12	5.2	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.85	< 30	< 0.05	0.88	1,960	1.67	-	0.282	< 0.5	455	< 0.5	1,500	< 0.01	826	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUR-1-16 00	2014 09 17	28.3	< 0.1	0.14	5.31	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	1.1	< 30	< 0.05	0.91	1,930	1.9	-	0.285	< 0.5	458	< 0.5	1,490	< 0.01	840	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1	2014 09 18	23 2	< 0 1	0 15	5 15	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	1 06	< 30	0 086	0 88	1 900	1 47	-	0 291	< 0 5	448	< 0 5	1 440	< 0 01	843	< 0 01	< 0 1	< 10	0 154	< 1	< 3
	QUR-1-0 00	2014 09 18	16.7	< 0.1	0.13	5.2	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.78	< 30	< 0.05	0.93	1,950	1.14	-	0.276	< 0.5	451	< 0.5	1,500	< 0.01	832	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1-8 00	2014 09 18	18.3	< 0.1	0.13	4.96	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.69	< 30	< 0.05	0.97	1,880	1.12	-	0.295	< 0.5	442	< 0.5	1,460	< 0.01	802	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUR-1-16 00	2014 09 18	24.9	< 0.1	0.12	5.24	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.85	< 30	< 0.05	0.74	2,000	1.55	-	0.285	< 0.5	455	< 0.5	1,560	< 0.01	875	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUR-1	2014 09 19	27	< 0.1	0.14	5.27	< 0.1	< 0.5	< 10	< 0.01	18,500	< 0.5	< 0.1	0.91	< 30	< 0.05	0.79	2,030	1.42	-	0.291	< 0.5	455	< 0.5	1,580	< 0.01	869	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUR-1-0 00	2014 09 19	26.6	< 0.1	0.14	5.41	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.82	< 30	< 0.05	0.81	1,990	1.7	-	0.281	< 0.5	463	< 0.5	1,560	< 0.01	852	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUR-1-8 00	2014 09 19	23.3	< 0.1	0.14	5.53	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.84	< 30	< 0.05	< 0.5	1,960	1.46	-	0.29	< 0.5	478	< 0.5	1,530	< 0.01	867	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1-16 00	2014 09 19	16	< 0.1	0.12	5.02	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.75	< 30	< 0.05	0.8	1,910	1.12	-	0.272	< 0.5	442	< 0.5	1,430	< 0.01	879	< 0.01	< 0.1	< 10	0.152	< 1	3.8
	QUR-1	2014 09 20	21.4	< 0.1	0.12	4.85	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	0.69	< 30	< 0.05	0.7	1,860	1.27	-	0.254	< 0.5	431	< 0.5	1,380	< 0.01	826	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUR-1X	2014 09 20	17 9	< 0 1	0 13	4 96	< 0 1	< 0 5	< 10	< 0 01	17 200	< 0 5	< 0 1	0 7	< 30	< 0 05	0 79	1 890	1 27	-	0 268	< 0 5	447	< 0 5	1 420	< 0 01	865	< 0 01	< 0 1	< 10	0 152	< 1	< 3
	QUR-1-0 00	2014 09 20	14.5	< 0.1	0.11	5	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.7	< 30	< 0.05	0.69	1,890	0.994	-	0.264	< 0.5	445	< 0.5	1,420	< 0.01	848	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUR-1-8 00	2014 09 20	16.1	< 0.1	0.11	4.86	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.67	< 30	< 0.05	0.63	1,890	1.02	-	0.261	< 0.5	442	< 0.5	1,420	< 0.01	846	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUR-1-16 00	2014 09 20	17.4	< 0.1	0.11	4.94	< 0.1	< 0.5	< 10	**0.019**	17,100	< 0.5	< 0.1	0.78	< 30	< 0.05	0.81	1,880	1	-	0.276	< 0.5	451	< 0.5	1,420	< 0.01	867	< 0.01	< 0.1	< 10	0.152	< 1	3.9
	QUR-1	2014 09 21	22.6	< 0.1	0.12	5.06	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.79	< 30	< 0.05	0.76	1,910	1.37	-	0.281	< 0.5	451	< 0.5	1,450	< 0.01	873	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUR-1-0 00	2014 09 21	21.2	< 0.1	0.12	5.04	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.67	< 30	< 0.05	0.88	1,880	1.06	-	0.279	< 0.5	456	< 0.5	1,430	< 0.01	856	< 0.01	0.1	< 10	0.161	< 1	< 3
	QUR-1-8 00	2014 09 21	17.7	< 0.1	0.13	4.97	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.75	< 30	< 0.05	0.74	1,880	1.06	-	0.266	< 0.5	454	< 0.5	1,440	< 0.01	868	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUR-1-16 00	2014 09 21	21	< 0 1	0 13	5 18	< 0 1	< 0 5	< 10	< 0 01	17 300	< 0 5	< 0 1	0 81	< 30	< 0 05	0 9	1 930	1 9	-	0 292	< 0 5	454	< 0 5	1 480	< 0 01	865	< 0 01	< 0 1	< 10	0 153	< 1	4 8
	QUR-1	2014 09 22	< 21	< 0.1	0.11	4.94	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.77	< 30	< 0.05	0.77	1,860	1.32	-	0.264	< 0.5	455	< 0.5	1,400	< 0.01	848	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUR-1-0 00	2014 09 22	15.8	< 0.1	0.12	5.17	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.7	< 30	< 0.05	0.79	1,980	1.07	-	0.28	< 0.5	473	< 0.5	1,500	< 0.01	880	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUR-1-8 00	2014 09 22	23 2	< 0 1	0 13	5 02	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 8	< 30	< 0 05	0 84	1 900	1 56	-	0 259	< 0 5	450	< 0 5	1 430	< 0 01	849	< 0 01	< 0 1	< 10	0 147	< 1	< 3
	QUR-1	2014 09 22	16 8	< 0 1	0 14	5 01	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	0 65	< 30	< 0 05	0 81	1 810	1 12	-	0 31	< 0 5	442	< 0 5	1 430	< 0 01	833	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUR-1	2014 09 23	23.2	< 0.1	0.14	5.53	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.88	< 30	< 0.05	0.69	1,830	1.44	-	0.241	0.54	494	< 0.5	1,430	< 0.01	903	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUR-1-00 00	2014 09 23	22	< 0 1	0 13	4 91	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 64	< 30	< 0 05	0 76	1 810	1 26	-	0 278	< 0 5	416	< 0 5	1 420	< 0 01	796	< 0 01	0 1	< 10	0 158	< 1	< 3
	QUR-1-08 00	2014 09 23	23 9	0 13	0 14	4 9	< 0 1	< 0 5	< 10	0 014	16 700	< 0 5	< 0 1	0 75	< 30	< 0 05	0 76	1 790	1 7	-	0 303	< 0 5	438	< 0 5	1 400	< 0 01	817	< 0 01	0 11	< 10	0 167	< 1	< 3
	QUR-1-16 00	2014 09 23	16.3	< 0.1	0.13	5.14	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.59	< 30	< 0.05	0.79	1,960	0.954	-	0.28	< 0.5	459	< 0.5	1,470	< 0.01	844	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUR-1	2014 09 24	21 4	< 0 1	0 13	5 17	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	0 67	< 30	< 0 05	0 75	1 940	1 32	-	0 251	< 0 5	460	< 0 5	1 450	< 0 01	829	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUR-1-0 00	2014 09 24	14 4	< 0 1	0 11	5 01	< 0 1	< 0 5	< 10	< 0 01	17 300	< 0 5	< 0 1	0 77	< 30	< 0 05	< 0 5	1 910	0 937	-	0 277	< 0 5	432	< 0 5	1 430	< 0 01	791	< 0 01	0 12	< 10	0 157	< 1	< 3
	QUR-1-8 00	2014 09 24	16.8	< 0.1	0.13	5.2	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.64	< 30	< 0.05	0.74	1,960	1.01	-	0.276	< 0.5	465	< 0.5	1,460	< 0.01	840	< 0.01	0.11	< 10	0.164	< 1	< 3
	QUR-1-16 00	2014 09 24	15.5	< 0.1	0.13	4.83	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.66	< 30	< 0.05	< 0.5	1,940	0.961	-	0.25	< 0.5	444	< 0.5	1,420	< 0.01	828	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QUR-1	2014 09 25	23 3	< 0 1	0 12	5	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 76	< 30	< 0 05	< 0 5	1 910	1 29	-	0 279	< 0 5	456	< 0 5	1 400	< 0 01	847	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUR-1-0 00	2014 09 25	18.4	< 0.1	0.11	4.95	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.79	< 30	< 0.05	< 0.5	1,870	1.19	-	0.255	< 0.5	450	< 0.5	1,390	< 0.01	834	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUR-1-8 00	2014 09 25	17.7	< 0.1	0.12	5	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.66	< 30	< 0.05	< 0.5	1,940	1.04	-	0.273	< 0.5	460	< 0.5	1,420	< 0.01	853	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUR-1	2014 09 29	23 1	< 0 1	0 12	4 76	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 79	< 30	< 0 05	0 69	1 900	1 3	-	0 274	< 0 5	441	< 0 5	1 390	< 0 01	790	< 0 01	< 0 1	< 10	0 153	< 1	< 3
	QUR-1-0 00	2014 09 29	17	< 0.1	0.12	4.79	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.72	< 30	< 0.05	0.72	1,900	0.962	-	0.27	< 0.5	438	< 0.5	1,400	< 0.01	806	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUR-1-16 00	2014 09 28	31.4	< 0.1	0.14	4.97	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.8	< 30	< 0.05	0.74	1,930	1.68	-	0.279	< 0.5	450	< 0.5	1,430	< 0.01	882	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QUR-1-8 00	2014 09 29	15.5	< 0.1	0.12	4.98	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.73	< 30	< 0.05	0.73	1,910	1.03	-	0.297	< 0.5	444	< 0.5	1,410	< 0.01	800	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUR-1-16 00	2014 09 29	17.8	< 0.1	0.12	5.07	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.71	< 30	< 0.05	0.73	1,980	1.07	-	0.274	< 0.5	464	< 0.5	1,460	< 0.01	858	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUR-1	2014 09 30	22	< 0.1	0.12	5.08	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	0.8	< 30	< 0.05	0.65	1,970	1.33	-	0.271	< 0.5	458	< 0.5	1,460	< 0.01	852	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUR-1-0 00	2014 09 30	16.6	< 0.1	0.11	4.93	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.69	< 30	< 0.05	0.56	1,900	0.96	-	0.265	< 0.5	449	< 0.5	1,420	< 0.01	838	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUR-1-8 00	2014 09 30	20.1	< 0.1	0.12	5.12	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.73	< 30	< 0.05	0.65	1,940	1.11	-	0.272	< 0.5	456	< 0.5	1,450	< 0.01	843	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QUR-1	2014 10 02	51 8	< 0 1	0 15	5 53	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	1 4	50	< 0 05	< 0 5	1 910	2 55	-	0 339	< 0 5	471	< 0 5	1 540	< 0 01	893	< 0 01	< 0 1	< 10	0 172	< 1	< 3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012.
[f] Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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-2	QUL-2-0M	2014 09 15	49.3	8.03	7.96	15.1	0.27	100	62	< 3	1.73	-	0.114	< 5	60.4	< 1	-	< 0.5	31	6.07	47.9	-	< 0.001	< 0.002[a]
	QUL-2X-0M	2014 09 15	50.6	8.03	7.86	15.1	0.24	99.7	64	< 3	1.77	-	0.114	< 5	59.6	< 1	-	< 0.5	32	6.07	46.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		3	0	1	0	12	0	3	*	*	-	*	*	1	*	-	*	*	0	3	-	*	*
	QUL-2-25M	2014 09 15	53.7	7.84	7.96	6.1	7.18	112	71	< 3	1.71	-	0.187	7.5	147	< 1	-	< 0.5	38	7.64	54.7	-	< 0.001	< 0.002[a]
	QUL-2-38M	2014 09 15	62 2	7 65	8 01	5 5	42 1	138	95	6	1 75	-	0 254	31 2	174	2 2	-	< 0 5	71	14 1	57 2	-	< 0 001	**0.0038**
	QUL-2-50M	2014 09 15	65	7.93	8.03	6.3	65.3	146	100	9.7	1.7	-	0.296	44	181	2.4	-	0.5	76	16.3	59.2	-	0.0022	**0.0038**
	QUL-2-0M	2014 09 17	51 5	7 97	8	14 9	0 26	102	69	< 3	1 93	-	0 115	< 5	57 7	< 1	-	< 0 5	35	5 98	48 8	-	< 0 001	< 0.002[a]
	QUL-2-16M	2014 09 17	52	7.82	7.96	11.5	1.88	103	67	< 3	1.99	-	0.139	< 5	80.9	< 1	-	< 0.5	36	6.1	48.8	-	< 0.001	< 0.002[a]
	QUL-2-47M	2014 09 17	63.7	7.76	8.03	6.2	51.2	145	101	9.1	1.92	-	0.28	42.5	179	1.9	-	< 0.5	73	15.7	58.8	-	0.0023	**0.0042**
	QUL-2-0M	2014 09 09	49 3	8 08	7 91	15 8	1 05	101	68	< 3	1 9	-	0 121	< 5	48	< 1	-	< 0 5	33	5 85	47 8	-	< 0 001	< 0.002[a]
	QUL-2-13M	2014 09 09	52.5	7.72	7.92	5.5	2.94	107	74	< 3	1.73	-	0.174	< 5	123	< 1	-	< 0.5	37	6.49	50.5	-	< 0.001	< 0.002[a]
	QUL-2-48M	2014 09 09	64 8	7 77	7 96	5 6	50 9	140	100	13 7	1 73	-	0 29	42	195	1 6	-	< 0 5	62	13 9	58	-	0 0014	**0.003**
	QUL-2-0M	2014 09 19	50 8	7 99	8 15	16	0 24	105	62	< 3	1 75	-	0 122	< 5	55 8	< 1	-	< 0 5	34	6 02	50 6	-	< 0 001	< 0.002[a]
	QUL-2-25M	2014 09 19	53.1	7.62	7.82	5.7	1.85	104	66	< 3	1.75	-	0.184	< 5	125	< 1	-	< 0.5	34	6.38	49.5	-	< 0.001	< 0.002[a]
	QUL-2-48M	2014 09 19	63	7 76	7 95	6 1	35 2	133	88	4 1	1 76	-	0 27	30 4	173	1 1	-	< 0 5	57	13	57 1	-	< 0 001	**0.0024**
	QUL-2-0M	2014 09 22	48.5	8.03	7.93	14.98	0.33	101	65	< 3	1.85	-	0.125	< 5	58.5	< 1	-	< 0.5	30	6.02	48.2	-	< 0.001	< 0.002[a]
	QUL-2X-0M	2014 09 22	48.3	8.03	7.94	14.98	0.41	102	65	< 3	1.84	-	0.125	< 5	57.5	< 1	-	< 0.5	35	6.02	48.1	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	*	< 1	0	*	*	-	*	*	2	*	-	*	*	0	< 1	-	*	*
	QUL-2-25M	2014 09 22	52.7	7.68	7.9	6.08	3.47	110	69	3.4	1.82	-	0.211	6.1	144	< 1	-	< 0.5	38	7.06	50.9	-	< 0.001	< 0.002[a]
	QUL-2X-25M	2014 09 22	52 1	7 68	7 9	6 08	4 18	111	71	< 3	1 62	-	0 207	5 8	146	< 1	-	< 0 5	38	7 17	51 9	-	< 0 001	< 0.002[a]
	QA/QC RPD %		1	0	0	0	19	< 1	3	*	*	-	*	*	1	*	-	*	*	2	2	-	*	*
	QUL-2-47M	2014 09 22	62.5	7.86	7.74	6.4	57.4	148	102	7.5	1.59	-	0.319	42.3	185	2.2	-	0.54	68	16.5	60.3	-	0.0014	**0.004**
QUL-2a	QUL-2A-0M	2014 09 25	52	7.56	6.94	15.05	0.25	101	68	6.2	1.96	-	0.132	< 5	55.4	< 1	-	< 0.5	32	6.06	54.5	-	< 0.001	< 0.002[a]
	QUL-2A-40M	2014 09 25	58.8	7.19	7.04	5.5	13.2	121	89	8	1.92	-	0.345	14.7	157	< 1	-	< 0.5	46	9.68	58	-	< 0.001	< 0.002[a]
	QUL-2A-60M	2014 09 25	66	7.72	7.12	6.21	41.7	143	106	13	2.08	-	0.288	38.6	179	1.5	-	< 0.5	67	15.4	62.5	-	0.0019	**0.0038**

All terms defined w thin 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 applicab e standard.
* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.
BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.
SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.
BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.
[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .
[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.
[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride
[e] Health Canada Drinking Water Guidelines, 2012.
Gu deline for Nitrate applied.
[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.
[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.
[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-2	QUL-2-0M	2014 09 15	8.5	16.7	< 30	1.82	0.201	0.425	0.75	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.243	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-2X-0M	2014 09 15	9.4	17.1	< 30	1.88	0.244	0.427	0.755	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.235	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QA/QC RPD %		*	2	*	3	19	0	1	*	*	2	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	0	*	*
	QUL-2-25M	2014 09 15	7	18.1	< 30	2.04	4.79	0.523	1.15	< 0.1	0.16	6.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.64	< 0.05	0.9	-	0.813	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.193	< 1	< 3
	QUL-2-38M	2014 09 15	11 2	21	< 30	2 35	29 3	0 855	2 65	0 18	0 5	12 5	< 0 1	< 10	< 0 01	< 0 5	< 0 1	4 78	< 0 05	1 04	-	4 18	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 439	< 1	< 3
	QUL-2-50M	2014 09 15	14.6	22.1	< 30	2.35	41.3	1.05	3.51	0.27	0.67	15.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.17	< 0.05	1.15	-	5.98	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.541	< 1	< 3
	QUL-2-0M	2014 09 17	8 8	17 6	< 30	1 85	0 135	0 462	0 8	< 0 1	< 0 1	4 65	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 76	-	0 234	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 149	< 1	< 3
	QUL-2-16M	2014 09 17	8	17.5	< 30	2.01	0.254	0.493	0.903	< 0.1	0.11	5.81	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.15	< 0.05	0.7	-	0.319	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-2-47M	2014 09 17	14.4	21.6	< 30	2.38	37.2	1.04	3.33	0.24	0.62	14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.58	< 0.05	1.06	-	5.11	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.523	< 1	< 3
	QUL-2-0M	2014 09 09	9 6	16 6	< 30	1 89	0 404	0 464	0 829	< 0 1	0 12	5 51	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 85	< 0 05	0 58	-	0 311	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 14	< 1	< 3
	QUL-2-13M	2014 09 09	7.9	17.7	< 30	1.99	1.79	0.485	0.955	< 0.1	0.14	5.75	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.07	< 0.05	0.53	-	0.461	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.16	< 1	< 3
	QUL-2-48M	2014 09 09	12 4	21 9	< 30	2 44	42 6	0 884	2 74	0 2	0 57	13 9	< 0 1	< 10	< 0 01	< 0 5	< 0 1	4 79	< 0 05	0 75	-	4 28	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 49	< 1	< 3
	QUL-2-0M	2014 09 19	8 3	17 3	< 30	1 85	0 197	0 423	0 753	< 0 1	< 0 1	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 72	-	0 234	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QUL-2-25M	2014 09 19	7.6	18	< 30	2	0.724	0.482	0.932	< 0.1	0.1	5.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.49	< 0.05	0.76	-	0.385	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.154	< 1	< 3
	QUL-2-48M	2014 09 19	11 5	21 4	< 30	2 33	30 1	0 875	2 74	0 19	0 49	12 5	< 0 1	< 10	< 0 01	< 0 5	< 0 1	4 77	< 0 05	0 95	-	4 02	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 459	< 1	< 3
	QUL-2-0M	2014 09 22	8.9	16.5	< 30	1.74	0.174	0.432	0.792	< 0.1	< 0.1	4.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.57	-	0.252	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-2X-0M	2014 09 22	9.1	16.5	< 30	1.74	0.15	0.428	0.792	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.61	-	0.258	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.152	< 1	< 3
	QA/QC RPD %		*	0	*	0	*	< 1	0	*	*	< 1	*	*	*	*	*	*	*	*	-	2	*	*	*	*	*	< 1	*	*
	QUL-2-25M	2014 09 22	7.2	17.9	< 30	1.94	5.01	0.516	1.2	< 0.1	0.17	6.85	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.21	< 0.05	0.69	-	0.91	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.204	< 1	< 3
	QUL-2X-25M	2014 09 22	8 9	17 7	< 30	1 93	5 16	0 532	1 2	< 0 1	0 17	7 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	2 4	< 0 05	0 7	-	0 887	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 205	< 1	< 3
	QA/QC RPD %		*	1	*	< 1	3	3	0	*	*	4	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	< 1	*	*
	QUL-2-47M	2014 09 22	17.9	21.3	< 30	2.27	45.1	1.06	3.69	0.3	0.72	15.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.44	< 0.05	0.92	-	6.37	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.635	< 1	< 3
QUL-2a	QUL-2A-0M	2014 09 25	7.9	17.6	< 30	1.97	0.136	0.435	0.754	< 0.1	< 0.1	4.67	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.54	-	0.213	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-2A-40M	2014 09 25	9.9	19.9	< 30	2.21	13	0.653	1.69	< 0.1	0.29	8.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.3	< 0.05	0.84	-	1.97	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.285	< 1	4.6
	QUL-2A-60M	2014 09 25	14.3	22.4	< 30	2.43	36.3	1.03	3.28	0.25	0.61	13.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.24	< 0.05	1.06	-	5.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.535	< 1	< 3

All terms defined within the body of SNC-Lava in's report (ava lable upon request).
< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no app icable 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) guide ine.

BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012.
Guideline for Nitrate app ied.
[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 applicab e to single sample resu ts at this point in time.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			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-2	QUL-2-0M	2014 09 15	13.6	< 0.1	< 0.1	4.74	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.85	1,770	0.619	-	0.271	< 0.5	426	< 0.5	1,330	< 0.01	773	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-2X-0M	2014 09 15	14.9	< 0.1	< 0.1	4.76	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.54	< 30	< 0.05	0.88	1,860	0.607	-	0.264	< 0.5	441	< 0.5	1,410	< 0.01	788	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QA/QC RPD %		9	*	*	0	*	*	*	*	2	*	*	*	*	*	*	5	*	-	3	*	3	*	6	*	2	*	*	*	1	*	*
	QUL-2-25M	2014 09 15	***334***	< 0.1	0.24	13.6	< 0.1	< 0.5	< 10	< 0.01	18,400	< 0.5	0.13	**7.34**	191	0.128	1.01	2,170	12	-	0.862	0.54	679	< 0.5	2,560	< 0.01	1,210	< 0.01	< 0.1	14	0.205	< 1	< 3
	QUL-2-38M	2014 09 15	***2,560***	0 24	1 15	73 4	< 0 1	< 0 5	< 10	0 016	21 100	**1.09**	0 81	**46.5**	***1,150***	0 775	2 01	2 870	***66 6***	-	4 61	1 17	2 150	< 0 5	8 360	0 017	3 240	< 0 01	< 0 1	95	0 51	4 3	4 6
	QUL-2-50M	2014 09 15	***3,430***	0.3	1.54	95.7	0.11	< 0.5	11	0.017	22,400	**1.37**	1.04	**65.5**	***1,460***	0.998	2.21	2,960	***91.2***	-	5.73	1.43	2,820	< 0.5	10,000	0.022	4,230	0.011	0.11	112	0.617	5.9	5.8
	QUL-2-0M	2014 09 17	16 4	< 0 1	< 0 1	4 82	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 73	< 30	< 0 05	0 79	1 780	0 677	-	0 233	< 0 5	459	< 0 5	1 370	< 0 01	808	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-2-16M	2014 09 17	83.9	< 0.1	0.15	6.72	< 0.1	< 0.5	< 10	< 0.01	16,800	< 0.5	< 0.1	**2.82**	86	0.056	0.85	1,950	3.9	-	0.348	< 0.5	517	< 0.5	1,700	< 0.01	938	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-2-47M	2014 09 17	***2,990***	0.28	1.35	85.6	< 0.1	< 0.5	11	0.017	22,300	**1.23**	0.9	**57**	***1,310***	1	2.25	3,060	***81***	-	5.64	1.32	2,560	< 0.5	9,260	0.02	4,010	0.012	< 0.1	104	0.631	5	5.5
	QUL-2-0M	2014 09 09	41 1	< 0 1	0 12	5 62	< 0 1	< 0 5	< 10	< 0 01	15 900	< 0 5	< 0 1	1 4	38	< 0 05	< 0 5	1 830	2 05	< 0 01	0 319	< 0 5	463	< 0 5	1 480	< 0 01	819	< 0 01	< 0 1	< 10	0 144	< 1	< 3
	QUL-2-13M	2014 09 09	***157***	< 0 1	0.19	8.81	< 0 1	< 0 5	< 10	< 0 01	17,500	< 0 5	< 0 1	**4.18**	94	0.079	0.51	2,010	7.72	< 0 01	0.585	< 0 5	546	< 0 5	1,920	< 0 01	1,020	< 0 01	< 0 1	< 10	0.187	< 1	< 3
	QUL-2-48M	2014 09 09	***2,510***	0 24	1 2	68	< 0 1	< 0 5	11	0 014	21 400	**1.18**	0 84	**47.6**	***1,240***	0 846	1 49	2 880	***87.8***	< 0 01	4 34	1 24	2 040	< 0 5	7 530	0 02	3 100	< 0 01	< 0 1	92	0 552	4 5	4 9
	QUL-2-0M	2014 09 19	< 18	< 0 1	< 0 1	4 74	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 52	< 30	< 0 05	0 72	1 850	0 602	-	0 268	< 0 5	429	< 0 5	1 370	< 0 01	788	< 0 01	< 0 1	< 10	0 15	< 1	< 3
	QUL-2-25M	2014 09 19	97.5	< 0.1	0.15	7.19	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	**2.84**	65	< 0.05	0.77	2,000	4.22	-	0.438	< 0.5	512	< 0.5	1,790	< 0.01	987	< 0.01	< 0.1	< 10	0.173	< 1	< 3
	QUL-2-48M	2014 09 19	***2,030***	0 21	0 98	57 8	< 0 1	< 0 5	< 10	0 011	20 300	0 83	0 65	**40.1**	***926***	0 676	1 72	2 590	***61.4***	-	4 15	0 97	1 740	< 0 5	6 380	0 013	3 020	< 0 01	< 0 1	72	0 487	3 6	3 8
	QUL-2-0M	2014 09 22	14.9	< 0.1	0.11	4.89	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.55	< 30	< 0.05	0.69	1,790	0.808	-	0.294	< 0.5	443	< 0.5	1,390	< 0.01	835	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-2X-0M	2014 09 22	16.7	< 0.1	0.11	5.05	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.72	< 30	< 0.05	0.69	1,810	0.908	-	0.307	< 0.5	444	< 0.5	1,410	< 0.01	834	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QA/QC RPD %		*	*	*	3	*	*	*	*	< 1	*	*	*	*	*	*	1	*	-	4	*	< 1	*	1	*	< 1	*	*	*	0	*	*
	QUL-2-25M	2014 09 22	***288***	< 0.1	0.23	12.6	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	0.11	**6.7**	162	0.126	0.87	1,950	11.5	-	0.924	< 0.5	628	< 0.5	2,250	< 0.01	1,240	< 0.01	< 0.1	13	0.22	< 1	< 3
	QUL-2X-25M	2014 09 22	***307***	< 0 1	0 26	13 2	< 0 1	< 0 5	< 10	< 0 01	17 700	< 0 5	0 11	**6.76**	174	0 125	0 88	1 990	11 6	-	0 935	< 0 5	641	< 0 5	2 300	< 0 01	1 250	< 0 01	< 0 1	13	0 225	< 1	< 3
	QA/QC RPD %		6	*	*	5	*	*	*	*	2	*	*	*	7	*	*	2	*	-	1	*	2	*	2	*	< 1	*	*	*	2	*	*
	QUL-2-47M	2014 09 22	***3,000***	0.32	1.5	87.6	< 0.1	< 0.5	< 10	0.016	22,100	**1.28**	0.95	**59.7**	***1,450***	1.08	2.09	2,880	***90.1***	-	6.56	1.23	2,410	< 0.5	8,260	0.019	4,180	0.011	< 0.1	106	0.713	5.3	5.1
QUL-2a	QUL-2A-0M	2014 09 25	18	< 0.1	< 0.1	4.88	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.57	< 30	< 0.05	< 0.5	1,880	0.934	-	0.24	< 0.5	433	< 0.5	1,400	< 0.01	773	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-2A-40M	2014 09 25	***1,250***	0.14	0.59	35.8	< 0.1	< 0.5	< 10	< 0.01	20,600	0.61	0.38	**21.1**	***551***	0.369	1.06	2,480	33.5	-	2.3	0.73	1,310	< 0.5	4,880	< 0.01	2,070	< 0.01	< 0.1	44	0.34	2.1	< 3
	QUL-2A-60M	2014 09 25	***3,150***	0.32	1.39	88.2	< 0.1	< 0.5	11	0.017	23,000	**1.28**	0.93	**58.3**	***1,350***	0.994	1.87	3,060	***82.8***	-	5.76	1.32	2,620	< 0.5	9,030	0.021	4,000	0.017	< 0.1	112	0.66	5.2	5.3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.

BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[j]	Change of 1	n/a	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	6 5-8 5	n/a[j]	n/a[j]	n/a	500	n/a	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-18	QUL-18	2014 09 15	50	8	7.95	10.2	0.47	101	64	20.6	1.77	-	0.128	< 5	66.6	< 1	-	< 0.5	33	6.06	48.8	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 16	51.8	8.01	7.96	15.5	0.3	101	65	< 3	1.75	-	0.135	< 5	60	< 1	-	< 0.5	34	6.04	48.3	-	< 0.001	< 0.002[a]
	QUL-18-0M	2014 09 17	50.3	8.1	7.84	14.9	0.27	100	64	< 3	1.71	-	0.112	< 5	58.1	< 1	-	< 0.5	35	5.99	47.3	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 18	51 6	7 91	8	15 4	0 24	99 5	67	< 3	1 77	-	0 118	< 5	56 8	< 1	-	< 0 5	32	6 04	47 9	-	< 0 001	< 0.002[a]
	QUL-18	2014 09 19	51.1	8.01	7.94	15.9	0.29	99	59	< 3	1.58	-	0.123	< 5	57.8	< 1	-	< 0.5	34	6.03	48	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 20	48.5	8.09	7.95	15.2	0.44	101	62	< 3	1.59	-	0.123	< 5	55.8	< 1	-	< 0.5	33	6.04	48.3	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 22	47.8	8.03	7.79	15.23	0.51	101	62	< 3	1.49	-	0.131	< 5	55.2	< 1	-	< 0.5	33	6.02	46.9	-	< 0.001	< 0.002[a]
	QUL-18	2014 09 23	51 5	7 55	7 95	15 04	0 45	101	62	< 3	1 94	-	0 131	< 5	54 6	< 1	-	< 0 5	32	6 05	50 1	-	< 0 001	< 0.002[a]
	QUL-18-0M	2014 09 25	51.7	8.08	7.05	15	0.66	101	68	< 3	2.03	-	0.135	< 5	55.9	< 1	-	< 0.5	32	6.09	53.5	-	< 0.001	< 0.002[a]
	QUL-18-40M	2014 09 25	63.7	7.7	7.1	6.35	30.5	140	106	10.7	2.41	-	0.273	31.5	178	1.2	-	< 0.5	63	14.4	61.6	-	< 0.001	**0.0029**
	QUL-18-100M	2014 09 25	71.8	7.88	7.16	6.66	55.8	162	127	27.6	2.42	-	0.37	59.7	202	4.5	-	0.65	83	20	71.2	-	0.0031	**0.0048**
QUL-20	QUL-20	2014 09 16	51.2	7.98	7.96	14.5	0.37	101	56	< 3	1.72	-	0.124	< 5	62.6	< 1	-	< 0.5	34	6	47.8	-	< 0.001	< 0.002[a]
	QUL-20-0M	2014 09 17	50 9	8 05	7 92	14 4	0 36	101	68	< 3	1 81	-	0 133	< 5	60 6	< 1	-	< 0 5	35	5 98	48 3	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 18	52	7 93	7 99	14 4	0 43	101	64	< 3	1 84	-	0 126	< 5	59 6	< 1	-	< 0 5	32	6 03	47 7	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 19	51.2	7.98	7.93	14.6	0.5	100	60	< 3	1.59	-	0.126	< 5	60.1	< 1	-	< 0.5	34	6.01	47	-	< 0.001	< 0.002[a]
	QUL-20	2014 09 20	48.5	8.11	7.96	15	0.44	102	63	< 3	1.57	-	0.124	< 5	57.2	< 1	-	< 0.5	35	6.03	48	-	< 0.001	< 0.002[a]
	QUL-20	2014 09 22	49	8 02	7 89	15 13	0 29	101	61	< 3	1 67	-	0 139	< 5	54 9	< 1	-	< 0 5	33	5 98	47 8	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 23	51 3	8	7 94	15 2	0 43	101	68	< 3	1 94	-	0 123	< 5	55 3	< 1	-	< 0 5	31	6 05	55 7	-	< 0 001	< 0.002[a]
	QUL-20	2014 09 26	51.4	8	7.69	14.99	0.46	99.5	67	< 3	1.9	-	0.098	< 5	54.2	< 1	-	< 0.5	34	6.06	49.2	-	< 0.001	< 0.002[a]
	QUL-20	2014 09 29	50.9	8.06	7.74	14.65	0.57	100	61	< 3	1.6	-	0.124	< 5	53.2	< 1	-	< 0.5	32	6.08	50.6	-	< 0.001	< 0.002[a]
QUL-21	QUL-21-0M	2014 09 16	51 5	7 98	7 97	15 6	0 43	102	55	< 3	1 77	-	0 119	< 5	61 7	< 1	-	< 0 5	33	6 05	48 6	-	< 0 001	< 0.002[a]
	QUL-21-30M	2014 09 16	56.5	7.58	7.96	5.5	8.18	114	68	< 3	1.79	-	0.277	7.1	156	< 1	-	< 0.5	42	7.98	52.7	-	< 0.001	**0.0027**
	QUL-21-46M	2014 09 16	68 2	7 84	8 04	6 3	48 3	148	98	9 7	2 05	-	0 308	44 1	202	2	-	0 53	68	16 3	61	-	0 0015	**0.0034**
	QUL-21-0M	2014 09 18	51.4	7.93	8	15.1	0.24	99.7	68	< 3	1.75	-	0.117	< 5	57.7	< 1	-	< 0.5	32	6.05	45.4	-	< 0.001	< 0.002[a]
	QUL-21-18M	2014 09 18	52.7	7.53	7.96	8.7	1.01	103	73	< 3	1.94	-	0.156	< 5	102	< 1	-	< 0.5	34	6.15	47.8	-	< 0.001	< 0.002[a]
	QUL-21-46M	2014 09 18	64 9	7 7	7 94	6 3	43 9	102	105	5 8	1 93	-	0 284	37 3	167	1 8	-	< 0 5	60	13 6	48 9	-	0 0015	**0.0021**
	QUL-21-0M	2014 09 20	48.8	8.09	7.96	15.9	0.37	100	65	< 3	1.69	-	0.129	< 5	56.2	< 1	-	< 0.5	33	6.03	47.4	-	< 0.001	< 0.002[a]
	QUL-21-30M	2014 09 20	52.5	7.62	7.91	5.3	5.08	110	69	< 3	1.65	-	0.215	< 5	152	< 1	-	< 0.5	39	7.13	51.3	-	< 0.001	< 0.002[a]
	QUL-21-45M	2014 09 20	66.7	7.84	7.99	6.4	61.8	148	102	7.9	1.72	-	0.332	46.8	197	2	-	0.53	68	16.3	59.3	-	0.0022	**0.0025**
	QUL-21-0M	2014 09 23	51.4	7.81	7.95	15.33	0.48	101	65	< 3	1.9	-	0.114	< 5	52.5	< 1	-	< 0.5	31	6.04	48.9	-	< 0.001	< 0.002[a]
	QUL-21X-0M	2014 09 23	50 7	7 81	7 94	15 33	0 4	101	62	< 3	1 97	-	0 117	< 5	52 7	< 1	-	< 0 5	31	6 05	49 7	-	0 0015	< 0.002[a]
	QA/QC RPD %		1	0	< 1	0	*	0	5	*	*	-	*	*	< 1	*	-	*	*	< 1	2	-	*	*
	QUL-21-20M	2014 09 23	51.8	7.64	7.91	8.9	0.79	104	67	< 3	2.08	-	0.167	5.2	102	< 1	-	< 0.5	34	6.18	50.7	-	0.0017	< 0.002[a]
	QUL-21-47M	2014 09 23	66.7	7.54	8	6.37	54.7	147	103	8.2	1.96	-	0.31	44.8	188	2.1	-	0.52	68	16.1	61.7	-	0.0025	**0.004**
	QUL-21-0M	2014 09 29	51.5	8.16	7.74	14.67	0.43	101	63	< 3	1.5	-	0.128	< 5	53.9	< 1	-	< 0.5	32	6.09	50.8	-	< 0.001	< 0.002[a]
	QUL-21-40M	2014 09 29	63.7	7.65	7.76	6.2	38.3	133	94	5	1.71	-	0.285	35.6	179	1.5	-	< 0.5	62	14.4	59.7	-	< 0.001	**0.0021**
	QUL-21X-40M	2014 09 29	62 6	7 65	7 76	6 2	35 7	134	94	6 6	1 6	-	0 284	35 6	179	1 5	-	< 0 5	61	14 3	59 7	-	< 0 001	**0.0021**
	QA/QC RPD %		2	0	0	0	7	< 1	0	*	*	-	< 1	0	0	*	-	*	*	< 1	0	-	*	*
	QUL-21-45M	2014 09 29	64.4	7.77	7.77	6.38	41.1	141	96	3.6	1.68	-	0.315	39.2	184	2.2	-	< 0.5	65	15.3	61.5	-	< 0.001	**0.0021**
QUL-21a	QUL-21A-0M	2014 09 25	51.9	8.03	7.06	15	0.63	101	64	6.8	2.01	-	0.136	< 5	54.6	< 1	-	< 0.5	32	6.08	51.3	-	< 0.001	< 0.002[a]
	QUL-21A-40M	2014 09 25	64 6	7 68	7 12	6 33	32 8	141	101	12 6	2 44	-	0 311	37 1	177	1 2	-	< 0 5	66	15	62 4	-	0 0012	**0.0024**
	QUL-21AX-40M	2014 09 25	64.9	7.68	7.13	6.33	33.7	142	102	10.7	2.34	-	0.298	37.5	179	1.3	-	< 0.5	67	15.4	64.1	-	0.0012	**0.0024**
	QA/QC RPD %		< 1	0	< 1	0	3	< 1	< 1	*	*	-	4	1	1	*	-	*	*	3	3	-	*	*
	QUL-21A-65M	2014 09 25	69 1	7 89	7 13	6 6	46 3	153	108	8 4	2 39	-	0 325	49 5	195	2 7	-	0 56	74	17 7	64 6	-	0 0028	**0.0038**
	QUL-21A-0M	2014 09 27	51.4	8.05	7.67	15.33	0.68	101	65	< 3	1.92	-	0.094	< 5	55.3	< 1	-	< 0.5	34	6.09	49.9	-	< 0.001	< 0.002[a]
	QUL-21A-40M	2014 09 27	67 6	7 75	7 75	6 46	53 4	145	101	6 8	2 05	-	0 274	43 3	185	1 4	-	0 51	68	16	60 8	-	0 0012	**0.0022**
	QUL-21A-60M	2014 09 27	69.7	7.8	7.77	6.56	66.6	154	99	8.5	2.05	-	0.289	55.9	201	2.8	-	0.59	82	17.9	62.9	-	0.0029	**0.0038**
	QUL-21AX-60M	2014 09 27	69 5	7 8	7 79	6 56	65 9	158	105	5 5	1 95	-	0 283	55 6	202	2 9	-	0 58	73	17 8	62 9	-	0 0023	**0.0037**
	QA/QC RPD %		< 1	0	< 1	0	1	3	6	*	*	-	2	< 1	< 1	*	-	*	*	< 1	0	-	*	*

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[f] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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)[b,c,h]			50-1000[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)[b,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)[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	n/a	n/a	n/a
QUL-18	QUL-18	2014 09 15	8.5	16.9	< 30	1.91	0.467	0.463	0.816	< 0.1	0.11	5.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	0.82	-	0.297	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-18	2014 09 16	9.3	17.6	< 30	1.92	0.257	0.436	0.758	< 0.1	< 0.1	4.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.232	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-18-0M	2014 09 17	9.2	17.2	< 30	1.81	0.147	0.458	0.82	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.231	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-18	2014 09 18	8 9	17 5	< 30	1 91	0 19	0 427	0 775	< 0 1	< 0 1	4 6	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 76	-	0 22	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 145	< 1	< 3
	QUL-18	2014 09 19	10.3	17.4	< 30	1.88	0.216	0.438	0.779	< 0.1	< 0.1	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.233	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-18	2014 09 20	9.4	16.5	< 30	1.76	0.184	0.427	0.757	< 0.1	< 0.1	4.9	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.239	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-18	2014 09 22	9	16.3	< 30	1.73	0.294	0.431	0.783	< 0.1	< 0.1	4.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.62	-	0.25	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.153	< 1	< 3
	QUL-18	2014 09 23	8 6	17 5	< 30	1 89	0 192	0 451	0 789	< 0 1	< 0 1	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 52	< 0 05	1 05	-	0 243	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
	QUL-18-0M	2014 09 25	8.3	17.6	< 30	1.9	0.357	0.439	0.773	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	0.76	-	0.257	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.138	< 1	< 3
	QUL-18-40M	2014 09 25	12.8	21.6	< 30	2.37	31.8	0.864	2.7	0.19	0.51	12.7	< 0.1	< 10	< 0.01	< 0.5	< 0.1	4.82	< 0.05	0.97	-	4.21	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.464	< 1	< 3
	QUL-18-100M	2014 09 25	21	24.4	< 30	2.63	62.2	1.21	4.19	0.34	0.87	17.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.88	< 0.05	1.15	-	7.5	< 0.5	0.54	< 0.01	< 0.01	< 10	0.726	1.1	< 3
QUL-20	QUL-20	2014 09 16	8.7	17.3	< 30	1.93	0.185	0.439	0.796	< 0.1	< 0.1	4.97	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.82	-	0.276	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-20-0M	2014 09 17	8	17 2	< 30	1 92	0 158	0 455	0 816	< 0 1	< 0 1	4 93	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 5	< 0 05	0 69	-	0 258	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 145	< 1	< 3
	QUL-20	2014 09 18	8 1	17 6	< 30	1 95	0 157	0 44	0 805	< 0 1	< 0 1	4 8	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 54	< 0 05	0 72	-	0 256	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-20	2014 09 19	8.6	17.4	< 30	1.91	0.174	0.434	0.798	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.243	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QUL-20	2014 09 20	8.6	16.5	< 30	1.77	0.237	0.436	0.767	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.78	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-20	2014 09 22	8	16 7	< 30	1 78	0 192	0 429	0 805	< 0 1	< 0 1	4 97	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 5	-	0 228	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 136	< 1	< 3
	QUL-20	2014 09 23	8 6	17 4	< 30	1 9	0 264	0 451	0 844	< 0 1	< 0 1	4 91	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 58	< 0 05	0 76	-	0 239	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 149	< 1	< 3
	QUL-20	2014 09 26	9.5	17.5	< 30	1.9	0.189	0.443	0.794	< 0.1	< 0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.235	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.137	< 1	< 3
	QUL-20	2014 09 29	8.2	17.3	< 30	1.89	0.137	0.448	0.811	< 0.1	0.12	5.02	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.83	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
QUL-21	QUL-21-0M	2014 09 16	10	17 5	< 30	1 92	0 254	0 436	0 776	< 0 1	< 0 1	4 72	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 7	-	0 243	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-21-30M	2014 09 16	7.3	19.1	< 30	2.16	9.52	0.555	1.29	< 0.1	0.19	7.28	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.36	< 0.05	0.92	-	1.07	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.206	< 1	< 3
	QUL-21-46M	2014 09 16	14 3	23 1	< 30	2 54	53 5	1 02	3 34	0 24	0 67	16	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 93	< 0 05	1 1	-	5 56	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 579	< 1	< 3
	QUL-21-0M	2014 09 18	9.4	17.5	< 30	1.9	0.326	0.436	0.791	< 0.1	0.1	4.66	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.7	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.152	< 1	< 3
	QUL-21-18M	2014 09 18	7	17.8	< 30	2	0.148	0.462	0.875	< 0.1	0.11	5.66	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.82	< 0.05	0.75	-	0.331	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-21-46M	2014 09 18	13 4	22	< 30	2 42	41 7	0 92	2 98	0 21	0 56	13 7	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 47	< 0 05	1 05	-	4 5	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 495	< 1	< 3
	QUL-21-0M	2014 09 20	8.5	16.6	< 30	1.77	0.174	0.423	0.751	< 0.1	0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.78	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
	QUL-21-30M	2014 09 20	6.7	17.8	< 30	1.96	5.73	0.509	1.08	< 0.1	0.16	6.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.79	< 0.05	0.81	-	0.66	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.195	< 1	< 3
	QUL-21-45M	2014 09 20	14.7	22.6	< 30	2.5	51	1.03	3.52	0.26	0.69	16.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.07	< 0.05	1.01	-	5.53	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.606	< 1	< 3
	QUL-21-0M	2014 09 23	8.6	17.4	< 30	1.93	0.169	0.457	0.799	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	1.02	-	0.246	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-21X-0M	2014 09 23	8 6	17 2	< 30	1 89	0 213	0 456	0 795	< 0 1	< 0 1	4 82	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 5	< 0 05	1 03	-	0 242	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QA/QC RPD %		*	1	*	2	*	< 1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
	QUL-21-20M	2014 09 23	7.6	17.5	< 30	1.98	0.205	0.484	0.888	< 0.1	0.11	5.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.52	< 0.05	0.98	-	0.338	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.156	< 1	< 3
	QUL-21-47M	2014 09 23	16.4	22.6	< 30	2.5	45.4	1.05	3.44	0.29	0.68	14.9	< 0.1	< 10	0.011	< 0.5	< 0.1	6.76	< 0.05	1.34	-	5.8	< 0.5	0.55	< 0.01	< 0.01	< 10	0.6	< 1	< 3
	QUL-21-0M	2014 09 29	8.3	17.5	< 30	1.91	0.093	0.418	0.766	< 0.1	< 0.1	4.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.86	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-21-40M	2014 09 29	12.3	21.6	< 30	2.39	31.4	0.913	2.9	0.19	0.54	13.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.4	< 0.05	1.19	-	4.42	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.488	< 1	< 3
	QUL-21X-40M	2014 09 29	12 6	21 2	< 30	2 35	30 9	0 89	2 82	0 18	0 55	12 8	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 25	< 0 05	1 14	-	4 16	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 477	< 1	< 3
	QA/QC RPD %		*	2	*	2	2	3	3	*	2	4	*	*	*	*	*	3	*	*	-	6	*	*	*	*	*	2	*	*
	QUL-21-45M	2014 09 29	14.1	21.8	< 30	2.41	37.1	0.978	3.21	0.22	0.63	14.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.95	< 0.05	1.14	-	4.99	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.53	< 1	< 3
QUL-21a	QUL-21A-0M	2014 09 25	8.3	17.6	< 30	1.93	0.221	0.43	0.766	< 0.1	< 0.1	4.79	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.76	-	0.253	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-21A-40M	2014 09 25	13 9	21 9	< 30	2 4	36 2	0 919	3 02	0 23	0 56	13 7	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 38	< 0 05	1	-	4 73	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 506	< 1	< 3
	QUL-21AX-40M	2014 09 25	13	22	< 30	2.41	34.8	0.902	2.95	0.22	0.55	13.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.31	< 0.05	1.1	-	4.66	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.499	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	4	2	2	*	2	3	*	*	*	*	*	1	*	*	-	2	*	*	*	*	*	1	*	*
	QUL-21A-65M	2014 09 25	21 1	23 5	< 30	2 56	52 2	1 04	3 53	0 29	0 73	15 7	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 97	< 0 05	1 05	-	6 01	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 625	< 1	< 3
	QUL-21A-0M	2014 09 27	8.9	17.5	< 30	1.9	0.204	0.449	0.796	< 0.1	< 0.1	5.18	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	1	-	0.275	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.163	< 1	< 3
	QUL-21A-40M	2014 09 27	17 3	23	< 30	2 5	42 9	1 06	3 6	0 29	0 71	16 1	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 1	< 0 05	1 28	-	6 26	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 629	< 1	< 3
	QUL-21A-60M	2014 09 27	16.9	23.6	< 30	2.58	57.4	1.17	3.97	0.31	0.8	17.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.47	< 0.05	1.31	-	6.97	< 0.5	0.5	< 0.01	< 0.01	< 10	0.721	1	< 3
	QUL-21AX-60M	2014 09 27	17 3	23 5	< 30	2 59	56 5	1 15	3 92	0 31	0 77	17 3	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 55	< 0 05	1 25	-	6 89	< 0 5	0 54	< 0 01	< 0 01	< 10	0 714	1	< 3
	QA/QC RPD %		2	< 1	*	< 1	2	2	1	*	4	< 1	*	*	*	*	*	1	*	*	-	1	*	*	*	*	*	< 1	*	*

All terms defined within the body of SNC-Lava in's report (ava lable upon request).

< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no app icable 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) guide ine.

BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.

[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .

[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de

[e] Health Canada Drinking Water Gu delines, 2012.

Guideline for Nitrate app ied.

[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 applicab e to single sample resu ts at this point in time.

[h] Ca culated based on an individual sample bas s, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																	
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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	QUL-18	2014 09 15	26.5	< 0.1	0.12	5.5	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.98	< 30	< 0.05	0.87	1,940	1.25	-	0.316	< 0.5	477	< 0.5	1,520	< 0.01	857	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-18	2014 09 16	16	< 0.1	< 0.1	4.75	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.55	< 30	< 0.05	0.8	1,900	0.705	-	0.262	< 0.5	443	< 0.5	1,400	< 0.01	766	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-18-0M	2014 09 17	17.3	< 0.1	< 0.1	4.9	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.55	< 30	< 0.05	0.7	1,830	0.75	-	0.289	< 0.5	481	< 0.5	1,420	< 0.01	858	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QUL-18	2014 09 18	14	< 0 1	< 0 1	4 73	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 77	< 30	< 0 05	0 72	1 900	0 691	-	0 246	< 0 5	433	< 0 5	1 400	< 0 01	783	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-18	2014 09 19	< 15	< 0 1	< 0 1	4 92	< 0 1	< 0 5	< 10	< 0 01	17,200	< 0 5	< 0 1	0 57	< 30	< 0 05	0 7	1,880	0 683	-	0 264	< 0 5	458	< 0 5	1,410	< 0 01	850	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QUL-18	2014 09 20	16.8	< 0 1	< 0 1	4.86	< 0 1	< 0 5	< 10	< 0 01	16,300	< 0 5	< 0 1	0.61	< 30	< 0 05	0.69	1,750	0.811	-	0.298	< 0 5	436	< 0 5	1,360	< 0 01	773	< 0 01	< 0 1	< 10	0.155	< 1	< 3
	QUL-18	2014 09 22	24.8	< 0 1	0.11	5.08	< 0 1	< 0 5	< 10	< 0 01	16,600	< 0 5	< 0 1	0.8	< 30	< 0 05	0.75	1,770	1.19	-	0.261	< 0 5	430	< 0 5	1,390	< 0 01	806	< 0 01	< 0 1	< 10	0.158	< 1	< 3
	QUL-18	2014 09 23	22 1	< 0 1	0 13	5 06	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	0 84	< 30	< 0 05	1 07	1 970	1 16	-	0 313	< 0 5	516	< 0 5	1 470	< 0 01	869	< 0 01	< 0 1	< 10	0 162	< 1	< 3
	QUL-18-0M	2014 09 25	66.1	< 0.1	0.11	5.53	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	1.44	68	< 0.05	< 0.5	1,940	2.36	-	0.334	< 0.5	472	< 0.5	1,520	< 0.01	834	< 0.01	< 0.1	< 10	0.166	< 1	< 3
	QUL-18-40M	2014 09 25	***2,110***	0.24	1	61.9	< 0.1	< 0.5	< 10	0.013	21,400	0.95	0.62	**37.4**	***930***	0.652	1.48	2,720	***65.6***	-	4.41	1.02	1,940	< 0.5	6,930	0.014	3,150	< 0.01	< 0.1	73	0.521	3.6	3.9
	QUL-18-100M	2014 09 25	***4,100***	0.39	1.85	117	< 0.1	< 0.5	13	0.02	24,500	**1.7**	1.23	**73.2**	***1,770***	1.25	2.25	3,370	***124***	-	7.73	1.63	3,280	0.59	11,400	0.028	5,220	0.015	0.11	142	0.842	**6.8**	6.9
QUL-20	QUL-20	2014 09 16	22.9	< 0.1	< 0.1	5.21	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.73	< 30	< 0.05	0.8	1,950	1.23	-	0.297	< 0.5	457	< 0.5	1,470	< 0.01	828	< 0.01	< 0.1	< 10	0.143	< 1	< 3
	QUL-20-0M	2014 09 17	23 7	< 0 1	0 13	5 27	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	1 05	< 30	< 0 05	0 78	1 990	1 23	-	0 353	< 0 5	485	< 0 5	1 540	< 0 01	874	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-20	2014 09 18	21 3	< 0 1	0 11	5 18	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 74	< 30	< 0 05	0 74	1 940	1 22	-	0 275	< 0 5	452	< 0 5	1 460	< 0 01	828	< 0 01	< 0 1	< 10	0 159	< 1	< 3
	QUL-20	2014 09 19	< 24	< 0.1	0.11	5.33	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	0.77	< 30	< 0.05	0.77	1,950	1.3	-	0.287	< 0.5	476	< 0.5	1,490	< 0.01	877	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QUL-20	2014 09 20	18.4	< 0.1	0.12	4.94	< 0.1	< 0.5	< 10	< 0.01	16,300	< 0.5	< 0.1	0.59	< 30	< 0.05	0.69	1,760	0.97	-	0.262	< 0.5	434	< 0.5	1,370	< 0.01	779	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-20	2014 09 22	17 6	< 0 1	0 1	5 16	< 0 1	< 0 5	< 10	< 0 01	16 300	< 0 5	< 0 1	1 28	< 30	< 0 05	0 63	1 750	1 01	-	0 277	< 0 5	428	< 0 5	1 360	< 0 01	810	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUL-20	2014 09 23	19	< 0 1	0 11	4 91	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 64	< 30	< 0 05	0 96	1 890	1 12	-	0 31	< 0 5	469	< 0 5	1 420	< 0 01	835	< 0 01	< 0 1	< 10	0 167	< 1	< 3
	QUL-20	2014 09 26	20	< 0.1	0.11	4.88	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.68	< 30	< 0.05	0.66	1,880	1.34	-	0.254	< 0.5	438	< 0.5	1,380	< 0.01	794	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-20	2014 09 29	21.3	< 0.1	0.12	5.04	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.77	< 30	< 0.05	0.89	1,890	1.31	-	0.28	< 0.5	443	< 0.5	1,410	< 0.01	803	< 0.01	< 0.1	< 10	0.158	< 1	< 3
QUL-21	QUL-21-0M	2014 09 16	15 9	< 0 1	< 0 1	4 77	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 55	< 30	< 0 05	0 81	1 870	0 683	-	0 307	< 0 5	434	< 0 5	1 380	< 0 01	773	< 0 01	< 0 1	< 10	0 145	< 1	< 3
	QUL-21-30M	2014 09 16	***512***	< 0.1	0.33	18.1	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	0.21	**10.5**	282	0.176	0.97	2,170	21	-	1.13	0.57	763	< 0.5	2,870	< 0.01	1,340	< 0.01	< 0.1	21	0.22	1	< 3
	QUL-21-46M	2014 09 16	***3,450***	0 28	1 55	95 1	< 0 1	< 0 5	< 10	0 019	23 100	**1.51**	1 15	**62.8**	***1,630***	1 04	2 5	3 240	***108***	-	5 89	1 58	2 670	0 51	10 100	0 025	3 900	0 011	< 0 1	122	0 639	5 9	5 9
	QUL-21-0M	2014 09 18	13.7	< 0.1	< 0.1	4.75	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.71	1,880	0.662	-	0.242	< 0.5	432	< 0.5	1,390	< 0.01	792	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-21-18M	2014 09 18	57.1	< 0.1	0.13	6.39	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	2.1	47	< 0.05	0.82	2,000	2.71	-	0.379	< 0.5	491	< 0.5	1,690	< 0.01	901	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-21-46M	2014 09 18	***2,480***	0 24	1 2	69 5	< 0 1	< 0 5	< 10	0 018	21 700	**1.11**	0 8	**46.3**	***1,170***	0 785	1 96	2 890	***78.3***	-	4 53	1 14	2 080	< 0 5	7 540	0 017	3 230	0 01	< 0 1	88	0 531	4 3	4 9
	QUL-21-0M	2014 09 20	16.6	< 0.1	0.1	5.02	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.67	< 30	< 0.05	0.79	1,760	0.829	-	0.265	< 0.5	444	< 0.5	1,370	< 0.01	781	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-21-30M	2014 09 20	***233***	< 0.1	0.24	11.3	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	0.1	**6.32**	144	0.11	0.97	1,970	13.1	-	0.754	< 0.5	604	< 0.5	2,120	< 0.01	1,130	< 0.01	< 0.1	12	0.207	< 1	< 3
	QUL-21-45M	2014 09 20	***3,040***	0.3	1.44	88	< 0.1	< 0.5	< 10	0.019	22,200	**1.32**	0.99	**61.3**	***1,410***	1.04	2.13	2,930	***98.7***	-	5.85	1.39	2,410	0.51	8,940	0.021	4,030	0.012	< 0.1	106	0.684	5.2	5.4
	QUL-21-0M	2014 09 23	22.9	< 0.1	0.13	4.99	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.89	< 30	< 0.05	0.99	1,840	1.02	-	0.292	< 0.5	475	< 0.5	1,390	< 0.01	826	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-21X-0M	2014 09 23	52 1	< 0 1	0 13	4 96	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	0 94	89	< 0 05	1	1 900	1 86	-	0 304	< 0 5	474	< 0 5	1 460	< 0 01	810	< 0 01	< 0 1	< 10	0 158	< 1	< 3
	QA/QC RPD %		78	*	*	< 1	*	*	*	*	1	*	*	*	*	*	*	3	*	-	4	*	< 1	*	5	*	2	*	*	*	< 1	*	*
	QUL-21-20M	2014 09 23	40.9	< 0.1	0.15	6.17	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	1.93	< 30	< 0.05	1.04	1,950	2	-	0.38	< 0.5	504	< 0.5	1,650	< 0.01	928	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-21-47M	2014 09 23	***3,000***	0.32	1.45	84.6	< 0.1	< 0.5	< 10	0.018	22,500	**1.23**	0.93	**58.7**	***1,290***	1.01	2.33	3,060	***94.5***	-	6.1	1.33	2,510	< 0.5	8,200	0.021	4,110	0.012	0.13	102	0.674	5.3	5.1
	QUL-21-0M	2014 09 29	28	< 0.1	0.14	4.8	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.92	< 30	< 0.05	0.81	1,840	1.09	-	0.29	< 0.5	432	< 0.5	1,390	< 0.01	765	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-21-40M	2014 09 29	***2,010***	0.23	1.03	61.6	< 0.1	< 0.5	< 10	0.013	21,500	0.81	0.6	**39.7**	***819***	0.682	1.78	2,710	***64.3***	-	4.66	0.96	1,880	< 0.5	6,320	0.015	3,240	< 0.01	< 0.1	70	0.531	3.5	4
	QUL-21X-40M	2014 09 29	***2,390***	0 23	1 1	69 5	< 0 1	< 0 5	< 10	0 017	22 200	0 95	0 63	**41.9**	***869***	0 698	1 88	2 830	***67.9***	-	4 76	1 02	2 130	< 0 5	7 310	0 014	3 470	< 0 01	< 0 1	78	0 537	3 8	4 2
	QA/QC RPD %		17	*	7	12	*	*	*	*	3	*	5	*	6	*	*	4	*	-	2	*	13	*	15	*	7	*	*	11	1	*	*
	QUL-21-45M	2014 09 29	***2,220***	0.26	1.2	65.8	< 0.1	< 0.5	< 10	0.016	22,100	0.95	0.68	**47.2**	***953***	0.802	1.92	2,850	***75***	-	5.28	1.12	1,990	< 0.5	6,570	0.016	3,590	< 0.01	< 0.1	82	0.598	4	4.6
QUL-21a	QUL-21A-0M	2014 09 25	45.3	< 0.1	0.11	5.31	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	1.18	43	< 0.05	0.6	1,890	1.87	-	0.345	< 0.5	444	< 0.5	1,470	< 0.01	811	< 0.01	< 0.1	< 10	0.164	< 1	< 3
	QUL-21A-40M	2014 09 25	***2,560***	0 28	1 21	76 2	< 0 1	< 0 5	10	0 015	21 800	**1.13**	0 76	**47.1**	***1,100***	0 792	1 8	2 850	***76.3***	-	5 36	1 18	2 320	< 0 5	8 020	0 017	3 600	0 011	< 0 1	89	0 584	4 3	5 5
	QUL-21AX-40M	2014 09 25	***2,500***	0.29	1.21	74.9	< 0.1	< 0.5	10	0.022	22,200	**1.11**	0.78	**47.8**	***1,140***	0.816	1.75	2,920	***76.9***	-	5.36	1.13	2,240	< 0.5	7,910	0.03	3,570	0.018	< 0.1	91	0.596	4.3	4.5
	QA/QC RPD %		2	*	0	2	*	*	*	*	2	*	3	*	4	*	*	2	*	-	0	*	4	*	1	*	< 1	*	*	2	2	*	*
	QUL-21A-65M	2014 09 25	***3,320***	0 34	1 55	96 4	< 0 1	< 0 5	11	0 018	23 800	**1.41**	1 06	**62.4**	***1,630***	1 11	1 99	3 280	***103***	-	6 55	1 44	2 740	0 52	10 100	0 026	4 130	0 013	< 0 1	131	0 728	5 7	5 7
	QUL-21A-0M	2014 09 27	25.5	< 0.1	0.12	5.19	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	1.08	< 30	0.06	0.81	1,930	1.18	-	0.286	< 0.5	466	< 0.5	1,420	< 0.01	846	< 0.01	< 0.1	< 10	0.165	< 1	< 3
	QUL-21A-40M	2014 09 27	***2,700***	0 31	1 35	83 7	< 0 1	< 0 5	11	0 017	22 600	**1.14**	0 83	**54.1**	***1,160***	0 966	1 94	2 950	***85.4***	-	6 17	1 26	2 440	< 0 5	7 930	0 02	4 080	< 0 01	< 0 1	94	0 694	4 8	4 7
	QUL-21A-60M	2014 09 27	***3,470***	0.35	1.57	105	< 0.1	< 0.5	12	0.022	23,400	**1.34**	1.02	**63.6**	***1,450***	1.16	2.25	3,150	***107***	-	6.85	1.41	2,910	0.52	9,840	0.025	4,480	0.011	0.12	118	0.763	5.9	5.9
	QUL-21AX-60M	2014 09 27	***3,270***	0 35	1 53	98 2	< 0 1	< 0 5	12	0 023	23 700	**1.31**	0 96	**63.2**	***1,370***	1 19	2 27	3 150	***104***	-	6 94	1 37	2 800	0 54	9 350	0 022	4 530	0 011	0 13	111	0 786	5 5	5 9
	QA/QC RPD %		6	*	3	7	*	*	*	*	1	*	6	*	6	*	*	0	*	-	1	*	4	*	5	*	1	*	*	6	3	7	*

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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-22	QUL-22-0M	2014 09 16	51.6	7.98	7.97	15.4	0.38	102	71	< 3	1.73	-	0.131	< 5	61.1	1.1	-	< 0.5	35	6.04	48.4	-	< 0.001	< 0.002[a]
	QUL-22-8M	2014 09 16	51.1	7.99	7.96	14.1	0.39	102	62	< 3	1.75	-	0.125	< 5	63.5	< 1	-	< 0.5	34	6.02	47.9	-	< 0.001	< 0.002[a]
	QUL-22-0M	2014 09 18	51.6	7.93	7.99	14.9	0.34	101	67	< 3	1.88	-	0.139	< 5	56.9	< 1	-	< 0.5	32	6.03	46.8	-	< 0.001	< 0.002[a]
	QUL-22-9M	2014 09 18	51 7	7 83	7 98	13 7	0 51	101	60	< 3	1 96	-	0 128	< 5	63 3	< 1	-	< 0 5	33	6 03	47 9	-	< 0 001	< 0.002[a]
	QUL-22-0M	2014 09 20	50	8.07	7.96	15.8	0.35	101	66	< 3	1.66	-	0.144	< 5	56	< 1	-	< 0.5	34	6.03	48.1	-	< 0.001	< 0.002[a]
	QUL-22X-0M	2014 09 20	48.2	8.07	7.94	15.8	0.35	101	64	< 3	1.56	-	0.142	< 5	55.8	< 1	-	< 0.5	34	6.02	47.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		4	0	< 1	0	*	0	3	*	*	-	*	*	< 1	*	-	*	*	< 1	1	-	*	*
	QUL-22-7M	2014 09 20	48.1	8.03	7.86	14.1	0.47	100	65	< 3	1.72	-	0.139	< 5	62	< 1	-	< 0.5	34	6.01	47.2	-	< 0.001	< 0.002[a]
	QUL-22-0M	2014 09 23	50 7	7 98	7 97	15 44	0 31	102	64	< 3	1 8	-	0 157	< 5	52 9	< 1	-	< 0 5	32	6 04	50 2	-	0 0011	< 0 002[a]
	QUL-22-5M	2014 09 23	50 6	7 97	7 96	15 1	0 38	102	64	< 3	1 98	-	0 134	< 5	53 2	< 1	-	< 0 5	32	6 05	49 4	-	0 0012	< 0 002[a]
	QUL-22-9M	2014 09 23	50.9	7.96	7.83	14.93	0.41	101	62	< 3	1.93	-	0.133	< 5	53.8	< 1	-	< 0.5	32	6.04	48.4	-	0.0014	< 0.002[a]
	QUL-22-0M	2014 09 26	51.4	7.99	7.68	15.04	0.56	99.7	64	< 3	1.86	-	0.098	< 5	54.9	< 1	-	< 0.5	35	6.06	49	-	< 0.001	< 0.002[a]
	QUL-22X-0M	2014 09 26	51 1	7 99	7 68	15 04	0 42	99 6	67	< 3	1 86	-	0 093	< 5	54 2	< 1	-	< 0 5	34	6 06	49	-	< 0 001	< 0 002[a]
	QA/QC RPD %		< 1	0	0	0	*	< 1	5	*	*	-	*	*	1	*	-	*	*	0	0	-	*	*
QUL-23	QUL-23	2014 09 15	51.6	8.06	7.96	14.7	0.51	101	49	< 3	1.73	-	0.129	< 5	61.1	< 1	-	< 0.5	33	6.05	48	-	< 0.001	**0.002**
	QUL-23	2014 09 16	51.2	8.09	7.96	15.2	0.73	101	62	< 3	1.76	-	0.111	< 5	60.3	< 1	-	< 0.5	34	6.04	48.2	-	< 0.001	< 0.002[a]
	QUL-23-0M	2014 09 17	51.6	8.16	7.97	14.7	0.5	101	65	< 3	1.87	-	0.125	< 5	57.6	< 1	-	< 0.5	35	5.99	48.2	-	< 0.001	< 0.002[a]
	QUL-23X-0M	2014 09 17	51	8 16	7 96	14 7	0 33	101	63	< 3	1 84	-	0 119	< 5	58 1	< 1	-	< 0 5	35	5 99	48 5	-	< 0 001	< 0 002[a]
	QA/QC RPD %		1	0	< 1	0	*	0	3	*	*	-	*	*	< 1	*	-	*	*	0	< 1	-	*	*
	QUL-23	2014 09 18	51.5	7.92	7.94	15.2	1.18	99.5	68	< 3	1.71	-	0.125	< 5	55.2	< 1	-	< 0.5	32	6.05	47.1	-	< 0.001	< 0.002[a]
	QUL-23X	2014 09 18	51.8	7.92	7.98	15.2	1.06	99.9	66	< 3	1.88	-	0.133	< 5	55.2	< 1	-	< 0.5	32	6.04	47.5	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	11	< 1	3	*	*	-	*	*	0	*	-	*	*	< 1	< 1	-	*	*
	QUL-23	2014 09 19	51.4	8.09	7.94	16.3	0.55	101	62	< 3	1.69	-	0.122	< 5	54.2	< 1	-	< 0.5	33	6.05	48	-	< 0.001	< 0.002[a]
	QUL-23	2014 09 20	50 2	7 98	7 94	15 4	1 26	101	70	< 3	1 77	-	0 134	< 5	51 5	< 1	-	< 0 5	34	6 05	48 5	-	< 0 001	< 0 002[a]
	QUL-23	2014 09 22	48 2	8	7 8	15 036	0 36	101	63	< 3	1 64	-	0 119	< 5	53 3	< 1	-	< 0 5	34	5 99	47 1	-	< 0 001	< 0 002[a]
	QUL-23	2014 09 23	51.3	7.48	7.97	14.99	0.53	101	55	< 3	2.2	-	0.157	< 5	42.4	< 1	-	< 0.5	23	4.4	49.9	-	< 0.001	< 0.002[a]
	QUL-23	2014 09 26	52.1	7.94	7.68	14.86	0.94	101	66	< 3	1.89	-	0.095	< 5	60.7	< 1	-	< 0.5	34	6.08	49.7	-	< 0.001	< 0.002[a]
QUL-31a	QUL-31A-0M	2014 09 27	52 1	7 88	7 61	14 7	0 33	101	64	< 3	1 79	-	0 1	< 5	59 9	< 1	-	< 0 5	34	6 12	48 3	-	< 0 001	< 0 002[a]
	QUL-31A-40M	2014 09 27	56 4	7 53	7 69	5 23	7 6	112	71	< 3	1 73	-	0 167	7 1	151	< 1	-	< 0 5	41	7 6	52 8	-	< 0 001	< 0 002[a]
	QUL-31A-100M	2014 09 27	55.4	7.52	7.68	4.33	3.18	109	71	< 3	1.72	-	0.159	< 5	151	< 1	-	< 0.5	38	6.84	52	-	< 0.001	< 0.002[a]
QUL-32	QUL-32	2014 08 06	48.7	-	7.96	-	0.38	101	81	< 3	1.89	-	0.162	< 5	77.9	1.5	79.4	< 0.5	34	5.6	46	-	< 0.001	< 0.002[a]
QUL-40	QUL-40-0M	2014 09 19	51 5	7 93	7 94	15 2	0 37	100	53	< 3	1 6	-	0 147	10 1	55 4	< 1	-	< 0 5	34	6 04	48 8	-	< 0 001	< 0 002[a]
	QUL-40-45M	2014 09 19	54 7	7 54	7 87	4 94	3 78	108	69	< 3	1 56	-	0 2	< 5	147	< 1	-	< 0 5	38	6 77	51 6	-	< 0 001	< 0 002[a]
	QUL-40-100M	2014 09 19	55.2	7.55	7.88	4.5	5.35	109	70	< 3	1.58	-	0.203	5.7	149	< 1	-	< 0.5	40	7.12	51	-	< 0.001	< 0.002[a]
	QUL-40-0M	2014 09 22	48.3	7.57	7.93	15.39	1.82	102	68	< 3	1.73	-	0.154	8.2	55.4	< 1	-	< 0.5	33	6.05	49	-	< 0.001	< 0.002[a]
	QUL-40-50M	2014 09 22	52.3	7.19	7.89	5.05	4.97	112	72	< 3	1.64	-	0.203	< 5	148	< 1	-	< 0.5	38	7.18	51.1	-	< 0.001	**0.0021**
	QUL-40-98M	2014 09 22	51.5	7.34	7.89	4.39	3.14	110	83	< 3	1.7	-	0.205	7.2	146	< 1	-	< 0.5	38	6.85	51.3	-	< 0.001	< 0.002[a]
	QUL-40-0M	2014 09 26	52.1	7.68	7.68	14.74	0.85	101	65	< 3	1.84	-	0.124	21.7	59.2	< 1	-	< 0.5	35	6.13	49.5	-	< 0.001	< 0.002[a]
	QUL-40-40M	2014 09 26	55 3	7 44	7 66	5 2	5 07	109	73	< 3	1 9	-	0 165	7 8	151	< 1	-	< 0 5	41	7 48	52 8	-	< 0 001	< 0 002[a]
	QUL-40-80M	2014 09 26	55.3	7.42	7.66	4.35	2.75	108	72	< 3	1.83	-	0.158	< 5	150	< 1	-	< 0.5	37	6.92	54.9	-	< 0.001	< 0.002[a]
	QUL-40-0M	2014 09 29	51.1	8.06	7.76	14.59	0.69	107	62	< 3	1.6	-	0.143	5.3	57	< 1	-	< 0.5	31	6.12	52.1	-	< 0.001	< 0.002[a]
	QUL-40-40M	2014 09 29	51.2	7.63	7.69	5.2	5.64	109	68	3.3	1.46	-	0.214	17.9	147	< 1	-	< 0.5	38	7.48	53.5	-	< 0.001	< 0.002[a]
	QUL-40-80M	2014 09 29	55	7 62	7 69	7 34	2 61	107	67	< 3	1 56	-	0 208	< 5	148	< 1	-	< 0 5	36	6 86	53 8	-	< 0 001	< 0 002[a]
QUL-40A	QUL-40A-0M	2014 09 27	51.5	7.99	7.67	14.88	0.72	102	66	< 3	1.84	-	0.101	6.2	58.3	< 1	-	< 0.5	34	6.12	49.1	-	< 0.001	< 0.002[a]
	QUL-40A-40M	2014 09 27	54.6	7.56	7.68	4.77	3.63	109	69	< 3	1.78	-	0.156	< 5	150	< 1	-	< 0.5	39	6.85	51.9	-	< 0.001	< 0.002[a]
	QUL-40A-100M	2014 09 27	55 5	7 56	7 68	4 37	1 63	109	80	< 3	1 74	-	0 149	< 5	150	< 1	-	< 0 5	37	6 57	52 3	-	< 0 001	< 0 002[a]

All terms defined w thin 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 applicab e standard.
* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.
BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.
SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.
BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.
[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .
[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.
[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride
[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.
[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.
[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.
[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-22	QUL-22-0M	2014 09 16	8.7	17.5	< 30	1.93	0.258	0.444	0.781	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.83	-	0.278	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-22-8M	2014 09 16	8.8	17.3	< 30	1.91	0.151	0.455	0.81	< 0.1	< 0.1	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.8	< 0.05	0.8	-	0.273	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-22-0M	2014 09 18	8	17.5	< 30	1.92	0.205	0.442	0.801	< 0.1	< 0.1	4.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.246	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-22-9M	2014 09 18	8 3	17 5	< 30	1 95	0 091	0 456	0 841	< 0 1	0 1	5 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 65	< 0 05	0 74	-	0 281	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 146	< 1	< 3
	QUL-22-0M	2014 09 20	8.8	17	< 30	1.81	0.21	0.434	0.749	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.77	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-22X-0M	2014 09 20	9.4	16.4	< 30	1.76	0.244	0.421	0.75	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.82	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QA/QC RPD %		*	4	*	3	*	3	< 1	*	*	1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	< 1	*	*
	QUL-22-7M	2014 09 20	9	16.3	< 30	1.77	0.123	0.448	0.775	< 0.1	< 0.1	5.18	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.61	< 0.05	0.76	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-22-0M	2014 09 23	8 2	17 2	< 30	1 91	0 204	0 433	0 784	< 0 1	< 0 1	5 02	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 61	< 0 05	< 0 5	-	0 236	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUL-22-5M	2014 09 23	8 2	17 1	< 30	1 89	0 15	0 434	0 784	< 0 1	< 0 1	4 91	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 94	< 0 05	0 59	-	0 241	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 144	< 1	< 3
	QUL-22-9M	2014 09 23	7.9	17.3	< 30	1.89	0.126	0.437	0.792	< 0.1	0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.88	< 0.05	0.77	-	0.245	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-22-0M	2014 09 26	8.6	17.5	< 30	1.9	0.115	0.431	0.784	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.84	-	0.239	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-22X-0M	2014 09 26	8 4	17 4	< 30	1 89	0 143	0 434	0 776	< 0 1	< 0 1	4 79	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 51	< 0 05	0 79	-	0 242	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 145	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	< 1	1	*	*	2	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	0	*	*
QUL-23	QUL-23	2014 09 15	8.9	17.4	< 30	1.95	0.594	0.453	0.789	< 0.1	< 0.1	5	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.89	< 0.05	0.76	-	0.277	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.136	< 1	< 3
	QUL-23	2014 09 16	9.1	17.3	< 30	1.93	0.737	0.448	0.789	< 0.1	< 0.1	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	0.71	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-23-0M	2014 09 17	9.2	17.5	< 30	1.94	0.216	0.461	0.84	< 0.1	< 0.1	4.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.26	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-23X-0M	2014 09 17	9 1	17 4	< 30	1 84	0 247	0 455	0 82	< 0 1	< 0 1	4 87	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 75	-	0 267	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QA/QC RPD %		*	< 1	*	5	*	1	2	*	*	1	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	2	*	*
	QUL-23	2014 09 18	8.8	17.5	< 30	1.91	1.5	0.419	0.76	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.243	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
	QUL-23X	2014 09 18	10	17.6	< 30	1.91	1.08	0.386	0.711	< 0.1	< 0.1	4.42	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.69	-	0.234	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.139	< 1	< 3
	QA/QC RPD %		*	< 1	*	0	33	8	7	*	*	9	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	6	*	*
	QUL-23	2014 09 19	8.7	17.4	< 30	1.9	0.652	0.435	0.789	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.55	< 0.05	0.75	-	0.249	< 0.5	< 0.5	< 0.01	0.011	< 10	0.154	< 1	< 3
	QUL-23	2014 09 20	9 2	17 1	< 30	1 81	0 827	0 429	0 745	< 0 1	< 0 1	5 16	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 56	< 0 05	0 73	-	0 251	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-23	2014 09 22	8 9	16 4	< 30	1 75	0 372	0 43	0 787	< 0 1	< 0 1	4 99	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 6	-	0 266	< 0 5	< 0 5	< 0 01	0 012	< 10	0 155	< 1	< 3
	QUL-23	2014 09 23	9.2	17.4	< 30	1.91	0.305	0.472	0.813	< 0.1	< 0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.64	< 0.05	1.08	-	0.255	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-23	2014 09 26	8.3	17.7	< 30	1.91	1.83	0.445	0.798	< 0.1	0.11	5.25	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.63	< 0.05	0.93	-	0.258	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
QUL-31a	QUL-31A-0M	2014 09 27	8 5	17 7	< 30	1 91	0 145	0 449	0 787	< 0 1	< 0 1	4 75	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 82	-	0 239	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 158	< 1	< 3
	QUL-31A-40M	2014 09 27	7 2	19 1	< 30	2 13	4 66	0 561	1 26	< 0 1	0 18	6 95	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 99	< 0 05	1 05	-	1 05	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 231	< 1	< 3
	QUL-31A-100M	2014 09 27	5.4	18.7	< 30	2.08	1.29	0.513	1.03	< 0.1	0.13	5.77	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.17	< 0.05	1.15	-	0.543	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.192	< 1	< 3
QUL-32	QUL-32	2014 08 06	10.9	16.4	< 30	1.85	0.355	0.454	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-40	QUL-40-0M	2014 09 19	10 1	17 4	< 30	1 94	0 491	0 442	0 819	< 0 1	< 0 1	5 02	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 74	-	0 257	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 148	< 1	< 3
	QUL-40-45M	2014 09 19	5 6	18 5	< 30	2 05	3 09	0 489	1	< 0 1	0 13	5 78	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 07	< 0 05	0 8	-	0 509	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 176	< 1	< 3
	QUL-40-100M	2014 09 19	6	18.7	< 30	2.03	3.75	0.503	1.07	< 0.1	0.14	6.16	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.44	< 0.05	0.91	-	0.71	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.191	< 1	< 3
	QUL-40-0M	2014 09 22	8.5	16.4	< 30	1.77	0.371	0.446	0.825	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.58	-	0.24	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-40-50M	2014 09 22	6.5	17.8	< 30	1.92	4.1	0.516	1.17	< 0.1	0.15	6.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.68	< 0.05	0.66	-	0.769	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.194	< 1	< 3
	QUL-40-98M	2014 09 22	5.2	17.5	< 30	1.89	10.1	0.496	1.05	< 0.1	0.13	5.93	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.37	< 0.05	0.68	-	0.597	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.18	< 1	< 3
	QUL-40-0M	2014 09 26	8.9	17.6	< 30	1.98	0.668	0.477	0.839	< 0.1	0.11	5.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.79	-	0.28	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.142	< 1	< 3
	QUL-40-40M	2014 09 26	7 1	18 7	< 30	2 08	6 74	0 548	1 2	< 0 1	0 18	6 64	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 93	< 0 05	0 85	-	0 897	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 196	< 1	< 3
	QUL-40-80M	2014 09 26	5.8	18.7	< 30	2.06	2.27	0.498	1.03	< 0.1	0.13	5.64	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.16	< 0.05	0.97	-	0.561	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.173	< 1	< 3
	QUL-40-0M	2014 09 29	8.3	17.3	< 30	1.9	0.152	0.434	0.78	< 0.1	0.1	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.83	-	0.268	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-40-40M	2014 09 29	7.6	17.4	< 30	1.9	4.11	0.532	1.2	< 0.1	0.17	6.47	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.1	< 0.05	0.98	-	0.965	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.206	< 1	< 3
	QUL-40-80M	2014 09 29	11 7	18 6	< 30	2 07	2 46	0 497	1 02	< 0 1	0 12	5 66	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 92	< 0 05	0 96	-	0 563	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 177	< 1	< 3
QUL-40A	QUL-40A-0M	2014 09 27	8.2	17.5	< 30	1.91	0.207	0.45	0.794	< 0.1	< 0.1	4.86	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	1	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.161	< 1	< 3
	QUL-40A-40M	2014 09 27	6.2	18.5	< 30	2.07	1.88	0.515	1.05	< 0.1	0.12	5.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.24	< 0.05	1.02	-	0.562	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.185	< 1	< 3
	QUL-40A-100M	2014 09 27	5 1	18 8	< 30	2 09	0 789	0 491	0 949	< 0 1	0 1	5 45	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 81	< 0 05	1 13	-	0 405	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 177	< 1	< 3

All terms defined within the body of SNC-Lava in's report (ava lable upon request).
< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.
- Denotes analysis not conducted.
n/a Denotes no app icable 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) guide ine.
BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.
SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.
BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012. Guideline for Nitrate app ied.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.
[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 applicab e to single sample resu ts at this point in time.

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TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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-22	QUL-22-0M	2014 09 16	18	< 0.1	0.1	4.94	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.6	< 30	< 0.05	0.84	1,890	0.837	-	0.258	< 0.5	437	< 0.5	1,400	< 0.01	793	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-22-8M	2014 09 16	25.6	< 0.1	0.12	5.07	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.81	< 30	< 0.05	0.85	1,910	1.26	-	0.28	< 0.5	444	< 0.5	1,460	< 0.01	800	< 0.01	< 0.1	< 10	0.144	< 1	< 3
	QUL-22-0M	2014 09 18	16.5	< 0.1	0.12	4.95	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.71	< 30	< 0.05	0.7	1,920	0.959	-	0.277	< 0.5	453	< 0.5	1,440	< 0.01	823	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-22-9M	2014 09 18	30 8	< 0 1	0 11	5 42	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	0 98	< 30	< 0 05	0 82	1 980	1 26	-	0 305	< 0 5	456	< 0 5	1 540	< 0 01	833	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-22-0M	2014 09 20	18.7	< 0.1	0.11	5.16	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.62	< 30	< 0.05	0.68	1,850	0.826	-	0.286	< 0.5	457	< 0.5	1,450	< 0.01	815	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-22X-0M	2014 09 20	16.4	< 0.1	0.12	5.11	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.55	< 30	< 0.05	0.84	1,780	0.752	-	0.265	< 0.5	455	< 0.5	1,380	< 0.01	808	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QA/QC RPD %		13	*	*	< 1	*	*	*	*	4	*	*	*	*	*	*	4	*	-	8	*	< 1	*	5	*	< 1	*	*	*	3	*	*
	QUL-22-7M	2014 09 20	19.9	< 0.1	0.11	5.27	< 0.1	< 0.5	< 10	< 0.01	16,400	< 0.5	< 0.1	0.81	< 30	< 0.05	0.72	1,780	1.01	-	0.278	< 0.5	450	< 0.5	1,430	< 0.01	795	< 0.01	< 0.1	< 10	0.147	< 1	< 3
	QUL-22-0M	2014 09 23	16	< 0 1	0 1	4 99	< 0 1	< 0 5	< 10	< 0 01	17 000	< 0 5	< 0 1	0 9	< 30	0 07	< 0 5	1 900	0 954	-	0 582	< 0 5	451	< 0 5	1 420	< 0 01	821	< 0 01	< 0 1	< 10	0 153	< 1	< 3
	QUL-22-5M	2014 09 23	17	< 0 1	0 11	4 95	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	1 07	< 30	< 0 05	0 64	1 880	0 934	-	0 267	< 0 5	433	< 0 5	1 400	< 0 01	798	< 0 01	< 0 1	< 10	0 153	< 1	< 3
	QUL-22-9M	2014 09 23	16.1	< 0.1	< 0.1	5.02	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.86	< 30	< 0.05	0.73	1,900	0.941	-	0.259	< 0.5	439	< 0.5	1,420	< 0.01	796	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-22-0M	2014 09 26	20.7	< 0.1	< 0.1	4.8	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.72	< 30	< 0.05	0.73	1,850	1	-	0.263	< 0.5	441	< 0.5	1,360	< 0.01	809	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-22X-0M	2014 09 26	18 6	< 0 1	< 0 1	4 89	< 0 1	< 0 5	< 10	< 0 01	17 100	< 0 5	< 0 1	0 71	< 30	< 0 05	0 74	1 880	0 936	-	0 271	< 0 5	433	< 0 5	1 380	< 0 01	779	0 01	< 0 1	< 10	0 154	< 1	< 3
	QA/QC RPD %		11	*	*	2	*	*	*	*	1	*	*	*	*	*	*	2	*	-	3	*	2	*	2	*	4	*	*	*	2	*	*
QUL-23	QUL-23	2014 09 15	43.2	< 0.1	0.12	5.62	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	1.19	37	< 0.05	0.91	1,880	1.99	-	0.335	< 0.5	466	< 0.5	1,490	< 0.01	831	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-23	2014 09 16	31	< 0.1	0.1	5.42	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.89	< 30	< 0.05	0.77	1,900	1.38	-	0.285	< 0.5	446	< 0.5	1,450	< 0.01	791	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QUL-23-0M	2014 09 17	22.2	< 0.1	0.11	5.08	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.78	< 30	< 0.05	0.87	1,890	1.02	-	0.304	< 0.5	478	< 0.5	1,440	< 0.01	852	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QUL-23X-0M	2014 09 17	17	< 0 1	0 11	4 94	< 0 1	< 0 5	< 10	< 0 01	17 700	< 0 5	< 0 1	0 75	< 30	< 0 05	< 0 5	1 880	0 886	-	0 301	< 0 5	460	< 0 5	1 460	< 0 01	802	< 0 01	< 0 1	< 10	0 16	< 1	< 3
	QA/QC RPD %		27	*	*	3	*	*	*	*	5	*	*	*	*	*	*	< 1	*	-	< 1	*	4	*	1	*	6	*	*	*	1	*	*
	QUL-23	2014 09 18	51.6	< 0.1	0.13	5.11	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.8	79	< 0.05	0.74	1,930	2.81	-	0.275	< 0.5	430	< 0.5	1,480	< 0.01	784	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-23X	2014 09 18	58.6	< 0.1	0.14	5.27	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.79	91	< 0.05	0.79	1,920	3.15	-	0.272	< 0.5	444	< 0.5	1,490	< 0.01	799	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QA/QC RPD %		13	*	*	3	*	*	*	*	1	*	*	*	*	*	*	< 1	*	-	1	*	3	*	< 1	*	2	*	*	*	3	*	*
	QUL-23	2014 09 19	33.4	< 0.1	< 0.1	5.09	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.95	31	< 0.05	0.74	1,850	1.5	-	0.311	< 0.5	443	< 0.5	1,410	< 0.01	827	< 0.01	< 0.1	< 10	0.161	< 1	< 3
	QUL-23	2014 09 20	50	< 0 1	0 12	5 79	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	1 62	43	< 0 05	0 7	1 800	2 29	-	0 312	< 0 5	446	< 0 5	1 460	< 0 01	785	< 0 01	< 0 1	< 10	0 159	< 1	< 3
	QUL-23	2014 09 22	15 7	< 0 1	0 1	5 25	< 0 1	< 0 5	< 10	< 0 01	16 400	< 0 5	< 0 1	0 73	< 30	< 0 05	0 63	1 760	1 13	-	0 302	< 0 5	446	< 0 5	1 360	< 0 01	837	< 0 01	< 0 1	< 10	0 159	< 1	< 3
	QUL-23	2014 09 23	19.6	< 0.1	0.11	4.98	< 0.1	< 0.5	< 10	0.013	16,600	< 0.5	< 0.1	1.43	< 30	0.087	0.98	1,870	1.32	-	0.285	< 0.5	706	< 0.5	1,380	< 0.01	961	< 0.01	< 0.1	< 10	0.15	< 1	4.9
	QUL-23	2014 09 26	41.9	< 0.1	0.12	5.67	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.43	73	< 0.05	0.75	1,930	3.21	-	0.289	< 0.5	461	< 0.5	1,460	< 0.01	823	< 0.01	< 0.1	< 10	0.157	< 1	< 3
QUL-31a	QUL-31A-0M	2014 09 27	14	< 0 1	0 11	4 78	< 0 1	< 0 5	< 10	< 0 01	17 300	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 73	1 890	0 776	-	0 246	< 0 5	460	< 0 5	1 360	< 0 01	822	< 0 01	< 0 1	< 10	0 163	< 1	< 3
	QUL-31A-40M	2014 09 27	***403***	< 0 1	0 27	15 4	< 0 1	< 0 5	< 10	< 0 01	18 400	< 0 5	0 12	**8.43**	161	0 167	0 97	2 130	12 5	-	1 08	< 0 5	736	< 0 5	2 490	< 0 01	1 340	< 0 01	< 0 1	15	0 239	< 1	< 3
	QUL-31A-100M	2014 09 27	***136***	< 0.1	0.16	8.92	< 0.1	< 0.5	< 10	< 0.01	18,900	< 0.5	< 0.1	**3.73**	64	0.082	0.93	2,150	5.86	-	0.565	< 0.5	595	< 0.5	1,990	< 0.01	1,120	< 0.01	< 0.1	< 10	0.208	< 1	< 3
QUL-32	QUL-32	2014 08 06	61	< 0.1	0.12	5.57	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.68	87	< 0.05	0.83	2,010	2.8	< 0.05	0.256	< 0.5	512	< 0.5	1,660	< 0.01	1,000	< 0.01	< 0.1	< 10	0.155	< 1	< 3
QUL-40	QUL-40-0M	2014 09 19	13 4	< 0 1	0 1	5 03	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 82	1 870	1 83	-	0 294	< 0 5	449	< 0 5	1 370	< 0 01	830	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUL-40-45M	2014 09 19	***158***	< 0 1	0 17	9 13	< 0 1	< 0 5	< 10	< 0 01	18 900	< 0 5	< 0 1	**4.22**	89	0 072	0 95	2 120	8 42	-	0 576	< 0 5	566	< 0 5	2 060	< 0 01	1 100	< 0 01	< 0 1	< 10	0 195	< 1	< 3
	QUL-40-100M	2014 09 19	***225***	< 0.1	0.21	11.2	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	**5.84**	108	0.095	0.91	2,030	9.23	-	0.762	< 0.5	610	< 0.5	2,110	< 0.01	1,160	< 0.01	< 0.1	< 10	0.202	< 1	< 3
	QUL-40-0M	2014 09 22	15.8	< 0.1	0.11	5.02	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.89	< 30	< 0.05	0.56	1,790	1.34	-	0.283	< 0.5	447	< 0.5	1,340	< 0.01	831	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-40-50M	2014 09 22	***320***	< 0.1	0.24	13	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	0.11	**6.52**	150	0.103	0.75	2,000	11.2	-	0.728	< 0.5	647	< 0.5	2,280	< 0.01	1,210	< 0.01	< 0.1	13	0.193	< 1	< 3
	QUL-40-98M	2014 09 22	***200***	< 0.1	0.21	10.2	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	**4.29**	104	0.079	0.86	1,940	15.4	-	0.661	< 0.5	576	< 0.5	2,000	< 0.01	1,110	< 0.01	< 0.1	< 10	0.195	< 1	< 3
	QUL-40-0M	2014 09 26	15.1	< 0.1	0.12	5.26	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	0.54	< 30	< 0.05	0.67	2,000	2.37	-	0.293	< 0.5	463	< 0.5	1,400	< 0.01	840	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-40-40M	2014 09 26	***409***	< 0 1	0 27	15 8	< 0 1	< 0 5	< 10	< 0 01	18 900	< 0 5	0 13	**8.03**	198	0 179	0 92	2 200	15 1	-	0 995	0 53	752	< 0 5	2 800	< 0 01	1 300	< 0 01	< 0 1	17	0 225	< 1	< 3
	QUL-40-80M	2014 09 26	***189***	< 0.1	0.18	9.58	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	**4.26**	89	0.076	0.82	2,060	6.17	-	0.646	< 0.5	583	< 0.5	2,090	< 0.01	1,070	< 0.01	< 0.1	< 10	0.191	< 1	< 3
	QUL-40-0M	2014 09 29	18.5	< 0.1	0.12	4.85	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.68	< 30	< 0.05	0.9	1,870	1.28	-	0.267	< 0.5	444	< 0.5	1,370	< 0.01	771	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-40-40M	2014 09 29	***364***	< 0.1	0.27	14.7	< 0.1	< 0.5	< 10	< 0.01	19,200	< 0.5	0.12	**8.01**	159	0.138	1.14	2,200	12	-	1.04	< 0.5	728	< 0.5	2,570	< 0.01	1,320	< 0.01	< 0.1	15	0.23	< 1	< 3
	QUL-40-80M	2014 09 29	***162***	< 0 1	0 17	9 31	< 0 1	< 0 5	< 10	< 0 01	18 300	< 0 5	< 0 1	**4.09**	83	0 076	1 02	2 080	6 77	-	0 562	< 0 5	557	< 0 5	2 030	< 0 01	1 030	< 0 01	< 0 1	11	0 189	< 1	< 3
QUL-40A	QUL-40A-0M	2014 09 27	21.2	< 0.1	0.11	5.03	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.72	< 30	< 0.05	0.93	1,880	1.21	-	0.273	< 0.5	463	< 0.5	1,360	< 0.01	834	< 0.01	< 0.1	< 10	0.167	< 1	< 3
	QUL-40A-40M	2014 09 27	***220***	< 0.1	0.19	10.5	< 0.1	< 0.5	< 10	< 0.01	18,300	< 0.5	< 0.1	**4.57**	104	0.112	1.05	2,120	7.47	-	0.62	< 0.5	620	< 0.5	2,170	< 0.01	1,110	< 0.01	< 0.1	11	0.21	< 1	< 3
	QUL-40A-100M	2014 09 27	84 7	< 0 1	0 13	7 01	< 0 1	< 0 5	< 10	< 0 01	17 900	< 0 5	< 0 1	**2.26**	44	< 0 05	1 01	2 030	3 41	-	0 41	< 0 5	536	< 0 5	1 790	< 0 01	994	< 0 01	< 0 1	< 10	0 178	< 1	< 3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics												
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																								
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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-66	QUL-66-0M	2014 09 15	51.1	8.01	7.96	15	0.38	102	58	< 3	1.52	-	0.118	< 5	61.6	< 1	-	< 0.5	32	6.05	47.7	-	< 0.001	< 0.002[a]
	QUL-66-24M	2014 09 15	56.1	7.7	7.96	6.2	11.3	113	67	18.5	1.64	-	0.204	5.9	142	< 1	-	< 0.5	38	7.54	52.8	-	< 0.001	< 0.002[a]
	QUL-66-48M	2014 09 15	68 7	7 9	8 02	6 5	60 1	148	102	31 7	1 78	-	0 363	51	188	2 3	-	0 5	73	16 3	58	-	0 0012	**0.0037**
	QUL-66-0M	2014 09 16	51.3	-	7.97	-	0.5	102	63	< 3	1.8	-	0.119	< 5	62.3	< 1	-	< 0.5	34	6.03	48.3	-	< 0.001	< 0.002[a]
	QUL-66-40M	2014 09 16	66	-	8 01	-	48 6	141	92	20 7	1 89	-	0 274	36 5	182	1 4	-	< 0 5	63	14 6	58 8	-	0 0013	**0.0026**
	QUL-66-0M	2014 09 18	51 2	8 04	7 96	14 9	0 31	99 9	74	< 3	1 84	-	0 112	< 5	57 2	< 1	-	< 0 5	32	6 05	47 2	-	< 0 001	< 0.002[a]
	QUL-66-15M	2014 09 18	54.8	7.78	7.95	10.8	21.5	108	75	34.2	1.98	-	0.214	< 5	70.8	< 1	-	< 0.5	35	6.99	50.4	-	< 0.001	< 0.002[a]
	QUL-66-40M	2014 09 18	67 8	7 73	8 03	6 5	58 1	146	105	14	1 92	-	0 298	45 4	184	2 2	-	< 0 5	68	15 8	59 6	-	0 0018	**0.0026**
	QUL-66-0M	2014 09 20	49.8	8.03	7.94	15.1	0.56	102	65	< 3	1.76	-	0.138	< 5	55.4	< 1	-	< 0.5	34	6.04	47.8	-	< 0.001	< 0.002[a]
	QUL-66-15M	2014 09 20	52.6	8.07	7.97	10.7	39.1	113	73	46.7	1.95	-	0.168	7.2	86.6	< 1	-	< 0.5	35	7.22	52.8	-	< 0.001	< 0.002[a]
	QUL-66-45M	2014 09 20	65 5	7 95	8 01	6 6	61 7	149	104	11 7	1 67	-	0 326	44 8	193	2 1	-	0 56	69	16 7	57 2	-	0 0019	**0.0028**
	QUL-66-0M	2014 09 23	51	8	7.96	15.27	0.46	101	63	< 3	1.78	-	0.236	6.5	54.7	< 1	-	< 0.5	31	6.05	50	-	< 0.001	< 0.002[a]
	QUL-66-15M	2014 09 23	51.1	7.94	7.93	14.7	0.58	101	67	< 3	1.86	-	0.124	< 5	53.1	< 1	-	< 0.5	32	6.05	49.6	-	< 0.001	< 0.002[a]
	QUL-66-50M	2014 09 23	66 8	7 81	8	6 5	58 2	148	100	28 2	1 9	-	0 323	45 6	183	2 1	-	0 53	68	16 2	62 5	-	0 0016	**0.004**
	QUL-66-0M	2014 09 29	51.9	8.15	7.76	14.4	0.94	100	64	< 3	1.51	-	0.132	< 5	54.1	< 1	-	< 0.5	32	6.13	50.6	-	< 0.001	**0.0032**
	QUL-66-40M	2014 09 29	64.6	7.75	7.66	6.3	38.8	137	96	8.2	1.51	-	0.361	39	182	2.1	-	< 0.5	62	14.7	59.6	-	0.001	**0.0026**
	QUL-66-50M	2014 09 29	67.3	7.85	7.79	6.5	54.5	149	104	6.8	1.62	-	0.332	47.5	188	2.9	-	0.53	69	16.7	63.3	-	0.0017	**0.0033**
QUL-66A	QUL-66A-0M	2014 09 25	51 6	8	7 07	14 87	0 55	102	68	< 3	2 22	-	0 126	< 5	54 1	< 1	-	< 0 5	32	6 04	51 4	-	< 0 001	< 0.002[a]
	QUL-66AX-0M	2014 09 25	51.4	8	7.06	14.87	0.55	101	64	< 3	2.1	-	0.127	< 5	54.7	< 1	-	< 0.5	32	6.07	51.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	0	< 1	6	*	*	-	*	*	1	*	-	*	*	< 1	< 1	-	*	*
	QUL-66A-40M	2014 09 25	66.3	7.73	7.14	6.44	40.9	144	100	8.8	2.24	-	0.311	40.3	182	1.7	-	< 0.5	67	15.5	64.2	-	0.0019	**0.0033**
	QUL-66A-85M	2014 09 25	70.8	7.86	6.97	6.54	51.3	155	111	14.2	2.11	-	0.345	57.4	207	3	-	0.58	74	18.2	64.9	-	0.0019	**0.0044**
	QUL-66A-0M	2014 09 27	52	8	7.67	15.12	0.87	102	64	< 3	2.1	-	0.088	< 5	57.5	< 1	-	< 0.5	34	6.11	49.4	-	< 0.001	< 0.002[a]
	QUL-66A-40M	2014 09 27	67 1	7 79	7 76	6 47	51 2	145	101	9 7	1 88	-	0 256	45 5	187	2	-	< 0 5	66	15 7	60 7	-	0 0018	**0.0021**
	QUL-66A-80M	2014 09 27	71.1	7.85	7.75	6.5	65.6	153	108	13.3	1.96	-	0.297	59.2	207	3.2	-	0.59	72	17.9	62.9	-	0.0025	**0.0035**
QUL-79	QUL-79-0M	2014 09 15	50 1	7 96	7 95	15	0 26	101	63	< 3	1 63	-	0 112	< 5	58 4	< 1	-	< 0 5	32	6 07	48 3	-	< 0 001	< 0.002[a]
	QUL-79-26M	2014 09 15	55 2	7 59	7 96	5 5	6 76	112	71	4	1 76	-	0 225	9 5	147	< 1	-	< 0 5	39	7 75	51 9	-	< 0 001	< 0.002[a]
	QUL-79-50M	2014 09 15	57.4	7.63	7.96	6	11.8	116	75	3.7	1.5	-	0.209	13.6	153	< 1	-	< 0.5	42	8.65	52.8	-	< 0.001	< 0.002[a]
	QUL-79-0M	2014 09 18	51.5	7.94	7.99	15.2	0.23	98.6	70	< 3	1.7	-	0.123	< 5	55.9	< 1	-	< 0.5	32	6.05	47.2	-	< 0.001	< 0.002[a]
	QUL-79-15M	2014 09 18	51 1	7 68	7 93	12	1 55	101	58	< 3	1 82	-	0 139	< 5	75 8	< 1	-	< 0 5	33	6 15	48 3	-	< 0 001	< 0.002[a]
	QUL-79-50M	2014 09 18	55.8	7.4	7.93	4.2	2.83	107	75	< 3	1.63	-	0.192	< 5	145	< 1	-	< 0.5	36	6.71	50	-	< 0.001	< 0.002[a]
	QUL-79-0M	2014 09 19	51.1	8	7.94	15.5	0.32	100	62	< 3	1.63	-	0.124	< 5	58.3	< 1	-	< 0.5	34	6.04	48.3	-	< 0.001	< 0.002[a]
	QUL-79-25M	2014 09 19	53 3	7 62	7 87	6 4	2 7	106	63	< 3	1 77	-	0 187	< 5	127	< 1	-	< 0 5	36	6 51	50	-	< 0 001	**0.0021**
	QUL-79-58M	2014 09 19	58.6	7.68	7.91	5.5	19.4	119	76	6.5	1.67	-	0.235	16.1	155	< 1	-	< 0.5	45	9.53	52.8	-	< 0.001	< 0.002[a]
	QUL-79-0M	2014 09 22	48.1	8.07	7.93	15.27	0.21	102	67	< 3	1.77	-	0.121	< 5	58.6	< 1	-	< 0.5	30	6.05	48.2	-	< 0.001	< 0.002[a]
	QUL-79-30M	2014 09 22	52.7	7.67	7.9	5.13	7.78	113	72	< 3	1.8	-	0.225	7.1	148	< 1	-	< 0.5	41	7.8	52.2	-	< 0.001	< 0.002[a]
	QUL-79-58M	2014 09 22	53 5	7 61	7 89	4 64	5 71	112	72	< 3	1 62	-	0 208	5 2	150	< 1	-	< 0 5	40	7 48	51 1	-	< 0 001	< 0.002[a]
	QUL-79-0M	2014 09 26	51.5	8.03	7.68	14.69	0.47	100	69	< 3	1.91	-	0.101	5.7	59.5	< 1	-	< 0.5	34	6.11	49.4	-	< 0.001	< 0.002[a]
	QUL-79-40M	2014 09 26	54.1	7.62	7.68	3.89	0.45	105	70	< 3	1.78	-	0.157	< 5	149	< 1	-	< 0.5	40	6.36	51.8	-	< 0.001	< 0.002[a]
	QUL-79-55M	2014 09 26	55 1	7 62	7 68	4 13	1 12	106	66	< 3	1 72	-	0 148	< 5	149	< 1	-	< 0 5	38	6 56	52 3	-	0 0012	< 0.002[a]

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012.

Gu deline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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]			50-1000[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)[b,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-66	QUL-66-0M	2014 09 15	8.7	17.3	< 30	1.93	0.405	0.444	0.77	< 0.1	< 0.1	4.88	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.75	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-66-24M	2014 09 15	8.4	18.9	< 30	2.15	11.1	0.555	1.24	< 0.1	0.19	7.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.74	< 0.05	0.87	-	0.909	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.184	< 1	< 3
	QUL-66-48M	2014 09 15	16	23 3	< 30	2 57	53 1	1 04	3 49	0 26	0 67	15 8	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 04	0 077	1 13	-	5 74	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 563	< 1	3 5
	QUL-66-0M	2014 09 16	8.8	17.4	< 30	1.92	0.451	0.459	0.792	< 0.1	< 0.1	5.12	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.5	< 0.05	0.82	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-66-40M	2014 09 16	14 4	22 3	< 30	2 47	44 3	0 978	3 08	0 21	0 61	14 4	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 45	< 0 05	1	-	4 94	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 508	< 1	< 3
	QUL-66-0M	2014 09 18	8 5	17 4	< 30	1 92	0 202	0 422	0 77	< 0 1	< 0 1	4 57	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 78	-	0 228	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 141	< 1	< 3
	QUL-66-15M	2014 09 18	9.1	18.5	< 30	2.1	8.85	0.481	1.06	< 0.1	0.17	7.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.71	< 0.05	0.76	-	0.5	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	< 3
	QUL-66-40M	2014 09 18	14 8	23	< 30	2 52	48 9	1 01	3 4	0 26	0 67	15	< 0 1	< 10	< 0 01	< 0 5	< 0 1	6 03	< 0 05	1 09	-	5 53	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 58	< 1	< 3
	QUL-66-0M	2014 09 20	8.6	17	< 30	1.8	0.603	0.439	0.761	< 0.1	0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.7	-	0.233	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-66-15M	2014 09 20	8.9	17.9	< 30	1.92	13.5	0.497	1.06	< 0.1	0.2	8.95	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.83	< 0.05	0.77	-	0.618	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.173	< 1	< 3
	QUL-66-45M	2014 09 20	14 8	22 3	< 30	2 37	51 6	1 04	3 61	0 27	0 71	16 2	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 83	< 0 05	1 15	-	5 92	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 612	< 1	< 3
	QUL-66-0M	2014 09 23	9	17.3	< 30	1.89	0.257	0.454	0.838	< 0.1	0.11	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.64	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-66-15M	2014 09 23	8.2	17.3	< 30	1.91	0.544	0.442	0.832	< 0.1	< 0.1	4.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.68	< 0.05	0.62	-	0.248	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-66-50M	2014 09 23	15 2	22 6	< 30	2 51	49	1 06	3 69	0 29	0 76	15 5	< 0 1	< 10	0 011	< 0 5	< 0 1	6 71	< 0 05	1 09	-	5 8	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 58	< 1	< 3
	QUL-66-0M	2014 09 29	8.3	17.6	< 30	1.92	0.374	0.447	0.806	< 0.1	0.11	5.13	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.77	< 0.05	0.89	-	0.285	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-66-40M	2014 09 29	12.1	21.9	< 30	2.4	35.9	0.924	2.96	0.21	0.54	13.2	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.7	< 0.05	1.14	-	4.66	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.497	< 1	< 3
	QUL-66-50M	2014 09 29	15.6	22.8	< 30	2.51	47.9	1.1	3.71	0.28	0.73	15.4	< 0.1	< 10	0.012	< 0.5	< 0.1	6.62	< 0.05	1.21	-	6.05	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.62	< 1	< 3
QUL-66A	QUL-66A-0M	2014 09 25	8 3	17 5	< 30	1 89	0 216	0 45	0 781	< 0 1	< 0 1	4 79	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 6	< 0 05	0 7	-	0 233	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 137	< 1	< 3
	QUL-66AX-0M	2014 09 25	7.8	17.5	< 30	1.9	0.257	0.457	0.802	< 0.1	< 0.1	4.82	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	0.76	-	0.22	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QA/QC RPD %		*	0	*	< 1	*	2	3	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
	QUL-66A-40M	2014 09 25	12.8	22.5	< 30	2.46	41.8	0.982	3.12	0.23	0.63	14.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.1	< 0.05	0.94	-	5.04	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.534	< 1	< 3
	QUL-66A-85M	2014 09 25	17	24	< 30	2.61	63.9	1.15	3.75	0.29	0.78	17.1	< 0.1	< 10	< 0.01	< 0.5	< 0.1	7.15	< 0.05	0.97	-	6.36	< 0.5	0.55	< 0.01	< 0.01	< 10	0.656	< 1	< 3
	QUL-66A-0M	2014 09 27	9	17.7	< 30	1.92	0.274	0.45	0.802	< 0.1	< 0.1	5.06	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.67	< 0.05	0.85	-	0.256	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	4.2
	QUL-66A-40M	2014 09 27	13 6	22 8	< 30	2 49	44 9	1 06	3 4	0 26	0 67	15 1	< 0 1	< 10	< 0 01	< 0 5	< 0 1	5 53	< 0 05	1 11	-	5 75	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 619	< 1	< 3
	QUL-66A-80M	2014 09 27	15.9	24.1	< 30	2.63	62.8	1.16	3.89	0.29	0.8	17.3	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.24	< 0.05	1.2	-	6.57	< 0.5	0.55	< 0.01	< 0.01	< 10	0.691	1	< 3
QUL-79	QUL-79-0M	2014 09 15	8 6	17	< 30	1 86	0 202	0 43	0 752	< 0 1	< 0 1	4 71	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 78	-	0 227	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QUL-79-26M	2014 09 15	7 7	18 6	< 30	2 12	6 43	0 538	1 23	< 0 1	0 19	6 88	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 92	< 0 05	0 85	-	1 02	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 198	< 1	< 3
	QUL-79-50M	2014 09 15	7.9	19.4	< 30	2.2	11.2	0.61	1.53	< 0.1	0.22	7.95	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.84	< 0.05	0.93	-	1.62	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.239	< 1	< 3
	QUL-79-0M	2014 09 18	8.7	17.5	< 30	1.9	0.185	0.424	0.753	< 0.1	< 0.1	4.61	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.216	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QUL-79-15M	2014 09 18	8 8	17 2	< 30	1 96	0 193	0 464	0 874	< 0 1	0 1	5 57	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 18	< 0 05	0 75	-	0 316	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QUL-79-50M	2014 09 18	4.7	18.9	< 30	2.11	1.7	0.481	0.976	< 0.1	0.11	5.4	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.91	< 0.05	0.89	-	0.446	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.169	< 1	< 3
	QUL-79-0M	2014 09 19	12	17.4	< 30	1.85	0.186	0.419	0.753	< 0.1	< 0.1	4.66	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.233	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-79-25M	2014 09 19	6 6	18	< 30	2	0 782	0 485	0 982	< 0 1	0 13	5 81	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 16	< 0 05	0 8	-	0 465	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 162	< 1	< 3
	QUL-79-58M	2014 09 19	10.3	19.9	< 30	2.18	14.8	0.672	1.81	< 0.1	0.3	8.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	3.09	< 0.05	0.87	-	2.15	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.299	< 1	< 3
	QUL-79-0M	2014 09 22	9.8	16.4	< 30	1.72	0.197	0.429	0.789	< 0.1	< 0.1	4.71	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.61	-	0.231	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-79-30M	2014 09 22	7.8	17.9	< 30	1.95	6.19	0.542	1.3	< 0.1	0.18	6.92	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.06	< 0.05	0.74	-	1.13	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.222	< 1	< 3
	QUL-79-58M	2014 09 22	6 4	18 2	< 30	1 96	4 95	0 525	1 22	< 0 1	0 14	6 44	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 45	< 0 05	0 73	-	0 898	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 21	< 1	< 3
	QUL-79-0M	2014 09 26	8	17.5	< 30	1.9	0.233	0.436	0.782	< 0.1	< 0.1	4.85	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.86	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-79-40M	2014 09 26	4.7	18.3	< 30	2.03	0.208	0.464	0.878	< 0.1	< 0.1	4.85	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.58	< 0.05	1	-	0.259	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.153	< 1	< 3
	QUL-79-55M	2014 09 26	5 5	18 7	< 30	2 07	0 925	0 484	0 94	< 0 1	0 1	5 11	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 72	< 0 05	0 98	-	0 366	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 157	< 1	< 3

All terms defined within the body of SNC-Lava in's report (ava lable upon request).
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- Denotes analysis not conducted.
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SHADED Concentration greater than BCWQG Aquatic Life (AW) guide ine.
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[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012. Guideline for Nitrate app ied.
[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 applicab e to single sample resu ts at this point in time.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																	
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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-66	QUL-66-0M	2014 09 15	22.7	< 0.1	0.1	5.07	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.74	< 30	< 0.05	0.81	1,900	1.05	-	0.275	< 0.5	439	< 0.5	1,460	< 0.01	789	< 0.01	< 0.1	< 10	0.139	< 1	< 3
	QUL-66-24M	2014 09 15	***940***	< 0.1	0.53	21.5	< 0.1	< 0.5	< 10	< 0.01	18,900	**1.01**	0.55	**18.2**	***932***	0.377	1.65	2,520	31.8	-	1.03	1.29	872	< 0.5	4,150	< 0.01	1,360	< 0.01	< 0.1	52	0.225	2.4	3.5
	QUL-66-48M	2014 09 15	***3,240***	0 3	1 75	86 5	< 0 1	< 0 5	< 10	0 023	23 000	**1.89**	1 39	**69.3**	***2,050***	1 18	2 68	3 340	***111***	-	5 93	2 03	2 380	0 52	9 470	0 029	3 970	0 012	0 1	143	0 633	**6.9**	6 9
	QUL-66-0M	2014 09 16	28.1	< 0.1	< 0.1	5.22	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.88	< 30	< 0.05	0.79	1,910	1.41	-	0.303	< 0.5	459	< 0.5	1,440	< 0.01	800	< 0.01	< 0.1	< 10	0.146	< 1	< 3
	QUL-66-40M	2014 09 16	***2,830***	0 26	1 32	78 3	< 0 1	< 0 5	< 10	0 019	22 500	**1.36**	1 02	**53.6**	***1,480***	0 924	2 24	3 080	***86.5***	-	5 07	1 5	2 270	< 0 5	8 540	0 022	3 480	0 01	< 0 1	103	0 564	5 2	5 2
	QUL-66-0M	2014 09 18	15 3	< 0 1	< 0 1	4 69	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	0 57	< 30	< 0 05	0 79	1 930	0 701	-	0 25	< 0 5	418	< 0 5	1 410	< 0 01	753	< 0 01	< 0 1	< 10	0 151	< 1	< 3
	QUL-66-15M	2014 09 18	***1,280***	< 0.1	0.67	21.5	< 0.1	< 0.5	< 10	0.013	18,500	**1.63**	0.89	**25.2**	***1,580***	0.606	2.06	2,650	39.3	-	0.574	1.93	791	< 0.5	3,830	0.015	1,150	< 0.01	< 0.1	71	0.204	3.5	5
	QUL-66-40M	2014 09 18	***3,120***	0 3	1 49	84 6	< 0 1	< 0 5	11	0 02	23 100	**1.42**	1 05	**58.9**	***1,580***	1 04	2 29	3 180	***98.1***	-	5 71	1 48	2 420	< 0 5	8 660	0 023	3 880	0 014	0 11	115	0 66	5 5	5 6
	QUL-66-0M	2014 09 20	31.3	< 0.1	0.1	5.33	< 0.1	< 0.5	< 10	< 0.01	16,600	< 0.5	< 0.1	0.91	< 30	< 0.05	0.75	1,770	1.9	-	0.284	< 0.5	453	< 0.5	1,390	< 0.01	792	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QUL-66-15M	2014 09 20	***2,070***	< 0.1	0.98	31.7	< 0.1	< 0.5	< 10	0.016	18,500	**2.46**	1.32	**39.4**	***2,160***	0.891	2.6	2,680	***57.6***	-	0.697	2.74	1,060	< 0.5	5,240	0.019	1,360	< 0.01	< 0.1	95	0.233	5.1	7.3
	QUL-66-45M	2014 09 20	***3,180***	0 31	1 46	92 1	< 0 1	< 0 5	< 10	0 016	22 200	**1.34**	1	**59.7**	***1,500***	1 01	2 1	2 920	***97.2***	-	5 92	1 45	2 510	< 0 5	9 510	0 021	4 150	0 012	0 1	111	0 671	5 4	5 4
	QUL-66-0M	2014 09 23	24.2	< 0.1	0.12	5.36	< 0.1	< 0.5	< 10	< 0.01	17,800	< 0.5	< 0.1	1.04	< 30	< 0.05	0.78	1,960	1.34	-	0.282	< 0.5	482	< 0.5	1,490	< 0.01	888	< 0.01	< 0.1	< 10	0.16	< 1	< 3
	QUL-66-15M	2014 09 23	26.1	< 0.1	0.13	5.44	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1	< 30	< 0.05	0.76	1,890	1.57	-	0.28	< 0.5	463	< 0.5	1,420	< 0.01	866	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-66-50M	2014 09 23	***2,930***	0 32	1 42	85 5	< 0 1	< 0 5	11	0 016	22 100	**1.35**	0 93	**58.5**	***1,390***	0 974	2 15	3 020	***94.5***	-	5 87	1 47	2 410	< 0 5	8 740	0 02	4 070	0 011	< 0 1	108	0 654	5 2	5 4
	QUL-66-0M	2014 09 29	49.9	< 0.1	0.14	5.35	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	1.34	52	< 0.05	0.95	1,910	2.13	-	0.396	< 0.5	458	< 0.5	1,460	< 0.01	805	< 0.01	< 0.1	< 10	0.164	< 1	< 3
	QUL-66-40M	2014 09 29	***2,260***	0.27	1.12	66	< 0.1	< 0.5	< 10	0.015	22,100	0.97	0.65	**42**	***967***	0.811	2.01	2,800	***71.3***	-	5.07	1.12	2,020	< 0.5	7,090	0.017	3,370	< 0.01	< 0.1	81	0.596	3.9	4
	QUL-66-50M	2014 09 29	***2,960***	0.29	1.4	84.9	< 0.1	< 0.5	< 10	0.019	22,800	**1.19**	0.85	**55**	***1,230***	0.954	2.17	2,990	***89.1***	-	6.03	1.31	2,470	< 0.5	8,480	0.02	4,060	< 0.01	< 0.1	103	0.657	5.1	5.4
QUL-66A	QUL-66A-0M	2014 09 25	60 7	< 0 1	0 11	5 43	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	1 45	56	< 0 05	0 62	1 940	2 02	-	0 306	< 0 5	474	< 0 5	1 530	< 0 01	831	< 0 01	< 0 1	< 10	0 167	< 1	< 3
	QUL-66AX-0M	2014 09 25	46.4	< 0.1	0.11	5.3	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	1.14	45	< 0.05	0.6	1,890	1.78	-	0.265	< 0.5	458	< 0.5	1,490	< 0.01	808	< 0.01	< 0.1	< 10	0.152	< 1	< 3
	QA/QC RPD %		27	*	*	2	*	*	*	*	2	*	*	*	*	*	*	3	*	-	14	*	3	*	3	*	3	*	*	*	9	*	*
	QUL-66A-40M	2014 09 25	***2,920***	0.28	1.37	81.8	< 0.1	< 0.5	10	0.017	23,100	**1.3**	0.91	**52.9**	***1,360***	0.934	1.85	3,080	***88.4***	-	5.65	1.38	2,460	< 0.5	8,510	0.02	3,800	0.012	< 0.1	107	0.648	5	5.5
	QUL-66A-85M	2014 09 25	***3,720***	0.37	1.73	105	< 0.1	< 0.5	11	0.022	24,500	**1.67**	1.17	**69.2**	***1,760***	1.18	2.07	3,380	***124***	-	6.88	1.66	2,930	0.59	10,200	0.027	4,540	0.015	< 0.1	139	0.784	**6.7**	6.7
	QUL-66A-0M	2014 09 27	35.8	< 0.1	0.12	5.45	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	1.14	35	< 0.05	0.85	1,930	1.59	-	0.283	< 0.5	466	< 0.5	1,450	< 0.01	834	< 0.01	< 0.1	< 10	0.169	< 1	< 3
	QUL-66A-40M	2014 09 27	***2,500***	0 28	1 25	76 1	< 0 1	< 0 5	10	0 017	22 300	**1.35**	0 74	**49.4**	***1,070***	0 942	1 89	2 870	***82.2***	-	5 57	1 2	2 320	< 0 5	7 540	0 016	3 830	< 0 01	< 0 1	82	0 662	4 3	4 7
	QUL-66A-80M	2014 09 27	***3,540***	0.36	1.66	102	< 0.1	< 0.5	11	0.02	24,500	**1.53**	1.07	**66.1**	***1,530***	1.22	2.17	3,300	***117***	-	6.88	1.5	3,010	0.59	10,000	0.023	4,680	0.013	0.13	124	0.819	**6.1**	5.9
QUL-79	QUL-79-0M	2014 09 15	13 3	< 0 1	< 0 1	4 75	< 0 1	< 0 5	< 10	< 0 01	16 800	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 77	1 860	0 536	-	0 257	< 0 5	424	< 0 5	1 390	< 0 01	761	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-79-26M	2014 09 15	***483***	< 0 1	0 29	17 4	< 0 1	< 0 5	< 10	< 0 01	18 400	< 0 5	0 17	**10.2**	233	0 167	1 14	2 190	15 3	-	1 1	0 55	765	< 0 5	2 960	< 0 01	1 350	< 0 01	< 0 1	19	0 223	< 1	< 3
	QUL-79-50M	2014 09 15	***908***	0.1	0.43	29.5	< 0.1	< 0.5	< 10	< 0.01	19,200	< 0.5	0.27	**16.7**	***410***	0.286	1.28	2,370	25	-	1.79	0.74	1,090	< 0.5	4,340	< 0.01	1,730	< 0.01	< 0.1	33	0.28	1.6	3.3
	QUL-79-0M	2014 09 18	14.3	< 0.1	< 0.1	4.69	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.63	< 30	< 0.05	0.8	1,910	0.619	-	0.245	< 0.5	417	< 0.5	1,390	< 0.01	759	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-79-15M	2014 09 18	74 4	< 0 1	0 14	6 28	< 0 1	< 0 5	< 10	< 0 01	17 200	< 0 5	< 0 1	**2.25**	70	< 0 05	0 8	1 990	2 84	-	0 316	< 0 5	476	< 0 5	1 630	< 0 01	866	< 0 01	< 0 1	< 10	0 16	< 1	< 3
	QUL-79-50M	2014 09 18	***158***	< 0.1	0.17	8.37	< 0.1	< 0.5	< 10	< 0.01	18,500	< 0.5	< 0.1	**3.45**	83	0.066	0.99	2,110	5.57	-	0.532	< 0.5	555	< 0.5	2,000	< 0.01	1,030	< 0.01	< 0.1	< 10	0.183	< 1	< 3
	QUL-79-0M	2014 09 19	< 15	< 0.1	< 0.1	4.66	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.65	1,830	0.559	-	0.252	< 0.5	427	< 0.5	1,370	< 0.01	795	< 0.01	< 0.1	< 10	0.159	< 1	< 3
	QUL-79-25M	2014 09 19	***129***	< 0 1	0 15	7 82	< 0 1	< 0 5	< 10	< 0 01	17 500	< 0 5	< 0 1	**3.13**	72	0 057	0 73	1 980	4 69	-	0 518	< 0 5	527	< 0 5	1 860	< 0 01	1 020	< 0 01	< 0 1	< 10	0 174	< 1	< 3
	QUL-79-58M	2014 09 19	***1,140***	0.13	0.55	33.7	< 0.1	< 0.5	< 10	< 0.01	18,900	0.51	0.35	**21.7**	***495***	0.353	1.3	2,270	33	-	2.28	0.67	1,180	< 0.5	4,200	< 0.01	2,020	< 0.01	< 0.1	38	0.325	1.9	< 3
	QUL-79-0M	2014 09 22	14.5	< 0.1	< 0.1	4.76	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.67	1,740	0.568	-	0.251	< 0.5	436	< 0.5	1,340	< 0.01	802	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-79-30M	2014 09 22	***452***	< 0.1	0.32	17.8	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	0.13	**9.6**	206	0.163	0.93	2,050	15.2	-	1.23	< 0.5	764	< 0.5	2,660	< 0.01	1,440	< 0.01	< 0.1	16	0.24	< 1	< 3
	QUL-79-58M	2014 09 22	***292***	< 0 1	0 25	13 5	< 0 1	< 0 5	< 10	< 0 01	18 200	< 0 5	< 0 1	**6.86**	126	0 141	0 87	2 020	10 6	-	0 968	< 0 5	661	< 0 5	2 320	< 0 01	1 280	< 0 01	< 0 1	11	0 228	< 1	< 3
	QUL-79-0M	2014 09 26	21.6	< 0.1	0.11	4.94	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.76	< 30	< 0.05	0.67	1,910	1.42	-	0.267	< 0.5	437	< 0.5	1,400	< 0.01	792	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-79-40M	2014 09 26	29.1	< 0.1	< 0.1	5.24	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	0.82	< 30	< 0.05	0.8	2,010	1.34	-	0.27	< 0.5	456	< 0.5	1,650	< 0.01	883	< 0.01	< 0.1	< 10	0.157	< 1	< 3
	QUL-79-55M	2014 09 26	54 4	< 0 1	0 11	6 4	< 0 1	< 0 5	< 10	< 0 01	18 300	< 0 5	< 0 1	2 04	< 30	< 0 05	0 8	2 060	2 74	-	0 405	< 0 5	499	< 0 5	1 740	< 0 01	971	< 0 01	< 0 1	< 10	0 166	< 1	< 3

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly calculated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable for site situation.

Guideline for Nitrate appl ed.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics												
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																								
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[j]	Change of 1	n/a	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	6 5-8 5	n/a[j]	n/a[j]	n/a	500	n/a	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-87	QUL-87-0M	2014 09 21	51	7.93	7.96	16.5	0.32	102	68	< 3	1.5	-	0.127	< 5	62.8	< 1	-	< 0.5	29	6.05	51.6	-	0.0017	< 0.002[a]
	QUL-87X-0M	2014 09 21	50.7	7.93	7.97	16.5	0.33	101	65	< 3	1.58	-	0.126	< 5	55.9	< 1	-	< 0.5	36	6.08	48.1	-	0.0014	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	*	< 1	5	*	*	-	*	*	12	*	-	*	*	< 1	7	-	*	*
	QUL-87-25M	2014 09 21	53.5	7.49	7.93	5.9	1.76	107	70	< 3	1.68	-	0.193	< 5	145	< 1	-	< 0.5	38	6.59	49.8	-	< 0.001	< 0.002[a]
	QUL-87X-25M	2014 09 21	53 2	7 49	7 94	5 9	1 72	108	70	< 3	1 53	-	0 188	< 5	146	< 1	-	< 0 5	38	6 57	50 3	-	< 0 001	< 0 002[a]
	QA/QC RPD %		< 1	0	< 1	0	2	< 1	0	*	*	-	*	*	< 1	*	-	*	*	< 1	< 1	-	*	*
	QUL-87-53M	2014 09 21	53.4	7.36	7.91	5.3	0.59	107	69	< 3	1.57	-	0.207	< 5	159	< 1	-	< 0.5	37	6.16	49.9	-	< 0.001	**0.0022**
	QUL-87-0M	2014 09 23	51.2	7.99	7.96	15.7	0.29	101	65	< 3	1.86	-	0.109	< 5	54.4	< 1	-	< 0.5	31	6.04	50.3	-	0.0012	< 0.002[a]
	QUL-87-25M	2014 09 23	53 1	7 64	7 93	6 19	1 21	107	68	< 3	1 9	-	0 19	< 5	156	< 1	-	< 0 5	34	6 13	52 2	-	0 0011	**0.0021**
	QUL-87-57M	2014 09 23	53.4	7.44	7.91	5.25	0.53	106	67	< 3	1.91	-	0.21	< 5	141	< 1	-	< 0.5	34	6.33	52.5	-	< 0.001	< 0.002[a]
	QUL-87-0M	2014 09 28	53	8.13	7.69	15.3	0.24	98.9	66	< 3	1.82	-	0.086	< 5	57.5	< 1	-	< 0.5	33	6.06	49.2	-	< 0.001	< 0.002[a]
	QUL-87X-0M	2014 09 28	50 9	8 13	7 63	15 3	0 36	98 7	65	< 3	1 86	-	0 089	< 5	57	< 1	-	< 0 5	35	6 05	49 2	-	< 0 001	< 0 002[a]
	QA/QC RPD %		4	0	< 1	0	*	< 1	2	*	*	-	*	*	< 1	*	-	*	*	< 1	0	-	*	*
	QUL-87-40M	2014 09 28	53	7 48	7 61	5 4	0 56	102	68	< 3	1 93	-	0 155	< 5	149	< 1	-	< 0 5	36	6 13	51 3	-	< 0 001	< 0 002[a]
	QUL-87-50M	2014 09 28	52.4	7.43	7.49	5.3	0.46	100	72	< 3	2.18	-	0.161	< 5	153	< 1	-	< 0.5	35	6.14	50.1	-	< 0.001	< 0.002[a]
QUL-105	QUL-105	2014 09 22	48.7	-	7.93	-	0.3	102	67	< 3	1.78	-	0.126	< 5	50.5	< 1	-	< 0.5	34	6.03	48.3	-	< 0.001	< 0.002[a]
	QUL-105X	2014 09 22	48 2	-	7 92	-	0 28	102	66	< 3	1 85	-	0 119	< 5	51 7	< 1	-	< 0 5	34	6 01	48 1	-	< 0 001	< 0 002[a]
	QA/QC RPD %		1	-	< 1	-	*	0	2	*	*	-	*	*	2	*	-	*	*	< 1	< 1	-	*	*
	QUL-105-TAP	2014 09 22	111	-	7 76	-	0 71	252	169	< 3	< 0 5	-	0 285	< 5	292	< 1	-	18 7	59	9 9	92 8	-	< 0 001	< 0 002[a]
QUL-107	QUL-107-2M	2014 09 15	50 1	7 86	7 82	13 9	0 6	99 8	67	< 3	1 92	-	0 136	< 5	67 3	< 1	-	< 0 5	35	6 04	48 6	-	< 0 001	< 0 002[a]
	QUL-107X-2M	2014 09 15	51	7.86	7.88	13.9	0.61	100	89	< 3	2.09	-	0.137	< 5	67.5	< 1	-	< 0.5	35	6.04	48.7	-	< 0.001	**0.002**
	QA/QC RPD %		2	0	< 1	0	2	< 1	28	*	*	-	*	*	< 1	*	-	*	*	0	< 1	-	*	*
QUL-108	QUL-108-1M	2014 09 15	51.5	8.16	7.91	14.9	0.54	101	67	< 3	2.07	-	0.14	< 5	61.3	< 1	-	< 0.5	35	6.01	49.1	-	< 0.001	< 0.002[a]
QUL-109	QUL-109-5M	2014 09 15	51 2	7 97	7 87	14 1	0 58	94 2	70	< 3	1 93	-	0 14	< 5	66 1	< 1	-	< 0 5	35	6 02	48 4	-	< 0 001	**0.0023**
QUL-110	QUL-110	2014 09 20	48.8	-	7.95	-	0.3	101	60	< 3	1.65	-	0.124	< 5	60.9	< 1	-	< 0.5	33	6.09	47.7	-	< 0.001	< 0.002[a]
QUL-111	QUL-111-0.5M	2014 09 19	51.5	7.17	7.98	16.2	0.84	98.7	63	< 3	1.66	-	0.139	< 5	55	< 1	-	< 0.5	33	6	48.4	-	< 0.001	< 0.002[a]
QUL-112	QUL-112-0M	2014 09 20	49 6	8 02	7 93	15	0 3	101	50	< 3	1 7	-	0 124	< 5	60 1	< 1	-	< 0 5	33	6 08	48 3	-	< 0 001	< 0 002[a]
	QUL-112-30M	2014 09 20	51 5	7 58	7 89	4 9	0 22	105	66	< 3	1 53	-	0 182	< 5	147	< 1	-	< 0 5	37	6 21	49 7	-	< 0 001	< 0 002[a]
	QUL-112X-30M	2014 09 20	51	7.58	7.89	4.9	0.24	106	65	< 3	1.77	-	0.183	< 5	147	< 1	-	< 0.5	36	6.21	50.3	-	< 0.001	< 0.002[a]
	QA/QC RPD %		1	0	0	0	*	1	2	*	15	-	1	*	0	*	-	*	*	0	1	-	*	*
	QUL-112-80M	2014 09 20	52.8	7.6	7.91	3.8	0.24	107	69	< 3	1.38	-	0.19	< 5	147	< 1	-	< 0.5	36	6.33	51.1	-	< 0.001	< 0.002[a]
	QUL-112-0M	2014 09 24	51.3	7.69	7.06	15.85	0.32	101	65	< 3	1.89	-	0.123	< 5	61.4	< 1	-	< 0.5	30	6.12	52.5	-	< 0.001	< 0.002[a]
	QUL-112-40M	2014 09 24	53 1	7 48	7 02	4 19	0 2	106	75	< 3	1 66	-	0 176	< 5	147	< 1	-	< 0 5	35	6 26	54 5	-	< 0 001	< 0 002[a]
	QUL-112X-40M	2014 09 24	54.2	7.48	7.01	4.19	0.18	105	67	< 3	1.67	-	0.181	< 5	146	< 1	-	< 0.5	35	6.27	54.1	-	< 0.001	< 0.002[a]
	QA/QC RPD %		2	0	< 1	0	*	< 1	11	*	*	-	*	*	< 1	*	-	*	*	< 1	< 1	-	*	*
	QUL-112-80M	2014 09 24	53.3	7.53	7.01	3.8	0.15	106	79	< 3	1.67	-	0.177	< 5	146	< 1	-	< 0.5	35	6.32	54.9	-	< 0.001	< 0.002[a]
	QUL-112-0M	2014 09 28	52.1	8.12	7.96	14.03	0.34	100	62	< 3	1.93	-	0.115	< 5	65.6	< 1		< 0.5	34	6.19	51.5	-	< 0.001	< 0.002[a]
	QUL-112-40M	2014 09 28	54 9	7 45	7 65	4 11	0 24	103	75	< 3	1 58	-	0 159	< 5	147	< 1	-	< 0 5	37	6 27	52 3	-	< 0 001	< 0 002[a]
	QUL-112-80M	2014 09 28	55 2	7 49	7 64	3 76	0 16	105	55	< 3	1 66	-	0 146	< 5	149	< 1	-	< 0 5	37	6 32	52 6	-	< 0 001	< 0 002[a]
QUL-113	QUL-113-2M	2014 09 20	51	7.99	7.95	14.8	0.44	102	70	< 3	1.69	-	0.138	< 5	56.5	< 1	-	< 0.5	33	6.06	48	-	< 0.001	< 0.002[a]
	QUL-113X-2M	2014 09 20	50.8	7.99	7.95	14.8	0.3	102	63	< 3	1.74	-	0.128	< 5	57.2	< 1	-	< 0.5	33	6.07	48	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	0	0	*	0	11	*	*	-	*	*	1	*	-	*	*	< 1	0	-	*	*
QUL-114	QUL-114	2014 09 20	51.6	8.03	7.95	15.4	1.03	103	63	10.9	1.67	-	0.128	< 5	56.7	< 1	-	< 0.5	35	6.06	48.8	-	< 0.001	< 0.002[a]
QUL-115	QUL-115	2014 09 20	53 5	8 15	7 96	15 5	0 46	104	62	< 3	1 62	-	0 133	< 5	54 1	< 1	-	< 0 5	35	6 09	49	-	< 0 001	< 0 002[a]
QUL-116	QUL-116	2014 09 20	51.9	8.18	7.97	15.5	0.39	104	66	< 3	1.6	-	0.125	< 5	53.7	< 1	-	< 0.5	34	6.09	49.6	-	< 0.001	< 0.002[a]
QUL-117	QUL-117	2014 09 20	53.1	8.1	7.87	15.8	1.35	105	63	12.4	1.56	-	0.159	< 5	51.2	< 1	-	< 0.5	34	6.09	49.3	-	< 0.001	< 0.002[a]
QUL-118	QUL-118-TAP	2014 09 20	50 3	-	7 93	-	0 15	102	57	< 3	< 0 5	-	< 0 05	< 5	< 5	< 1	-	3 03	31	2 43	47 7	-	0 0038	**0.0037**

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[f] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[g] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[h] Secondary chronic or chronic value, not 30 day mean.

[i] Guideline not applicable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-87	QUL-87-0M	2014 09 21	8.4	17.3	< 30	1.88	0.215	0.442	0.8	< 0.1	< 0.1	4.73	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.77	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
	QUL-87X-0M	2014 09 21	8.5	17.2	< 30	1.87	0.245	0.43	0.783	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.229	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.145	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	3	2	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
	QUL-87-25M	2014 09 21	5.8	18.1	< 30	2.01	0.769	0.481	0.963	< 0.1	0.11	5.45	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.86	< 0.05	0.84	-	0.411	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.16	< 1	< 3
	QUL-87X-25M	2014 09 21	6 1	18	< 30	2	0 801	0 475	0 966	< 0 1	0 11	5 35	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 83	< 0 05	0 84	-	0 397	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 16	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	4	1	< 1	*	*	2	*	*	*	*	*	*	*	*	-	4	*	*	*	*	*	0	*	*
	QUL-87-53M	2014 09 21	5.2	18	< 30	2.05	0.218	0.486	0.945	< 0.1	< 0.1	5.13	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.52	< 0.05	0.87	-	0.256	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-87-0M	2014 09 23	8.2	17.4	< 30	1.91	0.193	0.43	0.821	< 0.1	< 0.1	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.65	-	0.242	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-87-25M	2014 09 23	6 8	17 9	< 30	2 04	0 442	0 473	0 98	< 0 1	0 11	5 38	< 0 1	< 10	< 0 01	< 0 5	< 0 1	1 03	< 0 05	0 86	-	0 34	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 154	< 1	< 3
	QUL-87-57M	2014 09 23	5.6	18	< 30	2.07	0.258	0.474	0.969	< 0.1	< 0.1	5.14	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.78	< 0.05	0.72	-	0.27	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.133	< 1	< 3
	QUL-87-0M	2014 09 28	8.3	18	< 30	1.97	0.185	0.441	0.793	< 0.1	< 0.1	4.68	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.63	-	0.23	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-87X-0M	2014 09 28	8 9	17 3	< 30	1 88	0 15	0 447	0 791	< 0 1	< 0 1	4 69	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 74	-	0 234	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 147	< 1	< 3
	QA/QC RPD %		*	4	*	5	*	1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	3	*	*
	QUL-87-40M	2014 09 28	5 5	17 9	< 30	2 02	0 241	0 48	0 909	< 0 1	< 0 1	4 89	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 59	< 0 05	0 9	-	0 282	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 143	< 1	< 3
	QUL-87-50M	2014 09 28	5.8	17.7	< 30	2	0.203	0.479	0.908	< 0.1	0.1	5.01	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.98	-	0.275	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
QUL-105	QUL-105	2014 09 22	10.5	16.6	< 30	1.75	0.591	0.437	0.769	< 0.1	0.12	4.78	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.69	-	0.253	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-105X	2014 09 22	10 3	16 4	< 30	1 74	0 632	0 435	0 773	< 0 1	0 12	4 81	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 52	< 0 05	0 7	-	0 261	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 141	< 1	< 3
	QA/QC RPD %		*	1	*	< 1	7	< 1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	2	*	*
	QUL-105-TAP	2014 09 22	< 3	36 9	< 30	4 62	1 03	0 669	5 75	0 1	0 13	6 01	< 0 1	27	< 0 01	< 0 5	< 0 1	5 25	0 09	< 0 5	-	0 172	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 022	< 1	4 3
QUL-107	QUL-107-2M	2014 09 15	8 3	17	< 30	1 87	0 347	0 472	0 83	< 0 1	0 11	5 23	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 64	< 0 05	0 7	-	0 28	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 144	< 1	< 3
	QUL-107X-2M	2014 09 15	8.5	17.3	< 30	1.92	0.395	0.455	0.819	< 0.1	0.11	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.62	< 0.05	0.67	-	0.29	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.135	< 1	< 3
	QA/QC RPD %		*	2	*	3	13	4	1	*	*	< 1	*	*	*	*	*	*	*	*	-	4	*	*	*	*	*	7	*	*
QUL-108	QUL-108-1M	2014 09 15	8.7	17.4	< 30	1.95	1.17	0.458	0.838	< 0.1	0.11	5.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.68	-	0.265	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
QUL-109	QUL-109-5M	2014 09 15	8 6	17 3	< 30	1 91	0 283	0 464	0 838	< 0 1	< 0 1	5 18	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 57	< 0 05	0 71	-	0 274	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 14	< 1	< 3
QUL-110	QUL-110	2014 09 20	9.6	16.7	< 30	1.75	0.205	0.428	0.755	< 0.1	0.1	4.58	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.223	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
QUL-111	QUL-111-0.5M	2014 09 19	9.4	17.5	< 30	1.91	4.52	0.448	0.814	< 0.1	0.31	5.02	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.56	< 0.05	0.75	-	0.261	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.147	< 1	< 3
QUL-112	QUL-112-0M	2014 09 20	8 4	16 9	< 30	1 77	0 202	0 427	0 758	< 0 1	< 0 1	4 67	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 71	-	0 224	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 146	< 1	< 3
	QUL-112-30M	2014 09 20	4 8	17 5	< 30	1 89	0 089	0 442	0 832	< 0 1	< 0 1	4 9	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 84	-	0 239	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 155	< 1	< 3
	QUL-112X-30M	2014 09 20	5.9	17.3	< 30	1.88	0.102	0.459	0.841	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.89	-	0.238	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QA/QC RPD %		21	1	*	1	*	4	1	*	*	1	*	*	*	*	*	*	*	6	-	0	*	*	*	*	*	3	*	*
	QUL-112-80M	2014 09 20	3.9	18	< 30	1.93	0.097	0.447	0.853	< 0.1	< 0.1	4.87	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.86	-	0.229	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-112-0M	2014 09 24	9.1	17.5	< 30	1.85	0.221	0.438	0.776	< 0.1	< 0.1	4.51	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	0.055	0.51	-	0.242	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
	QUL-112-40M	2014 09 24	5	18	< 30	1 99	0 118	0 467	0 895	< 0 1	< 0 1	4 89	< 0 1	< 10	< 0 01	< 0 5	< 0 1	0 98	< 0 05	0 67	-	0 246	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 156	< 1	< 3
	QUL-112X-40M	2014 09 24	5	18.4	< 30	2.02	0.112	0.467	0.9	< 0.1	< 0.1	4.86	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1	< 0.05	0.65	-	0.256	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
	QA/QC RPD %		*	2	*	2	*	0	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	< 1	*	*
	QUL-112-80M	2014 09 24	4.7	18.1	< 30	1.99	0.086	0.471	0.905	< 0.1	< 0.1	4.96	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.61	< 0.05	0.77	-	0.25	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.158	< 1	< 3
	QUL-112-0M	2014 09 28	8.2	17.7	< 30	1.9	0.134	0.429	0.763	< 0.1	0.11	4.69	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.88	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QUL-112-40M	2014 09 28	4 4	18 6	< 30	2 06	0 106	0 458	0 881	< 0 1	< 0 1	4 83	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 89	-	0 226	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
	QUL-112-80M	2014 09 28	4 1	18 7	< 30	2 07	0 088	0 463	0 873	< 0 1	< 0 1	4 85	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 89	-	0 242	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 151	< 1	< 3
QUL-113	QUL-113-2M	2014 09 20	9	17.3	< 30	1.88	0.374	0.422	0.776	< 0.1	< 0.1	4.67	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.81	-	0.237	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-113X-2M	2014 09 20	8.3	17.3	< 30	1.87	0.376	0.433	0.772	< 0.1	0.1	4.74	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.74	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QA/QC RPD %		*	0	*	< 1	< 1	3	< 1	*	*	2	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	0	*	*
QUL-114	QUL-114	2014 09 20	8.7	17.5	< 30	1.91	0.57	0.435	0.784	< 0.1	< 0.1	4.69	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.71	-	0.223	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.148	< 1	< 3
QUL-115	QUL-115	2014 09 20	8 4	18 1	< 30	2 02	0 595	0 443	0 808	< 0 1	0 13	4 74	< 0 1	< 10	< 0 01	< 0 5	< 0 1	< 0 5	< 0 05	0 76	-	0 27	< 0 5	< 0 5	< 0 01	< 0 01	< 10	0 157	< 1	< 3
QUL-116	QUL-116	2014 09 20	8.3	17.6	< 30	1.96	0.653	0.441	0.794	< 0.1	0.19	4.81	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.8	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.154	< 1	< 3
QUL-117	QUL-117	2014 09 20	8.6	18	< 30	2.02	0.869	0.44	0.791	< 0.1	0.14	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.25	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
QUL-118	QUL-118-TAP	2014 09 20	4 3	17	< 30	1 87	1 41	0 425	0 79	< 0 1	0 48	44 7	< 0 1	< 10	< 0 01	< 0 5	0 11	15 3	0 723	0 86	-	0 499	2 43	< 0 5	< 0 01	< 0 01	< 10	0 024	< 1	5 7

All terms defined within the body of SNC-Lava in's report (ava lable upon request).

< Denotes concentrat on less than indicated detection imit or RPD less than indicated value.

- Denotes analysis not conducted.

n/a Denotes no app icable 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) guide ine.

BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

[a] Laboratory detection limit out of range.

[b] Br tish Columbia Approved Water Qual ty Gu delines 2006 Ed tion, updated 201 .

[c] A Compendium of Working Water Quality Guide ines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and/or either Temperature or Hardness or chlor de

[e] Health Canada Drinking Water Gu delines, 2012. Guideline for Nitrate app ied.

[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 applicab e to single sample resu ts at this point in time.

[h] Ca culated based on an individual sample bas s, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b,c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			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-87	QUL-87-0M	2014 09 21	12.9	< 0.1	< 0.1	4.77	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.77	1,830	0.637	-	0.302	< 0.5	438	< 0.5	1,350	< 0.01	818	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-87X-0M	2014 09 21	14	< 0.1	< 0.1	4.74	< 0.1	< 0.5	< 10	< 0.01	16,900	< 0.5	< 0.1	0.53	< 30	< 0.05	0.68	1,840	0.702	-	0.262	< 0.5	454	< 0.5	1,370	< 0.01	834	< 0.01	< 0.1	< 10	0.155	< 1	< 3
	QA/QC RPD %		*	*	*	< 1	*	*	*	*	1	*	*	*	*	*	*	< 1	*	-	14	*	4	*	2	*	2	*	*	*	3	*	*
	QUL-87-25M	2014 09 21	89.5	< 0.1	0.14	7.05	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	**2.22**	48	< 0.05	0.71	1,980	3.88	-	0.419	< 0.5	526	< 0.5	1,840	< 0.01	1,030	< 0.01	< 0.1	< 10	0.168	< 1	< 3
	QUL-87X-25M	2014 09 21	79 9	< 0 1	0 13	7 03	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	2 12	48	< 0 05	0 82	1 980	3 6	-	0 424	< 0 5	507	< 0 5	1 830	< 0 01	1 000	< 0 01	< 0 1	< 10	0 169	< 1	< 3
	QA/QC RPD %		11	*	*	< 1	*	*	*	*	1	*	*	*	*	*	*	0	*	-	1	*	4	*	< 1	*	3	*	*	*	< 1	*	*
	QUL-87-53M	2014 09 21	28.9	< 0.1	0.13	5.76	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.89	< 30	< 0.05	0.85	2,060	1.8	-	0.305	< 0.5	495	< 0.5	1,920	< 0.01	986	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUL-87-0M	2014 09 23	13.8	< 0.1	< 0.1	5.05	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.59	< 30	< 0.05	0.64	1,920	0.807	-	0.333	< 0.5	438	< 0.5	1,420	< 0.01	846	< 0.01	< 0.1	< 10	0.16	< 1	< 3
	QUL-87-25M	2014 09 23	63 6	< 0 1	0 16	6 58	< 0 1	< 0 5	< 10	< 0 01	17 900	< 0 5	< 0 1	1 95	43	< 0 05	0 71	2 080	3 05	-	0 405	< 0 5	502	< 0 5	1 850	< 0 01	1 010	< 0 01	< 0 1	< 10	0 163	< 1	< 3
	QUL-87-57M	2014 09 23	24.8	< 0.1	0.12	5.57	< 0.1	< 0.5	< 10	< 0.01	18,100	< 0.5	< 0.1	1.03	< 30	< 0.05	0.77	2,110	1.39	-	0.303	< 0.5	478	< 0.5	1,920	< 0.01	981	< 0.01	< 0.1	< 10	0.153	< 1	< 3
	QUL-87-0M	2014 09 28	13.7	< 0.1	< 0.1	4.65	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.57	< 30	< 0.05	< 0.5	1,910	0.778	-	0.262	< 0.5	422	< 0.5	1,390	< 0.01	820	< 0.01	< 0.1	< 10	0.148	< 1	< 3
	QUL-87X-0M	2014 09 28	13 1	< 0 1	0 11	4 67	< 0 1	< 0 5	< 10	< 0 01	17 600	< 0 5	< 0 1	0 59	< 30	< 0 05	0 65	1 910	0 777	-	0 278	< 0 5	448	< 0 5	1 410	< 0 01	821	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QA/QC RPD %		*	*	*	< 1	*	*	*	*	2	*	*	*	*	*	*	0	*	-	6	*	6	*	1	*	< 1	*	*	*	8	*	*
	QUL-87-40M	2014 09 28	33 6	< 0 1	0 12	5 62	< 0 1	< 0 5	< 10	< 0 01	18 600	< 0 5	< 0 1	1 1	< 30	< 0 05	0 56	2 150	2 01	-	0 314	< 0 5	490	< 0 5	1 890	< 0 01	954	< 0 01	< 0 1	< 10	0 157	< 1	< 3
	QUL-87-50M	2014 09 28	29.9	< 0.1	0.11	5.24	< 0.1	< 0.5	< 10	< 0.01	17,900	0.85	2.47	0.94	45	< 0.05	0.72	2,030	1.7	-	1.78	< 0.5	479	< 0.5	1,820	< 0.01	931	< 0.01	< 0.1	< 10	0.15	< 1	< 3
QUL-105	QUL-105	2014 09 22	18.1	< 0.1	0.13	4.95	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	0.7	< 30	< 0.05	0.55	1,830	1.28	-	0.288	< 0.5	463	< 0.5	1,420	< 0.01	818	< 0.01	< 0.1	< 10	0.15	< 1	< 3
	QUL-105X	2014 09 22	19 3	< 0 1	0 13	4 88	< 0 1	< 0 5	< 10	< 0 01	16 500	< 0 5	< 0 1	0 68	< 30	< 0 05	0 5	1 760	1 31	-	0 276	< 0 5	454	< 0 5	1 380	< 0 01	806	< 0 01	< 0 1	< 10	0 151	< 1	< 3
	QA/QC RPD %		6	*	*	1	*	*	*	*	4	*	*	*	*	*	*	4	*	-	4	*	2	*	3	*	2	*	*	*	< 1	*	*
	QUL-105-TAP	2014 09 22	< 3	0 14	0 18	6 15	< 0 1	< 0 5	31	< 0 01	37 800	< 0 5	< 0 1	**6**	145	0 245	< 0 5	4 730	2 06	-	0 205	< 0 5	687	< 0 5	5 550	0 011	6 030	< 0 01	< 0 1	< 10	0 027	< 1	5 5
QUL-107	QUL-107-2M	2014 09 15	24 5	< 0 1	0 11	5 61	< 0 1	< 0 5	< 10	< 0 01	17 000	< 0 5	< 0 1	0 98	< 30	< 0 05	0 8	1 920	1 6	-	0 297	< 0 5	468	< 0 5	1 520	< 0 01	855	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-107X-2M	2014 09 15	26.7	< 0.1	< 0.1	5.09	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.88	< 30	< 0.05	0.72	1,870	1.61	-	0.292	< 0.5	419	< 0.5	1,490	< 0.01	762	< 0.01	< 0.1	< 10	0.145	< 1	< 3
	QA/QC RPD %		9	*	*	10	*	*	*	*	3	*	*	*	*	*	*	3	*	-	2	*	11	*	2	*	12	*	*	*	3	*	*
QUL-108	QUL-108-1M	2014 09 15	24.4	< 0.1	0.14	5.33	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.87	< 30	< 0.05	0.86	1,860	2.29	-	0.288	< 0.5	452	< 0.5	1,460	< 0.01	847	< 0.01	< 0.1	< 10	0.152	< 1	< 3
QUL-109	QUL-109-5M	2014 09 15	26 4	< 0 1	0 11	5 55	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	0 83	< 30	< 0 05	0 84	1 890	1 47	-	0 286	< 0 5	474	< 0 5	1 510	< 0 01	859	< 0 01	< 0 1	< 10	0 146	< 1	< 3
QUL-110	QUL-110	2014 09 20	14.7	< 0.1	0.1	4.93	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.77	1,820	1.69	-	0.254	< 0.5	446	< 0.5	1,410	< 0.01	799	< 0.01	0.14	< 10	0.164	< 1	< 3
QUL-111	QUL-111-0.5M	2014 09 19	62.7	< 0.1	0.43	5.52	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	1.01	79	0.108	0.88	1,940	7.74	-	0.265	< 0.5	477	< 0.5	1,520	< 0.01	867	< 0.01	< 0.1	< 10	0.162	< 1	< 3
QUL-112	QUL-112-0M	2014 09 20	16 5	< 0 1	< 0 1	4 74	< 0 1	< 0 5	< 10	< 0 01	16 700	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 82	1 760	0 567	-	0 252	< 0 5	428	< 0 5	1 340	< 0 01	766	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QUL-112-30M	2014 09 20	12 2	< 0 1	< 0 1	5 04	< 0 1	< 0 5	< 10	< 0 01	17 200	< 0 5	< 0 1	0 63	< 30	< 0 05	0 79	1 860	0 634	-	0 264	< 0 5	457	< 0 5	1 590	< 0 01	863	< 0 01	< 0 1	< 10	0 154	< 1	< 3
	QUL-112X-30M	2014 09 20	11.4	< 0.1	< 0.1	5.14	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.65	< 30	< 0.05	0.8	1,880	0.681	-	0.267	< 0.5	455	< 0.5	1,590	< 0.01	875	< 0.01	< 0.1	< 10	0.158	< 1	< 3
	QA/QC RPD %		7	*	*	2	*	*	*	*	1	*	*	3	*	*	1	1	*	-	1	*	0	*	0	*	1	*	*	*	3	*	*
	QUL-112-80M	2014 09 20	16.6	< 0.1	< 0.1	5.14	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.55	< 30	< 0.05	0.89	1,910	0.543	-	0.267	< 0.5	461	< 0.5	1,610	0.013	888	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUL-112-0M	2014 09 24	15.9	< 0.1	< 0.1	4.62	< 0.1	< 0.5	< 10	< 0.01	17,200	< 0.5	< 0.1	0.61	< 30	< 0.05	< 0.5	1,840	0.716	-	0.239	< 0.5	447	< 0.5	1,340	< 0.01	811	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QUL-112-40M	2014 09 24	10	< 0 1	< 0 1	4 98	< 0 1	< 0 5	< 10	< 0 01	18 100	< 0 5	< 0 1	0 52	< 30	< 0 05	0 62	2 010	0 545	-	0 266	< 0 5	476	< 0 5	1 610	< 0 01	915	< 0 01	< 0 1	< 10	0 161	< 1	< 3
	QUL-112X-40M	2014 09 24	11.5	< 0.1	< 0.1	4.87	< 0.1	< 0.5	< 10	< 0.01	18,000	< 0.5	< 0.1	0.57	< 30	< 0.05	0.62	2,000	0.609	-	0.264	< 0.5	468	< 0.5	1,610	< 0.01	925	< 0.01	< 0.1	< 10	0.162	< 1	< 3
	QA/QC RPD %		*	*	*	2	*	*	*	*	< 1	*	*	*	*	*	*	< 1	*	-	< 1	*	2	*	0	*	1	*	*	*	< 1	*	*
	QUL-112-80M	2014 09 24	8.4	< 0.1	0.1	4.93	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.65	2,000	0.532	-	0.262	< 0.5	474	< 0.5	1,580	< 0.01	925	< 0.01	< 0.1	< 10	0.161	< 1	< 3
	QUL-112-0M	2014 09 28	16.4	< 0.1	< 0.1	4.68	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	< 0.5	< 30	< 0.05	0.81	1,910	0.55	-	0.247	< 0.5	428	< 0.5	1,400	< 0.01	790	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-112-40M	2014 09 28	8 9	< 0 1	< 0 1	4 86	< 0 1	< 0 5	< 10	< 0 01	18 100	< 0 5	< 0 1	0 57	< 30	< 0 05	0 65	2 010	0 451	-	0 264	< 0 5	466	< 0 5	1 610	< 0 01	877	< 0 01	< 0 1	< 10	0 156	< 1	< 3
	QUL-112-80M	2014 09 28	8 2	< 0 1	< 0 1	5 03	< 0 1	< 0 5	< 10	< 0 01	18 800	< 0 5	< 0 1	0 58	< 30	< 0 05	0 78	2 090	0 526	-	0 272	< 0 5	487	< 0 5	1 680	< 0 01	934	< 0 01	< 0 1	< 10	0 16	< 1	< 3
QUL-113	QUL-113-2M	2014 09 20	< 18	< 0.1	0.11	4.93	< 0.1	< 0.5	< 10	< 0.01	17,600	< 0.5	< 0.1	0.58	< 30	< 0.05	0.87	1,930	1	-	0.256	< 0.5	462	< 0.5	1,460	< 0.01	853	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUL-113X-2M	2014 09 20	< 15	< 0.1	0.1	4.78	< 0.1	< 0.5	< 10	< 0.01	16,500	< 0.5	< 0.1	0.53	< 30	< 0.05	0.71	1,800	0.842	-	0.246	< 0.5	423	< 0.5	1,360	< 0.01	784	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QA/QC RPD %		*	*	*	3	*	*	*	*	7	*	*	*	*	*	*	7	*	-	*	*	9	*	7	*	8	*	*	*	8	*	*
QUL-114	QUL-114	2014 09 20	91.1	< 0.1	0.14	5.83	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.93	117	0.074	0.75	1,900	4.31	-	0.266	< 0.5	445	< 0.5	1,500	< 0.01	808	< 0.01	< 0.1	< 10	0.171	< 1	< 3
QUL-115	QUL-115	2014 09 20	< 18	< 0 1	0 13	4 9	< 0 1	< 0 5	< 10	< 0 01	17 900	< 0 5	< 0 1	0 52	< 30	< 0 05	0 76	2 010	1 3	-	0 278	< 0 5	461	< 0 5	1 490	< 0 01	845	< 0 01	< 0 1	< 10	0 167	< 1	< 3
QUL-116	QUL-116	2014 09 20	< 21	< 0.1	0.21	5.11	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	0.62	31	< 0.05	0.71	2,020	1.78	-	0.279	< 0.5	464	< 0.5	1,510	< 0.01	866	< 0.01	< 0.1	< 10	0.172	< 1	< 3
QUL-117	QUL-117	2014 09 20	***193***	< 0.1	0.38	6.14	< 0.1	< 0.5	< 10	0.011	17,400	0.77	0.16	1.11	***313***	0.117	0.92	2,050	11	-	0.296	0.83	478	< 0.5	1,790	< 0.01	835	< 0.01	< 0.1	12	0.179	< 1	< 3
QUL-118	QUL-118-TAP	2014 09 20	< 15	< 0 1	0 44	52 2	< 0 1	< 0 5	< 10	< 0 01	16 200	< 0 5	0 14	**16.1**	< 30	0 789	0 86	1 810	2 19	-	0 488	3	406	< 0 5	1 720	< 0 01	790	< 0 01	< 0 1	< 10	0 022	< 1	6 7

All terms defined within the body of SNC-Lavalin's report (avai able upon request).

< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.

- Denotes analysis not conducted.

n/a Denotes no appl cable standard.

* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.

BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.

[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .

[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.

[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride

[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.

[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.

[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not appl cable for site situation.

TABLE 1a: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water DRAFT

			Physical Parameters									Total Inorganics													
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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[g] (mg/L)
BC Guidelines																									
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	n/a	5,680-18,400[d]	32,800	60-600[d]	32,800[f]	600	988.2-1742[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	n/a	+/-1 Degree change from ambient	Change of 2	n/a	n/a	Change of 5	+20% of median background	n/a	n/a	1,090-1,770[d]	3 000	20-200[d]	3,000[f]	150	n/a	128-429[d]	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[i]	Change of 1	n/a	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	6 5-8 5	n/a[i]	n/a[i]	n/a	500	n/a	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-119	QUL-119-0M	2014 09 21	51.2	7.84	7.97	14.5	0.27	102	62	< 3	1.54	-	0.13	< 5	64.2	< 1	-	< 0.5	34	6.11	48.2	-	< 0.001	< 0.002[a]
	QUL-119-20M	2014 09 21	53.6	7.5	7.94	6.3	1.77	108	65	< 3	1.56	-	0.178	< 5	135	< 1	-	< 0.5	37	6.64	50.2	-	< 0.001	**0.002**
	QUL-119-98M	2014 09 21	54 9	7 45	7 93	3 7	0 2	109	66	< 3	1 43	-	0 179	< 5	148	< 1	-	< 0 5	36	6 31	51 7	-	< 0 001	< 0.002[a]
	QUL-119-0M	2014 09 24	50.4	8.1	7.06	14.27	0.29	100	72	< 3	1.84	-	0.112	< 5	64.1	< 1	-	< 0.5	33	6.12	51.8	-	< 0.001	< 0.002[a]
	QUL-119-40M	2014 09 24	54	7.65	7.01	4.36	0.3	105	75	< 3	1.73	-	0.18	< 5	147	< 1	-	< 0.5	35	6.22	53.5	-	< 0.001	< 0.002[a]
	QUL-119-80M	2014 09 24	54 6	7 67	7 01	3 75	0 16	107	74	< 3	1 6	-	0 18	< 5	146	< 1	-	< 0 5	35	6 33	54 6	-	< 0 001	< 0 002[a]
	QUL-119-0M	2014 09 28	52 5	8	7 68	14 21	0 24	98 5	56	< 3	1 84	-	0 1	< 5	63 6	< 1	-	< 0 5	37	6 14	49 3	-	< 0 001	< 0.002[a]
	QUL-119-40M	2014 09 28	53.9	7.55	7.64	4.29	0.24	103	70	< 3	1.75	-	0.165	< 5	147	< 1	-	< 0.5	37	6.22	51.7	-	< 0.001	< 0.002[a]
	QUL-119-80M	2014 09 28	55.7	7.55	7.64	3.71	0.28	105	71	< 3	1.67	-	0.151	< 5	149	< 1	-	< 0.5	36	6.35	52.5	-	< 0.001	< 0.002[a]
QUL-120	QUL-120-0M	2014 09 21	51 5	7 99	7 96	15	0 35	101	63	< 3	1 55	-	0 131	< 5	58 1	< 1	-	< 0 5	33	6 05	48 2	-	< 0 001	< 0 002[a]
	QUL-120-35M	2014 09 21	54 3	7 5	7 93	5	2 97	109	68	< 3	1 62	-	0 193	< 5	148	< 1	-	< 0 5	37	6 74	50 2	-	< 0 001	< 0 002[a]
	QUL-120-88M	2014 09 21	54.7	7.49	7.91	4.3	2.1	109	66	< 3	1.42	-	0.19	< 5	150	< 1	-	< 0.5	38	6.68	51.3	-	< 0.001	< 0.002[a]
	QUL-120-0M	2014 09 24	51	8.07	7.06	14.96	0.27	101	71	< 3	1.84	-	0.122	< 5	60.1	< 1	-	< 0.5	33	6.13	55.7	-	< 0.001	< 0.002[a]
	QUL-120X-0M	2014 09 24	51 3	8 07	7 06	14 96	0 22	102	72	< 3	1 82	-	0 124	< 5	59 9	< 1	-	< 0 5	33	6 13	56 5	-	< 0 001	< 0 002[a]
	QA/QC RPD %		< 1	0	0	0	*	< 1	1	*	*	-	*	*	< 1	*	-	*	*	0	1	-	*	*
	QUL-120-40M	2014 09 24	51 6	7 7	7 04	5 59	0 69	102	71	< 3	1 8	-	0 193	< 5	75 5	< 1	-	< 0 5	34	6 14	52 6	-	< 0 001	< 0 002[a]
	QUL-120X-40M	2014 09 24	51.4	7.7	7.03	5.59	0.78	102	70	< 3	1.91	-	0.196	< 5	75.5	< 1	-	< 0.5	34	6.14	55.6	-	< 0.001	< 0.002[a]
	QA/QC RPD %		< 1	0	< 1	0	12	0	1	*	*	-	*	*	0	*	-	*	*	0	6	-	*	*
	QUL-120-80M	2014 09 24	54.7	7.66	7.03	4.09	1.47	107	74	< 3	1.75	-	0.189	< 5	147	< 1	-	< 0.5	36	6.52	54.5	-	< 0.001	< 0.002[a]
	QUL-120-0M	2014 09 28	52	8.11	7.54	15.04	0.26	103	70	< 3	1.86	-	0.091	< 5	59.7	< 1	-	< 0.5	35	6.09	48.1	-	< 0.001	< 0.002[a]
	QUL-120-40M	2014 09 28	54 1	7 55	7 6	4 64	1 41	107	69	< 3	1 86	-	0 152	< 5	148	< 1	-	< 0 5	36	6 38	51 9	-	< 0 001	< 0 002[a]
	QUL-120-80M	2014 09 28	55 8	7 55	7 63	4 14	1 44	107	70	< 3	1 75	-	0 151	< 5	150	< 1	-	< 0 5	39	6 57	52 3	-	< 0 001	< 0 002[a]
QUL-121	QUL-121-16M	2014 09 21	51.4	7.24	7.99	13.6	0.85	103	66	3.2	1.93	-	0.144	< 5	84.3	< 1	-	< 0.5	36	6.14	47.8	-	< 0.001	< 0.002[a]
QUL-122	QUL-122-TAP	2014 09 21	176	7.48	8.06	10.8	0.18	316	184	< 3	1.56	-	< 0.05	< 5	< 5	< 1	-	< 0.5	47	7.2	174	-	< 0.001	< 0.002[a]
	QUL-122X-TAP	2014 09 21	176	7 48	8 07	10 8	0 11	317	186	< 3	1 37	-	< 0 05	< 5	< 5	< 1	-	< 0 5	46	7 2	173	-	< 0 001	< 0 002[a]
	QA/QC RPD %		0	0	< 1	0	*	< 1	1	*	*	-	*	*	*	*	-	*	*	0	< 1	-	*	*
QUL-123	QUL-123-TAP	2014 09 21	58 7	7 2	7 85	14 4	0 17	118	73	< 3	< 0 5	-	0 137	< 5	133	< 1	-	< 0 5	42	5 81	57 3	-	< 0 001	< 0 002[a]
QUL-124	QUL-124	2014 09 21	51.1	8.06	7.96	15.3	0.41	102	63	< 3	1.99	-	0.118	< 5	56.4	< 1	-	< 0.5	35	6.07	48.2	-	< 0.001	< 0.002[a]
	QUL-124X	2014 09 21	51.1	8.06	7.96	15.3	0.5	101	61	< 3	1.98	-	0.12	< 5	55.8	< 1	-	< 0.5	34	6.06	47.8	-	< 0.001	< 0.002[a]
	QA/QC RPD %		0	0	0	0	*	< 1	3	*	*	-	*	*	1	*	-	*	*	< 1	< 1	-	*	*
QUL-125	QUL-125-TAP	2014 09 22	245	7 44	8 12	10 89	< 0 1	435	248	< 3	0 99	-	0 663	< 5	693	< 1	-	1 26	79	7 84	242	-	0 005	0 007
QUL-126	QUL-126-TAP	2014 09 22	64	7.3	7.85	12.45	0.72	167	106	< 3	0.57	-	0.085	< 5	93.8	< 1	-	2.95	40	6.84	78.1	-	< 0.001	< 0.002[a]
QUL-127	QUL-127-TAP	2014 09 22	105	7.58	8.02	11.49	0.16	252	143	< 3	< 0.5	-	0.182	< 5	188	< 1	-	9.84	40	7.52	115	-	< 0.001	< 0.002[a]
QUL-128	QUL-128-TAP	2014 09 22	276	7.43	8.09	12.21	0.16	563	350	< 3	0.76	-	2.47	< 5	2,720	< 1	-	19.6	37	30.6	253	-	< 0.001	< 0.002[a]
QUL-129	QUL-129-TAP	2014 09 22	67 4	7 38	7 92	12 96	0 52	144	94	< 3	< 0 5	-	0 16	< 5	173	< 1	-	1 88	40	7 23	66 4	-	< 0 001	< 0 002[a]

All terms defined w thin 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 applicab e standard.

* RPDs are not normally calcu ated where one or more concentrations are ess than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) gu deline.

SHADED Concentration greater than BCWQG Aquat c Life (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canad an Drinking Water Quality (DW) guideline.

[a] Laboratory detection imit out of range.

[b] British Columb a Approved Water Quality Guidelines 2006 Edition, updated 201 .

[c] A Compendium of Working Water Qual ty Gu delines for British Columb a, updated August 2006.

[d] Gu deline var es w th pH, and/or e ther Temperature or Hardness or ch oride

[e] Health Canada Drinking Water Guidelines, 2012. Gu deline for Nitrate applied.

[g] The total phosphorus guideline is a measure of lake productiv ty and is based on spring overturn or an average of summer samples and s not applicable to single samp e results at this point in time.

[h] Calcu ated based on an individual sample basis, not average of 30 day resu ts.

[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 DRAFT

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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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	n/a
QUL-119	QUL-119-0M	2014 09 21	9.1	17.4	< 30	1.87	0.133	0.431	0.781	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.76	-	0.213	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.14	< 1	< 3
	QUL-119-20M	2014 09 21	6.3	18.1	< 30	2.02	0.46	0.498	0.978	< 0.1	0.11	5.54	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.04	< 0.05	0.87	-	0.43	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.164	< 1	< 3
	QUL-119-98M	2014 09 21	3.7	18.6	< 30	2.06	0.127	0.462	0.899	< 0.1	< 0.1	4.83	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.79	-	0.249	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-119-0M	2014 09 24	8.4	17.1	< 30	1.84	0.126	0.451	0.791	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.67	-	0.254	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.153	< 1	< 3
	QUL-119-40M	2014 09 24	5.2	18.3	< 30	2.03	0.13	0.473	0.905	< 0.1	< 0.1	4.94	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.65	< 0.05	0.73	-	0.263	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
	QUL-119-80M	2014 09 24	4.3	18.5	< 30	2.04	0.085	0.468	0.901	< 0.1	< 0.1	4.93	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.53	< 0.05	0.82	-	0.247	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.156	< 1	< 3
	QUL-119-0M	2014 09 28	9.7	17.9	< 30	1.92	0.134	0.432	0.773	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.87	-	0.225	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-119-40M	2014 09 28	5.4	18.2	< 30	2.04	0.097	0.457	0.874	< 0.1	< 0.1	4.98	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.97	-	0.245	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.146	< 1	< 3
	QUL-119-80M	2014 09 28	4.1	18.8	< 30	2.1	0.132	0.463	0.892	< 0.1	< 0.1	4.95	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.94	-	0.262	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
QUL-120	QUL-120-0M	2014 09 21	9.2	17.5	< 30	1.9	0.208	0.437	0.799	< 0.1	< 0.1	4.76	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.72	-	0.23	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.143	< 1	< 3
	QUL-120-35M	2014 09 21	5.9	18.4	< 30	2.05	1.78	0.491	1.02	< 0.1	0.11	5.8	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.15	< 0.05	0.87	-	0.487	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.169	< 1	< 3
	QUL-120-88M	2014 09 21	5.1	18.5	< 30	2.04	1.39	0.493	1.03	< 0.1	0.11	5.71	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.09	< 0.05	0.8	-	0.459	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.168	< 1	< 3
	QUL-120-0M	2014 09 24	8.9	17.4	< 30	1.84	0.16	0.431	0.783	< 0.1	< 0.1	4.54	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.69	-	0.234	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.155	< 1	< 3
	QUL-120X-0M	2014 09 24	9.4	17.5	< 30	1.85	0.196	0.429	0.782	< 0.1	< 0.1	4.55	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.229	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.154	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	< 1	< 1	*	*	< 1	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	< 1	*	*
	QUL-120-40M	2014 09 24	7.8	17.5	< 30	1.95	0.156	0.475	0.886	< 0.1	0.12	5.59	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1	< 0.05	0.62	-	0.325	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.149	< 1	< 3
	QUL-120X-40M	2014 09 24	7.7	17.4	< 30	1.95	0.226	0.466	0.865	< 0.1	< 0.1	5.48	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.04	< 0.05	0.62	-	0.314	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QA/QC RPD %		*	< 1	*	0	*	2	2	*	*	2	*	*	*	*	*	*	*	*	-	3	*	*	*	*	*	< 1	*	*
	QUL-120-80M	2014 09 24	5.2	18.5	< 30	2.06	0.844	0.48	0.951	< 0.1	< 0.1	5.27	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.92	< 0.05	0.8	-	0.369	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.17	< 1	< 3
	QUL-120-0M	2014 09 28	8.4	17.7	< 30	1.92	0.181	0.424	0.772	< 0.1	< 0.1	4.65	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.9	-	0.241	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.15	< 1	< 3
	QUL-120-40M	2014 09 28	5.6	18.3	< 30	2.07	0.507	0.479	0.93	< 0.1	0.12	5.22	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.76	< 0.05	0.92	-	0.359	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.157	< 1	< 3
	QUL-120-80M	2014 09 28	5.3	18.9	< 30	2.11	0.61	0.476	0.958	< 0.1	0.12	5.36	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.81	< 0.05	1.05	-	0.399	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.166	< 1	< 3
QUL-121	QUL-121-16M	2014 09 21	8	17.4	< 30	1.93	0.148	0.459	0.848	< 0.1	0.13	5.15	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.77	< 0.05	1.03	-	0.321	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.151	< 1	< 3
QUL-122	QUL-122-TAP	2014 09 21	< 3	56	< 30	8.75	< 0.05	0.576	3.4	0.12	0.15	5.98	< 0.1	15	< 0.01	< 0.5	< 0.1	7.46	0.2	0.63	-	0.385	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.131	< 1	< 3
	QUL-122X-TAP	2014 09 21	< 3	55.9	< 30	8.82	< 0.05	0.576	3.46	0.12	0.14	6.03	< 0.1	15	< 0.01	< 0.5	< 0.1	6.95	0.192	0.71	-	0.381	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.128	< 1	< 3
	QA/QC RPD %		*	< 1	*	< 1	*	0	2	*	*	< 1	*	*	*	*	*	7	*	*	-	1	*	*	*	*	*	2	*	*
QUL-123	QUL-123-TAP	2014 09 21	< 3	19.7	< 30	2.31	0.413	0.545	1.36	< 0.1	0.24	4.51	< 0.1	< 10	< 0.01	< 0.5	< 0.1	2.61	0.094	< 0.5	-	0.292	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.058	< 1	< 3
QUL-124	QUL-124	2014 09 21	9.4	17.4	< 30	1.88	0.25	0.442	0.789	< 0.1	< 0.1	4.75	< 0.1	< 10	< 0.01	< 0.5	< 0.1	0.51	< 0.05	0.7	-	0.221	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.141	< 1	< 3
	QUL-124X	2014 09 21	9	17.4	< 30	1.88	0.249	0.434	0.786	< 0.1	< 0.1	4.75	< 0.1	< 10	< 0.01	< 0.5	< 0.1	< 0.5	< 0.05	0.73	-	0.224	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.144	< 1	< 3
	QA/QC RPD %		*	0	*	0	*	2	< 1	*	*	0	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	2	*	*
QUL-125	QUL-125-TAP	2014 09 22	< 3	77.7	< 30	12.5	0.071	1.18	3.77	0.19	0.76	11.4	< 0.1	37	0.022	1.22	< 0.1	14.7	0.284	2.33	-	1.64	< 0.5	5.79	< 0.01	< 0.01	12	0.991	< 1	13.8
QUL-126	QUL-126-TAP	2014 09 22	< 3	21.9	< 30	2.27	0.818	1.16	8.92	< 0.1	0.16	3.08	< 0.1	< 10	< 0.01	< 0.5	< 0.1	5.28	0.363	< 0.5	-	0.31	0.65	< 0.5	< 0.01	< 0.01	< 10	0.027	< 1	37.7
QUL-127	QUL-127-TAP	2014 09 22	< 3	36.9	< 30	3.15	0.143	1.09	12.3	0.12	0.75	3.84	< 0.1	< 10	< 0.01	< 0.5	< 0.1	1.26	0.303	< 0.5	-	0.253	5.12	< 0.5	< 0.01	< 0.01	< 10	0.05	< 1	14.4
QUL-128	QUL-128-TAP	2014 09 22	< 3	90.1	< 30	12.4	0.644	1.13	15.7	0.16	0.63	2.25	< 0.1	62	< 0.01	< 0.5	0.16	4.72	0.157	2.21	-	0.374	< 0.5	2.18	< 0.01	< 0.01	13	0.295	< 1	4.2
QUL-129	QUL-129-TAP	2014 09 22	< 3	22.9	< 30	2.51	1.01	0.617	1.7	< 0.1	0.36	5.33	< 0.1	< 10	< 0.01	< 0.5	< 0.1	6.16	0.196	0.85	-	0.312	< 0.5	< 0.5	< 0.01	< 0.01	< 10	0.091	< 1	14.4

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 out of range.

[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2013.

[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 or chloride

[e] Health Canada Drinking Water Guidelines, 2012. 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 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 Guidelines																																			
BCWQG Aquatic L fe (AW)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.016-0.079[d]	n/a	1 (Cr(+6))	110	6.0-27.9[d]	1,000	27.3-297.3[d]	870	n/a	1001-3582[d]	Methyl mercury analysis in progress	2,000	25-150[d]	373,000-432,000	2	n/a	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-172.5[d]
BCWQG Aquatic L fe (30day) (AW)[b c h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]		1 000	n/a	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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-119	QUL-119-0M	2014 09 21	15	< 0.1	< 0.1	4.63	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.51	< 30	< 0.05	0.76	1,820	0.599	-	0.244	< 0.5	434	< 0.5	1,360	< 0.01	811	< 0.01	< 0.1	< 10	0.151	< 1	< 3
	QUL-119-20M	2014 09 21	90.2	< 0.1	0.13	7.51	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	**2.39**	47	< 0.05	0.84	2,010	3.97	-	0.479	< 0.5	527	< 0.5	1,840	< 0.01	1,030	< 0.01	< 0.1	< 10	0.174	< 1	< 3
	QUL-119-98M	2014 09 21	10 6	< 0 1	< 0 1	4 94	< 0 1	< 0 5	< 10	< 0 01	18 000	< 0 5	< 0 1	0 55	< 30	< 0 05	0 89	1 990	0 631	-	0 274	< 0 5	471	< 0 5	1 640	< 0 01	935	< 0 01	< 0 1	< 10	0 16	< 1	< 3
	QUL-119-0M	2014 09 24	15.5	< 0.1	< 0.1	4.96	< 0.1	< 0.5	< 10	< 0.01	17,300	< 0.5	< 0.1	0.58	< 30	< 0.05	0.57	1,860	0.656	-	0.253	< 0.5	453	< 0.5	1,370	< 0.01	830	< 0.01	< 0.1	< 10	0.163	< 1	< 3
	QUL-119-40M	2014 09 24	15.2	< 0.1	0.1	5.12	< 0.1	< 0.5	< 10	< 0.01	17,900	< 0.5	< 0.1	0.56	< 30	< 0.05	0.67	2,010	0.97	-	0.272	< 0.5	488	< 0.5	1,640	< 0.01	941	< 0.01	< 0.1	< 10	0.165	< 1	< 3
	QUL-119-80M	2014 09 24	10 5	< 0 1	< 0 1	5 01	< 0 1	< 0 5	< 10	< 0 01	18 600	< 0 5	< 0 1	0 66	< 30	< 0 05	0 65	2 070	0 578	-	0 261	< 0 5	477	< 0 5	1 630	< 0 01	927	< 0 01	< 0 1	< 10	0 165	< 1	< 3
	QUL-119-0M	2014 09 28	14 7	< 0 1	< 0 1	4 62	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 71	1 890	0 645	-	0 244	< 0 5	424	< 0 5	1 380	< 0 01	786	< 0 01	< 0 1	< 10	0 149	< 1	< 3
	QUL-119-40M	2014 09 28	18	< 0.1	< 0.1	5.01	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.69	< 30	< 0.05	0.81	1,970	1.09	-	0.263	< 0.5	450	< 0.5	1,630	< 0.01	870	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QUL-119-80M	2014 09 28	16.9	< 0.1	0.1	4.86	< 0.1	< 0.5	< 10	< 0.01	17,700	< 0.5	< 0.1	0.64	< 30	< 0.05	0.72	1,980	1.04	-	0.269	< 0.5	449	< 0.5	1,610	< 0.01	870	< 0.01	< 0.1	< 10	0.153	< 1	< 3
QUL-120	QUL-120-0M	2014 09 21	14	< 0 1	0 1	4 85	< 0 1	< 0 5	< 10	< 0 01	16 900	< 0 5	< 0 1	< 0 5	< 30	< 0 05	0 62	1 850	0 757	-	0 246	< 0 5	451	< 0 5	1 370	< 0 01	838	< 0 01	< 0 1	< 10	0 155	< 1	< 3
	QUL-120-35M	2014 09 21	***143***	< 0 1	0 18	8 62	< 0 1	< 0 5	< 10	< 0 01	17 800	< 0 5	< 0 1	**3.74**	66	0 051	0 84	2 020	5 91	-	0 535	< 0 5	566	< 0 5	1 960	< 0 01	1 070	< 0 01	< 0 1	< 10	0 182	< 1	< 3
	QUL-120-88M	2014 09 21	***148***	< 0 1	0 16	8 56	< 0 1	< 0 5	< 10	< 0 01	18,400	< 0 5	< 0 1	**3.56**	73	0 054	0 85	2,090	5 64	-	0 517	< 0 5	548	< 0 5	2,020	< 0 01	1,070	< 0 01	< 0 1	< 10	0 185	< 1	< 3
	QUL-120-0M	2014 09 24	16.6	< 0.1	< 0.1	4.57	< 0.1	< 0.5	< 10	< 0.01	17,400	< 0.5	< 0.1	0.61	< 30	< 0.05	0.58	1,850	0.607	-	0.248	< 0.5	434	< 0.5	1,340	< 0.01	809	< 0.01	< 0.1	< 10	0.156	< 1	< 3
	QUL-120X-0M	2014 09 24	15 8	< 0 1	< 0 1	4 59	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	0 59	< 30	< 0 05	0 61	1 860	0 627	-	0 253	< 0 5	448	< 0 5	1 340	< 0 01	830	< 0 01	< 0 1	< 10	0 162	< 1	< 3
	QA/QC RPD %		5	*	*	< 1	*	*	*	*	0	*	*	*	*	*	*	< 1	*	-	*	*	3	*	0	*	3	*	*	*	4	*	*
	QUL-120-40M	2014 09 24	42 7	< 0 1	0 13	6 04	< 0 1	< 0 5	< 10	< 0 01	17 400	< 0 5	< 0 1	1 58	37	< 0 05	0 62	1 970	2 05	-	0 344	< 0 5	476	< 0 5	1 560	< 0 01	908	< 0 01	< 0 1	< 10	0 158	< 1	< 3
	QUL-120X-40M	2014 09 24	40.2	< 0.1	0.13	5.84	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	**58.3**	35	1.85	0.5	1,970	2.05	-	0.322	9.58	479	< 0.5	1,530	< 0.01	881	< 0.01	0.16	< 10	0.161	< 1	**34**
	QA/QC RPD %		6	*	*	3	*	*	*	*	< 1	*	*	*	*	*	*	0	*	-	7	*	< 1	*	2	*	3	*	*	*	2	*	*
	QUL-120-80M	2014 09 24	87.2	< 0.1	0.11	6.85	< 0.1	< 0.5	< 10	< 0.01	18,200	< 0.5	< 0.1	**2.38**	48	< 0.05	0.67	2,060	3.43	-	0.404	< 0.5	530	< 0.5	1,830	< 0.01	1,000	< 0.01	< 0.1	< 10	0.178	< 1	< 3
	QUL-120-0M	2014 09 28	14.2	< 0.1	< 0.1	4.75	< 0.1	< 0.5	< 10	< 0.01	17,500	< 0.5	< 0.1	0.57	< 30	< 0.05	0.74	1,920	0.752	-	0.248	< 0.5	429	< 0.5	1,390	< 0.01	788	< 0.01	< 0.1	< 10	0.149	< 1	< 3
	QUL-120-40M	2014 09 28	99 1	< 0 1	0 12	7 05	< 0 1	< 0 5	< 10	< 0 01	18 100	< 0 5	< 0 1	**4.79**	54	0 126	0 81	2 090	3 94	-	0 405	< 0 5	510	< 0 5	1 910	< 0 01	946	< 0 01	< 0 1	< 10	0 168	< 1	3
	QUL-120-80M	2014 09 28	83 9	< 0 1	0 12	6 61	< 0 1	< 0 5	< 10	< 0 01	17 800	< 0 5	< 0 1	2 16	42	0 056	0 83	2 030	3 12	-	0 426	< 0 5	489	< 0 5	1 800	< 0 01	937	< 0 01	< 0 1	< 10	0 167	< 1	< 3
QUL-121	QUL-121-16M	2014 09 21	43	< 0.1	0.14	5.85	< 0.1	< 0.5	< 10	< 0.01	17,100	< 0.5	< 0.1	1.43	37	< 0.05	0.97	1,930	2.19	-	0.333	< 0.5	488	< 0.5	1,590	< 0.01	888	< 0.01	< 0.1	< 10	0.159	< 1	< 3
QUL-122	QUL-122-TAP	2014 09 21	< 3	0.16	0.15	5.92	< 0.1	< 0.5	17	< 0.01	52,800	< 0.5	< 0.1	**8.55**	< 30	0.225	0.61	8,350	< 0.05	-	0.412	< 0.5	559	< 0.5	4,360	< 0.01	3,410	< 0.01	< 0.1	< 10	0.142	< 1	< 3
	QUL-122X-TAP	2014 09 21	< 3	0 16	0 14	5 88	< 0 1	< 0 5	17	< 0 01	53 100	< 0 5	< 0 1	**8.82**	< 30	0 221	0 64	8 460	0 071	-	0 399	< 0 5	565	< 0 5	4 430	< 0 01	3 470	< 0 01	< 0 1	< 10	0 134	< 1	< 3
	QA/QC RPD %		*	*	*	< 1	*	*	*	*	< 1	*	*	3	*	*	*	1	*	-	3	*	1	*	2	*	2	*	*	*	6	*	*
QUL-123	QUL-123-TAP	2014 09 21	< 3	< 0 1	0 23	4 72	< 0 1	< 0 5	< 10	< 0 01	19 600	< 0 5	< 0 1	**2.73**	< 30	0 106	< 0 5	2 320	0 519	-	0 328	< 0 5	543	< 0 5	3 130	< 0 01	1 430	< 0 01	< 0 1	< 10	0 066	< 1	4 1
QUL-124	QUL-124	2014 09 21	16.6	< 0.1	< 0.1	4.71	< 0.1	< 0.5	< 10	< 0.01	16,700	< 0.5	< 0.1	0.69	< 30	< 0.05	0.76	1,820	0.842	-	0.248	< 0.5	439	< 0.5	1,380	< 0.01	798	< 0.01	< 0.1	< 10	0.14	< 1	< 3
	QUL-124X	2014 09 21	16.8	< 0.1	< 0.1	4.83	< 0.1	< 0.5	< 10	< 0.01	17,000	< 0.5	< 0.1	0.71	< 30	< 0.05	0.83	1,860	0.876	-	0.263	< 0.5	451	< 0.5	1,400	< 0.01	816	< 0.01	< 0.1	< 10	0.154	< 1	< 3
	QA/QC RPD %		1	*	*	3	*	*	*	*	2	*	*	*	*	*	*	2	4	-	*	*	3	*	1	*	2	*	*	*	10	*	*
QUL-125	QUL-125-TAP	2014 09 22	< 3	0 25	0 72	11 4	< 0 1	< 0 5	38	0 023	76 600	**1.28**	< 0 1	6 58	< 30	0 186	1 96	12 300	0 117	-	1 79	< 0 5	1 170	**5.11**	6 230	< 0 01	3 810	< 0 01	< 0 1	12	1 03	< 1	11 3
QUL-126	QUL-126-TAP	2014 09 22	< 3	< 0.1	0.21	3.28	< 0.1	< 0.5	< 10	< 0.01	22,200	< 0.5	< 0.1	**6.46**	126	0.601	< 0.5	2,320	0.767	-	0.343	0.69	1,190	< 0.5	3,140	< 0.01	9,270	< 0.01	< 0.1	< 10	0.034	< 1	**38**
QUL-127	QUL-127-TAP	2014 09 22	< 3	0.13	0.69	3.88	< 0.1	< 0.5	< 10	< 0.01	36,700	< 0.5	< 0.1	3.29	< 30	0.341	< 0.5	3,180	0.158	-	0.28	2.85	1,100	< 0.5	3,480	< 0.01	12,800	< 0.01	< 0.1	< 10	0.057	< 1	10.7
QUL-128	QUL-128-TAP	2014 09 22	< 3	0.19	0.68	2.31	< 0.1	< 0.5	67	< 0.01	91,300	< 0.5	0.14	5.3	< 30	0.185	2.05	12,800	0.627	-	0.45	< 0.5	1,160	1.97	4,810	< 0.01	16,800	< 0.01	< 0.1	14	0.325	< 1	4.6
QUL-129	QUL-129-TAP	2014 09 22	< 3	< 0 1	0 41	5 65	< 0 1	< 0 5	< 10	< 0 01	23 900	< 0 5	< 0 1	**9.06**	59	0 357	0 74	2 640	1 16	-	0 34	< 0 5	642	< 0 5	2 410	< 0 01	1 780	< 0 01	< 0 1	< 10	0 095	< 1	**14.5**

All terms defined within the body of SNC-Lavalin's report (avai able upon request).
< Denotes concentrat on less than indicated detection limit or RPD ess than indicated value.
- Denotes analysis not conducted.
n/a Denotes no appl cable standard.
* RPDs are not norma ly ca culated where one or more concentrat ons are less than five times MDL.

SHADED Concentrat on greater than BCWQG Aquatic Life (AW) guideline.
BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.
SHADED Concentrat on greater than BCWQG Aquatic Life (30day) (AW) guide ine.
BOLD Concentrat on greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] Laboratory detection lim t out of range.
[b] Brit sh Columbia Approved Water Qual ty Guidelines 2006 Ed t on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012. Guideline for Nitrate appl ed.
[g] The total phosphorus guideline s a measure of ake productivity and s based on spring overturn or an average of summer samples and is not appl cable to single sample results at this point in time.
[h] Calculated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not appl cable 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							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[g] (mg/L)
			Hardness (mg/L)	pH (pH)	Turbidity (NTU)	Conductivity (µS/cm)	TDS (mg/L)	TSS (mg/L)	DOC (mg/L)											
BC Guidelines																				
BCWQG Aquatic Life (AW)[b,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	60-600[d]	32 800[f]	600	988.2-1742[d]	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	+20% of median background	n/a	1,090-1,770[d]	3,000	20-200[d]	3,000[f]	150	n/a	128-429[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	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
QUL-EQUIPMENT BLANK	VAN-1-BLANK-149015	2014 09 15	< 0.5	***5.7***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	DI-BLANK	2014 09 15	< 0 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 09 15	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B	2014 09 15	< 0 5	***5.41***	0 16	< 2	< 10	< 3	0 66	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0.002[a]
	I-SC1	2014 09 21	-	6.56	0.11	3.1	-	< 3	-	-	-	< 5	< 1	-	< 0.5	< 20	< 0.5	-	-	-
	KEM1B	2014 09 22	< 0.5	***5.92***	0.15	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	DI-BLANK	2014 09 25	< 0 5	***5.45***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0 002[a]
	FILTER-BLANK	2014 09 25	< 0 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DI-BLANK	2014 09 29	< 0.5	***5.68***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	FILTER BLANK	2014 09 29	< 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B-BLANK	2014 09 29	< 0 5	***5.36***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0 002[a]
QUL-FIELD BLANK	QUL-108-FB	2014 09 15	-	***5.44***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0.02[a]
	QUL-79-FB	2014 09 15	-	***5.44***	< 0.1	< 2	< 10	< 3	-	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	QUR-1-FB	2014 09 16	< 0.5	***5.36***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]
	QUL-66-FB	2014 09 18	< 0 5	***5.56***	< 0 1	< 2	< 10	< 3	< 0 5	< 0 05	< 5	< 5	< 1	-	< 0 5	< 20	< 0 5	< 1	< 0 001	< 0 002[a]
	QUR-1-FB	2014 09 20	< 0 5	-	-	-	-	-	< 0 5	< 0 05	< 5	-	-	-	-	-	-	-	-	-
	QUL-21-FB	2014 09 25	< 0.5	***5.83***	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]

A l terms defined within the body of SNC-Lavalin s report (available upon request).
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- Denotes analys s not conducted.
n/a Denotes no applicable standard.
* RPDs are not normally ca culated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquatic L fe (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentration greater than BCWQG Aquatic L fe (30day) (AW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Qua ity (DW) guide ine.

Concentration greater than 5x laboratory detection limit

[a] Laboratory detect on limit out of range.
[b] British Columbia Approved Water Quality Guide ines 2006 Edit on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Brit sh Columbia, updated August
[d] Guideline varies with pH, and/or either Temperature or Hardness or chloride
[e] Hea th Canada Drinking Water Guidelines, 2012. Guide ine for N trate applied.
[g] The total phosphorus guide ine is a measure of lake productivity and is based on spring overturn or an average of summer samp es and is not applicable to sing e 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 app icable for site situat on.

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 (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)	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)[b,c]			30-100[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
BCWQG Aquatic Life (30day) (AW)[b,c,h]			50-1000[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
BCWQG Drinking Water (DW)[b,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
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
QUL-EQUIPMENT BLANK	VAN-1-BLANK-1 9015	2014 09 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
	DI-BLANK	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 09 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
	KEM1B	2014 09 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
	I-SC1	2014 09 21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B	2014 09 22	< 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
	DI-BLANK	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FILTER-BLANK	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DI-BLANK	2014 09 29	< 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 09 29	< 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-BLANK	2014 09 29	< 3	< 0 05	< 30	< 0 1	0 054	< 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	QUL-108-FB	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-79-FB	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-FB	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-66-FB	2014 09 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUR-1-FB	2014 09 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-21-FB	2014 09 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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BOLD Concentrat on greater than BCWQG Drinking Water (DW) guideline.

SHADED Concentrat on greater than BCWQG Aquatic L fe (30day) (AW) guideline.

BOLD Concentrat on greater than or equal to Canadian Drinking Water Qua ity (DW) guide ine.

Concentrat on greater than 5x laboratory detection limit

[a] Laboratory detect on limit out of range.
[b] British Columbia Approved Water Quality Guide ines 2006 Edit on, updated 201 .
[c] A Compendium of Working Water Quality Guidelines for Brit sh Columbia, updated August 2006.
[d] Guideline varies with pH, and/or either Temperature or Hardness or chloride
[e] Health Canada Drinking Water Guide ines, 2012.
Gu deline for Nitrate appl ed.
[g] The total phosphorus gu deline s a measure of lake productivity and s based on spring overturn or an average of summer samples and s not appl cable to single samp e results at th s point in time.
[h] Calcu ated based on an indiv dual samp e basis, not average of 30 day results.
[i] Secondary chronic or chron c value, not 30 day mean.
[j] Gu deline not applicab e for site s tuation.

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 Guidelines																																			
BCWQG Aquatic Life (AW)[b,c]			n/a	20	5	5 000	n/a	n/a	1 200	0 016-0 079[d]	n/a	1 (Cr(+6))	110	6.0-27 9[d]	1 000	27 3-297 3[d]	870	n/a	1001-3582[d]		2 000	25-150[d]	373,000-432 000	2	n/a	0 1-3 0[d]	n/a	0 3	n/a	2 000	300	6	33-172 5[d]
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	1,000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	2-11[d]	n/a	4.4-14.9[d]	14[i]	n/a	791.1-1819[d]	Methyl mercury analysis in progress	1,000	n/a	n/a	n/a	n/a	0.05-1.5	n/a	n/a	n/a	n/a	n/a	n/a	7.5-147[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)[e]			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	VAN-1-BLANK-1 9015	2014 09 15	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	DI-BLANK	2014 09 15	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0.01[a]	< 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
	FILTER-BLANK	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	KEM1B	2014 09 15	4 5	< 0 1	< 0 1	0 138	< 0 1	< 0 5	< 10	< 0.01[a]	< 50	< 0 5	< 0 1	< 0 5	< 30	< 0 05	< 0 5	< 100	0 257	-	< 0 05	< 0 5	< 50	< 0 5	< 50	< 0 01	< 50	< 0 01	< 0 1	< 10	< 0 01	< 1	< 3
	I-SC1	2014 09 21	< 3	< 0.1	< 0.1	0.167	< 0.1	< 0.5	< 10	< 0.01[a]	560	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 100	0.969	-	< 0.05	< 0.5	< 50	< 0.5	62	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
	KEM1B	2014 09 22	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	DI-BLANK	2014 09 25	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0 01[a]	< 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
	FILTER-BLANK	2014 09 25	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0.01[a]	< 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
	DI-BLANK	2014 09 29	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	FILTER BLANK	2014 09 29	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	KEM1B-BLANK	2014 09 29	< 3	< 0 1	< 0 1	0 054	< 0 1	< 0 5	< 10	< 0 01[a]	< 50	< 0 5	< 0 1	< 0 5	< 30	< 0 05	< 0 5	< 100	0 104	-	< 0 05	< 0 5	< 50	< 0 5	< 50	< 0 01	< 50	< 0 01	< 0 1	< 10	< 0 01	< 1	< 3
QUL-FIELD BLANK	QUL-108-FB	2014 09 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QUL-79-FB	2014 09 15	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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
	QUR-1-FB	2014 09 16	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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-66-FB	2014 09 18	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0 01[a]	< 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
	QUR-1-FB	2014 09 20	< 3	< 0 1	< 0 1	< 0 05	< 0 1	< 0 5	< 10	< 0.01[a]	< 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-21-FB	2014 09 25	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 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

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- Denotes analysis not conducted.
n/a Denotes no app icable standard.
* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

SHADED Concentration greater than BCWQG Aquat c Life (AW) guide ine.

BOLD Concentration greater than BCWQG Drinking Water (DW) guide ine.

SHADED Concentration greater than BCWQG Aquatic Life (30day) (AW) gu deline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) gu deline.

Concentration greater than 5x aboratory detect on limit

[a] Laboratory detection limit out of range.
[b] Br tish Columbia Approved Water Qua ity Gu delines 2006 Edition, updated 201 .
[c] A Compendium of Working Water Quality Guide ines for British Columb a, updated August 2006.
[d] Gu deline var es with pH, and/or either Temperature or Hardness or chlor de
[e] Health Canada Drinking Water Gu delines, 2012.
Guideline for Nitrate app ied.
[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 applicab e to single sample resu ts at this point in time.
[h] Ca culated based on an individual sample bas s, not average of 30 day results.
[i] Secondary chron c or chronic value, not 30 day mean.
[j] Guideline not app icable for s te situat on.

TABLE 1e: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (Chlorophyll A) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Misc. Organic Substances Chlorophyll A (ug/L)
BC Standards			
BCWQG Aquatic Life (AW)[a,b]			50mg/m^2/100mg/m^2
BCWQG Drinking Water (DW)[a,b]			n/a
Canadian Drinking Water Quality (DW)[c]			n/a
QUL-2	QUL-2-25M	2014 09 19	0.239
	QUL-2-48M	2014 09 19	0.059
	QUL-2-0M	2014 09 19	0.177
	QUL-2-0M	2014 09 22	0.53
	QUL-2X-0M	2014 09 22	0.351
	QA/QC RPD %		41
	QUL-2-25M	2014 09 22	0.14
	QUL-2X-25M	2014 09 22	0.193
	QA/QC RPD %		32
	QUL-2-47M	2014 09 22	< 0.01
QUL-2a	QUL-2A-0M	2014 09 25	0.367
	QUL-2A-40M	2014 09 25	0.12
	QUL-2A-60M	2014 09 25	< 0.01
QUL-18	QUL-18	2014 09 20	0.595
	QUL-18-0M	2014 09 25	0.196
	QUL-18-40M	2014 09 25	0.084
	QUL-18-100M	2014 09 25	< 0.01
QUL-20	QUL-20	2014 09 20	0.328
QUL-21	QUL-21-0M	2014 09 18	0.283
	QUL-21-18M	2014 09 18	0.279
	QUL-21-46M	2014 09 18	0.054
	QUL-21-0M	2014 09 20	0.287
	QUL-21-30M	2014 09 20	0.105
	QUL-21-45M	2014 09 20	< 0.01
	QUL-21-0M	2014 09 23	0.409
	QUL-21X-0M	2014 09 23	0.496
	QA/QC RPD %		19
	QUL-21-20M	2014 09 23	0.362
	QUL-21-47M	2014 09 23	0.051
	QUL-21-0M	2014 09 29	0.42
	QUL-21-40M	2014 09 29	0.089
	QUL-21X-40M	2014 09 29	0.127
	QA/QC RPD %		35
	QUL-21-45M	2014 09 29	< 0.01
QUL-21a	QUL-21A-0M	2014 09 25	0.243
	QUL-21A-40M	2014 09 25	< 0.01
	QUL-21AX-40M	2014 09 25	< 0.01
	QA/QC RPD %		*
	QUL-21A-65M	2014 09 25	< 0.01
	QUL-21A-0M	2014 09 27	0.106
	QUL-21A-40M	2014 09 27	< 0.01
	QUL-21A-60M	2014 09 27	< 0.01
	QUL-21AX-60M	2014 09 27	< 0.01
	QA/QC RPD %		*
QUL-22	QUL-22-0M	2014 09 18	0.259
	QUL-22-9M	2014 09 18	0.232
	QUL-22-0M	2014 09 20	0.282
	QUL-22X-0M	2014 09 20	0.213
	QA/QC RPD %		28
	QUL-22-7M	2014 09 20	0.551
	QUL-22-0M	2014 09 23	0.395
	QUL-22-5M	2014 09 23	0.791
	QUL-22-9M	2014 09 23	0.601
	QUL-22-0M	2014 09 26	0.095
	QUL-22X-0M	2014 09 26	0.198
	QA/QC RPD %		70
QUL-23	QUL-23	2014 09 20	0.251
QUL-31a	QUL-31A-0M	2014 09 27	0.167
	QUL-31A-40M	2014 09 27	< 0.01
	QUL-31A-100M	2014 09 27	< 0.01
QUL-40	QUL-40-0M	2014 09 19	0.244
	QUL-40-45M	2014 09 19	0.108
	QUL-40-100M	2014 09 19	0.104
	QUL-40-0M	2014 09 22	0.344
	QUL-40-50M	2014 09 22	0.151
	QUL-40-98M	2014 09 22	0.058
	QUL-40-0M	2014 09 26	0.226
	QUL-40-40M	2014 09 26	0.059
	QUL-40-80M	2014 09 26	< 0.01
	QUL-40A-0M	2014 09 27	0.407
	QUL-40-0M	2014 09 29	0.922
	QUL-40-40M	2014 09 29	0.054
	QUL-40-80M	2014 09 29	< 0.01

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SHADED Concentration greater than BCWQG Aquatic Life (AW) guideline.

BOLD Concentration greater than BCWQG Drinking Water (DW) guideline.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

[b] A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.

[c] Health Canada Drinking Water Guidelines, 2012.

TABLE 1e: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (Chlorophyll A) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Misc. Organic Substances Chlorophyll A (ug/L)
BC Standards			
BCWQG Aquatic Life (AW)[a,b]			50mg/m^2/100mg/m^2
BCWQG Drinking Water (DW)[a,b]			n/a
Canadian Drinking Water Quality (DW)[c]			n/a
QUL-40A	QUL-40A-40M	2014 09 27	0.054
	QUL-40A-100M	2014 09 27	0.065
QUL-66	QUL-66-0M	2014 09 18	0.212
	QUL-66-15M	2014 09 18	0.283
	QUL-66-40M	2014 09 18	0.047
	QUL-66-0M	2014 09 20	0.565
	QUL-66-15M	2014 09 20	0.222
	QUL-66-45M	2014 09 20	< 0.01
	QUL-66-0M	2014 09 23	0.295
	QUL-66-15M	2014 09 23	0.559
	QUL-66-50M	2014 09 23	< 0.01
	QUL-66-0M	2014 09 29	0.931
	QUL-66-40M	2014 09 29	< 0.01
	QUL-66-50M	2014 09 29	< 0.01
QUL-66A	QUL-66A-0M	2014 09 25	0.133
	QUL-66AX-0M	2014 09 25	0.316
	QA/QC RPD %		82
	QUL-66A-40M	2014 09 25	< 0.01
	QUL-66A-85M	2014 09 25	< 0.01
	QUL-66A-0M	2014 09 27	0.248
	QUL-66A-40M	2014 09 27	< 0.01
	QUL-66A-80M	2014 09 27	< 0.01
QUL-79	QUL-79-0M	2014 09 18	0.213
	QUL-79-15M	2014 09 18	0.188
	QUL-79-50M	2014 09 18	0.107
	QUL-79-0M	2014 09 19	0.116
	QUL-79-25M	2014 09 19	0.24
	QUL-79-58M	2014 09 19	0.156
	QUL-79-0M	2014 09 22	0.352
	QUL-79-30M	2014 09 22	0.154
	QUL-79-58M	2014 09 22	< 0.01
	QUL-79-0M	2014 09 26	0.769
	QUL-79-40M	2014 09 26	< 0.01
	QUL-79-55M	2014 09 26	0.062
QUL-87	QUL-87-0M	2014 09 21	0.277
	QUL-87X-0M	2014 09 21	0.259
	QA/QC RPD %		7
	QUL-87-25M	2014 09 21	0.167
	QUL-87X-25M	2014 09 21	0.135
	QA/QC RPD %		21
	QUL-87-53M	2014 09 21	0.18
	QUL-87-0M	2014 09 23	0.426
	QUL-87-25M	2014 09 23	0.136
	QUL-87-57M	2014 09 23	0.103
QUL-87	QUL-87-0M	2014 09 28	0.317
	QUL-87X-0M	2014 09 28	0.098
	QA/QC RPD %		106
	QUL-87-40M	2014 09 28	0.088
	QUL-87-50M	2014 09 28	0.064
QUL-110	QUL-110	2014 09 20	0.414
QUL-112	QUL-112X-30M	2014 09 20	0.085
	QA/QC RPD %		*
	QUL-112-0M	2014 09 20	0.424
	QUL-112-30M	2014 09 20	0.094
	QUL-112-80M	2014 09 20	0.096
	QUL-112-0M	2014 09 24	0.76
	QUL-112-40M	2014 09 24	0.079
	QUL-112X-40M	2014 09 24	0.155
	QA/QC RPD %		65
	QUL-112-80M	2014 09 24	0.102
	QUL-112-0M	2014 09 28	0.575
	QUL-112-40M	2014 09 28	0.064
	QUL-112-80M	2014 09 28	< 0.01

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* 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.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

[a] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.

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[c] Health Canada Drinking Water Guidelines, 2012.

TABLE 1e: Summary of Analytical Results for Mount Polley, Quesnel Lake and River - Surface Water (Chlorophyll A) DRAFT

Sample Location	Sample ID	Sample Date (yyyy mm dd)	Misc. Organic Substances Chlorophyll A (ug/L)
BC Standards			
BCWQG Aquatic Life (AW)[a,b]			50mg/m^2/100mg/m^2
BCWQG Drinking Water (DW)[a,b]			n/a
Canadian Drinking Water Quality (DW)[c]			n/a
QUL-119	QUL-119-0M	2014 09 21	0.292
	QUL-119-20M	2014 09 21	0.228
	QUL-119-98M	2014 09 21	< 0.01
	QUL-119-0M	2014 09 24	0.703
	QUL-119-40M	2014 09 24	0.154
	QUL-119-80M	2014 09 24	0.075
	QUL-119-0M	2014 09 28	0.459
	QUL-119-40M	2014 09 28	< 0.01
	QUL-119-80M	2014 09 28	< 0.01
QUL-120	QUL-120-0M	2014 09 21	0.342
	QUL-120-35M	2014 09 21	0.15
	QUL-120-88M	2014 09 21	0.078
	QUL-120-0M	2014 09 24	0.706
	QUL-120X-0M	2014 09 24	0.774
	QA/QC RPD %		9
	QUL-120-40M	2014 09 24	0.203
	QUL-120X-40M	2014 09 24	0.148
	QA/QC RPD %		31
	QUL-120-80M	2014 09 24	< 0.01
	QUL-120-0M	2014 09 28	0.181
	QUL-120-40M	2014 09 28	< 0.01
	QUL-120-80M	2014 09 28	< 0.01
QUL-EQUIPMENT BLANK	DI-BLANK	2014 09 25	< 0.01
QUL-FIELD BLANK	QUL-21-FB	2014 09 25	< 0.01

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* 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.

BOLD Concentration greater than or equal to Canadian Drinking Water Quality (DW) guideline.

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[c] Health Canada Drinking Water Guidelines, 2012.

TABLE 3a: Summary of Analytical Results for Mount Polley, Polley Lake - Surface Water DRAFT

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)	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[g] (mg/L)
BC Standards																							
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0		Change of 8[k]	n/a	n/a	Change of 25	n/a	n/a	700-5,680[d]	32,800	60-120[d]	32,800[f]	600	1264-1510[d]	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	+/-1 Degree change from ambient	Change of 2[k]	n/a	n/a	Change of 5[k]	+20% of median background	n/a	135-1,090[d]	3,000	20-40[d]	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	6.5-8.5	n/a[i]	Change of 1	n/a	n/a	n/a	n/a	n/a	n/a	10,000	1,000	10,000[f]	250	1,500	500	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[e]			n/a	6.5-8.5	6.5-8.5	n/a[j]	n/a[j]	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
POL-3	POL-3	2014 09 16	114	***8.62***	8.13	16.6	5.55	231	155	10.4	6.64	0.592	12.9	< 5	3.8	-	0.67	76	34.9	87.4	< 0.001	0.0092
POL-4	POL-4	2014 09 16	117	7.6	8.07	17.2	1.66	231	155	4	6.39	0.41	< 5	< 5	< 1	-	0.65	75	34	89.7	< 0.001	0.0076
POL-5	POL-5-0M	2014 09 17	114	***8.9***	8.26	14.6	0.57	227	152	< 3	6.51	0.354	10.7	< 5	3.9	-	0.67	77	34.9	84.9	< 0.001	**0.0039**
	POL-5-11M	2014 09 17	133	7.72	8.11	8	2.62	284	183	3.1	5.71	0.718	200	74	**138**	-	1.46	102	51.9	95	0.003	0.0072
	POL-5-0M	2014 09 23	109	***8.63***	8.36	14.84	0.69	230	153	< 3	6.61	0.443	< 5	< 5	< 1	-	0.66	77	35.1	85.9	< 0.001	**0.004**
	POL-5-11M	2014 09 23	135	7.47	8.02	8.45	5.79	308	199	6.6	5.55	0.862	344	13.9	**145**	-	1.75	111	58.6	99	0.0171	***0.0247***
	POL-5X-11M	2014 09 23	134	7.47	7.95	8.45	5.62	308	204	6.3	5.42	0.879	344	12	**144**	-	1.78	113	59.2	98.8	0.0184	***0.0251***
	QA/QC RPD %		< 1	0	< 1	0	3	0	3	*	2	2	0	*	< 1	-	*	*	1	< 1	7	2
	POL-5-9M	2014 09 30	137	7 69	7 32	9 24	6 12	300	191	3 6	5 74	0 849	278	16 5	**109**	-	1 69	99	55	101	< 0 001	**0.0048**
POL-6	POL-6-14M	2014 09 16	144	6 94	8 03	8 3	5 29	309	200	4 4	5 36	0 905	309	70 4	**221**	-	1 88	108	61	96 7	0 001	0 0053
	POL-6-0M	2014 09 16	115	***8.56***	8 24	14 1	0 97	227	152	< 3	6 7	0 345	< 5	< 5	2 3	-	0 65	72	34 1	85 7	< 0 001	**0.0038**
	POL-6-14M	2014 09 23	139	7 34	8	8 51	3 93	324	204	5 1	5 49	0 929	360	31 5	**215**	-	1 9	117	62 2	100	0 0208	***0.0274***
	POL-6-10M	2014 09 23	109	7.42	8.37	8.55	0.72	233	156	3.6	6.27	0.363	< 5	< 5	< 1	-	0.68	78	35.4	86.4	< 0.001	0.005
	POL-6-12M	2014 09 30	115	7.34	7.18	8.5	4.08	239	150	5.9	6.53	0.404	22.2	< 5	2	-	1.04	74	37	88	< 0.001	0.0054
P1	P1-27M	2014 09 16	155	6.95	8.04	8.2	12.3	337	219	7.1	6.26	1.35	921	< 5	< 1	-	2.11	123	64.5	113	0.0452	***0.0406***
	P1-0M	2014 09 16	114	***6.49***	8.22	15.6	0.56	229	157	< 3	6.64	0.344	14.4	< 5	6.5	-	0.67	72	35	85.5	< 0.001	**0.0037**
	P1X-0M	2014 09 16	115	***6.49***	8.24	15.6	0.89	231	156	< 3	6.52	0.344	14.1	< 5	6.3	-	0.67	72	35	85.8	< 0.001	**0.0038**
	QA/QC RPD %		< 1	0	< 1	0	46	< 1	< 1	*	2	0	*	*	3		*	*	0	< 1	*	*
	P1-0M	2014 09 23	109	***8.59***	8.37	14.68	0.79	230	156	< 3	6.46	0.452	< 5	< 5	< 1	-	0.67	77	35.1	86.5	< 0.001	0.005
	P1-27M	2014 09 23	145	7.18	7.93	8.23	11.1	342	220	12	5.9	1.38	932	< 5	< 1	-	2.06	114	63.6	114	0.0858	***0.092***
P2	P2-27M	2014 09 16	151	6.98	8.06	8.2	14.9	335	220	13.2	6.32	1.17	595	< 5	< 1	-	2.12	123	63.4	111	0.0406	***0.0381***
	P2-0M	2014 09 16	115	8.43	8.22	15.2	1.05	228	144	< 3	6.7	0.344	7.1	< 5	2.5	-	0.65	71	34.3	86.4	< 0.001	**0.004**
	P2-0M	2014 09 23	108	***8.56***	8.39	14.36	0.64	230	150	< 3	6.35	0.395	< 5	< 5	< 1	-	0.68	77	35.3	86.7	< 0.001	**0.0049**
	P2-27M	2014 09 23	145	7 21	8	8 2	13	336	221	7 8	5 94	1 25	816	< 5	< 1	-	2 03	116	63 1	112	0 0782	***0.0761***

All terms defined within the body of SNC-Lava in'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 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 Temperature or Hardness or Chloride.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guide ine 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] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3a: Summary of Analytical Results for Mount Polley, Polley Lake - Surface Water DRAFT

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 Standards																															
BCWQG Aquatic Life (AW)[b,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)[b,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
POL-3	POL-3	2014 09 16	7.2	37.2	< 30	5.25	0.383	0.777	6.18	0.11	0.82	10.6	< 0.1	21	< 0.01	< 0.5	< 0.1	2.82	< 0.05	< 0.5	-	5.6	< 0.5	0.78	< 0.01	< 0.01	< 10	0.17	1.2	< 3
POL-4	POL-4	2014 09 16	4.8	37.9	< 30	5.49	0.846	0.792	6.2	< 0.1	0.57	8.46	< 0.1	19	< 0.01	< 0.5	< 0.1	2.05	< 0.05	< 0.5	-	5.19	< 0.5	0.67	< 0.01	< 0.01	< 10	0.16	< 1	< 3
POL-5	POL-5-0M	2014 09 17	7.7	36.9	< 30	5.25	1.87	0.738	5.87	0.11	0.76	11.1	< 0.1	20	< 0.01	< 0.5	< 0.1	2.87	< 0.05	< 0.5	-	5.61	< 0.5	0.86	< 0.01	< 0.01	< 10	0.165	1.2	< 3
	POL-5-11M	2014 09 17	4.6	43.6	< 30	5.79	55.8	1.39	9.3	0.24	1.03	16.9	< 0.1	26	< 0.01	< 0.5	< 0.1	1.86	< 0.05	0.87	-	12.5	< 0.5	1.51	< 0.01	< 0.01	< 10	0.317	1.4	< 3
	POL-5-0M	2014 09 23	8.3	35.8	< 30	4.77	1.56	0.742	6.2	0.11	0.76	11.1	< 0.1	22	< 0.01	< 0.5	< 0.1	2.65	< 0.05	< 0.5	-	5.67	< 0.5	0.88	< 0.01	< 0.01	< 10	0.172	1.2	< 3
	POL-5-11M	2014 09 23	4.8	44.8	< 30	5.62	400	1.68	11	0.28	1.29	21.8	< 0.1	29	< 0.01	< 0.5	< 0.1	0.83	< 0.05	0.97	-	15.5	< 0.5	1.66	< 0.01	< 0.01	< 10	0.384	1.7	< 3
	POL-5X-11M	2014 09 23	4.7	44.6	< 30	5.58	406	1.72	11.7	0.28	1.28	22	< 0.1	30	< 0.01	< 0.5	< 0.1	0.88	< 0.05	0.94	-	15.5	< 0.5	1.62	< 0.01	< 0.01	< 10	0.392	1.6	< 3
	QA/QC RPD %		*	< 1	*	< 1	2	2	6	*	< 1	< 1	*	*	*	*	*	*	*	*	-	0	*	*	*	*	*	2	*	*
	POL-5-9M	2014 09 30	4	45 2	< 30	5 89	227	1 53	10 2	0 29	1 16	19	< 0 1	29	< 0 01	< 0 5	< 0 1	1 14	< 0 05	1 01	-	15 1	< 0 5	1 73	< 0 01	< 0 01	< 10	0 379	1 5	< 3
POL-6	POL-6-14M	2014 09 16	5 3	47 4	< 30	6 2	375	1 7	11 4	0 32	1 26	21 7	< 0 1	25	< 0 01	< 0 5	< 0 1	0 86	< 0 05	0 98	-	16 2	< 0 5	1 88	< 0 01	< 0 01	< 10	0 411	1 8	< 3
	POL-6-0M	2014 09 16	7 7	37 5	< 30	5 23	2 89	0 698	5 91	0 1	0 71	10 7	< 0 1	18	< 0 01	< 0 5	< 0 1	2 66	< 0 05	< 0 5	-	5 24	< 0 5	0 81	< 0 01	< 0 01	< 10	0 167	1 1	< 3
	POL-6-14M	2014 09 23	5 3	46	< 30	5 73	458	1 86	12 1	0 32	1 38	23 8	< 0 1	31	< 0 01	< 0 5	< 0 1	0 72	< 0 05	1	-	16 9	< 0 5	1 9	< 0 01	< 0 01	< 10	0 411	1 9	< 3
	POL-6-10M	2014 09 23	7.2	35.9	< 30	4.77	1.52	0.774	6.46	0.11	0.76	11.4	< 0.1	22	< 0.01	< 0.5	< 0.1	2.63	< 0.05	< 0.5	-	5.79	< 0.5	0.89	< 0.01	< 0.01	< 10	0.172	1.2	< 3
	POL-6-12M	2014 09 30	7.5	37.7	< 30	5.15	13.5	0.86	6.56	0.13	0.81	12.5	< 0.1	23	< 0.01	< 0.5	< 0.1	2.3	< 0.05	0.61	-	7.22	< 0.5	0.99	< 0.01	< 0.01	< 10	0.206	1.2	< 3
P1	P1-27M	2014 09 16	5.2	50.8	**361**	6.95	692	1.85	12.8	< 0.1	1.8	25.7	< 0.1	28	< 0.01	< 0.5	0.16	< 0.5	< 0.05	0.91	-	16.2	< 0.5	1.25	< 0.01	< 0.01	10	0.365	1.6	< 3
	P1-0M	2014 09 16	8.2	37.1	< 30	5.08	2.73	0.726	6.14	0.1	0.73	10.6	< 0.1	18	< 0.01	< 0.5	< 0.1	2.56	< 0.05	< 0.5	-	5.54	< 0.5	0.89	< 0.01	< 0.01	< 10	0.164	1.1	< 3
	P1X-0M	2014 09 16	7.2	37.3	< 30	5.36	2.43	0.713	6.3	< 0.1	0.7	10.5	< 0.1	18	< 0.01	< 0.5	< 0.1	2.56	< 0.05	< 0.5	-	5.52	< 0.5	0.86	< 0.01	< 0.01	< 10	0.166	1.1	< 3
	QA/QC RPD %		*	< 1	*	5	12	2	3	*	4	< 1	*	*	*	*	*	0	*	*	-	< 1	*	*	*	*	*	1	*	*
	P1-0M	2014 09 23	8.9	35.7	< 30	4.77	1.61	0.764	6.58	< 0.1	0.74	11.3	< 0.1	22	< 0.01	< 0.5	< 0.1	2.77	< 0.05	< 0.5	-	5.68	< 0.5	0.89	< 0.01	< 0.01	< 10	0.167	1.2	< 3
	P1-27M	2014 09 23	5	47.8	344	6.13	802	1.94	13.4	< 0.1	1.74	26.9	< 0.1	33	< 0.01	< 0.5	0.16	< 0.5	< 0.05	0.89	-	16.4	< 0.5	0.62	< 0.01	< 0.01	< 10	0.367	1.7	< 3
P2	P2-27M	2014 09 16	4.9	49.6	232	6.71	628	1.82	12.4	< 0.1	1.69	24.9	< 0.1	28	< 0.01	< 0.5	0.14	< 0.5	< 0.05	0.95	-	16.5	< 0.5	0.99	< 0.01	< 0.01	< 10	0.382	1.5	< 3
	P2-0M	2014 09 16	8	37.3	< 30	5.33	2.79	0.714	5.93	< 0.1	0.74	10.7	< 0.1	18	< 0.01	< 0.5	< 0.1	2.64	< 0.05	< 0.5	-	5.29	< 0.5	0.84	< 0.01	< 0.01	< 10	0.166	1.1	< 3
	P2-0M	2014 09 23	8.3	35.3	< 30	4.74	1.47	0.767	6.36	0.1	0.75	11.4	< 0.1	22	< 0.01	< 0.5	< 0.1	2.67	< 0.05	< 0.5	-	6.01	< 0.5	0.86	< 0.01	< 0.01	< 10	0.172	1.2	< 3
	P2-27M	2014 09 23	5 1	48 1	245	6 16	746	1 94	13	< 0 1	1 76	26 4	< 0 1	33	< 0 01	< 0 5	0 15	< 0 5	< 0 05	0 96	-	16 8	< 0 5	0 72	< 0 01	< 0 01	< 10	0 37	1 7	< 3

All terms defined within the body of SNC-Lavalin's report (available upon request).

< Denotes concentration less than indicated detection im t 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) guide ine.

BOLD Concentration greater than or equal to Canadian Drinking Water Qual ty (DW) guide ine.

[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 w th pH, and or Temperature or Hardness or Chloride.

[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 resu ts.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3a: Summary of Analytical Results for Mount Polley, Polley Lake - Surface Water 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)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (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)[b,c]			n/a	20	5	5,000	n/a	n/a	1,200	0.0285-0.048[d]	n/a	1 (Cr(+6))	110	9.9-16.57[d]	1,000	65.3-142.6[d]	870	1465-2248[d]	Methyl mercury analysis in progress	2,000	25-110[d]	373,000-432,000	2	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-81.75[d]
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	1,000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	3.4-6.2[d]	n/a	5.9-8.9[d]	14[i]	974-1287[d]		1,000	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	7.5-56.25[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	1	250	n/a	n/a	10	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	50	1	n/a	n/a	n/a	10	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
POL-3	POL-3	2014 09 16	***120***	0.14	0.9	12.7	< 0.1	< 0.5	21	< 0.01	36,900	< 0.5	0.12	**6.69**	151	0.103	0.55	38.6	-	5.67	< 0.5	798	0.82	< 0.01	6,210	< 0.01	< 0.1	12	0.176	1.6	< 3
POL-4	POL-4	2014 09 16	60.1	< 0.1	0.64	9.34	< 0.1	< 0.5	20	< 0.01	36,700	< 0.5	< 0.1	3.02	111	< 0.05	< 0.5	19.8	-	5.18	< 0.5	739	0.68	< 0.01	6,000	< 0.01	< 0.1	11	0.161	1.1	< 3
POL-5	POL-5-0M	2014 09 17	22.5	0.11	0.73	10.7	< 0.1	< 0.5	21	< 0.01	35,400	< 0.5	< 0.1	3.43	< 30	< 0.05	0.56	13.1	-	5.7	< 0.5	720	0.85	< 0.01	5,580	< 0.01	< 0.1	< 10	0.17	1.2	< 3
	POL-5-11M	2014 09 17	51.8	0.23	1.02	17.2	< 0.1	< 0.5	26	< 0.01	40,800	< 0.5	< 0.1	3.49	32	< 0.05	0.91	***99.7***	-	12.3	< 0.5	1,370	1.49	< 0.01	8,920	< 0.01	< 0.1	< 10	0.325	1.6	< 3
	POL-5-0M	2014 09 23	19.6	0.13	0.79	11.2	< 0.1	< 0.5	24	< 0.01	35,300	< 0.5	< 0.1	3.18	< 30	< 0.05	< 0.5	12	-	6.13	< 0.5	760	0.87	< 0.01	6,400	< 0.01	< 0.1	< 10	0.181	1.3	< 3
	POL-5-11M	2014 09 23	***199***	0.34	1.44	26.6	< 0.1	< 0.5	33	0.012	45,500	< 0.5	0.17	**7.49**	120	0.082	1.05	***452***	-	16.7	< 0.5	1,820	1.75	< 0.01	11,500	< 0.01	< 0.1	13	0.421	2.1	< 3
	POL-5X-11M	2014 09 23	***198***	0.33	1.44	26.1	< 0.1	< 0.5	33	< 0.01	45,300	< 0.5	0.16	**7.43**	117	0.073	0.94	***447***	-	16.7	< 0.5	1,810	1.76	< 0.01	11,800	< 0.01	< 0.1	13	0.397	2.1	< 3
	QA/QC RPD %		< 1	*	0	2	*	*	*	*	< 1	*	*	*	*	*	*	*	-	0	*	< 1	*	*	3	*	*	*	6	*	*
	POL-5-9M	2014 09 30	90 9	0 34	1 23	21 2	< 0 1	< 0 5	32	0 01	45 000	< 0 5	< 0 1	4 07	63	< 0 05	0 97	***263***	-	15 7	< 0 5	1 580	1 68	< 0 01	10 200	< 0 01	< 0 1	12	0 399	1 8	< 3
POL-6	POL-6-14M	2014 09 16	***168***	0 33	1 34	26 8	< 0 1	< 0 5	28	< 0 01	47 200	< 0 5	0 11	5 65	45	0 051	1 1	***420***	-	17 3	< 0 5	1 870	1 89	< 0 01	12 300	< 0 01	< 0 1	12	0 453	2 1	< 3
	POL-6-0M	2014 09 16	45 5	0 11	0 72	11 7	< 0 1	< 0 5	21	< 0 01	37 100	< 0 5	< 0 1	3 95	32	< 0 05	< 0 5	16 4	-	5 65	< 0 5	722	0 83	< 0 01	6 180	< 0 01	< 0 1	< 10	0 178	1 2	< 3
	POL-6-14M	2014 09 23	***113***	0 34	1 42	26 1	< 0 1	< 0 5	34	< 0 01	46 000	< 0 5	0 12	5 08	45	0 072	1 09	***469***	-	18 1	< 0 5	1 910	1 89	< 0 01	12 200	< 0 01	< 0 1	11	0 426	2 1	< 3
	POL-6-10M	2014 09 23	27.5	0.14	0.84	12.2	< 0.1	< 0.5	26	< 0.01	36,900	< 0.5	< 0.1	3.47	< 30	< 0.05	< 0.5	11	-	6.62	< 0.5	807	0.92	< 0.01	6,640	< 0.01	< 0.1	< 10	0.192	1.4	< 3
	POL-6-12M	2014 09 30	***196***	0.14	0.85	15.3	< 0.1	< 0.5	26	< 0.01	36,500	< 0.5	0.16	**8.39**	137	0.064	0.87	25.9	-	7.31	< 0.5	929	0.91	< 0.01	6,610	< 0.01	< 0.1	14	0.218	1.7	< 3
P1	P1-27M	2014 09 16	***698***	0.23	1.92	44.6	< 0.1	< 0.5	32	< 0.01	50,800	< 0.5	0.34	**18.1**	***599***	0.23	1.18	***722***	-	17.3	< 0.5	2,240	0.85	< 0.01	13,200	< 0.01	< 0.1	32	0.39	2.6	< 3
	P1-0M	2014 09 16	19.6	0.11	0.73	10.9	< 0.1	< 0.5	21	< 0.01	37,200	< 0.5	< 0.1	3.19	< 30	< 0.05	< 0.5	13.4	-	5.84	< 0.5	752	0.88	< 0.01	6,230	< 0.01	< 0.1	< 10	0.178	1.2	< 3
	P1X-0M	2014 09 16	17.5	0.11	0.76	11	< 0.1	< 0.5	21	< 0.01	37,100	< 0.5	< 0.1	3.19	< 30	< 0.05	< 0.5	13	-	5.9	< 0.5	738	0.83	< 0.01	6,210	< 0.01	< 0.1	< 10	0.183	1.3	< 3
	QA/QC RPD %		11	*	4	< 1	*	*	*	*	< 1	*	*	*	*	*	*	*	-	1	*	2	*	*	< 1	*	*	*	3	*	*
	P1-0M	2014 09 23	20.8	0.13	0.78	11.6	< 0.1	< 0.5	25	< 0.01	36,100	< 0.5	< 0.1	**10.4**	< 30	0.414	< 0.5	12.1	-	6.26	< 0.5	765	0.9	< 0.01	6,400	< 0.01	< 0.1	< 10	0.182	1.3	5.3
	P1-27M	2014 09 23	***497***	0.23	1.96	39	< 0.1	< 0.5	37	< 0.01	48,300	< 0.5	0.29	**15.6**	***539***	0.192	1.1	***794***	-	17.4	< 0.5	2,120	0.98	< 0.01	13,300	< 0.01	< 0.1	23	0.392	2.4	< 3
P2	P2-27M	2014 09 16	***809***	0.28	1.96	46.9	< 0.1	< 0.5	32	0.01	50,000	< 0.5	0.34	**19.9**	***519***	0.261	1.34	***651***	-	17.4	< 0.5	2,280	0.87	< 0.01	13,100	< 0.01	< 0.1	33	0.42	2.6	< 3
	P2-0M	2014 09 16	39.8	0.11	0.74	11.1	< 0.1	< 0.5	21	< 0.01	36,800	< 0.5	< 0.1	4.06	< 30	< 0.05	< 0.5	15.9	-	5.82	< 0.5	722	0.87	< 0.01	6,100	< 0.01	< 0.1	< 10	0.178	1.3	< 3
	P2-0M	2014 09 23	22.3	0.13	0.75	11.2	< 0.1	< 0.5	24	0.011	35,600	< 0.5	< 0.1	3.42	< 30	< 0.05	< 0.5	12.2	-	6.07	< 0.5	756	0.88	< 0.01	6,460	< 0.01	< 0.1	< 10	0.182	1.3	< 3
	P2-27M	2014 09 23	***552***	0 23	1 96	40 2	< 0 1	< 0 5	36	0 01	47 200	< 0 5	0 32	**16.1**	***434***	0 198	1 08	***762***	-	17 8	< 0 5	2 230	0 98	< 0 01	13 100	< 0 01	< 0 1	24	0 398	2 6	< 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.

[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 Guide ines for British Columbia, updated August 2006.

[d] Guideline varies with pH, and or Temperature or Hardness or Chloride.

[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 app icable 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] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3b: Summary of Analytical Results for Mount Polley, Polley Lake - Blanks DRAFT

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)	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[9] (mg/L)
BC Standards																						
BCWQG Aquatic Life (AW)[b,c]			n/a	6.5-9.0	6.5-9.0	+/-1 Degree change from ambient	Change of 8[k]	n/a	n/a	Change of 25	n/a	n/a	700-5,680[d]	32,800	60-120[d]	32,800[f]	600	1264-1510[d]	n/a	n/a	n/a	0.005-0.015
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a		Change of 2[k]	n/a	n/a	Change of 5[k]	+20% of median background	n/a	135-1,090[d]	3 000	20-40[d]	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	6.5-8.5	n/a[j]	Change of 1	n/a	n/a	n/a	n/a	n/a	n/a	10,000	1,000	10,000[f]	250	1,500	500	n/a	n/a	0.01
Canadian Drinking Water Quality (DW)[e]			n/a	6.5-8.5	6.5-8.5	n/a[j]	n/a[j]	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
POL-EQUIPMENT BLANK	VAN1B	2014 09 30	< 0.5	-	***6.14***	-	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	**0.0021**
POL-FIELD BLANK	POL-3-FB	2014 09 16	-	-	***5.64***	-	< 0.1	< 2	< 10	< 3	< 0.5	< 0.05	< 5	< 5	< 1	-	< 0.5	< 20	< 0.5	< 1	< 0.001	< 0.002[a]

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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.

[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 Temperature or Hardness or Chloride.

[e] Health Canada Drinking Water Guidelines, 2012.

[f] Guide ine 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] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3b: Summary of Analytical Results for Mount Polley, Polley Lake - Blanks DRAFT

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 Standards																															
BCWQG Aquatic Life (AW)[b,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)[b 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
POL-EQUIPMENT BLANK	VAN1B	2014 09 30	< 3	< 0.05	< 30	< 0.1	0.113	< 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
POL-FIELD BLANK	POL-3-FB	2014 09 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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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 Qual ty (DW) guide ine.

[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 w th pH, and or Temperature or Hardness or Chloride.

[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 resu ts.

[i] Secondary chronic or chronic value, not 30 day mean.

[j] Guideline not applicable for site situation.

[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 3b: Summary of Analytical Results for Mount Polley, Polley Lake - 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)	Manganese (µg/L)	Mercury (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Potassium (µg/L)	Selenium (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)[b c]			n/a	20	5	5,000	n/a	n/a	1,200	0.0285-0.048[d]	n/a	1 (Cr(+6))	110	9.9-16.57[d]	1,000	65.3-142.6[d]	870	1465-2248[d]	Methyl mercury analysis in progress	2,000	25-110[d]	373,000-432,000	2	0.1-3.0[d]	n/a	0.3	n/a	2,000	300	6	33-81.75[d]
BCWQG Aquatic Life (30day) (AW)[b c,h]			n/a	n/a	n/a	1 000	5.3[i]	n/a	n/a	n/a	n/a	n/a	4	3.4-6.2[d]	n/a	5.9-8.9[d]	14[i]	974-1287[d]		1 000	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.5-56.25[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	1	250	n/a	n/a	10	n/a	n/a	2	n/a	n/a	n/a	n/a	5,000
Canadian Drinking Water Quality (DW)[e]			100	6	10	1,000	n/a	n/a	5,000	5	n/a	50	n/a	1,000	300	10	n/a	50	1	n/a	n/a	n/a	10	n/a	200,000	n/a	n/a	n/a	20	n/a	5,000
POL-EQU PMENT BLANK	VAN1B	2014 09 30	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	0.087	-	< 0.05	< 0.5	< 50	< 0.5	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3
POL-FIELD BLANK	POL-3-FB	2014 09 16	< 3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.5	< 10	< 0.01[a]	< 50	< 0.5	< 0.1	< 0.5	< 30	< 0.05	< 0.5	< 0.05	-	< 0.05	< 0.5	< 50	< 0.5	< 0.01	< 50	< 0.01	< 0.1	< 10	< 0.01	< 1	< 3

All terms defined w thin the body of SNC-Lavalin's report (available upon request).
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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 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] Guide ine varies with pH, and or Temperature or Hardness or Chloride.
[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 resu ts 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] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.54-2.73 NTU and <3-5.5 mg/L TSS.

TABLE 4a: Summary of Analytical Results for Mount Polley, Hazeltine Creek - Surface Water DRAFT

			Physical Parameters									Total Inorganics										
Sample Location	Sample ID	Sample Date (yyyy mm dd)	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 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 (mg/L)
BC Standards																						
BCWQG Aquatic Life (AW)[b,c]			n/a	6 5-9 0	6 5-9 0		Change of 8	n/a	n/a	Change of 25	n/a	n/a	700-24,500[d]	32 800	60-600[d]	32,800[f]	600	1324-1982[d]	n/a	n/a	n/a	n/a
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	+/-1 Degree change from ambient[g]	Change of 2[k]	n/a	n/a	Change of 5[k]	+20% of median background	n/a	135-17,700[d]	3,000	20-200[d]	3,000[f]	150	n/a	128-429[d]	n/a	n/a	n/a
BCWQG Drinking Water (DW)[b,c]			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	n/a	10 000	1 000	10,000[f]	250	1 000	500	n/a	n/a	0 01
Canadian Drinking Water Quality (DW)[e]			n/a	6 5-8 5	6 5-8 5	n/a[i]	n/a[j]	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
HAD-1	HAD-01	2014 09 24	114	-	7 91	-	1 01	239	149	4 1	6 74	0 526	47 2	24 3	**24.7**	-	0 82	79	38 7	88 6	< 0 001	0 0055
	HAD-1	2014 10 01	114	-	8.23	-	1.14	225	149	< 3	6.73	0.385	8.4	< 5	< 1	-	0.75	79	36.5	86.8	< 0.001	0.004
HAC01	HAC-01	2014 09 15	114	-	8 14	-	***> 4000***	247	181	**7,920**	5 69	1 29	92 8	< 5	5 5	-	0 88	106	38 7	94 7	0 0041	0 0067
	HAC-01	2014 09 16	120	-	8.23	-	***> 4000***	258	171	**4,900**	5.92	1.04	64.2	< 5	3.7	-	0.89	111	37.2	102	0.0029	0.0062
	HAC-01X	2014 09 16	121	-	8.22	-	***> 4000***	257	174	**6,080**	5.99	1.03	66.5	< 5	3.5	-	0.89	98	36.9	101	0.0036	0.0058
	QA/QC RPD %		< 1	-	< 1	-	*	< 1	2	22	1	< 1	4	*	*	-	*	*	< 1	< 1	*	*
	HAC-01	2014 09 17	117	-	8.11	-	***2,550***	250	182	**4,900**	5.87	0.81	54	< 5	3.9	-	0.86	97	36.5	98.4	0.0031	0.0062
	HAC-01	2014 09 18	126	-	8.24	-	***1,640***	270	195	**2,990**	5.49	0.741	45.7	7.4	4.1	-	1.15	97	43.8	107	0.0021	0.0046
	HAC-01	2014 09 19	120	-	8.18	-	***1,750***	251	173	**4,340**	5.82	1.07	71.1	5.4	5.2	-	0.87	107	36.9	99.8	0.0029	0.0063
	HAC-01X	2014 09 19	120	-	8 2	-	***1,800***	251	171	**4,450**	5 78	1 08	73 7	5 7	5 1	-	0 87	90	36 6	99 7	0 0026	0 0059
	QA/QC RPD %		0	-	< 1	-	3	0	1	3	< 1	< 1	4	*	2	-	*	*	< 1	< 1	*	*
	HAC-01	2014 09 22	117	-	8.18	-	***3,200***	242	181	**3,120**	6.13	1.16	78.7	< 5	1.6	-	0.79	84	36	98	0.0035	0.0089
	HAC-01	2014 09 23	116	-	8 14	-	***3 970***	242	190	**5,150**	6 67	1 6	104	< 5	< 1	-	0 79	86	36	100	0 0047	0 0079
	HAC-01	2014 09 24	127	-	7.54	-	***4,140***	251	180	**4,820**	6.51	0.597	117	14.5	14.5	-	0.89	95	38.1	103	0.002	0.0055
	HAC-01	2014 09 25	116	-	7.28	-	***2,080***	245	195	**1,940**	7.43	1.23	74.5	< 5	4.4	-	0.81	85	36.5	101	0.0032	0.0074
HAC-01a	HAC-01A	2014 09 27	120	-	7 89	-	***2,470***	241	187	**3,660**	6 13	1 19	79 5	< 5	2 4	-	0 84	85	36 4	100	0 0019	0 004
	HAC-01A	2014 09 28	119	-	7 87	-	***1 650***	242	158	**3,090**	6 5	1 15	67 8	< 5	2 4	-	0 84	85	36 6	103	0 0021	0 0042
	HAC-01A	2014 09 29	116	-	7 87	-	***1,410***	241	189	**2,700**	6 04	0 997	58 1	< 5	1 5	-	0 85	84	37 3	98 5	0 0014	0 0038
	HAC-01A	2014 09 30	116	-	7.82	-	***1,200***	249	172	**2,020**	6.5	1.12	54.2	< 5	< 1	-	0.97	82	36.2	98.4	0.002	0.0062
HAC03	HAC-03	2014 09 24	455	-	8.23	-	***57.8***	1,010	***718***	**183**	8.76	0.261	39.2	< 50	< 10	-	14.5	300	348	221	< 0.001	< 0.002
HAC05	HAC-05	2014 09 24	116	-	8.06	-	***36.5***	240	174	**128**	7.03	0.421	32.7	11.1	12.6	-	0.84	76	37.8	91.2	< 0.001	0.0056
	HAC-05	2014 10 01	116	-	8 18	-	***19.9***	230	153	**89**	6 9	0 423	9 7	< 5	< 1	-	0 78	80	36 7	89 2	< 0 001	0 0048
	HAC-05X	2014 10 01	116	-	8.18	-	***21.1***	231	162	**114**	6.67	0.392	9.7	< 5	< 1	-	0.78	81	36.6	88.9	< 0.001	0.0042
	QA/QC RPD %		0	-	0	-	6	< 1	6	25	3	8	*	*	*	-	*	*	< 1	< 1	*	*
HAC07	HAC-07	2014 09 24	116	-	8.02	-	***25.9***	237	156	**113**	7.15	0.524	31.8	17.7	11.3	-	0.85	75	37.7	90.3	< 0.001	0.0057

All terms defined w thin the body of SNC-Lavalin's report (ava lable 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) guide ine.
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) guide ine.

[a] Laboratory detection imit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
[c] A Compendium of Working Water Qua ity Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and or Temperature or Hardness or Chloride
[e] Health Canada Drinking Water Guidelines, 2012. Guideline for Nitrate app ied.
[g] Stream criteria applies to deviation from optimum fish species temperature range. In this case, a reference to ambient is made since the background range (Minnow, 2014) is ~0-20.8°C (upper Hazeltine Creek).
[h] Calculated based on an individual sample basis, not average resu t basis.
[i] Secondary chronic or chronic value, not 30 day mean. Guideline not applicable for site s tuation.
[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.34-6.99 NTU and <3-18 mg/L TSS.

TABLE 4a: Summary of Analytical Results for Mount Polley, Hazeltine Creek - Surface Water DRAFT

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)	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 Standards																														
BCWQG Aquatic Life (AW)[b,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
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
BCWQG Drinking Water (DW)[b,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
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
HAD-1	HAD-01	2014 09 24	6 1	36 9	< 30	5 21	1 36	0 928	6 91	0 13	0 85	12 3	< 0 1	23	< 0 01	< 0 5	< 0 1	2 53	< 0 05	0 72	7 12	< 0 5	1 07	< 0 01	< 0 01	< 10	0 213	1 2	< 3
	HAD-1	2014 10 01	6.8	37.2	< 30	5.17	2.08	0.829	6.71	0.11	0.77	11.1	< 0.1	24	< 0.01	< 0.5	< 0.1	2.53	< 0.05	< 0.5	6.85	< 0.5	1.02	< 0.01	< 0.01	< 10	0.208	1.2	< 3
HAC01	HAC-01	2014 09 15	39 6	36 3	< 30	5 68	35 1	1 84	7 87	< 0 5	2	39 7	< 0 5	< 50	< 0 05	< 0 5	< 0 5	25 2	< 0 25	< 2 5	8 73	< 2 5	1 24	< 0 05	< 0 05	< 10	0 69	< 5	< 5
	HAC-01	2014 09 16	33.1	38	< 30	6.07	41.6	1.63	7.57	< 0.5	1.93	34.2	< 0.5	< 50	< 0.05	< 0.5	< 0.5	26.4	< 0.25	< 2.5	7.82	< 2.5	1.13	< 0.05	< 0.05	< 10	0.596	< 5	< 5
	HAC-01X	2014 09 16	28.4	38.5	< 30	6.17	42.7	1.69	7.48	< 0.5	2.03	35	< 0.5	< 50	< 0.05	< 0.5	< 0.5	26.7	< 0.25	< 2.5	7.88	< 2.5	1.09	< 0.05	< 0.05	< 10	0.606	< 5	< 5
	QA/QC RPD %		15	1	*	2	3	4	1	*	*	2	*	*	*	*	*	1	*	*	< 1	*	*	*	*	*	2	*	*
	HAC-01	2014 09 17	24	37.1	< 30	5.82	45.1	1.48	7.66	0.22	1.87	34.9	< 0.2	29	< 0.02	< 0.5	< 0.2	25.4	< 0.1	< 1	7.49	< 1	1.04	< 0.02	< 0.02	< 10	0.575	2.7	< 3
	HAC-01	2014 09 18	***396***	39.8	**446**	6.49	59.6	1.7	8.97	0.23	1.99	44.6	< 0.2	30	< 0.02	< 0.5	0.38	35.5	0.26	1.6	9.03	1.2	1.1	< 0.02	< 0.02	31	0.613	3.4	< 3
	HAC-01	2014 09 19	**63.7**	37.9	39	6.1	35.3	1.31	7.21	< 0.5	1.96	33.2	< 0.5	< 50	< 0.05	< 0.5	< 0.5	23.6	< 0.25	< 2.5	6.99	< 2.5	1.01	< 0.05	< 0.05	< 10	0.599	< 5	< 5
	HAC-01X	2014 09 19	36 6	37 9	< 30	6 12	35 6	1 3	7 06	< 0 5	1 93	32 5	< 0 5	< 50	< 0 05	< 0 5	< 0 5	22 8	< 0 25	< 2 5	7 02	< 2 5	0 97	< 0 05	< 0 05	< 10	0 597	< 5	< 5
	QA/QC RPD %		54	0	*	< 1	< 1	< 1	2	*	*	2	*	*	*	*	*	3	*	*	< 1	*	*	*	*	*	< 1	*	*
	HAC-01	2014 09 22	***117***	36.9	181	5.9	33.8	1.23	7.04	< 0.5	2.07	36.1	< 0.5	< 50	< 0.05	< 0.5	< 0.5	13.1	0.41	< 2.5	7.06	< 2.5	1.01	< 0.05	< 0.05	20	0.62	< 5	7.9
	HAC-01-1	2014 09 23	***132***	36 5	151	6 06	32 5	1 12	6 46	< 0 5	1 94	35 3	< 0 5	< 50	< 0 05	< 0 5	< 0 5	15 7	< 0 25	< 2 5	7 43	< 2 5	1 11	< 0 05	< 0 05	16	0 701	< 5	< 5
	HAC-01	2014 09 24	***1,670***	39.7	**1,990**	6.78	79.8	1.68	7.75	< 0.5	2.29	49.9	< 0.5	< 50	< 0.05	2.66	1.28	31.4	1.17	2.5	6.67	4.1	1	< 0.05	< 0.05	103	0.682	6.5	6.7
	HAC-01	2014 09 25	***462***	36.3	**521**	6.15	38.5	1.3	7.35	< 0.5	1.8	39.1	< 0.5	< 50	< 0.05	0.62	< 0.5	17	0.37	3.2	7.45	< 2.5	1.07	< 0.05	< 0.05	37	0.738	< 5	< 5
HAC-01a	HAC-01A	2014 09 27	44 7	38 3	47	5 82	27 2	1 13	6 87	< 0 5	1 49	28 4	< 0 5	< 50	< 0 05	< 0 5	< 0 5	14 9	< 0 25	< 2 5	7 09	< 2 5	1 01	< 0 05	< 0 05	< 10	0 606	< 5	< 5
	HAC-01A	2014 09 28	**55.2**	38	58	5 81	27 5	1 15	6 98	< 0 2	1 47	29 6	< 0 2	24	< 0 02	< 0 5	< 0 2	10 8	< 0 1	< 1	7 04	< 1	0 95	< 0 02	< 0 02	< 10	0 484	2 5	< 3
	HAC-01A	2014 09 29	23 4	36 7	< 30	5 82	28 2	1 11	7 64	0 21	1 42	30 7	< 0 2	25	< 0 02	< 0 5	< 0 2	12 5	< 0 1	< 1	7 53	< 1	0 99	< 0 02	< 0 02	< 10	0 493	2	< 3
	HAC-01A	2014 09 30	18.7	36.8	< 30	5.81	23.5	1.04	6.89	< 0.2	1.4	31.7	< 0.2	24	< 0.02	< 0.5	< 0.2	9.85	< 0.1	< 1	6.91	< 1	0.97	< 0.02	< 0.02	< 10	0.475	2.2	< 3
HAC03	HAC-03	2014 09 24	7.8	144	< 30	23.1	670	6.24	54	0.41	1.88	42.2	< 0.1	108	0.066	< 0.5	0.96	68.6	< 0.05	6.24	66.5	1.29	1.41	< 0.01	< 0.01	22	2.84	1.4	< 3
HAC05	HAC-05	2014 09 24	8.9	37.4	< 30	5.41	9.25	0.87	6.51	0.13	0.8	14.6	< 0.1	25	< 0.01	< 0.5	< 0.1	7.17	< 0.05	0.83	6.77	< 0.5	1.03	< 0.01	< 0.01	< 10	0.217	1.2	< 3
	HAC-05	2014 10 01	8 3	37 9	< 30	5 27	8 64	0 866	6 88	0 12	0 82	12 5	< 0 1	25	< 0 01	< 0 5	< 0 1	5 97	< 0 05	< 0 5	6 92	< 0 5	0 97	< 0 01	< 0 01	< 10	0 219	1 2	< 3
	HAC-05X	2014 10 01	7.9	37.8	< 30	5.29	8.51	0.854	6.86	0.13	0.82	12.7	< 0.1	25	< 0.01	< 0.5	< 0.1	6.01	< 0.05	< 0.5	7.11	< 0.5	1.01	< 0.01	< 0.01	< 10	0.228	1.2	< 3
	QA/QC RPD %		*	< 1	*	< 1	2	1	< 1	*	0	2	*	*	*	*	*	< 1	*	*	3	*	*	*	*	*	4	*	*
HAC07	HAC-07	2014 09 24	8.4	37.4	< 30	5.4	8.32	0.869	6.54	0.13	0.77	14.4	< 0.1	25	< 0.01	< 0.5	< 0.1	6.76	< 0.05	0.78	6.84	< 0.5	0.97	< 0.01	< 0.01	< 10	0.207	1.3	< 3

All terms defined w thin the body of SNC-Lavalin's report (ava lable upon request).
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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) guide ine.
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) guide ine.

[a] Laboratory detection imit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
[c] A Compendium of Working Water Qua ity Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and or Temperature or Hardness or Chloride
[e] Health Canada Drinking Water Guidelines, 2012. Guideline for Nitrate app ied.
[g] Stream criteria applies to deviation from optimum fish species temperature range. In this case, a reference to ambient is made since the background range (Minnow, 2014) is ~0-20.8°C (upper Hazeltine Creek).
[h] Calculated based on an individual sample basis, not average result basis.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guide ine not applicable for s te situation.
[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.34-6.99 NTU and <3-18 mg/L TSS.

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TABLE 4a: Summary of Analytical Results for Mount Polley, Hazeltine Creek - Surface Water 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)	Silver (µg/L)	Sodium (µg/L)	Thallium (µg/L)	Titanium (µg/L)	Uranium (µg/L)	Vanadium (µg/L)	Zinc (µg/L)
BC Standards																																
BCWQG Aquatic Life (AW)[b,c]			n/a	20	5	5 000	n/a	n/a	1 200	0.0325-0.13[d]	n/a	1 (Cr(+6))	110	11.2-49.1[d]	1 000	79.5-635.1[d]	870	n/a	1619-6061[d]	Methyl mercury analysis in progress	2 000	25-150[d]	373,000-432,000	2	0.1-3.0[d]	n/a	0 3	2 000	300	6	38.9-341[d]
BCWQG Aquatic Life (30day) (AW)[b,c,h]			n/a	n/a	n/a	1,000	5.3[j]	n/a	n/a	n/a	n/a	n/a	4	3.9-20[d]	n/a	6.4-28.1[d]	14[i]	n/a	1036-2809[d]		1,000	n/a	n/a	n/a	0.05-1.5[d]	n/a	n/a	n/a	n/a	n/a	13.1-316[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	2	n/a	n/a	n/a	5 000
Canadian Drinking Water Quality (DW)[e]			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	200 000	n/a	n/a	20	n/a	5 000
HAD-1	HAD-01	2014 09 24	33 8	0 15	0 85	13 2	< 0 1	< 0 5	29	< 0 01	37 200	< 0 5	< 0 1	3 36	< 30	< 0 05	0 81	5 320	16 8	-	7 49	< 0 5	931	1 05	< 0 01	7 020	< 0 01	< 10	0 216	1 4	< 3
	HAD-1	2014 10 01	37.1	0.14	0.78	12.1	< 0.1	< 0.5	27	< 0.01	36,700	< 0.5	< 0.1	3.4	< 30	< 0.05	0.71	5,160	11.5	-	6.82	< 0.5	825	0.93	< 0.01	6,330	< 0.01	< 10	0.181	1.3	< 3
HAC01	HAC-01	2014 09 15	***114,000***	0 63	***83.2***	***1,160***	4	< 2 5	78	**1.5**	294 000	***133***	**97**	***4,180***	***169,000***	***64.1***	**132**	81 400	***4,690***	-	15 2	**146**	13 500	**4.26**	**1.76**	15 900	**0.472**	**5,940**	6 02	**420**	**424**
	HAC-01	2014 09 16	***89,800***	0.56	***66.4***	993	3.22	< 2.5	65	**1.13**	231,000	***92.6***	**82.3**	***3,820***	***127,000***	***45.9***	**101**	66,100	***3,670***	-	13.6	**101**	11,600	**4.01**	**1.61**	13,900	**0.327**	**4,770**	4.77	**353**	**343**
	HAC-01X	2014 09 16	***89,900***	0.58	***71.5***	***1,010***	3.79	< 2.5	79	**1.14**	233,000	***91.9***	**82.9**	***4,010***	***126,000***	***48.4***	**115**	65,600	***3,820***	-	13.9	102	12,000	**4.16**	**1.85**	14,800	**0.345**	**4,610**	4.96	**355**	**345**
	QA/QC RPD %		< 1	*	7	2	16	*	*	*	< 1	< 1	< 1	*	< 1	*	13	< 1	*	-	2	*	3	4	14	6	5	3	4	< 1	*
	HAC-01	2014 09 17	***53,500***	0.51	***54.1***	704	1.99	< 1	52	**0.91**	171,000	***66.2***	**54.2**	***2,640***	***86,200***	***36.7***	**61.8**	42,200	***2,380***	-	10.1	**76.3**	8,060	**3.14**	1.1	11,500	0.254	**2,600**	3.98	**219**	**226**
	HAC-01	2014 09 18	***50,900***	0.58	***44.1***	665	1.84	< 1	48	**0.709**	152,000	***61.1***	**43.7**	***2,020***	***79,100***	***33.5***	**60.6**	39,200	***1,950***	-	11.1	65.8	8,150	**2.64**	1.04	12,800	0.231	**2,810**	3.19	**196**	**190**
	HAC-01	2014 09 19	***76,300***	0.63	***60.5***	788	2.58	< 2.5	59	**1.1**	186,000	***97.6***	**69.1**	***2,820***	***126,000***	***43.4***	**88.7**	54,700	***2,950***	-	12.5	**106**	10,000	**3.48**	1.32	12,600	**0.351**	**4,230**	4.58	**314**	**310**
	HAC-01X	2014 09 19	***70,400***	0 64	***56***	770	2 43	< 2 5	57	**0.964**	175 000	***86.5***	**63.9**	***2,640***	***109,000***	***41***	**80.4**	50 400	***2,830***	-	12 8	**94.4**	9 630	**3.27**	1 35	12 500	**0.313**	**3,850**	4 2	**289**	**274**
	QA/QC RPD %		8	*	8	2	*	*	*	*	6	12	8	7	15	6	10	8	4	-	2	12	4	6	2	< 1	11	9	9	8	12
	HAC-01	2014 09 22	***62,900***	0.66	***37.7***	600	1.97	< 2.5	< 50	**0.962**	127,000	***110***	**59**	***1,170***	***107,000***	***37.5***	**75.5**	47,100	***2,410***	-	6.71	**128**	8,000	**2.56**	0.811	9,120	**0.417**	**2,850**	3.22	**206**	**269**
	HAC-01-1	2014 09 23	***71 300***	0 57	***42 8***	709	2 25	< 2 5	< 50	**1.06**	165 000	***126***	**70.6**	***1 680***	***126 000***	***46 4***	**86.6**	55 400	***2 920***	-	6 97	**140**	8 940	**2.79**	1 05	9 410	**0.443**	**3,270**	4 08	**242**	**315**
	HAC-01	2014 09 24	***69,500***	0.69	***37.9***	603	1.98	< 2.5	< 50	**1.02**	148,000	***123***	**60.4**	***1,170***	***112,000***	***39.2***	**89**	47,000	***2,470***	-	8.01	**136**	9,170	**2.57**	0.728	10,700	**0.424**	**3,100**	3.56	**214**	**282**
	HAC-01	2014 09 25	***59,100***	0.71	***35.1***	560	1.78	< 2.5	< 50	**0.786**	133,000	***97.8***	**51.1**	***1,070***	***106,000***	***36.3***	**71.3**	43,400	***2,090***	-	7.31	**109**	7,890	**2.46**	0.697	9,880	**0.413**	**3,010**	3.36	**190**	**239**
	HAC-01	2014 09 27	***53,100***	< 0 5	***34.7***	518	1 71	< 2 5	< 50	**0.865**	141 000	***83.8***	**51.4**	***1,400***	***95,800***	***34***	**69.6**	42 700	***2,110***	-	7 8	**98.7**	7 330	**2.14**	0 849	9 770	**0.313**	**2,700**	3 25	**182**	**220**
HAC-01a	HAC-01A	2014 09 28	***48 300***	0 54	***32 7***	472	1 46	< 1	37	**0.65**	131 000	***75 5***	**43.9**	***1 190***	***84 500***	***30***	**59.8**	37 600	***1 850***	-	7 77	**87.3**	6 970	**1 98**	0 672	9 600	0 298	**2,450**	2 92	**166**	**186**
	HAC-01A	2014 09 29	***41,200***	0 55	***27.9***	459	1 3	< 1	35	**0.636**	115 000	***66.1***	**36.9**	***910***	***68,400***	***27.3***	**50**	32 500	***1,590***	-	7 14	**76**	6 400	1 87	0 554	9 520	0 271	**2,110**	2 52	**130**	**163**
	HAC-01A	2014 09 30	***33,800***	0.48	***18.9***	310	0.96	< 1	34	**0.446**	89,700	***63.7***	**30.3**	**402**	***58,000***	***20.3***	**44.2**	25,600	***1,180***	-	5.97	**73**	5,390	1.36	0.303	8,370	0.23	1,580	1.8	**99.6**	**137**
HAC03	HAC-03	2014 09 24	***5,210***	0.5	**5.88**	132	0.21	< 0.5	119	0.118	149,000	**2.53**	**4.55**	**338**	***6,590***	2.74	10.6	25,500	***837***	-	64.4	3.3	7,580	1.54	0.099	53,200	0.017	420	3.19	**26.9**	15.5
HAC05	HAC-05	2014 09 24	***3,410***	0.18	3.47	72.3	0.13	< 0.5	33	**0.06**	43,600	**2.82**	2.31	**151**	***3,940***	1.81	3.65	7,070	***151***	-	6.47	2.91	1,740	1.04	0.066	6,940	0.013	230	0.442	**14.4**	11.5
	HAC-05	2014 10 01	***1,630***	0 15	1 9	37 3	< 0 1	< 0 5	28	0 015	38 400	**1.13**	1 06	**61.1**	***1,700***	0 733	1 7	5 750	***69.6***	-	6 89	1 2	1 320	1	0 026	6 810	< 0 01	107	0 312	**6.8**	5 2
	HAC-05X	2014 10 01	***1,510***	0.15	1.9	34.2	< 0.1	< 0.5	28	0.021	39,600	**1.19**	1.03	**76.3**	***1,640***	0.721	1.69	5,940	***70.1***	-	7.09	1.24	1,230	1	0.027	6,840	< 0.01	99	0.313	**6.3**	6
	QA/QC RPD %		8	*	0	9	*	*	*	*	3	*	3	22	4	2	*	3	< 1	-	3	*	7	*	*	< 1	*	8	< 1	8	*
HAC07	HAC-07	2014 09 24	***2,040***	0.17	2.14	48.5	< 0.1	< 0.5	29	0.029	39,500	**1.82**	1.33	**70.9**	***2,140***	0.925	2.16	6,340	***84.9***	-	6.76	1.61	1,550	0.97	0.033	6,790	0.015	134	0.321	**8.3**	8

All terms defined w thin the body of SNC-Lavalin's report (ava lable 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) guide ine.
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) guide ine.

[a] Laboratory detection imit out of range.
[b] British Columbia Approved Water Quality Guidelines 2006 Edition, updated 2014.
[c] A Compendium of Working Water Qua ity Guidelines for Br tish Columbia, updated August 2006.
[d] Guide ine varies with pH, and or Temperature or Hardness or Chloride
[e] Health Canada Drinking Water Guidelines, 2012. Guideline for Nitrate applied.
[g] Stream criteria applies to deviation from optimum fish species temperature range. In this case, a reference to ambient is made since the background range (Minnow, 2014) is ~0-20.8°C (upper Hazeltine Creek).
[h] Calculated based on an individual sample basis, not average resu t basis.
[i] Secondary chronic or chronic value, not 30 day mean.
[j] Guideline not applicable for site situation.
[k] Based on a change from background at any one time. Prebreach range (Minnow, 2014) 0.34-6.99 NTU and <3-18 mg/L TSS.

Table 5: Summary of Exceedances for Mount Pol ey, Quesnel Lake from September 15th to October 1st

	Total Phosphorus	Aluminum	Cadmium	Chromium	Copper	Iron	Manganese	Selenium	Vanadium	Zinc
BCWQG Aquatic Li e (AW)[b c]	QUL-2-38M, QUL-2-50M, QUL-2- 7M, QUL-2- 8M QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21-30M, QUL-21- 6M, QUL-21- 5M, QUL-21- 6M, QUL-21- 7M, QUL-21- 0M, QUL-21- 5M, QUL-21A- 0M, QUL-21A-65M, QUL-21A-60M, QUL-23, QUL- 0-50M, QUL-66- 8M, QUL-66- 0M, QUL-66-5M, QUL-66A- 0M, QUL-66A-85M, QUL-66A-80M, QUL-79 25M, QUL-87-53M, QUL-87-25M, QUR-109 5M, QUL-118-TAP, QUL-119-20M, QUL-66-50M, QUL-66-0M		QUR-1-16:00	QUL-2-38M, QUL 2-50M, QUL-2- 7M, QUL 2- 8M, QUL-2A-60M, QUL-18-100M, QUL-21- 6M, QUL-21- 5M, QUL-21- 7M, QUL-21A- 0M, QUL-21A-60M, QUL-21A 65M, QUL-66-2 M, QUL-66-8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL-66-50M, QUL-66A-0M, QUL-66A 85M QUL 66A 80M, QUL 125	QUL-2-25M, QUL-2-38M, QUL-2 50M, QUL-2- 7M, QUL-2- 8M, QUL-2A- 0M, QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21-56M, QUL 21- 6M, QUL-21-30M, QUL-21- 5M, QUL-21- 7M, QUL-21- 0M, QUL-21A- 0M, QUL21A-65M, QUL-21A-60M, QUL-31A- 0M, QUL- 0 50M, QUL- 0- 0M, QUL-66-2 M QUL-66- 8M, QUL-66- 0M, QUL-66-15M,QUL-66- 5M, QUL-66-50M, QUL-66A- 0M, QUL-66A-85M, QUL-66A-80M, QUL-79-28M, QUL-79-50M, QUL-79-58M, QUL-79-30M QUL-118-TAP, QUL-120- 0M, QUL-122-TAP, QUL-126-TAP, QUL-129-TAP	QUL-2-38M, QUL 2-50M, QUL-2- 7M, QUL-2- 8M, QUL-2A-60M, QUL-18-100M, QUL-21-6M, QUL-21- 5M, QUL 27- 7M, QUL-21A-65, QUL-21A- 0M, QUL-21A 60M, QUL 66- 8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL 66-50M, QUL-66A- 0, QUL-66A-85M, QUL-66A 80M		QUL-125-TAP	QUL-18-100M, QUL-66- 8M, QUL-66A-85M, QUL 66A 80M,	QUL-120X-0M, QUL-126-TAP, QUL-129-TAP
BCWQG Aquatic Li e (30day) (AW)[b c h]					QUL-2-25M, QUL-2-38M, QUL-2 50M,- QUL-2-16M, QUL-2- 7M, QUL-2 13M, QUL-2- 8M, QUL-2A- 0M, QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21- 6M, QUL-21-30M, QUL-21- 5M, QUL-21- 7M, QUL-21- 0M, QUL-21A- 0M, QUL21A-65M, QUL-21A 60M, QUL-31A- 0M, QUL-31A 100M, QUL- 0- 5M QUL- 0 100M, QUL- 0-50M, QUL- 0- 0M, QUL- 0-98M, QUL- 0-80M, QUL-0A- 0M, QUL- 0A 100M, QUL-66-2 M QUL-66- 8M, QUL-66- 0M, QUL-66-15M QUL-66- 5M, QUL-66-50M, QUL-66A- 0M, QUL-66A 85M, QUL-66A-80M, QUL-79 26M, QUL-79-50M, QUL-79-15M, QUL-79-25M, QUL-79-58M, QUL-79-30M, QUL87-25M, QUL-105-TAP, QUL-118-TAP, QUL-119-20M, QUL-120-35M, QUL-120-88M, QUL 120- 0M, QUL-122-TAP, QUL-123-TAP, QUL-126-TAP, QUL-129-TAP, QUL-120-80M						QUL-120X-0M, QUL-126-TAP, QUL-129-TAP
BCWQG Drinking Water (DW)[b c]										
Canad an Drinking Water Qua ity (DW)[e]		QUL-2-25M, QUL 2-38M, QUL-2-50M, QUL-2- 7M, QUL-2 13M, QUL-2- 8M, QUL-2A- 0M, QUL-2A-60M, QUL-18- 0M, QUL-18-100M, QUL-21-30M, QUL-21- 5M, QUL-21- 6M, QUL-21A- 0M, QUL-21A-65M, QUL-21A-60M, QUL 31A- 0M, QUL-31A-100M, QUL- 0- 5M, QUL- 0- 0M, QUL- 0-80M, QUL-0A- 0M, QUL 66-2 M, QUL-66-8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL-66-50M, QUL-66A- 0M, QUL 66A-85M, QUL-66A-80M, QUL-79-26M, QUL-79-50M, QUL-79-25M, QUL-79-58M, QUL-79 30M, QUL-117, QUL-120-35M, QUL-120-88M, QUL-21- 7M, QUL-21- 0M, QUL- 0-50M, QUL- 0-98M				QUL-2-38M, QUL 2-50M, QUL-2- 7M, QUL-2- 8M, QUL-2A-60M, QUL-18-100M, QUL-21- 6M, QUL-21- 5M, QUL 27- 7M, QUL-21A-65, QUL-21A- 0M, QUL-21A 60M, QUL-2A- 0M, QUL-18- 0M, QUL-21- 0M, QUL-21- 5M, QUL 66-2 M, QUL-66- 8M, QUL-66- 0M, QUL-66-15M, QUL-66- 5M, QUL 66-50M, QUL-66A- 0, QUL-66A-85M, QUL-66A 80M, QUL 79-50M, QUL-79-58M, QUL-117, QUL-21- 0M	QUL-2-38M, QUL-2-50M, QUL-2- 7M QUL-2A-50M, QUL-18- 0M QUL-18-100M, QUL-21- 6M QUL-21- 5M, QUL-21- 7M, QUL-21- 0M, QUL-21A- 0M, QUL-21A-65M, QUL-21A-60M, QUL-66- 8M, QUL-66- 0M, QUL-66-15M, QUL-66-50M, QUL-66A- 0M, QUL-66A-85M, QUL-66A 80M, QUL-2- 8M, QUL-66- 5M			

b Br tish Columbia Approved Water Quality Gu delines 2006 Ed tion, updated 201 .
c A Compendium of Working Water Quality Guidelines for Br tish Columbia, updated August 2006.
h Calculated based on an individual samp e bas s, not average result basis.
e Health Canada Drinking Water Guide ines, 2012.

Table 6: Summary of Exceedances for Mount Polley: Polley Lake from September 15th to October 1st

	pH (Field)	Nitrite Nitrogen	Total Phosphorus	Dissolved Iron	Aluminum	Copper	Iron	Manganese
BCWQG Aquatic Life (AW)[b,c]	P1-0M	POL-5-11M, POL-5-9M, POL-6-14M	POL-5-11M, POL-6-14M, P1-27M, P2-27M, POL-6-0M, POL-5-0M, POL-5-9m, P2-0M, P1-0M	P1-27M		P1-0M, P1-27M, P2-27M		
BCWQG Aquatic Life (30day) (AW)[b,c,h]		POL-5-11M, POL-5-9M, POL-6-14M				POL-5-11M, POL-6-12M, P1-0M, P1-27M, P2-27M, POL-3		
BCWQG Drinking Water (DW)[b,c]	POL-6-0M, P1-0M, P2-0M, POL-3, POL-5-0M		POL-5-11M, POL-6-14M, P1-27M, P2-27M					
Canadian Drinking Water Quality (DW)[e]	POL-6-0M, P1-0M, P2-0M, POL-3, POL-5-0M				POL-5-11M, POL-6-14M, POL-6-12M, P1-27M, P2-27M, POL-3		P1-27M, P2-27M	POL-5-11M, POL-5-9M, POL-6-14M, P1-27M, P2-27M

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.
h Calculated based on an individual sample basis, not average result basis.
e Health Canada Drinking Water Guidelines, 2012.

Table 7: Summary of Exceedances for Mount Polley: Hazel ine Creek from September 15th to October 1st

	Turbidity	TDS	TSS	Nitrite Nitrogen	Dissolved Iron	Dissoved Aluminum	Aluminum	Arsenic	Barium	Cadmium	Chromium	Cobalt
BCWQG Aquatic Life (AW)[b,c]	HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01	HAC01		HAC01, HAC01a, HAC03		HAC01, HAC01a, HAC05	HAC01,HAC01a, HAC03, HAC05, HAC07	
BCWQG Aquatic Life (30day) (AW)[b,c,h]	HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01, HAC01a, HAC03, HAC05, HAC07	HAD01		HAC01, HAC01a			HAC01			HAC01, HAC01a, HAC03
BCWQG Drinking Water (DW)[b,c]	HAC01, HAC01a, HAC03, HAC05, HAC07					HAC01		HAC01, HAC01a				
Canadian Drinking Water Quality (DW)[e]		HAC03					HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01, HAC01a	HAC01		HAC01,HAC01a	

b Bri ish Columbia Approved Water Quality Guidelines 2006 Edi ion, updated 2014.
c A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.
h Calculated based on an individual sample basis, not average result basis.
e Health Canada Drinking Water Guidelines, 2012.

Table 7: Summary of Exceedances for Mount Polley: Hazel ine Creek from September 15th to October 1st

	Copper	Iron	Lead	Lithium	Manganese	Nickel	Selenium	Silver	Thallium	Titanium	Vanadium	Zinc
BCWQG Aquatic Life (AW)[b,c]	HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01, HAC01a, HAC03, HAC05, HAC07			HAC01,HAC01a	HAC01,HAC01a	HAC01,HAC01a	HAC01	HAC01	HAC01,HAC01a	HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01,HAC01a
BCWQG Aquatic Life (30day) (AW)[b,c,h]	HAC01, HAC01a, HAC03, HAC05, HAC07		HAC01,HAC01a	HAC01,HAC01a	HAC01,HAC01a							HAC01,HAC01a
BCWQG Drinking Water (DW)[b,c]	HAC01, HAC01a		HAC01									
Canadian Drinking Water Quality (DW)[e]	HAC01, HAC01a	HAC01, HAC01a, HAC03, HAC05, HAC07	HAC01,HAC01a		HAC01, HAC01a, HAC03, HAC05, HAC07							

b Bri ish Columbia Approved Water Quality Guidelines 2006 Edi ion, updated 2014.
c A Compendium of Working Water Quality Guidelines for British Columbia, updated August 2006.
h Calculated based on an individual sample basis, not average result basis.
e Health Canada Drinking Water Guidelines, 2012.

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LEGEND

- Sampling Locations
- 30m Depth

NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

1. Imagery from DigiGlobe World Imagery via ArcGIS Online
2. Bathymetry from MPMC

SNC · LAVALIN

CLIENT NAME: MPMC

PROJECT LOCATION: Mount Polley Mine, British Columbia

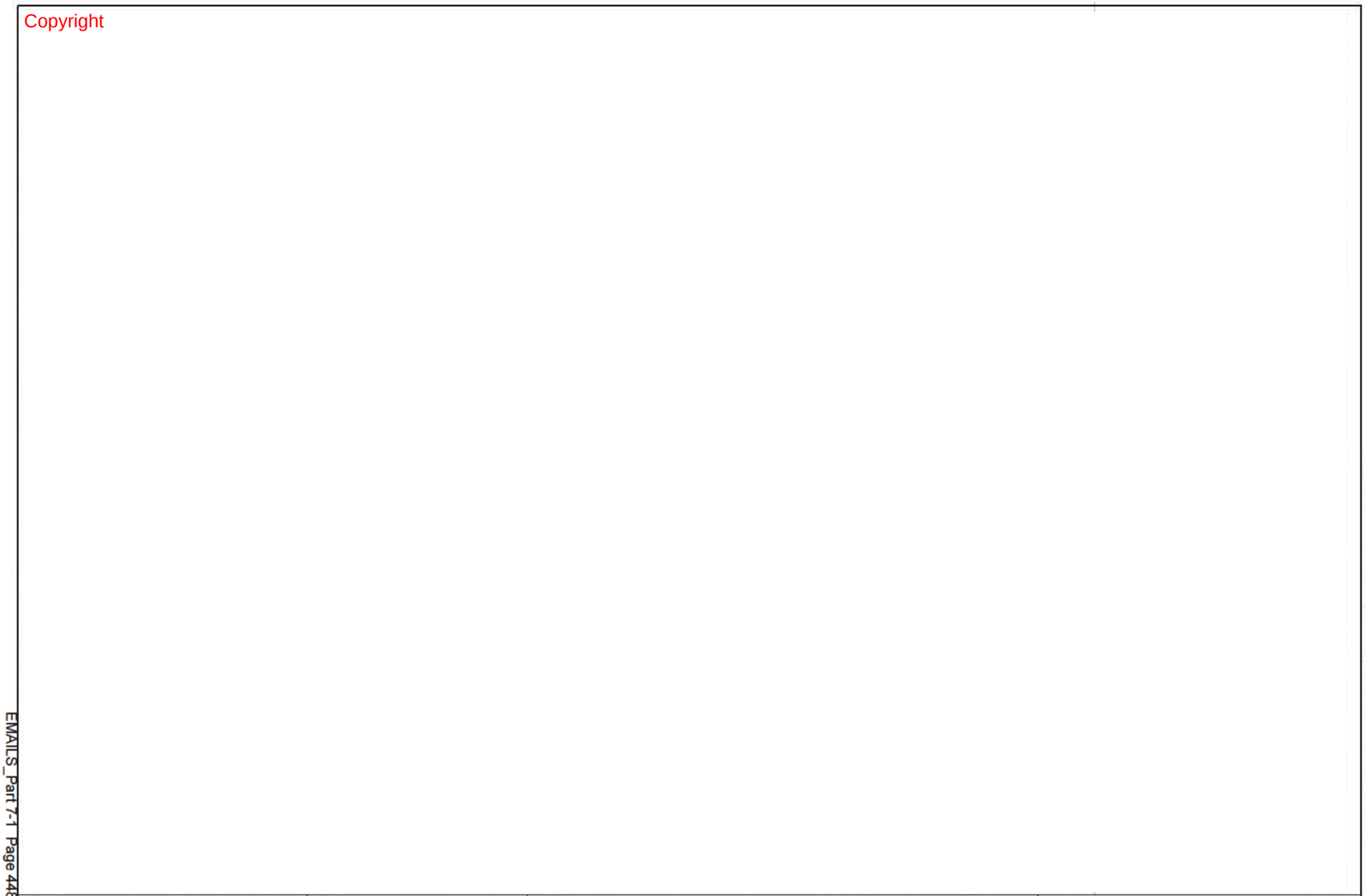
Turbidity Profiles - Oct 1-7, 2014

DESIGN: LH	SCALE: 1:100,000	DATE: 2014/10/08	PROJECT No: 621717-001 REV: 0
CHECKED: CLKR	PROJECT COORDINATES: NAD 1983 UTM Zone 10N		

MXD Path: P:\LOR\EAM-BC Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\...\Turbidity - Profile Graph Maps\621717-WQ-TurbProfile\Graphs_Oct1-7.mxd

Project Path:

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LEGEND

- Sampling Locations
- 30m Depth

NOTES

1. Original in colour.
2. Numerical scale reflects full-size print. Print scaling will distort this scale, however scale bar will remain accurate.
3. Intended for illustration purposes, accuracy has not been verified for construction or navigation purposes.

REFERENCES

1. Imagery from DigiGlobe World Imagery via ArcGIS Online
2. Bathymetry from MPMC

SNC·LAVALIN

CLIENT NAME: MPMC

PROJECT LOCATION: Mount Polley Mine, British Columbia

Complete Turbidity Profiles - QUL-21, 66, 79, 112 & 120

DESIGN: LH	SCALE: 1:100,000	DATE: 2014/10/08	REF No: 621717-002 REV: 0
CHECK: CLKR	PROJECTION & COORDINATES: NAD 1983 UTM Zone 10N		

Project Path:

MXD Path: P:\LOR\EAM-BC Current Projects\Mount Polley Mining Corporation\621717_Mount Polley Mine\...\Bathymetry\QUL-21-66-79-112.mxd

Mount Polley Mining Corporation

an Imperial Metals company

Box 12 • Likely, BC V0L 1N0 • T 250.790.2215 • F 250.790.2613

October 10, 2014

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

WEEKLY TSF BREACH MONITORING REPORT – WEEK OF OCTOBER 1 – 7, 2014

Water Management

Polley Lake Dewatering	Polley Lake level elevation = 921.96 m Pumping rates from Polley Lake to Hazeltine Creek are now decreasing because the lake level is within its natural range. Maintenance rate pumping will continue to prevent the lake level from increasing until the geotechnical review of the tailings plug is complete.
Breaches	No breaches of the water management system containing water flow from the Tailings Storage Facility (TSF) occurred this week.

Sediment and Erosion Control Measures

Silt Curtain	The silt curtain attached to the log boom at the mouth of Hazeltine Creek continues to remove sediment from the water column. The curtain is in good condition.
Sediment Control Works	Implementation of the Lower Hazeltine Creek Sediment and Erosion Control Plan is underway, with the preparations for the sedimentation ponds, such as surveying, being completed. All work is being supervised by qualified environmental monitors. The new bridges across Hazeltine Creek on the Ditch Road and the Gavin Lake Forest Service Road are complete. The bridges will allow for improved access to lower Hazeltine Creek to carry out sediment control works.

Routine Water Quality Monitoring Program

Drawings 621717-005-P1 through 621717-005-P8 (Figure 5, attached) show locations that have been sampled as part of the water quality monitoring program. The following table is a summary of sampling locations completed as part of the routine water quality monitoring program from October 1 to October 7, 2014. No samples were missed this week; however no sample was taken at HAC-03 due to the flow being extremely low.

Monitoring Program	Frequency	Area	Sample Locations
Routine Water Quality Monitoring	Daily	Quesnel River	QUR-1
		Hazeltine Creek	HAC-01a
	Weekly	Quesnel Lake	QUL-2, QUL-2a, QUL-18, QUL-21, QUL-21a, QUL-22, QUL-23, QUL-31a, QUL-40, QUL-40a, QUL-66, QUL-66a, QUL-87, QUL-119, QUL-zoo-8
		Hazeltine Creek	HAD-01, HAD-02, HAC-03, HAC-05
		Polley Lake	P1, P2, POL-5, POL-6
	2x/week	Quesnel Lake	QUL-20, QUL-79, QUL-112, QUL-120

Event Based Water Quality Monitoring Program

Additional event based samples are collected in response to physical changes in Quesnel Lake (tubidity, conductivity, colour, etc.) due to weather and/or mixing events. The following table is a summary of additional samples that were collected in the we October 1 to 7, 2014 as part of the event based monitoring program.

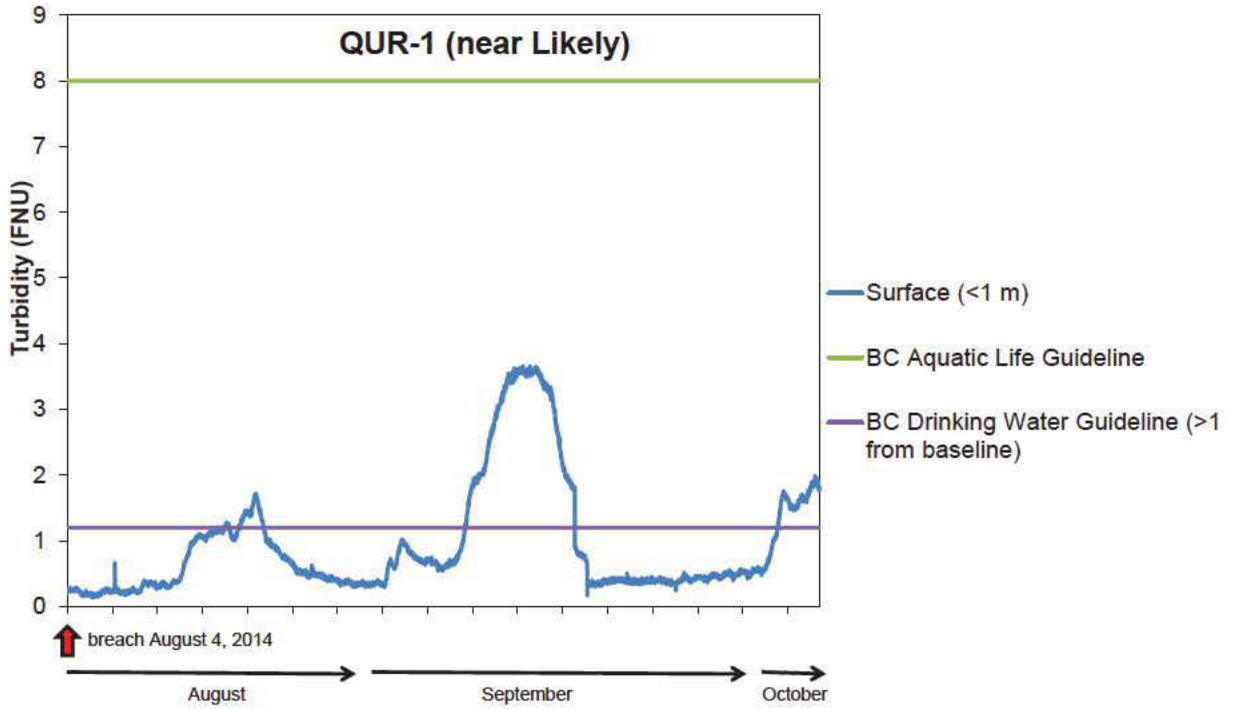
Monitoring Program	Date	Area	Rationale	Sample Locations
Event Based Water Quality Monitoring	October 3, 2014	Quesnel Lake	Additional locations near Likely sampled in response to an increase in turbidity following a severe rain/wind event on October 2, 2014.	QUL-20 QUL-38 (residential location)

Water Chemistry and Turbidity Results

Water chemistry results received in the last two weeks from Quesnel Lake, Polley Lake, and Hazetline Creek are attached (Tables 1a, 3a, and 4a, attached). Summary tables showing exceedances of drinking water and protection of aquatic life guidelines have also been attached for Quesnel Lake, Polley Lake, and Hazeltine Creek in Tables 5 through 7, respectively.

Turbidity data at key monitoring locations in Quesnel Lake collected during the week of October 1 – 7, 2014 are presented on plots shown on Drawing 621717-001 (attached). Data collected since late august have been presented for key location on plots shown on Drawing 617212-002 (attached).

Turbidity results from sample location QUR-1 accessed at the Quesnel River Research Centre are summarized as a time series in the figure below.



Water Toxicity Testing Results

The following tables summarizes finalized data for samples submitted for lethal and sublethal toxicity sampling to date.

Sample ID	Sample Date	Lab Workorder	Test Type	LC25 (% v/v)	LC50 (% v/v)	IC25 (% v/v)	IC50 (% v/v)	Interim or Final?
QUR-1	2014 08 06	14512	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14513	48-h D. magna LC50	>100	>100	n/a	n/a	Final
		14521	7-d C. dubia survival and reproduction	>100	>100	>100	>100	Final
POL-2	2014 08 09	14522	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14523	48-h D. magna LC50	>100	>100	n/a	n/a	Final
		14524	7-d C. dubia survival and reproduction	>100	>100	>100	>100	Final
HAD-1	2014 08 13	14535	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14536	48-h D. magna LC50	>100	>100	n/a	n/a	Final
		14537	7-d C. dubia survival and reproduction	>100	>100	>100	>100	Final
		14538	7-d fathead minnow survival and growth	>100	>100	>100	>100	Final
		14539	72-h P. subcapitata growth inhibition	n/a	n/a	>95.2	>95.2	Final
HAD-1	2014 08 20	14559	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14560	48-h D. magna LC50	>100	>100	n/a	n/a	Final
QUL66-40m	2014 08 21	14567	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14568	48-h D. magna LC50	>100	>100	n/a	n/a	Final
QUL-66-40m-140828	2014 08 28	14600	96-h rainbow trout LC50	>100	>100	n/a	n/a	Final
		14601	48-h D. magna LC50	>100	>100	n/a	n/a	Final
POL-6-14M-140916	2014 09 16	14661	48-h D. magna LC50	>100	>100	>100	>100	Final

QA/QC Summary

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

Summary of Modifications to the Monitoring Program

General

- No samples were collected on October 2, 2014 due to field staff participating in a training workshop for equipment calibration, use, and maintenance.

Polley Lake

- No changes.

Hazeltine Creek

- No changes.

Quesnel Lake

- Sampling at water intakes for residents who have requested that Mount Polley Mining Corporation sample their water sources is almost complete. Outstanding samples have not been completed due to residents not being home or returning phone messages to provide permission to access their properties. Moving forward, residential event-based sampling will be implemented for Likely neighborhoods based on turbidity triggers at specific sampling locations.

- Additional deep sampling locations (QUL-2a, QUL-21a, QUL-31a, QUL-40a, and QUL-66a) continue to be monitored on a weekly basis as part of the Comprehensive Environmental Impact Assessment with the intention of replacing the original shallow locations as part of the core monitoring program. Equipment for measuring in situ parameters to depths of 250m has been obtained, and plans are being made to conduct concurrent profiles with EBA-Tetra Tech for inter-comparison purposes.

Quesnel River

- The ISCO automatic sampler at QUR-1 has been removed due to temperatures dropping below 0° C at night. A grab sample at QUR-1 will continue to be collected daily and the continuous monitoring sonde which logs every 15 minutes will remain in the river during freezing conditions.

ATTACHMENTS

Tables:

Tables 1a, 1b, 1e, 3a, 3b and 4a: Summary of Analytical Results for Quesnel Lake, Polley Lake, and Hazeltine Creek (since September 15, 2014)

Tables 6, 7, and 8: Summary of Exceedances for Quesnel Lake, Polley Lake, and Hazeltine Creek

Drawings:

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

621717-001: Turbidity Profiles – October 1 to 7, 2014

621717-002: Complete Turbidity Profiles - QUL-21, 66, 79, 112 & 120

Appendices:

Appendix A: QA/QC Data Management Flow Chart

Executive Briefing

Mt. Polley Mine Breach

Chief Inspector's Investigation

October 14th, 2014

Confidential

BRITISH COLUMBIA

MINISTRY OF ENERGY AND MINES

Al Hoffman, Chief Inspector of Mines

Topics Covered

- Event background
- Investigation objectives
- Investigation status
- Organization of the task
- Responding to uncertainty
- Issues
- Timeline expectations
- Resource requirements


Satellite Dyke
Main Dyke
Breach Sump

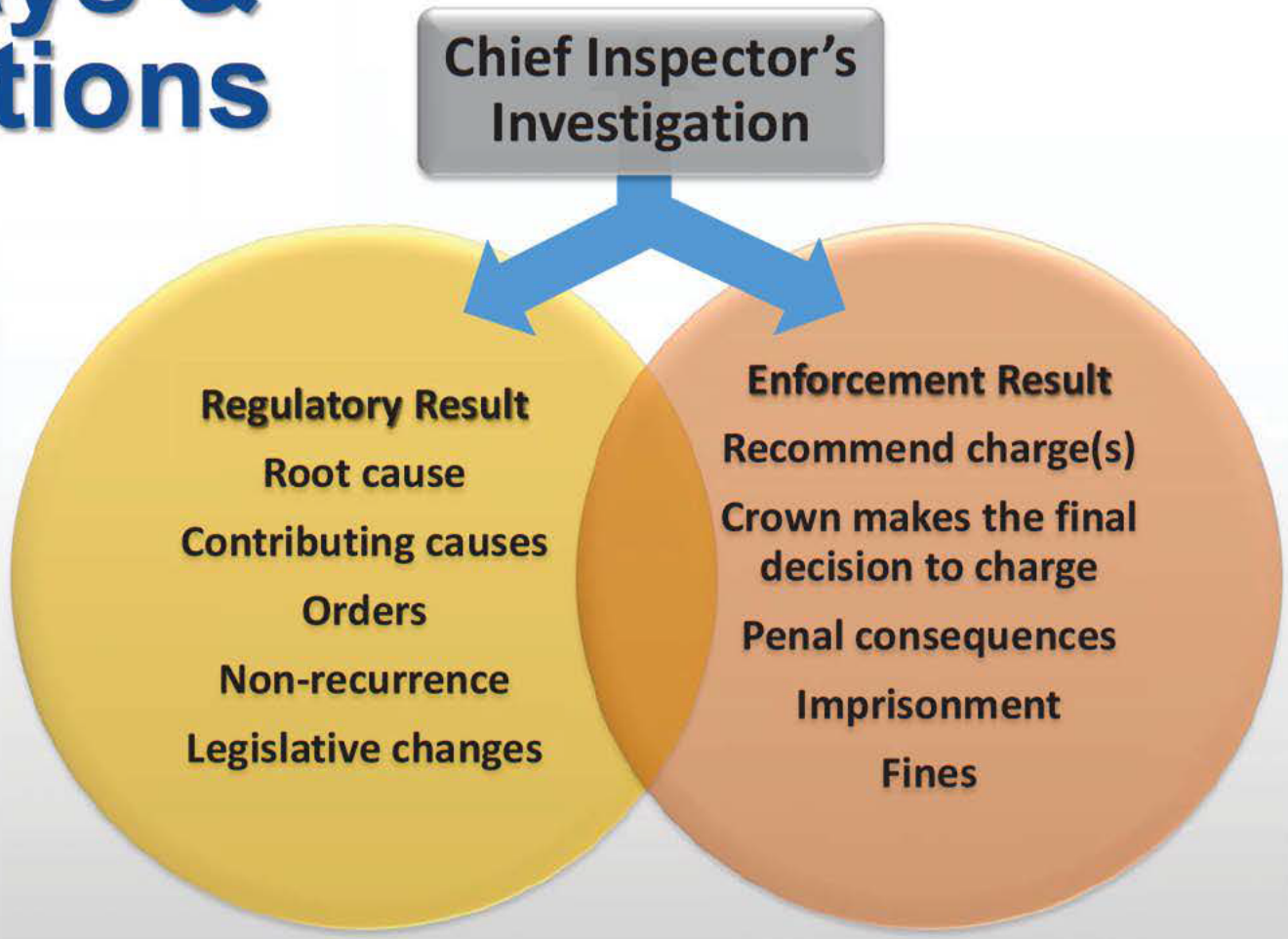
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- Make recommendations for prosecution, if warranted

Pathways & Implications



Guiding Principles

- **Independent**
  - from the rest of Government
  - interests of industry, labour, other interested parties
  - public pressure
  - Respect the independence of other investigations (MOE,DFO)
  - Investigative Strategy
- **Objective, evidence-based, thorough, defensible**
- **Time of the essence** - subject to objectivity and thoroughness
- Responsive to **permissible requests for information**
- Enhance **safety and security** of
  - the public
  - the worker
  - the environment
  - the business climate
- **Respectful of interests**
  - The Public
  - First Nations
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Status of the Investigation

- Conducted over 50 onsite interviews
- Conducted site investigation; collected documents, logs, etc.
- Initiated geotech forensics: geophysics, drill cores, sample analysis
- Developed and staffed investigative team
- Designed and implemented team structure
- Developed draft *Terms of Reference*

Upcoming

- Interviews including but not limited to: mine management, corporate officers
- Interviews with 3rd-party geotech engineering firms
- Geotech forensics
- Analyzing investigative materials, including statements, documents, permits, interviews, standards of practice, manuals, SOPs, etc.
- Looking to secure: records, notes, documents and statements from engineering forms, individuals, groups, etc..
- Operating Mind – organizational reality

Areas of Investigation

Management structure

- Organizational reporting (actual practice)
- Training
- Knowledge, skills and ability
- Accountability

note: **these are not findings, even preliminary; but they are of interest.**

Areas of Investigation

- Accountability in TSF operation
  - Production
  - No sand for sand cells
  - No rock for buttress
  - Organizational weakness
  - Oversight
  - Organizational control

note: **these are not findings, even preliminary; but they are of interest.**

Areas of Investigation

- Dated Emergency Response Plan
  - Dangers
  - Dates of actual plans (critical)
  - Emergency practice at failure

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Areas of Investigation

- Design
  - Failure to follow design
  - Independent engineers or mine?
  - Critical thinking
  - Each build separate
  - Were designs appropriate at each stage of construction
- Construction and Operating Practices
  - Supervision
  - Material
  - Critical thinking

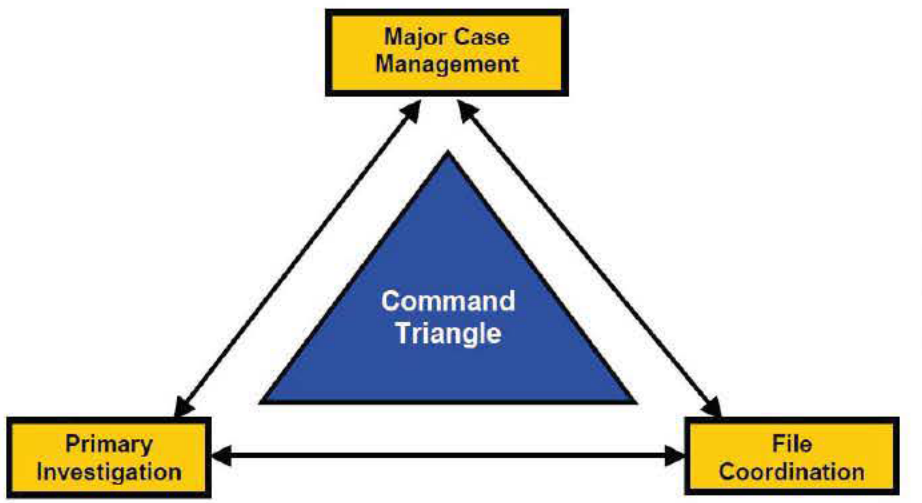
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Areas of Investigation

- Contraventions
  - Minor to major
    - indirect or direct is not known at this time?

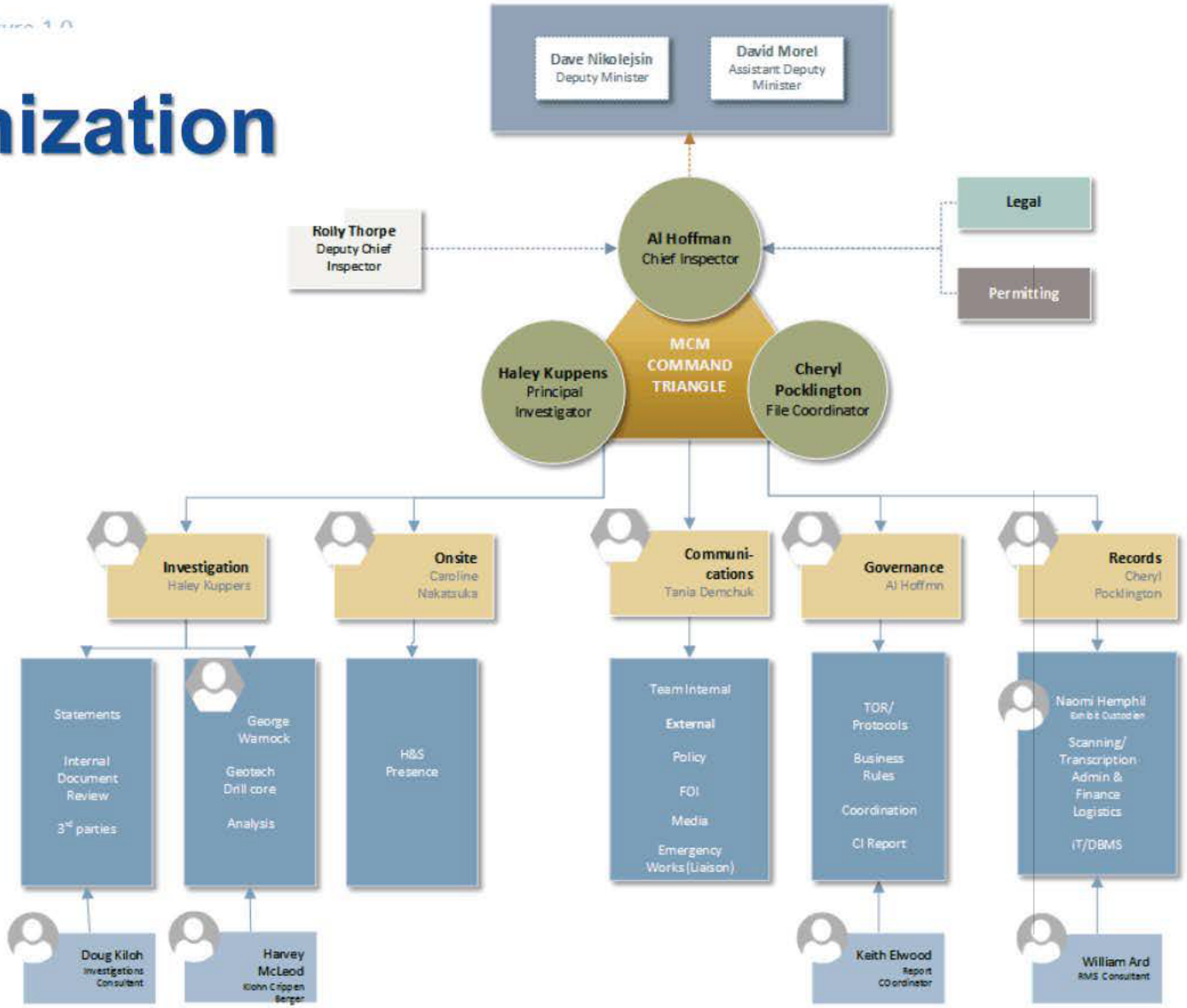
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Major Case Management - MCM



- Best industry practice in conduct of all major investigations
- Built for dynamic, fluid major investigation environment
- Provides discipline, structure, integrity, flexibility, & responsive-ness for major investigations
- Applied nationwide in criminal and forensic investigations (*e.g.*, Swissair crash)

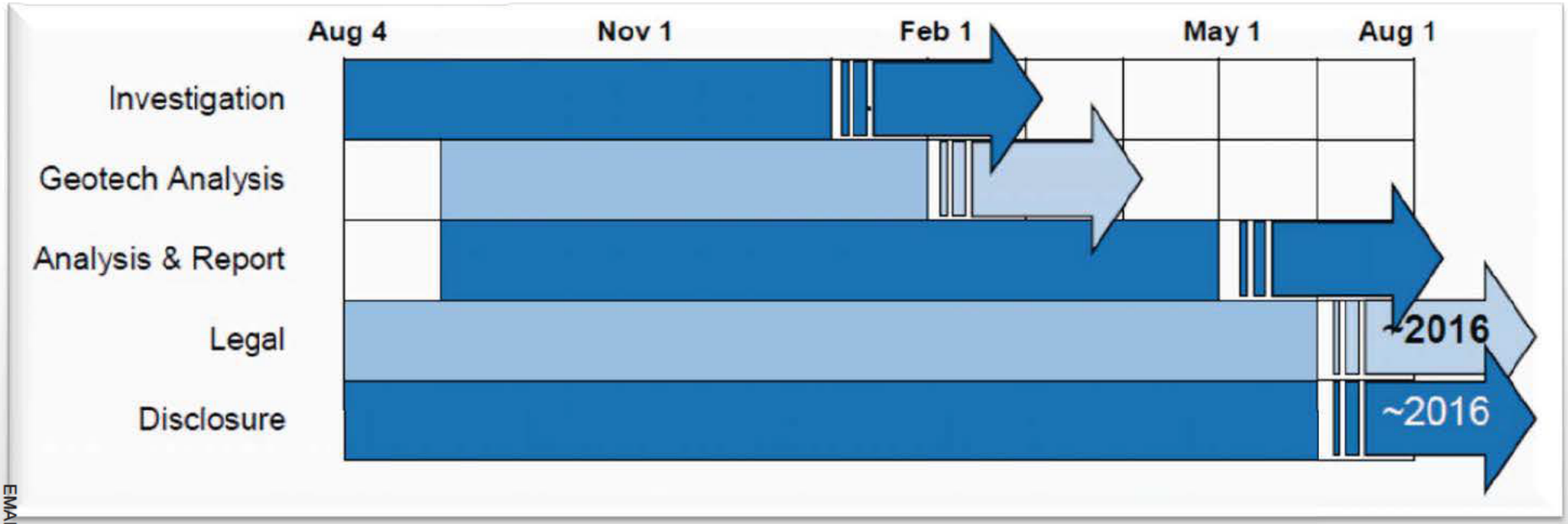
Organization



Management Challenges

- Staffing Resources
  - Ministry team in place
  - Additional admin/support needs
- Workload Balancing
  - Managing investigation team's "day jobs"
- Operations Centre
  - Dedicated space for team "war room"
  - Major Case Administrator
- External Resources
  - Contract support identified and largely in place
- Information Management
  - DBMS application, ER3 [Evidence and Reports v3]
- Timelines
- MCM Structure
  - Built for fluid investigative environment

Timelines



Best "as-is, where-is" estimate , with limited detailed planning information

Crossing the Rubicon

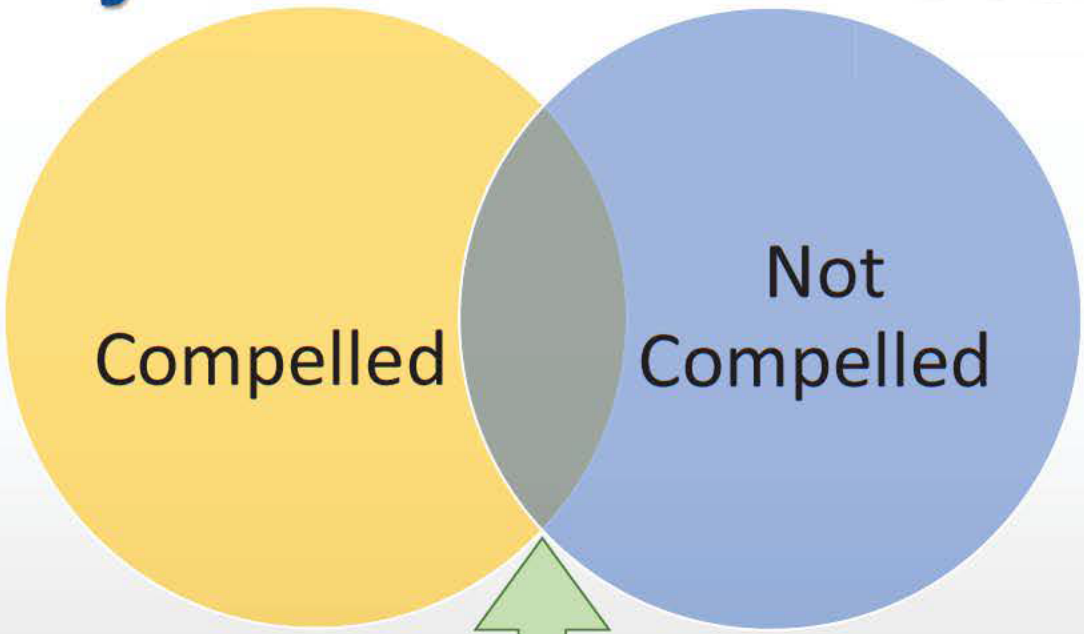
- *Jarvis* and *Ling* (Supreme Court of Canada precedents) protect individual *Charter* rights if investigation "crosses the Rubicon" or changes from a predominantly regulatory to a predominantly prosecutorial inquiry.
- Landscape of investigation changes when line is crossed: all *Charter* rights apply.

Compelled (Information or Evidence)	Not Compelled (Information or Evidence)
• Statements (Post) • Documents (Post) • Drilling • Quality information	• Pre- Aug 4th documentation
Regulatory Regime (Admin) • CIM Action • Collected information/evidence in support of admin actions	**Prosecutorial** • Collected to prosecutorial standards • Voluntary • Court orders • Subjective/objective test • Higher admissible test • Court discretion • Likelihood of conviction (CJB) • Public interest (CJB)
Results: • Chief Inspector Directives and Orders • Immediate improvement to mining practices • Determination of root cause • Determination of contributory causes • Improvement of long-term mining practices • Amendments to the Act/code/regulations	**Results:** • Likelihood of conviction, ↓↑ % risk • Will we determine full cause and contributory events ↓↑% risk • Maximum penalty on conviction, $ 100,000 or 1 year under the *Mines Act*

* Cross reference and overlay per individual or company

Regulatory

Prosecutorial



High Risk

- **Crown counsel evaluation of admissibility then determine prosecution based on the primary ground of "substantial likelihood of conviction" or secondary of "public interest"**
- **Ultimately determined by the Court**

Challenges

- Communications
- Integrity of the Investigation
- Crossing the Rubicon from regulatory to prosecutorial investigation
- Uncooperative Interview Subjects
- Legal issues
  - Multiple stakeholders
  - Multiple concurrent investigations (CI, CO & DFO, Panel, RCMP?)
  - Regulatory, Civil, Future Civil, and Statutory lawsuits

Communications Challenges

- Managing internal communications
  - Periodic briefings of Executive
  - Coordination with Ministry communications staff
  - Privacy Commissioner review
- Managing team communications
  - Public meetings
  - FOI requests
  - Liaison with mine (MPMC)
- Managing public communications from Government
  - Ongoing media requests
  - Avoiding investigative pitfalls
  - Avoiding inadvertent disclosures
  - Adhering to rules of evidence
  - Maintaining investigative independence
  - Town Meetings (Likely, BC)

Investigation Integrity Challenges

- Project Room
  - Secure, dedicated, practical operations base
- Secure storage
  - Document security
  - Digital security
  - Exhibits and confidential documents
- Database tools
  - Support data integrity
  - Enable relational data management, recall, and analysis
  - Support investigation integrity and timelines
  - Acquired ER3 from RCMP with a dedicated standalone server

Investigative Challenges

- Some indicators that the mine management and/or corporate officers of Mount Polley Mining Corp. may exercise their legal right to silence without an order from the chief inspector
- Individual defense counsel has been appointed for MPMC mine manager, mine operations superintendent and COO
- A variety of levels of cooperation and responsiveness may be encountered from employees and officers of independent engineering firms
- Information may be getting strategically leaked from relevant groups to the public/media
  - E.g. Mt. Polley News Release related to tension crack
  - Environmental Groups
  - Company
  - Etc.

Considerations

- Compelled information vs. non-compelled information
  - Compelled information cannot be used against the individual who has been compelled
- Information or documentation that is ordered pursuant to the *Mines Act* is considered to be compelled, and may or may not be admissible in prosecutorial or quasi-prosecutorial actions
- Without compelling information, we may not secure all the information necessary to confirm the root and contributory causes to the breach
  - *They have the legal right to silence*

Failure to Determine Root Cause

- Long term mining practices
  - *Act*, code, regulations, orders, permit conditions, inspection practices
- Social License
  - First Nations, Public, NGOs
- Hostile climate to mining investment
  - Failure to secure social license, lack of investment,

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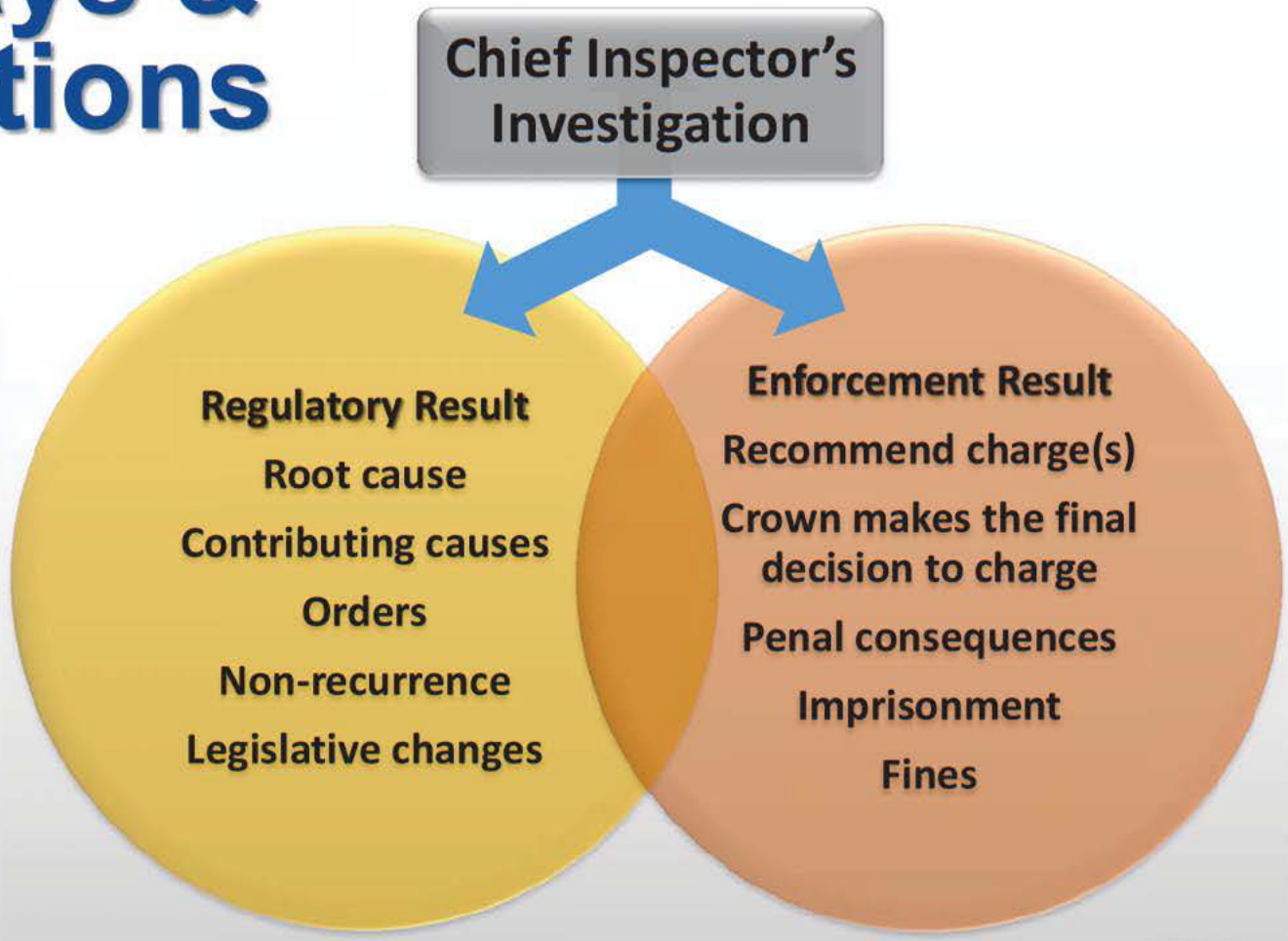
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