

October 22, 2015

EDI Project No: 15Y0146

Assessment and Abandoned Mines Branch (AAM) K-149
Department of Energy, Mines and Resources, Yukon Government
Room 2C Royal Center, 4114-4th Avenue
PO 2703, Whitehorse, YT, Y1A 2C6

Attention: Erik Pit, Type II Project Manager

**RE: Mount Nansen Water Resources Investigations – Monthly Report: August 2015
FINAL**

Trip dates:	August 18-20, 2015
EDI field staff:	Scott Dilling, Dawn Hansen and Danny Skookum
Weather during trip:	Conditions for the three days included air temperatures from 6-17°C, with partly cloudy to overcast skies, some occasional rain, and calm to windy conditions.

The following monthly report includes a summary of site conditions and data collected during EDI's August 2015 trip to Mount Nansen as part of the 2015/16 Water Resources Investigations. See Table 1 for a summary of data included in this report.

Table 1. Summary of information provided in this monthly report.

Report Section	Description
Site Conditions	<ul style="list-style-type: none"> • Summary of weather and general site conditions
Meteorology	<ul style="list-style-type: none"> • Statement on station status and identification of any data gaps or QA/QC issues
Hydrology	<ul style="list-style-type: none"> • Discussion of noteworthy hydrology observations • Statement of QA/QC for the data collected this month
Water Quality	<ul style="list-style-type: none"> • Summary of noteworthy water quality observations • Statement on QA/QC sample results
Program Recommendations	<ul style="list-style-type: none"> • Program recommendations for meteorological, hydrology and water quality programs
Additional Trip Information	<ul style="list-style-type: none"> • Project Safety Concerns • Wildlife sightings • Budget and schedule considerations
List of Attachments	<ul style="list-style-type: none"> • Maps of stations and sites • Site and station photos • Data Tables – hydrology and water quality • Lab Result Reports



SITE CONDITIONS

The August 2015 site trip represents summer conditions at the Mount Nansen site. Water levels were higher at most sites and stations than during the July 2015 trip. Air temperatures were cooler than last trip as well, ranging from 6 to 17°C. There was intermittent rain during the course of the sampling event, which likely contributed to the comparably higher water levels. Water was flowing at many sites that were previously dry, such as H/WQ-DC-DX+105 and WQ-BC. Some seeps remained dry though, including WQ-LW-SEEP-01, WQ-MS-S-08 and WQ-ADIT-SEEP.

Active placer mining works continued along Pony Creek with much of the area upstream of H-PC-DSP/WQ-PC-U now cleared of all vegetation. The mine operator was pumping water out of a settling pond to the areas downstream at three hour intervals while EDI crews were on site. The ponded area just below WQ-PC-U was full of sediment as well as the area around H-PC-DSP. When the pump was not running, there was little to no flow to the H-PC-DSP station or WQ-PC-U site; however the WQ-PC-D site did have some very low flow through groundwater seepage. Conditions were not representative of normal flow patterns or water quality within Pony Creek.

METEOROLOGY

Meteorological data was collected at the ATM-ROAD station throughout the month of August. Meteorological data will be summarized and analyzed following the completion of the open-water season, in the October 2015 Monthly Report. This will include data from April 1, 2015 to October 15, 2015 with plots and tables. EDI conducted a preliminary QA/QC review of the August 2015 data and all sensors appear to be functioning as expected. There are a few occasions where the snow sensor hourly data was showing snow depths up to 2.5 cm, but based on air temperatures there would be no snowfall at this time (August 13, 11 AM, 12 PM, 1 PM). Similar results were found for periods in July 2015, including July 9, 2015 from 1 PM to 8AM on July 10, 2015, when NorthernAvcom was conducting maintenance work on the station, and July 16, 2015 over a two hour period (11 AM, 12 PM). This data will be flagged for review during our seasonal analysis of the data after the open-water season cutoff date October 15, 2015, and these erroneous values will likely be excluded from analysis and plots.

HYDROLOGY

Discharge measurements were collected at all stations with suitable conditions. Water levels were higher across the Mount Nansen Site during the August 2015 trip than the July 2015 trip. For the month of August, continuous logger records are available for nine stations: H-PC-DSP, H-DC-B, H-DC-M WP, H-DC-R, H-BC, H-VC-U, H-VC-DBC, H-VC-UMN and H-VC-R. Based on a preliminary review of the logger data, all loggers appear to be functioning as expected.

See attached data tables for a summary of conditions and hydrometric monitoring tasks completed at each station and for a summary of discharge measurement results for the August 18 - 20, 2015 period. Quality control and quality assurance for the hydrometric data was conducted on the instantaneous and continuous data. Noteworthy observations are included below.



Noteworthy Observations

- Discharge measurements were collected with an ADV at H-VC-U, H-VC-DBC, H-VC-UMN and H-VC-R with discharge values ranging from 0.379 to 0.542 m³/s. This is much higher than the July 2015 trip discharges in Victoria Creek, which ranged from 0.076 to 0.104 m³/s.
- The discharge patterns along Victoria Creek in August 2015 show a normal progression with discharge increasing at each subsequent downstream station. This pattern is different than what has been observed in past month's results. In May, June and July 2015, the H-VC-U station had a greater discharge than the downstream site H-VC-DBC. Similarly, the discharge at H-VC-UMN was greater than the discharge downstream at H-VC-R, during the July 2015 trip. A more detailed review of the local hydrology data along Victoria Creek will be completed at the end of the open-water season, October 15, 2015 (presented in the October 2015 Monthly Report).
- Back Creek was flowing during this trip, the first time since May 2015, as the channel has been dry during both trips of June and July 2015. Discharge was measured with a salt tracer on the August trip, and was 0.037 m³/s.
- The original survey benchmarks at H-BC were determined to be unstable in June and July, so three new benchmarks were installed during the August 2015 trip (BM 4, 5 and 6). Since the creek has been dry in June and July, there are no concerns for the rating curve at this time.
- Placer activity in the upper Pony Creek watershed has caused fine sediment infilling of the rock weir pond and stilling well at H-PC-DSP. There was little to no flow at the time of the station visit, and no discharge data was collected. The accumulation of fine sediment produces channel instability and non-representative continuous data logger readings. Additionally, the flowrate in the creek is now controlled by the variable pumping rate from the upstream placer mining settling pond. The continuous logger data collected prior to the upstream channel disturbances will be analyzed to determine if a reliable rating curve can be developed.
- Discharge measurements were made using salt tracer tests at H-DC-R, H-DC-M WP, H-BC and H-DC-B, with flowrates of 0.012, 0.017, 0.037 and 0.017 m³/s, respectively. Concurrent volumetric measurements were collected at H-DC-R and H-DC-M WP to validate the measurement, with flows rates of 0.013 and 0.013 m³/s.
- Fine sediment in weir pond at H-DC-M has accumulated since last visit. All water is flowing through the weir. Instantaneous discharge measurements have been obtained at this station without issue; however, there is still some concern that the sedimentation is producing channel instability and subsequent rating curve shifts and continuous stage data errors for this open-water season. When developing the rating curve at the end of the open-water season, the data from this station will be critically reviewed in the context of the sediment deposition that has occurred over the season and the continuous record adjusted accordingly.



WATER QUALITY

Water quality samples and data were collected at the regularly scheduled sites during the August 2015 trip as well as some additional samples within the Upper Dome Creek and mill area as part of an extra investigation. This extra investigation was a follow-up to additional sampling conducted in March 2015. A total of 20 normally scheduled samples and 7 additional samples were collected during the August 2015 trip. As noted above in the ‘Site Conditions’ section, the WQ-LW-SEEP, WQ-MS-S-08 and WQ-ADIT-SEEP were all dry during this trip (consistent with previous results). No LC50 sample was required this trip (one will be collected in September 2015), but the regular monthly drinking water sample was collected from the pumphouse well (WQ-PW).

See attached data tables for a summary of conditions at each site and a record of where samples were collected during each trip. In situ and laboratory results summary tables are also attached. Parameters that exceeded CCME-AL guidelines and/or the Mount Nansen EQS criteria are highlighted. The lab certificates of analysis are also attached. Many results reflect typical conditions for this time of year at Mount Nansen when there are low water levels. Noteworthy observations and comments on sample QA/QC are included in the subsections below.

Noteworthy Observations

- Placer mining activity was ongoing on **Pony Creek** upstream of the two water quality sites, thus samples are not considered representative of typical results for the creek.
 - The WQ-PC-U samples could only be collected while the placer operations were pumping water from a settling pond (otherwise the site was dry) resulting in very high turbidity (736 NTU) and total suspended solids (TSS, 1,540 mg/L). This resulted in elevated concentrations of numerous parameters that exceeded CCME-AL guidelines and/or the Mount Nansen Effluent Discharge Standards, including ammonia, total aluminum, arsenic, cadmium, chromium, copper, iron, lead, manganese, silver, and zinc. Two dissolved metals parameters also exceeded the guidelines and/or standards (arsenic and iron). Samples from this site in the past do not typically exceed any guidelines or standard criteria, as the site is located upstream of Mount Nansen Mine activities.
 - The WQ-PC-D sample was collected from a small trickle of flow, as there was no placer mine pump operating at the time of sample collection. The flow may have been runoff from recent precipitation events and/or from subsurface flow from upstream. The turbidity and TSS values were lower than at WQ-PC-U, 3.15 NTU and 32.7 mg/L, respectively. The samples had parameters that exceeded the guidelines and/or standard criteria for aluminum, arsenic, cadmium, copper, iron, lead, silver, and zinc. Samples from this site commonly exceed guidelines and/or standards for aluminum, arsenic, cadmium, copper and zinc, as well as on occasion iron, lead, and silver which are typically associated with periods of higher sediment load. The WQ-PC-D site is located downstream of an old waste rock pile, which results in high total metals concentrations.



- **Back Creek** was flowing during the sampling event, but has been dry during the previous two sampling events in June and July 2015. The creek was turbid during the sampling event with a turbidity of 267 NTU (TSS was 165 mg/L). Several parameters exceeded the guideline and/or standard criteria, including aluminum, arsenic, cadmium, copper, iron, lead, manganese, silver, and zinc. These are common results when there are placer activities upstream.
- The **Victoria Creek** samples from the WQ-VC-U site did not exceed any guidelines or standard criteria. This site is located upstream of the Back Creek confluence, thus represents background water quality in Victoria Creek without the influence of Back Creek.
- The **Victoria Creek** sites downstream of Back Creek (WQ-VC-DBC) and Dome Creek (WQ-VC-UMN and WQ-VC-R), had samples that exceeded guidelines and/or standards for aluminum and iron. These results are likely related to contributions from Back Creek (see comments above for Back Creek).
- The total zinc concentration in the July 2015 **WQ-SEEP** sample continues to be below the CCME-AL guideline with a zinc concentration of 0.0196 mg/L (up slightly from 0.0174 mg/L from the July 2015 sample and 0.071 mg/L from the June 2015 sample).
- The following observations are a summary of results from the **extra water quality investigations along Upper Dome Creek and the mill site area**:
 - For the two samples collected between WQ-DC-DX and WQ-DC-DX+105 (WQ-DC-14 and WQ-DC-13) only the CCME-AL guideline for total and dissolved arsenic was exceeded. The regular samples collected at WQ-DC-DX, upstream of these sites, exceeded the guidelines and/or standards for TSS, aluminum, arsenic, copper, iron, mercury and silver. While the WQ-DC-DX+105 samples collected just downstream of WQ-DC-14 and WQ-DC-13, exceeded the guidelines and/or standards for fluoride, arsenic, cadmium, manganese and zinc.
 - Downstream of WQ-DC-DX+105, two samples were collected at WQ-DC-12 and WQ-DC-11. These samples had similar zinc concentrations of 0.23 and 0.24 mg/L to the WQ-DC-DX+105 samples (0.23 mg/L). These samples also exceeded guidelines for fluoride, arsenic, cadmium (similar to the samples from WQ-DC-DX+105), in addition to iron and manganese at WQ-DC-12.
 - The WQ-MS-S-03 sample was also sampled as part of the extra investigation, and had the highest total and dissolved zinc concentration of any samples collected during the extra investigation (1.02 mg/L total zinc and 0.99 mg/L dissolved zinc). The WQ-MS-S-03 also exceeded the guideline for fluoride, arsenic, cadmium, iron and manganese.
 - The samples collected from WQ-DC-10 and WQ-DC-8 exceeded similar guidelines and standard criteria to sites upstream (WQ-MS-S-03 and WQ-DC-DX+105). Of note the iron and manganese concentrations at WQ-DC-8 were the highest of any samples collected during the extra investigation. Zinc concentrations were lower in the WQ-DC-



- 10 samples (0.83 mg/L) compared to WQ-MS-S-03, and even lower at WQ-DC-8 (0.17 mg/L).
- Compared to sample results from March 2015, when samples were collected at WQ-MS-S-03, WQ-DC-10 and WQ-DC-8, parameters that exceeded guidelines and/or standards were similar to the August 2015 results, including similar zinc concentrations.
 - EDI attempted to sample additional seeps in the mill area, such as WQ-MS-S-A (sampled originally in May 2015), however, the area was dry.

QA/QC Samples

Travel Blank Sample – all parameters were below detection limits, except for Ammonia. This is a common occurrence (no contamination is suspected from actual sample transport or storage).

Field Blank Sample – all parameters were below detection limits – except for total manganese. This could indicate some degree of field contamination, a potential result of an improperly tightened lid or dust. All other total manganese results are within expected ranges for the conditions observed.

Replicate Sample(s) – the average RPD of the replicate sample set for WQ-VC-R-r, WQ-DESS-01-r, and WQ-DC-B-r was 3%, 4% and 3%, respectively. The average RPD for total metals in the three replicate samples was 4%, 7% and 3%, respectively. The average RPD for dissolved metals was 3%, 2% and 2% in the three replicate sets. Individual RPDs of all parameters were <20% different for the WQ-VC-R-r and WQ-DC-B-r replicate sets, indicating that sample analysis was adequately precise. For WQ-DESS-01-r there were two parameters with RPD>20% (total aluminum and total iron). RPD >20% indicate either natural variability in the sample or lab imprecision. Looking at the TSS results for the WQ-DESS-01-r replicate sample sets, there was a difference, as the regular sample had TSS below detection limit (<3.0 mg/L), while the replicate sample had a TSS of 7.3 mg/L. Aluminum and iron are often associated with higher suspended sediment, and it's likely that some sediment was stirred up during the sampling resulting in differences between the replicate sample sets collected at the site.

PROGRAM RECOMMENDATIONS

- Confirm during the September 2015 field visit that Northern AvCom has installed a flat surface below the meteorological station snow sensor.
- During each winter trip, collect photographs and snow depths adjacent to the meteorological station compound to provide a field check of snow depth data collected by the snow sensor.
- To address winter icing concerns at the H-VC-R station for the 2015/16 winter season, EDI has recommended that an additional continuous hydrometric station be installed downstream of the current station. This location is based on being downstream of the overflow ice extent observed during the 2014/15 winter. We are proposing to remove the H-PC-DSP station during the September trip and re-installing the station at the new H-VC-R+200 station. Both H-VC-R stations will run concurrently through the winter and in the spring the new location will be evaluated and one location for H-VC-R will be selected based on results.



- One direct read cable will be purchased for the H-VC-U station. These cables ensure logger data can be downloaded in the winter. All other loggers being left in place for winter currently have a direct read cable.
- All water level loggers will be winterized during the September 2015 trip. During the October 2015 trip, several loggers and stations will be removed for the winter season (H-DC-R, H-BC and H-DC-B).
- Where possible, EDI will continue to collect concurrent discharge measurements wherever salt tracer tests are completed during the September and October 2015 trips, using a secondary method (such as volumetric), in order to help validate the salt tracer measurements.
- Clear out sediment from the H-DC-M WP weir pond and continue to monitor sediment build-up prior to winter.
- Continue to monitor the WQ-LW-SEEP-01, WQ-MS-S-08 and WQ-ADIT-SEEP during subsequent fall trips, in order to collect opportunistic samples if flowing (these sites were dry during the May, June, July and August 2015 trips).
- Recommendations for the additional investigation sampling locations for the September 2015 trip, include investigating any seepage sources between WQ-DC-DX and WQ-DC-DX+105.

ADDITIONAL TRIP INFORMATION

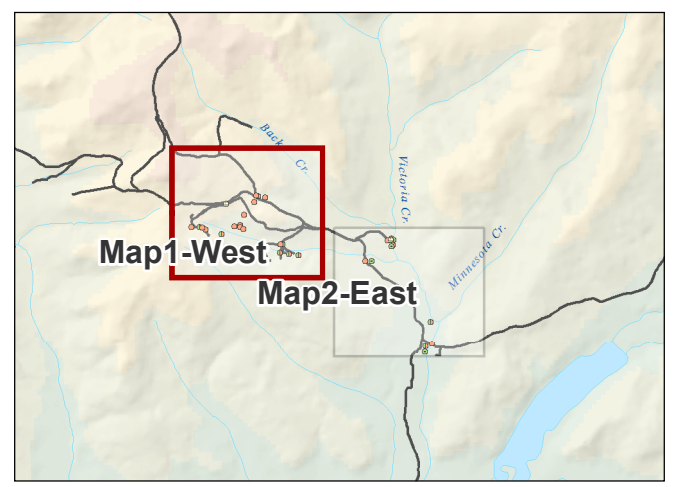
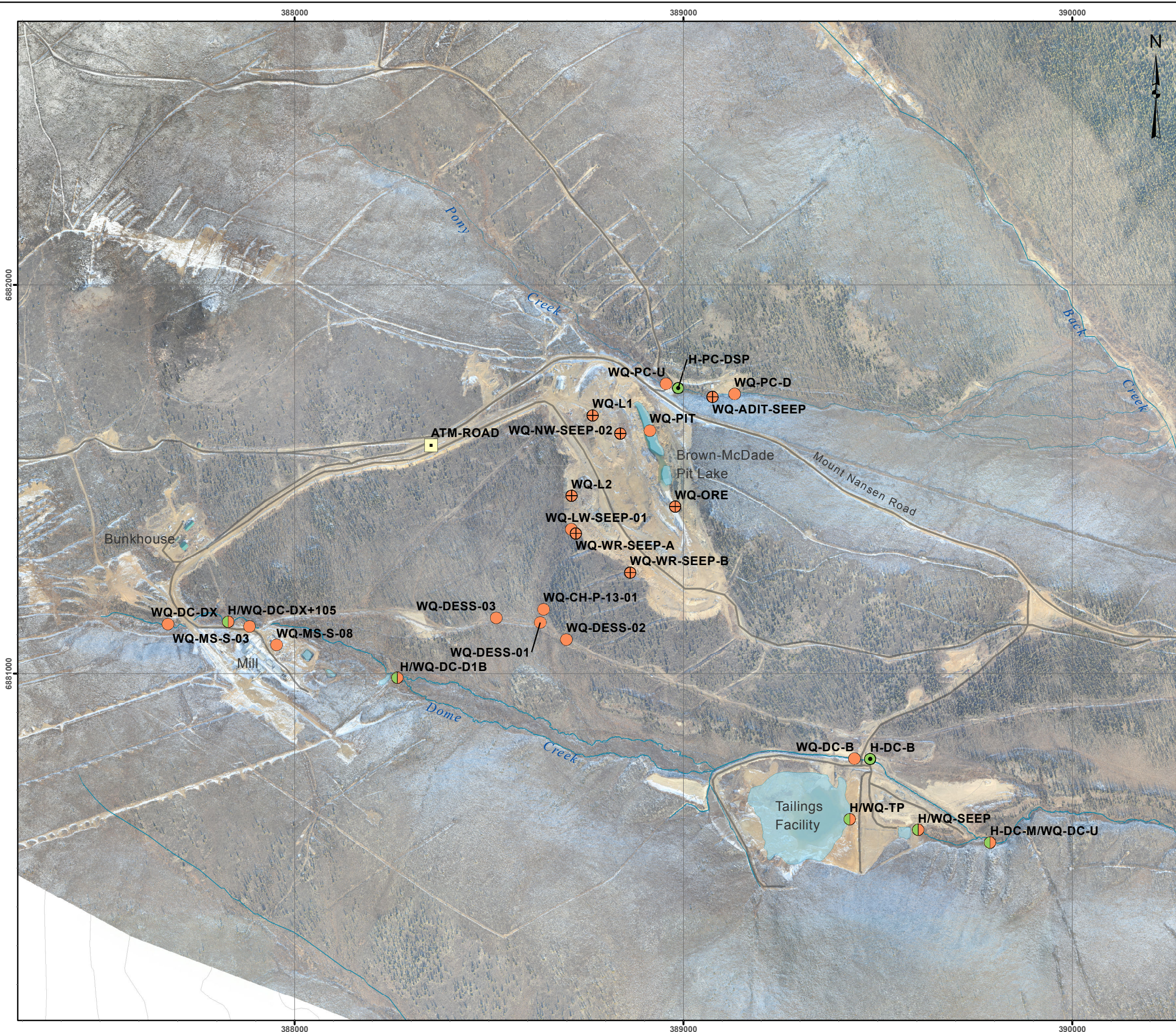
Any changes to project scope (i.e. additional sites sampled):	<p>The schedule was originally for August 10-12, but was switched to August 18-20. The next trip is scheduled for Sept 14-16.</p> <p>The August 2015 trip included additional sampling and extra water quality investigations into the Upper Dome Creek/mill site area, where 7 additional samples were collected. These will be covered by the contingency fund in the budget (see below).</p>
Any alterations to sample schedule/budget:	<p>The extra water quality investigation on Upper Dome Creek and the mill site area, as discussed with AAM, will come out of the contingency fund for the project. Based on additional lab fees, external markup 5%, consumables, additional field and reporting time, the estimated total for this additional work is \$2,443.34.</p> <p>A Solinst direct read cable will be purchased for the H-VC-U station, so that winter data can easily be downloaded.</p>
Additional Comments:	<p>Water levels appeared higher than last trip at most sites and stations. Back Creek had flow, along with WQ-DC-DX+105.</p> <p>Active placer mining construction works continued along Pony Creek, upstream of the WQ-PC-U site. EDI was able to talk with the mine operator who provided some information on the mine's operation. The mine operator was pumping water out of a settling pond downstream of the operation, at three hour intervals. Suspended sediments during the pumping were very high. The sample results may not be representative of typical water quality conditions in Pony Creek. The pumping and high suspended sediment has resulted in heavy sedimentation of the H-PC-DSP station. The stilling well and rock weir pond at the station were filled in with sediment. Conditions were also not suitable for flow measurements out of the culvert.</p> <p>The H-DC-M WP requires maintenance to remove sediment accumulation in weir pond (this will be conducted during the September and October 2015 trips).</p> <p>The field crew removed the EDI boat from the pit lake and stored it back in the Ambulance Shed. EDI will remove the boat from the site during a subsequent trip.</p>
Wildlife Sightings:	None.
Site concerns (safety):	None.



LIST OF ATTACHMENTS

The following information is attached to this monthly report:

1. Maps of Hydrometric Stations and Water Quality Sites
2. Site and Station Photos from the trip
3. Data Tables
 - a. Hydrology – Site Conditions and Tasks Completed & Summary Table of Discharge Measurements
 - b. Water Quality – Site Conditions and Samples Collected & Summary Table of In Situ Parameters and Lab Results
4. Copies of Lab Certificate of Analysis (COA) & Yukon Environmental Health Services Bacteriological Results



Legend

- Atmospheric Station (label e.g. ATM-ROAD)
- Hydrometric Station and Water Quality Site (label e.g. H/WQ-VC-UMN)
- Hydrometric Station (label e.g. H-VC-R)
- Water Quality Site (label e.g. WQ-PC-U)
- + Temporary Water Quality Site (label e.g. WQ-MS-S-03)
- Unpaved Road/Access

Mount Nansen Site (West): Hydrometric Stations and Water Quality Sites

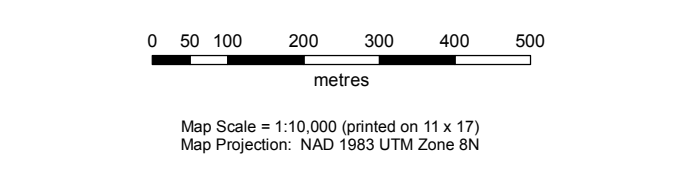
Notes:

1:50,000 and 1:250,000 Topographic Spatial Data provided by Geomatics - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

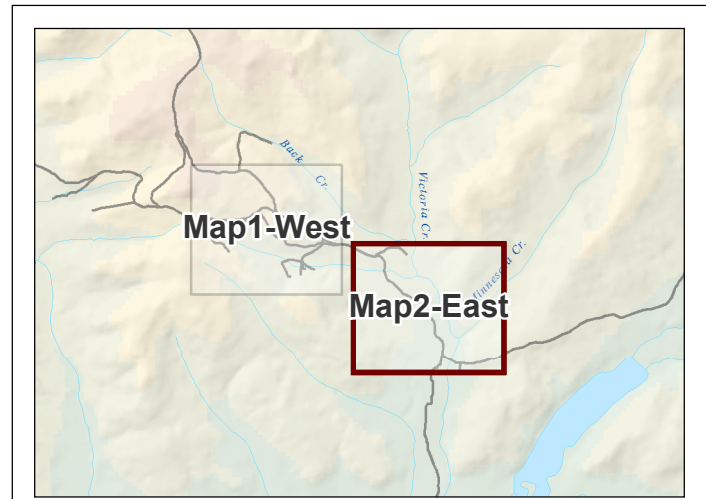
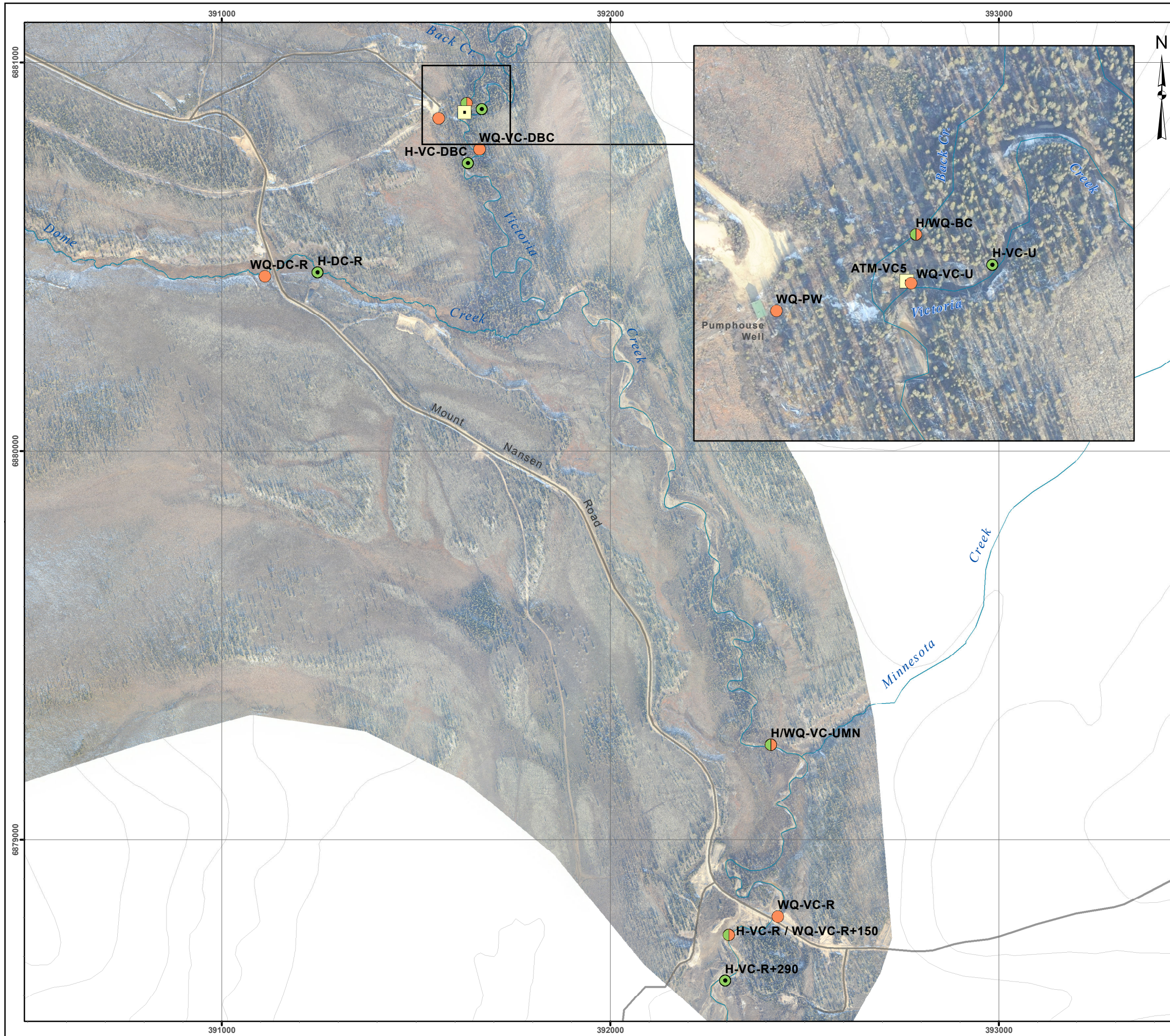
Watercourse, drainage areas and Mount Nansen Road layers digitized / modified by EDI (2011) using orthophotos provided by Yukon Government, Energy, Mines and Resources (2011).

Imagery provided by Yukon Government - Energy, Mines and Resources - Abandoned Mines Branch.

Project data displayed is site specific. Data collected by EDI Environmental Dynamics Inc. (2015) was obtained using Garmin GPS technology.



Drawn: MP	Checked: MM/SD	Date: 21/09/2015	MAP 1
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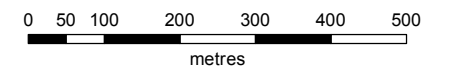


Legend

- Atmospheric Station (label e.g. ATM-ROAD)
- Hydrometric Station and Water Quality Site (label e.g. H/WQ-VC-UMN)
- Hydrometric Station (label e.g. H-VC-R)
- Water Quality Site (label e.g. WQ-PC-U)
- Temporary Water Quality Site (label e.g. WQ-MS-S-03)
- Unpaved Road/Access

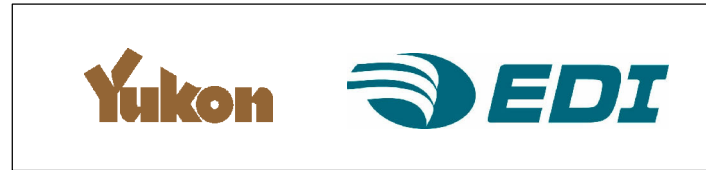
Mount Nansen Site (East): Hydrometric Stations and Water Quality Sites

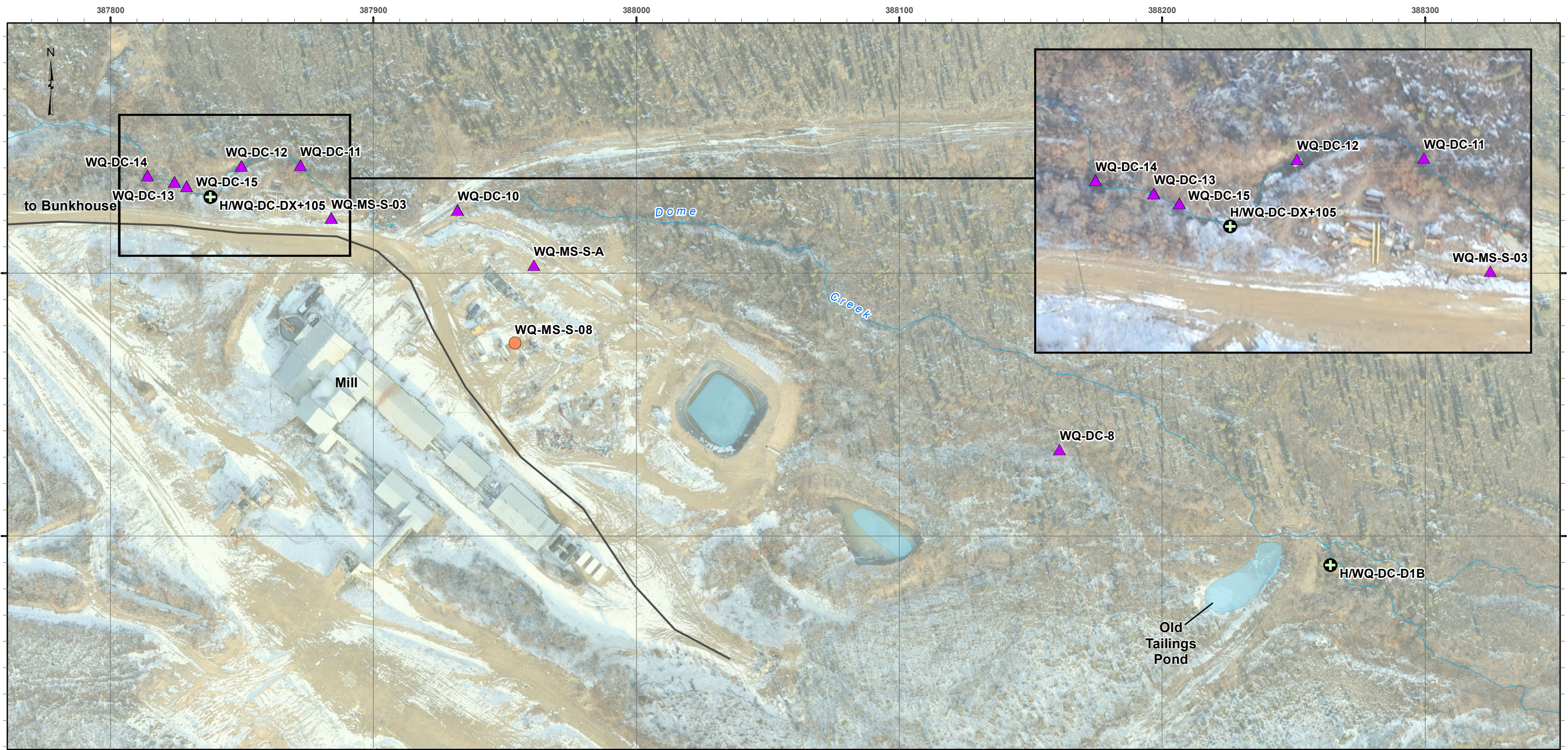
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 Project data displayed is site specific. Data collected by EDI Environmental Dynamics Inc. (2015) was obtained using Garmin GPS technology.



Map Scale = 1:10,000 (printed on 11 x 17)
 Map Projection: NAD 1983 UTM Zone 8N





Drawn: MP	Checked: MM/SD	Date: 21/09/2015	MAP 2
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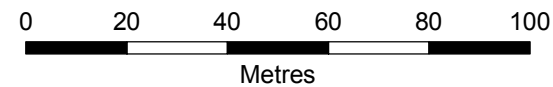
Dome Creek Investigation Sites

Legend

-  Investigation Site
-  Hydrometric Station and Water Quality Site
-  Water Quality Site (label e.g. WQ-PC-U)
-  Unpaved Road/Access

1 centimetre = 15 metres

Map Projection: North American Datum 1983 UTM Zone 8N



Notes:

1:50,000 and 1:250,000 Topographic Spatial Data provided by Geomatics - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

Digital Elevation Model provided by Geomatics - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

Watercourse, drainage areas and Mount Nansen Road layers digitized / modified by EDI (2011) using orthophotos provided by Yukon Government, Energy, Mines and Resources (2011).

Imagery provided by Yukon Government - Energy, Mines and Resources - Abandoned Mines Branch.

Project data displayed is site specific. Data collected by EDI Environmental Dynamics Inc. (2015) was obtained using Garmin GPS technology.

This document is not an official land survey and the spatial data presented is subject to change.

Drawn: MP	Checked: MM/SD	MAP 3	Date: 23/09/2015
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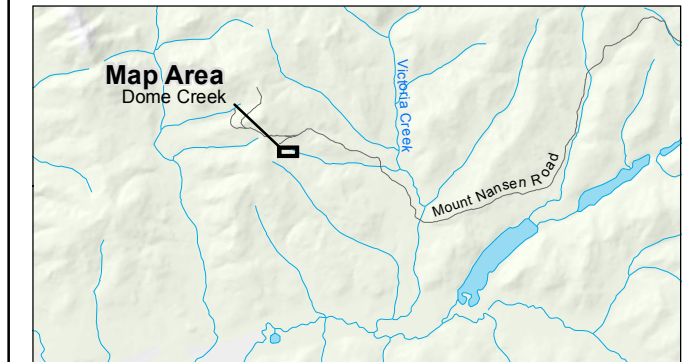




Photo 1. WQ-DC-DX – looking upstream.



Photo 2. H/WQ-DC-DX+105 – looking downstream.



Photo 3. WQ-MS-S-08 – overview – seep dry.



Photo 4. H/WQ-DC-D1b – looking upstream.



Photo 5. WQ-DC-B – looking upstream.



Photo 6. H-DC-B – looking downstream.



Photo 7. H-DC-M WP – looking upstream.



Photo 8. WQ-DC-U - looking downstream.



Photo 9. WQ-DC-R – looking upstream.



Photo 10. H-DC-R – looking downstream.



Photo 11. WQ-LW-SEEP-01 – dry conditions at site.

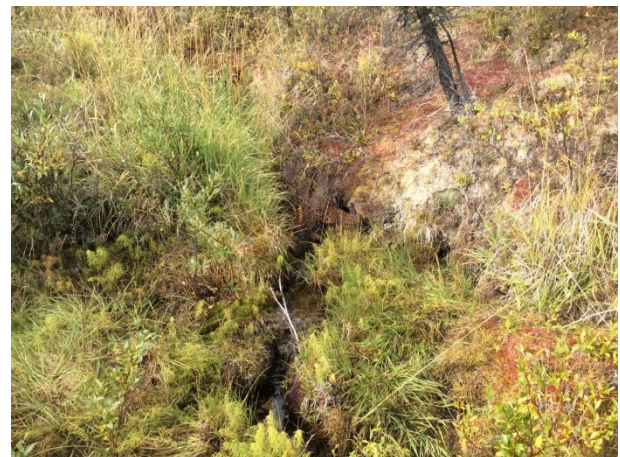


Photo 12. WQ-CH-P-13-01 – looking upstream.



Photo 13. WQ-CH-P-13-01 – looking downstream.



Photo 14. WQ-DESS-01 – looking downstream.



Photo 15. WQ-DESS-02 – looking downstream.



Photo 16. WQ-DESS-03 – looking upstream.



Photo 17. H/WQ-SEEP – overview.



Photo 18. H-SEEP – seepage pond staff gauge.



Photo 19. WQ-TP – overview of sample location.



Photo 20. H-TP – overview of staff gauges.



Photo 21. WQ-PC-U – looking upstream at sample location.



Photo 22. WQ-PC-U – overview of pond upstream of culvert – sediment in pond.



Photo 23. H-PC-DSP – looking upstream, showing sediment contributions from placer activity upstream.



Photo 24. H-PC-DSP – showing logger with sediment in stilling well.



Photo 25. WQ-ADIT-SEEP – showing dry conditions.



Photo 26. WQ-PC-D – looking downstream.



Photo 27. Placer activity in upper Pony Creek.



Photo 28. Placer activity in upper Pony Creek.



Photo 29. H/WQ-BC – looking downstream.



Photo 30. WQ-VC-U – looking downstream towards confluence with Back Creek.



Photo 31. H-VC-U – looking upstream.



Photo 32. WQ-VC-DBC – looking upstream.



Photo 33. H-VC-DBC – looking upstream.



Photo 34. H/WQ-VC-UMN – looking upstream.



Photo 35. WQ-VC-R – looking upstream.



Photo 36. H-VC-R – looking upstream.



Photo 37. WQ-DC-14 – extra sample site – upstream view.



Photo 38. WQ-DC-13 – extra sample site – upstream view.



Photo 39. WQ-DC-12 – extra sample site – downstream view.



Photo 40. WQ-DC-11 – extra sample site – upstream view.



Photo 41. WQ-DC-10 – extra sample site - upstream view.



Photo 42. WQ-DC-08 – extra sample site – upstream view.



Photo 43. WQ-MS-S-03 – extra sample site this trip – upstream view.



Photo 44. WQ-MS-S-A – extra sample site investigated – but seep dry.

Measurement ID	Hydrometric Identifier (HID)	Measurement Date	Measurement Time	Discharge Measurement Method	Discharge (m ³ /s)	Discharge Data Flag	Surveyed Water Elevation (m)	Survey Data Flag	Comments
342	ATM-VCS	18/08/2015	-	N					Downloaded data from logger.
339	H-DC-DX+105	19/08/2015	19:12	V	0.000				Minimal algal growth in creek. Volumetric measurement conducted, but value is less than 1 L/s and below reporting limits. Water levels normal for time of year.
349	H-DC-D1b	19/08/2015	17:20	V	0.003				Water level higher than last trip. Water goes to ground downstream of site. Minor amount of water flowing beneath board for volumetric measurement collection.
337	H-DC-B	19/08/2015	15:18	SS	0.017		1.973		Salt tracer completed for discharge measurement. Flow level normal for time of year. Staff gauge changed from 0.145 m to 0.143 m over discharge measurement period.
346	H-TP	19/08/2015		N					Two staff gauges are above the water elevation - dry. Approximately 2.5 m of dry material behind staff gauges.
340	H-SEEP	19/08/2015	14:10	V	0.002				Flow has been adjusted recently by DES (cleaned out pipe from seep 2 days ago). Flow rate at pump - 128.826 L/min (0.0022 m ³ /s).
335	H-DC-M WP	19/08/2015	13:46	SS	0.017		2.284		Volume of sediment deposition in pond has increased since last visit.
				V	0.013				
338	H-DC-R	18/08/2015	16:43	SS	0.012		0.620		High flow and significant amount of vegetation in water. Water level is higher than normal; pumping rates upstream at seep pumphouse have been adjusted in the last few days (due to cleaning out of pipe) and recent precipitation events on site have occurred. Salt tracer and volumetric discharge measurements completed. Staff gauge changed from 0.384 m to 0.382 m over the hour on site. Gusty conditions during survey (water level reading during first circuit is suspect: water level 0.629 m local datum).
				V	0.013				
347	H-PC-DSP	18/08/2015	-	N		X	2.450		Placer mining immediately upstream of road crossing, with large settling pond. Pumping water from pond every 3 hours to drain pond and takes about 5 hours to fill up. Pump was not running at time of visit, flow very variable and no discharge measurement possible. Stilling well has sedimentation impacting logger and staff gauge reading. Cleaned out sediment from rock weir pond and stilling well.
336	H-BC	19/08/2015	10:28	SS	0.037		1.788		Water contained in primary channel. Water is highly turbid. Added 3 new rebar benchmarks (BM4, BM5 and BM6). Assumed elevation of 3.000 m at BM4 and all elevations surveyed relative to this benchmark. Ground in vicinity of station is soft sand and all benchmarks can be slightly moved by hand.
345	H-VC-U	19/08/2015	8:41	ADV-MID	0.379		2.101		Water level increased during time of survey (staff gauge from 0.274 m to 0.282 m during survey). Light rain present during measurements. Stilling well was noted as slightly loose and at an angle.
348	H-PW	19/08/2015	10:26	V	0.003				Volumetric measurement at pipe outlet.
341	H-VC-DBC	19/08/2015	7:50	ADV-MID	0.433		1.829		Higher flow in channel than during previous visits.
344	H-VC-UMN	18/08/2015	15:23	ADV-MID	0.480		1.663		Water level higher than last trip. Staff gauge fluctuated from 0.668 m to 0.663 m during discharge measurement.
343	H-VC-R	18/08/2015	13:30	ADV-MID	0.542		2.190		Water level higher than previous trip. Water also slightly more turbid than usual.

Discharge Measurement Method Legend

Measurement Method ID	Measurement Method	Measurement Description
ADV-MID	Mid Section Method - Acoustic Doppler Velocimeter	Cross-sectional velocity using an ADV, mid-section method.
SS	Brine Salt Slug Tracer	Salt dilution gauging using a brine salt slug.
V	Volumetric	Volumetric measurement obtained by filling a graduated container at a culvert, pipe outlet or weir.
W	Weir	Measurement obtained by a rated structure (v-notch weir).
N	None	No measurement could be obtained.
SD	Dry Salt Slug Tracer	Salt dilution gauging using a dry salt slug.
HWM	High Water Mark - Indirect Method	Indirect method using high water mark in the slope-area calculation for estimating high discharges.
ADCP	Acoustic Doppler Current Profiler	Cross-sectional velocity using an ADCP, mid-section method.
SC	Constant Rate Salt Tracer	Salt dilution gauging using the constant rate method.
CM-MID	Mid Section Method - Current Meter	Cross-sectional velocity using a velocimeter (Swoffer or Pygmy AA)

Hydrometric Stations

Hydrometric ID	Hydrometric Stations
ATM-VC5	Atmospheric Barologger (5) at Victoria Creek
H-BC	Back Creek
H-DC-B	Diversion Channel at Bridge
H-DC-D1B	Dome Creek at D1b
H-DC-DX	Dome Creek at DX
H-DC-DX+105	Dome Creek at DX+105
H-DC-M-WP	Middle Dome Creek at Weir Pond
H-DC-R	Dome Creek at Road
H-PC-DSP	Pony Creek Downstream of Pit
H-SEEP	Seepage Pond Outflow
H-TP	Tailings Pond
H-VC-DBC	Victoria Creek Downstream of Back Creek
H-VC-R	Victoria Creek at Road
H-VC-U	Upper Victoria Creek
H-VC-UMN	Victoria Creek Upstream of Minnesota Creek

Discharge Data Flag Legend

Discharge Data Flag	Discharge Data Flag Description
E	Estimated value
B	Backwater effects (ice related)
F	Instrument malfunction
M	Manual measurement
A	Automated measurement (logged)
ML	Missing length data
MD	Missing depth data
MW	Missing width data
O	Outside of measurement reporting range
P	Potential Place Mining Interference with Flow
S	Suspect data
X	Poor channel conditions for discharge measurement
MI	Missing Data
SH-L	Data logger Shift
SH-SG	Staff Gauge Shift
UR	Under review

Survey Data Flag Legend

Survey Flag	Survey Flag Description
S	Suspect data
MI	Missing data
UR	Under review
F	Instrument Malfunction
O	Outside measurement Accuracy (+/-0.003 m)
N	No survey conducted

Water Quality Site	Sample Collected? (Y/N)	Measurement Date	Comments
WQ-ADIT-SEEP	N	20-Aug-15	Seep was dry.
WQ-BC	Y	19-Aug-15	Water level high with high turbidity. Likely related to placer mining operations upstream.
WQ-CH-P-13-01	Y	19-Aug-15	High flows with very clear water. High water compared to last trip.
WQ-DC-B	Y	19-Aug-15	Moderate flow in channel with moderate turbidity.
WQ-DC-D1b	Y	19-Aug-15	Moderate flow in channel with light turbidity.
WQ-DC-DX	Y	19-Aug-15	Water level moderate with some moderate turbidity.
WQ-DC-DX+105	Y	19-Aug-15	Water level moderate with some light turbidity. Minimal algae growth in channel.
WQ-DC-R	Y	18-Aug-15	Moderate flow in channel with light turbidity.
WQ-DC-U	Y	19-Aug-15	Moderate flow in channel with moderate turbidity.
WQ-DESS-01	Y	20-Aug-15	High flows with clear water. Recent rain over last few days likely contributed.
WQ-DESS-02	Y	20-Aug-15	Low flows with clear water. Recent rain over last few days likely contributed, otherwise may have been dry.
WQ-DESS-03	Y	20-Aug-15	Low flows with clear water. Recent rain over last few days likely contributed, otherwise may have been dry.
WQ-LW-SEEP-01	N	19-Aug-15	Seep was dry.
WQ-MS-S-08	N	19-Aug-15	Seep was dry.
WQ-PC-D	Y	20-Aug-15	Flow level very low, creek had light turbidity, placer mine not pumping water from settling pond at time of sample collection.
WQ-PC-U	Y	20-Aug-15	Flow high with very turbid water. Water being pumped from upstream settling pond for placer mining activity. Two pumps running at time of sampling.
WQ-PW	Y	19-Aug-15	Drinking water sample and Bacteriological sample collected from pipe outlet.
WQ-SEEP	Y	19-Aug-15	Moderate flow rate from pipe; regular sample collected. Pipe recently cleaned out by DES. Has resulted in higher flow rate than desired, DES adjusting pump rate.
WQ-TP	Y	19-Aug-15	Very low water level in pond. Light turbidity.
WQ-VC-DBC	Y	19-Aug-15	Water levels moderate, with moderate turbidity.
WQ-VC-R	Y	18-Aug-15	Water level moderate with moderate turbidity.

Water Quality Site	Sample Collected? (Y/N)	Measurement Date	Comments
WQ-VC-R+150	N	18-Aug-15	This is the winter/early spring sampling location - samples are collected from WQ-VC-R during the open water season.
WQ-VC-U	Y	19-Aug-15	Water levels moderate, with light turbidity. Higher turbidity water visible at confluence with BC downstream of sampling site.
WQ-VC-UMN	Y	18-Aug-15	Water levels moderate, with moderate turbidity. DO unavailable for site. Thunder storm in area but no lightning.
QA/QC Samples			
Replicate 1	Y	18-Aug-15	Replicate sample collected from WQ-VC-R (sample ID WQ-VC-R-r).
Replicate 2	Y	20-Aug-15	Replicate sample collected from WQ-DC-B (sample ID WQ-DC-B-r).
Replicate 3	Y	19-Aug-15	Replicate sample collected from WQ-DESS-01 (sample ID WQ-DESS-01-r)
Field Blank	Y	19-Aug-15	Sample bottles filled with deionized water supplied by ALS; samples were filtered and preserved as instructed. Collected field blank at WQ-PW.
Travel Blank	Y	19-Aug-15	Samples provided by lab and were transported to and from site.
Extra WQ Investigations (Upper Dome Creek and Mill Site Investigation)			
WQ-MS-S-03	Y	20-Aug-15	Moderate flow at site with significant algae growth along channel. Sampled as part of extra water quality investigations.
WQ-DC-8	Y	19-Aug-15	Sampled as part of extra water quality investigations. Moderate flow, light turbidity, surrounding vegetation and sediment orange in colour.
WQ-DC-10	Y	19-Aug-15	Sampled as part of extra water quality investigations. Moderate flows, clear water, orange colour deposits on substrate.
WQ-DC-11	Y	19-Aug-15	Sampled as part of extra water quality investigations.
WQ-DC-12	Y	19-Aug-15	Sampled as part of extra water quality investigations. Moderate flows, clear water.
WQ-DC-13	Y	19-Aug-15	Sampled as part of extra water quality investigations. Moderate flows, clear water.
WQ-DC-14	Y	19-Aug-15	Sampled as part of extra water quality investigations. Moderate flows, clear water.
WQ-MS-S-A	N	19-Aug-15	Seep was dry. Attempted to sample as part of extra investigations.
WQ-MS-S-B	N	19-Aug-15	Seep was dry. Attempted to sample as part of extra investigations.

NOTES

WQ-PIT-1, 2, 3 were removed from scope

Summary of Water Quality Results for the August 18-20, 2015 Trip

Table with columns for Analyte, Units, Mount Nassien Effluent Discharge Standards, Date Sampled, TRAVEL BLANK, and 11 different WQDC codes (WQDC-14 to WQDC-25). Rows list various analytes like Temperature, Specific Conductivity, Dissolved Oxygen, Turbidity, etc.

Applied Guidelines: Federal CCMC Canadian Environmental Quality Guidelines (May 2011), CCMC Freshwater Aquatic Life Mount Nassien Effluent Discharge Standards. CCMC WQDC-14: Potentially CCMC Guideline. Potentially WQDC-15: Effluent Discharge Standard. Potentially both CCMC and WQDC Standards. Effluent Monitoring Dependent Guideline Guideline (EWDG). (Only Reg 10 Detection Limit Adjustment -> Please refer to the lab CDA report and lab email report for more info. CCMC Codes: RPFD - Relative Percent Difference, <DL - below detection limit, and <2XDL - less than two times the detection limit.



ENVIRONMENTAL DYNAMICS INC.
ATTN: Meghan Marjanovic
2195 - 2nd Ave
Whitehorse YT Y1A 3T8

Date Received: 20-AUG-15
Report Date: 01-SEP-15 10:42 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1660964
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers: 1, 2, 3, 4, 5, 6
Legal Site Desc:

Can Dang
Senior Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
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ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-1	L1660964-2	L1660964-3	L1660964-4	L1660964-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	18-AUG-15	18-AUG-15	18-AUG-15
		Sampled Time	18:45	19:00	13:57	17:40	13:57
		Client ID	WQ-DC-12	WQ-DC-DX+105	WQ-VC-R	WQ-DC-R	WQ-VC-RR
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		777	767	226	903	230
	Hardness (as CaCO3) (mg/L)		448	443	117	523	115
	pH (pH)		7.67	7.55	7.98	7.87	8.01
	Total Suspended Solids (mg/L)		6.0	<3.0	14.0	4.7	<3.0
	Total Dissolved Solids (mg/L)		522	521	129	638	129
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		175	174	79.3	138	80.8
	Alkalinity, Carbonate (as CaCO3) (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)		175	174	79.3	138	80.8
	Ammonia, Total (as N) (mg/L)		0.0086	0.0097	<0.0050	0.202	<0.0050
	Chloride (Cl) (mg/L)		<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)		0.129	0.126	0.055	0.081	0.053
	Nitrate (as N) (mg/L)		<0.0050	<0.0050	0.0619	0.324	0.0635
	Nitrite (as N) (mg/L)		<0.0010	<0.0010	<0.0010	0.0114	<0.0010
	Sulfate (SO4) (mg/L)		252	254	36.5	360	36.6
	Anion Sum (meq/L)		8.76	8.78	2.35	10.3	2.38
	Cation Sum (meq/L)		9.28	9.16	2.51	11.0	2.46
	Cation - Anion Balance (%)		2.9	2.2	3.2	3.6	1.5
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanate (mg/L)		<2.0 ^{DLA}	<0.20	<0.20	<0.20	<0.20
	Thiocyanate (SCN) (mg/L)		<0.50	<0.50	<0.50	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)		0.0994	0.0129	0.295	0.0876	0.276
	Antimony (Sb)-Total (mg/L)		0.00564	0.00543	0.00028	0.00113	0.00028
	Arsenic (As)-Total (mg/L)		0.0244	0.0156	0.00216	0.0147	0.00201
	Barium (Ba)-Total (mg/L)		0.0251	0.0244	0.0641	0.0488	0.0645
	Beryllium (Be)-Total (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)		<0.010	<0.010	<0.010	0.020	<0.010
	Cadmium (Cd)-Total (mg/L)		0.00127	0.000995	0.0000404	0.0000557	0.0000446
	Calcium (Ca)-Total (mg/L)		113	113	30.1	128	30.7
	Chromium (Cr)-Total (mg/L)		0.00023	0.00013	0.00057	0.00037	0.00053
	Cobalt (Co)-Total (mg/L)		0.00041	0.00037	0.00028	0.00106	0.00027
	Copper (Cu)-Total (mg/L)		0.00159	0.00122	0.00201	0.00160	0.00190
	Iron (Fe)-Total (mg/L)		0.603	0.256	0.567	2.25	0.599
	Lead (Pb)-Total (mg/L)		0.00127	0.000190	0.000887	0.000278	0.000913
	Lithium (Li)-Total (mg/L)		0.0048	0.0048	<0.0010	0.0018	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1660964-6 Water 18-AUG-15 14:45 WQ-VC-UMN	L1660964-7 Water 19-AUG-15 19:50 WQ-DC-DX	L1660964-8 Water 19-AUG-15 19:30 WQ-DC-14	L1660964-9 Water 19-AUG-15 14:40 WQ-TP	L1660964-10 Water 19-AUG-15 16:30 WQ-CH-P-13-01
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	244	444	316	1430	1520
	Hardness (as CaCO3) (mg/L)	126	225	158	823	967
	pH (pH)	8.03	7.64	7.65	7.99	6.35
	Total Suspended Solids (mg/L)	9.3	163	6.7	17.3	4.0
	Total Dissolved Solids (mg/L)	139	283	193	1140	1270
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	86.3	79.4	67.2	66.0	5.2
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	86.3	79.4	67.2	66.0	5.2
	Ammonia, Total (as N) (mg/L)	<0.0050	0.0181	<0.0050	0.0189 ^{DLA}	0.0058 ^{DLA}
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<1.0	<2.5 ^{DLA}
	Fluoride (F) (mg/L)	0.055	0.058	0.053	0.252	0.14
	Nitrate (as N) (mg/L)	0.0628	0.0090	<0.0050	0.024	0.099
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0020 ^{DLA}	<0.0050 ^{DLA}
	Sulfate (SO4) (mg/L)	39.4	147	89.9	767	924
	Anion Sum (meq/L)	2.55	4.64	3.22	17.3	19.4
	Cation Sum (meq/L)	2.68	4.82	3.39	17.7	19.8
	Cation - Anion Balance (%)	2.4	1.9	2.6	1.2	1.1
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanate (mg/L)	<0.20	<0.20	<0.20	<0.20	<0.20
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)	0.291	3.16	0.0329	0.0845	0.182
	Antimony (Sb)-Total (mg/L)	0.00030	0.00244	0.00188	0.0415	0.00011
	Arsenic (As)-Total (mg/L)	0.00198	0.0339	0.00588	0.142	0.00063
	Barium (Ba)-Total (mg/L)	0.0653	0.0916	0.0417	0.0131	0.00982
	Beryllium (Be)-Total (mg/L)	<0.000020	0.000140	<0.000020	<0.000020	0.000042
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	0.000509	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	0.084	<0.010
	Cadmium (Cd)-Total (mg/L)	0.0000374	0.000193	0.0000882	0.00117	0.0130
	Calcium (Ca)-Total (mg/L)	32.5	61.6	43.4	240	229
	Chromium (Cr)-Total (mg/L)	0.00049	0.00418	0.00016	0.00024	0.00013
	Cobalt (Co)-Total (mg/L)	0.00023	0.00201	<0.00010	0.00039	<0.00010
	Copper (Cu)-Total (mg/L)	0.00183	0.00954	0.00231	0.0321	0.00099
	Iron (Fe)-Total (mg/L)	0.461	5.40	0.035	0.712	0.033
	Lead (Pb)-Total (mg/L)	0.000962	0.00653	0.000532	0.0392	<0.000050
	Lithium (Li)-Total (mg/L)	<0.0010	0.0025	<0.0010	0.0095	0.0021

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1660964-11 Water 19-AUG-15 15:10 WQ-DC-B	L1660964-12 Water 19-AUG-15 18:00 WQ-DC-10	L1660964-13 Water 19-AUG-15 18:30 WQ-DC-11	L1660964-14 Water 19-AUG-15 19:20 WQ-DC-13	L1660964-15 Water 19-AUG-15 17:40 WQ-DC-8
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	927	1170	755	319	1460
	Hardness (as CaCO3) (mg/L)	548	731	434	159	901
	pH (pH)	7.95	8.01	7.95	7.76	7.90
	Total Suspended Solids (mg/L)	72.7	4.0	<3.0	<3.0	10.7
	Total Dissolved Solids (mg/L)	661	858	510	194	1120
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	134	268	169	67.6	267
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	134	268	169	67.6	267
	Ammonia, Total (as N) (mg/L)	0.0926	0.0248	<0.0050	<0.0050	0.661
	Chloride (Cl) (mg/L)	<0.50	<1.0 ^{DLA}	<0.50	<0.50	<2.5 ^{DLA}
	Fluoride (F) (mg/L)	0.075	0.205	0.127	0.050	0.13
	Nitrate (as N) (mg/L)	0.0409	<0.010 ^{DLA}	<0.0050	<0.0050	0.117
	Nitrite (as N) (mg/L)	0.0017	<0.0020 ^{DLA}	<0.0010	<0.0010	<0.0050 ^{DLA}
	Sulfate (SO4) (mg/L)	387	431	249	89.9	632
	Anion Sum (meq/L)	10.7	14.3	8.56	3.22	18.5
	Cation Sum (meq/L)	11.3	15.1	8.96	3.40	18.9
	Cation - Anion Balance (%)	2.7	2.5	2.3	2.7	1.2
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanate (mg/L)	<0.20	<0.20	0.51	<0.20	<0.20
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)	1.11	0.0354	0.0626	0.0232	0.0513
	Antimony (Sb)-Total (mg/L)	0.00168	0.0124	0.00949	0.00197	0.00287
	Arsenic (As)-Total (mg/L)	0.0151	0.0717	0.0160	0.00620	0.0677
	Barium (Ba)-Total (mg/L)	0.0641	0.0166	0.0207	0.0441	0.0509
	Beryllium (Be)-Total (mg/L)	0.000055	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	0.016	<0.010	<0.010	<0.010	0.060
	Cadmium (Cd)-Total (mg/L)	0.000151	0.00191	0.000986	0.000829	0.000476
	Calcium (Ca)-Total (mg/L)	123	189	114	46.7	214
	Chromium (Cr)-Total (mg/L)	0.00228	<0.00010	0.00018	0.00018	0.00022
	Cobalt (Co)-Total (mg/L)	0.00095	0.00099	0.00018	<0.00010	0.00090
	Copper (Cu)-Total (mg/L)	0.00477	0.00117	0.00152	0.00246	0.00085
	Iron (Fe)-Total (mg/L)	3.45	1.86	0.218	0.025	5.76
	Lead (Pb)-Total (mg/L)	0.00129	0.00208	0.000484	0.000433	0.000603
	Lithium (Li)-Total (mg/L)	0.0028	0.0091	0.0048	<0.0010	0.0039

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1660964-16 Water 19-AUG-15 17:15 WQ-DC-D1B	L1660964-17 Water 19-AUG-15 13:15 WQ-DC-U	L1660964-18 Water 19-AUG-15 14:15 WQ-SEEP	L1660964-19 Water 19-AUG-15 15:15 WQ-DC-B-R	L1660964-20 Water 20-AUG-15 08:00 WQ-DESS-01	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	1410	997	1580	933	1030
	Hardness (as CaCO3) (mg/L)	874	576	890	544	601
	pH (pH)	8.22	8.08	7.37	7.97	6.08
	Total Suspended Solids (mg/L)	15.3	58.0	23.3	66.7	<3.0
	Total Dissolved Solids (mg/L)	1070	722	1250	662	777
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	259	150	240	137	3.4
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	259	150	240	137	3.4
	Ammonia, Total (as N) (mg/L)	0.250	0.498	4.48	0.104	0.0053
	Chloride (Cl) (mg/L)	<1.0 ^{DLA}	<1.0 ^{DLA}	<2.5 ^{DLA}	<0.50	<1.0 ^{DLA}
	Fluoride (F) (mg/L)	0.128	0.084	0.12	0.075	0.054
	Nitrate (as N) (mg/L)	0.105	0.169	0.395	0.0411	0.035
	Nitrite (as N) (mg/L)	0.0023	0.0089	0.0142	0.0018	<0.0020 ^{DLA}
	Sulfate (SO4) (mg/L)	610	419	714	386	561
	Anion Sum (meq/L)	17.9	11.7	19.7	10.8	11.7
	Cation Sum (meq/L)	18.0	12.2	20.7	11.3	12.3
	Cation - Anion Balance (%)	0.2	1.8	2.6	2.3	2.4
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	0.0138	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050 ^{DLA}	<0.0050	0.0630	<0.0050	<0.0050
	Cyanate (mg/L)	<2.0	0.24	0.75	<0.20	<0.20
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	4.39	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)	0.272	0.891	0.0219	1.08	0.142
	Antimony (Sb)-Total (mg/L)	0.00468	0.00137	0.00047	0.00168	0.00018
	Arsenic (As)-Total (mg/L)	0.0244	0.0229	0.0677	0.0158	0.00075
	Barium (Ba)-Total (mg/L)	0.0381	0.0641	0.0699	0.0676	0.0151
	Beryllium (Be)-Total (mg/L)	<0.000020	0.000039	<0.000020	0.000056	0.000033
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	0.038	0.021	0.057	0.017	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000291	0.000125	0.000411	0.000160	0.00469
	Calcium (Ca)-Total (mg/L)	201	140	268	125	146
	Chromium (Cr)-Total (mg/L)	0.00055	0.00198	0.00054	0.00227	0.00023
	Cobalt (Co)-Total (mg/L)	0.00054	0.00172	0.00847	0.00100	0.00026
	Copper (Cu)-Total (mg/L)	0.00141	0.00489	0.00270	0.00544	0.00158
	Iron (Fe)-Total (mg/L)	1.59	3.47	12.5	3.47	0.115
	Lead (Pb)-Total (mg/L)	0.000626	0.00114	0.000063	0.00128	0.000069
	Lithium (Li)-Total (mg/L)	0.0072	0.0028	0.0012	0.0031	0.0017

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-21	L1660964-22	L1660964-23	L1660964-24	L1660964-25
		Description	Water	Water	Water	Water	Water
		Sampled Date	20-AUG-15	20-AUG-15	20-AUG-15	19-AUG-15	20-AUG-15
		Sampled Time	08:05	08:30	08:15	09:45	07:25
		Client ID	WQ-DESS-01R	WQ-DESS-02	WQ-DESS-03	WQ-BC	WQ-PC-D
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		1030	1620	89.7	359	588
	Hardness (as CaCO3) (mg/L)		599	1050	38.4	179	287
	pH (pH)		6.00	7.96	6.72	8.23	7.04
	Total Suspended Solids (mg/L)		7.3	<3.0	<3.0	165	32.7
	Total Dissolved Solids (mg/L)		776	1350	48.4	215	388
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)		2.9	134	11.5	111	63.4
	Alkalinity, Carbonate (as CaCO3) (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)		<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)		2.9	134	11.5	111	63.4
	Ammonia, Total (as N) (mg/L)		0.0076	<0.0050	<0.0050	0.0054	0.0419
	Chloride (Cl) (mg/L)		<1.0 ^{DLA}	<2.5 ^{DLA}	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)		0.051	0.10	0.028	0.091	0.034
	Nitrate (as N) (mg/L)		0.033	1.38	<0.0050	0.170	0.140
	Nitrite (as N) (mg/L)		<0.0020 ^{DLA}	<0.0050 ^{DLA}	<0.0010	0.0021	0.0085
	Sulfate (SO4) (mg/L)		561	872	24.5	78.8	238
	Anion Sum (meq/L)		11.8	20.9	0.74	3.87	6.23
	Cation Sum (meq/L)		12.3	21.4	0.91	3.79	6.02
	Cation - Anion Balance (%)		2.2	1.0	10.3	-1.1	-1.7
	Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Total (mg/L)			<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanate (mg/L)			<0.20	<0.20	<0.20	<0.20	<0.20
Thiocyanate (SCN) (mg/L)			<0.50	<0.50	<0.50	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)		0.177	0.0339	0.180	5.03	0.833
	Antimony (Sb)-Total (mg/L)		0.00018	0.00027	0.00030	0.00114	0.00788
	Arsenic (As)-Total (mg/L)		0.00086	0.00230	0.00086	0.0210	0.0114
	Barium (Ba)-Total (mg/L)		0.0152	0.0182	0.0409	0.165	0.0676
	Beryllium (Be)-Total (mg/L)		0.000034	<0.000040 ^{DLA}	<0.000020	0.000216	0.000068
	Bismuth (Bi)-Total (mg/L)		<0.000050	<0.00010 ^{DLA}	<0.000050	0.000167	0.000095
	Boron (B)-Total (mg/L)		<0.010	<0.020 ^{DLA}	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)		0.00466	0.000064	0.0000369	0.000485	0.0151
	Calcium (Ca)-Total (mg/L)		144	322	10.9	55.7	93.4
	Chromium (Cr)-Total (mg/L)		0.00026	<0.00020 ^{DLA}	0.00033	0.00757	0.00128
	Cobalt (Co)-Total (mg/L)		0.00025	<0.00020 ^{DLA}	<0.00010	0.00311	0.00088
	Copper (Cu)-Total (mg/L)		0.00171	<0.0010 ^{DLA}	0.00254	0.0100	0.0420
	Iron (Fe)-Total (mg/L)		0.181	0.025	0.082	7.49	1.23
	Lead (Pb)-Total (mg/L)		0.000088	<0.00010 ^{DLA}	<0.000050	0.0200	0.00946
	Lithium (Li)-Total (mg/L)		0.0016	<0.0020 ^{DLA}	<0.0010	0.0043	0.0037

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1660964-26 Water 19-AUG-15 08:25 WQ-VC-DBC	L1660964-27 Water 19-AUG-15 08:45 WQ-VCU	L1660964-28 Water 19-AUG-15 11:15 FIELD BLANK	L1660964-29 Water TRAVEL BLANK	L1660964-30 Water 20-AUG-15 10:00 WQ-MS-S-03	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	212	187	<2.0	<2.0	1240
	Hardness (as CaCO3) (mg/L)	111	91.7	<0.50	<0.50	764
	pH (pH)	8.02	8.00	5.52	5.51	7.77
	Total Suspended Solids (mg/L)	12.7	<3.0	<3.0	<3.0	4.7
	Total Dissolved Solids (mg/L)	120	101	<1.0	<1.0	911
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	84.4	79.9	<1.0	<1.0	286
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	84.4	79.9	<1.0	<1.0	286
	Ammonia, Total (as N) (mg/L)	<0.0050	<0.0050	<0.0050	0.0253 ^{RRV}	0.0239 ^{DLA}
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<1.0
	Fluoride (F) (mg/L)	0.055	0.050	<0.020	<0.020	0.221
	Nitrate (as N) (mg/L)	0.0822	0.0704	<0.0050	<0.0050	0.018
	Nitrite (as N) (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020 ^{DLA}
	Sulfate (SO4) (mg/L)	26.2	17.8	<0.30	<0.30	460
	Anion Sum (meq/L)	2.24	1.98	<0.10	<0.10	15.3
	Cation Sum (meq/L)	2.36	1.96	<0.10	<0.10	15.8
	Cation - Anion Balance (%)	2.7	-0.3	0.0	0.0	1.5
	Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanate (mg/L)		<0.20	<0.20	<0.20	<0.20	<0.20
Thiocyanate (SCN) (mg/L)		<0.50	<0.50	<0.50	<0.50	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)	0.531	0.0542	<0.0030	<0.0030	0.0379
	Antimony (Sb)-Total (mg/L)	0.00023	0.00012	<0.00010	<0.00010	0.0148
	Arsenic (As)-Total (mg/L)	0.00239	0.00051	<0.00010	<0.00010	0.113
	Barium (Ba)-Total (mg/L)	0.0697	0.0632	<0.000050	<0.000050	0.0147
	Beryllium (Be)-Total (mg/L)	0.000032	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.0000617	0.0000182	<0.0000050	<0.0000050	0.00299
	Calcium (Ca)-Total (mg/L)	30.0	23.6	<0.050	<0.050	203
	Chromium (Cr)-Total (mg/L)	0.00082	0.00027	<0.00010	<0.00010	0.00017
	Cobalt (Co)-Total (mg/L)	0.00036	<0.00010	<0.00010	<0.00010	0.00119
	Copper (Cu)-Total (mg/L)	0.00237	0.00158	<0.00050	<0.00050	0.00124
	Iron (Fe)-Total (mg/L)	0.760	0.122	<0.010	<0.010	1.89
	Lead (Pb)-Total (mg/L)	0.00179	0.000093	<0.000050	<0.000050	0.00269
	Lithium (Li)-Total (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	0.0105

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1660964-31			
		Water			
		20-AUG-15			
		10:20			
		WQ-PC-U			
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (uS/cm)	333			
	Hardness (as CaCO3) (mg/L)	166			
	pH (pH)	7.55			
	Total Suspended Solids (mg/L)	1540			
	Total Dissolved Solids (mg/L)	204			
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	63.5			
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0			
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0			
	Alkalinity, Total (as CaCO3) (mg/L)	63.5			
	Ammonia, Total (as N) (mg/L)	1.10			
	Chloride (Cl) (mg/L)	<0.50			
	Fluoride (F) (mg/L)	0.077			
	Nitrate (as N) (mg/L)	0.0460			
	Nitrite (as N) (mg/L)	0.0022			
	Sulfate (SO4) (mg/L)	98.2			
	Anion Sum (meq/L)	3.32			
	Cation Sum (meq/L)	3.67			
	Cation - Anion Balance (%)	5.0			
	Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050		
Cyanide, Total (mg/L)		<0.0050			
Cyanate (mg/L)		0.69			
Thiocyanate (SCN) (mg/L)		<0.50			
Total Metals	Aluminum (Al)-Total (mg/L)	24.0			
	Antimony (Sb)-Total (mg/L)	0.00761			
	Arsenic (As)-Total (mg/L)	0.184			
	Barium (Ba)-Total (mg/L)	0.692			
	Beryllium (Be)-Total (mg/L)	0.00115			
	Bismuth (Bi)-Total (mg/L)	0.00140			
	Boron (B)-Total (mg/L)	<0.010			
	Cadmium (Cd)-Total (mg/L)	0.00524			
	Calcium (Ca)-Total (mg/L)	69.5			
	Chromium (Cr)-Total (mg/L)	0.0366			
	Cobalt (Co)-Total (mg/L)	0.0137			
	Copper (Cu)-Total (mg/L)	0.0718			
	Iron (Fe)-Total (mg/L)	33.9			
	Lead (Pb)-Total (mg/L)	0.144			
	Lithium (Li)-Total (mg/L)	0.0175			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-1	L1660964-2	L1660964-3	L1660964-4	L1660964-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	18-AUG-15	18-AUG-15	18-AUG-15
		Sampled Time	18:45	19:00	13:57	17:40	13:57
		Client ID	WQ-DC-12	WQ-DC-DX+105	WQ-VC-R	WQ-DC-R	WQ-VC-RR
Grouping	Analyte						
WATER							
Total Metals	Magnesium (Mg)-Total (mg/L)		35.1	35.4	8.89	45.0	9.06
	Manganese (Mn)-Total (mg/L)		0.635	0.648	0.0556	0.777	0.0532
	Mercury (Hg)-Total (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Molybdenum (Mo)-Total (mg/L)		0.000224	0.000219	0.000394	0.000314	0.000405
	Nickel (Ni)-Total (mg/L)		0.00098	0.00099	0.00076	0.00109	0.00073
	Phosphorus (P)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		3.58	3.34	0.77	2.30	0.80
	Selenium (Se)-Total (mg/L)		0.000055	<0.000050	<0.000050	0.000101	<0.000050
	Silicon (Si)-Total (mg/L)		6.06	5.86	6.46	6.22	6.51
	Silver (Ag)-Total (mg/L)		0.000023	<0.000010	0.000013	<0.000010	0.000012
	Sodium (Na)-Total (mg/L)		3.90	4.13	2.99	10.2	2.89
	Strontium (Sr)-Total (mg/L)		0.265	0.270	0.248	0.408	0.251
	Sulfur (S)-Total (mg/L)		80.1	82.0	11.4	119	11.8
	Thallium (Tl)-Total (mg/L)		0.000047	0.000046	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.00495	<0.00090 ^{DLM}	<0.018 ^{DLM}	0.00317	0.00901
	Uranium (U)-Total (mg/L)		0.00209	0.00216	0.000532	0.00111	0.000533
	Vanadium (V)-Total (mg/L)		0.00085	<0.00050	0.00124	0.00117	0.00120
	Zinc (Zn)-Total (mg/L)		0.292	0.290	0.0044	0.0062	0.0043
	Zirconium (Zr)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0081	0.0091	0.0263	0.0211	0.0259
	Antimony (Sb)-Dissolved (mg/L)		0.00553	0.00561	0.00020	0.00117	0.00022
	Arsenic (As)-Dissolved (mg/L)		0.00933	0.0101	0.00106	0.00683	0.00110
	Barium (Ba)-Dissolved (mg/L)		0.0242	0.0251	0.0613	0.0453	0.0612
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	0.017	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.000469	0.000395	0.0000263	0.0000477	0.0000244
	Calcium (Ca)-Dissolved (mg/L)		119	117	31.8	133	31.3
	Chromium (Cr)-Dissolved (mg/L)		<0.00010	<0.00010	0.00014	0.00022	0.00014
	Cobalt (Co)-Dissolved (mg/L)		0.00035	0.00038	0.00013	0.00101	0.00012
	Copper (Cu)-Dissolved (mg/L)		0.00116	0.00115	0.00156	0.00131	0.00143
	Iron (Fe)-Dissolved (mg/L)		0.172	0.210	0.115	0.711	0.113
	Lead (Pb)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)		0.0046	0.0046	<0.0010	0.0017	<0.0010

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ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-6	L1660964-7	L1660964-8	L1660964-9	L1660964-10
		Description	Water	Water	Water	Water	Water
		Sampled Date	18-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15
		Sampled Time	14:45	19:50	19:30	14:40	16:30
		Client ID	WQ-VC-UMN	WQ-DC-DX	WQ-DC-14	WQ-TP	WQ-CH-P-13-01
Grouping	Analyte						
WATER							
Total Metals	Magnesium (Mg)-Total (mg/L)		9.67	16.3	10.1	47.3	88.9
	Manganese (Mn)-Total (mg/L)		0.0493	0.176	0.00305	0.143	0.647
	Mercury (Hg)-Total (mg/L)		<0.0000050	0.0000467	<0.0000050	0.0000106	<0.0000050
	Molybdenum (Mo)-Total (mg/L)		0.000442	0.000102	<0.000050	0.00150	<0.000050
	Nickel (Ni)-Total (mg/L)		0.00058	0.00269	<0.00050	0.00061	0.00887
	Phosphorus (P)-Total (mg/L)		<0.050	0.325	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		0.79	4.98	3.44	15.8	0.34
	Selenium (Se)-Total (mg/L)		0.000054	0.000095	0.000065	0.000077	<0.000050
	Silicon (Si)-Total (mg/L)		6.36	9.08	5.42	1.99	8.14
	Silver (Ag)-Total (mg/L)		0.000013	0.000104	0.000016	0.000961	<0.000010
	Sodium (Na)-Total (mg/L)		3.07	3.78	2.97	18.8	6.52
	Strontium (Sr)-Total (mg/L)		0.277	0.194	0.129	0.622	0.522
	Sulfur (S)-Total (mg/L)		12.7	45.0	27.9	243	292
	Thallium (Tl)-Total (mg/L)		<0.000010	0.000085	<0.000010	0.000236	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.0110	0.159	0.00093	<0.0012 ^{DLM}	<0.00030
	Uranium (U)-Total (mg/L)		0.000569	0.000444	0.000033	0.000926	<0.000010
	Vanadium (V)-Total (mg/L)		0.00111	0.0151	<0.00050	0.00051	<0.00050
	Zinc (Zn)-Total (mg/L)		0.0040	0.0239	0.0114	0.0600	4.60
	Zirconium (Zr)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0196	0.0121	0.0200	0.0052	0.178
	Antimony (Sb)-Dissolved (mg/L)		0.00022	0.00138	0.00191	0.0371	<0.00010
	Arsenic (As)-Dissolved (mg/L)		0.00102	0.00393	0.00553	0.0836	0.00050
	Barium (Ba)-Dissolved (mg/L)		0.0598	0.0478	0.0427	0.0114	0.00992
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	0.000041
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010	0.082	<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.0000248	0.0000213	0.0000874	0.000601	0.0135
	Calcium (Ca)-Dissolved (mg/L)		34.0	64.2	46.0	250	235
	Chromium (Cr)-Dissolved (mg/L)		0.00011	<0.00010	0.00014	<0.00010	0.00011
	Cobalt (Co)-Dissolved (mg/L)		<0.00010	0.00024	<0.00010	0.00030	<0.00010
	Copper (Cu)-Dissolved (mg/L)		0.00138	0.00132	0.00235	0.0159	0.00101
	Iron (Fe)-Dissolved (mg/L)		0.047	0.324	0.016	<0.010	0.030
	Lead (Pb)-Dissolved (mg/L)		<0.000050	<0.000050	0.000106	0.000536	<0.000050
	Lithium (Li)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010	0.0099	0.0020

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-11	L1660964-12	L1660964-13	L1660964-14	L1660964-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15
		Sampled Time	15:10	18:00	18:30	19:20	17:40
		Client ID	WQ-DC-B	WQ-DC-10	WQ-DC-11	WQ-DC-13	WQ-DC-8
Grouping	Analyte						
WATER							
Total Metals	Magnesium (Mg)-Total (mg/L)		51.5	59.2	34.0	10.7	78.7
	Manganese (Mn)-Total (mg/L)		0.496	1.39	0.237	0.00133	3.86
	Mercury (Hg)-Total (mg/L)		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Total (mg/L)		0.000338	0.000320	0.000243	<0.000050	0.000208
	Nickel (Ni)-Total (mg/L)		0.00221	0.00175	0.00076	0.00051	0.00095
	Phosphorus (P)-Total (mg/L)		0.061	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		2.07	3.46	3.54	3.59	3.34
	Selenium (Se)-Total (mg/L)		0.000154	<0.000050	<0.000050	0.000055	0.000079
	Silicon (Si)-Total (mg/L)		7.47	6.53	6.11	5.75	7.20
	Silver (Ag)-Total (mg/L)		0.000036	0.000030	0.000012	0.000013	<0.000010
	Sodium (Na)-Total (mg/L)		5.95	5.26	4.37	3.18	8.34
	Strontium (Sr)-Total (mg/L)		0.386	0.428	0.269	0.137	0.545
	Sulfur (S)-Total (mg/L)		122	142	81.6	30.1	198
	Thallium (Tl)-Total (mg/L)		0.000019	0.000087	0.000031	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.0498	0.00161	0.00294	0.00041	0.00249
	Uranium (U)-Total (mg/L)		0.00154	0.00356	0.00182	0.000037	0.000549
	Vanadium (V)-Total (mg/L)		0.00626	0.00058	0.00069	<0.00050	0.00074
	Zinc (Zn)-Total (mg/L)		0.0176	0.834	0.237	0.0115	0.168
	Zirconium (Zr)-Total (mg/L)		0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0662	0.0015	0.0058	0.0179	0.0049
	Antimony (Sb)-Dissolved (mg/L)		0.00142	0.0119	0.00954	0.00185	0.00277
	Arsenic (As)-Dissolved (mg/L)		0.00630	0.0497	0.00942	0.00562	0.0590
	Barium (Ba)-Dissolved (mg/L)		0.0466	0.0156	0.0202	0.0426	0.0514
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)		0.013	<0.010	<0.010	<0.010	0.059
	Cadmium (Cd)-Dissolved (mg/L)		0.0000216	0.000578	0.000763	0.0000819	0.000233
	Calcium (Ca)-Dissolved (mg/L)		129	193	117	46.2	224
	Chromium (Cr)-Dissolved (mg/L)		0.00020	<0.00010	<0.00010	0.00013	<0.00010
	Cobalt (Co)-Dissolved (mg/L)		0.00044	0.00094	0.00014	<0.00010	0.00093
	Copper (Cu)-Dissolved (mg/L)		0.00120	0.00030	0.00126	0.00238	0.00050
	Iron (Fe)-Dissolved (mg/L)		0.868	1.39	0.041	0.017	5.25
	Lead (Pb)-Dissolved (mg/L)		<0.000050	0.000056	<0.000050	0.000115	0.000064
	Lithium (Li)-Dissolved (mg/L)		0.0024	0.0095	0.0049	<0.0010	0.0041

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1660964-16 Water 19-AUG-15 17:15 WQ-DC-D1B	L1660964-17 Water 19-AUG-15 13:15 WQ-DC-U	L1660964-18 Water 19-AUG-15 14:15 WQ-SEEP	L1660964-19 Water 19-AUG-15 15:15 WQ-DC-B-R	L1660964-20 Water 20-AUG-15 08:00 WQ-DESS-01
Grouping	Analyte					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	83.5	49.0	52.9	52.4	53.2
	Manganese (Mn)-Total (mg/L)	1.29	1.25	6.44	0.534	0.117
	Mercury (Hg)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Molybdenum (Mo)-Total (mg/L)	0.000263	0.000408	0.00105	0.000330	<0.000050
	Nickel (Ni)-Total (mg/L)	0.00088	0.00216	0.00315	0.00241	0.00556
	Phosphorus (P)-Total (mg/L)	<0.050	0.052	<0.050	0.052	<0.050
	Potassium (K)-Total (mg/L)	3.60	2.52	6.11	2.06	0.27
	Selenium (Se)-Total (mg/L)	0.000067	0.000142	0.000179	0.000129	<0.000050
	Silicon (Si)-Total (mg/L)	6.10	7.07	7.25	7.44	8.47
	Silver (Ag)-Total (mg/L)	0.000012	0.000031	0.000028	0.000034	<0.000010
	Sodium (Na)-Total (mg/L)	7.11	10.2	38.1	6.47	4.88
	Strontium (Sr)-Total (mg/L)	0.510	0.431	0.775	0.397	0.336
	Sulfur (S)-Total (mg/L)	194	133	236	126	183
	Thallium (Tl)-Total (mg/L)	0.000026	0.000015	<0.000010	0.000018	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.0142	0.0410	<0.0018 ^{DLM}	0.0512	<0.0015 ^{DLM}
	Uranium (U)-Total (mg/L)	0.00228	0.00147	0.00172	0.00157	0.000011
	Vanadium (V)-Total (mg/L)	0.00161	0.00530	0.00228	0.00633	0.00054
	Zinc (Zn)-Total (mg/L)	0.127	0.0145	0.0196	0.0170	2.33
	Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030	0.00058	0.00032	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0061	0.0558	0.0102	0.0690	0.118
	Antimony (Sb)-Dissolved (mg/L)	0.00497	0.00110	0.00042	0.00139	0.00016
	Arsenic (As)-Dissolved (mg/L)	0.0159	0.0116	0.0604	0.00640	0.00051
	Barium (Ba)-Dissolved (mg/L)	0.0347	0.0478	0.0676	0.0477	0.0149
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	0.000030
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	0.035	0.018	0.052	0.014	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.0000908	0.0000193	0.000361	0.0000172	0.00490
	Calcium (Ca)-Dissolved (mg/L)	211	145	270	130	153
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00021	0.00039	0.00022	0.00019
	Cobalt (Co)-Dissolved (mg/L)	0.00045	0.00121	0.00839	0.00046	0.00030
	Copper (Cu)-Dissolved (mg/L)	0.00062	0.00132	0.00194	0.00128	0.00156
	Iron (Fe)-Dissolved (mg/L)	0.245	0.848	11.0	0.840	0.078
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0072	0.0021	<0.0010	0.0028	0.0017

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1660964-21 Water 20-AUG-15 08:05 WQ-DESS-01R	L1660964-22 Water 20-AUG-15 08:30 WQ-DESS-02	L1660964-23 Water 20-AUG-15 08:15 WQ-DESS-03	L1660964-24 Water 19-AUG-15 09:45 WQ-BC	L1660964-25 Water 20-AUG-15 07:25 WQ-PC-D
Grouping	Analyte					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	51.8	49.9	2.37	13.8	19.3
	Manganese (Mn)-Total (mg/L)	0.114	0.00774	0.00340	0.601	0.463
	Mercury (Hg)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Molybdenum (Mo)-Total (mg/L)	<0.000050	0.00015	<0.000050	0.00128	0.000102
	Nickel (Ni)-Total (mg/L)	0.00567	<0.0010 ^{DLA}	0.00088	0.00547	0.00400
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	0.107	<0.050
	Potassium (K)-Total (mg/L)	0.28	0.48	0.51	2.42	1.31
	Selenium (Se)-Total (mg/L)	<0.000050	<0.00010 ^{DLA}	0.000059	0.000085	0.000058
	Silicon (Si)-Total (mg/L)	8.13	5.42	9.49	16.2	8.64
	Silver (Ag)-Total (mg/L)	<0.000010	<0.000020 ^{DLA}	<0.000010	0.000271	0.000122
	Sodium (Na)-Total (mg/L)	4.77	8.29	2.39	4.71	4.48
	Strontium (Sr)-Total (mg/L)	0.331	0.589	0.0550	0.364	0.543
	Sulfur (S)-Total (mg/L)	179	274	7.97	25.6	79.5
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000020 ^{DLA}	<0.000010	0.000135	0.000037
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00020 ^{DLA}	<0.00010	0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.00231	<0.0015 ^{DLM}	0.00073	0.162	0.0280
	Uranium (U)-Total (mg/L)	0.000011	0.00142	0.000021	0.00202	0.000350
	Vanadium (V)-Total (mg/L)	0.00062	<0.0010 ^{DLA}	0.00056	0.0145	0.00289
	Zinc (Zn)-Total (mg/L)	2.34	<0.0060 ^{DLA}	0.0050	0.0630	1.96
	Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00060 ^{DLA}	0.00049	0.00097	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.120	0.0127	0.176	0.0131	0.0391
	Antimony (Sb)-Dissolved (mg/L)	0.00015	0.00025	0.00029	0.00021	0.00895
	Arsenic (As)-Dissolved (mg/L)	0.00051	0.00215	0.00083	0.00173	0.00409
	Barium (Ba)-Dissolved (mg/L)	0.0149	0.0185	0.0431	0.0578	0.0475
	Beryllium (Be)-Dissolved (mg/L)	0.000032	<0.000040 ^{DLA}	<0.000020	<0.000020	0.000023
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.00010 ^{DLA}	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.020 ^{DLA}	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.00480	0.000059	0.0000416	0.000107	0.0116
	Calcium (Ca)-Dissolved (mg/L)	152	335	11.3	52.0	86.4
	Chromium (Cr)-Dissolved (mg/L)	0.00013	<0.00020 ^{DLA}	0.00029	0.00010	0.00017
	Cobalt (Co)-Dissolved (mg/L)	0.00024	<0.00020 ^{DLA}	<0.00010	0.00020	0.00041
	Copper (Cu)-Dissolved (mg/L)	0.00155	0.00067	0.00252	0.00130	0.0409
	Iron (Fe)-Dissolved (mg/L)	0.075	<0.010	0.080	0.024	0.049
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.00010 ^{DLA}	<0.000050	0.000074	0.00220
	Lithium (Li)-Dissolved (mg/L)	0.0015	<0.0020 ^{DLA}	<0.0010	0.0016	0.0029

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-26	L1660964-27	L1660964-28	L1660964-29	L1660964-30
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	19-AUG-15		20-AUG-15
		Sampled Time	08:25	08:45	11:15		10:00
		Client ID	WQ-VC-DBC	WQ-VCU	FIELD BLANK	TRAVEL BLANK	WQ-MS-S-03
Grouping	Analyte						
WATER							
Total Metals	Magnesium (Mg)-Total (mg/L)		8.23	7.36	<0.10	<0.10	62.8
	Manganese (Mn)-Total (mg/L)		0.0973	0.0263	<0.00010	<0.00010	1.45
	Mercury (Hg)-Total (mg/L)		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Total (mg/L)		0.000500	0.000403	<0.000050	<0.000050	0.000382
	Nickel (Ni)-Total (mg/L)		0.00080	<0.00050	<0.00050	<0.00050	0.00212
	Phosphorus (P)-Total (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)		0.75	0.50	<0.10	<0.10	3.42
	Selenium (Se)-Total (mg/L)		0.000051	<0.000050	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Total (mg/L)		6.85	5.82	<0.050	<0.050	6.35
	Silver (Ag)-Total (mg/L)		0.000028	<0.000010	<0.000010	<0.000010	0.000026
	Sodium (Na)-Total (mg/L)		2.82	2.47	<0.050	<0.050	5.35
	Strontium (Sr)-Total (mg/L)		0.270	0.258	<0.00020	<0.00020	0.441
	Sulfur (S)-Total (mg/L)		8.68	5.89	<0.50	<0.50	152
	Thallium (Tl)-Total (mg/L)		0.000016	<0.000010	<0.000010	<0.000010	0.000104
	Tin (Sn)-Total (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)		0.0182	0.00119	<0.00030	<0.00030	0.00187
	Uranium (U)-Total (mg/L)		0.000653	0.000455	<0.000010	<0.000010	0.00411
	Vanadium (V)-Total (mg/L)		0.00170	0.00051	<0.00050	<0.00050	0.00059
	Zinc (Zn)-Total (mg/L)		0.0074	<0.0030	<0.0030	<0.0030	1.02
	Zirconium (Zr)-Total (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD		FIELD
	Dissolved Metals Filtration Location		FIELD	FIELD	FIELD		FIELD
	Aluminum (Al)-Dissolved (mg/L)		0.0223	0.0249	<0.0010		0.0011
	Antimony (Sb)-Dissolved (mg/L)		0.00012	0.00010	<0.00010		0.0143
	Arsenic (As)-Dissolved (mg/L)		0.00057	0.00037	<0.00010		0.0929
	Barium (Ba)-Dissolved (mg/L)		0.0602	0.0622	<0.000050		0.0136
	Beryllium (Be)-Dissolved (mg/L)		<0.000020	<0.000020	<0.000020		<0.000020
	Bismuth (Bi)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050		<0.000050
	Boron (B)-Dissolved (mg/L)		<0.010	<0.010	<0.010		<0.010
	Cadmium (Cd)-Dissolved (mg/L)		0.0000316	0.0000145	<0.0000050		0.000495
	Calcium (Ca)-Dissolved (mg/L)		30.8	24.3	<0.050		205
	Chromium (Cr)-Dissolved (mg/L)		0.00010	0.00012	<0.00010		<0.00010
	Cobalt (Co)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010		0.00113
	Copper (Cu)-Dissolved (mg/L)		0.00138	0.00145	<0.00020		<0.00020
	Iron (Fe)-Dissolved (mg/L)		0.052	0.057	<0.010		1.62
	Lead (Pb)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050		0.000124
	Lithium (Li)-Dissolved (mg/L)		<0.0010	<0.0010	<0.0010		0.0104

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1660964-31			
Grouping	Analyte				
WATER					
Total Metals	Magnesium (Mg)-Total (mg/L)	17.3			
	Manganese (Mn)-Total (mg/L)	1.02			
	Mercury (Hg)-Total (mg/L)	<0.0000050			
	Molybdenum (Mo)-Total (mg/L)	0.00130			
	Nickel (Ni)-Total (mg/L)	0.0241			
	Phosphorus (P)-Total (mg/L)	1.34			
	Potassium (K)-Total (mg/L)	2.81			
	Selenium (Se)-Total (mg/L)	0.000598			
	Silicon (Si)-Total (mg/L)	37.5			
	Silver (Ag)-Total (mg/L)	0.00244			
	Sodium (Na)-Total (mg/L)	5.40			
	Strontium (Sr)-Total (mg/L)	0.435			
	Sulfur (S)-Total (mg/L)	34.6			
	Thallium (Tl)-Total (mg/L)	0.000384			
	Tin (Sn)-Total (mg/L)	0.00018			
	Titanium (Ti)-Total (mg/L)	0.431			
	Uranium (U)-Total (mg/L)	0.00581			
	Vanadium (V)-Total (mg/L)	0.0830			
	Zinc (Zn)-Total (mg/L)	0.380			
	Zirconium (Zr)-Total (mg/L)	0.00135			
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD			
	Dissolved Metals Filtration Location	FIELD			
	Aluminum (Al)-Dissolved (mg/L)	0.0285			
	Antimony (Sb)-Dissolved (mg/L)	0.00175			
	Arsenic (As)-Dissolved (mg/L)	0.0106			
	Barium (Ba)-Dissolved (mg/L)	0.0539			
	Beryllium (Be)-Dissolved (mg/L)	<0.000020			
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050			
	Boron (B)-Dissolved (mg/L)	<0.010			
	Cadmium (Cd)-Dissolved (mg/L)	0.0000382			
	Calcium (Ca)-Dissolved (mg/L)	49.6			
	Chromium (Cr)-Dissolved (mg/L)	0.00019			
	Cobalt (Co)-Dissolved (mg/L)	0.00069			
	Copper (Cu)-Dissolved (mg/L)	0.00091			
	Iron (Fe)-Dissolved (mg/L)	0.591			
	Lead (Pb)-Dissolved (mg/L)	0.00125			
	Lithium (Li)-Dissolved (mg/L)	<0.0010			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-1	L1660964-2	L1660964-3	L1660964-4	L1660964-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	18-AUG-15	18-AUG-15	18-AUG-15
		Sampled Time	18:45	19:00	13:57	17:40	13:57
		Client ID	WQ-DC-12	WQ-DC-DX+105	WQ-VC-R	WQ-DC-R	WQ-VC-RR
Grouping	Analyte						
WATER							
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)		37.0	36.3	9.24	46.5	8.97
	Manganese (Mn)-Dissolved (mg/L)		0.638	0.681	0.0382	0.753	0.0377
	Mercury (Hg)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.000220	0.000221	0.000408	0.000312	0.000414
	Nickel (Ni)-Dissolved (mg/L)		0.00096	0.00093	0.00053	0.00106	0.00050
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		3.58	3.46	0.69	2.44	0.66
	Selenium (Se)-Dissolved (mg/L)		0.000053	<0.000050	<0.000050	0.000093	0.000068
	Silicon (Si)-Dissolved (mg/L)		6.21	6.09	6.20	6.22	6.01
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		4.26	4.26	3.01	10.4	3.01
	Strontium (Sr)-Dissolved (mg/L)		0.273	0.276	0.257	0.408	0.255
	Sulfur (S)-Dissolved (mg/L)		84.5	84.2	12.0	124	11.9
	Thallium (Tl)-Dissolved (mg/L)		0.000040	0.000043	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00090 ^{DLM}	<0.00030
	Uranium (U)-Dissolved (mg/L)		0.00214	0.00217	0.000526	0.00108	0.000527
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.292	0.301	0.0011	0.0087	0.0020
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1660964-6	L1660964-7	L1660964-8	L1660964-9	L1660964-10
		Water	Water	Water	Water	Water
		18-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15
		14:45	19:50	19:30	14:40	16:30
		WQ-VC-UMN	WQ-DC-DX	WQ-DC-14	WQ-TP	WQ-CH-P-13-01
Grouping	Analyte					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	9.97	15.8	10.5	48.1	92.4
	Manganese (Mn)-Dissolved (mg/L)	0.0322	0.104	0.00203	0.0760	0.636
	Mercury (Hg)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.000432	<0.000050	<0.000050	0.00155	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	0.00896
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	0.71	4.69	3.50	16.3	0.36
	Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000053	0.000062	0.000053	<0.000050
	Silicon (Si)-Dissolved (mg/L)	6.03	4.78	5.62	1.96	8.47
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	0.000035	<0.000010
	Sodium (Na)-Dissolved (mg/L)	3.17	3.96	3.07	19.3	6.66
	Strontium (Sr)-Dissolved (mg/L)	0.277	0.197	0.134	0.645	0.524
	Sulfur (S)-Dissolved (mg/L)	12.9	46.9	28.7	252	298
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	0.000232	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Uranium (U)-Dissolved (mg/L)	0.000554	0.000106	0.000033	0.000918	<0.000010
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.0015	0.0010	0.0106	0.0249	4.79
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-11	L1660964-12	L1660964-13	L1660964-14	L1660964-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15
		Sampled Time	15:10	18:00	18:30	19:20	17:40
		Client ID	WQ-DC-B	WQ-DC-10	WQ-DC-11	WQ-DC-13	WQ-DC-8
Grouping	Analyte						
WATER							
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)		54.6	60.2	34.4	10.6	83.1
	Manganese (Mn)-Dissolved (mg/L)		0.475	1.36	0.177	0.00099	3.92
	Mercury (Hg)-Dissolved (mg/L)		<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.000274	0.000306	0.000239	<0.000050	0.000213
	Nickel (Ni)-Dissolved (mg/L)		0.00090	0.00167	0.00067	<0.00050	0.00093
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		2.00	3.39	3.52	3.50	3.54
	Selenium (Se)-Dissolved (mg/L)		0.000095	<0.000050	0.000058	0.000069	0.000095
	Silicon (Si)-Dissolved (mg/L)		6.34	6.45	6.09	5.68	7.47
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		6.16	5.19	4.32	3.05	8.38
	Strontium (Sr)-Dissolved (mg/L)		0.401	0.426	0.271	0.134	0.571
	Sulfur (S)-Dissolved (mg/L)		129	140	83.3	29.8	205
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	0.000075	0.000027	<0.000010	0.000014
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		0.00083	<0.00030	<0.00030	<0.00030	<0.00030
	Uranium (U)-Dissolved (mg/L)		0.00141	0.00348	0.00181	0.000034	0.000559
	Vanadium (V)-Dissolved (mg/L)		0.00051	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0047	0.793	0.227	0.0105	0.162
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-16	L1660964-17	L1660964-18	L1660964-19	L1660964-20
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	19-AUG-15	19-AUG-15	20-AUG-15
		Sampled Time	17:15	13:15	14:15	15:15	08:00
		Client ID	WQ-DC-D1B	WQ-DC-U	WQ-SEEP	WQ-DC-B-R	WQ-DESS-01
Grouping	Analyte						
WATER							
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)		84.0	51.8	52.6	53.6	53.4
	Manganese (Mn)-Dissolved (mg/L)		1.37	1.20	6.36	0.498	0.132
	Mercury (Hg)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.000243	0.000369	0.000980	0.000273	<0.000050
	Nickel (Ni)-Dissolved (mg/L)		0.00066	0.00100	0.00312	0.00090	0.00577
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		3.79	2.47	6.13	1.96	0.27
	Selenium (Se)-Dissolved (mg/L)		0.000054	0.000078	0.000213	0.000068	0.000050
	Silicon (Si)-Dissolved (mg/L)		5.92	6.16	7.23	6.35	8.57
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)		7.79	10.4	37.9	6.53	4.99
	Strontium (Sr)-Dissolved (mg/L)		0.529	0.445	0.765	0.399	0.341
	Sulfur (S)-Dissolved (mg/L)		197	138	233	130	188
	Thallium (Tl)-Dissolved (mg/L)		0.000018	<0.000010	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.0012 ^{DLM}	<0.0012 ^{DLM}	<0.0012 ^{DLM}	<0.00030
	Uranium (U)-Dissolved (mg/L)		0.00232	0.00136	0.00169	0.00145	<0.000010
	Vanadium (V)-Dissolved (mg/L)		<0.00050	0.00060	0.00177	0.00054	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.104	0.0031	0.0187	0.0046	2.45
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	0.00058	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-21	L1660964-22	L1660964-23	L1660964-24	L1660964-25
		Description	Water	Water	Water	Water	Water
		Sampled Date	20-AUG-15	20-AUG-15	20-AUG-15	19-AUG-15	20-AUG-15
		Sampled Time	08:05	08:30	08:15	09:45	07:25
		Client ID	WQ-DESS-01R	WQ-DESS-02	WQ-DESS-03	WQ-BC	WQ-PC-D
Grouping	Analyte						
WATER							
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)		53.5	51.8	2.47	11.9	17.4
	Manganese (Mn)-Dissolved (mg/L)		0.114	0.00504	0.00314	0.335	0.340
	Mercury (Hg)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Molybdenum (Mo)-Dissolved (mg/L)		<0.000050	0.00015	<0.000050	0.00109	<0.000050
	Nickel (Ni)-Dissolved (mg/L)		0.00576	<0.0010 ^{DLA}	0.00088	0.00051	0.00251
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)		0.26	0.52	0.54	0.91	1.11
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.00010 ^{DLA}	<0.000050	0.000058	0.000071
	Silicon (Si)-Dissolved (mg/L)		8.54	5.65	9.83	6.37	7.52
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000020 ^{DLA}	<0.000010	<0.000010	0.000022
	Sodium (Na)-Dissolved (mg/L)		5.02	8.54	2.41	3.97	4.18
	Strontium (Sr)-Dissolved (mg/L)		0.338	0.603	0.0553	0.323	0.514
	Sulfur (S)-Dissolved (mg/L)		188	281	8.15	24.4	72.6
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	<0.000020 ^{DLA}	<0.000010	<0.000010	0.000016
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		0.00031	<0.00060 ^{DLA}	0.00053	0.00043	<0.00090 ^{DLM}
	Uranium (U)-Dissolved (mg/L)		<0.000010	0.00144	0.000021	0.00164	0.000185
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.0010 ^{DLA}	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		2.43	0.0025	0.0051	0.0021	1.57
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00060 ^{DLA}	0.00055	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1660964-26	L1660964-27	L1660964-28	L1660964-29	L1660964-30
		Description	Water	Water	Water	Water	Water
		Sampled Date	19-AUG-15	19-AUG-15	19-AUG-15		20-AUG-15
		Sampled Time	08:25	08:45	11:15		10:00
		Client ID	WQ-VC-DBC	WQ-VCU	FIELD BLANK	TRAVEL BLANK	WQ-MS-S-03
Grouping	Analyte						
WATER							
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)		8.33	7.52	<0.10		61.6
	Manganese (Mn)-Dissolved (mg/L)		0.0696	0.0222	<0.00010		1.45
	Mercury (Hg)-Dissolved (mg/L)		<0.0000050	<0.0000050	<0.0000050		<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)		0.000489	0.000405	<0.000050		0.000349
	Nickel (Ni)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050		0.00202
	Phosphorus (P)-Dissolved (mg/L)		<0.050	<0.050	<0.050		<0.050
	Potassium (K)-Dissolved (mg/L)		0.58	0.53	<0.10		3.41
	Selenium (Se)-Dissolved (mg/L)		<0.000050	<0.000050	<0.000050		<0.000050
	Silicon (Si)-Dissolved (mg/L)		6.11	5.95	<0.050		6.31
	Silver (Ag)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010		<0.000010
	Sodium (Na)-Dissolved (mg/L)		2.74	2.57	<0.050		5.34
	Strontium (Sr)-Dissolved (mg/L)		0.274	0.260	<0.00020		0.438
	Sulfur (S)-Dissolved (mg/L)		8.66	6.06	<0.50		152
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010		0.000085
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010		<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030		<0.00030
	Uranium (U)-Dissolved (mg/L)		0.000606	0.000448	<0.000010		0.00406
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050		<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0013	0.0010	<0.0010		0.987
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030		<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1660964-31	Water	20-AUG-15	10:20	WQ-PC-U
Grouping	Analyte					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	10.3				
	Manganese (Mn)-Dissolved (mg/L)	0.344				
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050				
	Molybdenum (Mo)-Dissolved (mg/L)	0.000429				
	Nickel (Ni)-Dissolved (mg/L)	0.00073				
	Phosphorus (P)-Dissolved (mg/L)	<0.050				
	Potassium (K)-Dissolved (mg/L)	0.88				
	Selenium (Se)-Dissolved (mg/L)	0.000054				
	Silicon (Si)-Dissolved (mg/L)	6.86				
	Silver (Ag)-Dissolved (mg/L)	0.000013				
	Sodium (Na)-Dissolved (mg/L)	4.45				
	Strontium (Sr)-Dissolved (mg/L)	0.268				
	Sulfur (S)-Dissolved (mg/L)	32.8				
	Thallium (Tl)-Dissolved (mg/L)	<0.000010				
	Tin (Sn)-Dissolved (mg/L)	<0.00010				
	Titanium (Ti)-Dissolved (mg/L)	0.00089				
	Uranium (U)-Dissolved (mg/L)	0.000352				
	Vanadium (V)-Dissolved (mg/L)	0.00183				
	Zinc (Zn)-Dissolved (mg/L)	0.0066				
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Conductivity	B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Antimony (Sb)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Arsenic (As)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Chromium (Cr)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Lead (Pb)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Molybdenum (Mo)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Selenium (Se)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Tin (Sn)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Vanadium (V)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Aluminum (Al)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Boron (B)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Chromium (Cr)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Lead (Pb)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Silver (Ag)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Thallium (Tl)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Tin (Sn)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Cyanate	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19,

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
			-2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Chromium (Cr)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Lead (Pb)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Tin (Sn)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Vanadium (V)-Dissolved	DLA	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Duplicate	Cyanate	DLA	L1660964-16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31
Duplicate	Cadmium (Cd)-Dissolved	DLM	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Lithium (Li)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1660964-1, -2, -3, -4, -5
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Molybdenum (Mo)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Boron (B)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Boron (B)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19,

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	-2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9 L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1660964-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -3, -30, -31, -4, -5, -6, -7, -8, -9
Matrix Spike	Ammonia, Total (as N)	MS-B	L1660964-18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -30

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity
This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.			
BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)
Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
CL-IC-N-WR	Water	Chloride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
CN-CNO-WT	Water	Cyanate	APHA 4500-CN-L
This analysis is carried out using procedures adapted from APHA method 4500-CN "Cyanide". Cyanate is determined by the Cyanate hydrolysis method using an ammonia selective electrode			
CN-SCN-VA	Water	Thiocyanate by Colour	APHA 4500-CN CYANIDE
This analysis is carried out using procedures adapted from APHA Method 4500-CN- M "Thiocyanate" Thiocyanate is determined by the ferric nitrate colourimetric method.			
CN-T-CFA-VA	Water	Total Cyanide in water by CFA	ISO 14403:2002
This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.			
CN-WAD-CFA-VA	Water	Weak Acid Diss. Cyanide in water by CFA	APHA 4500-CN CYANIDE
This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.			
EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.
This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.			
F-IC-N-WR	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Reference Information

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA Water Hardness APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA Water Diss. Mercury in Water by CVAAS or CVAFS APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA Water Total Mercury in Water by CVAAS or CVAFS EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA Water Ion Balance Calculation APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-DIS-LOW-ICP-VA Water Dissolved Metals in Water by ICPOES EPA 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MET-T-CCMS-VA Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-TOT-LOW-ICP-VA Water Total Metals in Water by ICPOES EPA 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

NH3-F-VA Water Ammonia in Water by Fluorescence APHA 4500 NH3-NITROGEN (AMMONIA)

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NH3-F-VA Water Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-L-IC-N-WR Water Nitrite in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-WR Water Nitrate in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H "pH Value"

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

Reference Information

PH-PCT-VA Water pH by Meter (Automated) APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

S-DIS-ICP-VA Water Dissolved Sulfur in Water by ICPOES EPA SW-846 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method will not give total sulfur results for all samples. Sulfide or other volatile forms of sulfur that may be present in submitted samples, is often lost during the sampling, preservation and analysis process. The data reported as total and/or dissolved sulfur represents all non-volatile forms of sulfur present in a particular sample.

S-TOT-ICP-VA Water Total Sulfur in Water by ICPOES EPA SW-846 3005A/6010B

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method will not give total sulfur results for all samples. Sulfide or other volatile forms of sulfur that may be present in submitted samples, is often lost during the sampling, preservation and analysis process. The data reported as total and/or dissolved sulfur represents all non-volatile forms of sulfur present in a particular sample.

SO4-IC-N-WR Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-CALC-VA Water TDS (Calculated) APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".

TSS-MAN-WR Water Total Suspended Solids by Gravimetric APHA 2540 D

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids are determined by filtering a sample through a glass fibre filter and drying the filter at 104 degrees celsius.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

1	2	3	4	5
6				

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

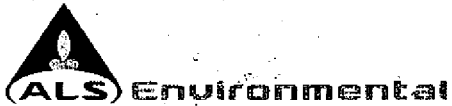
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1660964-COFC

COC Number: 14 -

Page 1 of

Report To			Report Format / Distribution				Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)										
Company: EDI			Select Report Format: <input type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)				R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)										
Contact: Meghan Marjanovic			Quality Control (QC) Report with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT										
Address: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8			<input type="checkbox"/> Criteria on Report - provide details below if box checked				E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT										
Phone: 867-393-4882.			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge										
			Email 1 or Fax: mmarjanovic@edynamics.com				Specify Date Required for E2,E or P: <u> </u>										
			Email 2: Emilie.Hamm@gov.yk.ca														
			Email 3: erik.plt@gov.yk.ca														
Invoice To			Invoice Distribution				Analysis Request										
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below										
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Email 1 or Fax: slenner@edynamics.com														
Company: EDI			Email 2: mmarjanovic@edynamics.com														
Contact: S Jenner																	
Project Information			Oil and Gas Required Fields (client use)														
ALS Quote #: Q49310			Approver ID:		Cost Center:												
Job #: MOUNT NANSEN 15-Y-0146			GL Account:		Routing Code:												
PO / AFE:			Activity Code:														
LSD:			Location:														
ALS Lab Work Order # (lab use only)			ALS Contact: Sean Slugget		Sampler: SD, DH, DS												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	ALK-PCT-VA	ANIONS-ALL-IC-WR	CN-WAD-CFA-VA	CN-CNO-WT	CN-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA	TDS-CALC-VA	Number of Containers
	WQ-DC-12			19 - Aug -15	18:45	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-WQ-DC-DX+105			19 - Aug -15	19:00	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-VC-R			18 - Aug -15	13:57	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-R			18 - Aug -15	17:40	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-VC-Rr			18 - Aug -15	13:57	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-VC-UMN			18 - Aug -15	14:45	Water	R	R	R	R	R	R	R	R	R	R	9
				- Aug -15		Water	R	R	R	R	R	R	R	R	R	R	9
Drinking Water (DW) Samples¹ (client use)			Special Instructions / Specify Criteria to add on report (client Use)				SAMPLE CONDITION AS RECEIVED (lab use only)										
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>										
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>										
							Cooling Initiated <input type="checkbox"/>										
							INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C					
							0.1 2.1 3.2, 3.5 0.8, 0.9					3.5					
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)										
Released by: <u>Scott Dilling</u>			Date: <u>20 Aug 2015</u>		Time: <u>09:24</u>		Received by: <u>Sluyons</u>		Date: <u>20 Aug 15</u>		Time: <u>1:50</u>						

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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HA-FM-03264-v09-Fmt04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1660964-COFC

COC Number: 14 -

Page 2 of

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Report To		Report Format / Distribution			Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)												
Company: EDI		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm -- business days)												
Contact: Meghan Marjanovic		Quality Control (QC) Report with Report <input type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT												
Address: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8		<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT												
Phone: 867-393-4882		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge												
		Email 1 or Fax: mmarjanovic@edynamics.com			Specify Date Required for E2, E or P:												
		Email 2: emilie.hamm@gov.yk.ca															
		Email 3: erik.plt@gov.yk.ca															
Invoice To		Invoice Distribution			Analysis Request												
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Email 1 or Fax: sjenner@edynamics.com															
Company: EDI		Email 2: mmarjanovic@edynamics.com															
Contact: S Jenner																	
Project Information		Oil and Gas Required Fields (client use)															
ALS Quote #: Q49310		Approver ID:	Cost Center:														
Job #: MOUNT NANSEN 15-Y-0146		GL Account:	Routing Code:														
PO / AFE:		Activity Code:															
LSD:		Location:															
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Slugget	Sampler: SD, DH, DS														
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	WQ-DC-DX			19-Aug-15	19:50	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-14			19-Aug-15	19:30	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-TP			19-Aug-15	14:40	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-CH-P-13-01			19-Aug-15	16:30	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-B			19-Aug-15	15:10	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-10			19-Aug-15	18:00	Water	R	R	R	R	R	R	R	R	R	R	9
				- Aug -15		Water	R	R	R	R	R	R	R	R	R	R	9
Drinking Water (DW) Samples ¹ (client use)		Special Instructions / Specify Criteria to add on report (client Use)			SAMPLE CONDITION AS RECEIVED (lab use only)												
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>												
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>												
					Cooling Initiated <input type="checkbox"/>												
					INITIAL COOLER TEMPERATURES °C: 0.1												
					FINAL COOLER TEMPERATURES °C:												
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)												
Released by: <i>Scott Slyons</i>	Date: 20 Aug 2015	Time: 09:20	Received by: <i>Slyons</i>	Date: 20 Aug 15	Time: 15:00	Received by: _____ Date: _____ Time: _____											

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ALS Form 03/2004-09/2004 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1660964-COFC

COC Number: 14 -

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Report To		Report Format / Distribution			Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)												
Company: EDI		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)												
Contact: Meghan Marjanovic		Quality Control (QC) Report with Report <input type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT												
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Whitehorse, YT Y1A 3T8		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge												
Phone: 867-393-4882		Email 1 or Fax: mmarianovic@edynamics.com			Specify Date Required for E2, E or P:												
		Email 2: Emilie.Hamm@gov.yk.ca															
		Email 3: erik.pit@gov.yk.ca															
Invoice To		Invoice Distribution			Analysis Request												
Same as Report To <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Email 1 or Fax: slenner@edynamics.com															
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Contact: S Jenner																	
Project Information		Oil and Gas Required Fields (client use)															
ALS Quote #: Q49310		Approver ID:		Cost Center:													
Job #: MOUNT NANSEN 15-Y-0146		GL Account:		Routing Code:													
PO / AFE:		Activity Code:															
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	WQ-DC-11			19 - Aug -15	1830	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-13			19 - Aug -15	1920	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-8			19 - Aug -15	17:40	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-D2b			19 - Aug -15	17:15	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-DC-U			19 - Aug -15	13:15	Water	R	R	R	R	R	R	R	R	R	R	9
	WQ-SEEP			19 - Aug -15	14:15	Water	R	R	R	R	R	R	R	R	R	R	9
				- Aug -15		Water	R	R	R	R	R	R	R	R	R	R	9
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report (client Use)			SAMPLE CONDITION AS RECEIVED (lab use only)												
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					Cooling Initiated <input type="checkbox"/>												
					INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C							
					32												
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by: SCOTT DILLING	Date: 20-Aug-2015	Time: 0915	Received by: SLUGGET	Date: 20Aug15	Time: 1500	Received by:	Date:	Time:									

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NA-FW-03256 v05 F100104 January 2014

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L1660964-COFC

Report To: Company: EDI Contact: Meghan, Marjanovic Address: 2195 - 2nd Avenue Whitehorse, YT Y1A 3T8 Phone: 867-393-4882		Report Format / Distribution Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) Quality Control (QC) Report with Report <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Criteria on Report - provide details below if box checked Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: <u>mmarjanovic@edynamics.com</u> Email 2: <u>Emilie.Hamm@gov.yk.ca</u> Email 3: <u>erik.pit@gov.yk.ca</u>		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days) P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge Specify Date Required for E2,E or P:																																																																								
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Copy of Invoice with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Company: EDI Contact: S Jenner		Invoice Distribution Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: <u>sjenner@edynamics.com</u> Email 2: <u>mmarjanovic@edynamics.com</u>		Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																								
Project Information ALS Quote #: Q49310 Job #: MOUNT NANSEN 15-Y-0146 PO / AFE: LSD:		Oil and Gas Required Fields (client use) Approver ID: GL Account: Activity Code: Location:		<table border="1"> <tr> <td></td><td></td><td>P</td><td>P</td><td>P</td><td>P</td><td>P</td><td>F/P</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>ALK-PCT-VA</td><td>EC-PCT-VA</td><td>PH-PCT-VA</td><td>ANIONS-ALL-IC-WR</td><td>TSS-MAN-WR</td><td>CN-WAD-CFA-VA</td><td>CN-T-CFA-VA</td><td>CN-CNO-WT</td><td>CN-SON-VA</td><td>NH3-F-VA</td><td>MET-T-BCMDG-VA</td><td>MET-D-BCMDG-VA</td><td>IONBALANC-VA</td><td>TDS-CALC-VA</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>												P	P	P	P	P	F/P														ALK-PCT-VA	EC-PCT-VA	PH-PCT-VA	ANIONS-ALL-IC-WR	TSS-MAN-WR	CN-WAD-CFA-VA	CN-T-CFA-VA	CN-CNO-WT	CN-SON-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA	TDS-CALC-VA																												
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	WQ-DESS-01	20-Aug-15	0800	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9																																																						
	WQ-DESS-01r	20-Aug-15	0805	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9																																																						
	WQ-DESS-02	20-Aug-15	0830	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9																																																						
	WQ-DESS-03	20-Aug-15	0815	Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9																																																						
		Aug-15		Water	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	9																																																						
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ENVIRONMENTAL DYNAMICS INC.
ATTN: Meghan Marjanovic
2195 - 2nd Ave
Whitehorse YT Y1A 3A2

Date Received: 20-AUG-15
Report Date: 28-AUG-15 10:31 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1660958
Project P.O. #: NOT SUBMITTED
Job Reference: MOUNT NANSEN 15-Y-0146
C of C Numbers: 1
Legal Site Desc:

Can Dang
Senior Account Manager

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ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1660958-1	Water	19-AUG-15	11:30	H-PW
Grouping	Analyte					
WATER						
Physical Tests	Colour, True (CU)	<5.0				
	Conductivity (uS/cm)	339				
	Hardness (as CaCO3) (mg/L)	187				
	pH (pH)	7.72				
	Total Dissolved Solids (mg/L)	198				
	Turbidity (NTU)	0.20				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	164				
	Chloride (Cl) (mg/L)	<0.50				
	Fluoride (F) (mg/L)	0.101				
	Nitrate (as N) (mg/L)	0.131				
	Nitrite (as N) (mg/L)	<0.0010				
	Sulfate (SO4) (mg/L)	30.2				
	Anion Sum (meq/L)	3.92				
	Cation Sum (meq/L)	3.97				
	Cation - Anion Balance (%)	0.5				
Total Metals	Aluminum (Al)-Total (mg/L)	<0.010				
	Antimony (Sb)-Total (mg/L)	<0.00050				
	Arsenic (As)-Total (mg/L)	0.00047				
	Barium (Ba)-Total (mg/L)	0.081				
	Boron (B)-Total (mg/L)	<0.10				
	Cadmium (Cd)-Total (mg/L)	<0.00020				
	Calcium (Ca)-Total (mg/L)	43.6				
	Chromium (Cr)-Total (mg/L)	<0.0020				
	Copper (Cu)-Total (mg/L)	<0.0010				
	Iron (Fe)-Total (mg/L)	<0.030				
	Lead (Pb)-Total (mg/L)	0.00057				
	Magnesium (Mg)-Total (mg/L)	18.9				
	Manganese (Mn)-Total (mg/L)	<0.0020				
	Mercury (Hg)-Total (mg/L)	<0.00020				
	Potassium (K)-Total (mg/L)	0.92				
	Selenium (Se)-Total (mg/L)	<0.0010				
	Sodium (Na)-Total (mg/L)	4.8				
	Uranium (U)-Total (mg/L)	0.00160				
	Zinc (Zn)-Total (mg/L)	<0.050				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Cadmium (Cd)-Total	DLM	L1660958-1
Matrix Spike	Sulfate (SO4)	MS-B	L1660958-1
Matrix Spike	Aluminum (Al)-Total	MS-B	L1660958-1

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	EPA 310.2
This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.			
CL-IC-N-WR	Water	Chloride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
COLOUR-TRUE-VA	Water	Colour (True) by Spectrometer	BCMOE Colour Single Wavelength
This analysis is carried out using procedures adapted from British Columbia Environmental Manual "Colour- Single Wavelength." Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method.			
Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment. Concurrent measurement of sample pH is recommended.			
EC-MAN-WR	Water	Conductivity by Meter	APHA 2510 (B)
This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using an electrode.			
F-IC-N-WR	Water	Fluoride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
HG-TOT-CVAFS-VA	Water	Total Hg in Water by CVAFS LOR=50ppt	EPA 1631E (mod)
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA Method 245.7).			
IONBALANCE-VA	Water	Ion Balance Calculation	APHA 1030E
Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.			
Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:			
Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]			
MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
MET-TOT-ICP-VA	Water	Total Metals in Water by ICPOES	EPA SW-846 3005A/6010B
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).			
NO2-L-IC-N-WR	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)

Reference Information

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-WR Water Nitrate in Water by IC (Low Level) EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

PH-MAN-WR Water pH by Meter APHA 4500-H (B)

"This analysis is carried out using procedures adapted from APHA Method 4500-H ""pH Value"". The pH is determined in the laboratory using a pH electrode."

SO4-IC-N-WR Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TDS-CALC-VA Water TDS (Calculated) APHA 1030E (20TH EDITION)

This analysis is carried out using procedures adapted from APHA 1030E "Checking Correctness of Analyses".

TURBIDITY-VA Water Turbidity by Meter APHA 2130 "Turbidity"

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

TURBIDITY-VA Water Turbidity by Meter APHA 2130 Turbidity

This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

1

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Health and Social Services
Santé et Affaires sociales
Environmental Health Services
Service d'hygiène du milieu

**BACTERIOLOGICAL ANALYSIS OF DRINKING WATER
ANALYSE BACTÉRIOLOGIQUE DE L'EAU POTABLE**

#2 Hospital Road, Whitehorse, Yukon Y1A 3H8
phone : (867) 667-8391 fax : (867) 667-8322
Toll free: 1-800-661-0408 ext.8391

2 Hospital Road, Whitehorse (Yukon) Y1A 3H8
Tél. : 867-667-8391 Téléc. : 867-667-8322
Sans frais au Yukon : 1-800-661-0408, poste 8391

Contact Information • Coordonnées de la personne ressource

Contact Person / Personne ressource: **MEGHAN. M ARJANOVIC** Phone / Téléphone: **867-393-4882**
Mailing address / Adresse postale: **2195 2nd Ave Whitehorse, YT** Fax / Télécopieur: _____
Postal code / Code postal: **Y1A 3T8**

First Nation, Municipal or Business Name / Nom de la Première nation, de la municipalité ou de l'entreprise: _____
Agent: **EDI** Fax / Télécopieur: _____

Sampling Location • Lieu de la prise d'échantillon

Municipal Address / Adresse municipale: **MOUNT NANSEN** Subdivision / Lotissement: _____
Legal Description Lot / Désignation officielle Lot: _____ Quad / Quadrilatère: _____ Plan no. / Plan n°: _____
Other Information (e.g., Location, Business / Building Name) / Autres renseignements (ex.: emplacement, nom de l'entreprise, nom de l'édifice): _____

Sample Collection / Prélèvement de l'échantillon

Sample Collected By / Échantillon prélevé par: **DH (Dawn Hansen)** Date / Date: **15/08/20** Time / Heure: **1045** ^{am} / ^{pm}
YY/MM/DD • AA/MM/JJ

Sampling Site (e.g., kitchen tap) / Point d'échantillonnage (ex.: robinet de cuisine): **PUMPHOUSE WELL**
Is this a Resample from a Previous Test? / Est-ce un deuxième échantillon d'un test antérieur? Yes / Oui No / Non Previous Sample Number / Numéro de l'échantillon précédent: _____

Sample Supply / Source d'approvisionnement en eau

Public Supply / Municipal - par canalisation Bulk Water Distributor / Municipal - par camion Business / Privé - entreprise Private Residence / Privé - résidence

Sample Source / Provenance de l'échantillon

Dug Well / Puits creusé Driven Well / Puits tubulaire Drilled Well / Puits foré à la sondeuse Depth of Well / Profondeur du puits: _____
 Water Holding Tank / Réservoir d'eau Other (explain) / Autre (précisez): _____

Water Treatment / Traitement de l'eau

Is the Water Chlorinated? / L'eau contient-elle du chlore? Yes / Oui No / Non Free Available Chlorine / Chlore libre disponible: _____ ppm / mg/L

Other Treatment Systems (e.g., UV, softener, filter) / Autre dispositif de traitement (ex.: désinfection aux rayons UV, adoucisseur d'eau, filtre): _____

For Laboratory Use Only / À l'usage du laboratoire seulement

Receipt of Sample / Réception de l'échantillon Date / Date: **15-08-20** Time / Heure: **335** ^{am} / ^{pm} By / Par: **SS**
YY/MM/DD • AA/MM/JJ

Condition of Sample / État de l'échantillon Satisfactory / Satisfaisant Unsatisfactory / Non satisfaisant Details / Précisez: **11.4°C**

Incubation / Incubation Date / Date: **15-08-20** Time / Heure: **400** ^{am} / ^{pm} By / Par: **SS** Incubator / Incubateur: **4**
YY/MM/DD • AA/MM/JJ

Analysis Completed / Analyse terminée Date / Date: **15-08-21** Time / Heure: **410** ^{am} / ^{pm} By / Par: **SS**
YY/MM/DD • AA/MM/JJ

**Results (See Reverse Side for Interpretation) per 100 ml
Résultats (Voir au verso l'interprétation des résultats)**

Total Coliforms / Coliformes totaux

Present / Présence Absent / Absence

E. coli / E. coli

Present / Présence Absent / Absence

Comments / Commentaires

Report Authorized By / Rapport autorisé par: **[Signature]** Position / Poste: **WLT** Date / Date: **15-08-21**
YY/MM/DD • AA/MM/JJ

Distribution: White - Chain of Custody / Blanc - Chaîne de possession Yellow - Lab Copy / Jaune - Laboratoire Pink - Client Copy / Rose - Client

Sample Number / Numéro de l'échantillon: **62726**