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October 16, 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: September 2015

Trip dates:	September 14-16, 2015
EDI field staff:	Scott Dilling, Brodie Smith and Danny Skookum
Weather during trip:	Conditions for the three days included air temperatures from 1 – 10°C, with partly cloudy to overcast skies, some occasional rain and snow, and calm to light wind conditions.

The following monthly report includes a summary of site conditions and data collected during EDI's September 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	• Summary of weather and general site conditions
Meteorology	• Statement on station status and identification of any data gaps or QA/QC issues
Hydrology	• Discussion of noteworthy hydrology observations • Statement of QA/QC for the data collected this month
Water Quality	• Summary of noteworthy water quality observations • Statement on QA/QC sample results
Program Recommendations	• Program recommendations for meteorological, hydrology and water quality programs
Additional Trip Information	• Project Safety Concerns • Wildlife sightings • Budget and schedule considerations
List of Attachments	• Maps of stations and sites • Site and station photos • Data Tables – hydrology and water quality • Lab Result Reports

SITE CONDITIONS

The September 2015 site trip represents autumn conditions at the Mount Nansen site. Water levels were higher at most sites and stations than during the August 2015 trip. Air temperatures were cooler than last trip, ranging from 1 to 10°C. Several rainy days prior to the sampling event likely contributed to the comparably higher water levels. Despite recent precipitation events, many seeps still remained dry, including WQ-LW-SEEP-01, WQ-MS-S-08 and WQ-ADIT-SEEP.

Active placer mining works continued along Pony Creek, upstream of the WQ-PC-U site. No active machinery or pumps were observed to be operational during the course of the site visit. A moderate flowrate of turbid water was flowing over top of the settling pond embankment and through the channel downstream. The ponded area near WQ-PC-U remains full of sediment as well as the area around H-PC-DSP. 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 September. EDI conducted a preliminary QA/QC review of the September 2015 data and all sensors appear to be functioning as expected. During the September 2015 field visit, the crew confirmed that there was a flat surface installed below the snow sensor to help improve data quality. Meteorological data will also 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.

HYDROLOGY

Discharge measurements were collected at all stations with suitable conditions. Water levels were higher across the Mount Nansen Site during the September 2015 trip than the August 2015 trip. Continuous logger records are available for nine stations for the period up to September 17, 2015: 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. All loggers were winterized during this trip, while the H-PC-DSP station was removed for the winter period. The stilling well materials, staff gauge and logger were transferred to the new station established 290 m downstream of H-VC-R, H-VC-R+290. This new station was established to address winter icing concerns at the current H-VC-R station, in order to collect a more accurate continuous data record through the winter period. Both H-VC-R and H-VC-R+290 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.

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 September, 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 0.856 to 1.315 m^3/s. This was higher than the August 2015 trip discharges in Victoria Creek, which ranged from 0.379 to 0.542 m^3/s.
- The discharge patterns along Victoria Creek in September 2015 show a normal progression with discharge increasing at each subsequent downstream station (similar to the August 2015 discharge pattern).
- Back Creek was flowing during this trip. Discharge was measured with a salt tracer and was 0.099 m^3/s, which is higher than the August 2015 discharge of 0.037 m^3/s.
- Placer activity in the upper Pony Creek watershed continues and the accumulation of fine sediment has produced channel instability and non-representative continuous data logger readings. The continuous logger was removed for the winter season and re-launched at H-VC-R+290 for the winter period. The continuous logger data collected at H-PC-DSP prior to the upstream placer channel disturbances will be analyzed to determine if a reliable rating curve can be developed during the seasonal analysis to be completed for the October 2015 monthly report.
- Discharge measurements within Dome Creek were conducted using salt tracer tests and volumetric methods. The discharge values measured using salt tracers at H-DC-B, and H-DC-R, were 0.023 and 0.035 m^3/s, respectively. Volumetric measurements were collected at H-DC-DX+105, H-DC-D1b and H-DC-M WP, and were <0.001 (below reportable limits), 0.008 and 0.021 m^3/s, respectively.
- Fine sediment in weir pond at H-DC-M WP continues to accumulate. Sediment within the stilling well was flushed out and the area around the staff gauge was excavated. Additional excavation will be required next trip. All water is flowing though 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 September 2015 trip as well as some additional samples within the Upper Dome Creek and mill area as part of an extra investigation, taking place during the August, September and October 2015 site visits. This extra investigation was a follow-up to additional sampling conducted in March 2015. A total of 17 normally scheduled sample sites and 7 additional sample sites were collected during the September 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). An LC50 sample was collected at the WQ-SEEP

site this trip (as per the schedule). 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 the Canadian Council of Ministers of the Environment Freshwater Aquatic Life (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 moderate 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, although pumps were not running at the time of sample collection, with water flowing freely over an earth dam, thus samples are not considered representative of typical results for the creek.
    - Both sites had relatively high turbidity, 57.2 NTU at the WQ-PC-U and 45.3 NTU at the WQ-PC-D.
    - The WQ-PC-U samples exceeded the CCME-AL guidelines and/or the Mount Nansen Effluent Discharge Standards (EQS) for total suspended solids (TSS), total aluminum, arsenic, copper, iron, lead. One dissolved metals parameters also exceeded the guideline for iron. This is an improvement over the previous sampling results from August 2015 when there was higher turbidity and TSS resulting in additional metals parameters with concentrations above guidelines values (such as cadmium, chromium, manganese, silver and zinc). 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, which suggests that the results from August and September 2015 are a result of placer activities upstream.
    - The WQ-PC-D samples exceeded the CCME-Al guidelines and Mount Nansen EQS for total aluminum, arsenic, cadmium, copper, iron, lead, silver, zinc, as well as dissolved iron. These are similar results to the previous results from August 2015. Samples from this site commonly have high concentrations of these metals, which are associated with an old waste rock pile that the creek runs through directly upstream of the sample site. The placer activity upstream is also contributing to some of the higher metals concentrations at this site, based on water quality upstream at WQ-PC-U.
- **Back Creek** was flowing during the sampling event. The creek was less turbid than during the previous sampling event, with a turbidity of 32.1 NTU compared to the August 2015 trip results of 267 NTU. Several parameters exceeded the guideline and/or standard criteria, including total

aluminum, arsenic, cadmium, copper, and iron as well as dissolved iron. These are common results when placer operations are active upstream.

- The **Victoria Creek** total metals sample from the WQ-VC-U site exceeded the CCME-AL guideline for copper by 0.0002 mg/L (i.e. concentration was 0.00202 mg/L compared to the CCME-AL guideline of 0.00200 mg/L). Typically this site does not exceed any guidelines or standard criteria, as it is located upstream of Back Creek which contributes relatively more turbid water with higher metals concentrations to downstream sites on Victoria Creek (during active placer operations). The copper result is not a concern right now, but will continue to be monitored.
- 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, copper (only WQ-VC-R) and iron. These results are likely related to contributions from Back Creek.
- The total zinc concentration in the September 2015 **WQ-SEEP** sample was above the CCME-AL guideline with a concentration of 0.0375 mg/L (up from 0.0196 mg/L in August 2015, and 0.0174 mg/L from the July 2015). The 96-hour LC50 result was >100, with no fish mortalities or signs of stress during the test.
- The following observations are a summary of results from the **extra water quality investigations along Upper Dome Creek and the mill site area**:

    - The WQ-DC-14 September 2015 samples (upstream of WQ-DC-DX+105) did not exceed any guidelines and/or standards. The August 2015 samples only exceeded the CCME-AL guideline for arsenic. Upstream of WQ-DC-14, at WQ-DC-DX, the September 2015 samples exceeded the guidelines and/or standards for aluminum, arsenic and iron.
    - The regular samples collected at WQ-DC-DX+105 just downstream of WQ-DC-14 and WQ-DC-13, exceeded the guidelines and/or standards for fluoride, arsenic, cadmium, iron, manganese and zinc.
    - An additional site, WQ-DC-15, was sampled between WQ-DC-DX+105 and WQ-DC-14 during the September 2015 trip to determine where the potential source for the change in water quality was originating. The field crew noticed that the creek gained flow at the WQ-DC-15 location, with a small pool just upstream of the site. The site also looked like it had been previously disturbed. There was also a noticeable change in the in-situ water quality with an increase in specific conductivity, a decrease in water temperature, and a decrease in dissolved oxygen. The WQ-DC-15 sample had similar water quality to WQ-DC-DX+105 site, with higher total dissolved solids compared to the upstream WQ-DC-14 and WQ-DC-DX sites, and higher concentrations of ions and metals. The samples exceeded the guidelines and/or standards for fluoride, arsenic, cadmium, iron, manganese, and zinc.

- Downstream of WQ-DC-DX+105, samples were collected at WQ-DC-11, which had similar water quality to the WQ-DC-DX+105 site, with similar zinc concentrations of 0.533 mg/L to the WQ-DC-DX+105 samples (0.552 mg/L).
- 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 (total zinc 0.881 mg/L and dissolved zinc 0.835 mg/L). The WQ-MS-S-03 also exceeded the guideline for TSS, fluoride, aluminum, arsenic, cadmium, copper, iron, lead, manganese and silver.
- The samples collected from WQ-DC-10 exceeded similar guidelines and standard criteria to sites upstream (WQ-MS-S-03, WQ-DC-11, and WQ-DC-DX+105).
- The WQ-DC-8 samples had the highest total iron concentrations of any samples collected during the extra investigation in September 2015 (similar to the August 2015 investigation result). This site also exceeded the guidelines and/or standards for TSS, aluminum, arsenic, cadmium, copper, lead, manganese and zinc. The zinc concentration (total zinc 0.772 mg/L and dissolved zinc 0.682 mg/L) was higher than all extra Dome Creek investigation sites except for WQ-MS-S-03.
- An additional mill seep, WQ-MS-S-A, was sampled during the September 2015 sampling event (this seep was dry during the August 2015 extra investigation). The September 2015 samples exceeded the guidelines and/or standards for fluoride, arsenic, cadmium, iron, selenium and zinc. The total and dissolved zinc concentrations were lower than other samples collected during the extra investigation (0.254 mg/L for total and dissolved zinc). This seep had been sampled during the freshet sampling events in May 2015, when there were higher concentrations of some additional metals that exceeded the guidelines and/or standards, including aluminum, copper, lead, manganese, silver, and mercury. The May 2015 samples did not exceed the CCME-AL guidelines for fluoride or selenium.

QA/QC Samples

Travel Blank Sample – all parameters were below detection limits, suggesting no contamination from transport or storage.

Field Blank Sample – all parameters were below detection limits, suggesting that there was no contamination from field sampling methodologies.

Replicate Sample(s) – the average Relative Percent Difference (RPD) of the replicate sample set for WQ-VC-U-r and WQ-DC-R-r was 7% and 4%, respectively. The average RPD for total metals in the two replicate samples was 15% and 5%, respectively, and for dissolved metals, 2% and 5%, respectively. For the WQ-VC-U-r replicate set, most individual parameter RPDs were <20% different, except for total aluminum, iron and titanium which had RPD>20%. For the WQ-DC-R-r replicate set, most individual parameter RPDs were <20% different, except for one parameter (dissolved cadmium RPD>20%).

RPD>%20, indicates some natural variability or lab imprecision. Natural variability from sample to sample may be related to groundwater influxes or sediment pulses.

PROGRAM RECOMMENDATIONS

- During each winter trip, collect photographs and snow depths adjacent to the meteorological station compound to confirm snow sensor data.
- Discharge measurements should be collected at the H-VC-R and H-VC-R+290 stations using the mid-section ADV method to compare hydrometric conditions at the two stations during the October 2015 and November 2015 site visit.
- Two direct read cables have been purchased for the program – one for the H-VC-U station and one for the new H-VC-R+290 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. These will be installed during the October 2015 trip.
- The loggers (and in some cases stilling wells) at H-BC, H-DC-R and H-DC-B will be removed for the winter season during the October 2015 trip. Note instantaneous discharge measurements will continue to be collected at these stations through the winter where suitable conditions exist. Note in past years of the program, these creeks have typically frozen to substrate by November for the winter period.
- Where possible, EDI will continue to collect concurrent discharge measurements wherever salt tracer tests are completed during the October 2015 trip, 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. Consider installing a settling pond upstream of the weir pond to trap some of the sediment moving downstream.
- Monitor the WQ-LW-SEEP-01, WQ-MS-S-08 and WQ-ADIT-SEEP during the October 2015 and November 2015 trips, in order to collect opportunistic samples if flowing (these sites were dry during the May, June, July, August and September 2015 trips, except for WQ-MS-S-08 in May 2015). This is likely the last opportunity to collect water at these sites before winter.

ADDITIONAL TRIP INFORMATION

Any changes to project scope (i.e. additional sites sampled):	The next trip is scheduled for October 13-15, 2015 and will represent the last sampling event of the open-water season. This will also be the third and final sampling event for the extra investigations of Upper Dome Creek and the mill area. The September 2016 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).

Any alterations to sample schedule/budget:	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 **$2,615.86.** Two Solinst direct read cables will be purchased for the program, one for the H-VC-U station and one for the new H-VC-R+290 station. These cables allow for winter data to be downloaded. The estimated cost is **$258.70** (based on item cost, shipping and a 5% mark-up) and can be covered under contingency fund.
Additional Comments:	Active placer mining construction works continued along **Pony Creek**, upstream of the WQ-PC-U site. The water quality and hydrometric results may not be representative of typical water quality conditions in Pony Creek as water was flowing over the settling pond berm downstream to the WQ-PC-U, WQ-PC-D and H-PC-DSP areas. A new station was installed at **H-VC-R+290** (located at 290 m downstream of the H-VC-R station; see attached Map 2). This station will be operational through the winter of 2015/2016, along with H-VC-R, to determine if it is a better hydrometric station location for winter data collection (out of the influence of overflow ice). Excavation and maintenance of the **H-DC-M WP** station weir pond is required during the October 2015 trip and/or by AAM if possible. The October 2015 trip will represent the end of the open-water season.
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

388000 389000 390000

6882000 6881000

N

Pony Creek

Buck Creek

Mount Nansen Road

Brown-McDade Pit Lake

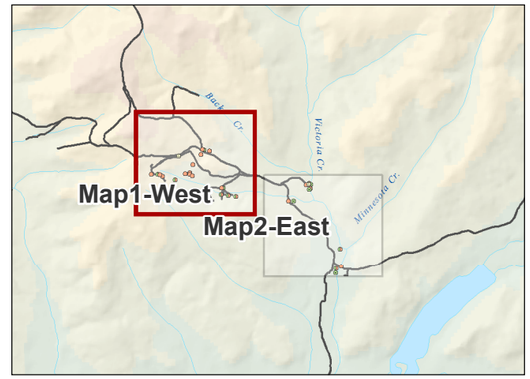
Tailings Facility

Bunkhouse

Mill

Dome Creek

H-PC-DSP
WQ-PC-U
WQ-PC-D
WQ-ADIT-SEEP
WQ-L1
WQ-PIT
ATM-ROAD
WQ-NW-SEEP-02
WQ-L2
WQ-ORE
WQ-LW-SEEP-01
WQ-WR-SEEP-A
WQ-WR-SEEP-B
WQ-DC-DX
H/WQ-DC-DX+105
WQ-MS-S-03
WQ-MS-S-08
WQ-DESS-03
WQ-CH-P-13-01
WQ-DESS-02
WQ-DESS-01
H/WQ-DC-D1B
WQ-DC-B
H-DC-B
H/WQ-TP
H/WQ-SEEP
H-DC-M/WQ-DC-U



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.

0 50 100 200 300 400 500
metres

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 1

Yukon EDI

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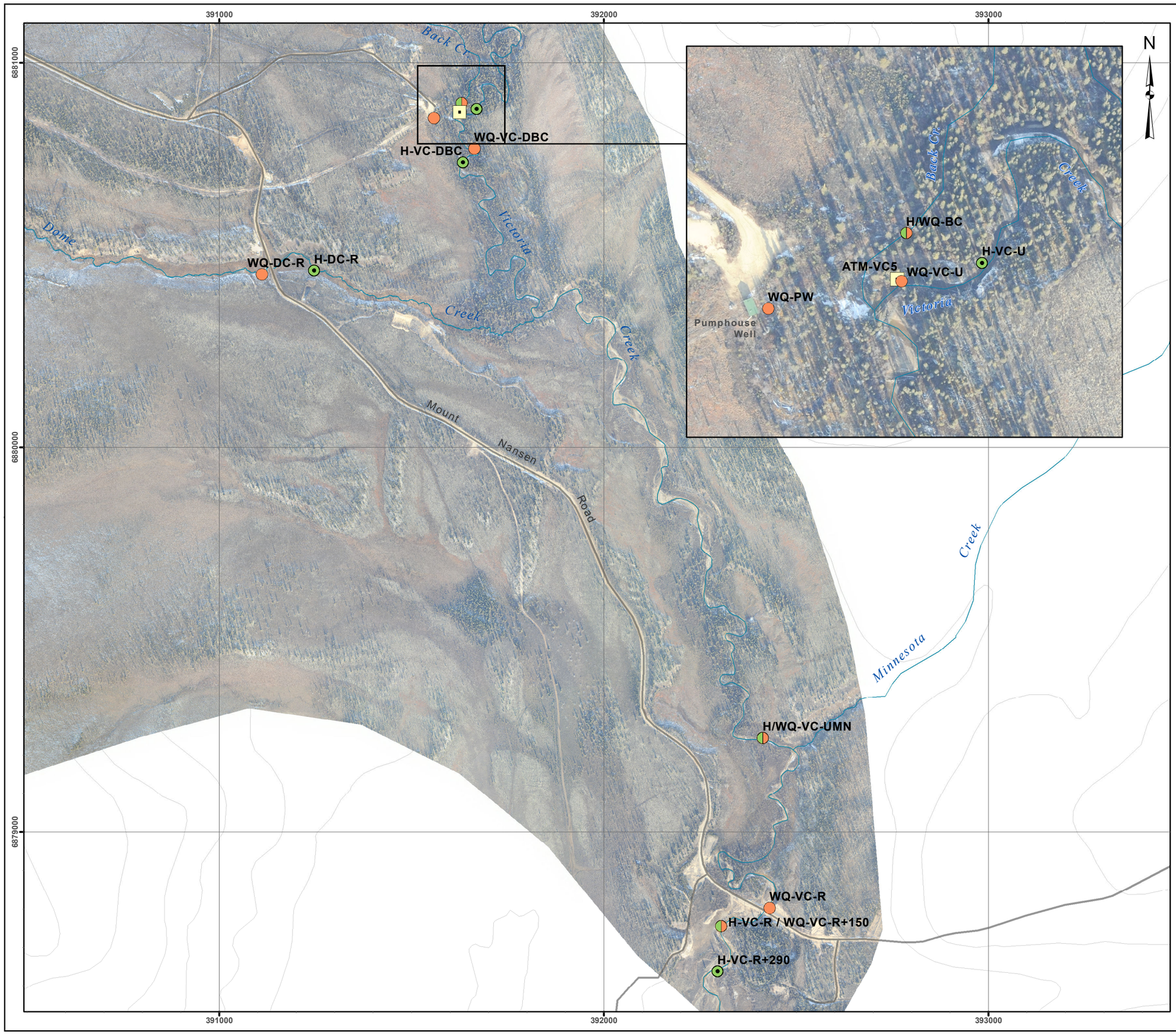

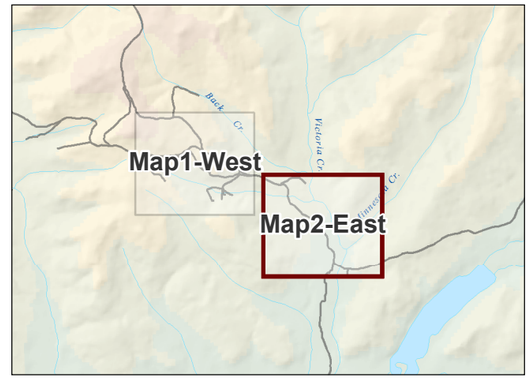

Legend

- 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

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.

0 50 100 200 300 400 500
metres

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

Drawn:	Checked:	Date:	
MP	MM/SD	21/09/2015	**MAP 2**

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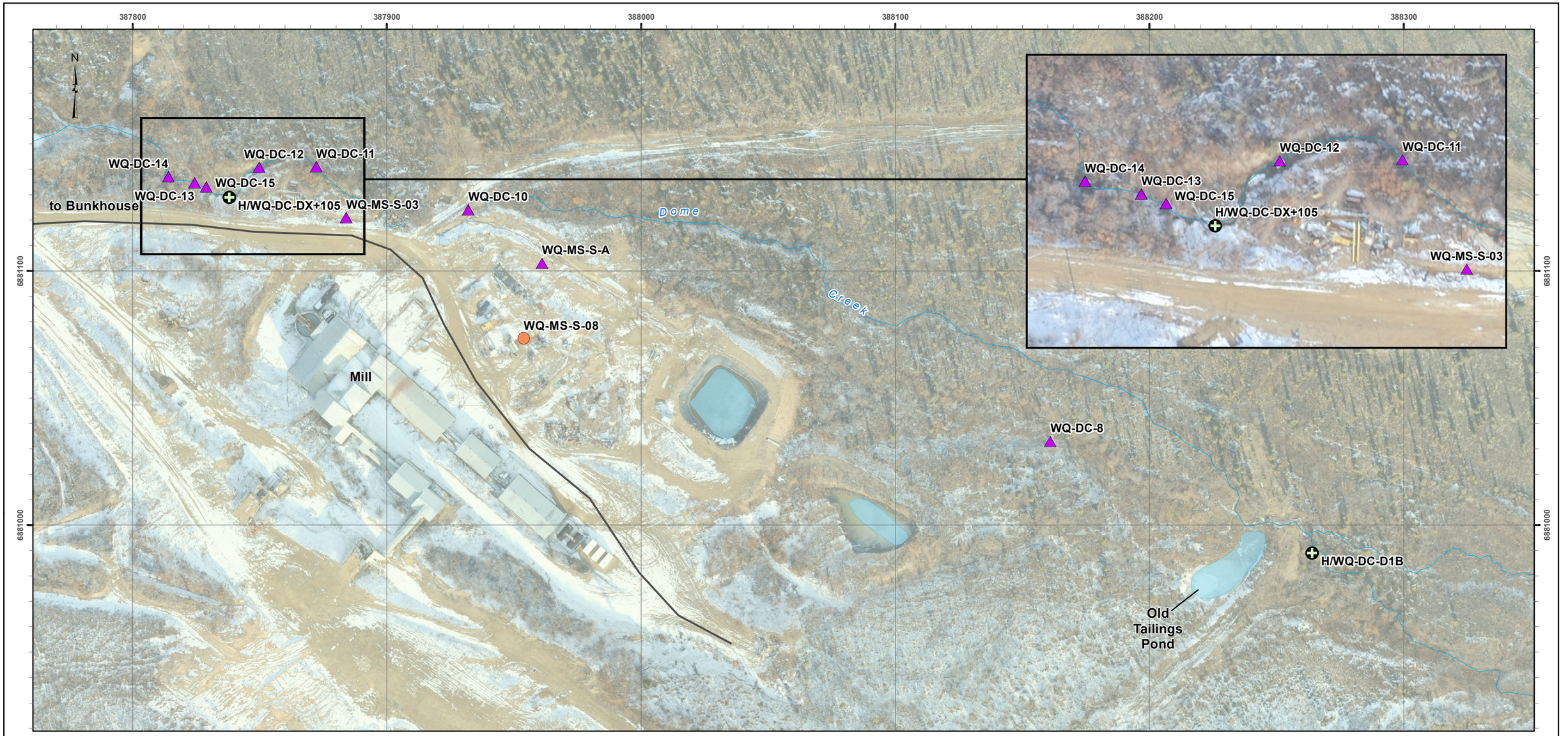


Dome Creek Investigation Sites

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

0 20 40 60 80 100

Metres

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.

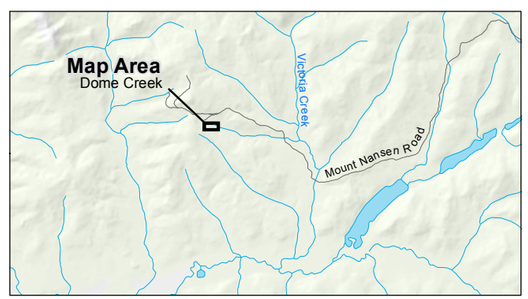
Watercourse, drainage areas and Mount Nansen Road layers digitized / modified by EDI (2011) using orthophotos provided by Yukon Government, Energy, Mines and Resources (2011).

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



Yukon EDI

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Photo 1. WQ-DC-DX – looking downstream.

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 showing accumulated sediment.

Photo 8. H-DC-M WP – logger showing sediment accumulation in stilling well.

Photo 9. H-DC-M WP – overview of pond after excavation of sediment near stilling well.

Photo 10. WQ-DC-U – looking upstream.

Photo 11. H-DC-R – looking downstream.

Photo 12. WQ-DC-R – looking downstream.

Photo 13. WQ-LW-SEEP-01 – overview of dry conditions at sampling site.

Photo 14. WQ-CH-P-13-01 – looking upstream.

Photo 15. H/WQ-SEEP – overview of site.

Photo 16. WQ-TP – overview of sampling site.

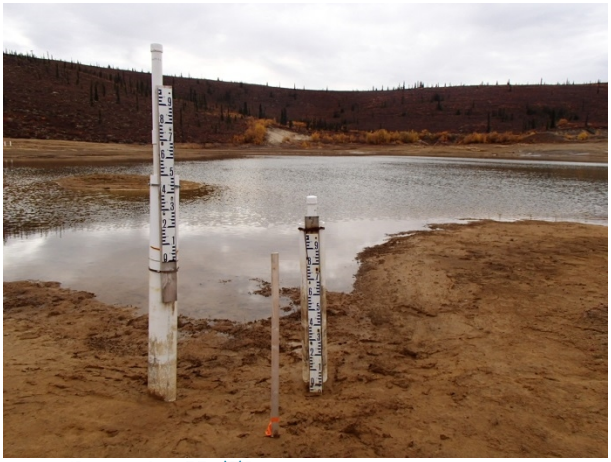

Photo 17. H -TP – overview of staff gauges.

Photo 18. WQ-PC-U – looking downstream.

Photo 19. H-PC-DSP – overview of sampling location.

Photo 20. WQ-ADIT-SEEP – overview showing dry conditions.

Photo 21. WQ-PC-D – looking upstream.

Photo 22. Placer mining activity along Pony Creek.

Photo 23. Placer mining activity along Pony Creek.

Photo 24. H/WQ-BC – looking downstream.

Photo 25. H-VC-U – overview.

Photo 26. WQ-VC-U – looking downstream showing confluence with Back Creek.

Photo 27. WQ-VC-DBC – looking downstream.

Photo 28. H-VC-DBC – looking upstream.

Photo 29. H/WQ-VC-UMN – looking downstream.

Photo 30. WQ-VC-R – looking upstream.

Photo 31. H-VC-R – looking upstream.

Photo 32. H-VC-R+290 – looking upstream from station installed on September 14, 2015.

Photo 33. H-VC-R+290 – looking downstream showing station installed September 14, 2015.

Photo 34. WQ-MS-S-03 – looking upstream.

Photo 35. WQ-MS-S-A – looking downstream.

Photo 36. WQ-DC-15 – extra sample site – overview of sampling location.

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

Photo 38. WQ-DC-11 – extra sample site –downstream view.

Photo 39. WQ-DC-10 – extra sample site – downstream view.

Photo 40. WQ-DC-8 – extra sample site – upstream view.

Photo 41. Meteorological station overview.

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
361	ATM-VC5	15/09/2015	8:10						Barologger downloaded at 08:10.
352	H-DC-DX+105	15/09/2015	10:25	V	0.000				Volumetric measurement of discharge completed.
351	H-DC-D1b	15/09/2015	13:20	V	0.008				Water goes to subsurface approximately 15 m downstream of site. Volumetric estimate of discharge completed. Approximately <5% of water not captured by water collection method.
362	H-DC-B	15/09/2015	16:45	SS	0.023		1.980		Salt tracer completed for discharge estimate. Background specific conductivity at start of second trial lower than on first (1092 uS/cm). Background specific conductivity after second trial was 1082 uS/cm. The logger was winterized.
360	H-TP	15/09/2015	16:30	N					Water level remains low, but has risen since the last visit. Staff gauges were still above water level elevation, but now less than 1 m of dry material is present behind staff gauges.
359	H-SEEP	15/09/2015	15:50	V	0.003				Volumetric discharge measurement completed.
358	H-DC-M WP	15/09/2015	15:10	V	0.002		2.300		Volumetric discharge measurement was completed at downstream end of weir. Large volume of sediment has accumulated in weir pond, and a small channel has formed containing all the flow. There was evidence of water flowing around weir pond from a recent high flow event. Staff gauge and logger were buried in sediment to approximately 0.2 m above the water level; therefore staff gauge measurement was discarded. Sediment flushed from inside stilling well. Additional excavations are required prior to winter. There was evidence of water flowing around weir pond from a recent high flow event. The logger was winterized.
363	H-DC-R	14/09/2015	19:25	SS	0.035	SH-SG	0.600		Flow rate too high for volumetric measurement. Salt tracer completed for discharge estimate. Large rock along bed of creek approximately 1 m downstream of stilling well removed after completion of discharge estimate. Rock had been providing upstream control. Staff gauge reading dropped from 0.423 m to 0.378 m following removal of rock. The logger was winterized.
350	H-PC-DSP	14/09/2015	13:50	V	0.009				Volumetric discharge measurement was completed. Stilling well and logger were removed for the winter season (and transferred to new H-VC-R+290 station for winter collection).
364	H-BC	15/09/2015	9:25	SS	0.099		1.860		Water contained in primary channel. Moderate flow in channel and moderately turbid water.
355	H-VC-U	15/09/2015	8:30	ADV-MID	0.856		2.180		The logger was winterized. Stilling well is slightly loose and at an angle and will be stabilized on next visit.
356	H-PW	16/09/2015	8:40	V	0.002	E			Volumetric discharge measurement completed. Minor amount of water not captured due to collection method.
354	H-VC-DBC	15/09/2015	7:45	ADV-MID	0.962		1.290		The logger was winterized.
353	H-VC-UMN	14/09/2015	18:20	ADV-MID	1.105		1.750		The logger was winterized.
357	H-VC-R	14/09/2015	15:30	ADV-MID	1.315		2.220		The logger was winterized. Flushed sediment from stilling well.
365	H-VC-R+290	14/09/2015	15:30	ADV-MID	1.315	E	2.560		New well installation including continuous data logger, stilling well, staff gauge and 3 benchmarks (BM1, BM2, BM3). Logger (serial number 22041814) transferred from H-PC-DSP and reprogrammed and launched. The logger was winterized. No discharge measurement was completed at the new station, however H-VC-R measurement 290 m upstream used as a proxy.

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 contained 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	15-Sep-15	Seep was dry, no sample.
WQ-BC	Y	15-Sep-15	Conditions normal, moderate flows and turbidity levels.
WQ-CH-P-13-01	Y	16-Sep-15	Moderate flows with clear water. Thin ice on small pool below sample location.
WQ-DC-B	Y	15-Sep-15	Conditions normal for time of year. Moderate flows and turbidity levels.
WQ-DC-D1b	Y	15-Sep-15	Conditions normal, moderate flow levels with light turbidity.
WQ-DC-DX	Y	15-Sep-15	Conditions normal, moderate flows with light turbidity.
WQ-DC-DX+105	Y	15-Sep-15	Very low DO. Sensor working correctly. DO drops around WQ-DC-15 (groundwater sources potentially). Picks up a bit more DO by the time it makes it to this site, likely due to small waterfalls and riffles in stream.
WQ-DC-R	Y	14-Sep-15	Water levels high with light turbidity. Replicate collected.
WQ-DC-U	Y	15-Sep-15	Conditions appear normal, flows moderate with moderate turbidity.
WQ-LW-SEEP-01	N	15-Sep-15	Seep was dry, no sample.
WQ-MS-S-08	N	16-Sep-15	Seep was dry, no sample.
WQ-PC-D	Y	14-Sep-15	Placer mine pump not running. Flow coming through breach in dam. Moderate water levels and turbidity levels.
WQ-PC-U	Y	14-Sep-15	Placer mine pump not running. Flow coming through breach in dam. More placer activity since last visit, but not currently working. Water level moderate with light turbidity.
WQ-PW	Y	16-Sep-15	Conditions normal for time of year. Moderate flows, clear water.
WQ-SEEP	Y	15-Sep-15	Moderate flows and moderate turbidity.
WQ-TP	Y	15-Sep-15	Water level low, light turbidity. Similar conditions to previous visits.
WQ-VC-DBC	Y	15-Sep-15	Conditions normal, water level moderate with clear water.
WQ-VC-R	Y	14-Sep-15	Conditions normal, water level moderate with clear water.
WQ-VC-R+150	N	-	This is the winter/early spring sampling location - samples are collected from WQ-VC-R during the open water season.
WQ-VC-U	Y	15-Sep-15	Conditions normal, water level moderate with clear water.

Water Quality Site	Sample Collected? (Y/N)	Measurement Date	Comments
WQ-VC-UMN	Y	14-Sep-15	Conditions normal, water level moderate with light turbidity.
QA/QC Samples			
Replicate 1	Y	15-Sep-15	Replicate sample collected from WQ-VC-U (sample ID WQ-VC-U-r).
Replicate 2	Y	14-Sep-15	Replicate sample collected from WQ-DC-R (sample ID WQ-DC-R-r).
Field Blank	Y	15-Sep-15	Sample bottles filled with deionized water supplied by ALS; samples were filtered and preserved as instructed. Collected Field Blank at WQ-DC-B.
Travel Blank	Y	16-Sep-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	15-Sep-15	Sampled as part of extra water quality investigations. Moderate flows and light turbidity. Moderate algae growth in channel.
WQ-DC-8	Y	15-Sep-15	Sampled as part of extra water quality investigations. Moderate flows, moderate turbidity.
WQ-DC-10	Y	15-Sep-15	Sampled as part of extra water quality investigations. Moderate flows and light turbidity.
WQ-DC-11	Y	15-Sep-15	Sampled as part of extra water quality investigations. Moderate flows and moderate turbidity. DO increasing as we progressed further downstream.
WQ-DC-14	Y	15-Sep-15	Sampled as part of extra water quality investigations. Moderate flows and clear water.
WQ-DC-15	Y	15-Sep-15	Sampled as part of extra water quality investigation (new site). Creek gains flow around this location. Small pool just upstream of site. Upstream of that there is very minimal flow. Site looks like it was previously disturbed.
WQ-MS-S-A	Y	16-Sep-15	Moderate flows with clear water. Note site had been dry last visit.

NOTES

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

Summary of Water Quality Results for the September 14-16, 2015 Trip.

Analyte	Units	CCME-WATER-F-AL	Mount Nansen Effluent Discharge Standards	Sample ID/Site ID / Date Sampled / Detection Limit	WQ-PC-U 9/14/2015 1:40:00 PM	WQ-PC-D 9/14/2015 1:20:00 PM	WQ-BC 9/15/2015 9:10:00 AM	WQ-VC-U 9/15/2015 8:20:00 AM	WQ-VC-U-r 9/15/2015 9:25:00 AM	QA/QC WQ-VC-U-r Replicate Analysis
Temperature (in-situ)	°C	-	-	-	2.3	2.8	1.6	1.8	-	-
Specific Conductivity (in-situ)	µS/cm	-	-	-	275.6	278.9	286.5	145.8	-	-
pH (in-situ)	pH	6.5 - 9.0	6.0 - 8.5	-	7.12	6.67	7.9	7.45	-	-
Dissolved Oxygen (in-situ)	mg/L	-	-	-	12.53	12.66	12.99	12.24	-	-
Turbidity (In-situ)	NTU	-	-	-	57.20	45.30	32.10	1.04	-	-
Colour, True	CU	15	-	5	-	-	-	-	-	-
Conductivity	µS/cm	-	-	2	269	272	279	146	147	1%
Hardness (as CaCO3)	mg/L	-	-	0.5	133	137	152	73.7	73.4	0%
pH (lab)	pH	6.5 - 9.0	6.0 - 8.5	0.1	7.62	7.64	8.05	7.81	7.80	0%
Total Suspended Solids	mg/L	-	50	3	***66.7***	20.7	29.3	<3.0	<3.0	<DL
Total Dissolved Solids	mg/L	-	-	1	169	172	173	79.6	79.9	0%
Alkalinity, Bicarbonate (as CaCO3)	mg/L	-	-	1	45.4	46.3	87.2	62.8	63.6	1%
Alkalinity, Carbonate (as CaCO3)	mg/L	-	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<DL
Alkalinity, Hydroxide (as CaCO3)	mg/L	-	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<DL
Alkalinity, Total (as CaCO3)	mg/L	-	-	1	45.4	46.3	87.2	62.8	63.6	1%
Ammonia, Total (as N)	mg/L	0.75	-	0.005	0.39	0.352	0.0116	<0.0050	0.0055	<DL
Chloride (Cl)	mg/L	120	-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<DL
Fluoride (F)	mg/L	0.12	-	0.02	0.049	0.055	0.065	0.044	0.047	<2xDL
Nitrate (as N)	mg/L	13	-	0.005	0.025	0.0343	0.0566	0.114	0.114	0%
Nitrite (as N)	mg/L	0.06	-	0.001	0.0012	0.0012	<0.0010	<0.0010	<0.0010	<DL
Sulfate (SO4)	mg/L	-	-	0.3	89.2	89.7	62	13	13	0%
Cyanide, Weak Acid Diss	mg/L	-	0.1	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<DL
Cyanide, Total	mg/L	-	0.3	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<DL
Cyanate	mg/L	-	-	0.2	<0.20	<0.20	<2.0	<0.20	<0.20	<DL
Thiocyanate (SCN)	mg/L	-	-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<DL
Aluminum (Al)-Total	mg/L	0.1	-	0.003	***1.25***	***2.12***	***0.871***	0.0675	***0.109***	47%
Antimony (Sb)-Total	mg/L	-	0.15	0.0001	0.00159	0.00367	0.00059	0.00011	0.00011	<2xDL
Arsenic (As)-Total	mg/L	0.005	-	0.0001	***0.0109***	***0.0273***	***0.0075***	0.00037	0.00045	<2xDL
Barium (Ba)-Total	mg/L	-	1.0	0.00005	0.0778	0.0922	0.0662	0.0513	0.0529	3%
Beryllium (Be)-Total	mg/L	-	-	0.00002	0.000061	0.000111	0.000041	<0.000020	<0.000020	<DL
Bismuth (Bi)-Total	mg/L	-	-	0.00005	0.000082	0.000332	0.00007	<0.000050	<0.000050	<DL
Boron (B)-Total	mg/L	-	-	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<DL
Cadmium (Cd)-Total *(Lab Result)*	mg/L	0.00009	0.02	0.000005	0.000143	***0.000636***	***0.000245***	0.0000333	0.0000305	9%
Cadmium (Cd)-Total (Hardness Adjusted Guideline)	mg/L	-	-	-	0.000201	0.000206	0.000224	0.000123	0.000123	-
Calcium (Ca)-Total	mg/L	-	-	0.05	37.9	38.3	41.8	18.9	19.2	2%
Chromium (Cr)-Total	mg/L	0.0089	0.04	0.0001	0.00166	0.00257	0.00121	0.00024	0.00028	<2xDL
Cobalt (Co)-Total	mg/L	-	-	0.0001	0.0007	0.0012	0.00068	0.00015	0.00018	<2xDL
Copper (Cu)-Total *(Lab Result)*	mg/L	0.002	0.2	0.0005	***0.004***	***0.01210***	***0.0035***	***0.00202***	***0.00218***	<2xDL
Copper (Cu)-Total (Hardness Adjusted Guideline)	mg/L	-	-	-	0.00302	0.00309	0.00338	0.00200	0.00200	-
Iron (Fe)-Total	mg/L	0.3	1.0	0.01	***2.63***	***4.56***	***1.53***	0.112	0.175	44%
Lead (Pb)-Total *(Lab Result)*	mg/L	0.001	0.1	0.00005	***0.00666***	***0.0262***	0.00489	0.00006	0.00013	<2xDL
Lead (Pb)-Total (Hardness Adjusted Guideline)	mg/L	-	-	-	0.00457	0.00475	0.00542	0.00216	0.00215	-
Lithium (Li)-Total	mg/L	-	-	0.001	0.0015	0.0022	0.0016	<0.0010	<0.0010	<DL
Magnesium (Mg)-Total	mg/L	-	-	0.1	9.01	9.26	10	5.86	5.96	2%
Manganese (Mn)-Total	mg/L	-	0.5	0.0001	0.236	0.281	0.341	0.0204	0.024	16%
Mercury (Hg)-Total	mg/L	0.000026	0.005	0.000005	0.0000107	0.0000132	0.0000097	0.0000061	0.0000064	<2xDL
Molybdenum (Mo)-Total	mg/L	0.0073	-	0.00005	0.000236	0.000301	0.000806	0.000317	0.000311	2%
Nickel (Ni)-Total *(Lab Result)*	mg/L	0.025	0.3	0.0005	0.00125	0.002	0.00119	<0.00050	0.00052	<DL
Nickel (Ni)-Total (Hardness Adjusted Guideline)	mg/L	-	-	-	0.11871	0.12141	0.13139	0.07579	0.07556	-
Phosphorus (P)-Total	mg/L	-	-	0.05	0.057	0.094	<0.050	<0.050	<0.050	<DL
Potassium (K)-Total	mg/L	-	-	0.1	0.84	1.12	1.04	0.48	0.5	4%
Selenium (Se)-Total	mg/L	0.001	-	0.00005	0.000056	0.000055	0.000053	<0.000050	<0.000050	<DL
Silicon (Si)-Total	mg/L	-	-	0.05	9.17	10.5	8.54	5.99	6.09	2%
Silver (Ag)-Total	mg/L	0.0001	0.1	0.00001	0.000085	***0.00031***	0.000064	<0.000010	<0.000010	<DL
Sodium (Na)-Total	mg/L	-	-	0.05	3.55	3.57	3.39	2.09	2.11	1%
Strontium (Sr)-Total	mg/L	-	-	0.0002	0.215	0.228	0.267	0.205	0.206	0%
Sulfur (S)-Total	mg/L	-	-	0.5	28.9	29.3	20.5	4.46	4.58	3%
Thallium (Tl)-Total	mg/L	0.0008	-	0.00001	0.000032	0.000064	0.000024	<0.000010	<0.000010	<DL
Tin (Sn)-Total	mg/L	-	-	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<DL
Titanium (Ti)-Total	mg/L	-	-	0.0003	0.0418	0.0581	0.0292	0.00121	0.00301	85%
Uranium (U)-Total	mg/L	0.015	-	0.00001	0.00057	0.000676	0.00123	0.000323	0.000328	2%
Vanadium (V)-Total	mg/L	-	-	0.0005	0.00445	0.0066	0.00252	<0.00050	0.00057	<DL
Zinc (Zn)-Total	mg/L	0.03	0.3	0.003	0.0173	***0.0654***	0.0143	<0.0030	0.0033	<DL
Aluminum (Al)-Dissolved	mg/L	0.1	-	0.001	0.0155	0.0183	0.0245	0.0354	0.036	2%
Antimony (Sb)-Dissolved	mg/L	-	-	0.0001	0.00099	0.00115	0.0003	<0.00010	<0.00010	<DL
Arsenic (As)-Dissolved	mg/L	0.005	0.15	0.0001	0.00477	0.00455	0.0021	0.00029	0.00031	<2xDL
Barium (Ba)-Dissolved	mg/L	-	-	0.00005	0.0596	0.0566	0.052	0.0507	0.0503	1%
Beryllium (Be)-Dissolved	mg/L	-	-	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<DL
Bismuth (Bi)-Dissolved	mg/L	-	-	0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<DL
Boron (B)-Dissolved	mg/L	-	-	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<DL
Cadmium (Cd)-Dissolved *(Lab Result)*	mg/L	0.00009	-	0.000005	0.0000143	0.000129	0.000141	0.0000255	0.0000295	15%
Cadmium (Cd)-Diss. (Hardness Adjusted Guideline)	mg/L	-	-	-	0.000201	0.000206	0.000224	0.000123	0.000123	-
Calcium (Ca)-Dissolved	mg/L	-	-	0.05	38.5	39.6	44	19.6	19.5	1%
Chromium (Cr)-Dissolved	mg/L	0.0089	-	0.0001	0.00011	<0.00010	0.0002	0.00013	0.00015	<2xDL
Cobalt (Co)-Dissolved	mg/L	-	-	0.0001	0.0002	0.00021	0.00022	0.00012	0.00012	<2xDL
Copper (Cu)-Dissolved *(Lab Result)*	mg/L	0.002	-	0.0002	0.00089	0.00167	0.00174	0.00188	0.00188	0%
Copper (Cu)-Diss. (Hardness Adjusted Guideline)	mg/L	-	-	-	0.00302	0.00309	0.00338	0.00200	0.00200	-
Iron (Fe)-Dissolved	mg/L	0.3	-	0.01	***0.417***	***0.306***	0.107	0.061	0.062	2%
Lead (Pb)-Dissolved *(Lab Result)*	mg/L	0.001	-	0.00005	0.000593	0.000668	0.000139	<0.000050	<0.000050	<DL
Lead (Pb)-Diss. (Hardness Adjusted Guideline)	mg/L	-	-	-	0.00457	0.00475	0.00542	0.00216	0.00215	-
Lithium (Li)-Dissolved	mg/L	-	-	0.001	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	<DL
Magnesium (Mg)-Dissolved	mg/L	-	-	0.1	8.91	9.35	10.3	6.04	6.02	0%
Manganese (Mn)-Dissolved	mg/L	-	-	0.0001	0.212	0.207	0.307	0.0182	0.0179	2%
Mercury (Hg)-Dissolved	mg/L	0.000026	-	0.000005	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<DL
Molybdenum (Mo)-Dissolved	mg/L	0.0073	-	0.00005	0.000172	0.000177	0.000734	0.000277	0.000282	2%
Nickel (Ni)-Dissolved *(Lab Result)*	mg/L	0.025	-	0.0005	<0.00050	<0.00050	0.00056	<0.00050	<0.00050	<DL
Nickel (Ni)-Diss. (Hardness Adjusted Guideline)	mg/L	-	-	-	0.11871	0.12141	0.13139	0.07579	0.07556	-
Phosphorus (P)-Dissolved	mg/L	-	-	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<DL
Potassium (K)-Dissolved	mg/L	-	-	0.1	0.53	0.62	0.78	0.5	0.47	6%
Selenium (Se)-Dissolved	mg/L	0.001	-	0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<DL
Silicon (Si)-Dissolved	mg/L	-	-	0.05	7.02	7.23	7.28	6.08	6.04	1%
Silver (Ag)-Dissolved	mg/L	0.0001	-	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<DL
Sodium (Na)-Dissolved	mg/L	-	-	0.05	3.56	3.63	3.41	2.12	2.11	0%
Strontium (Sr)-Dissolved	mg/L	-	-	0.0002	0.218	0.224	0.272	0.204	0.202	1%
Sulfur (S)-Dissolved	mg/L	-	-	0.5	30.2	30.6	21	4.55	4.65	2%
Thallium (Tl)-Dissolved	mg/L	0.0008	-	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<DL
Tin (Sn)-Dissolved	mg/L	-	-	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<DL
Titanium (Ti)-Dissolved	mg/L	-	-	0.0003	0.0004	0.00044	0.00044	<0.00030	<0.00030	<DL
Uranium (U)-Dissolved	mg/L	0.015	-	0.00001	0.000409	0.000413	0.00114	0.000297	0.000299	1%
Vanadium (V)-Dissolved	mg/L	-	-	0.0005	0.00077	0.00067	<0.00050	<0.00050	<0.00050	<DL
Zinc (Zn)-Dissolved	mg/L	0.03	-	0.001	0.0013	0.0173	0.0032	0.0022	0.0021	<2xDL

Analyte	WQ-VC-DBC 9/15/2015 8:05:00 AM	WQ-VC-UMN 9/14/2015 6:20:00 PM	WQ-VC-R 9/14/2015 4:50:00 PM	WQ-DC-DX 9/15/2015 10:30:00 AM	WQ-DC-DX+105 9/15/2015 10:35:00 AM	WQ-DC-D1b 9/15/2015 1:20:00 PM	WQ-CH-P-13-01 9/16/2015 8:20:00 AM	WQ-DC-B 9/15/2015 4:45:00 PM	WQ-TP 9/15/2015 4:20:00 PM
Temperature (in-situ)	1.8	4.8	4.8	1.3	0.8	2.6	0.3	4.3	7.9
Specific Conductivity (in-situ)	158.7	187.7	176.7	486.6	1090.0	1630	1409.0	1105.0	1302.0
pH (in-situ)	6.69	7.72	7.51	7.52	6.82	7.95	7.56	7.78	8.3
Dissolved Oxygen (in-situ)	12.56	12.15	12.38	11.95	2.25	12.16	12.34	11.74	10.9
Turbidity (In-situ)	3.30	4.61	6.12	9.16	4.20	11.57	0.01	14.95	7.1
Colour, True	-	-	-	-	-	-	-	-	-
Conductivity	159	188	178	480	1090	1520	1280	1060	1260
Hardness (as CaCO3)	78.9	93.1	87.9	259	677	1050	867	671	761
pH (lab)	7.84	7.92	7.9	7.89	7.34	8.20	***6.43***	8.08	8.06
Total Suspended Solids	13.3	5.3	16	30.7	<3.0	22.7	4.7	36	3.3
Total Dissolved Solids	88	106	99.7	314	798	1280	1110	818	1040
Alkalinity, Bicarbonate (as CaCO3)	65.6	67.7	64.4	104	275	298	8.9	167	75.2
Alkalinity, Carbonate (as CaCO3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total (as CaCO3)	65.6	67.7	64.4	104	275	298	8.9	167	75.2
Ammonia, Total (as N)	<0.0050	<0.0050	<0.0050	0.0107	0.0388	0.103	0.0054	0.0936	0.0401
Chloride (Cl)	<0.50	<0.50	<0.50	<0.50	<1.0	<2.5	<1.0	<1.0	<1.0
Fluoride (F)	0.051	0.048	0.048	0.058	***0.161***	***0.13***	0.046	0.097	***0.245***
Nitrate (as N)	0.241	0.0968	0.0924	0.0223	0.207	0.095	0.113	0.097	0.073
Nitrite (as N)	<0.0010	<0.0010	<0.0010	<0.0010	0.0023	<0.0050	0.0031	<0.0020	<0.0020
Sulfate (SO4)	17.1	28.9	26.9	152	388	740	800	483	685
Cyanide, Weak Acid Diss	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Total	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanate	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thiocyanate (SCN)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aluminum (Al)-Total	***0.153***	***0.157***	***0.213***	***1.49***	0.0139	***0.299***	***0.222***	***0.478***	***0.101***
Antimony (Sb)-Total	0.00019	0.00021	0.00023	0.0019	0.00875	0.0117	0.00023	0.00274	0.0369
Arsenic (As)-Total	0.001	0.00142	0.00157	***0.0152***	***0.0423***	***0.0276***	0.00161	***0.0102***	***0.115***
Barium (Ba)-Total	0.0526	0.0531	0.0538	0.0556	0.0161	0.031	0.0123	0.052	0.0112
Beryllium (Be)-Total	<0.000020	<0.000020	<0.000020	0.000048	<0.000020	<0.000020	0.000028	0.000026	<0.000020
Bismuth (Bi)-Total	0.000063	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000195
Boron (B)-Total	<0.010	<0.010	<0.010	<0.010	<0.010	0.032	<0.010	0.017	0.077
Cadmium (Cd)-Total *(Lab Result)*	0.0000572	0.0000457	0.0000489	0.0000626	***0.00292***	***0.00151***	***0.00877***	0.0000997	***0.000987***
Cadmium (Cd)-Total (Hardness Adjusted Guideline)	0.000130	0.000149	0.000142	0.000349	0.000370	0.000370	0.000370	0.000370	0.000370
Calcium (Ca)-Total	20.8	24.3	23.4	69.8	176	229	218	151	225
Chromium (Cr)-Total	0.0003	0.00031	0.00039	0.00178	0.00012	0.0006	0.00022	0.00092	0.00018
Cobalt (Co)-Total	0.0002	0.00018	0.00021	0.00081	0.00087	0.00042	<0.00010	0.00054	0.00045
Copper (Cu)-Total *(Lab Result)*	***0.00217***	0.00216	***0.00233***	0.00378	0.00082	0.00192	0.00116	0.00224	***0.0265***
Copper (Cu)-Total (Hardness Adjusted Guideline)	0.00200	0.00222	0.00212	0.00400	0.00400	0.00400	0.00400	0.00400	0.00400
Iron (Fe)-Total	0.236	0.266	***0.357***	***2.3***	***0.556***	***1.71***	0.155	***2.19***	***0.341***
Lead (Pb)-Total *(Lab Result)*	0.000526	0.000678	0.00071	0.00247	0.000345	0.00299	0.000787	0.00052	***0.0168***
Lead (Pb)-Total (Hardness Adjusted Guideline)	0.00235	0.00290	0.00270	0.00700	0.00700	0.00700	0.00700	0.00700	0.00700
Lithium (Li)-Total	<0.0010	<0.0010	<0.0010	0.0012	0.0086	0.009	0.001	0.0034	0.0077
Magnesium (Mg)-Total	6.26	7.55	7.17	19	56.7	106	72.5	67.8	42.2
Manganese (Mn)-Total	0.0493	0.0468	0.0483	0.0775	***1.21***	***0.686***	0.29	0.421	0.16
Mercury (Hg)-Total	0.000007	<0.0000050	0.000005	0.0000052	0.000008	<0.0000050	0.0000065	<0.0000050	0.0000195
Molybdenum (Mo)-Total	0.000379	0.000356	0.000356	0.000085	0.000271	0.000223	<0.000050	0.000317	0.00127
Nickel (Ni)-Total *(Lab Result)*	0.0006	<0.00050	0.00071	0.00122	0.00168	0.00115	0.00696	0.00137	0.00083
Nickel (Ni)-Total (Hardness Adjusted Guideline)	0.07982	0.09052	0.08665	0.15000	0.15000	0.15000	0.15000	0.15000	0.15000
Phosphorus (P)-Total	<0.050	<0.050	<0.050	0.091	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	0.55	0.62	0.62	4.11	3.62	4.46	0.56	2.69	14.5
Selenium (Se)-Total	<0.000050	<0.000050	0.000053	0.000134	0.000058	0.000427	0.000084	0.000175	0.000055
Silicon (Si)-Total	6.16	6.28	6.61	6.92	6.54	6.07	8.01	6.72	2.38
Silver (Ag)-Total	0.000035	<0.000010	0.000013	0.000045	0.000013	0.000042	0.000033	0.000038	***0.000291***
Sodium (Na)-Total	2.22	2.47	2.45	3.36	4.93	6.91	5.28	6.21	15
Strontium (Sr)-Total	0.21	0.213	0.203	0.21	0.396	0.538	0.458	0.436	0.552
Sulfur (S)-Total	5.88	9.59	9.31	51.3	134	235	270	161	226
Thallium (Tl)-Total	0.000016	<0.000010	<0.000010	0.000046	0.000096	0.000056	<0.000010	0.000014	0.00017
Tin (Sn)-Total	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00421	0.00418	0.00536	0.0774	0.00041	0.0152	0.00292	0.0213	<0.00090
Uranium (U)-Total	0.000406	0.000442	0.000411	0.000392	0.00409	0.00385	0.00002	0.00205	0.00096
Vanadium (V)-Total	0.00058	0.00063	0.00079	0.00616	<0.00050	0.00151	0.00058	0.00238	<0.00050
Zinc (Zn)-Total	0.0041	0.0036	0.0043	0.0106	***0.541***	***0.364***	***3.24***	0.0189	***0.07***
Aluminum (Al)-Dissolved	0.0355	0.0347	0.0418	0.0117	0.0038	0.0043	***0.147***	0.0425	0.0144
Antimony (Sb)-Dissolved	0.00011	0.00016	0.00016	0.00138	0.00849	0.0115	<0.00010	0.00257	0.0353
Arsenic (As)-Dissolved	0.00046	0.00074	0.00082	0.00334	***0.0127***	***0.0123***	0.00046	0.005	***0.0817***
Barium (Ba)-Dissolved	0.0508	0.051	0.0506	0.0367	0.0157	0.0271	0.0111	0.0445	0.0109
Beryllium (Be)-Dissolved	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000023	<0.000020	<0.000020
Bismuth (Bi)-Dissolved	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved	<0.010	<0.010	<0.010	<0.010	<0.010	0.029	<0.010	0.015	0.073
Cadmium (Cd)-Dissolved *(Lab Result)*	0.0000397	0.0000361	0.0000392	0.0000169	***0.00091***	0.000234	***0.00957***	0.0000238	***0.000781***
Cadmium (Cd)-Diss. (Hardness Adjusted Guideline)	0.000130	0.000149	0.000142	0.000349	0.000370	0.000370	0.000370	0.000370	0.000370
Calcium (Ca)-Dissolved	21.2	24.8	23.4	72.2	176	239	224	156	234
Chromium (Cr)-Dissolved	0.00013	0.00013	0.00016	<0.00010	<0.00010	<0.00010	0.0001	0.00014	<0.00010
Cobalt (Co)-Dissolved	0.00013	0.00012	0.00013	0.00016	0.00086	0.00026	<0.00010	0.00033	0.00045
Copper (Cu)-Dissolved *(Lab Result)*	0.00188	0.00187	0.00197	0.00105	0.00047	0.00073	0.00091	0.00102	***0.0198***
Copper (Cu)-Diss. (Hardness Adjusted Guideline)	0.00200	0.00222	0.00212	0.00400	0.00400	0.00400	0.00400	0.00400	0.00400
Iron (Fe)-Dissolved	0.066	0.064	0.094	0.161	0.207	0.262	0.026	***0.764***	0.018
Lead (Pb)-Dissolved *(Lab Result)*	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000071	0.000861
Lead (Pb)-Diss. (Hardness Adjusted Guideline)	0.00235	0.00290	0.00270	0.00700	0.00700	0.00700	0.00700	0.00700	0.00700
Lithium (Li)-Dissolved	<0.0010	<0.0010	<0.0010	<0.0010	0.0083	0.0087	<0.0010	0.003	0.0075
Magnesium (Mg)-Dissolved	6.32	7.6	7.17	19.1	57.5	111	74.9	68.4	43.1
Manganese (Mn)-Dissolved	0.0438	0.0395	0.0388	0.0456	1.18	0.641	0.283	0.399	0.148
Mercury (Hg)-Dissolved	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved	0.000326	0.000316	0.000308	<0.000050	0.000261	0.000196	<0.000050	0.000272	0.00123
Nickel (Ni)-Dissolved *(Lab Result)*	<0.00050	<0.00050	0.00055	<0.00050	0.00164	0.00083	0.00737	0.00073	0.00069
Nickel (Ni)-Diss. (Hardness Adjusted Guideline)	0.07982	0.09052	0.08665	0.15000	0.15000	0.15000	0.15000	0.15000	0.15000
Phosphorus (P)-Dissolved	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved	0.51	0.59	0.59	3.97	3.6	4.75	0.49	2.76	15.2
Selenium (Se)-Dissolved	<0.000050	<0.000050	0.00005	0.000087	<0.000050	0.000395	<0.000050	0.000158	<0.000050
Silicon (Si)-Dissolved	6.1	6.11	6.33	4.96	6.52	5.89	8.41	6.29	2.43
Silver (Ag)-Dissolved	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000023
Sodium (Na)-Dissolved	2.21	2.52	2.42	3.25	4.84	7.09	5.43	6.08	15.1
Strontium (Sr)-Dissolved	0.211	0.212	0.198	0.209	0.392	0.553	0.471	0.431	0.562
Sulfur (S)-Dissolved	5.95	9.9	9.2	51.5	132	240	270	161	232
Thallium (Tl)-Dissolved	<0.000010	<0.000010	<0.000010	<0.000010	0.000089	0.000045	<0.000010	<0.000010	0.000167
Tin (Sn)-Dissolved	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	<0.00030	<0.00030	0.00034	<0.00030	<0.00030	<0.00030	<0.00030	<0.00090	<0.00030
Uranium (U)-Dissolved	0.000364	0.000408	0.000379	0.000289	0.00386	0.00377	<0.000010	0.00196	0.000935
Vanadium (V)-Dissolved	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved	0.0027	0.0018	0.0017	0.0023	***0.522***	***0.308***	***3.62***	0.0105	***0.0502***

Analyte	WQ-SEEP 9/15/2015 3:45:00 PM	WQ-DC-U 9/15/2015 2:40:00 PM	WQ-DC-R 9/14/2015 7:25:00 PM	WQ-DC-R-r 9/14/2015 7:40:00 PM	QA/QC WQ-DC-R-r Replicate Analysis	WQ-PW 9/16/2015 8:40:00 AM	FIELD BLANK 9/15/2015 5:00:00 PM	TRAVEL BLANK 9/16/2015	WQ-DC-14 *** 9/15/2015 11:10:00 AM
Temperature (in-situ)	4.7	5.1	4.5	-	-	0.9	-	-	1.8
Specific Conductivity (in-situ)	1565.0	1112.0	909.0	-	-	373.1	-	-	350.1
pH (in-situ)	7.1	8.0	7.46	-	-	7.64	-	-	7.58
Dissolved Oxygen (in-situ)	5.1	11.0	11.13	-	-	2.06	-	-	10.72
Turbidity (In-situ)	33.1	17.5	6.81	-	-	0.16	-	-	0.24
Colour, True	-	-	-	-	-	<5.0	-	-	-
Conductivity	1450	1070	879	887	1%	350	<2.0	<2.0	344
Hardness (as CaCO3)	869	665	526	522	1%	184	<0.50	<0.50	176
pH (lab)	7.15	8.14	7.89	7.96	1%	8.18	***5.64***	***5.54***	7.79
Total Suspended Solids	27	28.7	6	<3.0	<DL	-	<3.0	<3.0	4
Total Dissolved Solids	1210	829	643	643	0%	194	<1.0	<1.0	217
Alkalinity, Bicarbonate (as CaCO3)	245	171	138	141	2%	-	<1.0	<1.0	67.9
Alkalinity, Carbonate (as CaCO3)	<1.0	<1.0	<1.0	<1.0	<DL	-	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	<1.0	<1.0	<1.0	<1.0	<DL	-	<1.0	<1.0	<1.0
Alkalinity, Total (as CaCO3)	245	171	138	141	2%	161	<1.0	<1.0	67.9
Ammonia, Total (as N)	***3.9***	0.486	0.202	0.192	5%	-	<0.0050	<0.0050	<0.0050
Chloride (Cl)	<2.5	<1.0	<0.50	<0.50	<DL	<0.50	<0.50	<0.50	<0.50
Fluoride (F)	0.12	0.096	0.075	0.075	<2xDL	0.097	<0.020	<0.020	0.05
Nitrate (as N)	0.707	0.201	0.316	0.316	0%	0.133	<0.0050	<0.0050	<0.0050
Nitrite (as N)	0.0389	0.0053	0.0078	0.0075	4%	<0.0010	<0.0010	<0.0010	<0.0010
Sulfate (SO4)	682	486	367	367	0%	29.3	<0.30	<0.30	107
Cyanide, Weak Acid Diss	0.0117	<0.0050	<0.0050	<0.0050	<DL	-	<0.0050	<0.0050	<0.0050
Cyanide, Total	0.0423	<0.0050	<0.0050	<0.0050	<DL	-	<0.0050	<0.0050	<0.0050
Cyanate	<0.20	<0.20	<0.20	<0.20	<DL	-	<0.20	<0.20	<0.20
Thiocyanate (SCN)	3.87	<0.50	<0.50	<0.50	<DL	-	<0.50	<0.50	<0.50
Aluminum (Al)-Total	0.0254	***0.421***	0.0588	0.0605	3%	<0.010	<0.0030	<0.0030	0.0511
Antimony (Sb)-Total	0.00043	0.00218	0.00161	0.00163	1%	<0.00050	<0.00010	<0.00010	0.00173
Arsenic (As)-Total	***0.0414***	***0.0141***	***0.00969***	***0.00996***	3%	0.00039	<0.00010	<0.00010	0.0046
Barium (Ba)-Total	0.0637	0.0526	0.0448	0.047	5%	0.082	<0.000050	<0.000050	0.0401
Beryllium (Be)-Total	<0.000020	0.00002	<0.000020	<0.000020	<DL	-	<0.000020	<0.000020	<0.000020
Bismuth (Bi)-Total	<0.000050	<0.000050	<0.000050	<0.000050	<DL	-	<0.000050	<0.000050	<0.000050
Boron (B)-Total	0.057	0.021	0.018	0.018	<2xDL	<0.10	<0.010	<0.010	<0.010
Cadmium (Cd)-Total *(Lab Result)*	***0.000505***	0.000096	0.000045	0.0000516	14%	<0.00020	<0.0000050	<0.0000050	0.0000568
Cadmium (Cd)-Total (Hardness Adjusted Guideline)	0.000370	0.000370	0.000370	0.000370	-	-	0.000370	0.000370	0.000253
Calcium (Ca)-Total	247	155	120	129	7%	42.7	<0.050	<0.050	48.1
Chromium (Cr)-Total	0.00055	0.00088	0.00033	0.00035	<2xDL	<0.0020	<0.00010	<0.00010	0.00021
Cobalt (Co)-Total	0.00745	0.00121	0.00082	0.00079	4%	-	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total *(Lab Result)*	0.00374	0.00234	0.00155	0.00155	<2xDL	<0.0010	<0.00050	<0.00050	0.00208
Copper (Cu)-Total (Hardness Adjusted Guideline)	0.00400	0.00400	0.00400	0.00400	-	-	0.00400	0.00400	0.00383
Iron (Fe)-Total	***9.96***	***2.25***	***1.4***	***1.53***	9%	<0.030	<0.010	<0.010	0.078
Lead (Pb)-Total *(Lab Result)*	0.000093	0.000415	0.000201	0.000205	<2xDL	0.00054	<0.000050	<0.000050	0.000355
Lead (Pb)-Total (Hardness Adjusted Guideline)	0.00700	0.00700	0.00700	0.00700	-	-	0.00700	0.00700	0.00653
Lithium (Li)-Total	0.0013	0.0031	0.0022	0.0018	<2xDL	-	<0.0010	<0.0010	<0.0010
Magnesium (Mg)-Total	52.6	61.4	47.1	48.7	3%	18.7	<0.10	<0.10	12.1
Manganese (Mn)-Total	***5.52***	***0.991***	***0.575***	***0.597***	4%	<0.0020	<0.00010	<0.00010	0.00592
Mercury (Hg)-Total	0.0000079	0.000006	0.0000053	<0.0000050	<DL	<0.00020	<0.0000050	<0.0000050	0.0000061
Molybdenum (Mo)-Total	0.000821	0.000349	0.000292	0.000318	9%	-	<0.000050	<0.000050	0.00006
Nickel (Ni)-Total *(Lab Result)*	0.00343	0.00145	0.00102	0.00098	<2xDL	-	<0.00050	<0.00050	<0.00050
Nickel (Ni)-Total (Hardness Adjusted Guideline)	0.15000	0.15000	0.15000	0.15000	-	-	0.15000	0.15000	0.14687
Phosphorus (P)-Total	<0.050	<0.050	<0.050	<0.050	<DL	-	<0.050	<0.050	<0.050
Potassium (K)-Total	6.01	2.95	2.32	2.51	8%	0.9	<0.10	<0.10	3.39
Selenium (Se)-Total	0.000295	0.000167	0.00013	0.000128	<2xDL	<0.0010	<0.000050	<0.000050	0.000061
Silicon (Si)-Total	7.14	6.6	6.3	6.41	2%	-	<0.050	<0.050	5.29
Silver (Ag)-Total	0.00004	0.000013	<0.000010	<0.000010	<DL	-	<0.000010	<0.000010	0.000012
Sodium (Na)-Total	33	9.19	8.43	8.14	4%	4.7	<0.050	<0.050	2.63
Strontium (Sr)-Total	0.703	0.454	0.367	0.378	3%	-	<0.00020	<0.00020	0.142
Sulfur (S)-Total	224	158	120	126	5%	-	<0.50	<0.50	35.6
Thallium (Tl)-Total	0.00001	<0.000010	<0.000010	<0.000010	<DL	-	<0.000010	<0.000010	<0.000010
Tin (Sn)-Total	<0.00010	<0.00010	<0.00010	<0.00010	<DL	-	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	0.00133	0.0196	0.00162	0.00166	2%	-	<0.00030	<0.00030	0.00153
Uranium (U)-Total	0.00196	0.00187	0.00129	0.00133	3%	0.00157	<0.000010	<0.000010	0.000076
Vanadium (V)-Total	0.0017	0.00237	0.00079	0.0008	<2xDL	-	<0.00050	<0.00050	0.00055
Zinc (Zn)-Total	***0.0436***	0.0156	0.0073	0.0073	<2xDL	<0.050	<0.0030	<0.0030	0.0091
Aluminum (Al)-Dissolved	0.0131	0.0375	0.0248	0.0239	4%	-	<0.0010	-	0.0179
Antimony (Sb)-Dissolved	0.00039	0.0021	0.00162	0.00157	3%	-	<0.00010	-	0.00164
Arsenic (As)-Dissolved	***0.0375***	***0.00818***	***0.00579***	***0.00568***	2%	-	<0.00010	-	0.00401
Barium (Ba)-Dissolved	0.0716	0.0462	0.0445	0.0456	2%	-	<0.000050	-	0.0397
Beryllium (Be)-Dissolved	<0.000020	<0.000020	<0.000020	<0.000020	<DL	-	<0.000020	-	<0.000020
Bismuth (Bi)-Dissolved	<0.000050	<0.000050	<0.000050	<0.000050	<DL	-	<0.000050	-	<0.000050
Boron (B)-Dissolved	0.054	0.018	0.016	0.015	<2xDL	-	<0.010	-	<0.010
Cadmium (Cd)-Dissolved *(Lab Result)*	***0.000463***	0.0000318	0.0000445	0.000029	42%	-	<0.0000050	-	0.0000529
Cadmium (Cd)-Diss. (Hardness Adjusted Guideline)	0.000370	0.000370	0.000370	0.000370	-	-	0.000370	-	0.000253
Calcium (Ca)-Dissolved	256	161	129	130	1%	-	<0.050	-	50
Chromium (Cr)-Dissolved	0.00042	0.00016	0.00023	0.0002	<2xDL	-	<0.00010	-	0.00012
Cobalt (Co)-Dissolved	0.00879	0.00101	0.00081	0.00079	2%	-	<0.00010	-	<0.00010
Copper (Cu)-Dissolved *(Lab Result)*	0.00289	0.00115	0.00142	0.00129	10%	-	<0.00020	-	0.00187
Copper (Cu)-Diss. (Hardness Adjusted Guideline)	0.00400	0.00400	0.00400	0.00400	-	-	0.00400	-	0.00383
Iron (Fe)-Dissolved	***7.36***	***0.488***	***0.598***	***0.589***	2%	-	<0.010	-	0.02
Lead (Pb)-Dissolved *(Lab Result)*	<0.000050	<0.000050	<0.000050	<0.000050	<DL	-	<0.000050	-	<0.000050
Lead (Pb)-Diss. (Hardness Adjusted Guideline)	0.00700	0.00700	0.00700	0.00700	-	-	0.00700	-	0.00653
Lithium (Li)-Dissolved	0.0012	0.0027	0.0021	0.0016	<2xDL	-	<0.0010	-	<0.0010
Magnesium (Mg)-Dissolved	55.8	63.8	49.4	48.2	2%	-	<0.10	-	12.5
Manganese (Mn)-Dissolved	6.41	0.981	0.579	0.596	3%	-	<0.00010	-	0.00394
Mercury (Hg)-Dissolved	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<DL	-	<0.0000050	-	<0.0000050
Molybdenum (Mo)-Dissolved	0.000781	0.000308	0.000272	0.000276	1%	-	<0.000050	-	<0.000050
Nickel (Ni)-Dissolved *(Lab Result)*	0.00391	0.00099	0.00096	0.00094	<2xDL	-	<0.00050	-	<0.00050
Nickel (Ni)-Diss. (Hardness Adjusted Guideline)	0.15000	0.15000	0.15000	0.15000	-	-	0.15000	-	0.14687
Phosphorus (P)-Dissolved	<0.050	<0.050	<0.050	<0.050	<DL	-	<0.050	-	<0.050
Potassium (K)-Dissolved	6.28	3.05	2.46	2.51	2%	-	<0.10	-	3.47
Selenium (Se)-Dissolved	0.000283	0.000153	0.000135	0.000127	<2xDL	-	<0.000050	-	0.000068
Silicon (Si)-Dissolved	7.26	6.3	6.52	6.3	3%	-	<0.050	-	5.41
Silver (Ag)-Dissolved	<0.000010	<0.000010	<0.000010	<0.000010	<DL	-	<0.000010	-	<0.000010
Sodium (Na)-Dissolved	38.6	9.3	8.69	8.13	7%	-	<0.050	-	2.61
Strontium (Sr)-Dissolved	0.722	0.451	0.375	0.371	1%	-	<0.00020	-	0.145
Sulfur (S)-Dissolved	229	163	125	127	2%	-	<0.50	-	36.2
Thallium (Tl)-Dissolved	0.000011	<0.000010	<0.000010	<0.000010	<DL	-	<0.000010	-	<0.000010
Tin (Sn)-Dissolved	<0.00010	<0.00010	<0.00010	<0.00010	<DL	-	<0.00010	-	<0.00010
Titanium (Ti)-Dissolved	<0.0012	<0.00090	0.00057	<0.00090	<DL	-	<0.00030	-	<0.00030
Uranium (U)-Dissolved	0.00196	0.00182	0.00129	0.00128	1%	-	<0.000010	-	0.000069
Vanadium (V)-Dissolved	0.00145	<0.00050	<0.00050	<0.00050	<DL	-	<0.00050	-	<0.00050
Zinc (Zn)-Dissolved	***0.0477***	0.0068	0.0053	0.0052	2%	-	<0.0010	-	0.008

Applied Guidelines: 'Federal CCME Canadian Environmental Quality Guidelines (May 2015), CCME: Freshwater Aquatic Life 'Mount Nansen Effluent Discharge Standards

COLOUR KEY:
Exceeds CCME Guideline
Exceeds MN Effluent Discharge Standards
Exceeds both CCME and MN Standards
Exceeds Hardness Dependent Calculated Guideline (CCME)
Data flag for Detection Limit Adjustment --> Please refer to the lab COA report and lab excel report for more info
QA/QC Codes: RPD - Relative Percent Difference, <DL - below detection limit, and <2XDL - less than two times the detection limit.

Notes:
** WQ-PW is a drinking water sample and the analysis package has different detection limits than all other samples. The results are also compared to the Guidelines for Canadian Drinking Water Quality (Health Canada, October 2014) versus the CCME or MN Effluent Quality Standards.
*** These samples were collected as part of an additional investigation of the Upper Dome Creek and mill site area.
QA/QC Travel/Field Blank Analysis - The travel blank and field blank had all parameters below detection limit. No contamination from transport, storage or field sampling methodology is suspected.
QA/QC Replicate Analysis - The average RPD of the replicate sample set for WQ-VC-U-r and WQ-DC-R-r was 7% and 4%, respectively, indicating that sample analysis was adequately precise. The average RPD for total metals in the two replicate samples was 15% and 5%, respectively. The average RPD for dissolved metals was 2% and 5%, for each respective replicate sample set. For the WQ-VC-U-r replicate set, most Individual RPDs were <20% different, except for total aluminum, iron and titanium which had RPD>20%.
For the WQ-DC-R-r replicate set had all but one individual parameter with RPD<20% (dissolved cadmium RPD>20%) . RPD >%20, indicates some natural variability or lab imprecision. See Monthly Report for additional details.

Summary of Water Quality Results for the September 14-16, 2015 Trip.

Analyte	Units	CCME-WATER-F-AL	Mount Nansen Effluent Discharge Standards	Sample ID/Site ID Date Sampled Detection Limit	WQ-DC-15 *** 9/15/2015 11:30:00 AM	WQ-DC-11 *** 9/15/2015 11:55:00 AM	WQ-MS-S-03 *** 9/15/2015 12:15:00 PM	WQ-DC-10 *** 9/15/2015 12:00:00 AM	WQ-MS-S-A *** 9/16/2015 7:55:00 AM	WQ-DC-8 *** 9/15/2015 1:50:00 PM
Temperature (in-situ)	°C	-	-	-	0.8	1.1	1.5	1.6	0.2	2.7
Specific Conductivity (in-situ)	µS/cm	-	-	-	1124.0	1116.0	1296	1164.0	2669.0	2109.0
pH (in-situ)	pH	6.5 - 9.0	6.0 - 8.5	-	6.8	7.1	7.03	7.45	7.71	7.67
Dissolved Oxygen (in-situ)	mg/L	-	-	-	1.4	7.88	4.69	11.22	12.96	11.4
Turbidity (in-situ)	NTU	-	-	-	7.37	20.40	3.34	5.43	2.70	20.00
Colour, True	CU	15	-	5	-	-	-	-	-	-
Conductivity	µS/cm	-	-	2	1070	1080	1220	1110	2370	1950
Hardness (as CaCO3)	mg/L	-	-	0.5	685	687	788	704	1870	1400
pH (lab)	pH	6.5 - 9.0	6.0 - 8.5	0.1	7.37	7.65	7.25	7.97	7.91	8.00
Total Suspended Solids	mg/L	-	50	3	<3.0	<3.0	***91.2***	8	7.3	***88***
Total Dissolved Solids	mg/L	-	-	1	807	808	940	834	2270	1720
Alkalinity, Bicarbonate (as CaCO3)	mg/L	-	-	1	273	275	300	272	523	367
Alkalinity, Carbonate (as CaCO3)	mg/L	-	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	-	-	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Total (as CaCO3)	mg/L	-	-	1	273	275	300	272	523	367
Ammonia, Total (as N)	mg/L	0.75	-	0.005	0.0391	0.0304	0.046	0.0296	0.0181	0.265
Chloride (Cl)	mg/L	120	-	0.5	<1.0	<1.0	<1.0	<1.0	<2.5	<2.5
Fluoride (F)	mg/L	0.12	-	0.02	***0.153***	***0.154***	***0.191***	***0.162***	***0.148***	0.12
Nitrate (as N)	mg/L	13	-	0.005	0.203	0.209	0.016	0.093	0.117	0.191
Nitrite (as N)	mg/L	0.06	-	0.001	0.0021	0.0021	<0.0020	<0.0020	<0.0050	<0.0050
Sulfate (SO4)	mg/L	-	-	0.3	394	394	474	415	1340	1010
Cyanide, Weak Acid Diss	mg/L	-	0.1	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanide, Total	mg/L	-	0.3	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cyanate	mg/L	-	-	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thiocyanate (SCN)	mg/L	-	-	0.5	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50
Aluminum (Al)-Total	mg/L	0.1	-	0.003	0.0814	0.0311	***0.27***	0.0418	0.0212	***0.712***
Antimony (Sb)-Total	mg/L	-	0.15	0.0001	0.00923	0.00856	0.0137	0.00936	0.00879	0.0204
Arsenic (As)-Total	mg/L	0.005	-	0.0001	***0.0521***	***0.0454***	***0.141***	***0.0541***	***0.0574***	***0.0561***
Barium (Ba)-Total	mg/L	-	1.0	0.00005	0.0167	0.0169	0.031	0.0186	0.0151	0.0503
Beryllium (Be)-Total	mg/L	-	-	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040	<0.000040
Bismuth (Bi)-Total	mg/L	-	-	0.00005	<0.000050	<0.000050	0.000059	<0.000050	<0.00010	<0.00010
Boron (B)-Total	mg/L	-	-	0.01	<0.010	<0.010	<0.010	<0.010	<0.020	0.053
Cadmium (Cd)-Total *(Lab Result)*	mg/L	0.00009	0.02	0.000005	***0.00339***	***0.00317***	***0.00124***	***0.00212***	***0.00313***	***0.00452***
Cadmium (Cd)-Total (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.000370*	*0.000370*	*0.000370*	*0.000370*	*0.000370*	*0.000370*
Calcium (Ca)-Total	mg/L	-	-	0.05	178	174	200	184	375	297
Chromium (Cr)-Total	mg/L	0.0089	0.04	0.0001	0.00018	0.00012	0.00047	0.00014	<0.00020	0.00123
Cobalt (Co)-Total	mg/L	-	-	0.0001	0.00091	0.00078	0.00165	0.00084	0.00018	0.00079
Copper (Cu)-Total *(Lab Result)*	mg/L	0.002	0.2	0.0005	0.00098	0.00091	***0.0144***	0.00117	0.0026	***0.0041***
Copper (Cu)-Total (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.00480*	*0.00480*	*0.00480*	*0.00480*	*0.00480*	*0.00480*
Iron (Fe)-Total	mg/L	0.3	1.0	0.01	***0.828***	***0.657***	***4.04***	***1.57***	***0.218***	***5.38***
Lead (Pb)-Total *(Lab Result)*	mg/L	0.001	0.1	0.00005	0.000677	0.000503	***0.0136***	0.00124	0.00428	***0.00816***
Lead (Pb)-Total (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.00700*	*0.00700*	*0.00700*	*0.00700*	*0.00700*	*0.00700*
Lithium (Li)-Total	mg/L	-	-	0.001	0.0088	0.0085	0.0095	0.008	0.0185	0.0117
Magnesium (Mg)-Total	mg/L	-	-	0.1	57.1	55.2	64.5	60.5	216	146
Manganese (Mn)-Total	mg/L	-	0.5	0.0001	***2.18***	***2.08***	***1.51***	***1.03***	0.434	***1.51***
Mercury (Hg)-Total	mg/L	0.000026	0.005	0.000005	0.0000071	0.0000083	0.0000051	0.0000054	<0.0000050	0.0001146
Molybdenum (Mo)-Total	mg/L	0.0073	-	0.00005	0.000293	0.00026	0.000285	0.000239	0.00016	0.00021
Nickel (Ni)-Total *(Lab Result)*	mg/L	0.025	0.3	0.0005	0.00164	0.00157	0.00234	0.00152	0.001	0.002
Nickel (Ni)-Total (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.15000*	*0.15000*	*0.15000*	*0.15000*	*0.15000*	*0.15000*
Phosphorus (P)-Total	mg/L	-	-	0.05	<0.050	<0.050	0.088	<0.050	<0.050	0.089
Potassium (K)-Total	mg/L	-	-	0.1	3.59	3.74	3.59	3.71	6.86	5.42
Selenium (Se)-Total	mg/L	0.001	-	0.00005	0.000061	<0.000050	<0.000050	<0.000050	***0.00182***	0.00091
Silicon (Si)-Total	mg/L	-	-	0.05	6.46	6.74	6.54	6.43	5.67	6.87
Silver (Ag)-Total	mg/L	0.0001	0.1	0.00001	0.000038	0.000012	***0.000213***	0.000022	0.000056	0.0001
Sodium (Na)-Total	mg/L	-	-	0.05	4.91	4.88	4.73	4.83	9.48	8.91
Strontium (Sr)-Total	mg/L	-	-	0.0002	0.4	0.387	0.428	0.407	0.89	0.706
Sulfur (S)-Total	mg/L	-	-	0.5	133	128	157	142	437	329
Thallium (Tl)-Total	mg/L	0.0008	-	0.00001	0.000111	0.00009	0.000105	0.000077	0.000581	0.000144
Tin (Sn)-Total	mg/L	-	-	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	-	-	0.0003	0.00437	0.00121	0.0192	<0.0030	<0.0030	0.0364
Uranium (U)-Total	mg/L	0.015	-	0.00001	0.00416	0.00407	0.0041	0.00404	0.00836	0.00452
Vanadium (V)-Total	mg/L	-	-	0.0005	0.00065	<0.00050	<0.00050	0.00177	<0.0010	0.0036
Zinc (Zn)-Total	mg/L	0.03	0.3	0.003	***0.552***	***0.533***	***0.881***	***0.573***	***0.254***	***0.772***
Aluminum (Al)-Dissolved	mg/L	0.1	-	0.001	0.004	0.0036	0.002	0.0033	0.0022	0.0046
Antimony (Sb)-Dissolved	mg/L	-	-	0.0001	0.0085	0.00855	0.012	0.00895	0.00825	0.0198
Arsenic (As)-Dissolved	mg/L	0.005	0.15	0.0001	***0.0126***	***0.00953***	***0.0826***	***0.0288***	***0.0534***	***0.0269***
Barium (Ba)-Dissolved	mg/L	-	-	0.00005	0.0158	0.0163	0.0174	0.018	0.0151	0.0383
Beryllium (Be)-Dissolved	mg/L	-	-	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040	<0.000040
Bismuth (Bi)-Dissolved	mg/L	-	-	0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.00010	<0.00010
Boron (B)-Dissolved	mg/L	-	-	0.01	<0.010	<0.010	<0.010	<0.010	<0.020	0.049
Cadmium (Cd)-Dissolved *(Lab Result)*	mg/L	0.00009	-	0.000005	***0.000857***	***0.000412***	***0.000434***	***0.000429***	***0.00105***	***0.00063***
Cadmium (Cd)-Diss. (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.000370*	*0.000370*	*0.000370*	*0.000370*	*0.000370*	*0.000370*
Calcium (Ca)-Dissolved	mg/L	-	-	0.05	179	179	206	185	384	310
Chromium (Cr)-Dissolved	mg/L	0.0089	-	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020
Cobalt (Co)-Dissolved	mg/L	-	-	0.0001	0.00085	0.00079	0.00136	0.00079	0.00037	0.00044
Copper (Cu)-Dissolved *(Lab Result)*	mg/L	0.002	-	0.0002	0.00044	0.00039	0.00023	0.00042	0.00167	0.00082
Copper (Cu)-Diss. (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.00400*	*0.00400*	*0.00400*	*0.00400*	*0.00400*	*0.00400*
Iron (Fe)-Dissolved	mg/L	0.3	-	0.01	0.21	0.119	***2.59***	***1.06***	0.234	***2.41***
Lead (Pb)-Dissolved *(Lab Result)*	mg/L	0.001	-	0.00005	<0.000050	<0.000050	0.000108	<0.000050	0.00078	<0.00010
Lead (Pb)-Diss. (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.00700*	*0.00700*	*0.00700*	*0.00700*	*0.00700*	*0.00700*
Lithium (Li)-Dissolved	mg/L	-	-	0.001	0.0081	0.0081	0.0089	0.0076	0.0175	0.0107
Magnesium (Mg)-Dissolved	mg/L	-	-	0.1	57.6	58.5	66.2	58.9	222	152
Manganese (Mn)-Dissolved	mg/L	-	-	0.0001	1.15	1.08	1.49	0.99	0.435	1.52
Mercury (Hg)-Dissolved	mg/L	0.000026	-	0.0000005	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved	mg/L	0.0073	-	0.00005	0.000251	0.000239	0.000232	0.000215	0.00014	0.00019
Nickel (Ni)-Dissolved *(Lab Result)*	mg/L	0.025	-	0.0005	0.00155	0.00153	0.00189	0.0014	0.0011	0.0013
Nickel (Ni)-Diss. (Hardness Adjusted Guideline)	*mg/L*	-	-	-	*0.15000*	*0.15000*	*0.15000*	*0.15000*	*0.15000*	*0.15000*
Phosphorus (P)-Dissolved	mg/L	-	-	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	-	-	0.1	3.73	3.68	3.71	3.6	6.99	5.61
Selenium (Se)-Dissolved	mg/L	0.001	-	0.00005	0.000051	<0.000050	<0.000050	<0.000050	***0.00191***	0.00083
Silicon (Si)-Dissolved	mg/L	-	-	0.05	6.66	6.54	6.31	6.38	5.7	6.13
Silver (Ag)-Dissolved	mg/L	0.0001	-	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020	<0.000020
Sodium (Na)-Dissolved	mg/L	-	-	0.05	4.86	4.86	4.81	4.71	9.5	9.2
Strontium (Sr)-Dissolved	mg/L	-	-	0.0002	0.387	0.384	0.43	0.403	0.894	0.71
Sulfur (S)-Dissolved	mg/L	-	-	0.5	131	131	160	137	432	337
Thallium (Tl)-Dissolved	mg/L	0.0008	-	0.00001	0.000088	0.00008	0.000073	0.000065	0.000559	0.000096
Tin (Sn)-Dissolved	mg/L	-	-	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020
Titanium (Ti)-Dissolved	mg/L	-	-	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00060	<0.00060
Uranium (U)-Dissolved	mg/L	0.015	-	0.00001	0.00397	0.00398	0.00398	0.00386	0.00813	0.00454
Vanadium (V)-Dissolved	mg/L	-	-	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010
Zinc (Zn)-Dissolved	mg/L	0.03	-	0.001	**0.527**	**0.527**	**0.835**	**0.538**	**0.254**	**0.642**

Applied Guidelines: 'Federal CCME Canadian Environmental Quality Guidelines (May 2015), CCME: Freshwater Aquatic Life 'Mount Nansen Effluent Discharge Standards

COLOUR KEY:
Exceeds CCME Guideline
Exceeds MN Effluent Discharge Standards
Exceeds both CCME and MN Standards
Exceeds Hardness Dependent Calculated Guideline (CCME)
Data flag for Detection Limit Adjustment --> Please refer to the lab COA report and lab excel report for more info

QA/QC Codes: RPD - 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: 16-SEP-15
Report Date: 16-OCT-15 10:24 (MT)
Version: FINAL REV. 2

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1673876

Project P.O. #: NOT SUBMITTED
Job Reference: MOUNT NANSEN 15-Y-0146
C of C Numbers: 1, 2, 3, 4
Legal Site Desc:

Comments:

16-OCT-2015 Revision 2: The client Sample ID for the samples ALS identify as L1673876 -1, -2, 17 and -25 were modified.

Can Dang
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1673876-1	L1673876-2	L1673876-3	L1673876-4	L1673876-5
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
Sampled Time	10:35	08:05	08:20	15:45	13:50
Client ID	WQ-DC-DX+105	WQ-VC-DBC	WQ-VC-U	WQ-SEEP	WQ-DC-8
Grouping / **Analyte**					
WATER					
Physical Tests Conductivity (uS/cm)	1090	159	146	1450	1950
Hardness (as CaCO3) (mg/L)	677	78.9	73.7	869	1400
pH (pH)	7.34	7.84	7.81	7.15	8.00
Total Suspended Solids (mg/L)	<3.0	13.3	<3.0	27.0	88.0
Total Dissolved Solids (mg/L)	798	88.0	79.6	1210	1720
Anions and Nutrients Alkalinity, Bicarbonate (as CaCO3) (mg/L)	275	65.6	62.8	245	367
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)	275	65.6	62.8	245	367
Ammonia, Total (as N) (mg/L)	0.0388	<0.0050	<0.0050	3.90	0.265
Chloride (Cl) (mg/L)	<1.0 DLA	<0.50	<0.50	<2.5 DLA	<2.5 DLA
Fluoride (F) (mg/L)	0.161	0.051	0.044	0.12	0.12
Nitrate (as N) (mg/L)	0.207	0.241	0.114	0.707	0.191
Nitrite (as N) (mg/L)	0.0023	<0.0010	<0.0010	0.0389	<0.0050 DLA
Sulfate (SO4) (mg/L)	388	17.1	13.0	682	1010
Anion Sum (meq/L)	13.6	1.69	1.54	19.1	28.4
Cation Sum (meq/L)	13.9	1.69	1.59	20.1	28.8
Cation - Anion Balance (%)	1.2	0.2	1.6	2.5	0.6
Cyanides Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	0.0117	<0.0050
Cyanide, Total (mg/L)	<0.0050	<0.0050	<0.0050	0.0423	<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	3.87	<0.50
Total Metals Aluminum (Al)-Total (mg/L)	0.0139	0.153	0.0675	0.0254	0.712
Antimony (Sb)-Total (mg/L)	0.00875	0.00019	0.00011	0.00043	0.0204
Arsenic (As)-Total (mg/L)	0.0423	0.00100	0.00037	0.0414	0.0561
Barium (Ba)-Total (mg/L)	0.0161	0.0526	0.0513	0.0637	0.0503
Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040 DLA
Bismuth (Bi)-Total (mg/L)	<0.000050	0.000063	<0.000050	<0.000050	<0.00010 DLA
Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	0.057	0.053
Cadmium (Cd)-Total (mg/L)	0.00292	0.0000572	0.0000333	0.000505	0.00452
Calcium (Ca)-Total (mg/L)	176	20.8	18.9	247	297
Chromium (Cr)-Total (mg/L)	0.00012	0.00030	0.00024	0.00055	0.00123
Cobalt (Co)-Total (mg/L)	0.00087	0.00020	0.00015	0.00745	0.00079
Copper (Cu)-Total (mg/L)	0.00082	0.00217	0.00202	0.00374	0.0041
Iron (Fe)-Total (mg/L)	0.556	0.236	0.112	9.96	5.38
Lead (Pb)-Total (mg/L)	0.000345	0.000526	0.000060	0.000093	0.00816
Lithium (Li)-Total (mg/L)	0.0086	<0.0010	<0.0010	0.0013	0.0117

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1673876-6 Water 15-SEP-15 09:25 WQ-VC-U-R	L1673876-7 Water 14-SEP-15 13:20 WQ-PC-D	L1673876-8 Water 14-SEP-15 19:25 WQ-DC-R	L1673876-9 Water 14-SEP-15 16:50 WQ-VC-R	L1673876-10 Water 14-SEP-15 18:20 WQ-VC-UMN
WATER						
Physical Tests	Conductivity (uS/cm)	147	272	879	178	188
	Hardness (as CaCO3) (mg/L)	73.4	137	526	87.9	93.1
	pH (pH)	7.80	7.64	7.89	7.90	7.92
	Total Suspended Solids (mg/L)	<3.0	20.7	6.0	16.0	5.3
	Total Dissolved Solids (mg/L)	79.9	172	643	99.7	106
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	63.6	46.3	138	64.4	67.7
	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)	63.6	46.3	138	64.4	67.7
	Ammonia, Total (as N) (mg/L)	0.0055	0.352	0.202	<0.0050	<0.0050
	Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	<0.50
	Fluoride (F) (mg/L)	0.047	0.055	0.075	0.048	0.048
	Nitrate (as N) (mg/L)	0.114	0.0343	0.316	0.0924	0.0968
	Nitrite (as N) (mg/L)	<0.0010	0.0012	0.0078	<0.0010	<0.0010
	Sulfate (SO4) (mg/L)	13.0	89.7	367	26.9	28.9
	Anion Sum (meq/L)	1.55	2.80	10.4	1.86	1.96
	Cation Sum (meq/L)	1.58	2.97	11.0	1.89	1.99
	Cation - Anion Balance (%)	0.9	3.0	2.7	0.9	0.8
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)	0.109	2.12	0.0588	0.213	0.157
	Antimony (Sb)-Total (mg/L)	0.00011	0.00367	0.00161	0.00023	0.00021
	Arsenic (As)-Total (mg/L)	0.00045	0.0273	0.00969	0.00157	0.00142
	Barium (Ba)-Total (mg/L)	0.0529	0.0922	0.0448	0.0538	0.0531
	Beryllium (Be)-Total (mg/L)	<0.000020	0.000111	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)	<0.000050	0.000332	<0.000050	<0.000050	<0.000050
	Boron (B)-Total (mg/L)	<0.010	<0.010	0.018	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.0000305	0.000636	0.0000450	0.0000489	0.0000457
	Calcium (Ca)-Total (mg/L)	19.2	38.3	120	23.4	24.3
	Chromium (Cr)-Total (mg/L)	0.00028	0.00257	0.00033	0.00039	0.00031
	Cobalt (Co)-Total (mg/L)	0.00018	0.00120	0.00082	0.00021	0.00018
	Copper (Cu)-Total (mg/L)	0.00218	0.0121	0.00155	0.00233	0.00216
	Iron (Fe)-Total (mg/L)	0.175	4.56	1.40	0.357	0.266
	Lead (Pb)-Total (mg/L)	0.000130	0.0262	0.000201	0.000710	0.000678
	Lithium (Li)-Total (mg/L)	<0.0010	0.0022	0.0022	<0.0010	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1673876-11	L1673876-12	L1673876-13	L1673876-14	L1673876-15
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	14-SEP-15	15-SEP-15	
Sampled Time	11:55	11:30	13:40	14:40	
Client ID	WQ-DC-11	WQ-DC-15	WQ-PC-U	WQ-DC-U	TRAVEL BLANK
Grouping / **Analyte**					
WATER					
Physical Tests Conductivity (uS/cm)	1080	1070	269	1070	<2.0
Hardness (as CaCO3) (mg/L)	687	685	133	665	<0.50
pH (pH)	7.65	7.37	7.62	8.14	5.54
Total Suspended Solids (mg/L)	<3.0	<3.0	66.7	28.7	<3.0
Total Dissolved Solids (mg/L)	808	807	169	829	<1.0
Anions and Nutrients Alkalinity, Bicarbonate (as CaCO3) (mg/L)	275	273	45.4	171	<1.0
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)	275	273	45.4	171	<1.0
Ammonia, Total (as N) (mg/L)	0.0304	0.0391	0.390	0.486	<0.0050
Chloride (Cl) (mg/L)	<1.0 DLA	<1.0 DLA	<0.50	<1.0 DLA	<0.50
Fluoride (F) (mg/L)	0.154	0.155	0.049	0.096	<0.020
Nitrate (as N) (mg/L)	0.209	0.203	0.0250	0.201	<0.0050
Nitrite (as N) (mg/L)	0.0021	0.0021	0.0012	0.0053	<0.0010
Sulfate (SO4) (mg/L)	394	394	89.2	486	<0.30
Anion Sum (meq/L)	13.7	13.7	2.77	13.6	<0.10
Cation Sum (meq/L)	14.1	14.1	2.88	13.9	<0.10
Cation - Anion Balance (%)	1.3	1.3	2.0	1.1	0.0
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)	0.0311	0.0814	1.25	0.421	<0.0030
Antimony (Sb)-Total (mg/L)	0.00856	0.00923	0.00159	0.00218	<0.00010
Arsenic (As)-Total (mg/L)	0.0454	0.0521	0.0109	0.0141	<0.00010
Barium (Ba)-Total (mg/L)	0.0169	0.0167	0.0778	0.0526	<0.000050
Beryllium (Be)-Total (mg/L)	<0.000020	<0.000020	0.000061	0.000020	<0.000020
Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	0.000082	<0.000050	<0.000050
Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	0.021	<0.010
Cadmium (Cd)-Total (mg/L)	0.00317	0.00339	0.000143	0.0000960	<0.0000050
Calcium (Ca)-Total (mg/L)	174	178	37.9	155	<0.050
Chromium (Cr)-Total (mg/L)	0.00012	0.00018	0.00166	0.00088	<0.00010
Cobalt (Co)-Total (mg/L)	0.00078	0.00091	0.00070	0.00121	<0.00010
Copper (Cu)-Total (mg/L)	0.00091	0.00098	0.00400	0.00234	<0.00050
Iron (Fe)-Total (mg/L)	0.657	0.828	2.63	2.25	<0.010
Lead (Pb)-Total (mg/L)	0.000503	0.000677	0.00666	0.000415	<0.000050
Lithium (Li)-Total (mg/L)	0.0085	0.0088	0.0015	0.0031	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1673876-16 Water 15-SEP-15 09:10 WQ-BC	L1673876-17 Water 15-SEP-15 13:20 WQ-DC-D1B	L1673876-18 Water 15-SEP-15 WQ-DC-10	L1673876-19 Water 15-SEP-15 16:20 WQ-TP	L1673876-20 Water 15-SEP-15 11:10 WQ-DC-14
WATER						
Physical Tests	Conductivity (uS/cm)	279	1520	1110	1260	344
	Hardness (as CaCO3) (mg/L)	152	1050	704	761	176
	pH (pH)	8.05	8.20	7.97	8.06	7.79
	Total Suspended Solids (mg/L)	29.3	22.7	8.0	3.3	4.0
	Total Dissolved Solids (mg/L)	173	1280	834	1040	217
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	87.2	298	272	75.2	67.9
	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)	87.2	298	272	75.2	67.9
	Ammonia, Total (as N) (mg/L)	0.0116	0.103	0.0296	0.0401	<0.0050
	Chloride (Cl) (mg/L)	<0.50	<2.5 DLA	<1.0 DLA	<1.0 DLA	<0.50
	Fluoride (F) (mg/L)	0.065	0.13	0.162	0.245	0.050
	Nitrate (as N) (mg/L)	0.0566	0.095	0.093	0.073	<0.0050
	Nitrite (as N) (mg/L)	<0.0010	<0.0050 DLA	<0.0020 DLA	<0.0020 DLA	<0.0010
	Sulfate (SO4) (mg/L)	62.0	740	415	685	107
	Anion Sum (meq/L)	3.04	21.4	14.1	15.8	3.59
	Cation Sum (meq/L)	3.23	21.5	14.5	16.3	3.73
	Cation - Anion Balance (%)	3.0	0.3	1.4	1.5	1.9
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 DLIS	<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)	0.871	0.299	0.0418	0.101	0.0511
	Antimony (Sb)-Total (mg/L)	0.00059	0.0117	0.00936	0.0369	0.00173
	Arsenic (As)-Total (mg/L)	0.00750	0.0276	0.0541	0.115	0.00460
	Barium (Ba)-Total (mg/L)	0.0662	0.0310	0.0186	0.0112	0.0401
	Beryllium (Be)-Total (mg/L)	0.000041	<0.000020	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Total (mg/L)	0.000070	<0.000050	<0.000050	0.000195	<0.000050
	Boron (B)-Total (mg/L)	<0.010	0.032	<0.010	0.077	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000245	0.00151	0.00232	0.000987	0.0000568
	Calcium (Ca)-Total (mg/L)	41.8	229	184	225	48.1
	Chromium (Cr)-Total (mg/L)	0.00121	0.00060	0.00014	0.00018	0.00021
	Cobalt (Co)-Total (mg/L)	0.00068	0.00042	0.00084	0.00045	<0.00010
	Copper (Cu)-Total (mg/L)	0.00350	0.00192	0.00117	0.0265	0.00208
	Iron (Fe)-Total (mg/L)	1.53	1.71	1.57	0.341	0.078
	Lead (Pb)-Total (mg/L)	0.00489	0.00299	0.00124	0.0168	0.000355
	Lithium (Li)-Total (mg/L)	0.0016	0.0090	0.0080	0.0077	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1673876-21	L1673876-22	L1673876-23	L1673876-24	L1673876-25
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	14-SEP-15	15-SEP-15
Sampled Time	16:45	17:00	10:30	19:40	12:15
Client ID	WQ-DC-B	FIELD BLANK	WQ-DC-DX	WQ-DC-R-R	WQ-MS-S-03
Grouping / **Analyte**					
WATER					
Physical Tests Conductivity (uS/cm)	1060	<2.0	480	887	1220
Hardness (as CaCO3) (mg/L)	671	<0.50	259	522	788
pH (pH)	8.08	5.64	7.89	7.96	7.25
Total Suspended Solids (mg/L)	36.0	<3.0	30.7	<3.0	91.3
Total Dissolved Solids (mg/L)	818	<1.0	314	643	940
Anions and Nutrients Alkalinity, Bicarbonate (as CaCO3) (mg/L)	167	<1.0	104	141	300
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)	167	<1.0	104	141	300
Ammonia, Total (as N) (mg/L)	0.0936	<0.0050	0.0107	0.192	0.0460
Chloride (Cl) (mg/L)	<1.0 DLA	<0.50	<0.50	<0.50	<1.0 DLA
Fluoride (F) (mg/L)	0.097	<0.020	0.058	0.075	0.191
Nitrate (as N) (mg/L)	0.097	<0.0050	0.0223	0.316	0.016
Nitrite (as N) (mg/L)	<0.0020 DLA	<0.0010	<0.0010	0.0075	<0.0020 DLA
Sulfate (SO4) (mg/L)	483	<0.30	152	367	474
Anion Sum (meq/L)	13.4	<0.10	5.26	10.5	15.9
Cation Sum (meq/L)	13.8	<0.10	5.43	10.9	16.3
Cation - Anion Balance (%)	1.6	0.0	1.6	2.0	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	<0.20	<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)	0.478	<0.0030	1.49	0.0605	0.270
Antimony (Sb)-Total (mg/L)	0.00274	<0.00010	0.00190	0.00163	0.0137
Arsenic (As)-Total (mg/L)	0.0102	<0.00010	0.0152	0.00996	0.141
Barium (Ba)-Total (mg/L)	0.0520	<0.000050	0.0556	0.0470	0.0310
Beryllium (Be)-Total (mg/L)	0.000026	<0.000020	0.000048	<0.000020	<0.000020
Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	0.000059
Boron (B)-Total (mg/L)	0.017	<0.010	<0.010	0.018	<0.010
Cadmium (Cd)-Total (mg/L)	0.0000997	<0.0000050	0.0000626	0.0000516	0.00324
Calcium (Ca)-Total (mg/L)	151	<0.050	69.8	129	200
Chromium (Cr)-Total (mg/L)	0.00092	<0.00010	0.00178	0.00035	0.00047
Cobalt (Co)-Total (mg/L)	0.00054	<0.00010	0.00081	0.00079	0.00165
Copper (Cu)-Total (mg/L)	0.00224	<0.00050	0.00378	0.00155	0.0144
Iron (Fe)-Total (mg/L)	2.19	<0.010	2.30	1.53	4.04
Lead (Pb)-Total (mg/L)	0.000518	<0.000050	0.00247	0.000205	0.0136
Lithium (Li)-Total (mg/L)	0.0034	<0.0010	0.0012	0.0018	0.0095

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1673876-26	L1673876-27			
	Description	Water	Water			
	Sampled Date	16-SEP-15	16-SEP-15			
	Sampled Time	07:55	08:20			
	Client ID	WQ-MS-S-A	WQ-CH-P-13-01			
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	2370	1280			
	Hardness (as CaCO3) (mg/L)	1870	867			
	pH (pH)	7.91	6.43			
	Total Suspended Solids (mg/L)	7.3	4.7			
	Total Dissolved Solids (mg/L)	2270	1110			
Anions and Nutrients	Alkalinity, Bicarbonate (as CaCO3) (mg/L)	523	8.9			
	Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	<1.0			
	Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0			
	Alkalinity, Total (as CaCO3) (mg/L)	523	8.9			
	Ammonia, Total (as N) (mg/L)	0.0181	0.0054			
	Chloride (Cl) (mg/L)	<2.5 DLA	<1.0 DLA			
	Fluoride (F) (mg/L)	0.14	0.046			
	Nitrate (as N) (mg/L)	0.117	0.113			
	Nitrite (as N) (mg/L)	<0.0050 DLA	0.0031			
	Sulfate (SO4) (mg/L)	1340	800			
	Anion Sum (meq/L)	38.3	16.8			
	Cation Sum (meq/L)	38.0	17.7			
	Cation - Anion Balance (%)	-0.4	2.6			
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050			
	Cyanide, Total (mg/L)	<0.0050	<0.0050			
	Cyanate (mg/L)	<0.20	<0.20			
	Thiocyanate (SCN) (mg/L)	<2.5 DLM	<0.50			
Total Metals	Aluminum (Al)-Total (mg/L)	0.0212	0.222			
	Antimony (Sb)-Total (mg/L)	0.00879	0.00023			
	Arsenic (As)-Total (mg/L)	0.0574	0.00161			
	Barium (Ba)-Total (mg/L)	0.0151	0.0123			
	Beryllium (Be)-Total (mg/L)	<0.000040 DLA	0.000028			
	Bismuth (Bi)-Total (mg/L)	<0.00010 DLA	<0.000050			
	Boron (B)-Total (mg/L)	<0.020 DLA	<0.010			
	Cadmium (Cd)-Total (mg/L)	0.00313	0.00877			
	Calcium (Ca)-Total (mg/L)	375	218			
	Chromium (Cr)-Total (mg/L)	<0.00020 DLA	0.00022			
	Cobalt (Co)-Total (mg/L)	0.00038	<0.00010			
	Copper (Cu)-Total (mg/L)	0.0026	0.00116			
	Iron (Fe)-Total (mg/L)	0.318	0.155			
	Lead (Pb)-Total (mg/L)	0.00428	0.000787			
	Lithium (Li)-Total (mg/L)	0.0185	0.0010			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1673876-1	L1673876-2	L1673876-3	L1673876-4	L1673876-5
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
Sampled Time	10:35	08:05	08:20	15:45	13:50
Client ID	WQ-DC-DX+105	WQ-VC-DBC	WQ-VC-U	WQ-SEEP	WQ-DC-8
Grouping / **Analyte**					
WATER					
Total Metals Magnesium (Mg)-Total (mg/L)	56.7	6.26	5.86	52.6	146
Manganese (Mn)-Total (mg/L)	1.21	0.0493	0.0204	5.52	1.51
Mercury (Hg)-Total (mg/L)	0.0000080	0.0000070	0.0000061	0.0000079	0.0000146
Molybdenum (Mo)-Total (mg/L)	0.000271	0.000379	0.000317	0.000821	0.00021
Nickel (Ni)-Total (mg/L)	0.00168	0.00060	<0.00050	0.00343	0.0020
Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	0.089
Potassium (K)-Total (mg/L)	3.62	0.55	0.48	6.01	5.42
Selenium (Se)-Total (mg/L)	0.000058	<0.000050	<0.000050	0.000295	0.00091
Silicon (Si)-Total (mg/L)	6.54	6.16	5.99	7.14	6.87
Silver (Ag)-Total (mg/L)	0.000013	0.000035	<0.000010	0.000040	0.000100
Sodium (Na)-Total (mg/L)	4.93	2.22	2.09	33.0	8.93
Strontium (Sr)-Total (mg/L)	0.396	0.210	0.205	0.703	0.706
Sulfur (S)-Total (mg/L)	134	5.88	4.46	224	329
Thallium (Tl)-Total (mg/L)	0.000096	0.000016	<0.000010	0.000010	0.000144
Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020 DLA
Titanium (Ti)-Total (mg/L)	0.00041	0.00421	0.00121	0.00133	0.0364
Uranium (U)-Total (mg/L)	0.00409	0.000406	0.000323	0.00196	0.00452
Vanadium (V)-Total (mg/L)	<0.00050	0.00058	<0.00050	0.00170	0.0036
Zinc (Zn)-Total (mg/L)	0.541	0.0041	<0.0030	0.0436	0.772
Zirconium (Zr)-Total (mg/L)	<0.00030	<0.00030	<0.00030	0.00050	<0.00060 DLA
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)	0.0038	0.0355	0.0354	0.0131	0.0046
Antimony (Sb)-Dissolved (mg/L)	0.00849	0.00011	<0.00010	0.00039	0.0198
Arsenic (As)-Dissolved (mg/L)	0.0127	0.00046	0.00029	0.0375	0.0269
Barium (Ba)-Dissolved (mg/L)	0.0157	0.0508	0.0507	0.0716	0.0383
Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000020	<0.000020	<0.000040 DLA
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.00010 DLA
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	0.054	0.049
Cadmium (Cd)-Dissolved (mg/L)	0.000910	0.0000397	0.0000255	0.000463	0.000630
Calcium (Ca)-Dissolved (mg/L)	176	21.2	19.6	256	310
Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00013	0.00013	0.00042	<0.00020 DLA
Cobalt (Co)-Dissolved (mg/L)	0.00086	0.00013	0.00012	0.00879	0.00044
Copper (Cu)-Dissolved (mg/L)	0.00047	0.00188	0.00188	0.00289	0.00082
Iron (Fe)-Dissolved (mg/L)	0.207	0.066	0.061	7.36	2.41
Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.00010 DLA
Lithium (Li)-Dissolved (mg/L)	0.0083	<0.0010	<0.0010	0.0012	0.0107

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1673876-6 Water 15-SEP-15 09:25 WQ-VC-U-R	L1673876-7 Water 14-SEP-15 13:20 WQ-PC-D	L1673876-8 Water 14-SEP-15 19:25 WQ-DC-R	L1673876-9 Water 14-SEP-15 16:50 WQ-VC-R	L1673876-10 Water 14-SEP-15 18:20 WQ-VC-UMN
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	5.96	9.26	47.1	7.17	7.55
	Manganese (Mn)-Total (mg/L)	0.0240	0.281	0.575	0.0483	0.0468
	Mercury (Hg)-Total (mg/L)	0.0000064	0.0000132	0.0000053	0.0000050	<0.0000050
	Molybdenum (Mo)-Total (mg/L)	0.000311	0.000301	0.000292	0.000356	0.000356
	Nickel (Ni)-Total (mg/L)	0.00052	0.00200	0.00102	0.00071	<0.00050
	Phosphorus (P)-Total (mg/L)	<0.050	0.094	<0.050	<0.050	<0.050
	Potassium (K)-Total (mg/L)	0.50	1.12	2.32	0.62	0.62
	Selenium (Se)-Total (mg/L)	<0.000050	0.000055	0.000130	0.000053	<0.000050
	Silicon (Si)-Total (mg/L)	6.09	10.5	6.30	6.61	6.28
	Silver (Ag)-Total (mg/L)	<0.000010	0.000310	<0.000010	0.000013	<0.000010
	Sodium (Na)-Total (mg/L)	2.11	3.57	8.43	2.45	2.47
	Strontium (Sr)-Total (mg/L)	0.206	0.228	0.367	0.203	0.213
	Sulfur (S)-Total (mg/L)	4.58	29.3	120	9.31	9.59
	Thallium (Tl)-Total (mg/L)	<0.000010	0.000064	<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)	0.00301	0.0581	0.00162	0.00536	0.00418
	Uranium (U)-Total (mg/L)	0.000328	0.000676	0.00129	0.000411	0.000442
	Vanadium (V)-Total (mg/L)	0.00057	0.00660	0.00079	0.00079	0.00063
	Zinc (Zn)-Total (mg/L)	0.0033	0.0654	0.0073	0.0043	0.0036
	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)	0.0360	0.0183	0.0248	0.0418	0.0347
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00115	0.00162	0.00016	0.00016
	Arsenic (As)-Dissolved (mg/L)	0.00031	0.00455	0.00579	0.00082	0.00074
	Barium (Ba)-Dissolved (mg/L)	0.0503	0.0566	0.0445	0.0506	0.0510
	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	0.016	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.0000295	0.000129	0.0000445	0.0000392	0.0000361
	Calcium (Ca)-Dissolved (mg/L)	19.5	39.6	129	23.4	24.8
	Chromium (Cr)-Dissolved (mg/L)	0.00015	<0.00010	0.00023	0.00016	0.00013
	Cobalt (Co)-Dissolved (mg/L)	0.00012	0.00021	0.00081	0.00013	0.00012
	Copper (Cu)-Dissolved (mg/L)	0.00188	0.00167	0.00142	0.00197	0.00187
	Iron (Fe)-Dissolved (mg/L)	0.062	0.306	0.598	0.094	0.064
	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000668	<0.000050	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010	0.0021	<0.0010	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1673876-11 Water 15-SEP-15 11:55 WQ-DC-11	L1673876-12 Water 15-SEP-15 11:30 WQ-DC-15	L1673876-13 Water 14-SEP-15 13:40 WQ-PC-U	L1673876-14 Water 15-SEP-15 14:40 WQ-DC-U	L1673876-15 Water TRAVEL BLANK
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	55.2	57.1	9.01	61.4	<0.10
	Manganese (Mn)-Total (mg/L)	1.08	1.18	0.236	0.991	<0.00010
	Mercury (Hg)-Total (mg/L)	0.0000083	0.0000073	0.0000107	0.0000060	<0.0000050
	Molybdenum (Mo)-Total (mg/L)	0.000260	0.000293	0.000236	0.000349	<0.000050
	Nickel (Ni)-Total (mg/L)	0.00157	0.00164	0.00125	0.00145	<0.00050
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	0.057	<0.050	<0.050
	Potassium (K)-Total (mg/L)	3.59	3.74	0.84	2.95	<0.10
	Selenium (Se)-Total (mg/L)	<0.000050	0.000061	0.000056	0.000167	<0.000050
	Silicon (Si)-Total (mg/L)	6.46	6.74	9.17	6.60	<0.050
	Silver (Ag)-Total (mg/L)	0.000012	0.000038	0.000085	0.000013	<0.000010
	Sodium (Na)-Total (mg/L)	4.88	4.91	3.55	9.19	<0.050
	Strontium (Sr)-Total (mg/L)	0.387	0.400	0.215	0.454	<0.00020
	Sulfur (S)-Total (mg/L)	128	133	28.9	158	<0.50
	Thallium (Tl)-Total (mg/L)	0.000090	0.000111	0.000032	<0.000010	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.00121	0.00437	0.0418	0.0196	<0.00030
	Uranium (U)-Total (mg/L)	0.00407	0.00416	0.000570	0.00187	<0.000010
	Vanadium (V)-Total (mg/L)	<0.00050	0.00065	0.00445	0.00237	<0.00050
	Zinc (Zn)-Total (mg/L)	0.533	0.552	0.0173	0.0156	<0.0030
	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)	0.0036	0.0040	0.0155	0.0375	
	Antimony (Sb)-Dissolved (mg/L)	0.00855	0.00850	0.00099	0.00210	
	Arsenic (As)-Dissolved (mg/L)	0.00955	0.0126	0.00477	0.00818	
	Barium (Ba)-Dissolved (mg/L)	0.0163	0.0158	0.0596	0.0462	
	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	0.018	
	Cadmium (Cd)-Dissolved (mg/L)	0.000812	0.000897	0.0000143	0.0000318	
	Calcium (Ca)-Dissolved (mg/L)	179	179	38.5	161	
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	0.00011	0.00016	
	Cobalt (Co)-Dissolved (mg/L)	0.00079	0.00085	0.00020	0.00101	
	Copper (Cu)-Dissolved (mg/L)	0.00039	0.00044	0.00089	0.00115	
	Iron (Fe)-Dissolved (mg/L)	0.119	0.210	0.417	0.488	
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	0.000593	<0.000050	
	Lithium (Li)-Dissolved (mg/L)	0.0081	0.0081	<0.0010	0.0027	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1673876-16	L1673876-17	L1673876-18	L1673876-19	L1673876-20
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
Sampled Time	09:10	13:20		16:20	11:10
Client ID	WQ-BC	WQ-DC-D1B	WQ-DC-10	WQ-TP	WQ-DC-14
Grouping / **Analyte**					
WATER					
Total Metals Magnesium (Mg)-Total (mg/L)	10.0	106	60.5	42.2	12.1
Manganese (Mn)-Total (mg/L)	0.341	0.686	1.03	0.160	0.00592
Mercury (Hg)-Total (mg/L)	0.0000097	<0.0000050	0.0000054	0.0000195	0.0000061
Molybdenum (Mo)-Total (mg/L)	0.000806	0.000223	0.000239	0.00127	0.000060
Nickel (Ni)-Total (mg/L)	0.00119	0.00115	0.00152	0.00083	<0.00050
Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total (mg/L)	1.04	4.46	3.58	14.5	3.39
Selenium (Se)-Total (mg/L)	0.000053	0.000427	<0.000050	0.000055	0.000061
Silicon (Si)-Total (mg/L)	8.54	6.07	6.43	2.38	5.29
Silver (Ag)-Total (mg/L)	0.000064	0.000042	0.000022	0.000291	0.000012
Sodium (Na)-Total (mg/L)	3.39	6.91	4.83	15.0	2.63
Strontium (Sr)-Total (mg/L)	0.267	0.538	0.407	0.552	0.142
Sulfur (S)-Total (mg/L)	20.5	235	142	226	35.6
Thallium (Tl)-Total (mg/L)	0.000024	0.000056	0.000077	0.000170	<0.000010
Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total (mg/L)	0.0292	0.0152	<0.0030 DLM	<0.00090 DLM	0.00153
Uranium (U)-Total (mg/L)	0.00123	0.00385	0.00404	0.000960	0.000076
Vanadium (V)-Total (mg/L)	0.00252	0.00151	<0.00050	<0.00050	0.00055
Zinc (Zn)-Total (mg/L)	0.0143	0.364	0.573	0.0700	0.0091
Zirconium (Zr)-Total (mg/L)	0.00037	<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)	0.0245	0.0043	0.0033	0.0144	0.0179
Antimony (Sb)-Dissolved (mg/L)	0.00030	0.0115	0.00895	0.0353	0.00164
Arsenic (As)-Dissolved (mg/L)	0.00210	0.0123	0.0288	0.0817	0.00401
Barium (Ba)-Dissolved (mg/L)	0.0520	0.0271	0.0180	0.0109	0.0397
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	0.029	<0.010	0.073	<0.010
Cadmium (Cd)-Dissolved (mg/L)	0.000141	0.000234	0.000629	0.000781	0.0000529
Calcium (Ca)-Dissolved (mg/L)	44.0	239	185	234	50.0
Chromium (Cr)-Dissolved (mg/L)	0.00020	<0.00010	<0.00010	<0.00010	0.00012
Cobalt (Co)-Dissolved (mg/L)	0.00022	0.00026	0.00079	0.00045	<0.00010
Copper (Cu)-Dissolved (mg/L)	0.00174	0.00073	0.00042	0.0198	0.00187
Iron (Fe)-Dissolved (mg/L)	0.107	0.262	1.06	0.018	0.020
Lead (Pb)-Dissolved (mg/L)	0.000139	<0.000050	<0.000050	0.000861	<0.000050
Lithium (Li)-Dissolved (mg/L)	0.0012	0.0087	0.0076	0.0075	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1673876-21	L1673876-22	L1673876-23	L1673876-24	L1673876-25
	Description	Water	Water	Water	Water	Water
	Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	14-SEP-15	15-SEP-15
	Sampled Time	16:45	17:00	10:30	19:40	12:15
	Client ID	WQ-DC-B	FIELD BLANK	WQ-DC-DX	WQ-DC-R-R	WQ-MS-S-03
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	67.8	<0.10	19.0	48.7	64.5
	Manganese (Mn)-Total (mg/L)	0.421	<0.00010	0.0775	0.597	1.51
	Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050	0.0000052	<0.0000050	0.0000051
	Molybdenum (Mo)-Total (mg/L)	0.000317	<0.000050	0.000085	0.000318	0.000285
	Nickel (Ni)-Total (mg/L)	0.00137	<0.00050	0.00122	0.00098	0.00234
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050	0.091	<0.050	0.088
	Potassium (K)-Total (mg/L)	2.69	<0.10	4.11	2.51	3.71
	Selenium (Se)-Total (mg/L)	0.000175	<0.000050	0.000134	0.000128	<0.000050
	Silicon (Si)-Total (mg/L)	6.72	<0.050	6.92	6.41	6.54
	Silver (Ag)-Total (mg/L)	0.000038	<0.000010	0.000045	<0.000010	0.000253
	Sodium (Na)-Total (mg/L)	6.21	<0.050	3.36	8.14	4.73
	Strontium (Sr)-Total (mg/L)	0.436	<0.00020	0.210	0.378	0.428
	Sulfur (S)-Total (mg/L)	161	<0.50	51.3	126	157
	Thallium (Tl)-Total (mg/L)	0.000014	<0.000010	0.000046	<0.000010	0.000105
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Total (mg/L)	0.0213	<0.00030	0.0774	0.00166	0.0192
	Uranium (U)-Total (mg/L)	0.00205	<0.000010	0.000392	0.00133	0.00410
	Vanadium (V)-Total (mg/L)	0.00238	<0.00050	0.00616	0.00080	0.00177
	Zinc (Zn)-Total (mg/L)	0.0189	<0.0030	0.0106	0.0073	0.881
	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)	0.0425	<0.0010	0.0117	0.0239	0.0020
	Antimony (Sb)-Dissolved (mg/L)	0.00257	<0.00010	0.00138	0.00157	0.0120
	Arsenic (As)-Dissolved (mg/L)	0.00500	<0.00010	0.00334	0.00568	0.0826
	Barium (Ba)-Dissolved (mg/L)	0.0445	<0.000050	0.0367	0.0456	0.0174
	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)	0.015	<0.010	<0.010	0.015	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.0000238	<0.0000050	0.0000169	0.0000290	0.000424
	Calcium (Ca)-Dissolved (mg/L)	156	<0.050	72.2	130	206
	Chromium (Cr)-Dissolved (mg/L)	0.00014	<0.00010	<0.00010	0.00020	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00033	<0.00010	0.00016	0.00079	0.00136
	Copper (Cu)-Dissolved (mg/L)	0.00102	<0.00020	0.00105	0.00129	0.00023
	Iron (Fe)-Dissolved (mg/L)	0.764	<0.010	0.161	0.589	2.59
	Lead (Pb)-Dissolved (mg/L)	0.000071	<0.000050	<0.000050	<0.000050	0.000108
	Lithium (Li)-Dissolved (mg/L)	0.0030	<0.0010	<0.0010	0.0016	0.0089

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1673876-26	L1673876-27			
	Description	Water	Water			
	Sampled Date	16-SEP-15	16-SEP-15			
	Sampled Time	07:55	08:20			
	Client ID	WQ-MS-S-A	WQ-CH-P-13-01			
Grouping	**Analyte**					
WATER						
Total Metals	Magnesium (Mg)-Total (mg/L)	216	72.5			
	Manganese (Mn)-Total (mg/L)	0.434	0.290			
	Mercury (Hg)-Total (mg/L)	<0.0000050	0.0000065			
	Molybdenum (Mo)-Total (mg/L)	0.00016	<0.000050			
	Nickel (Ni)-Total (mg/L)	0.0010	0.00696			
	Phosphorus (P)-Total (mg/L)	<0.050	<0.050			
	Potassium (K)-Total (mg/L)	6.86	0.56			
	Selenium (Se)-Total (mg/L)	0.00182	0.000084			
	Silicon (Si)-Total (mg/L)	5.67	8.01			
	Silver (Ag)-Total (mg/L)	0.000056	0.000033			
	Sodium (Na)-Total (mg/L)	9.48	5.28			
	Strontium (Sr)-Total (mg/L)	0.890	0.458			
	Sulfur (S)-Total (mg/L)	437	270			
	Thallium (Tl)-Total (mg/L)	0.000581	<0.000010			
	Tin (Sn)-Total (mg/L)	<0.00020 DLA	<0.00010			
	Titanium (Ti)-Total (mg/L)	<0.0020 DLM	0.00292			
	Uranium (U)-Total (mg/L)	0.00836	0.000020			
	Vanadium (V)-Total (mg/L)	<0.0010 DLA	0.00058			
	Zinc (Zn)-Total (mg/L)	0.254	3.24			
	Zirconium (Zr)-Total (mg/L)	<0.00060 DLA	<0.00030			
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD			
	Dissolved Metals Filtration Location	FIELD	FIELD			
	Aluminum (Al)-Dissolved (mg/L)	0.0022	0.147			
	Antimony (Sb)-Dissolved (mg/L)	0.00825	<0.00010			
	Arsenic (As)-Dissolved (mg/L)	0.0534	0.00046			
	Barium (Ba)-Dissolved (mg/L)	0.0151	0.0111			
	Beryllium (Be)-Dissolved (mg/L)	<0.000040 DLA	0.000023			
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 DLA	<0.000050			
	Boron (B)-Dissolved (mg/L)	<0.020 DLA	<0.010			
	Cadmium (Cd)-Dissolved (mg/L)	0.00305	0.00957			
	Calcium (Ca)-Dissolved (mg/L)	384	224			
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 DLA	0.00010			
	Cobalt (Co)-Dissolved (mg/L)	0.00037	<0.00010			
	Copper (Cu)-Dissolved (mg/L)	0.00167	0.00091			
	Iron (Fe)-Dissolved (mg/L)	0.234	0.026			
	Lead (Pb)-Dissolved (mg/L)	0.00078	<0.000050			
	Lithium (Li)-Dissolved (mg/L)	0.0175	<0.0010			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1673876-1 Water 15-SEP-15 10:35 WQ-DC-DX+105	L1673876-2 Water 15-SEP-15 08:05 WQ-VC-DBC	L1673876-3 Water 15-SEP-15 08:20 WQ-VC-U	L1673876-4 Water 15-SEP-15 15:45 WQ-SEEP	L1673876-5 Water 15-SEP-15 13:50 WQ-DC-8
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	57.5	6.32	6.04	55.8	152
	Manganese (Mn)-Dissolved (mg/L)	1.18	0.0438	0.0182	6.41	1.52
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.000261	0.000326	0.000277	0.000781	0.00019
	Nickel (Ni)-Dissolved (mg/L)	0.00164	<0.00050	<0.00050	0.00391	0.0013
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	3.60	0.51	0.50	6.28	5.61
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	0.000283	0.00083
	Silicon (Si)-Dissolved (mg/L)	6.52	6.10	6.08	7.26	6.13
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020 DLA
	Sodium (Na)-Dissolved (mg/L)	4.84	2.21	2.12	38.6	9.20
	Strontium (Sr)-Dissolved (mg/L)	0.392	0.211	0.204	0.722	0.710
	Sulfur (S)-Dissolved (mg/L)	132	5.95	4.55	229	337
	Thallium (Tl)-Dissolved (mg/L)	0.000089	<0.000010	<0.000010	0.000011	0.000096
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	<0.0012 DLM	<0.00060 DLA
	Uranium (U)-Dissolved (mg/L)	0.00386	0.000364	0.000297	0.00196	0.00454
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	0.00145	<0.0010 DLA
	Zinc (Zn)-Dissolved (mg/L)	0.522	0.0027	0.0022	0.0477	0.682
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	0.00047	<0.00060 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1673876-6 Water 15-SEP-15 09:25 WQ-VC-U-R	L1673876-7 Water 14-SEP-15 13:20 WQ-PC-D	L1673876-8 Water 14-SEP-15 19:25 WQ-DC-R	L1673876-9 Water 14-SEP-15 16:50 WQ-VC-R	L1673876-10 Water 14-SEP-15 18:20 WQ-VC-UMN
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	6.02	9.35	49.4	7.17	7.60
	Manganese (Mn)-Dissolved (mg/L)	0.0179	0.207	0.579	0.0388	0.0395
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.000282	0.000177	0.000272	0.000308	0.000316
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	0.00096	0.00055	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	0.47	0.62	2.46	0.59	0.59
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050	0.000135	0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)	6.04	7.23	6.52	6.33	6.11
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	2.11	3.63	8.69	2.42	2.52
	Strontium (Sr)-Dissolved (mg/L)	0.202	0.224	0.375	0.198	0.212
	Sulfur (S)-Dissolved (mg/L)	4.65	30.6	125	9.20	9.90
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<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	0.00044	0.00057	0.00034	<0.00030
	Uranium (U)-Dissolved (mg/L)	0.000299	0.000413	0.00129	0.000379	0.000408
	Vanadium (V)-Dissolved (mg/L)	<0.00050	0.00067	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.0021	0.0173	0.0053	0.0017	0.0018
	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	L1673876-11	L1673876-12	L1673876-13	L1673876-14	L1673876-15
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	14-SEP-15	15-SEP-15	
Sampled Time	11:55	11:30	13:40	14:40	
Client ID	WQ-DC-11	WQ-DC-15	WQ-PC-U	WQ-DC-U	TRAVEL BLANK
Grouping **Analyte**					
WATER					
Dissolved Metals Magnesium (Mg)-Dissolved (mg/L)	58.5	57.6	8.91	63.8	
Manganese (Mn)-Dissolved (mg/L)	1.08	1.15	0.212	0.981	
Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum (Mo)-Dissolved (mg/L)	0.000239	0.000251	0.000172	0.000308	
Nickel (Ni)-Dissolved (mg/L)	0.00153	0.00155	<0.00050	0.00099	
Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	
Potassium (K)-Dissolved (mg/L)	3.68	3.73	0.53	3.05	
Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000051	<0.000050	0.000153	
Silicon (Si)-Dissolved (mg/L)	6.54	6.66	7.02	6.30	
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
Sodium (Na)-Dissolved (mg/L)	4.86	4.86	3.56	9.30	
Strontium (Sr)-Dissolved (mg/L)	0.384	0.387	0.218	0.451	
Sulfur (S)-Dissolved (mg/L)	131	131	30.2	163	
Thallium (Tl)-Dissolved (mg/L)	0.000080	0.000088	<0.000010	<0.000010	
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	0.00040	<0.00090 DLM	
Uranium (U)-Dissolved (mg/L)	0.00398	0.00397	0.000409	0.00182	
Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	0.00077	<0.00050	
Zinc (Zn)-Dissolved (mg/L)	0.521	0.521	0.0013	0.0068	
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	L1673876-16	L1673876-17	L1673876-18	L1673876-19	L1673876-20
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
Sampled Time	09:10	13:20		16:20	11:10
Client ID	WQ-BC	WQ-DC-D1B	WQ-DC-10	WQ-TP	WQ-DC-14
Grouping **Analyte**					
WATER					
Dissolved Metals Magnesium (Mg)-Dissolved (mg/L)	10.3	111	58.9	43.1	12.5
Manganese (Mn)-Dissolved (mg/L)	0.307	0.641	0.990	0.148	0.00394
Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved (mg/L)	0.000734	0.000196	0.000215	0.00123	<0.000050
Nickel (Ni)-Dissolved (mg/L)	0.00056	0.00083	0.00140	0.00069	<0.00050
Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved (mg/L)	0.78	4.75	3.60	15.2	3.47
Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000395	<0.000050	<0.000050	0.000068
Silicon (Si)-Dissolved (mg/L)	7.28	5.89	6.38	2.43	5.41
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	0.000023	<0.000010
Sodium (Na)-Dissolved (mg/L)	3.41	7.09	4.71	15.1	2.61
Strontium (Sr)-Dissolved (mg/L)	0.272	0.553	0.401	0.562	0.145
Sulfur (S)-Dissolved (mg/L)	21.0	240	137	232	36.2
Thallium (Tl)-Dissolved (mg/L)	<0.000010	0.000045	0.000065	0.000167	<0.000010
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved (mg/L)	0.00044	<0.00030	<0.00030	<0.00030	<0.00030
Uranium (U)-Dissolved (mg/L)	0.00114	0.00377	0.00386	0.000935	0.000069
Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved (mg/L)	0.0032	0.308	0.538	0.0502	0.0080
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	L1673876-21	L1673876-22	L1673876-23	L1673876-24	L1673876-25
Description	Water	Water	Water	Water	Water
Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	14-SEP-15	15-SEP-15
Sampled Time	16:45	17:00	10:30	19:40	12:15
Client ID	WQ-DC-B	FIELD BLANK	WQ-DC-DX	WQ-DC-R-R	WQ-MS-S-03
Grouping **Analyte**					
WATER					
Dissolved Metals Magnesium (Mg)-Dissolved (mg/L)	68.4	<0.10	19.1	48.2	66.2
Manganese (Mn)-Dissolved (mg/L)	0.399	<0.00010	0.0456	0.596	1.49
Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)-Dissolved (mg/L)	0.000272	<0.000050	<0.000050	0.000276	0.000232
Nickel (Ni)-Dissolved (mg/L)	0.00073	<0.00050	<0.00050	0.00094	0.00189
Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved (mg/L)	2.76	<0.10	3.97	2.51	3.71
Selenium (Se)-Dissolved (mg/L)	0.000158	<0.000050	0.000087	0.000127	<0.000050
Silicon (Si)-Dissolved (mg/L)	6.29	<0.050	4.96	6.30	6.31
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Na)-Dissolved (mg/L)	6.08	<0.050	3.25	8.13	4.81
Strontium (Sr)-Dissolved (mg/L)	0.431	<0.00020	0.209	0.371	0.430
Sulfur (S)-Dissolved (mg/L)	161	<0.50	51.5	127	160
Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	0.000073
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved (mg/L)	<0.00090 DLM	<0.00030	<0.00030	<0.00090 DLM	<0.00030
Uranium (U)-Dissolved (mg/L)	0.00196	<0.000010	0.000289	0.00128	0.00398
Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Dissolved (mg/L)	0.0105	<0.0010	0.0023	0.0052	0.835
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	L1673876-26	L1673876-27			
	Description	Water	Water			
	Sampled Date	16-SEP-15	16-SEP-15			
	Sampled Time	07:55	08:20			
	Client ID	WQ-MS-S-A	WQ-CH-P-13-01			
Grouping	**Analyte**					
WATER						
Dissolved Metals	Magnesium (Mg)-Dissolved (mg/L)	222	74.9			
	Manganese (Mn)-Dissolved (mg/L)	0.435	0.283			
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050			
	Molybdenum (Mo)-Dissolved (mg/L)	0.00014	<0.000050			
	Nickel (Ni)-Dissolved (mg/L)	0.0011	0.00737			
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050			
	Potassium (K)-Dissolved (mg/L)	6.99	0.49			
	Selenium (Se)-Dissolved (mg/L)	0.00191	<0.000050			
	Silicon (Si)-Dissolved (mg/L)	5.70	8.41			
	Silver (Ag)-Dissolved (mg/L)	<0.000020 DLA	<0.000010			
	Sodium (Na)-Dissolved (mg/L)	9.50	5.43			
	Strontium (Sr)-Dissolved (mg/L)	0.894	0.471			
	Sulfur (S)-Dissolved (mg/L)	432	270			
	Thallium (Tl)-Dissolved (mg/L)	0.000559	<0.000010			
	Tin (Sn)-Dissolved (mg/L)	<0.00020 DLA	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	<0.00060 DLA	<0.00030			
	Uranium (U)-Dissolved (mg/L)	0.00833	<0.000010			
	Vanadium (V)-Dissolved (mg/L)	<0.0010 DLA	<0.00050			
	Zinc (Zn)-Dissolved (mg/L)	0.254	3.62			
	Zirconium (Zr)-Dissolved (mg/L)	<0.00060 DLA	<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)
Duplicate	Cyanate	DLA	L1673876-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Total	DLA	L1673876-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -6, -7, -8, -9
Duplicate	Silver (Ag)-Total	DLA	L1673876-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -6, -7, -8, -9
Duplicate	Tin (Sn)-Total	DLA	L1673876-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -6, -7, -8, -9
Duplicate	Cyanate	DLIS	L1673876-15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27
Matrix Spike	Calcium (Ca)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Silicon (Si)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Sulfur (S)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Lithium (Li)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Sodium (Na)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Strontium (Sr)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Uranium (U)-Total	MS-B	L1673876-1, -2, -3, -4, -5
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1673876-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1673876-1, -10, -11, -12, -13, -14, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Barium (Ba)-Total	MS-B	L1673876-25, -26, -27
Matrix Spike	Copper (Cu)-Total	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Total	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Total	MS-B	L1673876-25, -26, -27
Matrix Spike	Zinc (Zn)-Total	MS-B	L1673876-25, -26, -27
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Zinc (Zn)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Antimony (Sb)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Molybdenum (Mo)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1673876-25, -26, -27
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1673876-25, -26, -27

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLIS	Detection Limit Adjusted: Insufficient Sample
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-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

Reference Information

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)

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)

Reference Information

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.

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

Reference Information

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.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1673876-COFC

COC Number: 14 -

Page ____ 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:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Meghan Marjanovic	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-393-4882	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.pit@gov.yk.ca	

Invoice To	Same as Report To ☑ Yes ☑ No	Invoice Distribution		
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	
Company:	EDI	Email 1 or Fax	sjenner@edynamics.com	
Contact:	S Jenner	Email 2	mmarjanovic@edynamics.com	
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)	[redacted]	ALS Contact: Sean Slugget	Sampler:	

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

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,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-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA, TDS-CALC-VA					Number of Containers
					P	P	P	P	P	P	P	F/P						
[redacted]	WQ - DC - DX + IOS	15 - Sep -15	10:35	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ - VC - DBL	15 - Sep -15	8:05	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ - VC - U	15 - Sep -15	8:20	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ - SEEP	15 - Sep -15	15:45	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ - DC - 8	15 - Sep -15	13:50	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ - VC - U - F	15 - Sep -15	9:25	Water	R	R	R	R	R	R	R	R	R					9
[redacted]		- Sep -15		Water	R	R	R	R	R	R	R	R	R					9
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		

Short Holding Time

- Rush Processing

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	
Are samples for human drinking water use? ☐ Yes ☑ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	[redacted]	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☑	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
1.5	2.6	3.4	2.3	3.3	3.8

14 COOLERS 7 C-Alm

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: BRODIE SMITH	Date: 16SEP2015	Time: 13:00	Received by: [redacted]	Date: 16SEP15	Time: 1200	Received by: [redacted]	Date: Sep 17	Time: 1435

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
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Canada Toll Free: 1 800 668 9878

L1673876-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:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Meghan Marjanovic	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-393-4882	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.pit@gov.yk.ca	

Invoice To	Same as Report To ☑ Yes ☑ No	Invoice Distribution		
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	
Company:	EDI	Email 1 or Fax	sjenner@edynamics.com	
Contact:	S Jenner	Email 2	mmarjanovic@edynamics.com	
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)	[redacted]	ALS Contact: Sean Slugget	Sampler:	

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

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,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-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA, TDS-CALC-VA					Number of Containers
						P	P	P	P	P	P	F/P						
[redacted]	WQ-PC-D	14 - Sep -15	13:20	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ-DC-R	14 - Sep -15	19:25	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ-VC-R	14 - Sep -15	16:50	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ-VC-DMN	14 - Sep -15	18:20	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ-DC-11	15 - Sep -15	11:55	Water	R	R	R	R	R	R	R	R	R					9
[redacted]	WQ-DC-15	15 - Sep -15	11:30	Water	R	R	R	R	R	R	R	R	R					9
[redacted]		- Sep -15		Water	R	R	R	R	R	R	R	R	R					9
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☒ No	
Are samples for human drinking water use? ☐ Yes ☒ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	[redacted]	SIF Observations	Yes ☐	No ☐
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐			

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
[redacted]	2.0	3.3 3.4	[redacted]	[redacted]	7°C

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: BRODIE SMITH	Date: 16SEPT15	Time: 13:00	Received by: [redacted]	Date: 16Sep15	Time: 1300	Received by: [redacted]	Date: Sep 17	Time: 1435

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1673876-COFC

COC Number: 14 -

Page 1 of 6

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	EDI	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Meghan Marjanovic	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-393-4882	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.pit@gov.yk.ca	

Invoice To	Same as Report To ☑ Yes ☑ No	Invoice Distribution		Analysis Request
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:	EDI	Email 1 or Fax	sjenner@edynamics.com	
Contact:	S Jenner	Email 2	mmarjanovic@edynamics.com	
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)	[redacted]	ALS Contact: Sean Slugget	Sampler:	

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,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-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA, TDS-CALC-VA					Number of Containers
	WQ - PC - U	14 - Sep -15	13:40	Water	P	P	P	P	P	P	P	F/P						
	WQ - DC - U	15 - Sep -15	14:40	Water	R	R	R	R	R	R	R	R	R					9
	TRAVEL BLANK	- Sep -15		Water	R	R	R	R	R	R	R	R	R					9
	WQ - BC	15 - Sep -15	9:10	Water	R	R	R	R	R	R	R	R	R					9
	WQ - DC - D16	15 - Sep -15	13:20	Water	R	R	R	R	R	R	R	R	R					9
	WQ - DC - 10	15 - Sep -15	12:00	Water	R	R	R	R	R	R	R	R	R					9
		- Sep -15		Water	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)
Are samples taken from a Regulated DW System? ☐ Yes ☒ No	
Are samples for human drinking water use? ☐ Yes ☒ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen		SIF Observations	Yes ☐	No ☐
Ice packs	Yes ☐ No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐			

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
17.0	3.1	3.3	14	6.5	7

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: BRODIE SMITH	Date: 16SEPT2015	Time: 13:00	Received by: [illegible]	Date: 16Sep15	Time: 300	Received by: Shafee	Date: Sept.17	Time: 1435

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1673876-COFC

COC Number: 14 -

Page 1 of 1

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Contact:	Meghan Marjanovic	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-393-4882	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.pit@gov.yk.ca	

Invoice To	Same as Report To ☑ Yes ☑ No	Invoice Distribution		Analysis Request
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:	EDI	Email 1 or Fax	sjenner@edynamics.com	
Contact:	S Jenner	Email 2	mmarjanovic@edynamics.com	
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:	

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,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-SCN-VA	NH3-F-VA	MET-T-BCMDG-VA	MET-D-BCMDG-VA	IONBALANC-VA, TDS-CALC-VA	Number of Containers
							P	P	P	P	P	F/P		
[redacted]	WQ - TP	15 - Sep -15	16:20	Water	R	R	R	R	R	R	R	R	R	9
[redacted]	WQ - DC - 14	15 - Sep -15	11:10	Water	R	R	R	R	R	R	R	R	R	9
[redacted]	WQ - DC - B	15 - Sep -15	16:45	Water	R	R	R	R	R	R	R	R	R	9
[redacted]	Field Blank	15 - Sep -15	17:00	Water	R	R	R	R	R	R	R	R	R	9
[redacted]	WQ - DC - DX	15 - Sep -15	10:30	Water	R	R	R	R	R	R	R	R	R	9
[redacted]	WQ - DC - R - F	14 - Sep -15	19:40	Water	R	R	R	R	R	R	R	R	R	9
[redacted]		- Sep -15		Water	R	R	R	R	R	R	R	R	R	9
[redacted]														
[redacted]														
[redacted]														
[redacted]														
[redacted]														

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? ☐ Yes ☒ No		Frozen [redacted] SIF Observations Yes ☐ No ☐
Are samples for human drinking water use? ☐ Yes ☒ No		Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐
		Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
12.2	3.4	3.3	2.0	1.7	2.4

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: SCOTT DILLING	Date: 16-SEPT	Time: 1300h	Received by: [redacted]	Date: 16SEP15	Time: 1200	Received by: [redacted]	Date: Sep.17	Time: 1435

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

Date Received: 16-SEP-15
Report Date: 28-SEP-15 10:51 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1673982

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1673982-1				
	Description					
	Sampled Date	16-SEP-15				
	Sampled Time	08:40				
	Client ID	WQ-PW				
Grouping	**Analyte**					
WATER						
Physical Tests	Colour, True (CU)	<5.0				
	Conductivity (uS/cm)	350				
	Hardness (as CaCO3) (mg/L)	184				
	pH (pH)	8.18				
	Total Dissolved Solids (mg/L)	194				
	Turbidity (NTU)	0.10				
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	161				
	Chloride (Cl) (mg/L)	<0.50				
	Fluoride (F) (mg/L)	0.097				
	Nitrate (as N) (mg/L)	0.133				
	Nitrite (as N) (mg/L)	<0.0010				
	Sulfate (SO4) (mg/L)	29.3				
	Anion Sum (meq/L)	3.84				
	Cation Sum (meq/L)	3.90				
	Cation - Anion Balance (%)	0.7				
Total Metals	Aluminum (Al)-Total (mg/L)	<0.010				
	Antimony (Sb)-Total (mg/L)	<0.00050				
	Arsenic (As)-Total (mg/L)	0.00039				
	Barium (Ba)-Total (mg/L)	0.082				
	Boron (B)-Total (mg/L)	<0.10				
	Cadmium (Cd)-Total (mg/L)	<0.00020				
	Calcium (Ca)-Total (mg/L)	42.7				
	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)	0.00054				
	Magnesium (Mg)-Total (mg/L)	18.7				
	Manganese (Mn)-Total (mg/L)	<0.0020				
	Mercury (Hg)-Total (mg/L)	<0.00020				
	Potassium (K)-Total (mg/L)	0.90				
	Selenium (Se)-Total (mg/L)	<0.0010				
	Sodium (Na)-Total (mg/L)	4.7				
	Uranium (U)-Total (mg/L)	0.00157				
	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)
Certified Reference Material	Conductivity	LCS-H	L1673982-1
Method Blank	Copper (Cu)-Total	MB-LOR	L1673982-1
Matrix Spike	Sulfate (SO4)	MS-B	L1673982-1

Qualifiers for Individual Parameters Listed:

Qualifier	Description
LCS-H	Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
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-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)

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 $CaCO_3$ 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).

Reference Information

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.

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.

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.

ALS Environmental

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1673982-COFC

COC Number: 14 -

Page 2 of 2

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	EDI	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Meghan Marjanovic	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
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Phone:	867-393-4882	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.pit@gov.yk.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution		
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Job #:	MOUNT NANSEN 15-Y-0146	GL Account:	Routing Code:	
PO / AFE:		Activity Code:		
LSD:		Location:		
ALS Lab Work Order # (lab use only)	[redacted]	ALS Contact: Sean Sluggett	Sampler:	

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

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	FULL-TOT-DW-WR			P	P	F/P								Number of Containers
[redacted]	WQ-PW	16-Sept-15	8:40	Water	R													3
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
[redacted]																		
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[redacted]																		

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	
Are samples for human drinking water use? ☑ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen		SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☐ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
[redacted]	3.6.3	3.3.2.5	[redacted]	[redacted]	Avg

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
SCOTT DILLING	16-SEPT	1300h.	[redacted]	16Sep15	1300	[redacted]	Sept.14	1435

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

Date Received: 16-SEP-15
Report Date: 06-OCT-15 12:41 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1673926

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

Comments: Please note ALS identified sample L1673926-1 was sublet to Nautilus Environmental for LC50 Rainbow Trout analysis.

Can Dang
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID					
Grouping **Analyte**					

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

** 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

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.

Nautilus Environmental

ALS Environmental
ATTN: Can Dang
Suite 100-8081 Lougheed Hwy.
Burnaby, BC
V5A 1W9

Report Date: October 5, 2015
Work Order: 15738

Data Report

Species: **Rainbow trout (*Oncorhynchus mykiss*)**
Protocol: **EPS 1/RM/13 (Second Ed. with 2007 amendments)**

Table 1. Results for the 96-h rainbow trout acute toxicity test.

Sample ID	Collection Date and Time	96-h LC50 (%v/v)
L1673926-1 LC-50	Sept 15, 2015 @ N/A	>100

N/A = Not Available.

The rainbow trout toxicity testing was conducted by HydroQual Laboratories (a division of Nautilus Environmental), Calgary, AB, due to limited availability of test fish at our Burnaby laboratory to perform this test.

The test met performance criteria and there were no deviations from the test method. The results presented in this report relate only to the sample tested and were based on test data provided by HydroQual Laboratories.

Josh Baker, M.Sc.
Environmental Chemist

Reviewed By:
Edmund Canaria, R.P.Bio.
Senior Reviewer

HydroQual Laboratories Ltd.

ATTN: Josh Baker
Nautilus Environmental
8664 Commerce Court
Burnaby , BC
Canada V5A 4N7

Received: 2015/09/19
Report Date: 2015/09/29
Version: FINAL

HydroQual Test Report

Client: NAU104
Reference: 15-1232
Billing: WO #15738

Senior Verifier

HydroQual Laboratories Ltd.

Trout (96-h LC50) Test Report

Result Summary

Client: NAU104
Reference: 15-1232-01-TRD

Client: Nautilus Environmental ; operation Burnaby

Sample: L1673926-1 LC-50
WO #15738

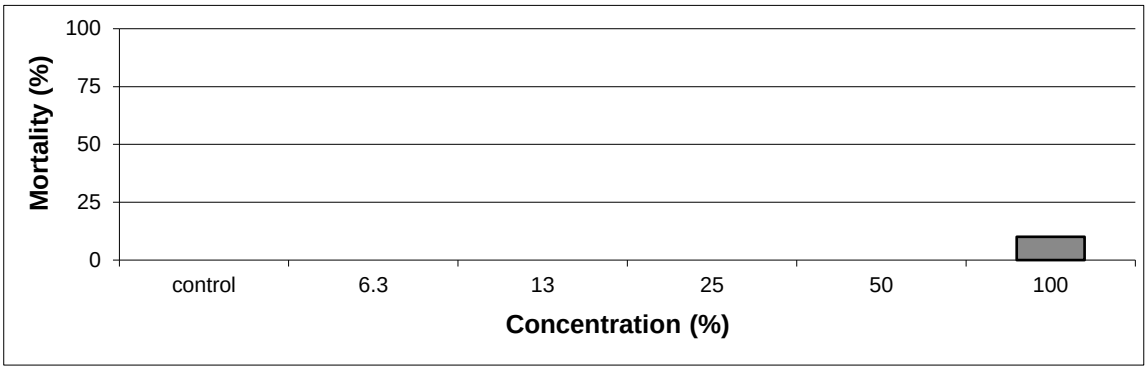
Collection: collected on 2015/09/15 at not given by not given
Receipt: received on 2015/09/19 at 1600 by DS/HKS/ML
Containers: received 2 x 20L carboys at 14 °C, in damaged with no seals and no initials
Description: type: water, collection method: not given

Test: started on 2015/09/20 ; ended on 2015/09/24

Result:

	Endpoint (96-hour)	Value (%)	Confidence Limits (95%) lower	upper	Method Calculated
Acute:	LC50	>100			could not be calculated
(mortality)	LC25	>100			could not be calculated

Notes: LC25 & LC50, concentrations lethal to 25% and 50% of the test population



The test data and results are authorized and verified correct.

Senior Verifier

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

HydroQual Laboratories Ltd.

Trout (96-h LC50) Test Report

Test Conditions

Client: NAU104
Reference: 15-1232-01-TRD

Method: Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout, 2000. Environment Canada, EPS 1/RM/13. Second Edition (amended May 2007).

Test type: Trout 96-h Static Acute Test (WTR-ME-041)
Species: *Oncorhynchus mykiss*
Organism source: Miracle Springs (Batch 20150826TR)
Acclimation: 25 days (must be ≥2 weeks)
Stock mortality: 0.2% (seven days preceding testing)

Sample initial chemistry: pH: 6.8; EC: 1549 (µS/cm @ 25°C); DO: 7 (mg/L); temperature: 15 °C
hardness (mg CaC03/L): 790; colour: orange; odour: organic
Sample holding time: 5 days (must be ≤ 5 days)
Sample storage: 4 ± 2°C in darkness

Test vessel: The test was conducted in 22 L plastic pails with polyethylene liners
Test volume: 14 Litres (depth of solution in each test vessel ≥15cm)
Sample pre-treatment: All test solutions and controls were pre-aerated for 30 minutes at 6.5 ±1 mL/min/L
Dissolved oxygen in 100 % sample was 8.5 mg/L after pre-aeration
The sample was not filtered or pH adjusted prior to or during testing
Loading density: 0.19 g/Litre (must be ≤ 0.5 g/Litre)
Control/dilution water: Dechlorinated City of Calgary water acclimated to test conditions
Test concentrations: 5 effluent concentrations (6.3, 12.5, 25, 50, 100% (v/v) plus a negative control)
Test replicates: One replicate per treatment; 10 fish per replicate
Feeding: Fish are not fed 24 hours before test initiation and no feeding during test
Measurements: pH, conductivity, dissolved oxygen and temperature measured at test initiation and test termination
Aeration: All treatments aerated at 6.5 ±1 mL/min/L by oil-free compressed air passed through airline tubes connected to disposable air stones
Lighting: Overhead full spectrum fluorescent lights
Photoperiod: 16h light:8h dark
Test temperature: 15 ± 1°C

Endpoint: Mortality, 96-h LC50 (with 95% confidence limits)
Test validity: The control had 100% survival (must ≥ 90%)
The control had 0 percent (%) stressed behaviour (must ≤ 10%)
Reference toxicant: 96-h test with Potassium Chloride (KCl) initiated September 21, 2015; current results (96-h LC50 and 95% confidence limits) = 0.60 (0.50-0.65) log (g/L KCl)
historical results: (96-h LC50 and 95% confidence limits) = 0.56 (0.49-0.64) log (g/L KCl)

Note: Outlined sections are protocol deviations explained on the comment page; v/v, volume per volume

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HydroQual Laboratories Ltd.

Trout (96-h LC50) Test Report

Test Data

Client: NAU104
Reference: 15-1232-01-TRD

Test Log:

Date	Day	Time	Technician
2015/09/20	0	1200	CQ
2015/09/21	1	0855	JK
2015/09/22	2	0900	ML/DS
2015/09/23	3	0925	HKS
2015/09/24	4	1130	JK

Chemistry:

Conc. (%)	control	6.3	13	25	50	100
Day	pH (units)					
0	7.6	7.7	7.6	7.6	7.4	7.3
4	7.7	7.8	7.9	7.8	7.9	7.8
	Conductivity (µS/cm @ 25°C)					
0	430	525	606	755	1039	1552
4	445	543	624	765	1072	1584
	Dissolved Oxygen (mg/L)					
0	8.3	8.3	8.3	8.4	8.5	8.5
4	8.6	8.8	8.9	8.8	8.8	8.8
	Temperature (^{o}C)					
0	16	16	16	15	15	15
4	15	14	14	15	15	14

Number Alive (In brackets number stressed):

Conc. (%)	control	6.3	13	25	50	100
Day						
0	10	10	10	10	10	10
1	10	10	10	10	10	10
2	10	10	10	10	10	10
3	10	10 (1)	10	10	10	10
4	10	10	10	10	10	9
	Mortality (%)					
4	0	0	0	0	0	10
	Stressed (%)					
4	0	0	0	0	0	0

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

Client: NAU104
Reference: 15-1232-01-TRD

Test Data

Biology Summary Tables:

Control Fish	Length (cm)	Wet Weight(g)
1	2.9	0.3
2	2.8	0.2
3	3.0	0.3
4	3.2	0.4
5	2.7	0.2
6	2.7	0.2
7	2.7	0.3
8	2.7	0.3
9	2.9	0.3
10	2.6	0.2
average	2.8	0.3
sd	0.2	0.1
cv(%)	6.4	21.1

Notes: nd, not done; na, not applicable; sd, standard deviation; cv(%), coefficient of variation

Conc. (%)	Group Wet Weight (g)
control	2.7
6.3	2.2
13	2.4
25	2.5
50	2.6
100	2.6

Comments/Statistics

Test Result Comments:
None

Data Analysis:
Endpoints for mortality could not be calculated. No effect occurred.

Protocol Deviations:
None

HydroQual Laboratories Ltd., #4, 6125 12th Street SE, Calgary, Alberta, Canada T2H 2K1
Tel (403) 253-7121 fax (403) 252-9363 www.hydroqual.ca

GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated into and form part of the Chain of Custody between HydroQual Laboratories Ltd. ("HydroQual") and the party named in the Chain of Custody (the "Client").

1. **Definitions:** Capitalized terms shall have the definition ascribed as such in these General Terms and Conditions and the Chain of Custody.
2. **The Services:** HydroQual will provide the Services to the Client as listed and described in the Chain of Custody.
3. **Prices:** HydroQual may review and change all prices, fees, surcharges or other charges as set out in proposals and/or price quotations if there are changes to HydroQual's cost beyond HydroQual's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding condition 3, all quotations are reviewed and updated on a yearly basis.
4. **Payment Terms:** The Client shall pay HydroQual within 30 days of the invoice date as provided by HydroQual. HydroQual may, for reasonable business reasons, require the Client to arrange for payment in advance.
5. **Quotation Numbers:** The Client shall provide the proposal and/or price quotation number to HydroQual (where applicable) to ensure correct pricing.
6. **Taxes:** Applicable taxes are not included in prices, surcharges and additional fees and will be added at the time of invoicing.
7. **No Guarantee of Results:** The Client is responsible for informing itself on the limitation of the results and acknowledges that the results are not guaranteed.
8. **Standard of Care:** HydroQual will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested, subject to that level of care and skill ordinarily exercised by other laboratories currently practicing under similar conditions in the same locality, subject to the time limits and financial, physical or other constraints applicable to the Services. No warranty, express or implied, is made.
9. **Storage:** Where possible, HydroQual will store samples until a final report is issued to the Client, after which time HydroQual may discard the sample.
10. **Holds:** If the Client requests a sample be placed on hold, HydroQual will store the sample for the mutually agreed upon written time and price, after which HydroQual will invoice the Client and discard the sample.
11. **Archives:** If the Client requests a sample be archived, HydroQual will store the sample for a mutually agreed upon written time frame and price, after which HydroQual will invoice the Client and discard the sample.
12. **Handling Protocol:** Legal sample handling protocol must be arranged, and provided in writing, before samples are collected. HydroQual will provide a price quotation for legal sample protocol. Samples processed under legal protocol are stored indefinitely, subject to a storage charge as advised by HydroQual.
13. **Samples:** The quality, condition, content and source of samples stored and tested are not known to HydroQual except as declared and described on the Chain of Custody completed and submitted by the Client and accompanying the sample.
14. **Risk of Loss:** HydroQual will use reasonable care to protect samples during storage, however, all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged or destroyed and the client forever releases HydroQual from any and all claims the Client may have for any loss or damage to the sample.
15. **Environmental:** the Client must comply with all applicable environmental legislation, including labeling all hazardous samples to comply with Canada's *Workplace Hazardous Materials Information System* and the Alberta *Transfer of Dangerous Goods* regulations, and must provide appropriate material safety data sheets that include the nature of the hazard and a contact name and phone number to call for information. The Client shall defend, indemnify and hold harmless HydroQual for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
16. **Hazardous Materials Disposal:** HydroQual may return, at the Client's cost, hazardous material to the Client for disposal.
17. **Hazardous Materials Surcharge:** HydroQual may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials ("NORM"), such as and including without limitation, H_2S and CN.
18. **Sample Containers:** HydroQual may ship sample containers to the Client's location by the most cost effective means using HydroQual's preferred courier suppliers, within the specified project timeline. Shipping will be charged back to the Client.
19. **Additional Charges:** HydroQual may charge the Client:
    (a) for pick-up and delivery services when provided subject in each instance to a minimum charge of $50.00; and,
    (b) for rush service (processing samples and/or reporting).
20. **Large Bottle Orders:** The Client shall provide HydroQual with not less than 24 hours' notice for large bottle orders.
21. **Re-Tests:** HydroQual reserves the right to re-test any samples that remain in HydroQual's possession. Re-tests requested by the Client may be charged to Client and Client agrees to pay for such charges.
22. **Waiver:** The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any and all claims against HydroQual that the Client may have against HydroQual as a result of the interpretation of the results provided to the Client. The Client shall defend, indemnify and save harmless HydroQual for any and all claims made by any third party against HydroQual in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
23. **LIMITATION OF LIABILITY:** IN NO EVENT SHALL HYDROQUAL BE RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE (INCLUDING CLAIMS FOR LOSS OF PROFITS OR REVENUE OR LOSSES CAUSED BY STOPPAGE OF OTHER WORK OR IMPAIRMENT OF OTHER ASSETS) INCURRED BY THE CLIENT ARISING OUT OF BREACH OR FAILURE OF EXPRESS OF IMPLIED WARRANTY, BREACH OF CONTRACT, BREACH OF WARRANTY, MISREPRESENTATION, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE. IN ANY EVENT, THE LIABILITY OF HYDROQUAL TO THE CLIENT SHALL BE LIMITED TO THE COST OF TESTING THE SAMPLE AS REQUESTED IN THE CHAIN OF CUSTODY UNDER WHICH THE SAMPLE WAS ORIGINALLY DEPOSITED. FOR THE PURPOSES OF THIS PARAGRAPH AND PARAGRAPHS 7, 14, 15, 22, AND 24, AS APPLICABLE, "HYDROQUAL" INCLUDES WITHOUT LIMITATIONS ITS DIRECTORS, OFFICERS, EMPLOYEES AND AFFILIATES AND THE "CLIENT" INCLUDES WITHOUT LIMITATION ANY THIRD PARTY THAT MAY HAVE A CLAIM AGAINST HYDROQUAL THROUGH THE CLIENT.
24. **Notice of Liability:** Notwithstanding paragraph 23, HydroQual shall not be liable to the Client unless the Client provides notice in writing to HydroQual of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk between the Client and HydroQual, and the fees to be paid by the Client to HydroQual reflect this allocation of any such risks and the limitations of liability in these General Terms and Conditions.
25. **Entire Agreement:** These General Terms and Conditions, the Chain of Custody and price quotations constitute the entire agreement between the parties and supersede and take precedence over any terms and conditions contained in any documentation provided by the Client. HydroQual's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein unless expressly stipulated otherwise by HydroQual. If there is a conflict between these General Terms and Conditions and any other document, these General Terms and Conditions prevail.

L1673926

VANCOUVER

ALS Environmental

Subcontract Request Form

Subcontract To:

NAUTILUS ENVIRONMENTAL
8664 COMMERCE COURT
BURNABY,BC V5A 4N7

NOTES: Please reference on final report and invoice: PO# *L1673926*
ALS requires QC data to be provided with your final results.

WO # 15738

96H Rst LC50
(Test confirmed w/client NY/Josh)

Please see enclosed 1 **sample(s) in** 2 **Container(s)**

SAMPLE NUMBER	ANALYTICAL REQUIRED	DATE SAMPLED / DUE DATE	Priority Flag
L1673926-1 LC-50	Special Request- Nautilus Environmental (SPECIAL REQUEST-NL 14)	9/15/2015 9/23/2015	

Subcontract Info Contact: Dorota Jamro (604) 253-4188

Analysis and reporting info contact: Can Dang
8081 LOUGHEED HWY
SUITE 100
BURNABY,BC V5A 1W9
Phone: (604) 253-4188 Email: can.dang@alsglobal.com

Please email confirmation of receipt to: **can.dang@alsglobal.com**

Shipped By: Paul Date Shipped: Sept 18/15

Received By: Nautilus Date Received: Sept 18/15 @ 09:40

Verified By: NY - Nan Yamamoto Date Verified:

Temperature: 6.1°C

Sample Integrity Issues: 2x20L carboys, one half full

Subcontracted to HydroQual

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1673926-COFC

COC Number: 14 -

Page ___ 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:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Meghan Marjanovic	Quality Control (QC) Report with Report	☐ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2195 - 2nd Avenue Whitehorse, YT Y1A 3T8	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☐ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-393-4882	Email 1 or Fax	mmarjanovic@edynamics.com	Specify Date Required for E2, E or P:
		Email 2	erik.pit@gov.yk.ca	
		Email 3	Emilie.Hamm@gov.yk.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution		Analysis Request
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:	EDI	Email 1 or Fax	sjenner@edynamics.com	
Contact:	S Jenner	Email 2	mmarjanovic@edynamics.com	

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 Sluggett	Sampler:

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	Rainbow Trout LC50	Number of Containers
[redacted]	WQ-RC-D	14-Sept-15	13:20	Water	R	2
[redacted]	WQ-DC-R	14 SEPT 15	14:38			
[redacted]	WQ-VC-R	14 SEPT 15	16:50			
[redacted]	WQ-VC-UMD	14 SEPT 15	18:20			
[redacted]	WQ-DC-U	15 SEPT 15	11:55			
[redacted]	WQ-DC-15	15 SEPT 15	11:30			
[redacted]	LC-50	15-SEP-2015	15:45	WATER	R	
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen		SIF Observations	Yes ☐	No ☐
Ice packs	Yes ☐ No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐			

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
15.6	3.4	3.3	[illegible]	[illegible]	AVG

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: SCOTT DILLING	Date: 15-SEPT-2015	Time: 1300H.	Received by: [signature]	Date: 16SEP15	Time: 1300	Received by: [signature]	Date: Sept 17	Time: 1435

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS FM 022fin v09 Front/04 January 2014

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

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*: Scott Dilling
Phone / *Téléphone*: 393-4882
Mailing address / *Adresse postale*: 2195 2nd Ave
Fax / *Télécopieur*:
Whitehorse, Yukon
Postal code / *Code postal*: Y1A 3T8
First Nation, Municipal or Business Name / *Nom de la Première nation, de la municipalité ou de l'entreprise*: EDI
Agent / *Agent*:
Fax / *Télécopieur*:

Sampling Location · *Lieu de la prise d'échantillon*

Municipal Address / *Adresse municipale*: Mt. Nansen Mine
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)*: Pumphouse Well

Sample Collection / *Prélèvement de l'échantillon*

Sample Collected By / *Échantillon prélevé par*: Scott Dilling
Date / *Date*: 16/09/15 (YY/MM/DD · *AA/MM/JJ*)
Time / *Heure*: 8:40 (am / pm)
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?*: [X] Yes / *Oui* [X] No / *Non*
Previous Sample Number / *Numéro de l'échantillon précédent*:

Sample Supply / *Source d'approvisionnement en eau*

[X] 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*
[X] 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* [X] 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*: 15-09-16 (YY/MM/DD · *AA/MM/JJ*) Time / *Heure*: 2:25 (am / pm) By / *Par*: SS

Condition of Sample / ***État de l'échantillon***: [✓] Satisfactory / *Satisfaisant* [ ] Unsatisfactory / *Non satisfaisant* Details / *Précisez*: 10.8°C

Incubation / ***Incubation***: Date / *Date*: 15-09-16 (YY/MM/DD · *AA/MM/JJ*) Time / *Heure*: 4:20 (am / pm) By / *Par*: SS Incubator / *Incubateur*: 1

Analysis Completed / ***Analyse terminée***: Date / *Date*: 15-09-17 (YY/MM/DD · *AA/MM/JJ*) Time / *Heure*: 4:30 (am / pm) By / *Par*: SS

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

Total Coliforms/*Coliformes totaux*		**E. coli**/*E. coli*	
[ ] Present / *Présence*	[X] Absent / *Absence*	[ ] Present / *Présence*	[X] Absent / *Absence*

Comments / *Commentaires*

Report Authorized By / *Rapport autorisé par*: [signature]
Position / *Poste*: WLT
Date / *Date*: 15-09-17 (YY/MM/DD · *AA/MM/JJ*)

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

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Sample Number / ***Numéro de l'échantillon*** : 62718