REPORT Mount Nansen June 2015 Groundwater Monitoring and Sampling

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1.0 INTRODUCTION

Hemmera Envirochem Inc. ("Hemmera") and Ecological Logistics & Research Ltd. (Hemmera/ELR) were retained by the Government of Yukon (GY), Assessment and Abandoned Mines (AAM) to conduct a groundwater monitoring and sampling program at the Mount Nansen Site (the Site) in June, 2015. Hemmera/ELR's scope of work includes the monitoring of groundwater wells and collection of groundwater samples from a series of existing groundwater wells at the Site. This report summarizes the monitoring and sampling activities, a description of methodologies and field conditions encountered, a summary of field *in-situ* and laboratory analytical results including a comparison to applicable guidelines, a description of any observations or occurrences that may have influenced program results, and recommendations relating to sample procedures and monitoring well conditions. This report does not provide an interpretation of the results, nor does it provide recommendations relating to groundwater quality at the Site.

1.1 SITE LOCATION

The Mount Nansen Site (the Site) is located approximately 45 kilometres (km) west of the Village of Carmacks (70 km by road). This Type II abandoned mine site consists of three (3) primary areas of existing infrastructure: the Brown McDade Pit, a Mill Complex, and a Tailings Facility (**Figure 1-1**). Groundwater monitoring wells exist throughout the Site, a subset of which were sampled during the June 2015 groundwater monitoring and sampling program. The groundwater monitoring locations included in this program are described in **Sections 1.2** and **1.3**.

1.2 SCOPE OF WORK

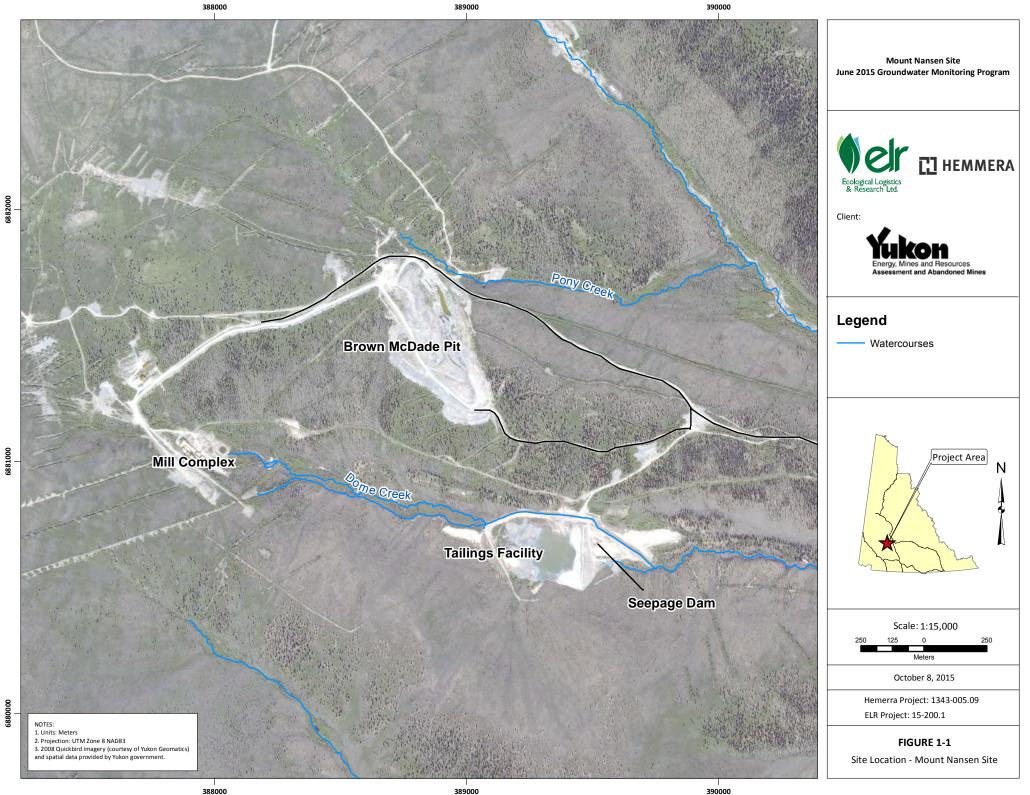
The scope of work for this program included the coordination and execution of the June groundwater monitoring and sampling, analysis of groundwater samples, and the presentation of results in a report.

Groundwater sampling at the Site was conducted over a four (4) day period, between June 1 and 4, 2015. Sampling was conducted by a team of four (4) qualified field staff from Hemmera/ELR (Rusto Martinka, Jarrod Coburne, Aaron Nicholson, and Michelle McKay). A total of 65 groundwater wells were included in the June sampling event (**Table 1-1**). It was not possible to sample two (2) of the groundwater wells listed in the scope of work as both wells were previously destroyed (MP09-01 and GSI-PC-01-B). Four (4) of the remaining 63 groundwater wells assessed were known to be difficult to sample, as noted during previous sampling events; two (2) were reported as damaged (CH-P-13-03/10 and MW09-01), one (1) reported as blocked (CH-P-13-04/35), and one (1) reported as dry and damaged (CH-P-13-02/10). Part of Hemmera/ELR's June 2015 scope of work was to further investigate these wells using a down-well camera.

At each well (sampling station) headspace gas concentrations were measured, well and water level parameters were measured (depth to water, depth to bottom, well diameter, and well stick-up height), the well was purged, and then prescribed *in-situ* groundwater quality parameters were measured. Lastly, groundwater samples were collected for laboratory analysis. A detailed description of the sampling methods and measured groundwater quality parameters is provided in **Section 2**, below.

1.3 SAMPLE SITES

The groundwater wells included in the June monitoring and sampling event were grouped into six (6) main areas of the Mount Nansen Site (**Table 1-1**). The majority of groundwater wells were located around existing infrastructure including the tailings facility, and seepage dam (25 wells), the Brown McDade Pit (13 wells) and the Mill Complex (9 wells). Additional wells (primarily drive-point piezometer installations) were sampled in the vicinity of Dome Creek (9 wells) and Pony Creek (9 wells). **Table 1-1** provides the location, status, and sample recovery for groundwater wells included in the June sampling program. The well locations are also illustrated in **Figures 1-2** and **1-3**. Photographs of each sample site visited in June are included in **Appendix A**.



| | | UTM (Z | Cone 08N) | - 12 | Sample | QA/QC Sample |
|-----------------|---------------|---------|-----------|-----------------------------|-----------|--------------|
| Area | Well Name | Easting | Northing | Status ^{1,2} | Collected | Collected |
| | GSI-DC-01B | 387675 | 6881124 | Dry | - | - |
| | GSI-DC-02B | 387879 | 6881129 | Frozen | - | - |
| | GSI-DC-03B | 388107 | 6881079 | Frozen | - | - |
| | GSI-DC-05B | 388725 | 6880836 | Frozen | - | - |
| Dome Creek | GSI-DC-06B | 389788 | 6880567 | Frozen | - | - |
| OFCCK | GSI-DC-07B | 390065 | 6880641 | Frozen | - | - |
| | GSI-DC-08-B | 390311 | 6880583 | Frozen | - | - |
| | GSI-DC-09-B | 390614 | 6880494 | Frozen | - | - |
| | GSI-DC-10-B | 390859 | 6880447 | Frozen | - | - |
| | GSI-HA-01A | 387842 | 6881132 | Direct Sampled ¹ | √ | - |
| | GSI-HA-02A | 387861 | 6881135 | Direct Sampled ¹ | √ | - |
| | GSI-HA-03A | 387878 | 6881131 | Direct Sampled ¹ | ✓ | - |
| | GSI-HA-04A | 387916 | 6881130 | Frozen | - | - |
| Mill Complex | GSI-HA-05A | 387898 | 6881125 | Direct Sampled ¹ | ✓ | - |
| Complex | MW09-16 | 387992 | 6881094 | Good | √ | Duplicate |
| | MW09-17 | 388075 | 6880970 | Good | √ | - |
| | MW09-18 | 388054 | 6880986 | Good | √ | - |
| | MW09-19 | 388051 | 6881016 | Good | ✓ | Field Blank |
| | CH-P-13-01/10 | 388657 | 6881116 | Frozen | - | - |
| | CH-P-13-03/10 | 389145 | 6881105 | Frozen ² | - | - |
| | CH-P-13-03/50 | 389143 | 6881110 | Insufficient Volume | - | - |
| | CH-P-13-04/10 | 389138 | 6881472 | Frozen | - | - |
| | CH-P-13-04/35 | 389138 | 6881472 | Frozen ² | - | - |
| Brown | CH-P-13-05/50 | 388954 | 6881466 | Good | √ | - |
| McDade | GLL07-01 | 388851 | 6881783 | Frozen | - | - |
| Pit | GLL07-02 | 389069 | 6881703 | Dry | - | - |
| | GLL07-03 | 388959 | 6881477 | Dry | - | - |
| | MW09-13 | 389006 | 6881664 | Frozen | - | - |
| | MW09-14 | 389008 | 6881669 | Frozen | - | - |
| | MW09-15 | 388920 | 6881727 | Frozen | - | - |
| | CH-P-13-02/10 | 388924 | 6881014 | Dry/Damaged ² | - | - |
| | GSI-PC-01-B | N/A | N/A | Destroyed ³ | - | - |
| | GSI-PC-02-B | 388907 | 6881786 | Frozen | - | - |
| | GSI-PC-03-B | 389256 | 6881706 | Direct Sampled ¹ | ✓ | - |
| _ | GSI-PC-04-B | 389586 | 6881656 | Frozen | - | - |
| Pony Creek | GSI-PC-05-B | 389713 | 6881661 | Frozen | - | - |
| SICON | MP09-01 | N/A | N/A | Destroyed ³ | - | - |
| | MP09-02 | 388867 | 6881816 | Frozen ² | - | - |
| | MP09-03 | 388956 | 6881739 | Frozen | - | - |
| | MP09-08 | 389160 | 6881718 | Frozen | - | - |

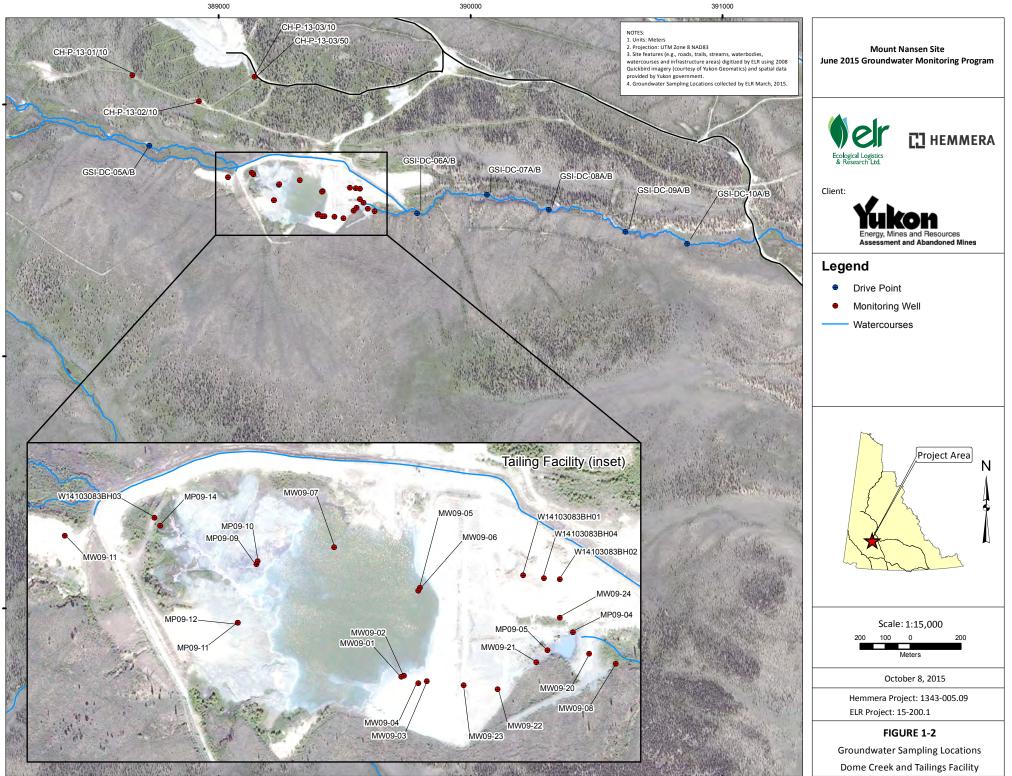
Table 1-1 Summary of Groundwater Well Locations and Samples Collected

| • | | UTM (Z | one 08N) | 01-11-2 | Sample | QA/QC Sample Collected | |
|----------------------|---------------|---------|----------|-----------------------------|-----------|---------------------------|--|
| Area | Well Name | Easting | Northing | Status ^{1,2} | Collected | | |
| _ | W14103083BH01 | 389522 | 6880669 | Frozen | - | - | |
| Seepage Dam | W14103083BH02 | 389561 | 6880665 | Frozen | - | - | |
| Dam | W14103083BH04 | 389544 | 6880666 | Frozen | - | - | |
| | MP09-04 | 389575 | 6880609 | Frozen | - | - | |
| | MP09-05 | 389548 | 6880590 | Good | ~ | Duplicate, Field Blank | |
| | MP09-09 | 389240 | 6880681 | Good | ~ | - | |
| | MP09-10 | 389241 | 6880684 | Frozen | - | - | |
| | MP09-11 | 389220 | 6880619 | Good | ~ | - | |
| | MP09-12 | 389220 | 6880619 | Frozen | - | - | |
| | MP09-14 | 389138 | 6880722 | Direct Sampled ¹ | ~ | - | |
| | MW09-01 | 389396 | 6880563 | Damaged ² | ~ | - | |
| | MW09-02 | 389393 | 6880562 | Good | ~ | - | |
| | MW09-03 | 389411 | 6880555 | Good | ~ | - | |
| Tailings Facility | MW09-04 | 389420 | 6880557 | Good | ~ | Duplicate, Field Blank | |
| | MW09-05 | 389413 | 6880656 | Dry | - | - | |
| | MW09-06 | 389411 | 6880653 | Good | ~ | - | |
| | MW09-07 | 389322 | 6880699 | Dry | - | - | |
| | MW09-08 | 389620 | 6880576 | Good | ~ | - | |
| | MW09-11 | 389037 | 6880711 | Dry | - | - | |
| | MW09-20 | 389592 | 6880586 | Dry | - | - | |
| | MW09-21 | 389536 | 6880577 | Frozen | - | - | |
| | MW09-22 | 389495 | 6880549 | Good | ~ | Field Blank | |
| | MW09-23 | 389459 | 6880553 | Damaged | ~ | - | |
| | MW09-24 | 389561 | 6880624 | Good | ✓ | - | |
| | W14103083BH03 | 389132 | 6880730 | Good | ~ | - | |

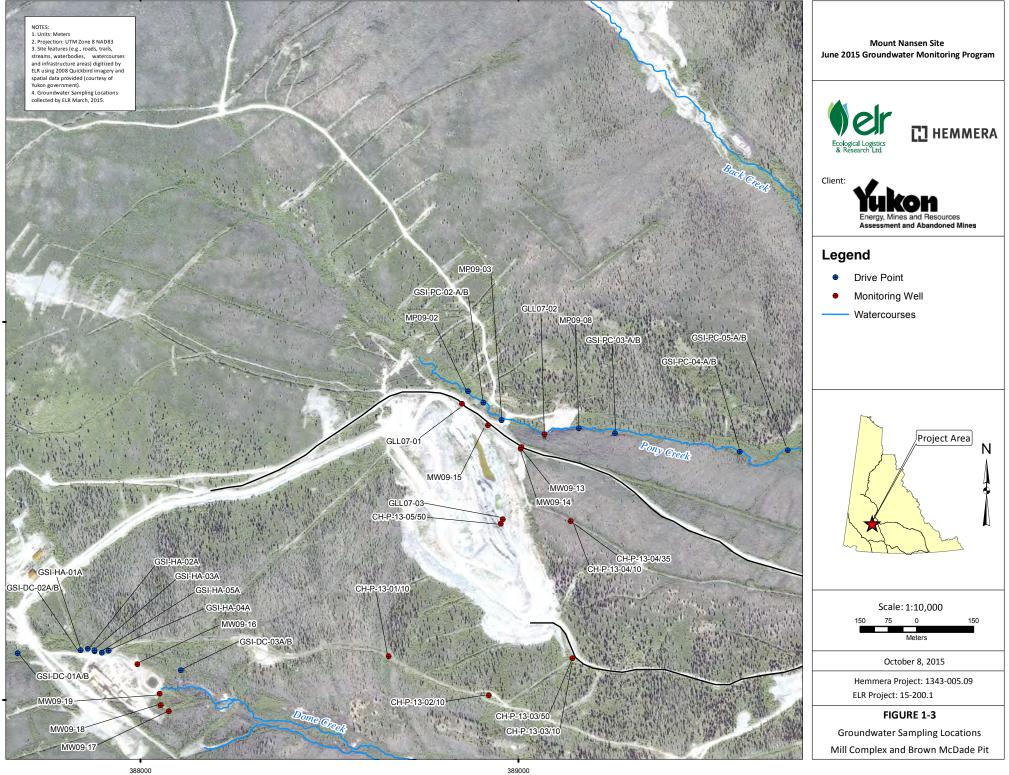
Notes: ¹ Direct sampling was completed at sample stations where insufficient volume had been encountered during the June 2014 groundwater sampling (Hemmera, 2014a). This insufficient volume limited standard purging and sampling methodologies.

² Groundwater wells previously reported as damaged (MW09-01 and CH-P-13-03/10), dry/damaged (CH-P-13-02/10), or blocked (CH-P-13-04/35) were investigated during the June 2015 sampling event using a down well camera. Further information regarding the status of damaged wells is provided in Section 3.2.

 ³ Destroyed wells are included in the scope of work and are therefore listed above in the summary table. These wells are not further discussed in this report.







2.0 METHODOLOGY

2.1 PROTOCOLS

Groundwater purging, monitoring and sampling conducted by Hemmera/ELR were completed in accordance with the Groundwater Sampling Standard Operating Procedures included in the document *Scope of Work: Groundwater Sampling Program – Mount Nansen Site 2015.* These procedures were consistent with Environment Yukon's *Protocol for the Contaminated Sites Regulation #7 - Sampling and Decommissioning* (Environment Yukon, 2011). Methods used were also consistent with the ASTM D4448-01 *Standard Guide for Sampling Groundwater Monitoring Wells* (ASTM, 2013), and the D6452-99 *Guide for Purging Methods for Wells used for Groundwater Quality Investigations* (ASTM, 2012).

2.2 WELL MEASUREMENTS AND PURGING

Upon arriving at each sample station, headspace gases were measured prior to any other well measurements. Oxygen (%), carbon dioxide (ppm), and methane (%LEL) were measured using a RAE Systems MultiRAE Four-Gas Monitor with photoionization detector (PID).

The well structure and casing were inspected for damage, closure, and general conditions. Depth to water (DTW; m), depth to bottom (DTB; m), well diameter (cm), and well stick-up height (m) were then recorded at each well.

DTB and DTW were measured using either a Solinst - Model 102 Water Level Meter (for 2.54 cm diameter wells) or a Solinst – Model 122 Interface Meter (for wells with diameter greater than 2.54 cm). DTB and DTW were measured from (in order of preference): 1) a black mark drawn on the top of the well; 2) the bottom of the most significant notch found on the top of the PVC if a mark was not present; or 3) a line that was drawn on the highest point of the well if no distinguishable point of measure was present. Stick-up height was measured from the lowest point on the bottom of the well casing to the highest point (or distinguishing mark) on the well. Water level meters were cleaned between each sample site using Alconox low-foaming phosphate-free detergent solution and deionized water.

Following initial inspection and measurements, groundwater wells were purged and sampled using dedicated equipment. Groundwater wells were purged and sampled using one of two (2) techniques: 1) manual purging using high density polyethylene (HDPE) Waterra tubing and a footvalve, or 2) GeoPump peristaltic pump with HDPE tubing. The purging technique chosen for each well was that which would produce the most representative groundwater sample.

Groundwater wells were determined to be sufficiently purged when either three successive field parameter measurements were recorded to be within an allowable tolerance level (as summarized in **Table 2-1**, below) or when a volume of water equivalent to three standing well volumes of water had been purged.

Groundwater turbidity measured in Nephelometric Turbidity Units (NTU) was also measured prior to sampling (described below in **Section 2.4**) and was used as an indication of sample quality. Where possible, samples were not collected until turbidity was less than 50 NTU. Purge volumes and purge rates were measured using a graduated container and stop watch. All well measurements, purging details, and additional field notes were recorded on customized field forms in order to minimize the potential for field errors; this information is presented in **Table 3-2**.

| Table 2-1 | Groundwater Sampling – Field Parameter Purging Criteria | |
|-----------|---|--|
|-----------|---|--|

| Field Parameter | Allowable Variance |
|-------------------------------|--------------------|
| Temperature (°C) | ± 3% |
| рН | ± 0.1 |
| Conductivity (µS/cm) | ± 3% |
| Specific Conductivity (µS/cm) | ± 3% |

2.3 DIRECT SAMPLING

During previous events a select number of groundwater wells were found to have an insufficient volume of groundwater to sample, based on having a limited standing water volume or recharge rate (based on criteria established at that time; Hemmera, 2014a). While these criteria allowed for clear field decisions by the crew, it limited the number of wells that were sampled during the event. An alternate sampling strategy was established by AAM's consultant (AMEC) in order to obtain samples from low producing wells, which was followed during the June 2015 sampling event. At all of the wells previously identified as having insufficient volume of water, Hemmera/ELR direct sampled (analytical samples collected prior to purging or collecting field parameter measurements), after which time field parameter measurements were collected if possible. Additionally, a priority ranking order for analytical sample collection previously established by AAM's consultant (AMEC) was used when collected samples at directly sampled wells (as summarized in **Table 2-2**). This ranking system is used to ensure that samples for higher priority parameters were collected at each well if limited recharge or volume was encountered. Where sample collection was limited, Hemmera/ELR also re-visited wells where feasible to in an attempt to collect a more thorough sample set.

In addition to the priority ranking order, Hemmera/ELR also considered the minimum sample volumes required for laboratory procedures (provided to Hemmera/ELR by ALS Laboratories). Where well volume was limited, minimum volumes were collected to maximize the number of program parameters collected.

2.4 FIELD PARAMETERS

Hemmera/ELR measured *in-situ* water quality parameters using a YSI Professional Plus field meter or YSI 556 Handheld Multiparameter Instrument, Lamotte 2020we turbidity meters, and Hach DR 890 Portable Colorimeters. Flow-through cells were used with the YSI meters to minimize field parameter variability. The *in-situ* groundwater quality parameters recorded at each sample station included; water temperature (°C), specific conductivity (µs/cm), conductivity (µs/cm), oxidation/reduction potential (ORP; mv), pH (pH units), sulphide (mg/l), dissolved oxygen (mg/l), and turbidity (NTU).

During purging, field parameters were monitored at 5 minute intervals, or at volume related intervals (e.g., every 500 mL) in the case of wells with slow recharge. The final set of in situ measurements were recorded at the conclusion of purging.

2.5 GROUNDWATER SAMPLING

Groundwater quality samples were collected and preserved in accordance with laboratory directions, and using techniques consistent with *Standard Methods for the Examination of Water and Wastewater* (Rice et al., 2012). ALS was the analytical subcontractor chosen for this project, and a summary of the sample bottle set (including parameters analysed and preservation techniques) is provided in **Table 2-2**.

In addition to the analytical parameters provided to Hemmera/ELR in the SOW, a separate dissolved alkalinity sample was added to each bottle set during this event. Field filtering was used to remove any acid or alkaline-generating solids that are not representative of an equilibrium condition (and that could have affected alkalinity results). Field filtered and unfiltered alkalinity results were then compared to test whether unfiltered results were representative (equivalent to filtered results). For this, a threshold of 20% Relative Percent Difference (RPD) was used, as described in **Section 2.8.2** below.

| Priority | Bottle Type | Parameters Analyzed | Minimum Volume | Sample Treatment | Preservative Added |
|----------|-------------------------|--|-------------------|------------------------------|---|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered and Preserved | HNO ₃ |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered and Preserved | HCI |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 120 ml | Preserved | NaOH |
| 4 | 250 ml (glass amber) | Ammonia (NH3) | 120 ml | Preserved | H ₂ SO ₄ |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | Preserved | HNO ₃ |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | Preserved | Zinc Acetate, capped and mixed, then NaOH |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon (TIC) | 100 ml | - | - |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - |

| Table 2-2 | Groundwater Sampling Parameter | Priority, Preservation, and Intended Analysis |
|-----------|--------------------------------|---|
|-----------|--------------------------------|---|

2.6 DOWN WELL CAMERA INVESTIGATIONS

As agreed to with AAM, four (4) groundwater wells previously reported as damaged (MW09-01 and CH-P-13-03/10), dry/damaged (CH-P-13-02/10), or blocked (CH-P-13-04/35) were investigated during the June 2015 sampling event using a down-well camera. Wells five centimeters (5 cm) in diameter were investigated using an Insight Vision Digital Express D2 Sewer Camera. The camera had a built-in LED light ring that illuminated the pipe being inspected and allowed for recording of both video and digital imagery. Groundwater well CH-P-04/35 which had a narrower diameter of 3.8 cm was investigated using a smaller diameter illuminated camera with digital display. The results of these investigations are provided in **Section 3.2.**

2.7 DATA ANALYSIS

Groundwater analytical results were compared to the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines for the Protection of Freshwater Aquatic Life (FAL; CCME, 2014). All relevant CCME FAL guidelines are presented in **Table A**.

2.8 QUALITY ASSURANCE AND QUALITY CONTROL

2.8.1 Field QA/QC

Several controls were used by Hemmera/ELR staff while in the field to ensure that sample integrity was maintained and that data were recorded completely and accurately. All equipment used during the sampling process was dedicated to individual wells, including HDPE tubing and Waterra footvalves, laboratory provided pre-cleaned sample bottles, disposable filters, and disposable syringes. Field staff wore dedicated disposable nitrile gloves for all measurements, purging, and sampling. Water level meters were cleaned between well locations using Alconox low-foaming phosphate-free detergent and deionized water, and field instruments (YSI field meters, turbidity meters, and portable colorimeters) were checked and/or calibrated before each site visit to ensure the parameters recorded were as accurate as possible.

Project-specific field data sheets were created for the sampling event to help ensure that all required measurements were taken, and that information was recorded correctly. Field data sheets have been included as **Appendix B** of this report.

2.8.2 Analytical QA/QC

Analytical QA/QC measures were included in the June sampling program as outlined in the scope of work and as per standard industry practice. This included the collection of field duplicates and field blanks, and the use of travel blanks. Duplicate samples were collected at a ratio of 10% of the regular samples (1 duplicate was collected for every 10 samples), and a field blank was prepared for each day field sampling was conducted (a total of 4 field blanks were prepared). Two travel blanks accompanied the analytical supplies and samples from the laboratory to the field, and back to the laboratory again (1 for each shipment). The variation between sample and duplicate values was calculated as relative percent difference (RPD). RPD provides a measure of the relative difference between two values in comparison to their mean value, and is calculated as the difference between a sample and its field duplicate over the average of two values. RPD values greater than 20% indicate a potential error that has affected the precision of sampling or analysis. RPD was calculated according to the following formula:

$$\% RPD = \left(\frac{\left(\frac{x_1 - x_2}{x_1 + x_2}\right)}{2}\right) x \ 100$$

RPD is not calculated if either the sample or the field duplicate concentration is less than five times the detection limit.

The analytical results for field and travel blanks were reviewed to determine whether any of the parameters tested were detected (i.e., result exceeding the detection limit). In such cases, the parameter or element in question and its concentration were reviewed to determine potential sources of contamination or error.

3.0 RESULTS

A summary of laboratory analytical results is presented in **Table A** of this report, including a comparison of results to CCME FAL guidelines. A summary of the QA/QC sampling results is presented in **Table B**, including analytical data for duplicates, field blanks, and travel blanks. Laboratory analytical reports are appended to this report (**Appendix C**).

3.1 GROUNDWATER SAMPLING SUMMARY

Groundwater sampling was completed between June 1 and 4, 2015. Weather conditions varied throughout the time of sampling with ambient air temperature ranging from 5 to 20°C.

Of the 65 wells specified for the June 2015 sampling event, 63 were located and assessed during the June program. The other two (2) groundwater wells listed in the scope of work that had previously been reported as destroyed, and not repairable, are not further discussed in this report (GSI-PC-01-B and MP09-01).

Of the 63 wells located, twenty-four (24) wells were sampled; eighteen (18) using purging and sample methods as per the program protocols, and six (6) sampled directly without purging according to the sample priority ranking. In five (5) of the six (6) direct sampled wells, volumes were insufficient to collect a full sample set. **Table 3-1** provides a summary of sample success.

Of the remaining 39 of 63 wells assessed but not sampled during the program, 30 wells were frozen, seven (7) wells were dry, one (1) well had insufficient volume for sampling, and one (1) well was reported as both dry and damaged and could not be sampled. Despite not collecting water quality samples these wells were still assessed and water/ice depth, well depth, and headspace gas measurements were collected where possible. Headspace gas measurements were obtained from all 39 of these wells (as specified in **Table 3-2**). A summary of the overall condition (status) and sampling result for groundwater wells is provided in **Table 1-1**, and a summary of all well measurements, purge details, and *in-situ* parameter results is provided in **Table 3-2**.

| Well Name | Dissolved Metals | Dissolved Mercury | Physical Parameters | Anions/ Nutrients | Cyanide | Ammonia | Thiocyanate | Sulphide | Total Inorganic Carbon | Dissolved Alkalinity |
|---------------|---------------------|----------------------|------------------------|----------------------|--------------|---------|--------------|----------|------------------------------|-------------------------|
| Priority | 1a | 1b | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| GSI-HA-01A | ~ | ~ | ✓ | ~ | ~ | ~ | ~ | ✓ | ~ | ~ |
| GSI-HA-02A | ~ | ~ | - | - | - | - | - | - | - | - |
| GSI-HA-03A | ~ | ~ | - | - | - | - | - | - | - | - |
| GSI-HA-05A | ~ | - | - | - | - | - | - | - | - | - |
| MW09-16 | ~ | √ | ✓ | ~ | √ | ~ | √ | √ | ✓ | ✓ |
| MW09-17 | ~ | ✓ | ✓ | ~ | ✓ | ~ | √ | √ | ✓ | ✓ |
| MW09-18 | ~ | ~ | \checkmark | ~ | \checkmark | ~ | \checkmark | √ | ✓ | \checkmark |
| MW09-19 | ~ | ✓ | √ | ~ | ✓ | ✓ | ✓ | ✓ | ✓ | ~ |
| CH-P-13-05/50 | ~ | ~ | \checkmark | ~ | \checkmark | ~ | \checkmark | √ | ✓ | \checkmark |
| GSI-PC-03B | ~ | ✓ | ✓ | ~ | ✓ | - | - | - | - | - |
| MP09-05 | ~ | ✓ | √ | ~ | ✓ | ✓ | ✓ | ✓ | ✓ | ~ |
| MP09-09 | ~ | ~ | \checkmark | ~ | ✓ | ~ | ✓ | ✓ | ✓ | ✓ |
| MP09-11 | ~ | ~ | \checkmark | ~ | ✓ | ~ | ✓ | √ | ✓ | ✓ |
| MP09-14 | ~ | ~ | - | - | - | - | - | - | - | - |
| MW09-01 | ~ | ~ | ✓ | ~ | ~ | ~ | ~ | √ | ~ | ✓ |
| MW09-02 | ~ | ✓ | ✓ | ~ | ✓ | ~ | ✓ | √ | ✓ | ✓ |
| MW09-03 | ~ | ~ | ✓ | ~ | ~ | ~ | ~ | √ | ~ | ✓ |
| MW09-04 | ~ | ✓ | ✓ | ~ | ✓ | ~ | ✓ | √ | ✓ | ✓ |
| MW09-06 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | √ | ~ | ✓ |
| MW09-08 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | √ | ~ | ✓ |
| MW09-22 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | √ | ~ | ✓ |
| MW09-23 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | √ | ~ | ✓ |
| MW09-24 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| W14103083BH03 | ~ | ✓ | √ | ✓ | ✓ | ✓ | ✓ | ✓ | ~ | ✓ |

| Table 3-1 | Summary of Samples Collected During June 2015 Sampling Program |
|-----------|--|
|-----------|--|

Notes: Refer to section 2.2 for details concerning direct sampling methodologies, including minimum volume collection. Samples were collected based on field priority ranking as specified in Table 2-2.

Table 3-2 Groundwater Field Parameters and Well Measurements for June 2015 Sampling Program

| Area | Location ID | Sample Date | Stick up Height (m) | Depth To Water (m) | Depth to Bottom (m) | Standing Water Volume (L) | Volume Purged (L) | Purge Start Time | Purge End Time | Elapsed Purge Time | Purge Rate (/min) | Criteria ¹ (3WV/PS/DS) | Draw Down (m) | Hd | Temperature (°C) | Conductivity (µS/cm) | Specific Conductivity (µS/cm) | ORP (mV) | Dissolved Oxygen (mg/L) | Dissolved Sulphide (mg/L) | Methane (%LEL) | Oxygen (%) | Carbon Dioxide (ppm) | Field Turbidity (NTU) | Method Used | Well Diameter (cm) ⁶ |
|-----------------|-------------------------|---------------------|---------------------|-----------------------|------------------------|------------------------------|-------------------|------------------|----------------|-----------------------|-------------------|--------------------------------------|---------------|------|------------------|-------------------------|-------------------------------------|----------|----------------------------|------------------------------|----------------|------------|-------------------------|--------------------------|-------------|------------------------------------|
| | GSI-DC-01A | 01/06/2015 | 0.92 | Dry | 1.306 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.6 | 570 | - | | 1.3 |
| | GSI-DC-01B | 01/06/2015 | 0.94 | Dry | 1.611 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.6 | 0 | - | | 1.3 |
| | GSI-DC-02A | 01/06/2015 | 0.86 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 650 | - | | 1.3 |
| | GSI-DC-02B | 01/06/2015 | 0.94 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 540 | - | | 1.3 |
| | GSI-DC-03A | 02/06/2015 | 0.05 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 600 | - | | 1.3 |
| | GSI-DC-03B | 02/06/2015 | 0.12 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.5 | 950 | - | | 1.3 |
| | GSI-DC-05A | 03/06/2015 | 0.64 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.6 | 480 | - | | 1.3 |
| | GSI-DC-05B | 03/06/2015 | 0.113 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.6 | 1200 | - | | 1.3 |
| Dome | GSI-DC-06A ² | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - |
| Creek | GSI-DC-06B | 04/06/2015 | 0.53 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.5 | 460 | - | | 1.3 |
| | GSI-DC-07A | 04/06/2015 | 0.97 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 710 | - | | 1.3 |
| | GSI-DC-07B | 04/06/2015 | 0.95 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.6 | 500 | - | | 1.3 |
| | GSI-DC-08A | 04/06/2015 | 0.95 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| | GSI-DC-08B | 04/06/2015 | 0.31 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 80 | - | | 1.3 |
| | GSI-DC-09A | 04/06/2015 | 1.06 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 1060 | - | | 1.3 |
| | GSI-DC-09B | 04/06/2015 | - | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 510 | - | | 1.3 |
| | GSI-DC-10A | 04/06/2015 | 1.06 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.5 | 0 | - | | 1.3 |
| | GSI-DC-10B | 04/06/2015 | 0.98 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| | GSI-HA-01A | 02/06/2015 13:50 | 1.20 | 2.391 | 3.121 | 0.090 | - | - | - | - | - | DS | - | 7.15 | 5.2 | 688 | 1106 | -40.2 | - | - | 0 | 20.6 | 570 | - | peristaltic | 1.3 |
| | GSI-HA-02A ³ | 01/06/2015 15:30 | 0.26 | 1.891 | 2.409 | 0.007 | - | - | - | - | - | DS | - | - | - | - | - | - | - | - | 0 | 20.6 | 600 | - | peristaltic | 1.3 |
| | GSI-HA-03A ³ | 01/06/2015 16:15 | 0.97 | 0.942 | 1.355 | 0.007 | - | - | - | - | - | DS | - | - | - | - | - | - | - | - | 0 | 20.9 | 480 | - | peristaltic | 1.3 |
| | GSI-HA-04A | 01/06/2015 | 0.61 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.6 | 650 | - | | 1.3 |
| Mill Complex | GSI-HA-05A ³ | 01/06/2015 16:45 | 1.03 | 1.015 | 1.481 | 0.006 | - | - | - | - | - | DS | - | - | - | - | - | - | - | - | 0 | 20.9 | 480 | - | peristaltic | 1.3 |
| | MW09-16 | 01/06/2015 18:00 | 1.31 | 1.830 | 2.745 | 1.8 | 6.0 | 17:33 | 18:08 | 0:35 | 0.17 | PS | 0 | 6.75 | 5.0 | 1257 | 2036 | 128.7 | 0.05 | 0 | 0 | 19.5 | 3160 | 0.89 | peristaltic | 5.0 |
| | MW09-17 | 02/06/2015 11:35 | 0.99 | 4.949 | 5.711 | 1.5 | 5.5 | 11:05 | 11:30 | 0:25 | 0.22 | PS | 0 | 6.92 | 1.2 | 1572 | 2884 | 84.0 | 0.86 | 0.07 | 0 | 8.0 | 320 | 0.02 | peristaltic | 5.0 |
| | MW09-18 | 02/06/2015 10:10 | 0.88 | 4.598 | 7.799 | 6.4 | 7.0 | 9:32 | 10:07 | 0:35 | 0.20 | PS | 0.08 | 6.94 | 1.4 | 1495 | 2700 | 66.2 | 0.52 | 0.01 | 0 | 20.6 | 870 | 0.51 | peristaltic | 5.0 |
| | MW09-19 | 02/06/2015 8:30 | 1.08 | 2.565 | 5.885 | 6.6 | 7.0 | 7:59 | 8:30 | 0:31 | 0.23 | PS | 0.60 | 6.77 | 0.7 | 1344 | 2507 | -86.8 | 1.14 | 0.05 | 0 | 20.5 | 760 | 0.22 | peristaltic | 5.0 |

| Area | Location ID | Sample Date | Stick up Height (m) | Depth To Water (m) | Depth to Bottom (m) | Standing Water Volume (L) | Volume Purged (L) | Purge Start Time | Purge End Time | Elapsed Purge Time | Purge Rate (//min) | Criteria ¹ (3WV/PS/DS) | Draw Down (m) | Hd | Temperature (°C) | Conductivity (µS/cm) | Specific Conductivity (µS/cm) | ORP (mV) | Dissolved Oxygen (mg/L) | Dissolved Sulphide (mg/L) | Methane (%LEL) | Oxygen (%) | Carbon Dioxide (ppm) | Field Turbidity (NTU) | Method Used | Well Diameter (cm) ⁶ |
|----------------|---------------|---------------------|---------------------|-----------------------|------------------------|------------------------------|-------------------|------------------|----------------|-----------------------|--------------------|--------------------------------------|---------------|------|------------------|-------------------------|-------------------------------------|----------|----------------------------|------------------------------|----------------|------------|-------------------------|--------------------------|-------------|------------------------------------|
| | CH-P-13-01/10 | 01/06/2015 | 0.52 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 3.8 |
| | CH-P-13-03/10 | 01/06/2015 | 0.69 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.3 | 300 | - | | 3.8 |
| | CH-P-13-03/50 | 04/06/2015 | 0.58 | 50.224 | 50.600 | 0.191 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.1 | 0 | - | | 2.5 |
| | CH-P-13-04/10 | 01/06/2015 | 0.65 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 3.8 |
| | CH-P-13-04/35 | 01/06/2015 | 0.70 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 2.5 |
| Brown | CH-P-13-05/50 | 02/06/2015 17:00 | 0.79 | 29.585 | 50.310 | 10.5 | 30.0 | 16:36 | 16:55 | 0:19 | 1.58 | PS | - | 6.19 | 2.9 | 1682 | 2912 | 121.6 | 3.17 | 1.77 | 0 | 20.4 | 0 | 118 | waterra | 2.5 |
| McDade Pit | GLL07-01 | 01/06/2015 | 0.80 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.3 | 0 | - | | 5.0 |
| 1.1 | GLL07-02 | 03/06/2015 | 1.37 | Dry | 7.094 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 15.2 |
| | GLL07-03 | 01/06/2015 | 1.11 | Dry | 11.652 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 19.8 | 0 | - | | 5.0 |
| | MW09-13 | 01/06/2015 | 0.76 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 5.0 |
| | MW09-14 | 01/06/2015 | 0.74 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 5.0 |
| | MW09-15 | 01/06/2015 | 0.9 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 5 |
| | CH-P-13-02/10 | 01/06/2015 | 0.63 | Dry | 8.202 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 3.8 |
| | GSI-PC-02A | 03/06/2015 | 0.9 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.3 | 0 | - | | 1.3 |
| | GSI-PC-02B | 03/06/2015 | 0.905 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.3 | 0 | - | | 1.3 |
| | GSI-PC-03A | 03/06/2015 | 0.93 | 1.131 | 1.354 | 0.028 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.2 | 0 | - | | 1.3 |
| | GSI-PC-03B | 04/06/2015 17:41 | 0.95 | 1.008 | 2.798 | 0.227 | - | - | - | - | - | DS | - | - | - | - | - | - | - | - | 0 | 20.2 | 0 | - | peristaltic | 1.3 |
| Deres | GSI-PC-04A | 03/06/2015 | 0.9 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| Pony Creek | GSI-PC-04B | 03/06/2015 | 0.9 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| | GSI-PC-05A | 03/06/2015 | 0.87 | Dry | 1.127 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| | GSI-PC-05B | 03/06/2015 | 0.9 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 19.8 | 890 | - | | 1.3 |
| | MP09-02 | 03/06/2015 | 1.12 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| | MP09-03 | 03/06/2015 | 0.8 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| | MP09-08 | 03/06/2015 | 0.99 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 0 | - | | 1.3 |
| | W14103083BH01 | 03/06/2015 | 0.635 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 620 | - | | 5 |
| Seepage Dam | W14103083BH02 | 03/06/2015 | 0.79 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 460 | - | | 5.0 |
| | W14103083BH04 | 03/06/2015 | 0.795 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 840 | - | | 5.0 |

| Area | Location ID | Sample Date | Stick up Height (m) | Depth To Water (m) | Depth to Bottom (m) | Standing Water Volume (L) | Volume Purged (L) | Purge Start Time | Purge End Time | Elapsed Purge Time | Purge Rate (I/min) | Criteria ¹ (3WV/PS/DS) | Draw Down (m) | Hd | Temperature (°C) | Conductivity (µS/cm) | Specific Conductivity (µS/cm) | ORP (mV) | Dissolved Oxygen (mg/L) | Dissolved Sulphide (mg/L) | Methane (%LEL) | Oxygen (%) | Carbon Dioxide (ppm) | Field Turbidity (NTU) | Method Used | Well Diameter (cm) ⁶ |
|----------------------|----------------------|---------------------|---------------------|-----------------------|------------------------|------------------------------|-------------------|------------------|----------------|-----------------------|--------------------|--------------------------------------|---------------|------|------------------|-------------------------|-------------------------------------|----------|----------------------------|------------------------------|----------------|------------|-------------------------|--------------------------|-------------|------------------------------------|
| | MP09-04 | 04/06/2015 | 1.205 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.6 | 620 | - | | 3.8 |
| | MP09-05 | 03/06/2015 17:45 | 1.114 | 1.437 | 1.670 | 1.3 | 4.5 | 17:23 | 17:43 | 0:20 | 0.23 | PS | 0.05 | 6.66 | 2.7 | 1361 | 2369 | -46.9 | 0.07 | 0 | 0 | 20.9 | 500 | 1.87 | peristaltic | 3.8 |
| | MP09-09 | 04/06/2015 8:05 | 2.451 | 3.591 | 5.634 | 4.1 | 5.0 | 11:00 | 11:36 | 0:36 | 0.14 | PS | - | 9.31 | 1.5 | 388 | 707 | 80.5 | 0.79 | 0.36 | 0 | 20.9 | 430 | 45.86 | bailer | 3.2 |
| | MP09-10 | 02/06/2015 | 2.163 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 450 | - | | 3.2 |
| | MP09-11 | 04/06/2015 9:10 | 1.807 | 2.308 | 4.971 | 2.9 | 6.0 | 12:18 | 12:56 | 0:38 | 0.16 | PS | - | 7.65 | 1.4 | 454 | 818 | -126.4 | 3.14 | 1.26 | 0 | 20.9 | 500 | 159.0 0 | bailer | 3.2 |
| | MP09-12 | 02/06/2015 | 1.831 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 510 | - | | 3.2 |
| | MP09-14 ⁴ | 02/06/2015 14:50 | 0.96 | 1.089 | 1.609 | 0.3 | - | - | - | - | - | DS | - | - | - | - | - | - | - | - | 0 | 20.5 | 570 | - | peristaltic | 2.5 |
| | MW09-01 | 03/06/2015 12:15 | 0.82 | 7.147 | 9.060 | 4.0 | 3.0 | 11:05 | 11:22 | 0:17 | 0.18 | PS | - | 7.13 | 4.8 | 1731 | 2821 | -11.5 | 1.78 | 2.20 | 0 | 20.4 | 0 | 2643 | bailer | 3.8 |
| | MW09-02 | 02/06/2015 10:20 | 0.7 | 3.137 | 4.715 | 3.2 | 5.75 | 9:46 | 10:18 | 0:32 | 0.18 | PS | 0.90 | 7.18 | 3.9 | 1753 | 2934 | -87.3 | 0.48 | 0.02 | 0 | 20.4 | 0 | 5.29 | peristaltic | 5.0 |
| | MW09-03 | 02/06/2015 15:10 | 0.42 | 6.924 | 9.93 | 6.0 | 7.0 | 14:27 | 15:00 | 0:33 | 0.21 | PS | 0.23 | 7.21 | 3.2 | 1557 | 2666 | 12.4 | 0.22 | 0.03 | 0 | 20.3 | 0 | 0.77 | peristaltic | 5.0 |
| Tailings Facility | MW09-04 | 02/06/2015 13:50 | 0.38 | 4.631 | 7.675 | 6.0 | 6.0 | 13:05 | 13:45 | 0:40 | 0.15 | PS | 1.10 | 8.03 | 4.3 | 1640 | 2706 | 32.7 | 0.29 | 0.07 | 0 | 20.3 | 0 | 2.43 | peristaltic | 5.0 |
| | MW09-05 | 03/06/2015 | 1.097 | Dry | 7.552 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 9.6 | 6430 | - | | 5.0 |
| | MW09-06 | 03/06/2015 13:55 | 1.996 | 3.055 | 6.020 | 5.9 | 6.0 | 14:09 | 14:42 | 0:33 | 0.18 | PS | 0.26 | 7.44 | 5.7 | 1354 | 2135 | 108.6 | 0.05 | 0.09 | 0 | 20.5 | 700 | 18.41 | peristaltic | 5.0 |
| | MW09-07 | 03/06/2015 | 1.359 | Dry | 3.404 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.4 | 810 | - | | 5.0 |
| | MW09-08 | 04/06/2015 13:10 | 1.113 | 1.281 | 3.897 | 5.2 | 9.8 | 12:12 | 13:02 | 0:50 | 0.20 | PS | 0.08 | 6.67 | 2.3 | 197 | 349 | -96.0 | 0.06 | 0.02 | 0 | 20.9 | 730 | 2.14 | peristaltic | 5.0 |
| | MW09-11 | 02/06/2015 | 0.825 | Dry | 4.910 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.5 | 1700 | - | | 5.0 |
| | MW09-20 | 04/06/2015 | 0.923 | Dry | 3.684 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 950 | - | | 5.0 |
| | MW09-21 | 03/06/2015 | 0.744 | Frozen | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 20.9 | 460 | - | | 5.0 |
| | MW09-22 ⁴ | 04/06/2015 10:10 | 0.889 | 4.531 | 5.267 | 1.4 | 1.0 | 16:17 | 16:22 | 0:05 | 0.20 | PS | - | 6.25 | 3.4 | 991 | 1674 | 17.7 | 0.26 | 0.07 | 0 | 20.6 | 2350 | 12.60 | peristaltic | 5.0 |
| | MW09-23 ⁴ | 04/06/2015 8:20 | 0.17 | 12.748 | 15.890 | 6.0 | 20.0 | 13:06 | 13:25 | 0:19 | 1.05 | PS | - | 6.90 | 0.9 | 1180 | 2189 | -51.3 | 2.47 | 0.64 | 0 | 20.4 | 0 | 66.00 | waterra | 5.0 |
| | MW09-24 | 04/06/2015 14:40 | 0.64 | 9.540 | 11.190 | 3.3 | 20.0 | 11:43 | 11:54 | 0:11 | 1.82 | PS | - | 7.03 | 0.7 | 499 | 933 | 121.1 | 8.27 | 0.04 | 0 | 20.4 | 200 | 7.06 | bailer | 5.0 |
| | W14103083BH03 | 03/06/2015 8:45 | 0.75 | 1.621 | - | 0.5 | 5.0 | 8:23 | 8:58 | 0:35 | 0.14 | PS | 0.50 | 6.88 | 2.1 | 683 | 1215 | 66.7 | 5.15 | 0.05 | 0 | 20.9 | 530 | 2.18 | peristaltic | 5.0 |

Notes: To maximize the sample return for analytical analysis, field parameters were not collected at all direct sampled wells. ¹ 3WV = Three well volumes purged prior to sample collection, PS = field parameters stabilized prior to sample collection, and DS = sample collected directly without purging. ² Field measurements for groundwater well GSI-DC-06A were not collected during the June 2015 sampling event. ³ Due to low well volumes (direct sampling), field parameters were not measured. ⁴ Samples were collected following a period of recharge, typically the day following the well dry. Drawdown is not recorded in this situation.

* Shaded rows indicate monitoring stations where analytical samples were collected. - 18 -

3.2 ANALYTICAL RESULTS

Analytical results, including a brief summary of CCME FAL guideline exceedances and a description of factors that may have influenced data precision, are provided below. Details regarding well status, including a description of damaged or underperforming wells, are also discussed.

In several instances, the reported laboratory reportable detection limits (RDL) for parameters exceeded applicable CCME FAL standards (lightly shaded values in **Table A**). In these cases, samples having elevated levels of certain parameters required laboratory dilution in order to perform the required analyses, thereby resulting in an elevated RDL. For the purpose of this report, samples where the reported RDL is greater than the applicable guideline have not been reported as CCME FAL exceedances.

3.2.1 Dome Creek

Groundwater wells along Dome Creek were monitored between June 2 and June 4, 2015. No samples were obtained from the nine (9) drive-point piezometers located in this area. Sample site GSI-DC-01B was found dry at the time of sampling. Sample sites GSI-DC-02B, GSI-DC-03B, GSI-DC-05B, GSI-DC-06B, GSI-DC-07B, GSI-DC-08B, GSI-DC-09-B and GSI-DC-10B were found frozen during the time of sampling. A summary of field measurements, including headspace gases, is provided in **Table 3-2**.

The measurement of in-situ headspace vapours was made difficult at the Dome Creek sample sites due to dedicated sampling tubing being present in these small diameter wells. There was no space in the well head to sample vapours until dedicated sampling equipment was removed, after which time well head gases may have dispersed. All drive-point piezometers located within this area are properly sealed with PVC caps. Deeper wells (B wells) are improperly sealed with a plastic bag and elastic band.

3.2.2 Mill Complex

Groundwater in the Mill Complex Area was sampled on June 1 and June 2, 2015. Samples were obtained from five (5) of the nine (9) wells identified in this area. Sample site GSI-HA-04A was found frozen at the time of sampling. Drive-points GSI-HA-01A, GSI-HA-02A, GSI-HA-03A, and GSI-HA-05A were sampled directly without purging. A summary of the samples collected is provided in **Table 3-1**.

Field dissolved oxygen concentrations were less than the CCME FAL guideline for all measurements collected in this area. Concentrations of fluoride, as well as dissolved arsenic, copper, iron and zinc exceeded the CCME FAL guidelines at one or more sample locations in Mill Complex area.

Monitoring wells MW09-18 and MW09-16 have vents installed on the side of the PVC stand pipe, which could have influenced *in-situ* gas concentrations.

Where measured, groundwater turbidity of all samples collected within this area was less than 50 NTU (**Table 3-2**).

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3.2.3 Brown McDade Pit

Groundwater wells in the Brown McDade Pit area were sampled between June 1 and June 4, 2015. Samples were obtained from one (1) of the 13 sample sites located within this area (CH-P-13-05/50). Eight (8) wells were frozen during the time of sampling (CH-P-13-01/10, CH-P-13-03/10, CH-P-13-04/10, CH-P-13-04/35, GLL07-01, MW09-13, MW09-14, and MW09-15), three (3) wells (GLL07-02, GLL07-03, and CH-P-13-02/10) were either dry and/or damaged, and one well (CH-P-13-03/50) had insufficient water volume to collect a sample. A summary of the samples collected is provided in **Table 3-1**.

The field dissolved oxygen concentration was less than the CCME FAL guidelines for the one measurement collected in this area. Field pH was also less than CCME FAL guidelines in this area. Concentrations of fluoride, as well as dissolved arsenic, copper, iron and zinc exceeded the CCME FAL guidelines at this sample location.

Groundwater at sample location CH-P-13-05/50 was extremely turbid (118 NTU) during the time of sampling (**Table 3-2**).

Monitoring wells CH-P-13-04/10, CH-P-13-05/50, GLL07-01, GLL07-02, GLL07-03, and MW09-13 had either vents installed on the side of the PVC stand pipe or were missing a proper seal, which may have influenced *in-situ* gas concentrations.

CH-P-13-02/10 was found dry during the time of sampling. During previous sample events, bentonite was found present at the bottom of the well and therefore the well status had been listed as dry/damaged. The well was further investigated during the June 2015 sampling event using a camera. Camera footage obtained at this location confirmed the presence of bentonite and filter pack (filter sand) at the bottom of well. Bentonite was also observed seeping into the well from the top portion of the well screen. The bottom portion of well screen appears to be free of bentonite seepage, presumably due to presence of water (i.e. previous groundwater flow has cleaned/cleared the lower portion of the screen). Based on these observations, it appears as though the influx of bentonite into the well may be the result of improper well installation or movement of the well over time. The well may not be salvageable.

Sampling location CH-P-13-03/10 was also investigated using a camera during June 2015 sampling event. During a previous sampling program, the upper PVC stick-up of this well was observed as being detached from the casing, allowing sand/filter pack material to drain into the well. Camera footage obtained at this site has confirmed the presence of sand at the bottom of the well. Filter pack/sand was located inside monument, approximately 2 ft. up the side of the PVC. The well stick up was repaired in Fall 2014 using a primer and glue (designed for PVC) to re-secure the PVC stick up to the well casing, but it was not possible to clean out the sand pack material at that time.

Sampling location CH-P-13-04/35 was also investigated using a camera during June 2015 sampling event. This well had been recorded as "blocked" in previous sampling events. Camera investigations of the well confirmed that the blockage was ice. The status of CH-P-04/35 has been revised to "frozen".

3.2.4 Pony Creek

Groundwater wells along Pony Creek were monitored between June 3 and June 4, 2015. Samples were obtained from one (1) of the seven (7) sample sites in this area during the sampling event. The six (6) remaining wells located within this area were found frozen during the time of sampling (GSI-PC-02B, GSI-PC-04B, GSI-PC-05B, MP09-02, MP09-03, and MP09-08).

Drive-point GSI-PC-03B was sampled directly without purging. Concentrations of dissolved arsenic, iron and uranium exceeded the CCME FAL guidelines at this sample location (GSI-PC-03B).

Monitoring wells MP09-08 and MP09-03 were not sealed properly, which may have influenced *in-situ* gas concentrations.

3.2.5 Seepage Dam

Groundwater wells in the Seepage Dam area were monitored on June 3, 2015. No samples were obtained from any of the three (3) sample sites in this area during the sampling event. All three (3) wells (W14103083BH01, W14103083BH02 and W14103083BH04) were frozen during the time of sampling.

Monitoring wells located in the Seepage Dam area were not properly sealed, which may influence *in-situ* gas concentrations in future sampling events. Instrument wires installed in the well head prevented *in-situ* gas measurements at these sites.

3.2.6 Tailings Facility

Groundwater wells in the Tailings Facility area were sampled between June 2 and June 4, 2015. Samples were obtained from 14 of the 22 sample sites located in this area (MP09-05, MP09-09, MP09-11, MP09-14, MW09-01, MW09-02, MW09-03, MW09-04, MW09-06, MW09-08, MW09-22, MW09-23, MW09-24, and W14103083BH03).

Four (4) wells were frozen during the time of sampling (MP09-04, MP09-10, MP09-12, and MW09-21), and four (4) were dry (MW09-05, MW09-07, MW09-11 and MW09-20). Of the 14 samples collected within this area, one (1; MP09-14) was collected directly without purging. A summary of the samples collected is provided in **Table 3-1**.

Where measured, field dissolved oxygen concentrations were less than the CCME FAL guideline at all sample sites located within this area. Both field and laboratory pH measurements were recorded both less than and greater than the CCME FAL guideline at one or more sample location within this area.

Concentrations of fluoride, total ammonia, nitrite, free cyanide, as well as dissolved arsenic, copper, iron, mercury, selenium, silver, thallium, and zinc exceeded the CCME FAL guidelines at one or more sample location in this area.

The measured groundwater turbidity at sample sites MP09-11 and MW09-01 was greater than the desired threshold of 50 NTU (159 NTU and 2643 NTU; **Table 3-2**).

Although samples were obtained from well MW09-01, groundwater at this location was extremely turbid during previous sampling events. This well was further investigated during the June 2015 sampling event using a down-well camera. Camera footage obtained at this location showed a significant quantity of tailings throughout the well casing. The well also had a large gash/opening at the top of PVC (i.e., the top portion of well stick-up). Tailings and water likely enter the well through this opening during periods of high water level. Although this well has a relatively high stick-up (0.82 m), the presence of tailings throughout the well casing suggests that surface water was entering the well through the top of the PVC.

Sample site MW09-23 has also been noted as damaged (Hemmera, 2015) during previous sampling events. The well appears to have been buckled at an angle during earthworks on the tailings dam, and could only be sampled using waterra tubing. The transducer installed at this location was also in poor condition (wires frayed). The wires on this instrument were replaced during the June 2015 sampling event.

Monitoring wells MP09-09, MP09-10, MP09-11, MP09-12, MP09-14, MW09-01, MW09-07, MW09-08, MW09-20, MW09-22, MW09-23, and W14103083BH03 had either vents installed on the side of the PVC stand pipe or were missing a proper cap/seal, which could have influenced *in-situ* gas concentrations.

3.3 QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

Three (3) duplicate groundwater samples were collected during the fall sampling event. Two (2) travel blanks were provided by the laboratory and accompanied the samples throughout the sampling program. One (1) field blank was prepared on site for each day of sampling (4 field blanks in total). Detailed results of QA/QC sampling are provided in **Table B**, including RPD values for all duplicate and sample pairs collected.

3.3.1 Field and Travel Blanks

The majority of travel blank analytical results were reported as less than the RDL, indicating minimal evidence of contamination during the transportation process (**Table B**)

A detectable concentration of ammonia was recorded in the travel blank included with the first sample shipment (0.0071 mg/L), and a detectable concentration of total organic carbon (TOC; 0.52 mg/L) was recorded in the travel blank included with the second shipment. The program analytical supplier (ALS)

indicated that the detection of low levels of ammonia should not be considered an indication of contamination as low concentrations of ammonia are occasionally found in travel blanks that are prepared too early in advance of the field program. Detection of low levels of TOC is not considered adequate evidence to suggest sample contamination. All other parameters in both travel blanks were below RDL.

All field blank analytical results were reported as less than the RDL (Table B).

3.3.2 Field Duplicates

3.3.2.1 MW09-04 and DUP-1

Duplicate and duplicate pair analytical results show that all RPD values for samples MW09-04 and DUP-1 were below the 20% RPD threshold limit, suggesting no contamination or bias in sampling (**Table B**).

3.3.2.2 MW09-16 and DUP-2

Duplicate and duplicate pair analytical results show that all RPD values for samples MW09-16 and DUP-2 were below the 20% RPD threshold limit, suggesting no contamination or bias in sampling (**Table B**).

3.3.2.3 MP09-05 and DUP-4

Duplicate and duplicate pair analytical results show that all RPD values for samples MW09-05 and DUP-3 were below the 20% RPD threshold limit, suggesting no contamination or bias in sampling (**Table B**).

3.3.3 Quality Assurance and Quality Control Summary

Results for the QA/QC analytical program show minimal evidence of contamination or sampling bias during the transportation and field collection process. Overall, across four collected field blanks, all values were below RDL, indicating no contamination was incurred from the surrounding environment at these locations. The minimal positive results in the travel blanks did not suggest any type of contamination during transportation, and all sample and duplicate pair analytical results show an acceptable level of variability (RPD < 20%), suggesting that sound sampling and QA/QC practices were employed.

3.4 ANALYTICAL TEST OF FILTERED ALKALINITY

Filtered alkalinity samples were collected to test whether acid or alkaline-generating solids maybe affecting alkalinity results. Filtered and non-filtered alkalinity were both assessed from 18 sample locations (**Table 3-3**) during the June 2015 program, and analyzed for all QA/QC samples (duplicates, field blanks, and travel blanks). The two (2) other wells sampled did not have sufficient groundwater to collect filtered alkalinity (**Table 3-1**). A summary of filtered and unfiltered alkalinity results is provided in **Table 3-3**.

| | Non-Filtered Alkalinity | Filtered Alkalinity | RPD |
|-----------------|-------------------------|---------------------|------|
| Well Name | mg/L | mg/L | % |
| GSI-HA-01A | 257 | 242 | 6.0 |
| MW09-16 | 224 | 221 | 1.3 |
| DUP-2 (MW09-16) | 240 | - | nc |
| MW09-17 | 425 | 423 | 0.5 |
| MW09-18 | 396 | 415 | 4.7 |
| MW09-19 | 403 | 409 | 1.5 |
| CH-P-13-05/50 | 76.8 | 71.0 | 7.8 |
| GSI-PC-03B | 935 | - | nc |
| MP09-05 | 280 | 282 | 0.7 |
| DUP-4 (MP09-05) | 277 | 288 | 3.9 |
| MP09-09 | 63.9 | 62.8 | 1.7 |
| MP09-11 | 386 | 395 | 2.3 |
| MW09-01 | 255 | 264 | 3.5 |
| MW09-02 | 26.6 | 25.9 | 2.7 |
| MW09-03 | 137 | 121 | 12.4 |
| MW09-04 | 100 | - | nc |
| DUP-1 (MW09-04) | 97.0 | 96.3 | 0.7 |
| MW09-06 | 182 | 185 | 1.6 |
| MW09-08 | 125 | 130 | 3.9 |
| MW09-22 | 70.6 | 117 | 49.5 |
| MW09-23 | 336 | 349 | 3.8 |
| MW09-24 | 280 | 282 | 0.7 |
| W14103083BH03 | 378 | 376 | 0.5 |

Table 3-3 Comparison of Alkalinity and Filtered Alkalinity Results

Note: nc = not calculated. RPD is not calculated if either the sample or the field duplicate concentration is less than five times the detection limit.

Of the 23 samples above RDL, filtered and unfiltered alkalinity only varied significantly (i.e., RPD > 20%) at one (1) sample site (MW09-22; 49.5% RPD), suggesting the presence of acid-generating solids at that site. Based on these results and those observed in similar comparison from March 2015 groundwater sampling at the Site (RPD > 20% at one of eight samples at Site MW09-18; Hemmera/ELR 2015), the results suggest that there is not a consistent or repeatable effect of solids on non-filtered alkalinity, and that ongoing filtering of alkalinity samples is likely not an ongoing recommendation for the program. This conclusion will be made following the final trail of filtered and unfiltered alkalinity which was conducted during September 2015 groundwater sampling.

4.0 **RECOMMENDATIONS**

Hemmera/ELR have prepared the following recommendations based on the observations and results of the June 2015 groundwater sampling program.

1. Damaged or degraded wells should be repaired, if possible. Damaged wells were investigated during the June 2015 sampling event using a down-well camera (as specified by AAM).

Damaged or degraded wells noted during the June 2015 sampling event include the following, CH-P-13-02/10, MW09-23, CH-P-13-03/10, MW09-01, CH-P-13-04/35, and CH-P-13-05/50.

CH-P-13-02/10 was found dry during the time of sampling. During previous sample events, bentonite was found present at the bottom of the well and therefore the well status had been listed as dry/damaged. Camera footage obtained at this sample site confirms the presence of bentonite and filter pack (filter sand) at the bottom of well. Bentonite was also found seeping in the top portion of the well screen. The bottom portion of well screen appears to be free of bentonite seepage, presumably due to presence of water (i.e. groundwater flow has cleaned/cleared the lower portion of the screen). Based on the camera footage, there appears to be an issue with the well installation. Bentonite/filter pack is typically installed above the top of the screen; however, in this case it appears an insufficient amount of filter pack was installed to cover the entire screen. This has caused the overlaying bentonite to seep into screen slits in the upper portion of the screen. Based on the field observations, we do not believe that this well can be repaired and should continue to be used in its current condition, or be re-installed (re-drilled).

Sample site MW09-23 was recorded as being damaged (Hemmera, 2015) during previous sampling events (the PVC is bent at the surface). The well appears to have been buckled at an angle during earthworks on the tailings dam, and could only be sampled using Waterra tubing. The transducer installed at this location was also in poor condition (wires frayed). The wires on this instrument were replaced during the June 2015 sampling event. For sampling, Waterra tubing could continue to be used at this well (does not interfere with the transducer wiring and produces a clean, representative sample). Alternatively, a dedicated plastic submersible pump could be considered to reduce turbidity and improve the quality of sample at this location.

Sampling location CH-P-13-03/10 was investigated during June 2015 sampling event. During a previous sampling program, the upper PVC stick-up of this well became detached from the well casing, allowing sand/filter pack material to drain into the well. Camera footage obtained from the sample site confirmed the presence of sand at the bottom of the well. Hemmera/ELR recommends that the well be re-developed to remove the sand. The following methods should be considered: 1) Injecting water into the well and using air lift method to clear the well (using air compressor). Well logs should be reviewed prior to implementing this method to assess the hydraulic conductivity of the surrounding formation. A low hydraulic conductivity is required in order to saturate the sand and mobilize using an air compressor. This method may require a substantial volume of water. 2) Use a vacuum truck to remove sand. Vacuum head would need to be small enough to fit in the casing.

MW09-01 could not be sampled during previous events due to an excessive quantity of tailings present in the groundwater. Although samples were obtained from well MW09-01 during the June 2015 sampling event, groundwater at this location has been extremely turbid during previous sampling events. Camera footage obtained at this location shows a significant quantity of tailing throughout the well casing. The well also has a large gash/opening at the top of PVC. Tailings likely enter the well through this opening during periods of high water. The opening at the top of PVC should be sealed. This well should be cleaned of fines and debris which may be possible through a combination of open-ended standard or large diameter Waterra tubing (to capture sediment in the end of the tubing), followed by redevelopment using Waterra tubing and a surge block. Re-development may take several sampling events to complete, and may require the addition of water to re-suspend the fines present.

Sampling location CH-P-13-04/35 was also investigated using a camera during June 2015 sampling event. This well had been recorded as "blocked" in previous sampling events. Camera investigations of the well confirmed that the blockage was ice. The status of CH-P-04/35 has been revised to "frozen". No future action is required at this location.

In addition to previously recorded damaged wells, groundwater at sample location CH-P-13-05/50 was extremely turbid (118 NTU) during the time of sampling (**Table 3-2**). This well should also be re-developed using Waterra tubing and a surge block during a future monitoring event in order to obtain a more representative sample.

 Monitoring wells should be fitted for the measurement of in-situ headspace vapour. This would include installing PVC caps or J-plugs on each well, and blocking vents currently installed on the side of some of the PVC wells. Wells which are not properly fitted for in-situ headspace vapour monitoring include; MW09-18, MW09-16, CH-P-13-04/10, CH-P-13-05/50, GLL07-01, GLL07-02, GLL07-03, MW09-13, MP09-08, MP09-03, W14103083BH01, W14103083BH02, W14103083BH04, MP09-09, MP09-10, MP09-11, MP09-12, MP09-14, MW09-01, MW09-07, MW09-08, MW09-20, MW09-22, MW09-23, and W14103083BH03.

5.0 CLOSURE

We have appreciated the opportunity of working with you on this project and trust that this report is satisfactory to your requirements. Please feel free to contact the undersigned regarding any questions or further information that you may require.

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6.0 **REFERENCES**

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7.0 STATEMENT OF LIMITATIONS

This report was prepared by Hemmera Envirochem Inc. ("Hemmera"), based on fieldwork conducted by Hemmera, for the sole benefit and exclusive use of the Yukon Government. The material in it reflects Hemmera's best judgment in light of the information available to it at the time of preparing this Report. Any use that a third party makes of this Report, or any reliance on or decision made based on it, is the responsibility of such third parties. Hemmera accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this Report.

Hemmera has performed the work as described above and made the findings and conclusions set out in this Report in a manner consistent with the level of care and skill normally exercised by members of the environmental science profession practicing under similar conditions at the time the work was performed.

This Report represents a reasonable review of the information available to Hemmera within the established Scope, work schedule and budgetary constraints. It is possible that the levels of contamination or hazardous materials may vary across the Site, and hence currently unrecognised contamination or potentially hazardous materials may exist at the Site. No warranty, expressed or implied, is given concerning the presence or level of contamination on the Site, except as specifically noted in this Report. The conclusions and recommendations contained in this Report are based upon applicable legislation existing at the time the Report was drafted. Any changes in the legislation may alter the conclusions and/or recommendations contained in the Report. Regulatory implications discussed in this Report were based on the applicable legislation existing at the time the applicable legislation existing at the time the resonance on the resonance on the resonance on the site. Report was written.

In preparing this Report, Hemmera has relied in good faith on information provided by others as noted in this Report, and has assumed that the information provided by those individuals is both factual and accurate. Hemmera accepts no responsibility for any deficiency, misstatement or inaccuracy in this Report resulting from the information provided by those individuals.

The liability of Hemmera to the Yukon Government shall be limited to injury or loss caused by the negligent acts of Hemmera. The total aggregate liability of Hemmera related to this agreement shall not exceed the lesser of the actual damages incurred, or the total fee of Hemmera for services rendered on this project.

TABLES

| | | Site Location | | | | | Dome Creek | | | | | | | | | Mill Complex | | | | |
|-------------------------------------|----------|--------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------------|------------------|------------|------------------|------------------|------------------|------------------|-----------------|
| | | Sample ID | GSI-DC-01B | GSI-DC-02B | GSI-DC-03B | GSI-DC-05B | GSI-DC-06B | GSI-DC-07B | GSI-DC-08B | GSI-DC-09B | GSI-DC-10B | GSI-HA-01A | GSI-HA-02A | GSI-HA-03A | GSI-HA-04A | GSI-HA-05A | MW09-16 | MW09-17 | MW09-18 | MW09-19 |
| | - | Date Sampled | 01/06/2015 | 01/06/2015 | 02/06/2015 | 03/06/2015 | 04/06/2015 | 04/06/2015 | 04/06/2015 | 04/06/2015 | 04/06/2015 | 02/06/2015 13:50 | 01/06/2015 15:30 | 01/06/2015 16:15 | 01/06/2015 | 01/06/2015 16:45 | 01/06/2015 18:00 | 02/06/2015 11:35 | 02/06/2015 10:10 | 02/06/2015 8:30 |
| | - | ALS Work Number | - | - | - | - | - | - | - | - | - | L1620902 | - | - | - | - | L1620902 | L1620902 | L1620902 | L1620902 |
| | | Station Status | Dry | Frozen | Direct Sampled | Direct Sampled | Direct Sampled | Frozen | Direct Sampled | Sampled | Sampled | Sampled | Sampled |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | | | | | | | | | | | | | | | | | | |
| Physical Tests | | | | | | | | | | | | | | | | | | | | |
| Lab pH | pH units | 6.5-9.0 ⁵ | - | - | - | - | - | - | - | - | - | 8.14 | - | - | - | - | 7.97 | 8.02 | 8.05 | 7.80 |
| Field pH | pH units | 6.5-9.0 ⁵ | - | - | - | - | - | - | - | - | - | 7.15 | - | - | - | - | 6.75 | 6.92 | 6.94 | 6.77 |
| Field Temperature | С | - | - | - | - | - | - | - | - | - | - | 5.20 | - | - | - | - | 5.00 | 1.20 | 1.40 | 0.70 |
| ab Conductivity | uS/cm | - | - | - | - | - | - | - | - | - | - | 977 | - | - | - | - | 1970 | 2740 | 2560 | 2340 |
| Field Conductivity | uS/cm | - | - | - | - | - | - | - | - | - | - | 688 | - | - | - | - | 1257 | 1572 | 1495 | 1344 |
| Field Specific Conductivity | uS/cm | - | - | - | - | - | - | - | - | - | - | 1106 | - | - | - | - | 2036 | 2884 | 2700 | 2507 |
| Total Hardness (as CaCO3) | mg/L | - | - | - | - | - | - | - | - | - | - | 593 | - | - | - | - | 1260 | 1950 | 1780 | 1460 |
| Field Dissolved Oxygen | mg/L | 9.5 ⁶ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.05 | 0.86 | 0.52 | 1.14 |
| Field Oxidation - Redox Potent | mV | - | - | - | - | - | - | - | - | - | - | -40.2 | - | - | - | - | 128.7 | 84.0 | 66.2 | -86.8 |
| Field Turbidity | NTU | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.89 | 0.02 | 0.51 | 0.22 |
| Anions and Nutrients | | | | | | | | | | | | | | | | | | | | |
| Alkalinity, Total (CaCO3) | mg/L | - | - | - | - | - | - | - | - | - | - | 257 | - | - | - | - | 224 | 425 | 396 | 403 |
| Alkalinity, Total (CaCO3, filtered) | mg/L | - | - | - | - | - | - | - | - | - | - | 242 | - | - | - | - | 221 | 423 | 415 | 409 |
| Ammonia, Total (as N) | mg/L | Varies 7 | - | - | - | - | - | - | - | - | - | 0.0669 | - | - | - | - | 0.0331 | <0.0050 | 0.0284 | 3.23 |
| Ammonia CCME-FAL | mg/L | - | - | - | - | - | - | - | - | - | - | 10.65 | - | - | - | - | 27.15 | 25.11 | 23.58 | 36.97 |
| Chloride (CI) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.50 | - | - | - | - | <5.0 | <5.0 | <5.0 | <5.0 |
| Fluoride (F) | mg/L | 0.12 | - | - | - | - | - | - | - | - | - | 0.118 | - | - | - | - | 0.47 | <0.20 | <0.20 | 0.28 |
| Nitrate (as N) | mg/L | 13 | - | - | - | - | - | - | - | - | - | 0.0059 | - | - | - | - | <0.050 | 0.391 | <0.050 | <0.050 |
| Nitrite (as N) | mg/L | 0.06 | - | - | - | - | - | - | - | - | - | <0.0010 | - | - | - | - | <0.010 | <0.010 | <0.010 | <0.010 |
| Total Kjeldahl Nitrogen | mg/L | - | - | - | - | - | - | - | - | - | - | 0.346 | - | - | - | - | 0.181 | 0.093 | 0.129 | 4.02 |
| Sulfate (SO4) | mg/L | - | - | - | - | - | - | - | - | - | - | 312 | - | - | - | - | 1100 | 1540 | 1440 | 1230 |
| Sulphide as S | mg/L | - | - | - | - | - | - | - | - | - | - | 0.133 | - | - | - | - | <0.020 | <0.020 | <0.020 | 0.123 |
| Field Sulphide | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.00 | 0.07 | 0.01 | 0.05 |
| Anion Sum | meq/L | - | - | - | - | - | - | - | - | - | - | 11.7 | - | - | - | - | 27.5 | 40.7 | 38.0 | 33.6 |
| Cation Sum | meq/L | - | - | - | - | - | - | - | - | - | - | 12.4 | - | - | - | - | 26.0 | 39.7 | 36.3 | 31.7 |
| Cation - Anion Balance | % | - | - | - | - | - | - | - | - | - | - | 3.0 | - | - | - | - | -2.8 | -1.2 | -2.2 | -3.0 |
| Cyanides | | | | | | | | | | | | | | | | | | | | |
| Cyanide, Total | mg/L | - | - | - | - | - | - | - | - | - | - | <0.0050 | - | - | - | - | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Cyanide, Free | mg/L | 0.005 | - | - | - | - | - | - | - | - | - | <0.0050 | - | - | - | - | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Cyanide, Weak Acid Diss | mg/L | - | - | - | - | - | - | - | - | - | - | <0.0050 | - | - | - | - | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Thiocyanate (SCN) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.50 | - | - | - | - | <0.50 | <0.50 | <0.50 | 0.53 |
| Drganic/Inorganic Carbon | | | | | | | | | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | - | - | - | - | - | - | - | - | - | - | 51.4 | - | - | - | - | 52.2 | 95.1 | 95.6 | 96.4 |
| Total Organic Carbon | mg/L | - | - | - | - | - | - | - | - | - | - | 4.27 | - | - | - | - | 3.57 | 2.49 | 2.63 | 12.6 |

| | Г | Site Location | | | | | | Brown McD | ade Pit | | | | | | | | | F | Pony Creek | | | |
|-------------------------------------|----------|--------------------------------|---------------|---------------|---------------------|---------------|---------------|------------------|------------|------------|------------|------------|------------|------------|---------------|------------|------------------|------------|------------|------------|------------|------------|
| | - | Sample ID | CH-P-13-01/10 | CH-P-13-03/10 | CH-P-13-03/50 | CH-P-13-04/10 | CH-P-13-04/35 | CH-P-13-05/50 | GLL07-01 | GLL07-02 | GLL07-03 | MW09-13 | MW09-14 | MW09-15 | CH-P-13-02/10 | GSI-PC-02B | GSI-PC-03B | GSI-PC-04B | GSI-PC-05B | MP09-02 | MP09-03 | MP09-08 |
| | - | Date Sampled | 01/06/2015 | 01/06/2015 | 04/06/2015 | 01/06/2015 | 01/06/2015 | 02/06/2015 17:00 | 01/06/2015 | 03/06/2015 | 01/06/2015 | 01/06/2015 | 01/06/2015 | 01/06/2015 | 01/06/2015 | 03/06/2015 | 04/06/2015 17:41 | 03/06/2015 | 03/06/2015 | 03/06/2015 | 03/06/2015 | 03/06/2015 |
| | F | ALS Work Number | - | - | - | - | - | L1620902 | - | - | - | - | - | - | - | - | L1622366 | - | - | - | - | - |
| | | Station Status | Frozen | Frozen | Insufficient Volume | Frozen | Frozen | Sampled | Frozen | Dry | Dry | Frozen | Frozen | Frozen | Dry/Damaged | Frozen | Direct Sampled | Frozen | Frozen | Frozen | Frozen | Frozen |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | | | | | | | | | | | | | | | | | | | 1 | 1 |
| Physical Tests | | | | | | | | | | | | | 1 | | | | | | | | 1 | 1 |
| Lab pH | pH units | 6.5-9.0 ⁵ | - | - | - | - | - | 7.16 | - | - | - | - | - | - | - | - | 8.07 | - | - | - | - | - |
| Field pH | pH units | 6.5-9.0 ⁵ | - | - | - | - | - | 6.19 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field Temperature | C | - | - | - | - | - | - | 2.86 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Lab Conductivity | uS/cm | - | - | - | - | - | - | 2860 | - | - | - | - | - | - | - | - | 3490 | - | - | - | - | - |
| Field Conductivity | uS/cm | - | - | - | - | - | - | 1682 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field Specific Conductivity | uS/cm | - | - | - | - | - | - | 2912 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Hardness (as CaCO3) | mg/L | - | - | - | - | - | - | 1940 | - | - | - | - | - | - | - | - | 2440 | - | - | - | - | - |
| Field Dissolved Oxygen | mg/L | 9.5 ⁶ | - | - | - | - | - | 3.17 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field Oxidation - Redox Potent | mV | - | - | - | - | - | - | 121.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field Turbidity | NTU | - | - | - | - | - | - | 118.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Anions and Nutrients | | | | | | | | | | | | | | | | | | | | | 1 | |
| Alkalinity, Total (CaCO3) | mg/L | - | - | - | - | - | - | 76.8 | - | - | - | - | - | - | - | - | 935 | - | - | - | - | - |
| Alkalinity, Total (CaCO3, filtered) | mg/L | - | - | - | - | - | - | 71.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ammonia, Total (as N) | mg/L | Varies 7 | - | - | - | - | - | 0.0395 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ammonia CCME-FAL | mg/L | - | - | - | - | - | - | 117.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chloride (Cl) | mg/L | - | - | - | - | - | - | <5.0 | - | - | - | - | - | - | - | - | <10 | - | - | - | - | - |
| Fluoride (F) | mg/L | 0.12 | - | - | - | - | - | 0.25 | - | - | - | - | - | - | - | - | <0.60 | - | - | - | - | - |
| Nitrate (as N) | mg/L | 13 | - | - | - | - | - | <0.050 | - | - | - | - | - | - | - | - | 0.17 | - | - | - | - | - |
| Nitrite (as N) | mg/L | 0.06 | - | - | - | - | - | <0.010 | - | - | - | - | - | - | - | - | <0.020 | - | - | - | - | - |
| Total Kjeldahl Nitrogen | mg/L | - | - | - | - | - | - | 0.240 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sulfate (SO4) | mg/L | - | - | - | - | - | - | 2040 | - | - | - | - | - | - | - | - | 1570 | - | - | - | - | - |
| Sulphide as S | mg/L | - | - | - | - | - | - | <0.020 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Field Sulphide | mg/L | - | - | - | - | - | - | 1.77 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Anion Sum | meq/L | - | - | - | - | - | - | 44.1 | - | - | - | - | - | - | - | - | 51.3 | - | - | - | - | - |
| Cation Sum | meq/L | - | - | - | - | - | - | 42.0 | - | - | - | - | - | - | - | - | 54.8 | - | - | - | - | - |
| Cation - Anion Balance | % | - | - | - | - | - | - | -2.4 | - | - | - | - | - | - | - | - | 3.3 | - | - | - | - | - |
| Cyanides | | | | | | | | | | | | | | | | | | | | | | |
| Cyanide, Total | mg/L | - | - | - | - | - | - | <0.0050 | - | - | - | - | - | - | - | - | <0.0050 | - | - | - | - | - |
| Cyanide, Free | mg/L | 0.005 | - | - | - | - | - | <0.0050 | - | - | - | - | - | - | - | - | <0.0050 | - | - | - | - | - |
| Cyanide, Weak Acid Diss | mg/L | - | - | - | - | - | - | <0.0050 | - | - | - | - | - | - | - | - | <0.0050 | - | - | - | - | - |
| Thiocyanate (SCN) | mg/L | - | - | - | - | - | - | <0.50 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Organic/Inorganic Carbon | | | | | | | | | | | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | - | - | - | - | - | - | 12.0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Organic Carbon | mg/L | - | - | - | - | - | - | 5.34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | Γ | Site Location | | Seepage Dam | | | | | | | Tailings | Facility | | | | |
|-------------------------------------|----------|--------------------------------|-------------------|-------------------|-------------------|------------|------------------|-----------------|------------|-----------------|------------|------------------|------------------|------------------|------------------|------------------|
| | | Sample ID | W14103083BH 01 | W14103083BH 02 | W14103083BH 04 | MP09-04 | MP09-05 | MP09-09 | MP09-10 | MP09-11 | MP09-12 | MP09-14 | MW09-01 | MW09-02 | MW09-03 | MW09-04 |
| | _ | Date Sampled | - | 02 | 03/06/2015 | 04/06/2015 | 03/06/2015 17:45 | 04/06/2015 8:05 | 02/06/2015 | 04/06/2015 9:10 | 02/06/2015 | 02/06/2015 14:50 | 03/06/2015 12:15 | 02/06/2015 10:20 | 02/06/2015 15:10 | 02/06/2015 13:50 |
| | | ALS Work Number | - | - | - | - | L1622366 | L1622366 | - | L1622366 | - | L1620902 | L1622366 | L1620902 | L1620902 | L1620902 |
| | | Station Status | Frozen | Frozen | Frozen | Frozen | Sampled | Sampled | Frozen | Sampled | Frozen | Direct Sampled | Damaged | Sampled | Sampled | Sampled |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | | | | | | | | | | | | | | |
| Physical Tests | | | | | | | | | | | | | | | | |
| Lab pH | pH units | 6.5-9.0 ⁵ | - | - | - | - | 6.95 | 8.90 | - | 7.75 | - | - | 7.91 | 7.03 | 8.01 | 8.09 |
| Field pH | pH units | 6.5-9.0 ⁵ | - | - | - | - | 6.66 | 9.31 | | 7.65 | - | - | 7.13 | 7.18 | 7.21 | 8.03 |
| Field Temperature | C | - | - | - | - | - | 2.70 | 1.50 | - | 1.40 | - | - | 4.76 | 3.90 | 3.24 | 4.32 |
| Lab Conductivity | uS/cm | - | - | - | - | - | 2120 | 631 | - | 717 | - | - | 2700 | 2930 | 2600 | 2670 |
| Field Conductivity | uS/cm | - | - | - | - | - | 1361 | 388 | - | 454 | - | - | 1731 | 1753 | 1557 | 1640 |
| Field Specific Conductivity | uS/cm | - | - | - | - | - | 2369 | 707 | - | 818 | - | - | 2821 | 2934 | 2666 | 2706 |
| Total Hardness (as CaCO3) | mg/L | - | - | - | - | - | 1270 | 288 | - | 383 | - | 372 | 1490 | 1410 | 1600 | 1630 |
| Field Dissolved Oxygen | mg/L | 9.5 ⁶ | - | - | - | - | 0.07 | 0.79 | | 3.14 | - | - | 1.78 | 0.48 | 0.22 | 0.29 |
| Field Oxidation - Redox Potent | mV | - | - | - | - | - | -46.9 | 80.5 | - | -126.4 | - | - | -11.5 | -87.3 | 12.4 | 32.7 |
| Field Turbidity | NTU | - | - | - | - | - | 1.87 | 45.86 | - | 159.00 | - | - | 2643.00 | 5.29 | 0.77 | 2.43 |
| Anions and Nutrients | | | | | | | | | | | | | | | | |
| Alkalinity, Total (CaCO3) | mg/L | - | - | - | - | - | 280 | 63.9 | - | 386 | - | - | 255 | 26.6 | 137 | 100 |
| Alkalinity, Total (CaCO3, filtered) | mg/L | - | - | - | - | - | 282 | 62.8 | - | 395 | - | - | 264 | 25.9 | 121 | - |
| Ammonia, Total (as N) | mg/L | Varies 7 | - | - | - | - | 10.1 | 3.88 | | 9.49 | - | - | 17.8 | 14.2 | 3.06 | 6.27 |
| Ammonia CCME-FAL | mg/L | - | - | - | - | - | 40.32 | 0.1187 | - | 4.613 | - | - | 11.55 | 11.05 | 10.88 | 1.524 |
| Chloride (Cl) | mg/L | - | - | - | - | - | <2.5 | 2.59 | - | 0.58 | - | - | <5.0 | <5.0 | <5.0 | <5.0 |
| Fluoride (F) | mg/L | 0.12 | - | - | - | - | 0.14 | 1.62 | - | 0.491 | - | - | 0.33 | 0.82 | 0.58 | 0.64 |
| Nitrate (as N) | mg/L | 13 | - | - | - | - | <0.025 | 0.0273 | - | 0.0103 | - | - | 0.053 | <0.050 | 0.534 | 0.269 |
| Nitrite (as N) | mg/L | 0.06 | - | - | - | - | <0.0050 | 0.0040 | - | 0.0143 | - | - | <0.010 | <0.010 | 0.072 | 0.040 |
| Total Kjeldahl Nitrogen | mg/L | - | - | - | - | - | 13.8 | 5.82 | - | 12.9 | - | - | 21.6 | 16.1 | 3.70 | 7.51 |
| Sulfate (SO4) | mg/L | - | - | - | - | - | 1120 | 234 | - | 22.1 | - | - | 1640 | 2240 | 1610 | 1550 |
| Sulphide as S | mg/L | - | - | - | - | - | <0.020 | <1.0 | - | <0.020 | - | - | <0.020 | <0.020 | <0.020 | <0.020 |
| Field Sulphide | mg/L | - | - | - | - | - | 0.00 | 0.36 | - | 1.26 | - | - | 2.20 | 0.02 | 0.03 | 0.07 |
| Anion Sum | meq/L | - | - | - | - | - | 28.9 | 6.32 | - | 8.21 | - | - | 39.2 | 47.2 | 36.4 | 34.4 |
| Cation Sum | meq/L | - | - | - | - | - | 31.1 | 7.40 | - | 9.59 | - | - | 36.4 | 38.3 | 35.2 | 35.5 |
| Cation - Anion Balance | % | - | - | - | - | - | 3.5 | 7.9 | - | 7.8 | - | - | -3.8 | -10.4 | -1.6 | 1.6 |
| Cyanides | | | | | | | | | | | | | | | | |
| Cyanide, Total | mg/L | - | - | - | - | - | 0.0108 | 1.36 | - | 0.0254 | - | - | 0.0881 | 0.132 | 0.0363 | <0.0050 |
| Cyanide, Free | mg/L | 0.005 | - | - | - | - | <0.0050 | 0.251 | - | <0.0050 | - | - | 0.0058 | <0.0050 | 0.0108 | <0.0050 |
| Cyanide, Weak Acid Diss | mg/L | - | - | - | - | - | <0.0050 | 0.278 | - | <0.0050 | - | - | 0.0091 | 0.0192 | 0.0118 | <0.0050 |
| Thiocyanate (SCN) | mg/L | - | - | - | - | - | 0.78 | 0.98 | - | 0.56 | - | - | 4.84 | 1.34 | <0.50 | <0.50 |
| Organic/Inorganic Carbon | | | | | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | - | - | - | - | - | 61.3 | 8.43 | - | 85.7 | - | - | 56.9 | 2.3 | 27.8 | 18.7 |
| Total Organic Carbon | mg/L | - | - | - | - | - | 25.4 | 31.4 | - | 34.3 | - | - | 17.8 | 5.87 | 6.60 | 6.29 |

| | Γ | Site Location | | | | | | Tailin | gs Facility | | | | |
|-------------------------------------|----------|--------------------------------|------------|------------------|------------|------------------|------------|------------|-------------|------------------|-----------------|------------------|-----------------|
| | - | Sample ID | MW09-05 | MW09-06 | MW09-07 | MW09-08 | MW09-11 | MW09-20 | MW09-21 | MW09-22 | MW09-23 | MW09-24 | W14103083BH03 |
| | - | Date Sampled | 03/06/2015 | 03/06/2015 13:55 | 03/06/2015 | 04/06/2015 13:10 | 02/06/2015 | 04/06/2015 | 03/06/2015 | 04/06/2015 10:10 | 04/06/2015 8:20 | 04/06/2015 14:40 | 03/06/2015 8:45 |
| | | ALS Work Number | - | L1622366 | - | L1622366 | - | - | - | L1622366 | L1622366 | L1622366 | L1622366 |
| | | Station Status | Dry | Sampled | Dry | Sampled | Dry | Dry | Frozen | Sampled | Damaged | Sampled | Sampled |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | | | | | | | | | | | |
| Physical Tests | | | | | | | | | | | | | |
| Lab pH | pH units | 6.5-9.0 ⁵ | - | 7.90 | - | 6.66 | - | - | - | 6.33 | 7.54 | 7.86 | 7.23 |
| Field pH | pH units | 6.5-9.0 ⁵ | - | 7.44 | - | 6.67 | - | - | - | 6.25 | 6.90 | 7.03 | 6.88 |
| Field Temperature | С | - | - | 5.70 | - | 2.30 | - | - | - | 3.40 | 0.85 | 0.67 | 2.10 |
| Lab Conductivity | uS/cm | - | - | 1970 | - | 385 | - | - | - | 1560 | 2040 | 900 | 1070 |
| Field Conductivity | uS/cm | - | - | 1354 | - | 197 | - | - | - | 991 | 1180 | 499 | 683 |
| Field Specific Conductivity | uS/cm | - | - | 2135 | - | 349 | - | - | - | 1674 | 2189 | 933 | 1215 |
| Total Hardness (as CaCO3) | mg/L | - | - | 1230 | - | 201 | - | - | - | 924 | 1270 | 550 | 657 |
| Field Dissolved Oxygen | mg/L | 9.5 ⁶ | - | 0.05 | - | 0.06 | - | - | - | 0.26 | 2.47 | 8.27 | 5.15 |
| Field Oxidation - Redox Potent | mV | - | - | 108.6 | - | -96.0 | - | - | - | 17.7 | -51.3 | 121.1 | 66.7 |
| Field Turbidity | NTU | - | - | 18.41 | - | 2.14 | - | - | - | 12.60 | 66.00 | 7.06 | 2.18 |
| Anions and Nutrients | | | | | | | | | | | | | |
| Alkalinity, Total (CaCO3) | mg/L | - | - | 182 | - | 125 | - | - | - | 70.6 | 336 | 280 | 378 |
| Alkalinity, Total (CaCO3, filtered) | mg/L | - | - | 185 | - | 130 | - | - | - | 117 | 349 | 282 | 376 |
| Ammonia, Total (as N) | mg/L | Varies 7 | - | 1.15 | - | 2.15 | - | - | - | 1.47 | 3.80 | <0.0050 | 1.76 |
| Ammonia CCME-FAL | mg/L | - | - | 5.253 | - | 40.73 | - | - | - | 97.81 | 27.07 | 20.38 | 25.54 |
| Chloride (Cl) | mg/L | - | - | <2.5 | - | <0.50 | - | - | - | <2.5 | <2.5 | 1.10 | <0.50 |
| Fluoride (F) | mg/L | 0.12 | - | 0.41 | - | <0.20 | - | - | - | 0.10 | 0.18 | 0.038 | <0.20 |
| Nitrate (as N) | mg/L | 13 | - | 2.54 | - | <0.0050 | - | - | - | 0.039 | <0.025 | 2.37 | <0.0050 |
| Nitrite (as N) | mg/L | 0.06 | - | 0.0919 | - | <0.0010 | - | - | - | 0.0205 | <0.0050 | 0.0019 | <0.0010 |
| Total Kjeldahl Nitrogen | mg/L | - | - | 1.81 | - | 2.94 | - | - | - | 4.42 | 6.81 | 0.542 | 2.76 |
| Sulfate (SO4) | mg/L | - | - | 1160 | - | 75.9 | - | - | - | 809 | 979 | 226 | 265 |
| Sulphide as S | mg/L | - | - | <0.020 | - | 0.058 | - | - | - | <0.020 | <0.020 | <0.020 | <0.020 |
| Field Sulphide | mg/L | - | - | - | - | 0.02 | - | - | - | 0.07 | 0.64 | 0.04 | 0.05 |
| Anion Sum | meq/L | - | - | 28.0 | - | 4.08 | - | - | - | 18.3 | 27.1 | 10.5 | 13.1 |
| Cation Sum | meq/L | - | - | 26.5 | - | 7.98 | - | - | - | 24.0 | 29.0 | 11.3 | 15.7 |
| Cation - Anion Balance | % | - | - | -2.8 | - | 32.4 | - | - | - | 13.5 | 3.4 | 3.9 | 9.3 |
| Cyanides | | | | | | | | | | | | | |
| Cyanide, Total | mg/L | - | - | <0.0050 | - | 0.0069 | - | - | - | 0.0124 | 0.0093 | <0.0050 | <0.0050 |
| Cyanide, Free | mg/L | 0.005 | - | <0.0050 | - | <0.0050 | - | - | - | 0.0059 | <0.0050 | <0.0050 | <0.0050 |
| Cyanide, Weak Acid Diss | mg/L | - | - | <0.0050 | - | <0.0050 | - | - | - | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Thiocyanate (SCN) | mg/L | - | - | <0.50 | - | 0.62 | - | - | - | <0.50 | 0.51 | <0.50 | 0.53 |
| Organic/Inorganic Carbon | | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | - | - | 40.1 | - | 28.0 | - | - | - | 15.6 | 77.7 | 66.9 | 83.2 |
| Total Organic Carbon | mg/L | - | - | 9.74 | - | 15.4 | - | - | - | 14.6 | 14.9 | 7.74 | 19.0 |

| | Г | Site Location Dome Creek Mill Complex | | | | | | | | | | | | | | | | | | |
|-------------------|-------|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------------|------------------|------------|------------------|------------------|------------------|------------------|-----------------|
| | | Sample ID | GSI-DC-01B | GSI-DC-02B | GSI-DC-03B | GSI-DC-05B | GSI-DC-06B | GSI-DC-07B | GSI-DC-08B | GSI-DC-09B | GSI-DC-10B | GSI-HA-01A | GSI-HA-02A | GSI-HA-03A | GSI-HA-04A | GSI-HA-05A | MW09-16 | MW09-17 | MW09-18 | MW09-19 |
| | F | Date Sampled | 01/06/2015 | 01/06/2015 | 02/06/2015 | 03/06/2015 | 04/06/2015 | 04/06/2015 | 04/06/2015 | 04/06/2015 | 04/06/2015 | 02/06/2015 13:50 | 01/06/2015 15:30 | 01/06/2015 16:15 | 01/06/2015 | 01/06/2015 16:45 | 01/06/2015 18:00 | 02/06/2015 11:35 | 02/06/2015 10:10 | 02/06/2015 8:30 |
| | | ALS Work Number | - | - | - | - | - | - | - | - | - | L1620902 | - | - | - | - | L1620902 | L1620902 | L1620902 | L1620902 |
| | | Station Status | Dry | Frozen | Direct Sampled | Direct Sampled | Direct Sampled | Frozen | Direct Sampled | Sampled | Sampled | Sampled | Sampled |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | | | | | | | | | | | | | | | | | | |
| Dissolved Metals | | | | | | | | | | | | | | | | | | | | |
| Aluminum (Al) | mg/L | Varies ⁸ | - | - | - | - | - | - | - | - | - | 0.0031 | - | - | - | - | <0.0010 | <0.0020 | <0.0020 | 0.0090 |
| Aluminum CCME-FAL | mg/L | - | - | - | - | - | - | - | - | - | - | 0.1 | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 |
| Antimony (Sb) | mg/L | - | - | - | - | - | - | - | - | - | - | 0.00017 | - | - | - | - | 0.0801 | 0.00032 | 0.00034 | <0.00020 |
| Arsenic (As) | mg/L | 0.005 | - | - | - | - | - | - | - | - | - | 0.0115 | - | - | - | - | 0.0426 | 0.0208 | 0.0518 | 0.117 |
| Barium (Ba) | mg/L | - | - | - | - | - | - | - | - | - | - | 0.161 | - | - | - | - | 0.0144 | 0.00749 | 0.00768 | 0.0460 |
| Beryllium (Be) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.000020 | - | - | - | - | <0.000020 | <0.000040 | <0.000040 | <0.000040 |
| Bismuth (Bi) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.000050 | - | - | - | - | <0.000050 | <0.00010 | <0.00010 | <0.00010 |
| Boron (B) | mg/L | 1.5 | - | - | - | - | - | - | - | - | - | <0.010 | - | - | - | - | 0.062 | 0.083 | <0.020 | 0.190 |
| Cadmium (Cd) | mg/L | Varies 9 | - | - | - | - | - | - | - | - | - | 0.0000071 | - | - | - | - | 0.0440 | 0.000017 | 0.000056 | <0.000010 |
| Cadmium CCME-FAL | mg/L | - | - | - | - | - | - | - | - | - | - | 0.00037 | - | - | - | - | 0.00037 | 0.00037 | 0.00037 | 0.00037 |
| Calcium (Ca) | mg/L | - | - | - | - | - | - | - | - | - | - | 153 | - | - | - | - | 297 | 337 | 323 | 313 |
| Chromium (Cr) | mg/L | - | - | - | - | - | - | - | - | - | - | 0.00044 | - | - | - | - | <0.00010 | <0.00020 | <0.00020 | <0.00020 |
| Cobalt (Co) | mg/L | - | - | - | - | - | - | - | - | - | - | 0.00019 | - | - | - | - | 0.00295 | <0.00020 | <0.00020 | 0.00251 |
| Copper (Cu) | mg/L | Varies 10 | - | - | - | - | - | - | - | - | - | 0.00020 | - | - | - | - | 0.00526 | 0.00061 | <0.00040 | <0.00040 |
| Copper CCME-FAL | mg/L | - | - | - | - | - | - | - | - | - | - | 0.004 | - | - | - | - | 0.004 | 0.004 | 0.004 | 0.004 |
| Iron (Fe) | mg/L | 0.3 | - | - | - | - | - | - | - | - | - | 3.71 | - | - | - | - | 0.033 | <0.010 | <0.010 | 20.5 |
| Lead (Pb) | mg/L | Varies 11 | - | - | - | - | - | - | - | - | - | 0.000056 | - | - | - | - | 0.00583 | <0.00010 | <0.00010 | <0.00010 |
| Lead CCME-FAL | mg/L | - | - | - | - | - | - | - | - | - | - | 0.007 | - | - | - | - | 0.007 | 0.007 | 0.007 | 0.007 |
| Lithium (Li) | mg/L | - | - | - | - | - | - | - | - | - | - | 0.0068 | - | - | - | - | 0.0097 | 0.0199 | 0.0212 | 0.0106 |
| Magnesium (Mg) | mg/L | - | - | - | - | - | - | - | - | - | - | 51.1 | - | - | - | - | 127 | 269 | 237 | 165 |
| Manganese (Mn) | mg/L | - | - | - | - | - | - | - | - | - | - | 0.185 | - | - | - | - | 0.803 | <0.00020 | 0.611 | 7.05 |
| Mercury (Hg) | mg/L | 0.000026 | - | - | - | - | - | - | - | - | - | <0.000050 | - | - | - | - | 0.0000175 | <0.000050 | <0.000050 | <0.000050 |
| Molybdenum (Mo) | mg/L | 0.073 | - | - | - | - | - | - | - | - | - | 0.000406 | - | - | - | - | 0.000222 | <0.00010 | <0.00010 | 0.00018 |
| Nickel (Ni) | mg/L | Varies 12 | - | - | - | - | - | - | - | - | - | 0.00251 | - | - | - | - | 0.00535 | <0.0010 | <0.0010 | <0.0010 |
| Nickel CCME-FAL | mg/L | - | - | - | - | - | - | - | - | - | - | 0.15 | - | - | - | - | 0.15 | 0.15 | 0.15 | 0.15 |
| Phosphorus (P) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.050 | - | - | - | - | <0.050 | <0.050 | <0.050 | 0.145 |
| Potassium (K) | mg/L | - | - | - | - | - | - | - | - | - | - | 3.38 | - | - | - | - | 6.32 | 7.11 | 6.99 | 6.76 |
| Selenium (Se) | mg/L | 0.001 | - | - | - | - | - | - | - | - | - | <0.000050 | - | - | - | - | 0.000097 | 0.00061 | 0.00059 | 0.00021 |
| Silicon (Si) | mg/L | - | - | - | - | - | - | - | - | - | - | 6.38 | - | - | - | - | 4.53 | 5.10 | 4.96 | 8.46 |
| Silver (Ag) | mg/L | 0.0001 | - | - | - | - | - | - | - | - | - | <0.000010 | - | - | - | - | 0.000097 | <0.000020 | <0.000020 | <0.000020 |
| Sodium (Na) | mg/L | - | - | - | - | - | - | - | - | - | - | 5.08 | - | - | - | - | 7.32 | 12.7 | 11.1 | 16.8 |
| Strontium (Sr) | mg/L | - | - | - | - | - | - | - | - | - | - | 0.341 | - | - | - | - | 0.665 | 1.01 | 0.929 | 1.07 |
| Sulfur (S) | mg/L | - | - | - | - | - | - | - | - | - | - | 103 | - | - | - | - | 317 | 462 | 414 | 345 |
| Thallium (TI) | mg/L | 0.0008 | - | - | - | - | - | - | - | - | - | <0.000010 | - | - | - | - | 0.000459 | 0.000094 | 0.000261 | <0.000020 |
| Tin (Sn) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.00010 | - | - | - | - | <0.00010 | <0.00020 | <0.00020 | <0.00020 |
| Titanium (Ti) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.00030 | - | - | - | - | <0.00030 | <0.00060 | <0.00060 | 0.00079 |
| Uranium (U) | mg/L | 0.015 | - | - | - | - | - | - | - | - | - | 0.000030 | - | - | - | - | 0.00301 | 0.00753 | 0.00652 | 0.000755 |
| Vanadium (V) | mg/L | - | - | - | - | - | - | - | - | - | - | <0.00050 | - | - | - | - | <0.00050 | <0.0010 | <0.0010 | <0.0010 |
| Zinc (Zn) | mg/L | 0.03 | - | - | - | - | - | - | - | - | - | 0.0023 | - | - | - | - | 6.24 | <0.0020 | 0.0025 | <0.0020 |
| Zirconium (Zr) | mg/L | _ | - | - | - | - | - | - | - | - | - | <0.00030 | - | - | - | - | <0.00030 | <0.00060 | <0.00060 | <0.00060 |

| | Γ | Site Location | | Brown McDade Pit | | | | | | | | | | | | | | Pony Creek | | | | | | | |
|-------------------|-------|--------------------------------|---------------|------------------|---------------------|---------------|---------------|------------------|------------|------------|------------|------------|------------|------------|---------------|------------|------------------|------------|------------|------------|------------|------------|--|--|--|
| | | Sample ID | CH-P-13-01/10 | CH-P-13-03/10 | CH-P-13-03/50 | CH-P-13-04/10 | CH-P-13-04/35 | CH-P-13-05/50 | GLL07-01 | GLL07-02 | GLL07-03 | MW09-13 | MW09-14 | MW09-15 | CH-P-13-02/10 | GSI-PC-02B | GSI-PC-03B | GSI-PC-04B | GSI-PC-05B | MP09-02 | MP09-03 | MP09-08 | | | |
| | | Date Sampled | 01/06/2015 | 01/06/2015 | 04/06/2015 | 01/06/2015 | 01/06/2015 | 02/06/2015 17:00 | 01/06/2015 | 03/06/2015 | 01/06/2015 | 01/06/2015 | 01/06/2015 | 01/06/2015 | 01/06/2015 | 03/06/2015 | 04/06/2015 17:41 | 03/06/2015 | 03/06/2015 | 03/06/2015 | 03/06/2015 | 03/06/2015 | | | |
| | | ALS Work Number | - | - | - | - | - | L1620902 | - | - | - | - | - | - | - | - | L1622366 | - | - | - | - | - | | | |
| | | Station Status | Frozen | Frozen | Insufficient Volume | Frozen | Frozen | Sampled | Frozen | Dry | Dry | Frozen | Frozen | Frozen | Dry/Damaged | Frozen | Direct Sampled | Frozen | Frozen | Frozen | Frozen | Frozen | | | |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | | | | | | | | | | | | | | | | | | | | | | | |
| Dissolved Metals | | | | | | | | | | | | | | | | | | | | | | 1 | | | |
| Aluminum (Al) | mg/L | Varies ⁸ | - | - | - | - | - | 0.0599 | - | - | - | - | - | - | - | - | 0.0472 | - | - | - | - | - | | | |
| Aluminum CCME-FAL | mg/L | - | - | - | - | - | - | 0.005 | - | - | - | - | - | - | - | - | 0.1 | - | - | - | - | - | | | |
| Antimony (Sb) | mg/L | - | - | - | - | - | - | 0.00436 | - | - | - | - | - | - | - | - | 0.00220 | - | - | - | - | - | | | |
| Arsenic (As) | mg/L | 0.005 | - | - | - | - | - | 0.00966 | - | - | - | - | - | - | - | - | 0.0969 | - | - | - | - | - | | | |
| Barium (Ba) | mg/L | - | - | - | - | - | - | 0.00604 | - | - | - | - | - | - | - | - | 0.108 | - | - | - | - | - | | | |
| Beryllium (Be) | mg/L | - | - | - | - | - | - | 0.00015 | - | - | - | - | - | - | - | - | <0.000040 | - | - | - | - | - | | | |
| Bismuth (Bi) | mg/L | - | - | - | - | - | - | <0.00025 | - | - | - | - | - | - | - | - | <0.00010 | - | - | - | - | - | | | |
| Boron (B) | mg/L | 1.5 | - | - | - | - | - | <0.050 | - | - | - | - | - | - | - | - | 0.057 | - | - | - | - | - | | | |
| Cadmium (Cd) | mg/L | Varies 9 | - | - | - | - | - | 0.329 | - | - | - | - | - | - | - | - | 0.000048 | - | - | - | - | - | | | |
| Cadmium CCME-FAL | mg/L | - | - | - | - | - | - | 0.00037 | - | - | - | - | - | - | - | - | 0.00037 | - | - | - | - | - | | | |
| Calcium (Ca) | mg/L | - | - | - | - | - | - | 455 | - | - | - | - | - | - | - | - | 149 | - | - | - | - | - | | | |
| Chromium (Cr) | mg/L | - | - | - | - | - | - | <0.00050 | - | - | - | - | - | - | - | - | 0.0296 | - | - | - | - | - | | | |
| Cobalt (Co) | mg/L | - | - | - | - | - | - | 0.0365 | - | - | - | - | - | - | - | - | 0.00802 | - | - | - | - | - | | | |
| Copper (Cu) | mg/L | Varies 10 | - | - | - | - | - | 0.015 | - | - | - | - | - | - | - | - | 0.00122 | - | - | - | - | - | | | |
| Copper CCME-FAL | mg/L | - | - | - | - | - | - | 0.004 | - | - | - | - | - | - | - | - | 0.004 | - | - | - | - | - | | | |
| Iron (Fe) | mg/L | 0.3 | - | - | - | - | - | 12.8 | - | - | - | - | - | - | - | - | 15.4 | - | - | - | - | - | | | |
| Lead (Pb) | mg/L | Varies 11 | - | - | - | - | - | 0.00573 | - | - | - | - | - | - | - | - | 0.00038 | - | - | - | - | - | | | |
| Lead CCME-FAL | mg/L | - | - | - | - | - | - | 0.007 | - | - | - | - | - | - | - | - | 0.007 | - | - | - | - | - | | | |
| Lithium (Li) | mg/L | - | - | - | - | - | - | 0.0394 | - | - | - | - | - | - | - | - | 0.0526 | - | - | - | - | - | | | |
| Magnesium (Mg) | mg/L | - | - | - | - | - | - | 194 | - | - | - | - | - | - | - | - | 502 | - | - | - | - | - | | | |
| Manganese (Mn) | mg/L | - | - | - | - | - | - | 34.3 | - | - | - | - | - | - | - | - | 2.67 | - | - | - | - | - | | | |
| Mercury (Hg) | mg/L | 0.000026 | - | - | - | - | - | <0.000050 | - | - | - | - | - | - | - | - | <0.000050 | - | - | - | - | - | | | |
| Molybdenum (Mo) | mg/L | 0.073 | - | - | - | - | - | 0.00040 | - | - | - | - | - | - | - | - | 0.0155 | - | - | - | - | - | | | |
| Nickel (Ni) | mg/L | Varies 12 | - | - | - | - | - | 0.0129 | - | - | - | - | - | - | - | - | 0.0845 | - | - | - | - | - | | | |
| Nickel CCME-FAL | mg/L | - | - | - | - | - | - | 0.15 | - | - | - | - | - | - | - | - | 0.15 | - | - | - | - | - | | | |
| Phosphorus (P) | mg/L | - | - | - | - | - | - | <0.050 | - | - | - | - | - | - | - | - | <0.050 | - | - | - | - | - | | | |
| Potassium (K) | mg/L | - | - | - | - | - | - | 5.01 | - | - | - | - | - | - | - | - | 25.1 | - | - | - | - | - | | | |
| Selenium (Se) | mg/L | 0.001 | - | - | - | - | - | <0.00025 | - | - | - | - | - | - | - | - | 0.00035 | - | - | - | - | - | | | |
| Silicon (Si) | mg/L | - | - | - | - | - | - | 7.50 | - | - | - | - | - | - | - | - | 8.59 | - | - | - | - | - | | | |
| Silver (Ag) | mg/L | 0.0001 | - | - | - | - | - | <0.000050 | - | - | - | - | - | - | - | - | <0.000020 | - | - | - | - | - | | | |
| Sodium (Na) | mg/L | - | - | - | - | - | - | 7.72 | - | - | - | - | - | - | - | - | 103 | - | - | - | - | - | | | |
| Strontium (Sr) | mg/L | - | - | - | - | - | - | 0.584 | - | - | - | - | - | - | - | - | 2.84 | - | - | - | - | - | | | |
| Sulfur (S) | mg/L | - | - | - | - | - | - | 621 | - | - | - | - | - | - | - | - | 516 | - | - | - | - | - | | | |
| Thallium (TI) | mg/L | 0.0008 | - | - | - | - | - | 0.000564 | - | - | - | - | - | - | - | - | <0.000020 | - | - | - | - | - | | | |
| Tin (Sn) | mg/L | - | - | - | - | - | - | <0.00050 | - | - | - | - | - | - | - | - | 0.00043 | - | - | - | - | - | | | |
| Titanium (Ti) | mg/L | - | - | - | - | - | - | <0.0015 | - | - | - | - | - | - | - | - | 0.00257 | - | - | - | - | - | | | |
| Uranium (U) | mg/L | 0.015 | - | - | - | - | - | 0.000749 | - | - | - | - | - | - | - | - | 0.0164 | - | - | - | - | - | | | |
| Vanadium (V) | mg/L | - | - | - | - | - | - | <0.0025 | - | - | - | - | - | - | - | - | 0.0029 | - | - | - | - | - | | | |
| Zinc (Zn) | mg/L | 0.03 | - | - | - | - | - | 29.1 | - | - | - | - | - | - | - | - | 0.0071 | - | - | - | - | - | | | |
| Zirconium (Zr) | mg/L | - | - | - | - | - | - | <0.0015 | - | - | - | - | - | - | - | - | 0.00076 | - | - | - | - | - | | | |

| |] | Site Location | | Seepage Dam | | Tailings Facility | | | | | | | | | | | | |
|-------------------|-------|--------------------------------|-------------------|-------------------|-------------------|-------------------|------------------|-----------------|------------|-----------------|------------|------------------|------------------|------------------|------------------|------------------|--|--|
| | · | Sample ID | W14103083BH 01 | W14103083BH 02 | W14103083BH 04 | MP09-04 | MP09-05 | MP09-09 | MP09-10 | MP09-11 | MP09-12 | MP09-14 | MW09-01 | MW09-02 | MW09-03 | MW09-04 | | |
| | - | Date Sampled | 03/06/2015 | 03/06/2015 | 03/06/2015 | 04/06/2015 | 03/06/2015 17:45 | 04/06/2015 8:05 | 02/06/2015 | 04/06/2015 9:10 | 02/06/2015 | 02/06/2015 14:50 | 03/06/2015 12:15 | 02/06/2015 10:20 | 02/06/2015 15:10 | 02/06/2015 13:50 | | |
| | | ALS Work Number | - | - | - | - | L1622366 | L1622366 | _ | L1622366 | _ | L1620902 | L1622366 | L1620902 | L1620902 | L1620902 | | |
| | · | Station Status | Frozen | Frozen | Frozen | Frozen | Sampled | Sampled | Frozen | Sampled | Frozen | Direct Sampled | Damaged | Sampled | Sampled | Sampled | | |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | | | | | | | | | | • | | | | | | |
| Dissolved Metals | | | | | | | | | | | | | | | | | | |
| Aluminum (Al) | mg/L | Varies ⁸ | - | - | - | - | 0.0218 | 0.0030 | - | 0.0046 | - | 0.0041 | <0.0020 | <0.0050 | <0.0050 | <0.0020 | | |
| Aluminum CCME-FAL | mg/L | - | - | - | - | - | 0.1 | 0.1 | - | 0.1 | - | - | 0.1 | 0.1 | 0.1 | 0.1 | | |
| Antimony (Sb) | mg/L | - | - | - | - | - | 0.00033 | 0.0776 | - | 0.0140 | - | 0.00586 | 0.0442 | 0.00314 | 0.467 | 0.285 | | |
| Arsenic (As) | mg/L | 0.005 | - | - | - | - | 0.00755 | 15.3 | - | 7.35 | - | 3.44 | 0.206 | 20.2 | 1.47 | 3.84 | | |
| Barium (Ba) | mg/L | - | - | - | - | - | 0.0321 | 0.00053 | - | 0.145 | - | 0.145 | 0.0217 | 0.00683 | 0.0316 | 0.00758 | | |
| Beryllium (Be) | mg/L | - | - | - | - | - | <0.000040 | <0.000040 | - | <0.000020 | - | <0.000020 | <0.000040 | <0.00010 | <0.00010 | <0.000040 | | |
| Bismuth (Bi) | mg/L | - | - | - | - | - | <0.00010 | <0.00010 | - | <0.000050 | - | <0.000050 | <0.00010 | <0.00025 | <0.00025 | <0.00010 | | |
| Boron (B) | mg/L | 1.5 | - | - | - | - | 0.074 | 0.254 | - | 0.033 | - | 0.025 | 0.098 | <0.050 | 0.155 | 0.307 | | |
| Cadmium (Cd) | mg/L | Varies 9 | - | - | - | - | 0.00141 | 0.000438 | - | 0.0000719 | - | 0.0000311 | 0.0332 | 0.000447 | 0.000608 | 0.000029 | | |
| Cadmium CCME-FAL | mg/L | - | - | - | - | - | 0.00037 | 0.00037 | - | 0.00037 | - | 0.00037 | 0.00037 | 0.00037 | 0.00037 | 0.00037 | | |
| Calcium (Ca) | mg/L | - | - | - | - | - | 382 | 114 | - | 86.2 | - | 121 | 502 | 438 | 493 | 469 | | |
| Chromium (Cr) | mg/L | - | - | - | - | - | 0.00069 | <0.00020 | - | 0.00101 | - | 0.00019 | <0.00020 | <0.00050 | <0.00050 | <0.00020 | | |
| Cobalt (Co) | mg/L | - | - | - | - | - | 0.0183 | 0.0424 | - | 0.00128 | - | 0.00068 | 0.0192 | 0.0104 | 0.00325 | 0.00089 | | |
| Copper (Cu) | mg/L | Varies 10 | - | - | - | - | 0.00096 | 0.526 | - | 0.00043 | - | <0.00020 | 0.00361 | <0.0010 | <0.0010 | <0.00040 | | |
| Copper CCME-FAL | mg/L | - | - | - | - | - | 0.004 | 0.004 | - | 0.004 | - | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | | |
| Iron (Fe) | mg/L | 0.3 | - | - | - | - | 42.3 | 0.171 | - | 8.87 | - | 7.72 | 1.75 | 46.4 | 0.167 | 0.011 | | |
| Lead (Pb) | mg/L | Varies 11 | - | - | - | - | <0.00010 | 0.00027 | - | 0.00171 | - | 0.000798 | 0.00430 | <0.00025 | <0.00025 | 0.00052 | | |
| Lead CCME-FAL | mg/L | - | - | - | - | - | 0.007 | 0.007 | - | 0.007 | - | 0.007 | 0.007 | 0.007 | 0.007 | 0.007 | | |
| Lithium (Li) | mg/L | - | - | - | - | - | <0.0020 | <0.0020 | - | 0.0022 | - | 0.0063 | 0.0054 | 0.0239 | <0.0050 | 0.0093 | | |
| Magnesium (Mg) | mg/L | - | - | - | - | - | 75.6 | 1.10 | - | 40.8 | - | 16.7 | 56.9 | 75.7 | 89.8 | 112 | | |
| Manganese (Mn) | mg/L | - | - | - | - | - | 15.0 | 0.0239 | - | 2.48 | - | 0.363 | 20.5 | 38.2 | 35.1 | 6.47 | | |
| Mercury (Hg) | mg/L | 0.000026 | - | - | - | - | <0.000050 | 0.0000661 | - | <0.000050 | - | 0.000067 | 0.0000103 | 0.0000051 | <0.000050 | <0.000050 | | |
| Molybdenum (Mo) | mg/L | 0.073 | - | - | - | - | 0.00085 | 0.0219 | - | 0.00350 | - | 0.00146 | 0.00260 | 0.00491 | 0.00511 | 0.00573 | | |
| Nickel (Ni) | mg/L | Varies 12 | - | - | - | - | 0.0083 | 0.0195 | - | 0.00654 | - | 0.00146 | 0.0066 | 0.0027 | <0.0025 | <0.0010 | | |
| Nickel CCME-FAL | mg/L | - | - | - | - | - | 0.15 | 0.15 | - | 0.15 | - | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | | |
| Phosphorus (P) | mg/L | - | - | - | - | - | <0.050 | 0.205 | - | <0.050 | - | <0.050 | <0.050 | <0.050 | 0.051 | 0.078 | | |
| Potassium (K) | mg/L | - | - | - | - | - | 8.48 | 9.37 | - | 8.36 | - | 31.5 | 14.8 | 82.7 | 22.1 | 35.0 | | |
| Selenium (Se) | mg/L | 0.001 | - | - | - | - | 0.00027 | 0.00188 | - | 0.000246 | - | 0.000128 | 0.00013 | <0.00025 | <0.00025 | <0.00010 | | |
| Silicon (Si) | mg/L | - | - | - | - | - | 5.85 | 6.22 | - | 9.06 | - | 2.90 | 6.55 | 5.81 | 13.9 | 13.4 | | |
| Silver (Ag) | mg/L | 0.0001 | - | - | - | - | <0.000020 | 0.0244 | - | 0.000012 | - | <0.000010 | 0.000076 | <0.000050 | <0.000050 | <0.000020 | | |
| Sodium (Na) | mg/L | - | - | - | - | - | 46.2 | 25.3 | - | 11.0 | - | 17.7 | 93.2 | 73.5 | 27.6 | 30.8 | | |
| Strontium (Sr) | mg/L | - | - | - | - | - | 1.08 | 0.168 | - | 0.667 | - | 0.442 | 1.10 | 0.933 | 1.27 | 1.34 | | |
| Sulfur (S) | mg/L | - | - | - | - | - | 368 | 95.7 | - | 8.48 | - | 72.3 | 516 | 538 | 490 | 535 | | |
| Thallium (TI) | mg/L | 0.0008 | - | - | - | - | 0.000024 | 0.000042 | - | 0.000012 | - | <0.000010 | 0.000860 | 0.000216 | 0.000055 | 0.000107 | | |
| Tin (Sn) | mg/L | - | - | - | - | - | <0.00020 | <0.00020 | - | <0.00010 | - | <0.00010 | <0.00020 | <0.00050 | <0.00050 | <0.00020 | | |
| Titanium (Ti) | mg/L | - | - | - | - | - | 0.00113 | <0.00060 | - | 0.00123 | - | <0.00030 | <0.00060 | <0.0015 | <0.0015 | <0.00060 | | |
| Uranium (U) | mg/L | 0.015 | - | - | - | - | 0.00217 | 0.000861 | - | 0.000281 | - | 0.000355 | 0.00189 | 0.000535 | 0.00149 | 0.000346 | | |
| Vanadium (V) | mg/L | - | - | - | - | - | 0.0017 | <0.0010 | - | 0.00354 | - | <0.00050 | <0.0010 | <0.0025 | <0.0025 | <0.0010 | | |
| Zinc (Zn) | mg/L | 0.03 | - | - | - | - | 0.0249 | <0.0020 | - | 0.0401 | - | 0.0018 | 2.98 | 0.178 | <0.0050 | 0.713 | | |
| Zirconium (Zr) | mg/L | - | - | - | - | - | 0.00076 | <0.00060 | - | 0.00160 | - | <0.00030 | <0.00060 | <0.0015 | <0.0015 | <0.00060 | | |

| | | Site Location | n Tailings Facility | | | | | | | | | | | | |
|-------------------|-------|--------------------------------|---------------------|------------------|------------|------------------|------------|------------|------------|------------------|-----------------|------------------|-----------------|--|--|
| | | Sample ID | MW09-05 | MW09-06 | MW09-07 | MW09-08 | MW09-11 | MW09-20 | MW09-21 | MW09-22 | MW09-23 | MW09-24 | W14103083BH03 | | |
| | | Date Sampled | 03/06/2015 | 03/06/2015 13:55 | 03/06/2015 | 04/06/2015 13:10 | 02/06/2015 | 04/06/2015 | 03/06/2015 | 04/06/2015 10:10 | 04/06/2015 8:20 | 04/06/2015 14:40 | 03/06/2015 8:45 | | |
| | | ALS Work Number | - | L1622366 | - | L1622366 | - | - | - | L1622366 | L1622366 | L1622366 | L1622366 | | |
| | | Station Status | Dry | Sampled | Dry | Sampled | Dry | Dry | Frozen | Sampled | Damaged | Sampled | Sampled | | |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | 5.9 | Campica | 5.9 | Campioa | Biy | 2.9 | 1102011 | campica | Damagoa | Campica | Campiou | | |
| Dissolved Metals | | | | | | | | | | | | | | | |
| Aluminum (AI) | mg/L | Varies 8 | - | <0.0020 | - | 0.0553 | - | - | - | 0.0475 | 0.0133 | 0.0016 | 0.0208 | | |
| Aluminum CCME-FAL | mg/L | _ | - | 0.1 | - | 0.1 | - | - | - | 0.005 | 0.1 | 0.1 | 0.1 | | |
| Antimony (Sb) | mg/L | _ | - | 0.259 | - | 0.00021 | - | - | - | 0.00019 | <0.00050 | 0.00020 | 0.00060 | | |
| Arsenic (As) | mg/L | 0.005 | - | 0.122 | _ | 0.189 | - | - | - | 0.0131 | 0.0136 | 0.00169 | 0.0541 | | |
| Barium (Ba) | mg/L | - | - | 0.00611 | _ | 0.191 | - | _ | _ | 0.202 | 0.0734 | 0.0996 | 0.101 | | |
| Beryllium (Be) | mg/L | _ | - | <0.000040 | _ | <0.000020 | - | _ | _ | <0.000020 | <0.00010 | <0.000020 | <0.000020 | | |
| Bismuth (Bi) | mg/L | - | - | <0.00010 | - | <0.000050 | - | - | - | <0.000050 | <0.00025 | <0.000050 | <0.000050 | | |
| Boron (B) | mg/L | 1.5 | - | 0.116 | - | <0.010 | - | - | - | 0.028 | 0.148 | 0.013 | 0.028 | | |
| Cadmium (Cd) | mg/L | Varies 9 | - | 0.00623 | - | <0.000050 | - | - | - | 0.0000778 | <0.00025 | 0.0000435 | 0.0000064 | | |
| Cadmium CCME-FAL | mg/L | - | - | 0.00037 | - | 0.00028 | - | - | - | 0.00037 | 0.00037 | 0.00037 | 0.00037 | | |
| Calcium (Ca) | mg/L | - | - | 380 | - | 61.3 | - | - | - | 320 | 308 | 151 | 190 | | |
| Chromium (Cr) | mg/L | - | - | <0.00020 | - | 0.00082 | - | - | - | 0.00079 | <0.00050 | 0.00037 | 0.00045 | | |
| Cobalt (Co) | mg/L | - | - | 0.00151 | - | 0.00119 | - | - | - | 0.0144 | 0.0215 | <0.00010 | 0.00467 | | |
| Copper (Cu) | mg/L | Varies 10 | - | 0.0107 | - | <0.00020 | - | - | - | 0.00034 | <0.0010 | 0.00855 | 0.00050 | | |
| Copper CCME-FAL | mg/L | - | - | 0.004 | - | 0.004 | - | - | - | 0.004 | 0.004 | 0.004 | 0.004 | | |
| Iron (Fe) | mg/L | 0.3 | - | <0.010 | - | 65.0 | - | - | - | 64.7 | 15.1 | <0.010 | 32.9 | | |
| Lead (Pb) | mg/L | Varies 11 | - | 0.00045 | - | 0.000070 | - | - | - | <0.000050 | <0.00025 | <0.000050 | 0.000090 | | |
| Lead CCME-FAL | mg/L | - | - | 0.007 | - | 0.007 | - | - | - | 0.007 | 0.007 | 0.007 | 0.007 | | |
| Lithium (Li) | mg/L | - | - | 0.0099 | - | <0.0010 | - | - | - | <0.0010 | <0.0050 | 0.0010 | 0.0010 | | |
| Magnesium (Mg) | mg/L | - | - | 67.1 | - | 11.6 | - | - | - | 30.3 | 122 | 42.0 | 44.3 | | |
| Manganese (Mn) | mg/L | - | - | 5.77 | - | 5.59 | - | - | - | 9.41 | 24.9 | 0.00029 | 6.37 | | |
| Mercury (Hg) | mg/L | 0.000026 | - | 0.0000180 | - | <0.000050 | - | - | - | <0.000050 | <0.000050 | <0.000050 | <0.000050 | | |
| Molybdenum (Mo) | mg/L | 0.073 | - | 0.00401 | - | 0.000162 | - | - | - | 0.000235 | 0.00311 | 0.000309 | 0.000970 | | |
| Nickel (Ni) | mg/L | Varies 12 | - | 0.0025 | - | <0.00050 | - | - | - | 0.00267 | <0.0025 | <0.00050 | 0.00241 | | |
| Nickel CCME-FAL | mg/L | - | - | 0.15 | - | 0.15 | - | - | - | 0.15 | 0.15 | 0.15 | 0.15 | | |
| Phosphorus (P) | mg/L | - | - | <0.050 | - | 0.100 | - | - | - | <0.050 | <0.050 | <0.050 | 0.074 | | |
| Potassium (K) | mg/L | - | - | 16.4 | - | 1.54 | - | - | - | 4.49 | 9.27 | 1.50 | 3.98 | | |
| Selenium (Se) | mg/L | 0.001 | - | 0.00019 | - | 0.000119 | - | - | - | 0.000168 | <0.00025 | 0.00102 | 0.000139 | | |
| Silicon (Si) | mg/L | - | - | 7.56 | - | 10.0 | - | - | - | 5.07 | 6.24 | 6.20 | 9.64 | | |
| Silver (Ag) | mg/L | 0.0001 | - | 0.000062 | - | <0.000010 | - | - | - | 0.000021 | <0.000050 | <0.000010 | <0.000010 | | |
| Sodium (Na) | mg/L | - | - | 29.8 | - | 1.75 | - | - | - | 33.7 | 30.2 | 7.35 | 8.68 | | |
| Strontium (Sr) | mg/L | - | - | 0.748 | - | 0.238 | - | - | - | 1.06 | 0.727 | 0.537 | 0.498 | | |
| Sulfur (S) | mg/L | - | - | 364 | - | 26.3 | - | - | - | 295 | 330 | 80.1 | 90.7 | | |
| Thallium (TI) | mg/L | 0.0008 | - | 0.000298 | - | <0.000010 | - | - | - | <0.000010 | <0.000050 | <0.000010 | <0.000010 | | |
| Tin (Sn) | mg/L | - | - | <0.00020 | - | <0.00010 | - | - | - | <0.00010 | <0.00050 | <0.00010 | <0.00010 | | |
| Titanium (Ti) | mg/L | - | - | <0.00060 | - | 0.00259 | - | - | - | <0.0018 | <0.0015 | <0.00030 | 0.00102 | | |
| Uranium (U) | mg/L | 0.015 | - | 0.00215 | - | 0.000067 | - | - | - | 0.000293 | 0.00340 | 0.00436 | 0.00115 | | |
| Vanadium (V) | mg/L | - | - | <0.0010 | - | 0.00257 | - | - | - | 0.00150 | <0.0025 | <0.00050 | 0.00158 | | |
| Zinc (Zn) | mg/L | 0.03 | - | 0.171 | - | 0.0022 | - | - | - | 0.0040 | 0.0807 | 0.0011 | 0.0027 | | |
| Zirconium (Zr) | mg/L | - | - | <0.00060 | - | 0.00066 | - | - | - | 0.00047 | <0.0015 | <0.00030 | 0.00054 | | |

Table B: QAéQC Analytical Data

| | Г | Site Location | | MW09-16 | | MW | 09-19 | | MP0 | 9.05 | | MW | | 9.04 | | MM | MW09-22 | | |
|--------------------------------------|----------------|--------------------------------|------------------|------------------|------------|-------------------|-----------------|-------------------|-------------------|------------|---------------------|-------------------|-------------------|-------------|------------------|------------------|------------------|--------------|--------------|
| | | Sample ID | MW 09-16 | DUP-2 (MW09-16) | | MW09-19 | FB2 (MW09-19) | MP09-05 | DUP-4 (MP09-05) | | FB3 (MP09-05) | MW 09-04 | DUP-1 (MW09-04) | 0.01 | FB1 (MW09-04) | MW09-22 | FB4 (MW09-22) | TRAVEL BLANK | TRAVEL BLANK |
| | | Date Sampled | 01/06/2015 18:00 | 01/06/2015 18:00 | | 02/06/2015 8:30 | 02/06/2015 8:30 | 03/06/2015 17:45 | 03/06/2015 17:45 | | 03/06/2015 17:45 | 02/06/2015 13:50 | 02/06/2015 13:50 | | 02/06/2015 13:50 | 04/06/2015 10:10 | 04/06/2015 10:10 | 03/06/2015 | 05/06/2015 |
| | - | ALS Work Number | L1620902 | L1620902 | RPD (%) 13 | L1620902 | L1620902 | L1622366 | L1622366 | RPD (%) 13 | L1622366 | L1620902 | L1620902 | RPD (%) 13 | L1620902 | L1622366 | L1622366 | L1620902 | L1622366 |
| | Unite | Station Status | Sampled | Sampled | | Sampled | Sampled | Sampled | Sampled | | Sampled | Sampled | Sampled | | Sampled | Sampled | Sampled | - | - |
| Parameter Physical Tests | Units | CCME-FAL ^{1, 2, 3, 4} | | ╂────┤ | | ł | <u> </u> | | | | ł | | <u>∤</u> } | | + | + | ł | 1 | 1 |
| Lab pH | pH units | 6.5-9.0 ⁵ | 7.97 | 7.98 | 0.1 | 7.80 | 5.55 | 6.95 | 7.06 | 1.6 | 5.5 | 8.09 | 8.12 | 0.4 | 5.66 | 6.33 | 5.58 | 5.48 | 5.43 |
| Field pH | pH units | 6.5-9.0 ⁵ | 6.75 | 6.75 | 0.0 | 6.77 | - | 6.66 | 6.66 | 0.0 | - | 8.03 | 8.03 | 0.0 | | 6.25 | - | - | - |
| Field Temperature | C | - | 5.00 | 5.00 | 0.0 | 0.70 | - | 2.70 | 2.70 | 0.0 | - | 4.32 | 4.32 | 0.0 | - | 3.40 | - | - | - |
| Lab Conductivity | uS/cm | - | 1970 | 1960 | 0.5 | 2340 | <2.0 | 2120 | 2120 | 0.0 | <2.0 | 2670 | 2660 | 0.4 | <2.0 | 1560 | <2.0 | <2.0 | <2.0 |
| Field Conductivity | uS/cm | - | 1257 | 1257 | 0.0 | 1344 | - | 1361 | 1361 | 0.0 | - | 1640 | 1640 | 0.0 | - | 991 | - | - | - |
| Field Specific Conductivity | uS/cm | - | 2036 | 2036 | 0.0 | 2507 | - | 2369 | 2369 | 0.0 | - | 2706 | 2706 | 0.0 | - | 1674 | - | - | - |
| Total Hardness (as CaCO3) | mg/L | - | 1260 | 1280 | 1.6 | 1460 | <0.50 | 1270 | 1300 | 2.3 | <0.50 | 1630 | 1630 | 0.0 | <0.50 | 924 | <0.50 | <0.50 | <0.50 |
| Field Dissolved Oxygen | mg/L | 9.5 6 | 0.05 | 0.05 | 0.0 | 1.14 | - | 0.07 | 0.07 | 0.0 | - | 0.29 | 0.29 | 0.0 | - | 0.26 | - | - | - |
| Field Oxidation - Redox Potent | mV NTU | - | 128.7 | 128.7 | 0.0 | -86.8 | - | -46.9 | -46.9 | 0.0 | - | 32.7 | 32.7 | 0.0 | - | 17.7 | - | - | - |
| Field Turbidity Anions and Nutrients | NIU | - | 0.89 | 0.89 | 0.0 | 0.22 | - | 1.87 | 1.87 | 0.0 | - | 2.43 | 2.43 | 0.0 | - | 12.60 | - | - | - |
| Alkalinity, Total (CaCO3) | mg/L | - | 224 | 240 | 6.9 | 403 | <1.0 | 280 | 277 | 1.1 | <1.0 | 100 | 97.0 | 3.0 | <1.0 | 70.6 | <1.0 | <1.0 | <1.0 |
| Alkalinity, Total (CaCO3, filtered) | mg/L | - | 224 | - | nc | 409 | <1.0 | 282 | 288 | 2.1 | <1.0 | - | 96.3 | nc | <1.0 | 117 | <1.0 | - | - |
| Ammonia, Total (as N) | mg/L | Varies 7 | 0.0331 | 0.0321 | 3.1 | 3.23 | <0.0050 | 10.1 | 10.1 | 0.0 | <0.0050 | 6.27 | 6.19 | 1.3 | <0.0050 | 1.47 | <0.0050 | 0.0071 | <0.0050 |
| Ammonia CCME-FAL | mg/L | - | 27.15 | 27.15 | - | 36.97 | - | 40.32 | 40.32 | - | - | 1.524 | 1.524 | - | 1.524 | 97.81 | - | - | - |
| Chloride (Cl) | mg/L | - | <5.0 | <2.5 | nc | <5.0 | <0.50 | <2.5 | <5.0 | nc | <0.50 | <5.0 | <5.0 | nc | <0.50 | <2.5 | <0.50 | <0.50 | <0.50 |
| Fluoride (F) | mg/L | 0.12 | 0.47 | 0.25 | nc | 0.28 | <0.020 | 0.14 | <0.20 | nc | <0.020 | 0.64 | 0.55 | 15.1 | <0.020 | 0.10 | <0.020 | <0.020 | <0.020 |
| Nitrate (as N) | mg/L | 13 | <0.050 | <0.025 | nc | <0.050 | <0.0050 | <0.025 | <0.050 | nc | <0.0050 | 0.269 | 0.300 | 10.9 | <0.0050 | 0.039 | <0.0050 | <0.0050 | <0.0050 |
| Nitrite (as N) | mg/L | 0.06 | <0.010 | <0.0050 | nc | <0.010 | <0.0010 | <0.0050 | <0.010 | nc | <0.0010 | 0.040 | 0.045 | 11.8 | <0.0010 | 0.0205 | <0.001 | <0.0010 | <0.0010 |
| Total Kjeldahl Nitrogen | mg/L | - | 0.181 | 0.192 | 5.9 | 4.02 | <0.050 | 13.8 | 13.6 | 1.5 | <0.050 | 7.51 | 7.21 | 4.1 | <0.050 | 4.42 | <0.050 | <0.050 | <0.050 |
| Sulfate (SO4) | mg/L | - | 1100 | 1120 | 1.8 | 1230 | <0.30 | 1120 | 1090 | 2.7 | <0.30 | 1550 | 1760 | 12.7 | <0.30 | 809 | <0.30 | <0.30 | <0.30 |
| Sulphide as S | mg/L | - | <0.020 | <0.020 | nc | 0.123 | <0.020 | <0.020 | <0.020 | nc | <0.020 | <0.020 | <0.020 | nc | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Field Sulphide | mg/L | - | 0.00 | 0.00 | nc | 0.05 | - | 0.00 | 0.00 | nc | - | 0.07 | 0.07 | 0.0 | - | 0.07 | - | - | - |
| Anion Sum Cation Sum | meq/L meq/L | - | 27.5 26.0 | 28.2 26.4 | 2.5 | 33.6 31.7 | <0.10 | 28.9 | 28.2 31.9 | 2.5 2.5 | <0.10 | 34.4 35.5 | 38.5 35.4 | 11.2 0.3 | <0.10 | 18.3 24.0 | <0.10 | <0.10 | <0.10 |
| Cation - Anion Balance | meq/L | - | -2.8 | -3.4 | 1.5 | -3.0 | 0.0 | 3.5 | 6.1 | 2.0 | 0.0 | 1.6 | -4.2 | 0.3 | 0.0 | 13.5 | 94.6 | 0.0 | 0.0 |
| Cyanides | 70 | - | -2.0 | -3.4 | | -3.0 | 0.0 | 3.5 | 0.1 | - | 0.0 | 1.0 | -4.2 | - | 0.0 | 13.5 | 34.0 | 0.0 | 0.0 |
| Cyanide, Total | mg/L | - | <0.0050 | <0.0050 | nc | <0.0050 | <0.0050 | 0.0108 | 0.0140 | nc | <0.0050 | <0.0050 | <0.0050 | nc | <0.0050 | 0.0124 | <0.0050 | <0.0050 | <0.0050 |
| Cyanide, Free | mg/L | 0.005 | <0.0050 | <0.0050 | nc | <0.0050 | <0.0050 | <0.0050 | 0.006 | nc | <0.0050 | <0.0050 | <0.0050 | nc | <0.0050 | 0.0059 | <0.0050 | <0.0050 | <0.0050 |
| Cyanide, Weak Acid Diss | mg/L | - | <0.0050 | <0.0050 | nc | <0.0050 | <0.0050 | <0.0050 | <0.0050 | nc | <0.0050 | <0.0050 | <0.0050 | nc | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Thiocyanate (SCN) | mg/L | - | <0.50 | <0.50 | nc | 0.53 | <0.50 | 0.78 | 0.78 | 0.0 | <0.50 | <0.50 | <0.50 | nc | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Organic/Inorganic Carbon | | | | | | | | | | | | | | | | | | | |
| Total Inorganic Carbon | mg/L | - | 52.2 | 50.5 | 3.3 | 96.4 | <0.50 | 61.3 | 58.3 | 5.0 | <0.50 | 18.7 | 19.0 | 1.6 | <0.50 | 15.6 | <0.50 | <0.50 | <0.50 |
| Total Organic Carbon | mg/L | - | 3.57 | 3.56 | 0.3 | 12.6 | <0.50 | 25.4 | 26.2 | 3.1 | <0.50 | 6.29 | 6.23 | 1.0 | <0.50 | 14.6 | <0.50 | <0.50 | <u>0.52</u> |
| Dissolved Metals | | | | | | | | | | | | | | | | | | | |
| Aluminum (Al) | mg/L | Varies ⁸ | <0.0010 | <0.0010 | nc | 0.0090 | <0.0010 | 0.0218 | 0.0230 | 5.4 | <0.0010 | <0.0020 | <0.0020 | nc | <0.0010 | 0.0475 | <0.0010 | - | - |
| Aluminum CCME-FAL Antimony (Sb) | mg/L | - | 0.1 | 0.1 | 2.7 | 0.1 | - <0.00010 | 0.1 | 0.1 | - 0.0 | - <0.00010 | 0.1 | 0.1 | - 0.7 | 0.1 | 0.005 | - <0.00010 | - | - |
| Arsenic (As) | mg/L mg/L | 0.005 | 0.0426 | 0.0420 | 1.4 | 0.117 | <0.00010 | 0.00755 | 0.00811 | 7.2 | <0.00010 | 3.84 | 3.85 | 0.3 | <0.00010 | 0.0131 | <0.00010 | - | |
| Barium (Ba) | mg/L | - | 0.0144 | 0.0147 | 2.1 | 0.0460 | <0.00010 | 0.0321 | 0.0324 | 0.9 | <0.00050 | 0.00758 | 0.00735 | 3.1 | <0.00010 | 0.202 | <0.00010 | - | - |
| Beryllium (Be) | mg/L | - | <0.000020 | <0.000020 | nc | <0.000040 | <0.000020 | <0.000040 | <0.000040 | nc | <0.000020 | <0.000040 | <0.000040 | nc | <0.000020 | <0.000020 | <0.000020 | - | - |
| Bismuth (Bi) | mg/L | - | <0.000050 | <0.000050 | nc | <0.00010 | <0.000050 | <0.00010 | <0.00010 | nc | <0.000050 | <0.00010 | <0.00010 | nc | <0.000050 | <0.000050 | <0.000050 | - | - |
| Boron (B) | mg/L | 1.5 | 0.062 | 0.068 | 9.2 | 0.190 | <0.010 | 0.074 | 0.071 | 4.1 | <0.010 | 0.307 | 0.296 | 3.6 | <0.010 | 0.028 | <0.010 | - | - |
| Cadmium (Cd) | mg/L | Varies 9 | 0.0440 | 0.0448 | 1.8 | <0.000010 | <0.000050 | 0.00141 | 0.00128 | 9.7 | <0.000050 | 0.000029 | 0.000026 | 10.9 | <0.0000050 | 0.0000778 | <0.0000050 | - | - |
| Cadmium CCME-FAL | mg/L | | 0.00037 | 0.00037 | 0.0 | 0.00037 | - | 0.00037 | 0.00037 | 0.0 | - | 0.00037 | 0.00037 | 0.0 | 0.0004 | 0.00037 | - | - | - |
| Calcium (Ca) | mg/L | - | 297 | 303 | 2.0 | 313 | <0.050 | 382 | 392 | 2.6 | <0.050 | 469 | 484 | 3.1 | <0.050 | 320 | <0.050 | - | - |
| Chromium (Cr) | mg/L | - | <0.00010 | <0.00010 | nc | <0.00020 | <0.00010 | 0.00069 | 0.00160 | nc | <0.00010 | <0.00020 | <0.00020 | nc | <0.00010 | 0.00079 | <0.00010 | - | - |
| Cobalt (Co) | mg/L | - 10 | 0.00295 | 0.00290 | 1.7 | 0.00251 | <0.00010 | 0.0183 | 0.0181 | 1.1 | <0.00010 | 0.00089 | 0.00086 | 3.4 | <0.00010 | 0.0144 | <0.00010 | - | - |
| Copper (Cu) | mg/L | Varies 10 | 0.00526 | 0.00513 | 2.5 | <0.00040 | <0.00020 | 0.00096 | 0.00098 | 2.1 | <0.00020 | <0.00040 | <0.00040 | nc | <0.00020 | 0.00034 | <0.00020 | - | - |
| Copper CCME-FAL Iron (Fe) | mg/L mg/L | - 0.3 | 0.004 | 0.004 | - 3.0 | 0.004 20.5 | - <0.010 | 0.004 42.3 | 0.004 43.8 | - 3.5 | - <0.010 | 0.004 | 0.004 | - nc | 0.02 | 0.004 64.7 | - <0.010 | - | |
| Lead (Pb) | mg/L | U.3 Varies 11 | 0.00583 | 0.00635 | 8.5 | <0.00010 | <0.010 | <0.00010 | 43.8 <0.00010 | 3.5 nc | <0.00050 | 0.00052 | 0.00071 | nc | <0.00050 | <0.000050 | <0.00050 | - | |
| Lead CCME-FAL | mg/L | - | 0.007 | 0.007 | - | 0.007 | | 0.007 | 0.007 | - | - | 0.007 | 0.007 | - | 0.001 | 0.007 | | - | - 1 |
| Lithium (Li) | mg/L | - | 0.0097 | 0.0101 | 4.0 | 0.0106 | <0.0010 | <0.0020 | <0.0020 | nc | <0.0010 | 0.0093 | 0.0093 | 0.0 | <0.0010 | <0.0010 | <0.0010 | - | - |
| Magnesium (Mg) | mg/L | - | 127 | 128 | 0.8 | 165 | <0.10 | 75.6 | 78.4 | 3.6 | <0.10 | 112 | 101 | 10.3 | <0.10 | 30.3 | <0.10 | - | - |
| Manganese (Mn) | mg/L | - | 0.803 | 0.777 | 3.3 | 7.05 | <0.00010 | 15.0 | 15.1 | 0.7 | <0.00010 | 6.47 | 6.32 | 2.3 | <0.00010 | 9.41 | <0.00010 | - | - |
| Mercury (Hg) | mg/L | 0.000026 | 0.0000175 | 0.0000165 | 5.9 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | nc | <0.000050 | <0.000050 | <0.000050 | nc | <0.0000050 | <0.0000050 | <0.0000050 | - | - |
| Molybdenum (Mo) | mg/L | 0.073 | 0.000222 | 0.000228 | 2.7 | 0.00018 | <0.000050 | 0.00085 | 0.00078 | 8.6 | <0.000050 | 0.00573 | 0.00570 | 0.5 | <0.000050 | 0.000235 | <0.000050 | - | - |
| Nickel (Ni) | mg/L | Varies 12 | 0.00535 | 0.00518 | 3.2 | <0.0010 | <0.00050 | 0.0083 | 0.0081 | 2.4 | <0.00050 | <0.0010 | <0.0010 | nc | <0.00050 | 0.00267 | <0.00050 | - | - |
| Nickel CCME-FAL | mg/L | - | 0.15 | 0.15 | - | 0.15 | - | 0.15 | 0.15 | - | - | 0.15 | 0.15 | - | 0.025 | 0.15 | - | - | - |
| Phosphorus (P) | mg/L | - | <0.050 | <0.050 | nc | 0.145 | <0.050 | <0.050 | <0.050 | nc | <0.050 | 0.078 | 0.074 | 5.3 | <0.050 | <0.050 | <0.050 | - | - |
| Potassium (K) | mg/L | - | 6.32 | 6.49 | 2.7 | 6.76 | <0.10 | 8.48 | 9.07 | 6.7 | <0.10 | 35.0 | 36.7 | 4.7 | <0.10 | 4.49 | <0.10 | - | - |
| Selenium (Se) | mg/L | 0.001 | 0.000097 | 0.000100 | 3.0 | 0.00021 | <0.00050 | 0.00027 | 0.00031 | 13.8 | <0.000050 | <0.00010 | <0.00010 | nc | <0.000050 | 0.000168 | <0.000050 | - | - |
| Silicon (Si) | mg/L | - 0.0001 | 4.53 | 4.61 0.000103 | 1.8 | 8.46 <0.000020 | <0.050 | 5.85 <0.000020 | 5.92 <0.000020 | 1.2 nc | <0.050 | 13.4 <0.000020 | 13.8 | 2.9 nc | <0.050 | 5.07 | <0.050 | - | - |
| Silver (Ag) Sodium (Na) | mg/L mg/L | 0.0001 | 7.32 | 6.99 | 4.6 | <0.000020 | <0.00010 | <0.000020 46.2 | 45.2 | 2.2 | <0.00010 | <0.000020 30.8 | <0.000020 30.3 | 1.6 | <0.00010 | 33.7 | <0.00010 | - | - |
| Strontium (Sr) | mg/L | - | 0.665 | 0.676 | 1.6 | 1.07 | <0.00020 | 46.2 | 45.2 | 0.9 | <0.00020 | 1.34 | 1.31 | 2.3 | <0.00020 | 1.06 | <0.00020 | - | - |
| Sulfur (S) | mg/L | - | 317 | 321 | 1.3 | 345 | <0.0020 | 368 | 355 | 3.6 | <0.50 | 535 | 493 | 8.2 | <0.50 | 295 | <0.00020 | - | - |
| Thallium (TI) | mg/L | 0.0008 | 0.000459 | 0.000454 | 1.1 | <0.000020 | <0.00010 | 0.000024 | 0.000020 | 18.2 | <0.00010 | 0.000107 | 0.000108 | 0.9 | <0.00010 | <0.000010 | <0.00010 | - | - |
| Tin (Sn) | mg/L | - | <0.00010 | <0.00010 | nc | <0.00020 | <0.00010 | <0.00020 | <0.00020 | nc | <0.00010 | <0.00020 | <0.00020 | nc | <0.00010 | <0.00010 | <0.00010 | - | - |
| Titanium (Ti) | mg/L | - | <0.00030 | <0.00030 | nc | 0.00079 | <0.00030 | 0.00113 | <0.0015 | nc | <0.00030 | <0.00060 | <0.00060 | nc | <0.00030 | <0.0018 | <0.00030 | - | - |
| Uranium (U) | mg/L | 0.015 | 0.00301 | 0.00293 | 2.7 | 0.000755 | <0.000010 | 0.00217 | 0.00216 | 0.5 | <0.000010 | 0.000346 | 0.000332 | 4.1 | <0.000010 | 0.000293 | <0.000010 | - | - |
| Verative 0.0 | mg/L | - | <0.00050 | <0.00050 | nc | <0.0010 | <0.00050 | 0.0017 | 0.0017 | 0.0 | <0.00050 | <0.0010 | <0.0010 | nc | <0.00050 | 0.00150 | <0.00050 | - | - 1 |
| Vanadium (V) | | | | | | | | | | | | | | | | | | | |
| Zinc (Zn) | mg/L mg/L | 0.03 | 6.24 <0.00030 | 6.09 <0.00030 | 2.4 | <0.0020 | <0.0010 | 0.0249 0.00076 | 0.0251 0.00075 | 0.8 | <0.0010 <0.00030 | 0.713 | 0.705 | 1.1 | <0.0010 | 0.0040 | <0.0010 | - | - |

Table B: QAéQC Analytical Data

| | | Site Location | | MW09-16 | | MW | 09-19 | 1 | MP0 | 9-05 | | | MW0 | 9-04 | | MW | 09-22 | | , |
|---------------------------------|--------------|--------------------------------|------------------|------------------|------------|-----------------|-----------------|------------------|------------------|------------|------------------|------------------|------------------|------------|------------------|------------------|------------------|--------------|--------------|
| | | Sample ID | MW09-16 | DUP-2 (MW09-16) | | MW 09-19 | FB2 (MW09-19) | MP09-05 | DUP-4 (MP09-05) | | FB3 (MP09-05) | MW 09-04 | DUP-1 (MW09-04) | | FB1 (MW09-04) | MW09-22 | FB4 (MW09-22) | TRAVEL BLANK | TRAVEL BLANK |
| | | Date Sampled | 01/06/2015 18:00 | 01/06/2015 18:00 | | 02/06/2015 8:30 | 02/06/2015 8:30 | 03/06/2015 17:45 | 03/06/2015 17:45 | | 03/06/2015 17:45 | 02/06/2015 13:50 | 02/06/2015 13:50 | | 02/06/2015 13:50 | 04/06/2015 10:10 | 04/06/2015 10:10 | 03/06/2015 | 05/06/2015 |
| | | ALS Work Number | L1620902 | L1620902 | RPD (%) 13 | L1620902 | L1620902 | L1622366 | L1622366 | RPD (%) 13 | L1622366 | L1620902 | L1620902 | RPD (%) 13 | L1620902 | L1622366 | L1622366 | L1620902 | L1622366 |
| | | Station Status | Sampled | Sampled | | Sampled | Sampled | Sampled | Sampled | | Sampled | Sampled | Sampled | | Sampled | Sampled | Sampled | - | - |
| Parameter | Units | CCME-FAL ^{1, 2, 3, 4} | · | | | | | | | | | | | | | | | | |
| Total Metals | | | | | | | | | | | | | | | | | | | |
| Aluminum (AI) | mg/L | Varies 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.0030 | <0.0030 |
| Aluminum CCME-FAL | mg/L | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Antimony (Sb) | mg/L | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.00010 | <0.00010 |
| Arsenic (As) | mg/L | 0.005 | | - | - | - | - | - | - | - | - | - | - | | - | - | - | <0.00010 | <0.00010 |
| Barium (Ba) | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.000050 | <0.000050 |
| Beryllium (Be) | mg/L | | | - | - | - | - | - | - | - | - | - | - | | - | - | - | <0.000020 | <0.000020 |
| Bismuth (Bi) | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.000050 | <0.000050 |
| Boron (B) | mg/L | 1.5 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.010 | <0.010 |
| Cadmium (Cd) | mg/L | Varies 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.000050 | <0.000050 |
| Cadmium CCME-FAL | mg/L | | - | - | - | - | - | - | - | | - | - | - | | - | - | - | - | - |
| Calcium (Ca) | mg/L | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.050 | <0.050 |
| Chromium (Cr) | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.00010 | <0.00010 |
| Cobalt (Co) | mg/L | - | - | | - | - | - | - | - | | - | _ | - | | - | - | - | <0.00010 | <0.00010 |
| Copper (Cu) | mg/L | Varies | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.00050 | <0.00050 |
| Copper CCME-FAL | mg/L | Varies 10 | - | - | - | - | - | - | - | - | - | - | - | | _ | - | - | -0.00000 | -0.00000 |
| Iron (Fe) | mg/L | | | | | - | - | | - | | | - | - | | | - | - | <0.010 | <0.010 |
| Lead (Pb) | | Varies 11 | | - | - | - | - | _ | - | | - | - | - | | | - | - | <0.00050 | <0.000050 |
| Lead CCME-FAL | mg/L mg/L | - | | - | - | - | - | - | - | | - | - | - | | - | - | - | | |
| Lithium (Li) | | - | | - | _ | - | - | _ | | | - | | - | | | - | - | <0.0010 | <0.0010 |
| Magnesium (Mg) | mg/L mg/L | - | - | - | - | - | - | - | - | | - | - | - | | - | - | - | <0.10 | <0.10 |
| Manganese (Mn) | mg/L | - | | - | - | _ | - | _ | - | | - | - | - | | | - | - | <0.00010 | <0.00010 |
| | | 0.000026 | | - | - | - | - | - | - | | - | - | - | | - | - | - | <0.000050 | <0.000050 |
| Mercury (Hg) Molybdenum (Mo) | mg/L | 0.000026 | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | <0.000050 | <0.000050 |
| | mg/L | Varies 12 | | - | - | | - | - | - | | | - | - | - | - | - | - | <0.00050 | <0.00050 |
| Nickel (Ni) Nickel CCME-FAL | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | <0.00050 | <0.00050 |
| | mg/L | - | - | - | - | - | - | - | - | - | - | - | | | - | | - | <0.050 | <0.050 |
| Phosphorus (P) | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | | 1 1 |
| Potassium (K) | mg/L | | | | | | | - | | | - | | - | | | - | - | <0.10 | <0.10 |
| Selenium (Se) | mg/L | 0.001 | - | | - | - | - | | - | - | | - | | | - | | | <0.000050 | <0.000050 |
| Silicon (Si) | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.050 | <0.050 |
| Silver (Ag) | mg/L | 0.0001 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.000010 | <0.000010 |
| Sodium (Na) | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.050 | <0.050 |
| Strontium (Sr) | mg/L | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.00020 | <0.00020 |
| Thallium (TI) | mg/L | 0.0008 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.000010 | <0.000010 |
| Tin (Sn) | mg/L | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.00010 | <0.00010 |
| Titanium (Ti) | mg/L | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.00030 | <0.00030 |
| Uranium (U) | mg/L | 0.015 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.000010 | <0.000010 |
| Vanadium (V) | mg/L | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.00050 | <0.00050 |
| Zinc (Zn) | mg/L | 0.03 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.0030 | <0.0030 |
| Zirconium (Zr) | mg/L | | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | < 0.00030 | <0.00030 |

Notes

(1) CCME guideline exceedences shaded with dark grey. Light grey shading denotes reportable detection limit in exceedence of CCME Guideline. Where guideline value is dependent on hardness or pH, reported values have been compared against a guideline value calculated for each site based on the relevant value, and the guideline value has been noted as "varies".

- (2) = No standard or not analyzed
- (3) CCME = Canadian Council of Ministers of the Environment, Canadian Environmental Quality Guidelines, 1999, updated to November 2014
- (4) CCME FAL = Chapter 4, Canadian Water Quality Guidelines for the Protection of Aquatic Life, Freshwater, updated to November 2014
- (5) CCME FAL stipulates pH not < 6.5 and not > 9
- (6) Guideline note: Lowest acceptable dissolved oxygen concentration for cold-water biota, early life stages
- (7) Ammonia varies with pH and temperature for CCME FAL; see the CCME ammonia fact sheet for details regarding the applicable criteria, ammonia-NH3 versus total ammonia-N, and other usage guidelines. CCME values listed in the table are expressed as ammonia (N) When field pH is not available, lab pH is used. When field and lab pH are both not available, the most stringent guideline has been used.
- (8) Aluminum varies with pH as follows for CCME FAL:
 - 0.005 if pH<6.5

0.1 if pH>=6.5

- when field pH is not available, lab pH is used. When field and lab pH are both not available, the most stringent guideline has been used.
- (9) Cadmium varies with Hardness in mg/L as follows for CCME FAL:

0.00 if H<17

0.00004 - 0.00037 if H>=17 and H<=280 as follows;

CWQG (µg/L) = 10{0.83(log[hardness]) - 2.46 }

0.00 if H>280

(10) Copper varies with Hardness in mg/L as follows for CCME FAL:

0.002 if H<82

0.002 - 0.004 if H>=82 and H<=180 as follows;

CWQG (µg/L) = 0.2 * e{0.8545[ln(hardness)]-1.465}

- 0.004 if H>180
- (11) Lead varies with Hardness in mg/L as follows for CCME FAL:
 - 0.001 if H<60
 - .001 0.00 if H>=60 and H<=180 as follows;

CWQG (µg/L)= e{1.273[ln(hardness)]-4.705}

- 0.007 if H>180
- (12) Nickel varies with Hardness in mg/L as follows for CCME FAL:

0.025 if H<60

- 025 0.15 if H>=60 and H<=180 as follows;
 - CWQG (µg/L) = e{0.76[In(hardness)]+1.06}

0.15 if H>180

(13) RPD = Relative Percent Difference. The difference between a sample and its field duplicate over the average of two values. *nc* = not calculated. RPD is not calculated if either the sample or the field

duplicate concentration is less than five times the detection limit.

Italics text indicates the parameter-specific standard (calculated) for a particular sample.

Bold and underlined indicates values above RDL in Field Blank of Travel Blank

Bold and Italic Indicates QAQC values exceed expected results (i.e. RDP values exceed 20%).

APPENDIX A Site Photographs



Photo 1: View of drive point wells GSI-DC-01A and GSI-DC-01B. Photo taken on June 1, 2015.



Photo 2: View of drive point wells GSI-DC-02A and GSI-DC-02B. Photo taken on June 1, 2015.



Photo 3: View of drive point wells GSI-DC-03A and GSI-DC-03B. Photo taken on June 2, 2015. Drive point wells are frozen beneath accumulated ice.



Photo 4: View of drive point wells GSI-DC-05A and GSI-DC-05B. Photo taken on June 3, 2015.

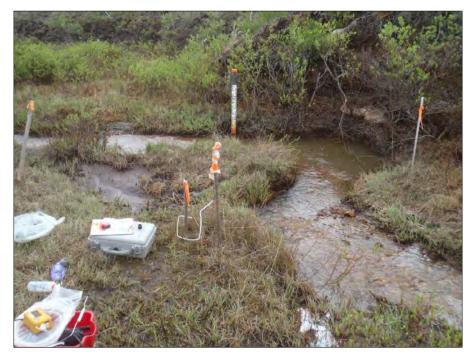


Photo 5: View of drive point wells GSI-DC-06A and GSI-DC-06B. Photo taken on June 4, 2015.



Photo 6: View of drive point wells GSI-DC-07A and GSI-DC-07B. Photo taken on June 4, 2015.



Photo 7: View of drive point wells GSI-DC-08A and GSI-DC-08B. Photo taken on June 4, 2015.



Photo 8: View of drive point wells GSI-DC-09A and GSI-DC-09B. Photo taken on June 4, 2015.

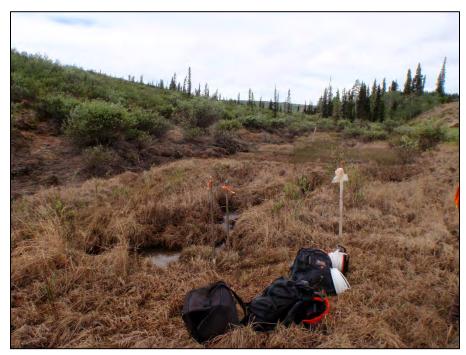


Photo 9: View of drive point wells GSI-DC-10A and GSI-DC-10B. Photo taken on June 4, 2015.



Photo 10: View of drive point well GSI-HA-01A. Photo taken on June 1, 2015.



Photo 11: View of drive point well GSI-HA-02A. Photo taken on June 1, 2015.



Photo 12: View of drive point well GSI-HA-03A. Photo taken on June 1, 2015.

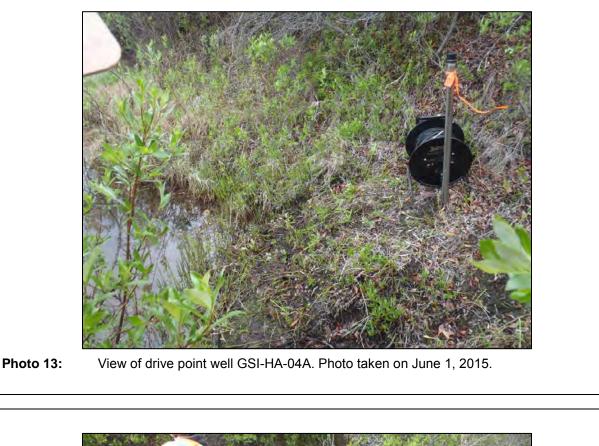




Photo 14: View of drive point well GSI-HA-05A. Photo taken on June 1, 2015.



Photo 15:

View of well MW09-15. Photo taken on June 1, 2015.





Photo 17: View of well MW09-17. Photo taken on June 2, 2015.



Photo 18: View of well MW09-18. Photo taken on June 2, 2015.



Photo 19:

View of well MW09-19. Photo taken on June 2, 2015.

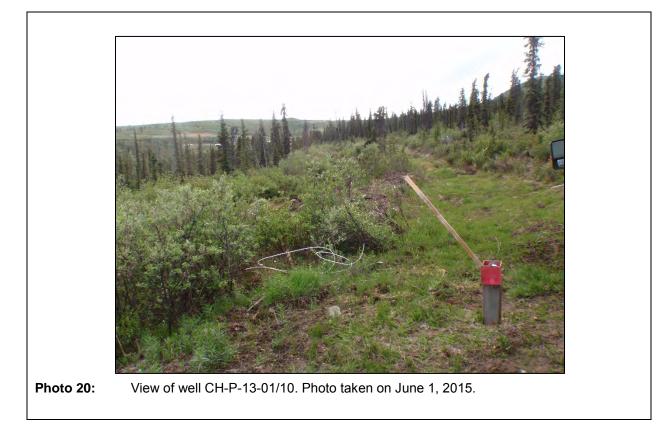




Photo 21: View of wells CH-P-13-03/50 and CH-P-13-03/10. Photo taken on June 1, 2015.



Photo 22: View of wells CH-P-13-04/10 and CH-P-13-04/35. Photo taken on June 1, 2015.



Photo 23: View

View of well CH-P-13-05/50. Photo taken on June 1, 2015.



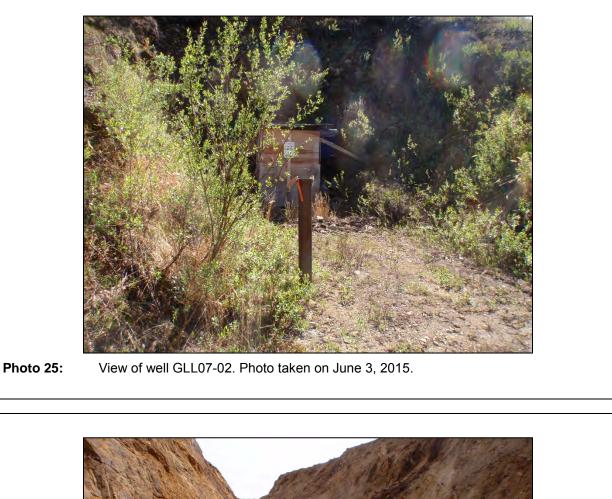




Photo 26: View of well GLL07-03. Photo taken on June 1, 2015.



Photo 27: View of well MW09-13. Photo taken on June 1, 2015.



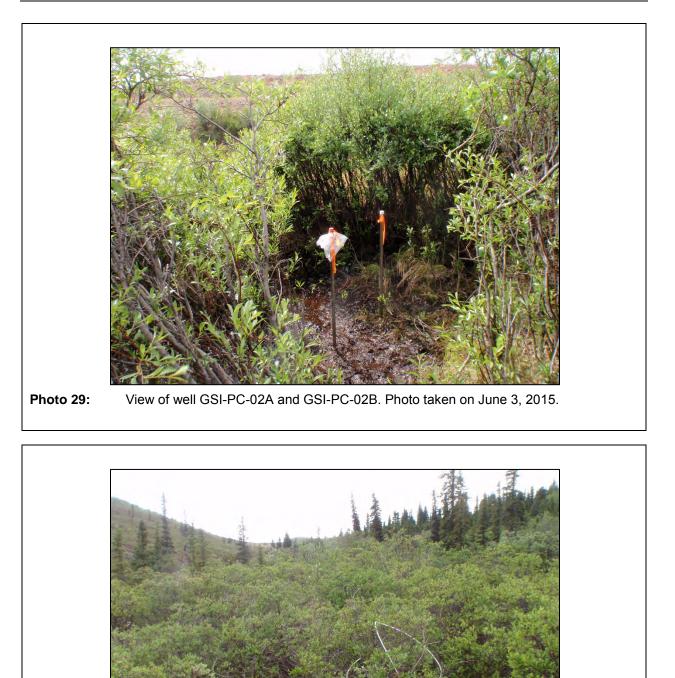






Photo 31: View of wells GSI-PC-04A and GSI-PC-04B. Photo taken on June 3, 2015.



Photo 32: View of wells GSI-PC-05A and GSI-PC-05B. Photo taken on June 3, 2015.



Photo 33:

View of well MP09-02. Photo taken on June 3, 2015.



Photo 34: View of well MP09-03. Photo taken on June 3, 2015.



Photo 35:

View of well MP09-08. Photo taken on June 3, 2015.





Photo 37:

View of well W14103083BH02. Photo taken on June 3, 2015.





Photo 39:

View of well MP09-04. Photo taken on June 4, 2015.



Photo 40: View of well MP09-05. Photo taken on June 3, 2015.

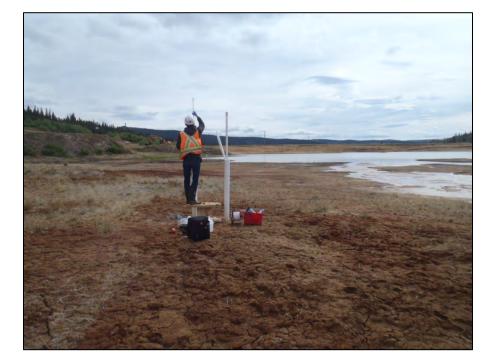


Photo 41: View of wells MP09-09 and MP09-10. Photo taken on June 2, 2015.

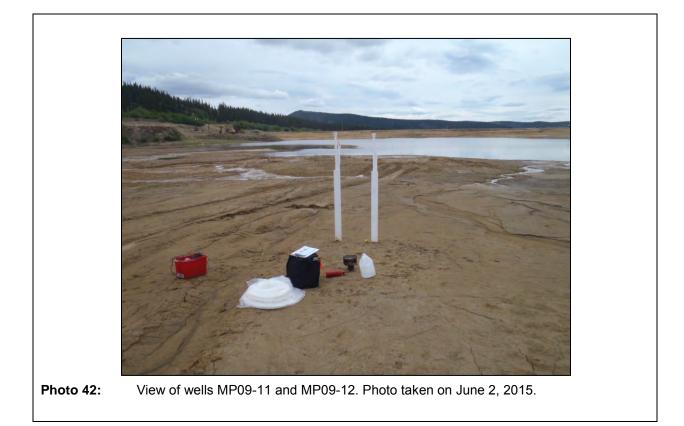
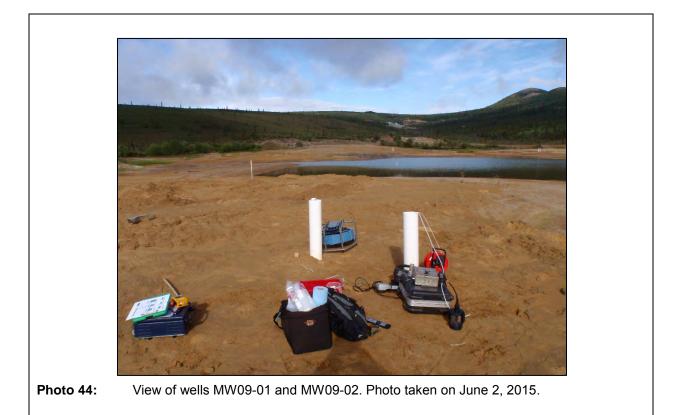




Photo 43:

View of well MP09-14. Photo taken on June 2, 2015.



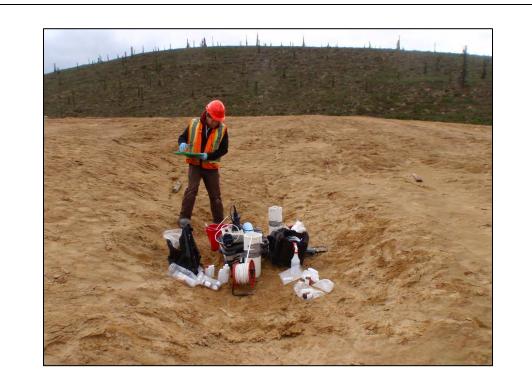


Photo 45: View of wells MW09-03 and MW09-04. Photo taken on June 2, 2015.





Photo 47:

View of well MW09-07. Photo taken on June 3, 2015.





Photo 49:

View of well MW09-11. Photo taken on June 2, 2015.



Photo 50: View of well MW09-20. Photo taken on June 4, 2015.



Photo 51: View of well MW09-21. Photo taken on June 3, 2015.



Photo 52: View of well MW09-22. Photo taken on June 3, 2015.



Photo 53:

View of well MW09-23. Photo taken on June 3, 2015.

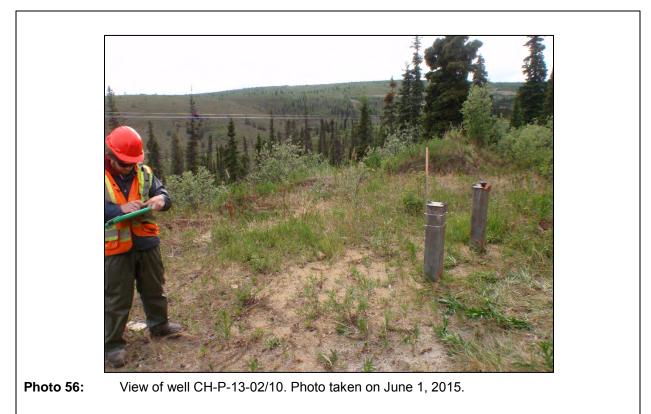


Photo 54: View of well MW09-24. Photo taken on June 4, 2015.



Photo 55:

View of well W14103083BH03. Photo taken on June 2, 2015.



APPENDIX B Field Forms



| Sample Site: | CH-P | -13-01/10 | Project Num | nber: 13 | 43-005.09 | E. | | Date: | | | 01/0 | 6/2015 |
|--|-------------|---------------------|---|-----------|--------------|-----------|--------|----------|-----------|-------------|--------|------------|
| Approximate Date Drilled: | | own | Client: | G | Y - AAM | | | Sampler: | | | AN, RM | |
| Piezometer Diameter / Screen Length: | 11/2" | Inknown | Project Name: Mount Nansen Sampling Prog | | | WV S | | her/Temp | erature: | 17 - FL | | |
| UTM Location | Z.8 E.5 | 88652 N. 6881119 | Waypoint GPS AN Name | | me <u>cH</u> | P-13-0 10 | Recov | very: | | Go | | |
| Photos | Cam EL | R Nos. 167-162 | Purge Method | | | | | | | | | |
| Duplicate Collected: | Ves Yes | Name | | | | Waterr | a | 1 | Peristalt | ic | Dis | sp. Bailer |
| Field Blank Collected | Yes | Name | Analysis | | | | | | | | | |
| Initial Depth to Mater (m): | ICE | 6.446 | Purge Start | Time: | | | PI | irge En | d Time: | - | 1 | |
| Depth to Bottom (m): | | | Purge Intern Time () | |)L | | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to wa | ater (m) | | | | | | | | |
| Well Stick-up Height (m): | | 0.52 | Temperature (°C) | | | | | | | · · · · · · | | |
| Estimated Water Volume (L |): | | pH (pH Units) | | | | | | | 1 | - | |
| | | | Cond. (µs/cm) | | | | | | 1 | | | |
| | | | Specific Cond. (µs/cm) | | 1) | _ | 1000 | _ | 5 | N | 1.000 | |
| (DTB - DTW) x 2 (for 2" w | ell diamete | er) = 1 well volume | Redox (mV) | | | | 10.000 | 1 | 12 | 1.00 | 1.1.1 | |
| | - | | DO (mg/L) | | | | 100 | 1/ | 2 | 1 | / | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter | r) = 1 well volume | DO (%) | | | | FR | 10 | / | // | 1.00 | |
| 2" casing has 0.16 | - | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | | | 1. | / | 1 | | 1 | |
| 1" casing has 0.04 8" sand pack has 0.7 | - | | Only for final | Sulphide | (mg/L) | | / | | 1 | | | |
| 6 5/8" sand pack has | | | | Turbidity | (NTU) | 1 | | - | | 10 | | |
| | | | Interval Pur | rge Volum | e (L) | | | | | | | |
| | | | Cumulative Purge Volume (L): | | | | | | | | | |
| V61 Field Parameters Loggs | ad: | Yes No | Sample Me | thod | | | | | | | | |
| Hime-on YSI (24hr): | | | | | | Water | ra | 1 | Peristal | tic | Di | sp. Bailer |
| Addual time of measurement | (#411m): | | Analysis | | | | | | | | | |



| Sample Site (Con't): | H-P-13-01/ | 10 | |
|--------------------------|-------------------|--------------|----------|
| Sample Date (Con't): | | | |
| Sample Time: | | | |
| Well Head Seal: UJ-Ph | g PVC Cap | Not Sealed | Other |
| Seal Replaced:] J-Plug | PVC Cap | Not required | Other |
| Well properly sealed for | gas monitoring: 🖸 | Yes INO I | Details: |

Head Space Gas Measurements

| | | Velle |
|----------------------|------|-------|
| Methane (CH4) | %LEL | ×. |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | R |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 💽 | Preservative Added | Vol. Collected (mi) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO ₃ | | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | A | +c | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 4 | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | 1.9 |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | - | | _ |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features): I re found on tip of water level meter when dippod Used Insight Vision 2D camera to investigate blockage. Footage recorded on USB. Footage shows obvious ice blockage. Tubing was remared from well. Tubing removed very easily. tubing only slightly below ice blockage. Hole == ice blockage where tubing was removed showed on footage.

| Sample Site: | CH-P-13-02/10 | Project Number | er: 1343-005. | 09 | Date: | 01/06/2015 |
|---|--|---|----------------------------|-------------------------|----------------------|----------------|
| Approximate Date Drilled: | vallnown. | Client: | GY - AAM | | Sampler: | ANRIA |
| Piezometer Diameter / Screen Length: | 11/2"/mknown | Project Name: Mount Nansen Sampling Prog | | nsen 2015 GW Program | Weather/Temperature: | overcast -10°C |
| UTM Location | Z.B E. 388924 N. 6001014 | Waypoint | GPS AN | Name CH-P-13-02/10 | Recovery: | Good Bad |
| Photos | Cam. ELR. Nos. 164-166 | Purge Method | Purge Method | | | |
| Duplicate Collected: | Yes Name | v | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | |
| Initial Depth to Water (m): | DRY | Purge Start Ti | me: | P | urge End Time: | |
| Depth to Bottom (m): 8,202 | | Purge Interval Time () mi | l in, Vol. () L | | | |
| Submerged Tubing Depth (r | m): | Depth to water (m) | | | - 10 J - 10 J - 10 J | |
| Well Stick-up Height (m): | 0.63 | Temperature (°C) 3% | | a second from | | |
| Estimated Water Volume (L |)‡ | pH (pH Units) ±0.1 | | | | |
| | | Cond. (µs/cm) 3% | | | | |
| | | Specific Cond | l. (µs/cm) 3% | | - | |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well volume | Redox (mV) 10% | | | 01 | |
| | | DO (mg/L) 10% | | | 70 | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) 10% | | | | |
| | USgal/ft or 2.032 l/m | Appearance 8 Silty, HC odou | dour (Clear, urs, etc.) | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | ulphide (mg/L) | | 4 | |
| | 0.50 USgal/ft or 6.35 l/m | final readings T | urbidity (NTU) | | 6 | |
| | | Interval Purge Volume (L) | | | | |
| | | | urge Volume (L) | 2 | | |
| VSI Field Parameters La gui | Yes No | Stropie Wetne | d l | | | |
| Timir an YBI (2Min): | | | | Waterra | Peristaltic | Disp. Bailer |
| Antual time of measurement | 2426003 | Analysis | | | | |

HEMMERA

| Sample Date (Con't): | |
|----------------------------------|--------------------|
| Sample Time: | |
| Well Head Seal: DJ-Plug SPVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |

Head Space Gas Measurements

| | Umbs | Value |
|----------------------|------|-------|
| Methane (CH4) | %LEL | Q |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | R |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|--|---------------------------------------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | h |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 4 | | | 1 |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | - | □ NaOH | | · · · · · · · · · · · · · · · · · · · |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | H2SO4 | 1. | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | + | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | + | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | 1 |

General Notes (Condition of well or other features):

Trace amount of water found in bottom of well Bentonite and filter pack (screen send) found on tip of water level meter. Used height Vision 2D concernents investigate bottom of well Footage recorded on USB. Foolage shows bontonite at bottom of seveen. From video footage, it appears that benfouile seeped through upper portion of screen stits into the well.

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | CH-P | -13-03/10 | Project Num | nber: 1: | 343-005.0 | 9 | | Date: | | | 01/06 | 12015 |
|--|------------|----------------------|---|-----------|-----------|---------------|----------------------|------------|-----------|-----------|----------|-----------|
| Approximate Date Drilled: | | nont- | Client: | G | Y - AAM | | | Sampler: | | | AN, RM | |
| Piezometer Diameter / Screen Length: | 1.1/2 | unknown . | Project Name: Mount Nansen Sampling Progr | | | GW | Weather/Temperature: | | erature: | cloudy ~1 | | |
| UTM Location | Z. 8 E. | 389142 N.6881107 | Waypoint | G | PS AN N | ame <u>cH</u> | P-13-13/ | Recov | very: | | Goo | d 🗌 Bad |
| Photos | Cam. E | LR Nos. 159-163 | Purge Meth | bod | | | | - | | | | - |
| Duplicate Collected: | Yes | Name | v | | Waterra | | 1 | Peristalti | ic | Dis | . Bailer | |
| Field Blank Collected | Yes | s Name | Analysis | | 1 | | 5- 5- C | | | | | |
| Initial Depth to Water (m): | | FROZEN | Purge Start | Time: | | | P | urge En | d Time: | 0 | | |
| Depth to, Batters (m): ((| E | 4.995 | Purge Intern Time () | | L | | | 1 | | | | |
| Submerged Tubing Depth (m): | | Depth to water (m) | | | | 1 | | | | | | |
| Well Stick-up Height (m): | | 0-69 | Temperature (°C) 3% | | 1 | | | | | | | |
| Estimated Water Volume (L |): | | pH (pH Units) ±0.1 | | | | - | 1 | | | | |
| | | | Cond. (µs/cm) 3% | | | | 1 | 1 | 11 | N | | |
| | | | Specific Cond. (µs/cn | | n) 3% | | | 1 | 10 | | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | ter) = 1 well volume | Redox (mV) 10% | | | 3 | 1 | 00 | X | 0 | | |
| | | | DO (mg/L) 10% | | | | 5 | Ka | 1/ | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | er) = 1 well volume | DO (%) 10% | | | 1 | 1 | | / | | | |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | | | / | / | 1 | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphide | e (mg/L) | | | 1 | 0 | | | |
| 6 5/8" sand pack has | | | final readings | Turbidity | (NTU) | | - | | - | | | |
| | | | Interval Purge Volume (L) | | - | | | | | - | - | |
| | | | Cumulative Purge Volume (L): | | | | | | | | | |
| VSI Flaid Paramaters Lorge | aci: | Yes No | Sample Me | that | 1 | | - | 1 | | | | |
| Time on YSI (29hry. | | 1 | | | | Waterra | a | | Peristalt | ic | Dis | p. Bailer |
| Aptual time of measurament | 11 (2410): | | Analysis | | | | | | | | | |

Bhade.

Lan 1

| Sample Site (Con't): CH - P-13 - | 03/10 |
|----------------------------------|---------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug Devc c | ap Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |

Well properly sealed for gas monitoring: Pres Details:

Head Space Gas Measurements

| | Unite | Value |
|----------------------|-------|-------|
| Methane (CH4) | %LEL | 8 |
| Oxygen (O2) | % | 20.3 |
| Carbon Dioxide (C02) | PPM | 300 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🔀 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | + | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | Q2 | | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | ÷ | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | + | | |

General Notes (Condition of well or other features):

Peris foding frozen in water column

| Sample Site: | CH-P | -13-03/50 | Project Nur | nber: | 1343-005.0 | 9 | | Date: | | | 01/06/2015 | | |
|--|--|---------------------------|---------------------------------------|----------|---------------------------|-----------------|------------|-------------|----------|-----------|--------------|--------------|--|
| Approximate Date Drilled: | unk | hown | Client: | | GY - AAM | | | Samp | ler: | | AN, | RM | |
| Piezometer Diameter / Screen Length: | 1.0/ | Interna | Project Nar | T1.71 | Mount Nans Sampling Pr | | 5 GW | Weat | ver/Temp | perature: | Que | reast -10 | |
| UTM Location | Z.8 E. | 389142 N.6881108 | Waypoint. | | GPS AN N | ame cH- | P-13-03/50 | Reco | very: | | Go | od 🗌 Ba | |
| Photos | Cam.E | LR Nos. 159-163 | Purge Meth | od | | _ | | | | | 1 | | |
| Duplicate Collected: | Yes | Name | | | | Water | ra | Peristaltic | | | Disp. Bailer | | |
| Field Blank Collected | Yes | Name | Analysis | | | | | | | | | | |
| Initial Depth to Water (m): | | 50.224 | Purge Start Time: | | | Purge End Time: | | | | | | | |
| Depth to Bottom (m): | | 50.600 | Purge Interval Time () min, Vol. () L | | | | - | | | | | | |
| Submerged Tubing Depth (| m): | 1 | Depth to wa | ater (m) | 10 | 1 | 1 | | | | | | |
| Well Stick-up Height (m): | | 0.58 | Temperature (°C) 3% | | | | 1 | X | | 1.1 | | | |
| Estimated Water Volume (L | Estimated Water Volume (L): | | pH (pH Uni | ts) ±0.1 | | | | | N | | | | |
| | | | Cond. (µs/cm) 3% | | | - | | 6-1 | e | | 1 | | |
| | | | Specific Cond. (µs/cm) 3% | | | | 1 | V. | | 1/1 | | - | |
| (DTB - DTW) x 2 (for 2" w | ell diame | ter) = 1 well volume | Redox (mV) 10% | | | | 1.50 | 11 | 5 | 11 | | | |
| | | | DO (mg/L) 10% | | | lac | 1 | 10/ | V | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | er) = 1 well volume | DO (%) 10% | 6 | | | | 10 | 11 | | | | |
| 2" casing has 0.16 | 1 | | Appearance Silty, HC or | | | | | 1 | 17 | 2 | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphi | de (mg/L) | | | - | | C | - | | |
| 6 5/8" sand pack has | 1. | | final readings | Turbid | ity (NTU) | | - | - | - | - | | | |
| 2.2.7 - Tarker of the search of a state | | Interval Purge Volume (L) | | | | | - | | | | | | |
| | | | Cumulative Purge Volume (L): | | | | | | | | | | |
| VSI Field Parameters Louge | edi | Yes No | Sample Me | tind | | - | | | | | | _ | |
| Time on YSI (246r). | | | | - | | Water | rra | | Peristal | tic | Disp. Bailer | | |
| Addual time of measuremon | at (24to 1: | | Analysis | | - | | | | _ | | | | |

| Sample Site (Con't):CH-P-13-031 | 150 |
|--|--------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug PVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoring: | Pres I No Details: |

Head Space Gas Measurements

| | Linits | Majums |
|----------------------|--------|--------|
| Methane (CH4) | %LEL | ø |
| Oxygen (O2) | % | 26.1 |
| Carbon Dioxide (C02) | PPM | 10 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🗵 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| ta | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | | | |
| 15 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | 7 | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | + | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | + | HNO3 | | 1 |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 2 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 4 | | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features): Vibrating Pizzonater wire found in well



| Sample Site: | CH-P | -13-04/10 | Project Nu | mber: | 1343-005.0 | 9 | | Date: | | 01/06/2015 | | |
|--|------------|------------------------------|---|------------|-------------------------|----------------|------------|---------|------------------|---------------|--------|--|
| Approximate Date Drilled: | USIA | lación | Client: | (| GY - AAM | | | Samp | ler: | AN RA | | |
| Piezometer Diameter / Screen Length: | 1/2 | 1 mknown | Project Na | mo | Mount Nan Sampling F | | 5 GW | Weat | ner/Temperature: | duerca -10 | | |
| UTM Location | Z.BEJ | 189136 N. 6881971 | Waypoint | | GPSAN N | ame <u>c</u> # | P-15-04/10 | Reco | very: | Good | Ba | |
| Photos | Cam.E | R Nos. 147-151 | Purge Meth | hod | - | - | | _ | | | | |
| Duplicate Collected: | Yes | Name | | | | Water | rra | | Peristaltic | Disp. | Bailer | |
| Field Blank Collected | Yes | Name | Analysis | | | | | | | | | |
| Initial Depth to Water (m): | ICE | 6.207 | Purge Star | t Time: | 1 | | P | urge En | d Time: | | | |
| Depth to Bottom (m): | | | Purge Inter Time () | | .(_)L | | | | | | | |
| Submerged Tubing Depth (r | m): | / | Depth to w | ater (m) | | | - | | | 1 | | |
| Well Stick-up Height (m): | | 0.65 | Temperatu | re (°C) 3% | 6 | | | | | | | |
| Estimated Water Volume (L) | .): | | pH (pH Uni | its) ±0.1 | | | - | | | | | |
| | | | Cond. (µs/cm) 3% | | | | | | | 1 | | |
| | | | Specific Cond. (µs/cm) 3% | | | | | | N | | | |
| (DTB - DTW) x 2 (for 2" we | ell diamet | er) = 1 well volume | Redox (mV) 10% | | | | | | D . | | | |
| | | | DO (mg/L) 10% | | | 1.7.1 | U | 1 | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | r) = 1 well volume | DO (%) 10% | % | | 1 | 600 | / | // | | | |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | | | 1. | 1 | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphid | le (mg/L) | | | | | | _ | |
| 6 5/8" sand pack has (| | | final readings | Turbidi | NTU) | - | - | - | | | - | |
| | | 2 1 2 1 1 2 2 3 1 2 M | readings Turbidity (NTU) Interval Purge Volume (L) | | 1 | - | - | | | | | |
| | | Cumulative Purge Volume (L): | | 1 | | | | - | | | | |
| VSI Field Parameters Loggs | aci: | Yes No | Sample Me | | | - | - | | | | - | |
| Time on YSI (24br)! | | | | | | Wate | rra | | Peristaltic | Disp. | Bailer | |
| Actual time of measuremen | t (24mr); | | Analysis | | | | | | | | | |

| Sample Site (Con't):C1-P-13-04/ | 10 | |
|-----------------------------------|--------------|-------|
| Sample Date (Con't): | | |
| Sample Time: | | |
| Well Head Seal:] J-Plug PVC Cap | Not Sealed | Other |
| Seal Replaced: 🗌 J-Plug 🛛 PVC Cap | Not required | Other |

Well properly sealed for gas monitoring: Yes No Details: SHA THE PVC

| | Airons | Values |
|----------------------|--------|--------|
| Methane (CH4) | %LEL | E. |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | ×. |

Head Space Gas Measurements

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL. | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | ÷ | 21 | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | + | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | (#/ [*] | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | ÷. | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 4 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | ÷ | | - |

General Notes (Condition of well or other features):

requirement for tip of water level metar.

1 HEMMERA

| Sample Site: | Cit | P-13-04/35 | Project Nur | mber: | 1343-005.0 | 9 | | Date: | | | # oly | 06/2015 | |
|--|------------|------------------------------|----------------------------|-----------|-------------------------|-----------|-----------------|-------------|-------------|----------|--------------|---------|--|
| Approximate Date Drilled: | | | Client; | | GY - AAM | | | Samp | ler: | | AN, R | | |
| Plezometer Diameter / Screen Length: | 1.0 | 1 / maknown | Project Nar | ne: | Mount Nan Sampling F | | GW | Weat | her/Temp | erature: | overa-10 | ast | |
| UTM Location | Z.8 E | 389136 N. 6881471 | Waypoint | The state | GPS AN N | ame cit - | P-13-09/35 | Reco | very: | | Good | | |
| Photos | Cam | LR Nos. 147-151 | Purge Meth | bor | | | | | | | - | | |
| Duplicate Collected: | 1 Ye | es Name | | | | Waterr | а | Peristaltic | | | Disp. Bailer | | |
| Field Blank Collected | 1 Ye | s Name | Analysis | _ | 7 1 1 1 | - | - | _ | | | | | |
| Initial Depth to Witter (m): | K | 6.490 | Purge Start | t Time: | | | Purge End Time: | | | - | | | |
| Depth to Bottom (m): | | | Purge Inter Time () | | H. () L | | | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to wa | ater (m) | | | | | | | | | |
| Well Stick-up Height (m): | | 0.70 | Temperature (°C) 3% | | | | | | | | | | |
| Estimated Water Volume (L | olume (L): | | pH (pH Unit | ts) ±0.1 | | | | | | | 1 | | |
| | | | Cond. (µs/cm) 3% | | | | | 4 | 1 - 1 | | | | |
| | | | Specific Cond. (µs/cm) 3% | | | | | | 61 | | | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | Redox (mV) 10% | | | | 20 | 1 | 1 | | | | |
| | | | DO (mg/L) 10% | | | 6 | 20 | 1 | | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | ter) = 1 well volume | DO (%) 10% | | | K | 1 | / | | | | | |
| 2" casing has 0.16 | | | Appearance Silty, HC of | | | | ~ | (| - | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphi | de (mg/L) | | | | (| | | | |
| 6 5/8" sand pack has (| 1 1 1 1 T | | final readings | Turbid | ity (NTU) | - | - | | - | | | - | |
| | | Interval Purge Volume (L) | | | | - | | | - | | | | |
| | | Cumulative Purge Volume (L): | | | | 1 | | | | - | | | |
| VSI Field Parametars Louge | dt | Yes No | Sampla Me | thed | | - | - | | | | | | |
| Time ion YSI (24fur). | _ | | | | | Waterr | а | | Peristaltic | | Disp. Bailer | | |
| Actual time of meestremen | t (24hr): | | Analysis | | | | | | | | | | |

HEMMERA

Manues

 \sim

20.4

Units

%LEL

%

PPM

| Sample Site (Con't): CH - P-13-0 | Head Space Gas Measurements | |
|--|-----------------------------|----------------------|
| Sample Date (Con't): | | |
| Sample Time: | | Methane (CH4) |
| Well Head Seal: J-Plug DPVC Cap | Not Sealed Other | Oxygen (O2) |
| Seal Replaced: J-Plug DVC Cap | Not required Other | Carbon Dioxide (C02) |
| Well properly sealed for gas monitoring: | Ver Die Detelle stall | al scordy (.H.) |

nails: well rap not properly fitted

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL. | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 54 . | ÷ | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | 0 | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | + | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | (+) | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

General Notes (Condition of well or other features): ice and methess on the and of water level meters could not use more Well diameter 1.0", ramera width 1 "4" Well was previously recorded as "blocked". We believe the well was in fact frozen during previous events. 3June 2015- frozen water column confirmed using ELR in-house camera (see photos \$ 181, \$ 182)

| Sample Site: | CH-P | -13-05/50 | Project Nu | mber: 1 | 343-005.09 | p | | Date: | | | 01/06, | 12015 |
|--|-----------|--|---------------------------|----------|-----------------------------|---------------------------------|-----------|-------------|----------|-------------|--------------|--------|
| Approximate Date Drilled: | | mon | Client: | 0 | SY - AAM | | | Samp | ler: | | AN, R | m |
| Piezometer Diameter / Screen Length: | 1.0 | Vorkenown. | Project Na | Tio* | Nount Nanse Campling Pre | en 2015 GW Weather/Temperature: | | | erature: | cloudy ~10% | | |
| UTM Location | Z.8 E | 388958 N. 688 1470 | Waypoint | | PSAN Na | me cit- (| -13-05/50 | a Recovery: | | | Good | Ba |
| Photos | Cam.E | LR Nos. 156-158 | Purge Meth | bor | | | | | | - | - | |
| Duplicate Collected: | 1 Ye | s Name | | | - | Waterra Peristaltic | | | ic | Disp | . Bailer | |
| Field Blank Collected | Ye | s Name | Analysis | | > | < | | | | | | |
| Initial Depth to Water (m): | | 29.585 | Purge Start Time: 16:30 | | Purge End Time: | | | | | _ | | |
| Depth to Bottom (m): 50-3 0 | | Purge Interval Time (5) min, Vol. () L | | (6:36 | 1640 | 16:43 | (6:4B | 16:52 | 16:55 | | | |
| Submerged Tubing Depth (m): ~ 35.0 | | Depth to water (m) | | - | - | - | | - | - | | | |
| Well Stick-up Height (m): 0-79 | | Temperatu | re (°C) 3% | 6. I. | 5.25 | 461 | 4.66 | 410 | 4.30 | 2.86 | | |
| Estimated Water Volume (L): 16.5 | | | pH (pH Units) ±0.1 | | 6.46 | 6.30 | 6.22 | 6.16 | 6.23 | 6.19 | | |
| | - | 100 March 100 Ma | Cond. (us/em) 3%(ms/cm) | | 1.701 | 1.705 | 1719 | 1.739 | 1.685 | 1.682 | | |
| | | | Specific Cond. (µs/cm) 3% | | 2731 | 272 | 2852 | 2892 | 2849 | 29/2 | | |
| (DTB - DTW) x 2 (for 2" we | ell diame | ter) = 1 well volume | Redox (mV) 10% | | 148.7 | 139.2 | 1529 | 130.8 | 121.5 | 121.6 | | |
| | | | DO (mg/L) 10% | | 271 | 4.57 | 4.88 | 2.96 | 6.08 1 | 3.17 | | |
| (DTB-DTW) x 1.1 (for 1.5) | " diamete | er) = 1 well volume | DO (%) 10% | 6 | | 64.1 | 35.5 | 36.0 | 22.7 | 40.0 6 | 23.9 | |
| 2" casing has 0.16 1" casing has 0.04 | | | Appearance Silty, HC o | | | burbid burne | Save- | Soul | Sune | Some | reduction - | 21.12 |
| 8" sand pack has 0.7 | | | Only for final | Sulphid | e (mg/L) | 1 | | | 1 | | 177 | |
| 6 5/8" sand pack has (| | | readings | Turbidit | (NTU) | | | | | | 1/8 | |
| | | | Interval Pu | | | 50 | 50 | 50 | S | 5 | 5 | |
| | | | Cumulative | Purge Ve | olume (L): | 5.0 | 10 | 15 | 20 | 25 | 30 | |
| VSI Field Perameters Lugas | al: | Yes DNo | Sample Me | thed | | | | | | | 3.5 | |
| Time on YSI (24hi)! | | ~/ | | | | Waterra | 1 | Peristaltic | | | Disp. Bailer | |
| Actual time of massurement | t (24) | / | Analysis | | 5 | × | | | | | | ALC: Y |

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| Sample Site (Con't): | nts | | |
|---|---------------------------------|------|--------|
| Sample Date (Con't): 02/05/2015 | | Umas | Values |
| Sample Time: 17:00 | Methane (CH4) | %LEL | 8 |
| Well Head Seal: J-Plug PVC Cap Not Scaled Other | Oxygen (O2) | % | 20-4 |
| Seal Replaced: J-Plug PVC Cap Not required Other_ | Carbon Dioxide (C02) | PPM | Q |
| Well property sealed for pas monitoring T Ves The Details | . IT PUC LOSS for realizing and | [| |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🗵 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|-------------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | E HNO3 | 1 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | 13 HCL | 1 | |
| 2 | 1 L (plastic) | General Chemistry | 200 mi | ÷- | - | 1 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | B/NaOH | 1 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | (e) | THISO4 | t I | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 mi | (a | D-HNO: | 1 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | 1 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | £(| 1 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | 1 | · · · · · · |

01/06/2015 - following removed. OW frozen within tubing. Tubing does not reach bottom of well will return following day to sample. Needed to let well settle to collect/measure accounte water level. General Notes (Condition of well or other features): 02/06/2015 - Well purged and sampled . Well should be redeveloped using a hydroliff (purge for 2 tot his) Purge mater was highly turbid during eite visit Installed 50 - of water a tubing

| Sample Site: | GLL | 107-01 | Project Nur | mber: | 1343-005.0 | 9 | | Date: | | | 01/00 | 12015 |
|--|------------|-----------------------|----------------------------|--|-------------------------|--------|--------|---------|------------|----------|-------|----------|
| Approximate Date Drilled: | Inte | eronom | Client: | | GY - AAM | | | Samp | ler: | _ | AN R | |
| Piezometer Diameter / Screen Length: | 2' | /mknown | Project Nar | no | Mount Nan Sampling P | | 5 GW | Weat | ner/Temp | erature: | Rain | 500 |
| UTM Location | Z.BE | .38885 (N. 6881779 | Waypoint | | GPSAN N | ame 64 | 107-01 | Reco | very | | Goo | d 🗌 Ba |
| Photos | Cam | R Nos. 135-137 | Purge Meth | bot | - | | - | | - | | - | |
| Duplicate Collected: | Ye | s Name | | - | | Water | ra | | Peristalti | c | Dis | . Bailer |
| Field Blank Collected | Ye | s Name | Analysis | - | | | | | | | | |
| Initial Depth to Water (m): | CE | 13.840 | Purge Start | Time: | | _ | F | urge En | d Time: | | | |
| Depth to Bottom (m): | - | | Purge Inter Time () | | I.(_)L | | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to wa | ater (m) | | | | | | | | |
| Well Stick-up Height (m): | | 0.80 | Temperatu | re (°C) 39 | % | | [] | 1.1 | 1 | | | |
| Estimated Water Volume (L |): | | pH (pH Unit | ts) ±0.1 | 1 | | | | |) | | |
| | | | Cond. (µs/c | cm) 3% | | | | 1 | 1 | 17 | 1 | |
| | | | Specific Co | ond. (µs/o | cm) 3% | - | | 1. | Di | | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | Redox (mV |) 10% | | 1 | | 1 | 12 | 1 | | |
| | | | DO (mg/L) | 10% | | | 1.0 | ng | 11 | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | er) = 1 well volume | DO (%) 10% | la | | | 64 | 1 | 1 | | 1.0 | 1 |
| 2" casing has 0.16 | | | Appearance Silty, HC or | | | | 2 | C | 0 | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphic | de (mg/L) | | | | C | _ | 1 | |
| 6 5/8" sand pack has I | | | final readings | Turbidi | ty (NTU) | - | 1 | - | - | | - | - |
| | | | Interval Pu | and the second sec | | - | - | | 1 | | - | |
| | | | Cumulative | | | 1 | | | | | | - |
| VSI Field Parameters Loggs | ed: | Yes No | Sample me | | | - | - | | | | | |
| Time on YSI (24hr): | | | | | - | Water | ra | | Peristalti | ic | Dis | . Bailer |
| Actual time of measurement | it (Sehrg: | | Analysis | | | | | | | | | |

| Sample Site (Con't): 6LL07-0/ | |
|--|---------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug PVC Cap | Not Scaled Other_ |
| Seal Replaced: J-Plug PVC Cap | Not required Other_ |
| Well properly sealed for gas monitoring: | Yes No Details: |

Head Space Gas Measurements

| | Units | Value a |
|----------------------|-------|---------|
| Methane (CH4) | %LEL | 8 |
| Oxygen (O2) | % | 20.3 |
| Carbon Dioxide (C02) | PPM | Q |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|---------------------------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | (4) | ÷ | | |
| 3 | 145 mi (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | - |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | · · · · · · · · · · · · · · · · · · · | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | * | + | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 mi | Field Filtered | <u>k</u> | | |

General Notes (Condition of well or other features):

| Sample Site: | GLL07-0 | 2 | Project Number | er: 1343-005. | 09 | | Date: | | | 03/0 | 6/2013 |
|--|--|------------|--------------------------------|-----------------------------|-------------------------|------|----------|-----------|-----------|----------|-----------|
| Approximate Date Drilled: | sh known | | Client: | GY - AAM | | | Sampl | er: | | ANR | M |
| Plezometer Diameter / Screen Length: | 6" / me | -0- | Project Name: | Mount Nar Sampling | nsen 2015 GV Program | V | Weath | er/Temp | perature: | Summer : | 20-c |
| UTM Location | Z. 8 E. 589069 N. | 6881701 | Waypoint | GPS AN | Name GLLO | 2-02 | Recov | ery: | | Goo | d 🗌 Ba |
| Photos | Cam. ELPNos. | 18-200 | Purge Method | | - | | | | | | |
| Duplicate Collected: | Yes Name | | | | Waterra | | 1 | Peristalt | ic | Dis | p. Bailer |
| Field Blank Collected | Yes Name | | Analysis | | | | | | | | |
| Initial Depth to Water (m): | DRY | | Purge Start Ti | me: | | P | urge End | d Time: | 1 | | |
| Depth to Bottom (m): | 7.09 | 4 | Purge Interval Time () mi | | | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to wate | r (m) | | | | | | | |
| Well Stick-up Height (m): | 1.3 | 37 | Temperature (| °C) | | | | | | | |
| Estimated Water Volume (L |): | | pH (pH Units) | | | | | | | | |
| | | | Cond. (µs/cm) | rī | | | | 1 | | | |
| | | | Specific Cond | . (µs/cm) | | | 1.1.1 | - | | | |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 w | ell volume | Redox (mV) | | | | 0 | | | | |
| | | | DO (mg/L) | | | 1 | K | - | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 wel | Il volume | DO (%) | | | 1 | 1 | | 2 | | |
| 2" casing has 0.16 | and the second | | Appearance & Silty, HC odou | Odour (Clear, irs, etc.) | | 1 | 1 | / | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for Si | ulphide (mg/L) | | | / | 6 | | | |
| 6 5/8" sand pack has | A set of the set of the set of the | | | urbidity (NTU) | | | | | | | _ |
| | | | Interval Purge | | | | | | | | |
| | | | Cumulative Pu | urge Volume (L) | : | | | | | | |
| VSI Field Parameters Logge | d: Yes | No No | Sample Metro | M. | | | | | | | - |
| Time on YSI (24hr) | | | | | Waterra | | | Peristal | tic | Dis | p. Bailer |
| Animardime of measuremen | L(24hr): | | Analysis | | | - | | | | | |

| Sample Site (Con't): | | | | |
|------------------------------------|--------------|-------|-------|-----|
| Sample Date (Con't): | () | | | |
| Sample Time: | | | | |
| Well Head Seal: 🗍 J-Plug 📋 PVC Cap | Not Sealed | Other | Metal | lid |
| Seal Replaced:] J-Plug PVC Cap | Not required | Other | _ | _ |

Well properly sealed for gas monitoring: Yes X No. Details:

Head Space Gas Measurements

| and the second second | Ulip | 4.0 |
|-----------------------|------|------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | 8 |

Priority **Bottle Type Parameters Analyzed** Min. Volume Treatment Preservative Added Vol. Collected (ml) Comments 1a 120 ml (plastic) **Dissolved Metals** 100 ml Field Filtered HNO3 1b 40 ml (glass) **Dissolved Mercury** 15 mL Field Filtered HCL 2 1 L (plastic) General Chemistry 200 ml ς. -Cyanide (total, free, weak 3 145 ml (plastic) 100 ml 2 □ NaOH acid dissociable) 4 250 ml (glass) Ammonia (NH3) H2SO4 120 ml -5 120 ml (plastic) Thiocyanate (SCN) 50 ml -HNO3 6 120 ml (plastic) Sulphide 100 ml -Zinc Acetate, then NaOH 7 250 ml (glass amber) Total Inorganic Carbon 100 ml . -8 120 ml (plastic) **Dissolved Alkalinity** 100 ml Field Filtered

General Notes (Condition of well or other features):

Large rusty metal rasing. No inter PVC well rasing . We'll day Oxidized soil found on the fip of the water level meter.

| Sample Site: | 6467-03 | Project Number | 1343-005 | .09 | | Date: | - | 01/06/ | 2015 |
|--|--|--------------------------------|----------------------|-------------------------|-----|-----------|--------------|-----------------|---------|
| Approximate Date Drilled: | unknown. | Client: | GY - AAN | 1 | 1 | Sampler: | | AN RM | |
| Plezometer Diameter / Screen Length: | 2"/ mknown . | Project Name: | Mount Na Sampling | nsen 2015 GW Program | 1 | Weather | Temperature: | overcast ~10 | /wind . |
| UTM Location | Z.8 E. 381962 N. 6881978 | Waypoint | GPS AN | Name GLL07-0 | 03 | Recovery | r. | Good | Ba |
| Photos | Cam. \$LR Nos. 153-155 | Purge Method | | | | | | | - |
| Duplicate Collected: | Ves Name | | | Waterra | | Per | istaltic | Disp. | Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | | | | |
| Initial Depth to Water (m): | DRY | Purge Start Tir | ne: | | Pur | rge End T | ime: | | |
| Depth to Bottom (m): | 11,652 | Purge Interval Time () mit | | | | | | | |
| Submerged Tubing Depth (| m): | Depth to water | (m) | | | | | | |
| Well Stick-up Height (m): | 1.11 | Temperature (| °C) 3% | 1 | | | | | |
| Estimated Water Volume (L) |): | pH (pH Units) : | ±0.1 | | | | | | |
| | | Cond. (µs/cm) | 3% | 1 X | | | | | |
| | | Specific Cond. | (µs/cm) 3% | | | | | | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volume | Redox (mV) 10 | 1% | 1 | | 0 | 4 | | |
| | | DO (mg/L) 10% | 0 | | | K | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) 10% | | 1 1 | 1 | 11 | 1 | 7 | |
| and the second sec | USgal/ft or 2.032 l/m | Appearance & Silty, HC odou | | | 1 | 1 | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | ulphide (mg/L) | | 1 | | (| | |
| the second se | 0.50 USgal/ft or 6.35 l/m | final readings Tu | urbidity (NTU) | | - | | | - | - |
| | | Interval Purge | | | - | | | | |
| | | Cumulative Pu | | 1: | | | | | - |
| YSI Field Parameters Logge | et Yes No | Sample Maino | d | | 1 | | | | |
| Time on VSI (24hr): | | | | Waterra | | Per | istaltic | Disp. | Bailer |
| Actual time of measurement | 1 (24ter): | Analysis | | | | | | | |

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| Sample Site (Con't): | 3 |
|-------------------------------------|-----------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug PVC | Cap Not Sealed Other |
| Seal Replaced: J-Plug PVC Ca | ap Not required Other |
| Well properly sealed for gas monito | ring: Yes No Details: |

Head Space Gas Measurements

| | Units | Value |
|----------------------|-------|-------|
| Methane (CH4) | %LEL | X |
| Oxygen (O2) | % | 19.8 |
| Carbon Dioxide (C02) | PPM | 550 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL . | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | * | • | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | D NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 7 | HNO3 | | - |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | ÷ | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 m) | ÷ | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

General Notes (Condition of well or other features): Transducer found a well. Sound found on tip of we neter when dipped. Transducer also atside of well on hinge to measure atmosphere pressure.

| Sample Site: | GSI- | DC-019 | Project Num | nber: 1343- | 005.09 | | | Date: | | | June | 1. 2015 | |
|--|------------|---------------------------|---|--------------|----------|--------------------|------|---------|-----------|----------|------|------------|----|
| Approximate Date Drilled: | | | Client: | GY - / | MAA | | _ | Samp | er: | | JC | NUN | |
| Piezometer Diameter / Screen Length: | 10 | | Project Nam | 101 | t Nanser | a 2015 GW gram | | Weath | er/Temp | erature: | rain | S | |
| UTM Location | Z.a.E. | 53875N.6981 24 | Waypoint | GPS | Nam | ie <u>Past-tok</u> | 5-01 | Recov | ery: | | Go | od 🗌 | Ba |
| Photos | Cam | LNos BO-87 | Purge Metho | od | | | | - | | | | | |
| Duplicate Collected: | Ves Yes | Name | | | 1 | Vaterra | | | Peristalt | ic | Dis | sp. Bailer | |
| Field Blank Collected | Yes | Name | Analysis | | | | - | | | | | | |
| Initial Depth to Water (m): | | | Purge Start | Time: | - | | P | urge En | d Time: | | | | |
| Depth to Bottom (m): | | Purge Interv Time () | val min, Vol. (|)L | CI D | | | | | | | | |
| Submerged Tubing Depth (| | | Depth to water (m) | | | | | | - | | | | |
| Well Stick-up Height (m): | | Temperature (°C) 3% | | | | | / | - | - | | / | | |
| Estimated Water Volume (L) |): | | pH (pH Unit | s) ±0.1 | | | | - | - | | | | |
| | | Cond. (µs/cm) 3% | | | | - | 1 | 3 | 1 | | | | |
| | | | Specific Cond. (µs/cm) 3% | | % | | - | 14 | | 1 | | | |
| (DTB - DTW) x 2 (for 2" we | ell diamet | er) = 1 well volume | Redox (mV) 10% | | | 1 | | 2 0 | 2 | 1 | | | |
| | | | DO (mg/L) 10% | | | 1 | / | 2 | | | - | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | r) = 1 well volume | DO (%) 10% | | | | | - | - | | | | > |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | ear, | | | | - | - | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphide (mg | g/L) | | - | | | | | | _ |
| 6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m | | final readings | Turbidity (N | ru) | | - | - | | | | | _ | |
| | | Interval Purge Volume (L) | | | | | | | | - | | _ | |
| | | | Cumulative | Purge Volum | e (L): | | | | | | | | - |
| YS! Field Parumeters Logge | ed: | Yes No | Servente Met | line | | | | (= | - | - | | | |
| Time on YSI (24m): | | 1 mm | | | 1 | Waterra | | | Peristalt | ic | Di | sp. Bailer | |
| Actual time of measurement | (24km): | | Analysis | | | _ | | | | | | | - |

| Sample Site (Con't): | 218 |
|--|---------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug PVC Ca | ap Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitorin | g: Yes No Details: |

Head Space Gas Measurements

| | Unita | Values |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.6 |
| Carbon Dioxide (C02) | PPM | 590560 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO2 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | | 🗋 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 8 | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features): Creek unitually arrived was small tribute running down mill A10-25-5 CO2 - STO - STONIULING 02-206 UN4 0 SAICE-49-0.915 NIN - NIA DTB-1.306

| Sample Site: | 651-D | C-02 8. | Project Nur | mber: | 1343-005.0 | 9 | | Date: | | | Jun | 1,2015 |
|--|--------------|------------------------------|--|----------|-------------------------|--------|----------|----------------------|-------------|----------|-----|------------|
| Approximate Date Drilled: | | now n | Client: | (| GY - AAM | | | Sampl | en | | | 1 1414 |
| Piezometer Dlameter / Screen Length: | 1. 2 |)P | Project Nan | 1101 | Mount Nan Sampling F | | GW | Weather/Temperature: | | erature: | | claudy |
| UTM Location | Z.08 E. 0% | 7835 N. 6861128 | Waypoint | | GPS ILE N | ame 65 | -bc-02NE | Recov | ery; | | Go | od 🗌 Ba |
| Photos | Cam WL | Nos. 28-85 | Purge Meth | lod | | - | | | - | - | | |
| Duplicate Collected: | Yes N | Name_1.J/A | | | 1.0 | Waterr | a | 1 | Peristaltie | C | Di | sp. Bailer |
| Field Blank Collected | Yes N | Name NO | Analysis | | | | | | | | | |
| Initial Depth to Water (m): | | 1.421 | Purge Start | t Time: | | | P | urge End | d Time: | - | | |
| Depth to Bottom (m): | | 10440 | Purge Inter Time () | | .(_)L | | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to water (m) | | | | | | | | - | |
| Well Stick-up Height (m): | 100 | | Temperature (°C) 3% | | | | 1. | | | 1 | | |
| Estimated Water Volume (L | .): | | pH (pH Unit | ts) ±0.1 | | | 1 | | | 1 | 1 | 1.1 |
| | | Cond. (µs/cm) 3% | | | 1 | | / | N | 1 | | | |
| | | | Specific Cond. (µs/cr | | m) 3% | | | | - 1. | 1) | | |
| (DTB - DTW) x 2 (for 2" w | ell diameter | = 1 well volume | Redox (mV) 10% | | | | 1 | | 1 | - | | |
| | | | DO (mg/L) 10% | | | 1.1 | 00 | 0 | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | diameter) | = 1 well volume | DO (%) 10% | | | 15 | K | | | | | |
| 2" casing has 0.16 | | | Appearance & Odour (C Silty, HC odours, etc.) | | | | X | 1 | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphid | le (mg/L) | | | | | | | |
| 6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m | | final readings | Turbidit | ty (NTU) | | | - | | | - | | |
| | | Interval Purge Volume (L) | | - | | | | | | | | |
| | | Cumulative Purge Volume (L): | | | | | | - | | | | |
| 18 Field Parameters Loggs | ed: | Yes No | Samule Me | 1100 | | | | - | | | | |
| Tinto an VSI (ZANY): | | | | | | Waterr | а | | Peristalti | c l | Di | sp. Bailer |
| Actual time of measuremen | tt (Zdhr): | | Analysis | | | | | | | | - | |

| Sample Site (Con't): (351-02-02) | 0 | |
|----------------------------------|--------------|------------------|
| Sample Date (Con't): | | |
| Sample Time: | | |
| Well Head Seal: J-Plug PVC Cap | Not Sealed | BOther Black Cop |
| Seal Replaced: J-Plug PVC Cap | Not required | Other |

Well properly sealed for gas monitoring: Xes No Details:

Head Space Gas Measurements

| | Units | Volues |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | E |
| Oxygen (O2) | % | 20/P |
| Carbon Dioxide (C02) | PPM | 5-SD |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO2 | | |
| 15 | 40 mi (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | ÷ | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | э | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | ÷ | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | £ | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 8 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 4 | ~ | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

| General Notes (Condition of well or other features): | Solities 125 - Small volume at lumber above rice (* 150m2) - attempted to collect sample, only generated - State ~ 3 m2 - Frazen may return tomorrows to estimate to thaw |
|--|---|
| | |

| Sample Site: | 451-DC-035 | Project Number: | 1343-005.0 | 9 | Date: | 021-un/15 |
|--|--|--------------------------------|---|------------------------|----------------------|--------------|
| Approximate Date Drilled: | | Client: | GY - AAM | | Sampler: | DC/MM |
| Piezometer Diameter / Screen Length: | I" DP | Project Name: | Mount Nan Sampling F | sen 2015 GW Program | Weather/Temperature: | overcost |
| UTM Location | Z. 8 E. 383 106 N. 688 107 | 9 Waypoint | GPSAR | ame (951-DC-08 | Recovery: | Good Ba |
| Photos | Cam. 11 Nos. 15-117 | Purge Method | | | | |
| Duplicate Collected: | Ves Name | | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | |
| Initial Depth to Water (m): | 1.604 | Purge Start Time | 9: | P | urge End Time: | |
| Depth to Bottom (m): | | Purge Interval Time () min, | Vol. () L | | | |
| Submerged Tubing Depth (| m): | Depth to water (| m) | | 1. | |
| Well Stick-up Height (m): | | Temperature (°C | Temperature (°C) 3% | | // . | |
| Estimated Water Volume (L |): | pH (pH Units) ±0 | .1 | | | |
| | | Cond. (µs/cm) 39 | Cond. (µs/cm) 3% | | 1000 | |
| | | Specific Cond. (µs/cm) 3% | | 11 | 1000 | |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well volume | e Redox (mV) 10% | Redox (mV) 10% | | 61/1 | |
| | | DO (mg/L) 10% | DO (mg/L) 10% | | // | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) 10% | | | | |
| [1] A. B. | USgal/ft or 2.032 l/m | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | ohide (mg/L) | | | |
| 6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m | | final readings Turt | bidity (NTU) | | | |
| | | | Interval Purge Volume (L) | | | |
| | | Cumulative Purg | | | | |
| VSt Field Paramaters Lappe | T Yes No | Sample Married | | | | |
| Time on YSI (24m): | | | | Waterra | Peristaltic | Disp. Bailer |
| Actual time or messuremen | t (Zillo): | Analysis | | | | |

| Sample Site (Con't): | 2.8 |
|--|-----------------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug PVC C | ap Not Sealed Cherplace 100 |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoriu | T No Details |

| Head Space Gas | Measurements |
|----------------|--------------|
|----------------|--------------|

| | Units | Maiues |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.5 |
| Carbon Dioxide (C02) | PPM | 950 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| tā | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | - |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL . | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 m) | 3 | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 m) | | H2SO4 | 1 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | + | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | 2 | Zinc Acetate, then NaOH | | 1 |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 4 C | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 mi | Field Filtered | 4 | | |

| General Notes (Condition of well or other features): | - pade to large barley able to see OP that will |
|--|---|
| 02 % - 20.9 Line 50.045 | - tubing stude in well @ 5, possibily frozen (most redy directors now) - mouth cross water to authempt die i compe above los |
| LOZ ppin- 600 + plochic bag, over channing instand of cop | 1 |
| DTW-0.812 Shara to tell ditw DTB-1.132 Out to condemnation of d | 0.) E |

| Sample Site: | GSI | -DC-OSB | Project Nur | mber: 1343 | 005.09 | | | Date: | | | 03- | Sunt | -15 |
|--|-----------|---------------------------|--|-------------------------------|---------------------------|--------|-----|----------------------|----------|-------|------------|------------|-----|
| Approximate Date Drilled: | | | Client: | GY - | AAM | | | Samp | iler: | | MAN JUL | | |
| Piezometer Diameter / Screen Length: | 1 | DP | Project Nar | 10. | t Nansen 2 bling Progr | | GW | Weather/Temperature: | | an we | | | |
| UTM Location | Z.SE | | Waypoint | GPS | ELL Name | GSID | TOF | Reco | very: | | G | ood [| Bad |
| Photos | Cam. | Nos 107-104 | Purge Meth | nod | | | | | | | | 100 | |
| Duplicate Collected: | Ye | s Name 128-130 | | | W | aterra | | Peristaltic | | D | isp. Baile | er | |
| Field Blank Collected | Ye | s Name | Analysis | | | | | | | | | | |
| Initial Depth to Water (m): | | 0.6.84 | Purge Star | t Time: | | | F | Purge En | d Time: | | | | |
| Depth to Bottom (m): | | 0.694 | Purge Interval Time () min, Vol. () L | | JL | | | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to w | ater (m) | | | | | 1 | | | | |
| Well Stick-up Height (m): | | 5.113 above 100 | Temperature (°C) | | | | | / | 1 | | | | |
| Estimated Water Volume (L): | | 1 | pH (pH Uni | ts) | | | / | 1/ | | | 1 | | |
| | | | Cond. (µs/c | cm) | | 1 | / / | | 1 | 11 |) | | - |
| | | | Specific Cond. (µs/cm) Redox (mV) | | | 1 | / | | 15 | V. | / | | - |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | | | | / | / | dr | DV | / | 1 | | |
| | | | DO (mg/L) | | _ | | / | 100 | | X | 1 | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | er) = 1 well volume | DO (%) | E. 1 | | < | 1 | | 1 | / | | | |
| 2" casing has 0.16 | | | | e & Odour (Cl dours, etc.) | ear, | | X | / | 1 | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | - | | Only for final | Sulphide (m | g/L) | | | 1 | X | | | | |
| 6 5/8" sand pack has (| | | readings | Turbidity (N | TU) | | | 1 | | | | | |
| | | Interval Purge Volume (L) | |) | | | | | | | | | |
| | | | Cumulative | Purge Volum | e (L): | | | | | | | | |
| SI Field Parameters Loggs | ed): | Yes No | Sample Me | thod | | | | | | | | | |
| Time on YSI (24hr): | | | | | W | aterra | | | Peristal | tic | D | isp. Baile | er |
| Actual time of measurement | L Edmin | 2 | Analysis | | | - | | | | | | | |

[] HEMMERA

| Sample Site (Con't): 651-17-656 | | |
|---------------------------------|--------------|----------|
| Sample Date (Con't): | | |
| Sample Time: | | |
| Well Head Seal: J-Plug DVC Cap | D Not Sealed | Other_ |
| Seal Replaced: J-Plug PVC Cap | Not required | [] Other |

Well properly sealed for gas monitoring: Ves No Details:

Head Space Gas Measurements

| | Unros | Values |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.6 |
| Carbon Dioxide (C02) | PPM | 1200 |

Priority **Bottle Type** Parameters Analyzed Vol. Collected (ml) Min. Volume Treatment 2 Preservative Added Comments 1a 120 ml (plastic) **Dissolved Metals** Field Filtered 100 mi HNO3 1b 40 ml (glass) **Dissolved Mercury** 15 mL Field Filtered HCL 2 1 L (plastic) General Chemistry 200 ml -Cyanide (total, free, weak 3 145 ml (plastic) 100 ml NaOH acid dissociable) 4 Ammonia (NH3) 250 ml (glass) 120 ml H2SO4 5 120 ml (plastic) Thiocyanate (SCN) 50 ml -HNO3 6 120 ml (plastic) Sulphide 100 ml . Zinc Acetate, then NaOH 7 250 ml (glass amber) Total Inorganic Carbon 100 ml . 4 8 120 ml (plastic) **Dissolved Alkalinity** 100 ml Field Filtered

MARKING

- tubing pulled out to DTUL could be autominand frozen ... here to pull tubing aut General Notes (Condition of well or other features): GSI-DC-OSA -Slit in Dog CONSTROMM - new flooring obdied high in thee Lel - O 07, -206 DIV - 0.629 6 124

GROUNDWATER SAMPLE COLLECTION SHEET

rol good read

- 2.69

| Sample Site: | GSI | -DC-068 | Project Number: 1343-005.09 | | | | | Date: | | | 04 | - June | -15 | | |
|--|-------------------|-----------------------|--|------------|----------------------------|-------|-------------------|----------------------|----------|--------------|---------------------------|-----------|-----|-----|--|
| Approximate Date Drilled: | | | Client: | | GY - AAM | | | Samp | der: | | 70 | 111 | 4 | | |
| Plezometer Diameter / Screen Length: | 2.0 | DP | Project Na | | Mount Nanse Sampling Pr | | | Weather/Temperature: | | | overcost, slight prege | | | | |
| UTM Location | Z.08 E | . 0389789 N. 6850566 | Waypoint | | GPS ILR Na | me 45 | -DC-OGNO | Recovery: | | | Good | | Bad | | |
| Photos | Cam. | MLNos. 17-138 | Purge Method | | | | The second second | | - | | 1000 | in and | | | |
| Duplicate Collected: | Ye | s Name 12-124 | | | Wate | rra | | Peristal | tic | Disp. Bailer | | er | | | |
| Field Blank Collected | | s Name | Analysis | | | | | | | | | - | | | |
| Initial Depth to Water (m): | | 0.700 | Purge Star | t Time: | | _ | P | urge Er | d Time: | | | | | | |
| Depth to Bottom (m): | | 1.007 (10) | Purge Inter Time () | | L | | | | 1 | 1 | - | | | | |
| Submerged Tubing Depth (| (m): | / | Depth to water (m) | | | | | | | - | | | | | |
| Well Stick-up Height (m): | | 0.531 | Temperatu | re (°C) 39 | 6 | F | | / | | | 1 | 7 | | | |
| Estimated Water Volume (L | /ater Volume (L): | | pH (pH Units) ±0.1 | | | | / | / | 1 | 1 5 | / | | - | | |
| | | Cond. (µs/ | cm) 3% | | | | / | 0 | 1 | / | - | | | | |
| | | | Specific Co | :m) 3% | | 1 | 11 | 0 | / | | / | | | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | Redox (mV) 10% DO (mg/L) 10% DO (%) 10% Appearance & Odour (Clear, Silty, HC odours, etc.) | | Redox (mV) 10% | | | | / | 10 | | | / | 1.1 | |
| | | | | | | | 14 | | / | / | | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | 5" diamet | er) = 1 well volume | | | | | | 1 | | 1 | | | | | |
| 2" casing has 0.16 | | | | | ur (Clear, c.) | | | / | / | | | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphic | le (mg/L) | - | | | | | | | - | | |
| 6 5/8" sand pack has | | | final readings | Turbidi | ty (NTU) | - | - | - | - | | - | - | - | | |
| | | and and the | 1 | | | - | - | | - | | - | | - | | |
| | | | Interval Purge Volume (L) Cumulative Purge Volume (L): | | | - | | - | - | | - | - | - | | |
| VSI Field Panimeters Lung | tad | Yes No | Sample Me | | enuine (E). | - | _ | - | 1 | - | - | | - | | |
| Time out 751 (24to p | | | | | | Wate | rra | | Peristal | tic | - | isp. Bail | er | | |
| | discillation)- | | Analysis | | | 1000 | | | | | | why ment | - | | |

LEL 0 500 0.967 054 209 576 1.404 202 460 57100-40 20390

HEMMERA

| Sample Site (Cor | "t): C51- | 0C-068 | 3 | |
|------------------|-----------|---------|------------|-------|
| Sample Date (Co | n't): | | | |
| Sample Time: | | | | |
| Well Head Seal: | 🗆 J-Plug | PVC Cap | Not Sealed | □ oth |

Seal Replaced: J-Plug DVC Cap Not required Other

Well properly sealed for gas monitoring: Yes No Details:

Head Space Gas Measurements

| | (free | |
|----------------------|-------|------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.5 |
| Carbon Dioxide (C02) | PPM | 460 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Commente |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO2 | | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | | * | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | I NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | * | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | 4 | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 2 | | |

lifely frozen

General Notes (Condition of well or other features): - Dew Aubing will be related due to break in tubing tubing stuck in well, most

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | GEN | DC-078 | Project Num | nber: 1343 | -005.09 | | | Date: | | | 04- | Tun-1 |
|--|-----------------------------|-----------------------|---|--|-----------------------|--------|--------------|----------------|----------------------|-----|----------------|------------|
| Approximate Date Drilled: | | | Client: | GY - | AAM | | | Samp | ler: | - | | MAG |
| Piezometer Diameter / Screen Length: | 1-2 | "DP | Project Nan | There is a second s | nt Nanse pling Pro | | GW | Weath | Weather/Temperature: | | brogezey. over | |
| UTM Location | Z.cal | . 0390065N. 6820639 | Waypoint | GPS | ELE Na | me GSI | - DE- 57 A/B | Recovery: | | | Go | od 🗌 Bad |
| Photos | Cam. | WL-Nos. 174-176 | Purge Meth | od | - | | | - | | | - | 1 |
| Duplicate Collected: | DW | as Name | V | | Waterra | 1. | | Peristalt | ic | Dis | sp. Bailer | |
| Field Blank Gollected | 1 Ye | es Name | Analysis | | | | | | | | | |
| Initial Depth to Water (m): | | 0,936 | Purge Start | Time: | | - | Pt | urge En | d Time: | - | | |
| Depth to Bottom (m): | | 1.217(10) | Purge Inter Time () | val min, Vol. (| JL | | | / | | | | |
| Submerged Tubing Depth (| m): | 6 | Depth to wa | ater (m) | | | | / | / | | | |
| Well Stick-up Height (m): | | 0.95 | Temperatur | re (°C) 3% | | / | / | _ | | | | |
| Estimated Water Volume (L | Estimated Water Volume (L): | | pH (pH Unit | ts) ±0.1 | | / | | | | 12 | | |
| | | | Cond. (µs/cm) 3% | | | - | | | -1 | EN | 5 | |
| | | | Specific Co | ond. (µs/cm) 3 | 3% | / | X | $\mathcal{I}($ | 74 | 1 | | |
| (DTB - DTW) x 2 (for 2" w | ell diam | eter) = 1 well volume | Redox (mV) |) 10% | | 0 | 1 | to | | | / | |
| atent et makernet et al. | | | DO (mg/L) | 10% | | - | | , | | / | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diame | ter) = 1 well volume | DO (%) 10% | 6 | | | 1 | | / | | / | 10.0 |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | lear, | | | / | | / | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphide (n | ng/L) | 1.00 | 1 | | / | T | | |
| 6 5/8" sand pack has | | | final . readings | Turbidity (N | ITU) | - | | / | - | | | |
| | | | Interval Purge Volume (L) | | | | | | | | | |
| | | | | Purge Volu | | | | 1 | - | | | |
| YSI Ende Pavamelore Loop | y (t) | Yes No | Sample Me | hist | | | | | | | | - |
| Filme on \$187 (26/m) | | | | _ | 1 | Waterr | а | - | Peristal | tic | Di | sp. Bailer |
| Alton Time of machine war | (CI24)(I) | | Analysis | | | | | | | | | |

-



| Sample Site (Con't): (25) - DC - 6 | HB |
|------------------------------------|---------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug PVC Ca | ap Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |

Well properly sealed for gas monitoring: DrYes DNo Details:

Head Space Gas Measurements

| | Upus | Vanis |
|----------------------|------|-------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.6 |
| Carbon Dioxide (C02) | PPM | 500 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (mi) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 2 | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 4 | HNO2 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | + | ÷ | | - |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

| General Notes (Condition of well or other features): GG1-DC-07P -box outs SHOK-UP (M)-0.97 SHOK-UP | Aube Freezen in well |
|--|----------------------|
| LEL - 0 (07 - 710 | |
| 02 - 20,9 100 - 0,907 | |
| DTB - 0.924 | λ |



| Sample Site: | 651 | - DC - 0 | BA/B | Project Number: 1343-005.09 | | 9 | | Date: | | | 04/06/2019 | | |
|--|----------|--------------------|------------------------------|--|--------|--|----------|----------------------|-------------|-----------|---------------|--------------|-----------|
| Approximate Date Drilled: | UN I | 1 Knows | n | Client: GY - AAM | | | Sampler: | | | AN, RM. | | | |
| Plezometer Diameter I Screen Length: | 1/2" | op /~ | -known | Froject Name | | Mount Nansen 2015 GW Sampling Program | | Weather/Temperature: | | perature: | overcast -/in | | |
| UTM Location | Z.8 1 | 3.390309 | N.6880582 | Waypoint GPS AN Na | | | ame(51- | DC-084/1 | Reco | very: | | Goo | d 🗌 Bad |
| Photos | Cam | ELK Nos. | 121-123- | Purge Meth | od | | | | - | - | | | |
| Duplicate Collected: | DY | Yes Name 221-223 - | | OFFICE | GED AT | | Waterr | а | | Peristalt | tic | Disp. Bailer | |
| Field Blank Collected | | es Name | | Analysis | | | | | | | | _ | |
| Initial Depth to Water (m): | A | 1.952 | B | Purge Start | Time: | | | P | Irge En | d Time: | | | |
| Depth to Balizand (m): ICE | 6 | 1.207 | 0.514 | Purge Interval Time () min, Vol. () | | | | | | | | | |
| Submerged Tubing Depth (m): | | Depth to water (m) | | | | | | | | | | | |
| Well Stick-up Height (m): | | 0.95 | 0.31 | Temperature (°C) 3% | | | - | | | | 1 | | |
| Estimated Water Volume (L): | | | | pH (pH Units) ±0.1 | | | | | | N | | | |
| | | | | Cond. (µs/cm) 3% | | | | 1 | 1 | N | | | |
| | | | | Specific Cond. (µs/cm) 3% | | | | | - | 1× | 1 1 | r | |
| (DTB - DTW) x 2 (for 2" we | ell diam | eter) = 1 | well volume | Redox (mV) 10% | | | | | 00 | Y. | // | - | 110 |
| ALCO THE OWNER O | | | | DO (mg/L) 10% | | | 10 | FO | / | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | * diame | ter) = 1 w | ell volume | DO (%) 10% | | | K | 1/ | 1/ | | | | |
| 2" casing has 0.16 | C | | | Appearance Silty, HC oc | | | | | / | 6 | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | Only for | Sulphi | de (mg/L) | | | | | | | |
| 6 5/8" sand pack has 0.7 | | | | final readings | Turbid | ity (NTU) | + | - | | - | - | | |
| is buy come for all the s | | | | Interval Purge Volume (L) | | - | | | | 1 | - | | |
| | | | Cumulative Purge Volume (L): | | | | | 1 | | - | _ | | |
| TELE-ST Panaroll-S Logue | 10 | D Ye | s 🗆 No | Santola Ba | | | - | - | - | | - | | |
| The current statement | | 1.1 | | | - | Waterra | | | Peristaltic | | | Dis | p. Bailer |
| Actual time of warman and | d (Sala) | | | Analysis | | - | | | | | | | |

| Sample Site (Con't): 6 | 51-DC-08 | A/B | | |
|--------------------------|-------------------|--------------|----------|---------|
| Sample Date (Con't): | | | | |
| Sample Time: | 6 | | (A) | |
| Well Head Seal: DJ-PI | ug PVC Cap | Not Sealed | S Other | ziplant |
| Seal Replaced: DJ-Plug | PVC Cap | Not required | Other. | |
| Well properly sealed for | gas monitoring: T | Yes No I | Details: | |

General Notes (Condition of well or other features): Small amount of water above ice blockage on well (B. No water detected in well (B.

Head Space Gas Measurements

| | LINE | and the second second | | | | |
|----------------------|------|-----------------------|-----|--|--|--|
| Methane (CH4) | %LEL | × | Ø | | | |
| Oxygen (O2) | % | 20.4 | 204 | | | |
| Carbon Dioxide (C02) | PPM | 8 | 80 | | | |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | - |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | | | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | 8 | H2SO4 | 1 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 8 | | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | ÷ | * / | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | - |

| Sample Site: | GSI | -DC-09/ | #/B | Project Number: 1343-005.09 | | 9 | | Date: | | | 04/0 | 6/2015 | |
|--|---------------|------------------------------|--------------------|-----------------------------|------------|--|--------|----------------------|---------|-------------|--------------|--------|-----------|
| Approximate Date Drilled: | U | - know | s . | Client: GY - AAM | | | | Sampler | | | AN. RM | | |
| Piezometer Diameter / Screen Length: | 1/20 | 1 /on the | iour. | Project Nan | 10.00 | Mount Nansen 2015 GW Sampling Program | | Weather/Temperature: | | perature: | clendy ~ 12" | | |
| UTM Location | Z. 8 H | E390615 N | 68804 15 | Waypoint | | GPS AN N | ame 65 | 1-DC-1911/6 | Recov | Recovery: | | | d 🗌 Bad |
| Photos | Cam. | ELF-Nos. | 18-220 | Purge Meth | lod | - | | - | | | | | |
| Duplicate Collected: | Y | es Name | | | | | Water | та | | Peristal | tic | Dis | p. Bailer |
| Field Blank Collected | 1 Y | es Name | | Analysis | | | | | | | | | |
| Initial Depth to Water (m): | 14 | 0.966 | 6 0.957 | Purge Start | Time: | | | PI | urge En | d Time: | - | | |
| Depth to Bottom (m): | | 1.060 | 1.117 | Purge Inter Time () | | | | | | | | | |
| Submerged Tubing Depth (m): | | Depth to wa | ater (m) | | | | | | | | | | |
| Well Stick-up Height (m): | | 1.060 | 1 | Temperatur | re (°C) 3% | 6 | | | | | | | |
| Estimated Water Volume (L): | | | pH (pH Units) ±0.1 | | | | - | | | | | | |
| | | | Cond. (µs/c | :m) 3% | | | | | | | | | |
| | shile | No due to | ice photot. | Specific Co | ond. (µs/c | (µs/cm) 3% | | | | 1 | N | | |
| (DTB - DTW) x 2 (for 2" w | | | | Redox (mV) 10% | | | | - | V1 | 4- | | | |
| ACTION A THE SPECT OF | | | | DO (mg/L) 10% | | | | 0/ | 10 | 2 | | | |
| (DTB-DTW) x 1.1 (for 1.5 | ' diame | ter) = 1 we | Il volume | DO (%) 10% | | | 10 | / | / | | | | |
| 2" casing has 0.16 | - | | | Appearance Silty, HC of | | | | 414 | / | / | 1 | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | Only for | Sulphid | ie (mg/L) | | 1 | 1 | 1 | | | |
| 6 5/8" sand pack has (| | | | final readings | Turbidit | ty (NTU) | | | | - | | | |
| | Interval Purg | | | | | | | | | | | | |
| | | Cumulative Purge Volume (L): | | | | | | | | | | | |
| Schole Fundations Logg | th: | Yes | No No | Sample Me | -brou | 1 | | | | | | | |
| Time on 151124vill | | | | | | - | Wate | rra | | Peristaltic | | Dis | p. Bailer |
| Addition of these server | L ISAMI | - | | Analysis | | | | _ | 1 | | | | |



| Sample Site (Con't):651 - DC - 91 | A/B | | |
|--|--------------|----------|--------|
| Sample Date (Con't): | | | |
| Sample Time: | | 6 | |
| Well Head Seal: J-Plug PVC Cap | Not Sealed | Other 2 | iplace |
| Seal Replaced: J-Plug DVC Cap | Not required | Other | _ |
| Well properly sealed for gas monitoring: | Yes No E | Details: | |

Head Space Gas Measurements

| | All marked | aller - | | | |
|----------------------|------------|---------|------|--|--|
| Methane (CH4) | %LEL | R | 1 & | | |
| Oxygen (O2) | % | 20.4 | 20.4 | | |
| Carbon Dioxide (C02) | PPM | 1060 | 510 | | |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | 1 |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| E | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | ÷ | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | × | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 8 | Zinc Acetate, then NaOH | | - |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | | - | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

Paris tubing frozen The well (. I've covering 1/2 of well shick op.

| Sample Site: | GSI | - DC -10 | DA/B | Project Num | nber: | 1343-005.0 | 9 | | Date: | | | | 6/2015 |
|---|----------|------------------|------------|----------------------------------|----------------|--------------------------|----------------|----------|----------------------|-----------|----------|------------------|------------|
| Approximate Date Drilled: | | nknown | | Client: | (| GY - AAM | | | Sampl | er: | | AN, RM | |
| Piezometer Diameter / Screen Length: | 1/2' | PP/v | nknown | Project Nan | 161 | Mount Nans Sampling P | | GW | Weather/Temperature: | | erature: | overcast windy ~ | |
| UTM Location | Z.8 | E.590862N | 6880449 | Waypoint | (| GPS ANN | ame <u>651</u> | -DC-10A/ | Recov | ery: | | Go | od 🗌 Ba |
| Photos | Cam. | ELR.Nos. | 215-217 | Purge Meth | Purge Method | | | | - | 1 | | - | - |
| Duplicate Collected: | ΠY | es Name_ | | W | | Waterr | а | | Peristalti | ic | Dis | sp. Bailer | |
| Field Blank Collected | □ Y | es Name | | Analysis | | | | 1 | | | | | |
| Initial Depth to Water (m): | LA | 0.983 | 8 0.952 | Purge Start Time: | | | P | urge En | d Time: | - | | | |
| Depth to Bottom (m): 1,352 1.386 Purge Interval Time () min, V | | | .(_)L | | | | | | | | | | |
| Submerged Tubing Depth (r | m): | - Datter | / | Depth to wa | ater (m) | | | | | | | | |
| Well Stick-up Height (m): | - | 1.06 | 0.98 | Temperature (⁶ C) 3% | | - | | | | 5 | (| | |
| Estimated Water Volume (L): | | pH (pH Unit | ts) ±0.1 | | | | | 1 | 10 | | | | |
| | | Cond. (µs/cm) 3% | | | 1.000 | | Page 1 | 1 | £ | | | | |
| | | | | Specific Cond. (µs/cm | | :m) 3% | | 1 | 1 | 0 | | 2 | |
| (DTB - DTW) x 2 (for 2" we | ell diam | eter) = 1 w | ell volume | Redox (mV) |) 10% | | | | 20 | 1 | | / | |
| | | | | DO (mg/L) | 10% | | | CK | Q | / | / | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diame | ter) = 1 we | ll volume | DO (%) 10% | 6 | | l | K | / | | | | |
| 2" casing has 0.16 | - | | | Appearance Silty, HC oc | | | | 1 | | 6 | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | Only for | Sulphid | ie (mg/L) | - | | 1 - | - | | 2 | |
| 6 5/8" sand pack has (| | | | final . readings | Turbidi | ty (NTU) | - | - | - | | | | |
| | | | | Interval Pur | and the second | | | | | | | | |
| | | | Cumulative | Purge V | /olume (L): | | | | | | | | |
| YELF BERTAMIN OF LOTE | 411 | Yes | No No | Samplette | thes | | | - | | | | | |
| TIME MYEL COMM | | | | 1 | - | | Water | а | | Peristalt | ic | Di | sp. Bailer |
| Artual time of measurement | 1 (10) | E. | | Analysis | | | | | | | | | - |



| Sample Site (Con't): 65 - DC - 1 | OA/B |
|---|----------------------------|
| Sample Date (Con't): | |
| Sample Time: | A |
| Well Head Seal: J-Plug vC Ca | p Not Sealed Other Ziplock |
| Seal Replaced: DJ-Plug DVC Cap | Not required Other |
| Well properly sealed for gas monitoring | TYes No Details |

Head Space Gas Measurements

| | Lines | - I - I - I - I - I - I - I - I - I - I | | | |
|----------------------|-------|---|-----|--|--|
| Methane (CH4) | %LEL | 10 | a | | |
| Oxygen (O2) | % | 20.5 | 204 | | |
| Carbon Dioxide (C02) | PPM | Ø | R | | |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO; | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 1 | 🗋 NaOH | | 1200 |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | 2 | H2SO4 | | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 4. C | HNO; | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 4 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features): from well B to measure depth to ice blockauge Tubing renared Well @ presumably Dry.



| Sample Site: | GSI- HA-OLA | Project Nu | mber: 134 | 3-005.09 | 0 | | Date: | | | Juni | 1,1015 | 11 T |
|---|---|------------------|------------------------------|----------|--------------------------------|--------|----------------------|------------|-----------|-------|------------|------|
| Approximate Date Drilled: | vakaowa. | Client: | GY | - AAM | | | Sampl | er: | - | 10 | / MM | |
| Plezometer Diameter / Screen Length: | 1" DP | Project Nar | mor | | nsen 2015 GW Program | | Weather/Temperature: | | REALTY NO | | 0 | |
| UTM Location | Z.98 E.0387846 N. 68 | Waypoint | GP | SELF. Na | me 651-1 | AIO-AH | Recov | ery: | | G | ood D | Bad |
| Photos | Cam. WL Nos. BL- | 88 Purge Meth | Purge Method | | | | | | | | | - |
| Duplicate Collected: | Yes Name M/- | A | | | Waterra | | 1 | Peristalti | c | D | isp. Baile | er |
| Field Blank Collected | Yes Name N | Analysis | Analysis | | | | | 1 | | | | |
| Initial Depth to Water (m): | -217 1.34 | Purge Star | Purge Start Time: 13:50 | | | 0 | Purge End | Time: | | | | |
| Depth to Bottom (m): | 2.121 | | Time () min, Vol. () L | | callected After sampling | | | | | | | |
| Submerged Tubing Depth (| m): ~3 | Depth to w | Depth to water (m) | | / | | | | | | | |
| Well Stick-up Height (m): | F= 1.199 | Temperatu | Temperature (°C) 3% | | 5.0 | 2.1 | | | _ | | | |
| Estimated Water Volume (L): 0.331 pH (pH Un | | its) ±0.1 | | 2.5 | | | 1 | | | | | |
| | Cond. (µs/ | Cond. (µs/cm) 3% | | 688 | | | plea | | | | | |
| | | Specific Co | Specific Cond. (µs/cm) 3% | | 1106 | | 50 | m20 | 015 | | Jes? | - |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well v | volume Redox (mV | /) 10% | | -403 | | | 31 | 8 27 | | 6 | |
| Property and a second second | | DO (mg/L) | 10% | | 29thenly | na | - | 2/000 | J. 20 | 500 | 200 | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well vo | olume DO (%) 10 | % | | 34.7 | 2 | 18 | . Col | Store 1 | 800 @ | 6 | |
| | USgal/ft or 2.032 l/m | | ce & Odour (dours, etc.) | Clear, | Carony | | | | 100 | ed | South | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/n | n Only for | Sulphide (| mg/L) | 0.01 | | | 1 | Cole | e of | 1 | |
| 6 5/8" sand pack has | and the second se | 111 IGI | Turbidity (| NTU) | 11.42 | | | | X | 3 | | _ |
| | | Interval Pu | urge Volume | (L) | 5 | | | | - | | | |
| | | Cumulativ | e Purge Volu | me (L): | 1 | 1 | | | | - | 1 | |
| VILLETING PARAMINETER LOUGH | Yes 🖹 | No Sample B | borile | | | | | | | | | |
| Fine or VSI (201): | | | | No e | Waterra | | | Peristalt | ic | 0 | Disp. Bail | er |
| to alliers of mussioner | m (12/4hm) | Analysis | | 1 | | | | / | _ | | | |

HEMMERA

| Sample Site (Con't): | |
|--|--|
| Sample Time: 14 00 | New sample collected 13:50 02/06/15 |
| Well Head Seal: J-Plug PVC Cap | Not Sealed Other Back coup |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoring: [| Yes No Details: |

Head Space Gas Measurements

| | Units | - Inter |
|----------------------|-------|---------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 10.6 |
| Carbon Dioxide (C02) | PPM | 570 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | X Field Filtered | S, HNO3 | 100 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL. | 15 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | 200 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | 🖾 NaOH | 160 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | DIH2SO4 | 00 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO ₂ | 50 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | 100 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | 2 | 2 | 100 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | + | 200100 | 2 hot VS |

- Direct sampled, appeared to have show recharge, may return temporraw to collect a full comple set by minimum volume collected, purged any - wouter clear (a) beginning near end of purge water became more with I claused to same LOCH-CLES - collected 451 porameter souther countries where collected. - Returned ODISLANG DTN - D.391 jinew somple token after well (@ 13 50 02/Jun/15

| Sample Site: | GSI- HAODA | Project Numit + | 1345-535.0 | 9 | Date; | - | OI-JUN-M | 0 |
|---|--|--|--|-------------|-------------|--------------|--------------|----|
| Approximate Date Drilled: | UNKNOR | Client: | GY - AAM | | tmple/ | | JC/MM | 6 |
| Piezometer Diameter / Screen Length: | I" DP | Project Name: | Project Name: Mount Nansen 2015 GW Sampling Program | | Weatner | Temperature: | Shapthops | |
| UTM Location | Z. & E. 38389 N. 6881199 | Waypoint | GPS | ame Ga-HAQS | A Recover | y: | | Ва |
| Photos | Cam ML Nos. 29-91 | Purge Method | | - | | | | |
| Duplicate Collected: | Yes Name_U/A | | v | | Pe | ristaltic | Disp. Bailer | r |
| Field Blank Collected | Ves Name N/P | Analysis | Analysis | | | X | | |
| Initial Depth to Water (m): | 1.891 | Purge Start Tim | Purge Start Time: | | Purge End T | 'ime: | | |
| Depth to Bottom (m): | 2.409 | Purge Interval Time () min, Vol. () L | | | | | | |
| Submerged Tubing Depth (r | m): ~2 | Depth to water (| (m) | | 2.000 | | | |
| Well Stick-up Height (m): | 1.509 | Temperature (°C) 3% | | | | / | | |
| Estimated Water Volume (L): 0.863 | | pH (pH Units) ±0 | 0.1 | | | 1 | 1 | |
| | Cond. (µs/cm) 3% | | | 1 | 000 | RUE | | |
| | | Specific Cond. (µs/cm) 3% | | | 1 | ~ 37 | | _ |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volume | Redox (mV) 10% | 6 | | 200 | // | | |
| | | DO (mg/L) 10% | - | | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) 10% | | | 1 C 2 | | | |
| | USgal/ft or 2.032 l/m | Appearance & C Silty, HC odours | | | | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | Only for Sul | phide (mg/L) | 0.04 | | | | |
| 6 5/8" sand pack has (| 0.50 USgal/ft or 6.35 l/m | | bidity (NTU) | 18.6 | | | | |
| | | Interval Purge V | olume (L) | | | | | _ |
| | | Cumulative Pur | Cumulative Purge Volume (L): | | | | | |
| VSI Field Parameters Logge | Yes No | Sample Mathed | | | | | | |
| Time an VSi (24hr): | | | | Waterra | Pe | ristaltic | Disp. Bailer | r |
| Actual time of managements | 1 (240) | Analysis | | | | X | | |

HEMMERA

| Sample Site (Con't): | 2A | |
|---|--------------|---------------|
| Sample Date (Con't): | June-15 | |
| Sample Time: 15 30 | | |
| Well Head Seal: 🗍 J-Plug 📄 PVC Cap | Not Sealed | Other Dice TO |
| Seal Replaced: 🗌 J-Plug 🛛 PVC Cap | Not required | Other |
| Well properly sealed for gas monitoring | Ves El No E | Mataile |

Head Space Gas Measurements

| | Units | Value |
|----------------------|-------|-------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 50.6 |
| Carbon Dioxide (C02) | PPM | 600 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO2 | 100 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | (ATHCL | 15 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | ÷ | | | 1 |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 9 | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | H2SO4 | | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 4 | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | × | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | ¥1 | * | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features):

-Runged dry, any able to direct comple diss. metalle + diss meaning

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | 651-1 | HA · O3A | Project Num | nber: 1343 | -005.09 | | Date: | | June 1/15 | |
|--|------------|----------------------|--|--------------------|----------------|---------|-------------|-------------|-----------|----------|
| Approximate Date Drilled: | | | Client: | GY - | AAM | | Sampl | ler: | Je /h | 17-1 |
| Plezometer Diameter / Screen Length: | t^{*} | | Project Name: Mount Nansen 2015 GW Sampling Program Weather/Temperature: | | enercast, ~6°C | | | | | |
| UTM Location | Z.08 E. | 0397880 N. 6881128 | Waypoint GPS sue Name | | 9 GSI-HA-03A | Recov | ery: | Good | Bad | |
| Photos | Cam. | Nos 18-95 | Purge Meth | od | | | - | | | |
| Duplicate Collected: | - Yes | Name | v | | /aterra | 10.00 | Peristaltic | Disp. | Bailer | |
| Field Blank Collected | Ves | Name | Analysis | | 1.000 | | 1 | | | |
| Initial Depth to Water (m): | | 0-942 | Purge Start | Time: | | P | urge En | d Time: | | |
| Depth to Bottom (m): | | µ355 | Purge Interv Time () | val min, Vol. (| JL | | | | | |
| Submerged Tubing Depth (| m): | | Depth to water (m) | | | 1.1 | | 1 | | |
| Well Stick-up Height (m): | | 0.465 | Temperature (°C) 3% | | | | - | | | |
| Estimated Water Volume (L | .): | | pH (pH Units) ±0.1 | | | | 1.2 | | | |
| | | Cond. (µs/cm) 3% | | | | | 6 | | | |
| | | | Specific Cond. (µs/cm) 3% | | 3% | | and a | | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | ter) = 1 well volume | Redox (mV) 10% | | | | 07/ | | | |
| 5 AC 2017 - 57 1 W | | and second second a | DO (mg/L) 10% | | | DIG | 1 | | | |
| (DTB-DTW) x 1.1 (for 1.5 | o" diamete | er) = 1 well volume | DO (%) 10% | | | 1 2 | | | | |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | lear, | | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | - | | Only for | Sulphide (m | ig/L) | | | | | |
| 6 5/8" sand pack has (| | | final readings | Turbidity (N | TU) | | - | | | |
| | | | Interval Purge Volume (L) | | | | | | | |
| | | | | Purge Volum | | | | | | 21 11 2- |
| Vitre Loid Passamerians Lingto | d. | Yes 🖾 No | Sample Met | 19601 | | | | | | - |
| Tiron on Y51 (2Moy | | 3630 | - | 100 | W | /aterra | | Peristaltic | Disp. | Bailer |
| Attini time to messilinemen | t (24hr): | 20.10 | Analysis | | - | | | 1 | | |

V

C HEMMERA

| Sample Site (Con't): GSI - HA 03A | | |
|---|--------------|-----------------|
| Sample Date (Con't): June 1, 2015 | | |
| Sample Time: 16-15 | | |
| Well Head Seal:] J-Plug PVC Cap | Not Sealed | Other Gloce Cop |
| Seal Replaced: J-Plug PVC Cap | Not required | Other |
| Well properly sealed for gas monitoring | Yes No I | Details: |

Head Space Gas Measurements

| | Units | Values |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 180 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🗵 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | 四 HNO3 | 100 mL | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | 10 mL | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | r. | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 3 | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | ÷ | H2SO | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 4 | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | Sec. 10. 10. 1 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | 8 | * | 10 C | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

General Notes (Condition of well or other features):

Successful ise - unnable in pull tubing out

collected discolved matchs + mercury well went day in no recovery

- possibility to return to exempt to multise in well

| Sample Site: | GS | 1-4A-04A | Project Nur | mber: 1343 | -005.09 | | Date: | | | 01- | June-15 |
|--|-----------|-----------------------|--|----------------|------------|---------|----------|-----------|------------|---------|-----------|
| Approximate Date Drilled: | | | Client: GY - AAM | | | Samp | ler: | - | | 1 ann | |
| Piezometer Diameter / Screen Length: | 14 | DP | Project Name: Mount Nansen 2015 GV Sampling Program | | | Weat | her/Temp | perature: | WARCAST NO | | |
| UTM Location | Z. BE | 387919N.688/130 | Waypoint GPS ELL Name | | GST-HA-04A | Reco | very: | | Goo | d 🗌 Bad | |
| Photos | Cam. | Nos. 24-128 | Purge Method | | - | | | | | - | - |
| Duplicate Collected: | Ye | s NameA 100-1 | a 3 | | W | aterra | - | Peristalt | ic | Dis | p. Bailer |
| Field Blank Collected | | s Name N/A- | Analysis | | | | | | | - | |
| Initial Depth to Water (m): | | 0.90% | Purge Start | t Time: | - | P | urge En | d Time: | - | | |
| Depth to Bottom (m): | | 0-834 | Purge Interval Time () min, Vol. (_ | | JL | | | | | | |
| Submerged Tubing Depth (m): | | Depth to water (m) | | | | | | | | | |
| Well Stick-up Height (m): | | 0.609 | Temperature (°C) 3% | | | | | | | | |
| Estimated Water Volume (L | | | ts) ±0.1 | | | | | | | | |
| | | Cond. (µs/cm) 3% | | | | 1.2 | 1 | | | | |
| | | | Specific Co | ond. (µs/cm) 3 | % | | | -11 | 11- | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | Redox (mV) 10% | | | | TX | - | | | |
| | | | DO (mg/L) 10% | | | 1 | 0 n | 0 | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | er) = 1 well volume | DO (%) 10% | | V | K | | | | | |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | lear, | 1 | | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphide (m | g/L) | | | | | | |
| 6 5/8" sand pack has (| - C.S | | final readings | Turbidity (N | TU) | | - | | | | |
| | | | Interval Purge Volume (L) | | | | | | | | |
| | | | | e Purge Volun | | | | - | | | |
| VSI Field Parameters Lagge | 14 | Yes No | Sample Ma | thoo | | | | - | | | |
| Time on YSI (24hr) | | | - | | W | /aterra | | Peristal | tic | Dis | p. Bailer |
| Actual time of measurement | 1 (24hr): | | Analysis | | (| | - | | | | |

| Sample Site (Con't): | A. |
|--|--------------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug PVC Cap | Not Sealed Other Macedan |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoring: | Yes No Details: |

Head Space Gas Measurements

| | Units | Value |
|----------------------|-------|-------|
| Methane (CH4) | %LEL | 3 |
| Oxygen (O2) | % | .20.b |
| Carbon Dioxide (C02) | PPM | 650 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | - | NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO2 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | + | | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | a. | | |

| General Notes (Condition of well | ell or other features): | |
|----------------------------------|---|--|
| Most erough woother a | about ice to attempt to comple for diss metalle | |
| | well, may return later to the attempt thousing | |



| Sample Site: | GSI-+ | HA-OSA | Project Nun | nber: 1343-00 | 5.09 | | Date: | | DEJU | 1+15 |
|--|---------------------------------------|------------------------------|----------------------------|---------------------------------|-------------------------|---------|----------|-----------------|--------------|--------|
| Approximate Date Drilled: | m | entimes . | Client: | GY - AA | M | | Sample | er; | MALIT | |
| Piezometer Diameter / Screen Length: | 1 | DP | Project Nam | 101 | ansen 2013 g Program | 5 GW | Weathe | ar/Temperature: | OLATO | 54 |
| UTM Location | Z.OE.O | 3975NT6881193 | Waypoint | GPSE | Name G | SIHACSA | Recove | ery: | Good | Bac |
| Photos | Cam. WL | Nos. 36-98 | Purge Meth | lod | 1000 | 1. S | | - | - | |
| Duplicate Collected: | Yes 1 | Name 11-19 | | | Water | ra | P | eristaltic | Disp | Bailer |
| Field Blank Collected | Yes 1 | Name | Analysis | | | | × | | - | |
| Initial Depth to Water (m): | 1 | DIS | Purge Start | Time: | | P | urge End | Time: | | |
| Depth to Bottom (m): | | | Purge Interv Time () | val min, Vol. () L | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to wa | ater (m) | | | | | | |
| Well Stick-up Height (m): | - | 1-029 | Temperatur | re (°C) 3% | | | | | | |
| Estimated Water Volume (L): | | | pH (pH Units) ±0.1 | | | | | | | |
| | | | Cond. (µs/cm) 3% | | | | | | | |
| | | | Specific Co | | | | | | | |
| (DTB - DTW) x 2 (for 2" w | ell diameter |) = 1 well volume | Redox (mV) 10% | | | | Same | | | _ |
| | | | DO (mg/L) | | guec | // | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | 5" diameter) | = 1 well volume | DO (%) 10% | 6 | | | | | | |
| 2" casing has 0.16 | 1 | | Appearance Silty, HC oc | e & Odour (Clea dours, etc.) | | | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphide (mg/L | .) | | | | | |
| 6 5/8" sand pack has | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | final . readings | Turbidity (NTU | | | | | | - |
| and some start in | | | | rge Volume (L) | - | | | | | |
| | | Cumulative Purge Volume (L): | | | | | | | | |
| VSI Field Parameters Logo | pd: | Yes No | Sample Me | | | | E | | | |
| Ture do YSI (20tr): | | | | _ | Water | rra | F | Peristaltic | Disp. Bailer | |
| Actual these of massiummen | nt (24hr) | | Analysis | | | | | X | | |

1 HEMMERA

| Sample Site (Con't): | 343; |
|---|-----------------------------|
| Sample Date (Con't): | Jun-S |
| Sample Time: <u>No. 45</u> | |
| Well Head Seal:] J-Plug PVC Cap | Not Sealed D Other Dack rop |
| Seal Replaced: J-Plug DVC Cap | Not required Other |
| Well properly sealed for gas monitoring | Ves INo Details |

Head Space Gas Measurements

| | Muthe | And and |
|----------------------|-------|---------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | ROGI |
| Carbon Dioxide (C02) | PPM | 681-1 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🛛 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | S.Field Filtered | KI HNO3 | 80 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | * | 8 | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | * | | S |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

General Notes (Condition of well or other features):

Tubing not able to be removed . Suspected ice

- Collected dissolved majors sample

- May return to altant to mell ice.

| Sample Site: | 651 | -10-07 | - A | /B | Project Nu | nber: | 1343-005.0 |)9 | - | Date | 1 | | 03/00 | 12015 |
|--|----------|------------|-------|--------|----------------------------|---|-------------------------|-------------|------------|----------------------|--------------|-----------|--------------|-------|
| Approximate Date Drilled: | | - kinon | m | | Client: | | GY - AAM | | - | Samp | oler: | | AN, P | m |
| Plezometer Diameter / Screen Length: | Driv | re Pairi | Ł | 0.5ª | Project Nar | ne: | Mount Nan Sampling F | | | Weather/Temperature: | | perature: | Quero | -Id.C |
| UTM Location | Z2_1 | E.58907 | N.4 | 281783 | Waypoint | 1 | GPSAN N | lame G | 1-81-52A/B | Recovery: | | | Good DE | |
| Photos | Cam | ELR.Nos. | (92 | -194 | Purge Meth | hod | | - | - | - | | | | |
| Duplicate Collected: | 1 Y | es Name | 6 | | Water | | rra | Peristaltic | | | Disp. Bailer | | | |
| Field Blank Collected | | es Name | | _ | Analysis | | | | 1 | | | | | |
| Initial Depth to Water (m): | A | 0.920 | B | 0.935 | Purge Start | Time: | | | P | urge Er | nd Time: | | | |
| Depth to Bothom (m): (C | E | 1.18 | 1 | 155 | Purge Inter Time () | | ol. () L | | | | | | | |
| Submerged Tubing Depth (| m): | / | | | Depth to wa | ater (m |) | | 1 | - | | | | |
| Well Stick-up Height (m): | | 9.0 | C | 200.9 | Temperatu | re (°C) | 3% | | | | | 1 | | |
| Estimated Water Volume (L |): | / | | | pH (pH Uni | ts) ±0.1 | | | | | | r | | |
| | | | | | Cond. (µs/c | cm) 3% | | | | | | | | - |
| | | | | | Specific Co | ond. (µs | s/cm) 3% | | | | 11 | D | | |
| (DTB - DTW) x 2 (for 2" w | ell diam | ieter) = 1 | well | volume | Redox (mV) 10% | | | | | 05 | N.V. | | | |
| | | | | | DO (mg/L) 10% | | | | 0 | nt | Ŷ | 2 | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diame | ter) = 1 w | ell v | olume | DO (%) 10% | 6 | | | KU | 0 | / | // | | |
| 2" casing has 0.16 | | | | | Appearance Silty, HC of | Appearance & Odour (Clear, Silty, HC odours, etc.) | | | | / | 1/ | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | | Only for | Sulph | nide (mg/L) | | / | | 0 | - | | |
| 6 5/8" sand pack has | | | | | final readings | Turbi | dity (NTU) | - | - | - | - | | | |
| | | | | | Interval Pu | | | 1 | | - | - | | | |
| | | | | | | | Volume (L): | | | | | | | |
| Tât Finin Panameters Ligge | | 1 Ye | s [| No | Sample Me | tood | | | | | | - | | - |
| Time an YSI (Skng: | | | | | | | | Wate | rra | | Peristal | tic | Disp. Bailer | |
| Amust time of measurement | n (24)m | E. | | | Analysis | 1 | | | | 1 | | | | |

| Sample Site (Con't): | A/B |
|---|----------------------|
| Sample Date (Con't): 3700 2017 | |
| Sample Time: | |
| Well Head Seal: DJ-Plug RVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug DVC Cap | Not required D Other |
| Well properly sealed for gas monitoring | Yes No Details: |

Head Space Gas Measurements

| | Units | / Value i | | | | |
|----------------------|-------|-----------|-----|--|--|--|
| Methane (CH4) | %LEL | K | 2 | | | |
| Oxygen (O2) | % | 205 | 203 | | | |
| Carbon Dioxide (C02) | PPM | æ | 8 | | | |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO5 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | + | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 2 | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | ~ | H2SO4 | | |
| 5 | 120 mi (plastic) | Thiocyanate (SCN) | 50 ml | A | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 190 | Zinc Acetate, then NaOH | 1 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | (* | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features):

Small amount of water found above frozen water column .



| Sample Site: | GS | 1-PC-1 | 03A/B | Project Nun | nber: 1343-005 | .09 | | Date: | | | 03/06 | 12015 |
|--|---------------------------------------|------------|--------------|----------------------------|-----------------------------------|----------------------|-------------|----------------------|---------|--------------|--------------|-------|
| Approximate Date Drilled: | | kure | -11 | Client: | GY - AAM | ٨ | | Samp | ler: | | AN, | RM. |
| Piezometer Diameter / Screen Length: | Y2" | DP / | ntenour. | Project Nan | | nsen 2015 Program | GW | Weather/Temperature: | | | 5mmy - 20 | |
| UTM Location | Z.81 | 3. 389258 | N. 688 1205 | Waypoint | GPS AN | Name 651- | PC-03A/B | Reco | very: | | Goo | d Ba |
| Photos | Cam. | ELR Nos. | 212-214 | Purge Meth | od | | - | | | | | |
| Duplicate Collected: | □ Y | es Name | | | Waterr | а | Peristaltic | | | Disp. Bailer | | |
| Field Blank Collected | Y | es Name | | Analysis | | | | | | | | |
| Initial Depth to Water (m): | A | 1.131 | B 1.008 | Purge Start | Time: | | P | urge En | d Time: | | | - |
| Depth to Bottom (m): | , | 1.354 | 2.798 | Purge Inter Time () | val min, Vol. () L | | | | | | | |
| Submerged Tubing Depth (| m): | 1 | ~2.0 | Depth to wa | ater (m) | | | | | | | |
| Well Stick-up Height (m): | | 0.13 | 0.95 | Temperatur | re (°C) | | | | | - | | |
| Estimated Water Volume (L |): | 1 | | pH (pH Unit | ts) | | 1 | | 1 | 110 | 2 | |
| | | | | Cond. (µs/c | | | l | 2 | 10 | 2 | | |
| | | | | Specific Co | nd. (µs/cm) | | 0 | 1, | | P. | 1 | |
| (DTB - DTW) x 2 (for 2" w | ell diam | eter) = 1 | well volume | Redox (mV) | | | | | N | γ | 1 | 5.00 |
| | | | | DO (mg/L) | 1.00 | 0 | 1 | d | 1 | / | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diame | ter) = 1 w | ell volume | DO (%) | | | | 5 | | X | | |
| 2" casing has 0.16 | | | | Appearance Silty, HC oc | e & Odour (Clear, lours, etc.) | | | | / | 1 | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | Only for final | Sulphide (mg/L) | | | 1 | 1 | C | | |
| 6 5/8" sand pack has | · · · · · · · · · · · · · · · · · · · | | | readings | Turbidity (NTU) | | | | | | 1 | |
| | | | Interval Pur | Interval Purge Volume (L) | | | | | 1 | | | |
| | | | | Cumulative | Purge Volume (I | .): | | | | | | |
| Y81 Field Parameters Logg | in: | 🗌 Ye | s 🗋 No | Sample Me | Exed. | | | - | | - | | |
| Time on YSI (24hr): | | 1 | | | | Water | ra | Peristaltic | | | Disp. Bailer | |
| Ardual time of measuremen | n (240)) | | | Analysis | | - | | | | | | |

| Sample Site (Con't):GSI_PC-03 A | | Head Space Gas Measureme | Head Space Gas Measurements | | | | | | | |
|---------------------------------|------------------------|--------------------------|-----------------------------|------|-----|--|--|--|--|--|
| Sample Date (Con't): 04/06/2 | | (A) | Unb | Va | New | | | | | |
| Sample Time: G141 | Plastic | Methane (CH4) | %LEL | R | 8 | | | | | |
| Well Head Seal: DJ-Plug DVC Cap | Not Sealed Other plast | | % | 20.2 | 202 | | | | | |
| Seal Replaced: DJ-Plug DVC Cap | Not required Other | Carbon Dioxide (C02) | PPM | Q | 8 | | | | | |
| | | | | | | | | | | |

Well properly sealed for gas monitoring: Yes No Details:

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🗵 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|--------------------------------|---------------------|------------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | 100 | Downl |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | 12 HCL | 15 | > Sample |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | S | 200 | 17:41 |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mil | | 1 NaOH | 100 | 05/06/2015 |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H ₂ SO ₄ | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | • | Zinc Acetate, then NaOH | / | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | 20 | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

Metal stick-up. No inner waterra casing used 2.5 m of peri. tibing. Altempted to collect additional sample vol. @ 18:47. No recovery in well. Revisited well 04/06/2015 to collect addition sample vol. DTW = 2.709 mC/1100 unable to extract additional vol. 8cm incharge over 16 hrs. 8 cm sucharge over 16 hrs.

| Sample Site: | 651 | -PC-04 | A/B | Project Num | iber: 1343-005 | .09 | | Date: | | 03/06/ | 20/5 |
|--|-----------|-------------|------------|--|--------------------------------|--|---------------------|----------------------|---------|--------------|-------|
| Approximate Date Drilled: | - | Known | 200 | Client: | GY - AAN | 1 | - | Sampler: | | AN RI | M. |
| Piezometer Diameter / Screen Length: | Ya' DF | 5 June | worker. | Project Nam | | Mount Nansen 2015 GW Sampling Program | | Weather/Temperature: | | clost Te | |
| UTM Location | Z.& E | E.329584 N | 6231656 | Waypoint | GPS AN | Name 65 | 1-PC-04A/5 | Recovery: | | Good | 🗌 Bad |
| Photos | Cam. | ELP Nos. | 206-208 | Purge Metho | bd | - | - | | | - | |
| Duplicate Collected: | Y | es Name | | | | Water | Waterra Peristaltic | | staltic | Disp. Bailer | |
| Field Blank Collected | 1 Ye | es Name | | Analysis | | | | | | | |
| Initial Depth to Water (m): | IA | 0.914 | 13 0.947 | Purge Start | Time: | | P | urge End Til | ne: | | |
| Depth to Bottom (m): | | 1.318 | 1225 | Purge Interval Time () min, Vol. () L | | | | | | | |
| Submerged Tubing Depth (r | n): | / | | Depth to wa | ter (m) | | 1 | | | · · · · · · | |
| Well Stick-up Height (m): | | 6.9 | 0.9 | Temperature (°C) | | | | | | | |
| Estimated Water Volume (L |): | / | 1 | pH (pH Units | s) | | | | (| | |
| | | | | Cond. (µs/cr | | | / | N | | | |
| | | | | Specific Con | nd. (µs/cm) | | | Ne | i a | | |
| (DTB - DTW) x 2 (for 2" w | ell diam | eter) = 1 w | ell volume | Redox (mV) | | | 1 | 00/ | 1 | | |
| | | | | DO (mg/L) | | | KI | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | diame | ter) = 1 we | Il volume | DO (%) | | | | / / | | | |
| 2" casing has 0.16 | ~ | | | Appearance Silty, HC od | & Odour (Clear, ours, etc.) | | / | 4 | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | | Sulphide (mg/L) | 1 | | | | | |
| 6 5/8" sand pack has (| | | | final | Turbidity (NTU) | - | - | | _ | | |
| Tan Transford Oak | | T | | | ge Volume (L) | - | | | - | | |
| | | | | | Purge Volume (L |): | | | | | |
| YEI Fleid Parantellers Logge | id: | Yes | No | Sample Met | | | | | | | |
| Time on VSI (24hrt): | | | | Waterra | | | staltic | Disp. Bailer | | | |
| A cost time of toensicomment (24ho) | | | Analysis | | | | | | | | |

| Sample Site (Con't): | |
|----------------------------------|-------------------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug | VC Cap 🗌 Not Sealed 🛛 Other 🚬 |
| Seal Replaced: DJ-Plug DV | Cap Not required Other |
| Well properly sealed for gas mor | itoring Yes No Details: |

Head Space Gas Measurements

| | | MARK - |
|----------------------|------|--------|
| Methane (CH4) | %LEL | Ø |
| Oxygen (O2) | % | 204 |
| Carbon Dioxide (C02) | PPM | Q. |

* same for both A+B

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | | *1 | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | -9 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | ÷ | £ | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

lick

| Sample Site: | GSI- | - PC- 05 | A/B | Project Num | ber: 1343-00 | 5.09 | | Date: | | | 03/06/ | |
|--|----------|-------------|------------|-------------------------------|-------------------------------|-------------------------|-----------|----------|------------|----------|--------------|--------|
| Approximate Date Drilled: | | n know | m | Client: | GY - AA | M | | Sample | er: | | AN, RM | |
| Piezometer Diameter / Screen Length: | 12" | DP/unknown. | | Project Name | | ansen 2015 g Program | GW | Weath | er/Temp | erature: | Sunny / | |
| UTM Location | Z.8 B | 381710N | 6881660 | Waypoint | GPS AT | Name 651- | PC-05 A/B | Recov | ery: | | Good | Ba |
| Photos | Cam. | ELR Nos. | 209-211 | Purge Metho | bd | | - | | | | | |
| Duplicate Collected: | Y | es Name_ | | | | Waterra | | F | Peristalti | c | Disp. Bailer | |
| Field Blank Collected | Y | es Name_ | | Analysis | | | | | | | | |
| Initial Depth to Water (m): | A | DRY | B KE | Purge Start | Time: | | P | urge End | 1 Time: | 12- | 1 | |
| Depth to Bottom (m): | | 1.127 | 1.236 | Purge Interv Time () | al nin, Vol. () L | | | | | | | |
| Submerged Tubing Depth (r | m): | / | 1 | Depth to wat | ter (m) | | | | 1 | | | |
| Well Stick-up Height (m): | | Q.87 | 0.7 | Temperature (⁰ C) | | | | | | | | |
| Estimated Water Volume (L): | | | // | pH (pH Units | 5) | | 1 | | 1 | 1 | | |
| | | | | Cond. (µs/cm) | | | | 1 | | | | |
| | | | | Specific Cond. (µs/cm) | | | 1 | 1 | 1 | | | |
| (DTB - DTW) x 2 (for 2" w | ell diam | eter) = 1 w | ell volume | Redox (mV) | | | - | 1. | | 1.172 | - | |
| | | | | DO (mg/L) | DO (mg/L) | | | 11 | 1 | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diame | ter) = 1 we | Il volume | DO (%) | DO (%) | | | / | / | | | |
| 2" casing has 0.16 | - | | | Appearance Silty, HC odd | & Odour (Clear ours, etc.) | ÷ | | | 1 | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | | Sulphide (mg/L |) | | | | 1 | | |
| 6 5/8" sand pack has (| | | | final readings | Turbidity (NTU) | 0 | | | | E | | |
| | | | | Interval Purge Volume (L) | | | | | | | | |
| | | | | | Purge Volume (| L): | | | | | | |
| Villement Parameters Loggs | ini: | Yes | No No | Sample Met | ana d | _ | - | | | | | |
| time on YSI (24hr): | | | | | | Water | ra | | Peristalti | ic | Disp. | Bailer |
| Actual time of measurement | 1 (2400) | 8 | | Analysis | | | | | | | | |

| Sample Site (Cor | n't): 65 | 1-PC-05A | /B | |
|------------------|----------|----------|--------------|-------|
| Sample Date (Co | n't): | | | |
| Sample Time: | | _ | | ē. |
| Well Head Seal: | 🗌 J-Plug | PVC Cap | Not Sealed | Other |
| Seal Replaced: | J-Phug | PVC Cap | Not required | Other |

Head Space Gas Measurements

| | Unis | 13 | 1 = 0.40s | | | |
|----------------------|------|------|-----------|--|--|--|
| Methane (CH4) | %LEL | 12 | 2 | | | |
| Oxygen (O2) | % | 20.4 | 19.8 | | | |
| Carbon Dioxide (C02) | PPM | Q | 890 | | | |

Well properly sealed for gas monitoring: Xes INO Details:

| Priority | Bottle Type | Parameters Analyzed | Min: Volume | Treatment 🗵 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | 8 | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | - | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 4 | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

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| Sample Site: | MPC | 20-90 | Project Nu | mber: | 1343-005.09 |) | | Date: | | | 3 50 | Le Porr | |
|--|--------------------------|-----------------------|---------------------------|--------------------|-----------------------------|---------|---------|---------|-----------|----------|----------|-----------|--|
| Approximate Date Drilled: | 2 | 20091 | Client: | | GY - AAM | | | Samp | ler: | - | Zn | AN | |
| Plezometer Diameter / Screen Length: | | e Paint | Project Na | me: | Mount Nanse Sampling Pre | | GW | Weath | ner/Temp | erature: | clow. | | |
| UTM Location | Z. DE. | 38886 N. 6881814 | Waypoint | | GPS 4/J Na | me MP | 5 10 | Recov | ery: | | Good Bad | | |
| Photos | Cam. E | LR.Nos. 18 188 | Purge Met | hod | | | | - | - | - | 1 | | |
| Duplicate Collected: | Yes | Yes Name | | | | Waterra | 1 | | Peristalt | ic | Dis | o. Bailer | |
| Field Blank Collected | Ye | s Name | Analysis | | | | | _ | | 1.00 | | | |
| Initial Depth to Water (m): | | | Purge Star | t Time: | | | P | urge En | d Time: | - | | | |
| Depth to Solitom (m): 12E 1.56 | | Purge Inte Time () | | 'ol. () L | | | | | | | | | |
| Submerged Tubing Depth (r | m): | | Depth to water (m) | |) | | | | 1 | | | | |
| Well Stick-up Height (m): | ell Stick-up Height (m): | | Temperatu | re (°C) | 3% | | | | | 1. | | | |
| Estimated Water Volume (L): |): | Acastoned from | pH (pH Un | pH (pH Units) ±0.1 | | | | | 1 | | | | |
| | Frendt het | Cond. (µs/ | cm) 3% | | | | | A | 1 | | 1.1 | | |
| | | Pony creek, | Specific C | ond. (µs | s/cm) 3% | | 1.0.000 | - | E.V | | | | |
| (DTB - DTW) x 2 (for 2" we | | | Redox (m) | /) 10% | | | 20 | AL | 2 | 1 | | | |
| | | | DO (mg/L) | DO (mg/L) 10% | | 0 | // | | | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | er) = 1 well volume | DO (%) 10 | % | | | K. | / | 1 | | | | |
| 2" casing has 0.16 | | | Appearance Silty, HC o | | our (Clear, etc.) | | / | 6 | - | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | 3 USgal/ | /ft or 9.271 l/m | Only for final | Sulph | nide (mg/L) | | | | | | _ | | |
| 6 5/8" sand pack has (| 0.50 USg | al/ft or 6.35 l/m | readings | Turbi | dity (NTU) | | | | | | | 2 | |
| | | | Interval Pu | Irge Vo | lume (L) | | | | | | | | |
| | | | Cumulativ | e Purge | Volume (L): | | | | | | | | |
| VSI Field Planmotors Logue | sd: | Yes No | Sample fr | CT THE R. | | | | | | | | - | |
| Tome on VSI (24hr): | | | 1 | _ | | Waterra | - | | Peristalt | ic | Dis | p. Bailer | |
| PERMIT AND AN AUTOMOUSING AND A | £ (297173 | | Analysis | | | | | | | | | | |

HEMMERA

Villans

X 20.4

Q

Links

%LEL

%

| Sample Site (Con't): M FOM-02 | | Head Space Gas Measureme | | | |
|---------------------------------|--------------|--------------------------|----------------------|--|--|
| Sample Date (Con't): 3 June 201 | E . | | | | |
| Sample Time: | | | Methane (CH4) | | |
| Well Head Seal: J-Plug PVC Cap | Not Sealed | Other | Oxygen (O2) | | |
| Seal Replaced: DJ-Plug DVC Cap | Not required | Other and replaced | Carbon Dioxide (C02) | | |
| | | | | | |

| ug | PVC Cap | Not required | DOther replaced | Carbon Dioxide (C02) | PPM | |
|----|---------|--------------|-----------------|----------------------|-----|--|
| | | | | 1 N | | |

Well properly sealed for gas monitoring: Yes No Details: 10 0.5" raps (PP caps)

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | □ NaOH | I IV | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | (w | HNO3 | | 11 |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | 8 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 m) | 4 | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

General Notes (Condition of well or other features): DP is metal, rusty, has plastic linet, and is at slight angle (25°) The creek bed has both at inch precipitate. Attempted to defrost well by boiling DI water and pouring down DP. spent 25 m attempting to defrost, used 4.0 h of DI water. No change in depth to ice.

| Sample Site: | MP09-03 | Project Num | ber: 1343-005. | 09 | | Date: | | | 03/00 | 0/2015 |
|---|--|-----------------------------|--------------------------------|--|--------|----------------------|------------|----------|--------------|--------|
| Approximate Date Drilled: | mknown | Client: | GY - AAM | 1 | | Samp | Sampler. | | AN, RM. | |
| Piezometer Diameter / Screen Length: | 0.9 DP. | Project Name | 01 | Mount Nansen 2015 GW Sampling Program | | Weather/Temperature: | | erature: | S-man 15-2 | |
| UTM Location | Z. 8 E. 388956 N. 6881738 | Waypoint | GPS AN I | Name M | Po9-03 | Reco | very: | | Good | Bad |
| Photos | Cam. ELA Nos. 195-197 | Purge Metho | d | | | | 1 | | - | |
| Duplicate Collected: | Yes Name | - | | Water | rra | Peristaltic | | c | Disp. Bailer | |
| Field Blank Collected | Yes Name | Analysis | Analysis | | | | | | | |
| Initial Depth to Water (m): | | Purge Start T | Time: | | F | urga Er | d Time: | | | |
| Depth to distante (m): ICE 1,477 | | Purge Interva Time () п | al nin, Vol. () L | i i i | | | 1 | | | |
| Submerged Tubing Depth (m): | | Depth to wat | Depth to water (m) | | | | | | | |
| Well Stick-up Height (m): | 0,30 | Temperature | (°C) 3% | | | | | | | |
| Estimated Water Volume (L): | | pH (pH Units | pH (pH Units) ±0.1 | | | | | | | |
| | | | | 1.11 | | | 1 | | 1.1 | |
| | | Specific Con | Specific Cond. (µs/cm) 3% | | | 1 | R, | 1 | | |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well volum | e Redox (mV) | Redox (mV) 10% | | 10 | 00 | 1 | | | |
| | | | DO (mg/L) 10% | | CK | -/ | 1/ | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) 10% | | - 11 | 1, | | 1 | | | |
| | USgal/ft or 2.032 l/m | Appearance Silty, HC odd | & Odour (Clear, ours, etc.) | | | | 5 | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | Sulphide (mg/L) | | | | | | | |
| | 0.50 USgal/ft or 6.35 l/m | final readings | Turbidity (NTU) | - | - | - | - | | - | |
| | | | je Volume (L) | | | | | | | - |
| | | | Cumulative Purge Volume (L): | | | | | - | - | - |
| YSI Field Parameters Logo | Yes No | Service Meth | bod | | - | | - | | | |
| Time an VSI (24hr): | | | | Wate | rra | | Peristalti | c | Disp. | Bailer |
| Actual time of measurantee | d (24hmini) | Analysis | | | | | | - | | |

HEMMERA

| Sample Site (Con't):MP01-00 | Head Space Gas Measureme | nts | |
|---|--------------------------|-------|-------|
| Sample Date (Con't):03/06/2015 | | Units | Value |
| Sample Time: | Methane (CH4) | %LEL | 6 |
| Well Head Seal: J-Plug PVC Cap Not Scaled Other | Oxygen (O2) | % | 20.4 |
| Seal Replaced: J-Plug PVC Cap Not required Other and replace | Carbon Dioxide (C02) | PPM | 8 |
| Well property sealed for gas monitoring TYes No Details: act 0.5" | 685 | | |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO ₂ | | - |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | e | - | 1 | |
| з | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | 80 C 100 C | 🗋 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | ¥.(| H2SO4 | 1 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | * | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | ~ | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features):

Metal shek up (orise point) rusted, with inter waterra liner.

2014 DTW * 1.96

CI HEMMERA

| Sample Site: | MP09-04 | Project Numbe | r: 1343-005.0 | 9 | Date: | 34-Jun-15 |
|---|--|--------------------------------|-------------------------|-------------------------|----------------------|--------------|
| Approximate Date Drilled: | - | Client: | GY - AAM | | Sampler: | JC/MM |
| Plezometer Diameter / Screen Length: | 1.5 | Project Name: | Mount Nan Sampling F | isen 2015 GW Program | Weather/Temperature: | DNEEZE |
| UTM Location | Z.B. E. 29915TN. LEBO | Waypoint | GPS E/T | lame MDOR -04 | Recovery: | Good Ba |
| Photos | Cam. W_ Nos. Harts | Purge Method | - | A | | |
| Duplicate Collected: | Yes Name 163 - | 163 | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Ves Name | Analysis | | | | |
| Initial Depth to Water (m): | 2.106 | Purge Start Tin | ne: | | Purge End Time: | |
| Depth to Bottom (m): | 2.253+0 | Purge Interval | n, Vol. () L | | | |
| Submerged Tubing Depth (| m): | Depth to water | (m) | | | |
| Well Stick-up Height (m): | 1.205 | Temperature (° | C) 3% | | | 1 |
| Estimated Water Volume (L) |): | pH (pH Units) | ±0.1 | | | |
| | | Cond. (µs/cm) | 3% | 1 | 1 18 | NPD |
| | | Specific Cond. | (µs/cm) 3% | | Inc | |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well volu | me Redox (mV) 10 | % | | KS/ | |
| | | DO (mg/L) 10% | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volun | ne DO (%) 10% | | K | | |
| | USgal/ft or 2.032 l/m | Appearance & Silty, HC odou | | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | Iphide (mg/L) | | | |
| | 0.50 USgal/ft or 6.35 l/m | final readings Tu | rbidity (NTU) | | | |
| | | Interval Purge | | | | |
| | | | rge Volume (L): | | | |
| VSV Sould Pursonetory Logs | T Ves N | | | | | |
| Timicon (24m) | | | | Waterra | Peristaltic | Disp. Bailer |
| ARIAN DATE OF TRASPORTER | etestine - | Analysis | | | | |

| Sample Site (Con't): HP09-04 | |
|--------------------------------|----------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: DJ-Plug DVC | Cap Not Sealed Other |
| Seal Replaced:] J-Plug PVC Ca | p Not required Other |

Well properly sealed for gas monitoring: X Yes No Details:

Head Space Gas Measurements

| | Units | WW# |
|----------------------|-------|------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.6 |
| Carbon Dioxide (C02) | PPM | 685 |

Priority **Bottle Type** Parameters Analyzed Min. Volume Treatment Preservative Added Vol. Collected (ml) Comments 1a 120 ml (plastic) **Dissolved Metals** 100 ml Field Filtered HNO1 1b 40 ml (glass) Dissolved Mercury 15 mL Field Filtered HCL 2 1 L (plastic) General Chemistry 200 ml ÷ . Cyanide (total, free, weak 3 145 ml (plastic) 100 ml □ NaOH acid dissociable) 4 250 ml (glass) Ammonia (NH3) 120 ml 2 H2SO4 5 120 ml (plastic) Thiocyanate (SCN) 50 ml HNO3 б 120 ml (plastic) Sulphide 100 ml Zinc Acetate, then NaOH . 7 250 ml (glass amber) Total Inorganic Carbon 100 ml 4 8 120 ml (plastic) **Dissolved Alkalinity** 100 ml Field Filtered .

-Frozen @ 2.253, attempt to that to share shorted @11:40, no success after working to waterna tusing General Notes (Condition of well or other features):



| Sample Site: | MPO | 9-05 | Project Nur | mber: 1343-005 | 09 | | Date: | | | MBIT | une 15 |
|--|------------|-----------------------|----------------------------|-----------------------------------|------------------------|--------|---------|------------|----------|---------|--------------------------------|
| Approximate Date Drilled: | | ~ | Client | GY - AAM | | | Samp | ler: | | 70/1 | the state of the second second |
| Piezometer Diameter / Screen Length: | 1 | .5" | Project Nar | me: Mount Na Sampling | and which have a state | GW | Weath | ner/Temp | erature: | Shung ! | i clandy |
| UTM Location | Z.BE | 389547N.6880592 | Waypoint | GPS ELL | Name MRC | 20-19 | Recov | very; | | Good | Bad |
| Photos | Cam. | VL Nos 59-16+ | Purge Meth | lod | | | | | | - | |
| Duplicate Collected: | Ye Ye | s Name Dup - 4 | | | Waterra | a | | Peristalti | ic | Disp. | Bailer |
| Field Blank Collected | Ye | s Name FB-3 | Analysis | | | | | X | | | |
| Initial Depth to Water (m): | | 1.437 | Purge Star | Time: 17 28 | 2 | P | urge En | d Time: | | | |
| Depth to Bottom (m): | | 0630 | Purge Inter Time (5) | | 17:23 | 17:28 | FT133 | 17:38 | 17143 | | |
| Submerged Tubing Depth (| m): | 21.5 | Depth to w | ater (m) | 1491 | 1.492 | 1.484 | 1.484 | 1,485 | | |
| Well Stick-up Height (m): | | 1.4114 | Temperatu | re (°C) | 5.1 | 2.8 | 3.1 | 2.5 | 27 | | |
| Estimated Water Volume (L |): | 1.27B | pH (pH Uni | ts) | 6.45 | 6.57 | 6.61 | 6.63 | 6.66 | | |
| | | | Cond. (µs/c | :m) | 1205 | 1362 | 1376 | 1299 | B61 | | |
| | | | Specific Co | ond. (µs/cm) | 2139 | 2372 | 2372 | 2348 | RAPE | | |
| (DTB - DTW) x 2 (for 2" we | ell diame | eter) = 1 well volume | Redox (mV |) | -34.4 | -44.7 | -46.2 | -46.8 | -469 | | |
| | | | DO (mg/L) | | 80.0 | 0.07 | 50.0 | 10.07 | 0.07 | | _ |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | er) = 1 well volume | DO (%) | | 0.9 | 1.0 | 0.6 | 0.6 | 0,6 | | |
| 2" casing has 0.16 | | | Appearance Silty, HC of | e & Odour (Clear, dours, etc.) | Stigning | EDITIE | clear | Hollan | saire | | |
| 1" casing has 0.04 8" sand pack has 0.7 | 3 USgal | /ft or 9.271 l/m | Only for final | Sulphide (mg/L) | 1 | 1 | 1 | 1 | 0 | | |
| 6 5/8" sand pack has (| 0.50 US | gal/ft or 6.35 l/m | readings | Turbidity (NTU) | | 1 | 1 | 1 | 1/87 | | |
| | | | Interval Pu | rge Volume (L) | 1 | 1.25 | 1.95 | 1 | 1 | | |
| | | | Cumulative | Purge Volume (L) | : / | 1.25 | 2.50 | 3.5 | 4.5 | | |
| YSI Field Parameters Logge | edi. | Yes No | Sample Me | 1000 | | - | | | | | |
| Time on YSI (2001): | | 17:44 | | | Waterr | a | | Peristalt | ic | Disp. | Bailer |
| A GILLS) THERE AN ADDRESS OF | 1.Control. | 17:44 | Analysis | | | | - | V | | | |



| Sample Site (Con't): MRO9-05 | |
|--|----------------------|
| Sample Date (Con't): 03/ 300115 | |
| Sample Time: 17:45 | |
| Well Head Seal: DJ-Plug DVC Cap | □ Not Sealed □ Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoring: | Yes 🗌 No Details: |

Head Space Gas Measurements

| | and a second | |
|----------------------|--------------|------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 500 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| ta | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | 00 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | 40 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 7 | - | 1 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 4 | Щ NaOH | 145 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | + | H2SO4 | 250 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | 120 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | 120 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 2 | | 050 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Fittered | Ŷ | 120 | |

| Sample Site: | MP09-08 | Project Number: | 1343-005.0 | 9 | Date: | | 03/06/ | 2015 |
|--|--|------------------------------------|--------------------------|-----------------------|-----------------|--------|--------------|-------|
| Approximate Date Drilled: | vuknown. | Client: | GY - AAM | | Sampler: | | AN, R.N. | X, |
| Piezometer Diameter / Screen Length: | 0.5"/mann | Project Name: | Mount Nans Sampling P | sen 2015 GW rogram | Weather/Temper | ature: | Funny Als | 00 |
| UTM Location | Z.8 E.58916 N.6881719 | Waypoint | GPS AN N | ame MP01-08 | Recovery: | | Good | Ba |
| Photos | Cam. ELP Nos. 201-203 | Purge Method | | | | | | |
| Duplicate Collected: | Yes Name | | | Waterra | Peristaltic | | Disp. B | ailer |
| Field Blank Collected | Yes Name | Analysis | | | | | | |
| Initial Depth to Water (m): | | Purge Start Time | | | Purge End Time: | | | |
| Depth to ສອງເລັ່ງ((m): / ເຊ | 1.587- | Purge Interval Time () min, | Vol. () L | | | | | |
| Submerged Tubing Depth (| n): | Depth to water (r | n) | | | | | |
| Well Stick-up Height (m): | 0.79 | Temperature (°C |) | | | | | |
| Estimated Water Volume (L |): | pH (pH Units) | | | | 1 | | |
| and the second s | | Cond. (µs/cm) | | 1 | 1 | 2 | | |
| | | Specific Cond. (| ıs/cm) | | 24 | 1 | | 1 |
| (DTB - DTW) x 2 (for 2" w | all diameter) = 1 well volume | Redox (mV) | | | 20 | 11 | | |
| | | DO (mg/L) | | | CR / | / | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) | | | X XX | | | |
| | USgal/ft or 2.032 l/m | Appearance & O Silty, HC odours | | | 14 | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | hide (mg/L) | | | | | |
| | 0.50 USgal/ft or 6.35 l/m | final readings Turb | idity (NTU) | | | - | | - |
| | | Interval Purge Vo | plume (L) | | | - | | |
| | | Cumulative Purg | e Volume (L): | | | | | |
| VSr Flotd Parameters Logga | n Yes No | Sample Method | | | | | | |
| Time on YSI (26m): | | | | Waterra | Peristaltic | | Disp. B | ailer |
| Addial limit of ministramon | 1(24hr): | Analysis | | | | | | |

| Sample Site (Con't): MR09-08 | | |
|------------------------------------|--------------|--------------------|
| Sample Date (Con't): | - | |
| Sample Time: | | |
| Well Head Seal: 🗍 J-Plug 📋 PVC Cap | Not Sealed | Other |
| Seal Replaced: J-Plug PVC Cap | Not required | Dother not instand |

| and the second second | - and the local division of | |
|-----------------------|-----------------------------|------|
| Methane (CH4) | %LEL | X |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | X |

Head Space Gas Measurements

Well properly sealed for gas monitoring: Yes No Details: no 6.5" with the file

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | 1 |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 2 | | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 5 | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 4 | - | | 1 |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

Rusty metal stick-up (Drive print) with inner waterra casing.

| Sample Site: | NP09-09 | Project Nur | mber: 1343-005. | 09 | | Date: | | | 00 | Jun- | 5 | |
|---|--|-------------------|---|--|--------|----------------|----------------------|----------------|----|---|--------|--|
| Approximate Date Drilled: | 1 | Client: | GY - AAM | | | Samp | ler: | | X | NUN | | |
| Piezometer Diameter / Screen Length: | 1.85 | Project Nan | net | Mount Nansen 2015 GW Sampling Program | | | Weather/Temperature: | | | overnott. | | |
| UTM Location | Z. BE. 3152 N. 680 | Waypoint | GPS 14 | Name Mag | 0.00-1 | Recov | ery: | | | Good [| Bad | |
| Photos | Cam. 11/ Nos. 13/0-1 | 22 Purge Meth | bod | | | | | | | 1. A. | | |
| Duplicate Collected: | Yes Name | _ | | Waterra | C C | 1 | Peristalt | ic | | Disp. Baile | er | |
| Field Blank Collected | Yes Name | Analysis | × | 200.02 | | | | | × | Small | | |
| Initial Depth to Water (m): | 3,591 | Purge Start | | | P | urge En | d Time: | | 58 | | | |
| Depth to Bottom (m): | 5 634 | | Purge Interval Time () min, Vol. () L | | 11:08 | N-18 | 1176 | 11 56 | 1 | 422 | ~ | |
| Submerged Tubing Depth (r | n): | Depth to wa | ater (m) | 1 | / | 1 | < | 1 | | / | Y | |
| Well Stick-up Height (m): | 2,451 | Temperatur | re (ºC) | 1.9 | 1-1 | 2.4 | 2.3 | 2.4 | | 15 | A | |
| Estimated Water Volume (L) | : AL 4.08 | pH (pH Unit | ts) | 9,26 | 9.35 | 9.49 | 9.54 | 7.66 | | 9.31 | 1 | |
| | | Cond. (µs/c | Cond. (µs/cm) | | 314.8 | 355.9 | 366.3 | 359.0 | | 3884 | \geq | |
| | | Specific Co | Specific Cond. (µs/cm) | | 555.b | 6211 | 692.4 | 636.4 | | 706,6 | 20 | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volu | ume Redox (mV | Redox (mV) DO (mg/L) | | 147.2 | 1644 | 136-8 | 134:5 | 1 | 80.5 | | |
| | 5 | | | | 6.57 | 0.09 | 0.13 | 0.01 | | 0.79 | | |
| (DTB-DTW) x 1.1 (for 1.5) | ' diameter) = 1 well volur | me DO (%) | DO (%) | | 66.0 | 0.8 | 1.0 | 0.1 | | 4.7 | | |
| | USgal/ft or 2.032 l/m | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | russel | very turbol | yery turked | very turbid | | alighty | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | Only for final | Sulphide (mg/L) | 1 | 1 | 1 | 1 | 1 | | 0.36 | | |
| 6 5/8" sand pack has 0 | 0.50 USgal/ft or 6.35 l/m | readings | Turbidity (NTU) | 1 | 1 | 1 | 1 | 1 | | 45.86 | | |
| | | Interval Pur | rge Volume (L) | 1 | 1 | 1 | 1 | 0 | 1 | 1 | | |
| | 1.000 | Cumulative | Purge Volume (L) | | 2. | 3 | 4 | 5 | | 1 | | |
| YSI Field Parameters Logge | a: 🗌 Yes 🖾 N | o Sample Ma | thed | | | | | - | | | | |
| Sme on YSI (24hr): | | | | Waterra | 1 | | Peristalt | ic | | Disp. Baile | er | |
| nometuraeur to emo touton | (24hr): | Analysis | | | | | | | V | | | |

| Sample Site (Con | 14): 190 | PC-P2 | | |
|------------------|------------|---------|--------------|-------|
| Sample Date (Co | n't): 04 - | Sure-15 | | |
| Sample Time: | 6:05 | | | |
| Well Head Seal: | Ø√-Plug | PVC Cap | Not Sealed | Other |
| Seal Replaced: | J-Plug [| PVC Cap | Not required | Other |
| | | | | |

Well properly sealed for gas monitoring: D-Yes D No Details:

Head Space Gas Measurements

| | U IUIU | Ven est |
|----------------------|--------|---------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 9.02 |
| Carbon Dioxide (C02) | PPM | 4300 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|-----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | ⊠.HNO ₃ | 120 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | SField Filtered | HCL | 40 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | ¥11 | 500 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | | 🛛 NaOH | 145 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | 255 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO ₃ | 160 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | 120 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | * | * | 250 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | 122 | |

General Notes (Condition of well or other features):

- water level went down during purging, suspected staw resharge

- went day of a 5L

- Will return to sample following day. DTV ON JUNCE - 3. 54-711

| Sample Site: | N200-10 | Project Number: | 1343-005.09 | | Date: | 00-June 19 |
|--|--|--------------------------------------|-------------------------------|---------|-------------------|--|
| Approximate Date Drilled: | | Client: | GY - AAM | | Sampler: | DC/MH |
| Piezometer Diameter / Screen Length: | 1.05' | Project Name: | Mount Nansen Sampling Prog | | Weather/Temperat | ture: Olescalt. 2 ann |
| UTM Location | Z.S.E. N. | Waypoint | GPS Nam | e | Recovery: | Good Bad |
| Photos | Cam. M_ Nos. 130-12 | Purge Method | | | | and the second s |
| Duplicate Collected: | Yes Name | | Analysis | | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | |
| Initial Depth to Water (m): | 2907 | Purge Start Time: | | | Purge End Time: | |
| Depth to Bottom (m): | Frozan | Purge Interval Time () min, V | /ol. () L | | | |
| Submerged Tubing Depth (r | n): | Depth to water (m | 1) | | | |
| Well Stick-up Height (m): | 2.163 | Temperature (°C) | | | | ~ . |
| Estimated Water Volume (L | | pH (pH Units) | | | | 1 |
| | | Cond. (µs/cm) | | | | |
| | | Specific Cond. (µ | s/cm) | 1/ | 1 | _)~ |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volu | me Redox (mV) | | 1 | 100 | |
| | | DO (mg/L) | | | Kar | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volum | DO (%) | | X | | |
| | USgal/ft or 2.032 l/m | Appearance & Od Silty, HC odours, | | 1 | | |
| e la | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | hide (mg/L) | | 1 | |
| | 0.50 USgal/ft or 6.35 l/m | final readings Turbi | idity (NTU) | | | |
| | | Interval Purge Vo | | _ | | |
| | | Cumulative Purge | | | | |
| SI Field Parameters Logge | et: Yes No | Sample Method | | | North Contraction | |
| Time on YSI (Z4hr); | | | v | Vaterra | Peristaltic | Disp. Bailer |
| Actual time of measuremen | 5 (24hr)- | Analysis | | | | |

11 HEMMERA

| Sample Site (Con't): | |
|--------------------------------|--------------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug DVC | Cap 🗌 Not Sealed 🔲 Other |
| Seal Replaced:] J-Plug PVC Ca | p Not required Other |

Well properly sealed for gas monitoring: Yes No Details: 100 3

Head Space Gas Measurements

| | Minus, | Value |
|----------------------|--------|-------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | - Ded |
| Carbon Dioxide (C02) | PPM | 453 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL. | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | ÷ | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | + | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | 1 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 4 | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | - |

attempt a watter a tubing to try to mechanically work the ice 1000 are level observed to become deeper by ~ 4 cm, however not able to brook through

| Sample Site: | MPO | 59-11 | Project Nu | mber: 134 | 43-005.09 | | | Date: | | | 09- | JUDI-15 | |
|--|----------|-----------------------|--|-------------------------------|-------------------------|---------|--------|----------|------------|----------|------------------|----------------|--|
| Approximate Date Drilled: | | | Client: | GY | - AAM | | | Samp | er: | | 501 | | |
| Piezometer Diameter / Screen Length: | Aba | DUG TO | Project Na | 110. | unt Nanse mpling Pre | | GW | Weath | er/Temp | erature: | ONSHOUND LOUTING | | |
| UTM Location | Z.8 H | 38-016N. 6880519 | Waypoint | GP | S TENa | melion | HUAt | Recov | ery: | | Go | od 🛛 Bad | |
| Photos | Cam. | WLNos. BE | Purge Met | hod | | | | | | | - | | |
| Duplicate Collected: | 1 Ya | -Name 134-136 | | | | Waterra | | 1 | Peristalti | c | Dis | sp. Bailer | |
| Field Blank Collected | Y | es Name | Analysis | | | | | | | _ | XShe | abula | |
| Initial Depth to Water (m): | | 2. 305 | Purge Star | rt Time: | 12:18 | | F | Purge En | d Time: | | 12:50 | | |
| Depth to Bottom (m): | | 4.971 | Purge Interval Time () min, Vol. () L | | | 621 | 10:05 | 2.33 | NaLAA | 6:48 | 13:515 | 4-2 ur 9:30 | |
| Submerged Tubing Depth (r | n): | _ | Depth to w | vater (m) | | / | / | 1 | 1 | 1 | / | / | |
| Well Stick-up Height (m): | | 1 907 | Temperature (°C) | | | 2.8 | 1.7 | 1.7 | 21 | 1.7 | 21 | 1.4 | |
| Estimated Water Volume (L |): | 2.90 | pH (pH Units) | | | 7.47 | 7.41 | 7.39 | 7.37 | 7.39 | 3.38 | 7.65 | |
| | | | Cond. (µs/cm) | | | 378.7 | 44106 | 4537 | 418.2 | 450.8 | 1541 | 454 | |
| | | | Specific Cond. (µs/cm) | |) | 6573 | 7289 | 69911 | PICE | 811.4 | 807.0 | 874 | |
| (DTB - DTW) x 2 (for 2" we | ell diam | eter) = 1 well volume | Redox (mV) DO (mg/L) | | | -125.3 | -139.7 | 132.1 | -119.5 | -122.2 | -120.3 -126 | | |
| | | | | | | 0.56 | 0,13 | 0.13 | 0.02 | 0.09 | 0.14 | 3.14 | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | ter) = 1 well volume | DO (%) | | | 4.3 | 1.1 | 041.3 | 3 0.3 | 0.8 | 0.9 | 34.0 | |
| 2" casing has 0.16 | | | Appearance Silty, HC o | ce & Odour (odours, etc.) | Clear, | turne | same | same | South | SON | South | Varto | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for final | Sulphide (| mg/L) | 1 | 1 | 1 | 1 | 1 | 1 | 1.26 | |
| 6 5/8" sand pack has (| 0.50 US | gal/ft or 6.35 l/m | readings | Turbidity (| (NTU) | 1 | 1 | 1 | 1 | 1 | / | 159 | |
| | | | Interval Pu | irge Volume | (L) | 1 |) | 1 | 1- | 1 | 1 | 1 | |
| | | | Cumulative | e Purge Volu | ume (L): | I | 2 | 3 | 4 | 5 | b | 1 | |
| YSI Field Parameters Lugge | a: | X Yes No | Sample Me | 1300Je | | | | | | | | | |
| Time on VSI (24Hr) | | 9:21 | | | | Waterra | 1 | | Peristalti | ic | Di | sp. Bailer | |
| Actual time of measuremen | 1 124hri | 931 | Analysis | | | | | | | | | X | |

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| Sample Site (Con't):OQ | |
|--------------------------------------|----------------------------|
| Sample Date (Con't): Dune 4 | , 2014 |
| Sample Time: | |
| Well Head Seal: 🖾 J-Plug 🔲 PV | C Cap 🔲 Not Sealed 🔲 Other |
| Seal Replaced: J-Plug PVC 0 | Cap Not required Other |
| Well properly sealed for gas monitor | oring: X Yes No Details: |

| | 10100 | - Miles |
|---------------------|-------|---------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.9 |
| arbon Dioxide (C02) | PPM | 500 |

Head Space Gas Measurements

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🔯 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|-------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | 'E Field Filtered | HNO2 | 20 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | 40 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | | - | 500 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | | ⊠.NaOH | 145 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 mi | | H2SO4 | 250 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | A. | A HNO3 | 120 | 1 |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | · • | Zinc Acetate, then NaOH | 120 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | - | 250 | 1 |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | 120 | |

Burns melaning used to the provider him pular of threaters of their to allow of the principles of the -Frozen, DTW last whom whole - June 3 -> pound me boiling waster down well will work to waster to see it able to production in ice -oble to break through he June Jule underman + no boiled wooten will return to Juney DTB 2.356M

| Sample Site: | MPOR | 1-12 | Project Nur | mber: 1 | 343-005.09 | 9 | | Date: | | | 02. | 20-15 |
|--|-----------|----------------------|----------------------------|------------|--|--------|----------|---------|----------------------|-------|------------------|------------|
| Approximate Date Drilled: | | | Client: | G | Y - AAM | | Sampler: | | | JC/MM | | |
| Piezometer Diameter / Screen Length: | 12 | 5" PVC | Project Name: Sampling Pro | | Mount Nansen 2015 GW Sampling Program | | | Weath | Weather/Temperature: | | Overcast , which | |
| UTM Location | Z.8 E. | 39573N. 63306R | | | ame MR-0-11/12 Recovery: | | | very: | | Go | od 🗌 Ba | |
| Photos | Cam. | Nos. | Purge Meth | bor | - | | | | | | | |
| Duplicate Collected: | Ye | s Name | | | | Waterr | a | 1 | Peristal | tic | Di | sp. Bailer |
| Field Blank Collected | Yes | s Name | Analysis | | | | | | | | | |
| Initial Depth to Water (m): | 1 | 0.685 | Purge Start | t Time: | | | P | urge En | d Time: | | 1 | |
| Depth to Bottom (m): | | Frour | Purge Inter Time () | | (_)L | | | | | | | |
| Submerged Tubing Depth (I | m): | | Depth to wa | ater (m) | | | 1 | | | | | |
| Well Stick-up Height (m): | | 1.831 | Temperature (°C) | | | | | - | | | | |
| Estimated Water Volume (L): | | pH (pH Units) | | | | | 122 | | | | | |
| | | Cond. (µs/c | cm) | | 1 | / | 1 | - | | | | |
| | | | Specific Cond. (µs/cm) | | n) | 1 | / | | 1 | 61 | | |
| (DTB - DTW) x 2 (for 2" we | ell diame | ter) = 1 well volume | Redox (mV) | | | 1.1 | | 1 | 1% | P | | |
| | | | DO (mg/L) | / | | / | 16 | 10 | 1 | 1 | - | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | er) = 1 well volume | DO (%) | | | (| | L P | 11.5 | / | / | |
| 2" casing has 0.16 | | | Appearance Silty, HC or | | | | × | / | | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | - | | Only for final | Sulphide | (mg/L) | | 1 | · | / | | | |
| 6 5/8" sand pack has (| 0.50 USg | al/ft or 6.35 l/m | readings | Turbidity | (NTU) | | 1 | 14 | | | | |
| | | 5e | Interval Purge Volume (L) | | e (L) | | | 1 | | | | |
| | | | Cumulative | e Purge Vo | lume (L): | | | | | | | |
| YSI Field Parameters Loggs | ele: | Yes No | Sample Me | shail | | | | t | | | | |
| Time on YS1(24hr): | | | | | | Water | a | | Peristal | tic | Di | sp. Bailer |
| Actual time of measureman | 1.12400 | | Analysis | _ | 1 | | | | | | | |



| Sample Date (Con't): | |
|------------------------------------|--------------------|
| Sample Time: | |
| Well Head Seal: 🔯 J-Plug 🔲 PVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |

Head Space Gas Measurements

| Section and the section of the secti | ulmas. | The Solisson |
|--|--------|--------------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 203.9 |
| Carbon Dioxide (C02) | PPM | 510 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|--------------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | | | |
| 1b | 40 mi (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | .x) | • | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H ₂ SO ₄ | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 9 | | | 1 |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features): - frozen, solled water to sour down, will return to merinow to see if well in thoused - June 3 -> poured more boiling water down well, will work a water to see if fould to break ich

| Sample Site: | M909-14 | Project Number: | Project Number: 1343-005.09 Client: GY - AAM Project Name: Mount Nansen 2015 GW Sampling Program Waypoint GPS CLY-Name LAPOR-14 | | Date: | | 00-0 | Jun- 15 | |
|---|--|--------------------------------------|--|---------|-----------------------|-----|---------|--------------|--|
| Approximate Date Drilled: | interrorid : | Client: | | | Sampler: | | DC/M | | |
| Piezometer Diameter / Screen Length: | 1 | Project Name: | | | Mostbor/ I omnorsturo | | rature: | avenable wis | |
| UTM Location | Z. B. E. 38913(N.68A05 | E) Waypoint | | | Recovery: | | Good | Bad Bad | |
| Photos | Cam. NL Nos. UPS-19 | | | | | | | | |
| Duplicate Collected: | Yes Name N/A | 9-12 | 2 | Waterra | Peristaltic | | Disp | . Bailer | |
| Field Blank Collected | Yes Name A/A | Analysis | | | X | | | | |
| Initial Depth to Water (m): | Poor I | Purge Start Time: | | | Purge End Time: | - | 1 | | |
| Depth to Bottom (m): | 1.609 | Purge Interval Time () min, V | /ol. () L | | | | | | |
| Submerged Tubing Depth (r | n): ~1.2 | Depth to water (m | 1) | | | / | 6 | | |
| Well Stick-up Height (m): | 0 960 | Temperature (°C) | 3% | / | | 184 | 5 | | |
| Estimated Water Volume (L) | | | | | SP | 3 | | | |
| 1 200 2020 | | Cond. (µs/cm) 3% | | / / | | 1 | m.Z | | |
| | | Specific Cond. (µ | Specific Cond. (µs/cm) 3% | | | KY | 20 | / | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volu | me Redox (mV) 10% | Redox (mV) 10% | | SP | | | / | |
| | | DO (mg/L) 10% | | | 68 | | 1 | / | |
| (DTB-DTW) x 1.1 (for 1.5) | diameter) = 1 well volum | DO (%) 10% | | ~ | Y | S | | / | |
| | USgal/ft or 2.032 l/m | Appearance & Oc Silty, HC odours, | | | DETH | 1 | / | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | hide (mg/L) | | | / | | | |
| | 0.50 USgal/ft or 6.35 l/m | final readings Turb | idity (NTU) | | | - | | | |
| | | Interval Purge Vo | | | 1 | | | | |
| | | Cumulative Purge | | | | | | | |
| VSI Field Parametors Loggi | TYes No | Sample Mounod | | | II | | - | | |
| Time on VSI (24nr). | | | | Waterra | Peristaltic | | Disp | . Bailer | |
| Actual lime of mensuremen | t (2.5hr): | Analysis | | | | | - | | |

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| Sample Site (Con't): M909 - 14 | |
|---|--------------------|
| Sample Date (Con't): 68-54-15 | |
| Sample Time: 14 50 | Hostic Day over |
| Well Head Seal: J-Plug PVC Cap | Not Sealed Deliber |
| Seal Replaced: J-Plug DVC Cap | Not required Other |
| Well properly sealed for gas monitoring | Ves DNo Details |

| | Qritte | Values |
|----------------------|--------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.5 |
| Carbon Dioxide (C02) | PPM | 570 |

Head Space Gas Measurements

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added 🗵 | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | E.HNO ₂ | 100 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | M HCL | 15 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 1 | 2 | 1 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 2 | D NaOH | | 1. |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | ÷ | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | + | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | (A.C. | - | | |
| В | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

General Notes (Condition of well or other features):

lots of water by & well

- Direct sompt

- new port-subing installed thm.

- so much sill present when nothermiphing direct sample that somple apprions black, nord to filter attempted to let silt settle before sampling.

| Sample Site: | MW09-01 | Project Num | nber: 1343-005.0 | 09 | - | Date: | | | 021 | 106/: | 2015 | |
|---|--|--|--|---------|-------|---------|------------|-------------------|--------|----------|--------|------------------------------|
| Approximate Date Drilled: | unknown | Client: | GY - AAM | | | Samp | ler: | | An | J. RN | 2 | 1 / |
| Piezometer Diameter / Screen Length: | 1/2 / unknown | Project Nam | Project Name: Mount Nansen Sampling Progr | | | | | overcast -10°C | | | | |
| UTM Location | Z.8 E.389394 N. 6880557 | Waypoint | Waypoint GPS AN Nan | | 09-01 | Recov | very: | | | Good | Bad | 1 |
| Photos | Cam. CLR Nos. 170-173 | Purge Meth | Purge Method | | | | | _ | - | - | - | |
| Duplicate Collected: | Ves Name | | | | 1 | 1 | Peristalti | c | 0 | Disp. Ba | iler | 1 |
| Field Blank Collected | Yes Name | Analysis | | | - | \sim | | | | | | 1 |
| Initial Depth to Water (m): | 7.147 | Purge Start | Time: 11:0 | 5 | F | urge En | d Time: | | | | 10.00 | 1 |
| Depth to Bottom (m): | 9.060 | Purge Interv Time () | val min, Vol. () L | 11.12 | 11:16 | 11.22 | DRY | | | | 1 | 1 |
| Submerged Tubing Depth (r | m): 6.8 | Depth to wa | iter (m) | 8.05 | 8.42 | 8.8 | | | 1 | - | | what energy |
| Well Stick-up Height (m): | 0.82 | Temperatur | Temperature (°C) 3% | | 3.78 | 4.76 | | 1. | / | | 1 | wel to ment |
| Estimated Water Volume (L): | | pH (pH Unit | pH (pH Units) ±0.1 | | 7.04 | 7.13 | | / | pe | 15 | 1 | vol to meas field paramet |
| | | Cond (petcm) 3% (ms cm) Specific Cond. (ps/cm) 3% | | | 17.28 | 1.731 | 1 | 1 Lo | × 11 | ot | / | - free i |
| | | | | | 2910 | 2821 | 10 | - | 1061 | 51 | | 1 |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well volume | Redox (mV) | Redox (mV) 10% | | -28.0 | -11.5 | 11 | 0 | 15 | V | | 1 |
| | | DO (mg/L) 1 | 0% | | 11.48 | 1.78 | 1 | | / | | | 1 |
| (DTB-DTW) x 1.1 (for 1.5) | i" diameter) = 1 well volume | DO (%) 10% | | 1 | 28.5 | 13.8 | | 1.1 | | | | 1 |
| · · · · · · · · · · · · · · · · · · · | USgal/ft or 2.032 l/m USgal/ft or 0.508 l/m | Appearance Silty, HC ode | e & Odour (Clear, lours, etc.) | turbid | same | Same | | | | | | 1 |
| | 73 USgal/ft or 9.271 l/m | | Sulphide (mg/L) | 1 | 1 | | | | 220 | The | Seen 1 | what the shine g |
| | 0.50 USgal/ft or 6.35 l/m | final readings | Turbidity (NTU) | - | - | - | | | | AV | it is | essige |
| | | | ge Volume (L) | 1.0 | 2.0 | 10 | | | act 13 | fiv - | - | - |
| | | | Purge Volume (L): | | 2.0 | 3.0 | | | | 1 | | - |
| VSI Field Paramidines Logan | and: Yes S No | Sample Mei | | | | | | | | - | | |
| Time an VSI (24hr) | | - | | Waterra | 3 | | Peristalti | c | (| Disp. Ba | iler | 1 |
| Actual who be measurement | e izanal: | Analysis | | | | | | | 1 | ~/ | | - |

Solo 4 3 June 2013 0 20 3

| Sample Site (Con't): _ | WM04-01 | | | |
|------------------------|----------------|--------------|----------|--|
| Sample Date (Con't): _ | 03/06/201 | 5 | | |
| Sample Time: | 12=15 | - | | |
| Well Head Seal: 🔀 J- | Plug 🔲 PVC Cap | Not Scaled | Other | |
| Seal Replaced: J-Ph | g PVC Cap | Not required | [] Other | |

Values **Umbs** Ø Methane (CH4) %LEL % 20.4 Oxygen (O2) PPM 0 Carbon Dioxide (C02)

Well properly sealed for gas monitoring. I Yes INO Details: large slift at the top PVC.

Head Space Gas Measurements

| Priority | Bottle Type | Parameters Analyzed | Min: Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|-----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml. | Field Filtered. | HNO: | 100 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | THCL | 15 | 1 |
| 2 | 1 L (plastic) | General Chemistry | 200 mi | 1 ÷ C 1 | * | 200 | 1 |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | + | BNaOH | 100 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | 120 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | PHNO3 | 50 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 1 | Zinc Acetate, then NaOH | 100 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 1 | - | 100 | |
| В | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | ÷ | 100 | |

Well investigated with Vision insight camera. Lots of tailiants observed throughout PVC. Large gash /slit in typ of PVC General Notes (Condition of well or other features) 02/06/2015 Added 9.0m of peri tubing. Very forbid conditions, purgred well day on 02/06/2013. Will return to sample 03/06/2015 - returned to collect sample. We measured @ 7.390 m (10:20). Fully recharged. - Attempted to sample with peris pump. Tubing became clogged with tailings will return with 1" bailer after well water has settled - Returned @ 12:00 sample collected @ 12:15 using 1" bailer. Extremely turbid. Full set of min. vol. collected.

11 HEMMERA

| Sample Site: | MW09-02 | Project Nu | mber: 134 | 3-005.09 |) | | Date: | | | 02/ | 05/2 | 015 |
|---|--|------------------------|---|----------|---------|-------------------------|----------|------------|-------------------|--------|------------|-----|
| Approximate Date Drilled: | unknown | Client: | GY | - AAM | | | Sampler: | | | AN, RM | | |
| Plezometer Diameter / Screen Length: | 21/makan | Project Na | Project Name: Mount Nansen 2 Sampling Progra | | | GW Weather/Temperature: | | | overcast ~10°C | | | |
| UTM Location | Z. 8 E. 883 5 N. 880 | 0558 Waypoint | GPS | S AL Na | ame_MW | 60-PO | Recov | ery: | | G | | Bac |
| Photos | Cam. ELR Nos. 170 - | 173_ Purge Met | hod | - | | | - | | _ | | | |
| Duplicate Collected: | Ves Name | | | | Waterra | 1 | 1.1.4 | Peristalti | c | D | isp. Baile | r |
| Field Blank Collected | Yes Name | Analysis | | - | | | - | × | | - | | - |
| Initial Depth to Water (m): | 3-137- | Purge Star | rt Time: | 09.41 | | F | urge En | d Time: | | 10 | - 18 | - |
| Depth to Bottom (m): 4715 | | Purge Inte Time (5) | rval) min, Vol. (| JL | 07.46 | 12.40 | 07:56 | 10 06 | 10:13 | 10 18 | | |
| Submerged Tubing Depth (m): 44.3 | | Depth to w | Depth to water (m) | | 3.52 | 3.84 | 3.94 | 4.02 | 4.15 | 4.03 | | _ |
| Well Stick-up Height (m): | Il Stick-up Height (m): 07 Tempe | | Temperature (°C) 3% | | 3.34 | 3.71 | 3.18 | 331 | 3.25 | 3 90 | | |
| Estimated Water Volume (L): ~ 3.2 | | pH (pH Un | its) ±0.1 | | 7.18 | 7.18 | 7.17 | 7.18 | 7.18 | 7.18 | 1 | |
| and the second se | | Cond. (usi | em) 3% (MS | 1cm) | 1.674 | 1.684 | 1.660 | 1.685 | 1.706 | 1.753 | | |
| | | Specific C | Specific Cond. (µs/cm) 3% | | 2843 | 2840 | 2846 | 2877 | 2718 | 2734 | | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well vo | lume Redox (m) | Redox (mV) 10% | | - 57.2 | -53.3 | -551 | -63.1 | -73.2 | -87.3 | | |
| aller sources and the | | | DO (mg/L) 10% | | 4.204 | 1.48 | 1.21 | 1.04 | 063 | 0.48 | | |
| (DTB-DTW) x 1.1 (for 1.5 | diameter) = 1 well volu | ume DO (%) 109 | DO (%) 10% | | 26.46 | 112 | 9.1 | 7.8 | 4.8 | 3.8 | | |
| | USgal/ft or 2.032 l/m USgal/ft or 0.508 l/m | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | clout + | clear . | Clear. | Clet | Same - | Same. | | |
| | 3 USgal/ft or 9.271 I/m | Only for final | Sulphide (n | ng/L) | | | | | 12.4 | 0.02 | | |
| 6 5/8" sand pack has (| 0.50 USgal/ft or 6.35 l/m | readings | Turbidity (N | NTU) | | | | | | 5.29 | | _ |
| | | Interval Pu | urge Volume (| L) | 1.5 | 0.75 | 0.75 | 0.35 | 0.75 | 6.75 | | - |
| | · · · · · · · · · · · · · · · · · · · | | Cumulative Purge Volume (L): | | 2 | 2.75 | 3.5 | 4.25 | 5.0 | 5.75 | | 1 |
| St Finici Paramaters Logge | Wes B | No Barnelle III | N/NOC | - | | | | | | | | |
| Time on VSI (24hr) | \sim | | | - | Waterra | | - 1 | Peristalti | c | Di | sp. Baile | r |
| Amai time of measurer on | HEXAPI: | Analysis | | | | | - | > | \leq | | | - |

| Sample Site (Con't): MW09-02 | |
|--|---------------------|
| Sample Date (Con't): 02/06/201 | 5 |
| Sample Time: 10 20 | |
| Well Head Seal: J-Plug DPVC Cap | Not Sealed Other_ |
| Seal Replaced: J-Plug PVC Cap | Not required Other_ |
| Well properly sealed for gas monitoring: [| Yes No Details: |

Head Space Gas Measurements

| | Uman . | Values |
|----------------------|--------|--------|
| Methane (CH4) | %LEL | 8 |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | B. |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🗵 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 mi | Field Filtered | D'HNO; | t | 1 |
| 15 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | BHCL | 1 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 4 | ÷ | h - 1 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | IS NaOH | Ì | |
| -4 | 250 ml (glass) | Ammonia (NH3) | 120 mi | + | LYH2SO4 | 1 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | £ | HNO3 | 1 | - |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | i. | Zinc Acetate, Ihen NaOH | 1 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | 1 | e | 1 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | 1 | |

General Notes (Condition of well or other features): Added Sm of peri tubing.

| Sample Site: | MW109-03 | Proj | ect Number: | 1343-005.09 | Q | | Date: | | | 021 | 06/201 |
|---|---|-----------|---|--------------|----------|-------|----------------------|------------|-------|-----------------|-------------|
| Approximate Date Drilled: | victanoun | Clie | Client: GY - AAM | | Sampler: | | | ANJ, RAM | | | |
| Piezometer Diameter / Screen Length: | 2"/unknow | Proj | Project Name: Mount Nansen 20 Sampling Program | | | GW | Weather/Temperature: | | | rain light ~ 10 | |
| UTM Location | Z.& E. 389420 N. 68 | 8055) Way | point | GPS AN Na | me_MW | 09-04 | Recov | ery: | | AG | |
| Photos | Cam. ELA Nos. 174 | | e Method | | | | - | | | | |
| Duplicate Collected: | Ves Name | | | | Waterra | 1.1 | 100.19 | Peristalti | c | D | isp. Bailer |
| Field Blank Collected | Yes Name | Ana | lysis | | | | 1 | X | | | |
| Initial Depth to Water (m): | 6.92 | H Purg | e Start Time | 14:22 | | P | urga En | d Time: | - | 15:0 | 30 |
| Depth to Bottom (m): | 9.930 | | ge Interval e () min, | Vol. () L | 14:27 | 14:35 | 14.40 | 14:45 | 14:50 | 14:55 | 15:00 |
| Submerged Tubing Depth (m): | | Dep | Depth to water (m) | | 7:09 | 7.12 | 7-13 | 714 | 7.13 | 7.13 | 7.13 |
| Well Stick-up Height (m): | 0.42 | Tem | Temperature (°C) 3% | | \$.55 | 370 | 3.41 | 3.44 | 3.32 | 3.24 | 5.24 |
| Estimated Water Volume (L): | | | pH (pH Units) ±0.1 | | 7.00 | 7.88 | 759 | 741 | 7.30 | 7.23 | 7.21 |
| | | | Cond. (µs/cm) 3% | | 2762 | 27114 | 2711 | 2683 | 2681 | 2673 | 2666 |
| | | Spe | Specific Cond. (1988) 3% (1967) | | 1.650 | 1.611 | 1593 | 1.580 | 1.571 | 1.562 | 1.552 |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well v | olume Red | Redox (mV) 10% | | -3.4 | -131 | -140 | -19 | 4.6 | 9.1 | 12.4 |
| | | DO | DO (mg/L) 10% | | 4.01% | 063 | 035 | 520 | 0.24 | 0.22 | 0.22 |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well vo | olume DO | DO (%) 10% | | 41.64 | 4.7 | 25 | 20 | 1.9 | 1.7 | 1.7 |
| | USgal/ft or 2.032 l/m | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | ilen | | | - | - | D | \$ |
| | USgal/ft or 0.508 l/m '3 USgal/ft or 9.271 l/n | | y for Sulp | ohide (mg/L) | | | | | | | 0.03 |
| 6 5/8" sand pack has | 0.50 USgal/ft or 6.35 h | | | bidity (NTU) | | | | | | | 677 |
| | | | Interval Purge Volume (L) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | | Cumulative Purge Volume (L): | | | 2 | 3 | 4 | 5 | G | 7 |
| Y's Find Parametrys Logg | ⊡Yes Ø | No San | Summle Method | | | | | | | | |
| Hondrian #SH(240n) | - | | | < 1 | Waterra | a | Peristaltic | | | D | isp. Bailer |
| Action tions of mainternant | 1 (7/hr): 151 | /O Ana | Analysis | | | | | × | | | |

| Sample Site (Con't): | WM07-03 | WM01-03 | | | | | |
|--------------------------|-------------------|--------------|---------|--|--|--|--|
| Sample Date (Con't): | 2 June 20 | 15 | | | | | |
| Sample Time:15 | 1/0 | | | | | | |
| Well Head Seal: 1. | Plug 🔲 PVC Cap | Not Sealed | Other | | | | |
| Seal Replaced:] J-Ph | ng 🔲 PVC Cap | Not required | Other | | | | |
| Well properly sealed for | or gas monitoring | Yes DNo D | etails: | | | | |

Head Space Gas Measurements

| | Unay | Valows |
|----------------------|------|--------|
| Methane (CH4) | %LEL | R |
| Oxygen (O2) | % | 20.3 |
| Carbon Dioxide (C02) | PPM | Ø |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🕅 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | E HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | 1 | |
| 2 | 1 L (plastic) | General Chemistry | 200 mi | 8 | + | 1 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | 9 | NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | 8 | H2SO4 | 1 | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | I HNO3 | t - | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 2 | Zinc Acetate, then NaOH | 1 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | Fe | | 1 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

| Sample Site: | min | 40-POL | Project Nu | mber: | 1343-005.09 | Ki - | | Date: | | | 02. | 1061 | 2015 |
|--|-----------|-----------------------|---|--|-------------|----------------------|--------|----------|----------------|-------|--------------|-----------|-------|
| Approximate Date Drilled: | Uni | known | Client: | | GY - AAM | | | Sampler: | | | AN, RM | | |
| Piezometer Diameter / Screen Length: | 2" | /waterwayan | Project Na | Project Name: Mount Nansen 2015 GW Sampling Program | | Weather/Temperature: | | | overcast NIO'C | | | | |
| UTM Location | Z.8 E | 389420N. 6880557 | Waypoint | | GPS AN Na | me Mu | 109-04 | Recov | ery: | | ØG | | Bad |
| Photos | Cam. | LR Nos. 174-177 | Purge Met | hod | - | | | - | | | | | |
| Duplicate Collected: | 1 Ye | s Name DUP-1 | | | | Waterra | 3 | 1.1.1.1 | Peristalti | c | 0 | isp. Bail | er |
| Field Blank Collected | × Ye | es Name FBI | Analysis | | | | | | × | | | | |
| Initial Depth to Water (m): | 1.000 | 4.631 | Purge Star | t Time: | 13:00 | | F | urge En | d Time: | | 1 | 3:45 | |
| Depth to Bottom (m): | | 7 675 | Purge Inter Time (5) | | .(_)L | 13.05 | 13:10 | 13:15 | 13:20 | 13:25 | 13:30 | 13:35 | 13:45 |
| Submerged Tubing Depth (| m): | 7.2 | Depth to water (m) | | 5.05 | 5.31 | 5.47 | 5.57 | 564 | 5.69 | 5.74 | 5.74 | |
| Well Stick-up Height (m): 0.58 | | Temperature (°C) 3% | | 3.96 | 3.96 | 3.92 | 4.20 | 4.05 | 4,97 | 4.15 | 4.32 | | |
| Estimated Water Volume (L |): | ~ 6.0 | pH (pH Uni | its) ±0.1 | 1.00 | 8.05 | 8.01 | 8.00 | 7.99 | 799 | 7.99 | 8.00 | 8.03 |
| | | | Cond. (10/200) 3% (as/em) | | 1.649 | 1.659 | 1.629 | 1.633 | 1.625 | 1.622 | 1.622 | 1.640 | |
| | | | Specific Cond. (µs/cm) 3% | | 2761 | 2791 | 2729 | 2706 | 2711 | 2709 | 2699 | 2706 | |
| (DTB - DTW) x 2 (for 2° w | ell diame | eter) = 1 well volume | Redox (mV) 10% | | 72.9 | 61.2 | 53.9 | 50.3 | 46.5 | 44.3 | 424 | 32.7 | |
| | | | DO (mg/L) 10% | | 1.77 | 0.45 | 0.24 | 0.23 | 6.20 | 0.11 | 0.20 | 6.29 | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | ter) = 1 well volume | DO (%) 10% | | 133 | 3.4 | 1.9 | 1.7 | 1.5 | 1.5 | 1.5 | 22 | |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | clear | Sauce | Soul | Same | soul. | Sane | Jane | Sound | |
| 1" casing has 0.04 8" sand pack has 0.7 | - | | Only for final | Sulphie | de (mg/L) | | | | | | | | 0.07 |
| 6 5/8" sand pack has | | | readings | Turbid | ty (NTU) | | | | | | | - | 2.43 |
| | | | Interval Pu | irge Volu | me (L) | 10 | (.0 | 0.5 | 0.5 | 05 | 05 | 05 | 1.5 |
| | | | Cumulativ | e Purge \ | /olume (L): | 1.0 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 45 | 6.0 |
| Mills would Printing Large | ed. | Ves No | Sample Me | atheo | | | | 1 | | | | | |
| Time an Will GATES | | | | | | Watern | а | 1. | Peristalt | ic | Disp. Bailer | | |
| ALLUS STORA MASSALISAN | 0 (24)05 | / | Analysis | | _ | | _ | 1 | 1 | - | | | |

HEMMERA

| Sample Site (Con't):MW09-04 | |
|--|------------------------|
| Sample Date (Con't): 02/06/20 | 015 |
| Sample Time: 13:50 | |
| Well Head Seal: DJ-Plug DVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug DVC Cap | E Not required D Other |
| Well properly sealed for gas monitoring: | Yes No Details |

Head Space Gas Measurements

| | Lings | Values |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | à |
| Oxygen (O2) | % | 20.3 |
| Carbon Dioxide (C02) | PPM | à |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added 🗵 | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | J. | - |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | D'HCL | 2 | d. |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | * | 2 | à |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | ∐ NaOH | 2 | 5 |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 mi | * | TH2SO4 | 2 | 2 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 mi | - | THNO, | 2 | 3 |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | 2 | 2 |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | 1.4 | + | 2 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 8 | 2 | |

"Nell located on tailings. Lots of silt and sound, potential for contamination during sampling process wef same an everything. Duplicate collected (DVP-I) Field Blank collected (FBI)

OTR 2014 - 5.945

CI HEMMERA

| Sample Site: | MW | 09-05 | Project Num | nber: 1343-005.0 | 9 | | Date: | | | 03 | 13un | 115 |
|--|-----------|---|----------------------------|---------------------------------|----------|---------|---------|-----------|----------|---------------------------------------|---------------|-------|
| Approximate Date Drilled: | _ | 4 | Client: | GY - AAM | 1. N. 1 | | Samp | ler: | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 1h | |
| Piezometer Diameter / Screen Length: | | 2.1 | Project Nam | Mount Nan Sampling F | | GW | Weat | ner/Temp | erature: | au | reash mark | |
| UTM Location | Z.os E. | 0359415 N. 6880654 | Waypoint | GPS ELF N | lame www | 9.05/06 | Reco | very: | | G | iood | Bad |
| Photos | Cam. | Nos Ho-Ha | Purge Metho | bd | | - | 1 | | | - | | |
| Duplicate Collected: | Ye | s Name 141-143 | | | Waterra | a | | Peristalt | tic | C |)isp. Ba | iler |
| Field Blank Collected | Ye | s Name | Analysis | | | | | | | | - | |
| Initial Depth to Water (m): | | Dry | Purge Start | Time: | | P | urge En | d Time: | 1 | | | |
| Depth to Bottom (m): | | 7.552 | Purge Interv Time () | val min, Vol. () L | | | | | | | | |
| Submerged Tubing Depth (r | m): | ~ | Depth to wa | ter (m) | | | | 1 | | | | |
| Well Stick-up Height (m): | | 1.097 | Temperatur | e (°C) | | | / | / | | | | |
| Estimated Water Volume (L) |): | 1 | pH (pH Unit | s) | | / | / | - | | | | |
| | | and the second se | Cond. (µs/ci | m) | 1 | / | | 1.1 | | 1 | | 1 |
| | | | Specific Con | nd. (µs/cm) | | 1× | K | 1 | | 2 | | |
| (DTB - DTW) x 2 (for 2" we | ell diame | eter) = 1 well volume | Redox (mV) | | | 1 |) | | 1 | < | | |
| | | | DO (mg/L) | | | | \geq | / | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | er) = 1 well volume | DO (%) | | | - | / | 1/ | | | - | |
| 2" casing has 0.16 | | | Appearance Silty, HC od | & Odour (Clear, lours, etc.) | | 1 | 1 | | _ | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphide (mg/L) | | | | | | | | 1 |
| 6 5/8" sand pack has (| | | final readings | Turbidity (NTU) | | | | | | | | |
| | | | Interval Pur | ge Volume (L) | | | | | | | | |
| | | | Cumulative | Purge Volume (L): | | 1 | | | | | | |
| YSI Field Paraminum Lugar | WC. | Ves No | Sample Me | nga | | | | | | | | |
| 1000 cm VSI (2407). | | | | | Waterr | а | | Peristal | tic | (| Disp. Ba | ailer |
| Actual time of maanunum | e hannin | | Analysis | | | | 1 | | | | | |

| Sample Site (Con't): HWOQ- | 20 |
|------------------------------------|--------------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: DJ-Plug BPV | C Cap Not Sealed Other |
| Seal Replaced: J-Plug PVC | Cap Not required Other_ |
| Well properly sealed for gas monit | toring: MYes No Details: |

Head Space Gas Measurements

| | - Umig | MILES |
|----------------------|--------|---------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 9.6 |
| Carbon Dioxide (C02) | PPM | To GUZO |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | E Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | · . | | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 3 | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 m | 9 | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | . \ | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

GROUNDWATER SAMPLE COLLECTION SHEET

470

2014

| Sample Site: | MW09-06 | Project Num | ber: 1343-005.09 |) | - | Date: | | | 00 | 13an/15 | |
|---|---|-------------------------------------|--------------------------------|---------------------------------|---------|----------|-----------|--|-------|--------------|--|
| Approximate Date Drilled: | | Client: | GY - AAM | | | Sampl | ler: | | JC/MH | | |
| Piezometer Diameter / Screen Length: | 34 | Project Nam | e: Mount Nans Sampling Pr | en 2015 GW Weather/Temperature: | | | | The second secon | | | |
| UTM Location | Z.08 E.0389413 N. 6880654 | Waypoint | GPS CARE No | ame Mwo | 9-05/06 | Recov | ery: | | Ø | Good Ba | |
| Photos | Cam. WL Nos. 140-142 | Purge Metho | d | | - | | | | | | |
| Duplicate Collected: | Yes Name | | | Waterra | 1 | 1 | Peristalt | ic | 0 | Disp. Bailer | |
| Field Blank Collected | Yes Name | Analysis | | | | | X | | | | |
| Initial Depth to Water (m): | 3,055 | Purge Start | Time: 14:09 | | E | Purge En | d Time: | | 14:42 | | |
| Depth to Bottom (m): | 6.000 | Purge Interv Time (<u>5</u>) r | al nin, Vol. () L | 19.12 | 14-14 | 14.22 | 19:27 | 14-52 | 14137 | 191.4L | |
| Submerged Tubing Depth (r | n): 5.60 | Depth to wat | ter (m) | 3.339 | 3.248 | 3.278 | 5.288 | 5.102 | 3.510 | 3.312 | |
| Well Stick-up Height (m): | 1.996 | Temperature | (°C) | 6.7 | 5.9 | 5.7 | 5.q | 5.8 | 5.7 | 5.7 | |
| Estimated Water Volume (L | : 5,93 | pH (pH Units | 5) | 7.28 | 7.51 | 7.38 | 7.40 | 7.42 | 7.43 | 7.44 | |
| | and the second se | Cond. (µs/cn | Cond. (µs/cm) | | 1376 | 1363 | 1341 | 1347 | 1349 | 1364 | |
| | | Specific Con | nd. (µs/cm) | 2091 | 2164 | 2155 | 2117 | 2127 | 2146 | 2135 | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volum | e Redox (mV) | | 56.9 | 84.2 | 97.2 | 104.6 | 107.8 | 108-6 | 109-6 | |
| 4000 0000000000000000000000000000000000 | | DO (mg/L) | | 0.08 | 0+06 | 0.04 | 0-04 | 0.04 | 0.04 | 0.05 | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) | DO (%) | | 6.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | |
| The second se | USgal/ft or 2.032 l/m | Appearance Silty, HC odd | & Odour (Clear, ours, etc.) | Elter Stightly Kurtul | clear | elear | clear | clear | elear | clear | |
| 8" sand pack has 0.7 | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | Only for final | Sulphide (mg/L) | X | 1 | × | 1 | 1 | | 0.09 | |
| 6 5/8" sand pack has (| 0.50 USgal/ft or 6.35 l/m | readings | | | 1 | 1 | 1 | ~ | 1-2 | 18.41 | |
| | | Interval Purg | ge Volume (L) | 0 | 1 | x | 1 | Α. | 5 | 1 | |
| | | Cumulative | Purge Volume (L): | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| YSt Field Paraminuth Logg | nut 🗌 Yes 🖾 No | Sample Mel | not- | | | | _ | | | | |
| Time on YSF(240)): | | | | Waterr | a | 1 | Peristalt | tic | 1 | Disp. Bailer | |
| Actual time of mousuremen | ((Eddar): | Analysis | | | | | × | | | | |

| Sample Site (Con't): MW09-06 | |
|---|--------------------|
| Sample Date (Con't): 3/15 | |
| Sample Time: 19655 | |
| Well Head Seal: J-Plug SPVC Cap | Not Sealed Other |
| Seal Replaced: 🗌 J-Plug 🛛 PVC Cap | Not required Other |
| Well properly sealed for gas monitoring | Yes No Details: |

of cap

Head Space Gas Measurements

| and the second second | -00mm | V/UM/s |
|-----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 205 |
| Carbon Dioxide (C02) | PPM | 708 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | I HNO3 | 120 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | E Field Filtered | I HCL | 40 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | × | - | 500 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | 🗵 NaOH | 145 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | × | H2SO4 | 250 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | -C | HNO3 | 120 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | \$1. | Zinc Acetate, then NaOH | 12.0 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | - | 250 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 2 | 120 | |

| Sample Site: | MA | 70-90 | Project Num | ber: 1343-005 | .09 | | Date: | | | 03-7 | Un-5 |
|--|----------|-----------------------|-----------------------------|--------------------------------|----------------------|---------|---------|------------|----------|-------|------------|
| Approximate Date Drilled: | | | Client: | GY - AAN | | | Samp | ler: | | 3C | |
| Piezometer Diameter / Screen Length: | 2 | Ø. | Project Nam | e: Mount Na Sampling | nsen 2015 Program | GW | Weath | er/Temp | erature: | OUR.U | -fee |
| UTM Location | Z.81 | 38932 N4890 08 | Waypoint | GPSEL | Name MW | 50-07 | Recov | ery: | | Go | od 🗌 Ba |
| Photos | Cam. | VLNos RE-135 | Purge Metho | d | | | | | | | |
| Duplicate Collected: | □ Ye | es Name 137-140 | | | Waterra | a | | Peristalti | c | Dis | p. Bailer |
| Field Blank Collected | | es Name | Analysis | | | | | | | | |
| Initial Depth to Water (m): | - | Doy | Purge Start | Time: | | F | urge En | d Time: | | | |
| Depth to Bottom (m): | | 3,404 | Purge Interv Time () | al nin, Vol. () L | | | | | | | |
| Submerged Tubing Depth (| m): | - | Depth to wat | ter (m) | | | | | | | |
| Well Stick-up Height (m): | | 1.359 | Temperature (°C) | | | | | 1 | | | |
| Estimated Water Volume (L |): | - | pH (pH Units | 5) | | | / | 1 | | | |
| | | | Cond. (µs/cn | n) | | / | 1 | | | | |
| | | | Specific Con | nd. (µs/cm) | / | | / | 11 | | | |
| (DTB - DTW) x 2 (for 2" w | ell diam | eter) = 1 well volume | Redox (mV) | | 1 | 1 | 28 | 1 | | ~ | |
| | | | DO (mg/L) | | / | 1.1 | 1)1 | 1 | / | / | _ |
| (DTB-DTW) x 1.1 (for 1.5 | " diame | ter) = 1 well volume | DO (%) | | | · · · · | 5 | / | / | | |
| 2" casing has 0.16 | | | Appearance Silty, HC odd | & Odour (Clear, ours, etc.) | 1 | | 1 | 1/ | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | Sulphide (mg/L) | | 1 | | / | | | |
| 6 5/8" sand pack has (| | | final readings | Turbidity (NTU) | 3 | | 1 | | | | |
| | | 0.000 | | ge Volume (L) | | | | | | | |
| | | | | Purge Volume (L |): | | | | | | |
| VSI Field Parameters Logge | 141 | Yes No | Sample Met | hod | | | 6 | | | | |
| Time on YOI (24hr): | | | | 1 | Waterr | a | | Peristalt | ic | Di | sp. Bailer |
| Actual line of methilinemen | a (2dbr) | | Analysis | | | | | | | | |

| Sample Site (Con't): MUDQ - Q | 17 |
|------------------------------------|-----------------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: DJ-Plug DPV | /C Cap 🔲 Not Sealed 🔲 Other |
| Seal Replaced: J-Plug PVC | Cap 🖾 Not required 🗌 Other |
| Well properly sealed for gas monit | toring: XYes No Details: |

Head Space Gas Measurements

| | Lurs. | يترجع الم |
|----------------------|-------|-----------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20,4 |
| Carbon Dioxide (C02) | PPM | 810 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 mi | Field Filtered | HNO3 | | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 30000 | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | * | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 2 N. 1 | 2 | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

2014 DTH - 1.12 2014 DTB - 3.95

CI HEMMERA

| Sample Site: | HW | 09-08 | Project Num | mber; | 1343-005.09 | 1 | | Date: | | | 04 | -June | -15 | | |
|--|-----------|------------------------|----------------------------|-----------|-----------------------------|--|--------|-----------------|------------|----------|--------|------------|-------|-------|--------|
| Approximate Date Drilled: | | ~ | Client: | | GY - AAM | | - | Sampl | er: | | | /WN | | | |
| Piezometer Diameter / Screen Length: | | 2" | Project Nam | ne: | Mount Nanse Sampling Pro | and the state of t | GW | Weath | er/Tempe | erature: | | were as | 5 | | |
| UTM Location | Z.81 | E.38968N.6880578 | Waypoint | | GPS EL Na | me MK | 109-08 | Recov | ery: | | G | | Bad | | |
| Photos | Cam | W- Nos 165-140 | Purge Meth | bot | | | | | | - | | | | | |
| Duplicate Collected: | 1 Y | les Name 169-171 | | | 100 | Waterra | | 1 | Peristalti | C | D | Disp. Bail | er | | |
| Field Blank Collected | Y | es Name | Analysis | | | | | | X | | | | | | |
| Initial Depth to Water (m): | - 1 | 1.281 | Purge Start | Time: | 11:51 | | P | urge En | d Time: | | | | | | |
| Depth to Bottom (m): | | 3,897 | Purge Intern Time (5) | | /ol. () L | 12:12 | 12:17 | 10:23 | 12:27 | 12:32 | 10:37 | 12:42 | 12:47 | 12:52 | 18:57 |
| Submerged Tubing Depth (r | (m): | n.3 | Depth to wa | ater (m | 1) | 1.354 | 1,357 | 1.352 | 1.358 | 1.357 | 1.361 | 1359 | 1,36 | 1.361 | 1.360 |
| Well Stick-up Height (m): | | 1.113 | Temperatur | re (°C) | 3% | 4.5 | 27 | 2.5 | 2.2 | 2.4 | 23 | 23 | 2.2 | 2.3 | 12.4 |
| Estimated Water Volume (L) | _): | 5.23 | pH (pH Unit | its) ±0.1 | F1 | 6.65 | 6.63 | 6.63 | 6.65 | 6.64 | 6.67 | 6.66 | 6.68 | 6.67 | 6.67 |
| 1. | | | Cond. (µs/c | cm) 3% | · · · · · | 242.1 | 262.0 | 237.6 | 2002 | 265.0 | 360.6 | 208.6 | 245.0 | 1924 | 1963 |
| | | | Specific Co | ond. (µ | s/cm) 3% | 461.3 | 455.5 | 418.4 | 478.9 | 4666 | 456.1 | 3670 | 4365 | 337.1 | 346.3 |
| (DTB - DTW) x 2 (for 2" w | vell diam | neter) = 1 well volume | Redox (mV) | /) 10% | | -64.5 | _ | -83.7 | -863 | -89.0 | -90,8 | 92.3 | 43.3 | -945 | -95.0 |
| | | | DO (mg/L) | 10% | | 0.09 | 0.14 | 0.01 | 0.19 | 80.0 | 0.14 | 0.06 | D.11 | 80.0 | 0.07 |
| (DTB-DTW) x 1.1 (for 1.5 | 5" diame | ster) = 1 well volume | DO (%) 10% | 10 | | 1.4 | 1.8 | 0.1 | 1.6 | 0.6 | 0.5 | 5.0 | 0.9 | 0.5 | 0.6 |
| 2" casing has 0.16 | | | Appearance Silty, HC oc | | dour (Clear, , etc.) | Street S | some | Russey Drawn | same | same | Soring | Same | Same | Same | Edinia |
| 1" casing has 0.04 8" sand pack has 0.7 | .73 USga | al/ft or 9.271 l/m | Only for final | | hide (mg/L) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 5/8" sand pack has (| 0.50 US | sgal/ft or 6.35 l/m | readings | Turbi | oidity (NTU) | 1 | 1 | - 1 | 1 | 1 | - / | 11 | 1 | 1 | -1- |
| | | | Interval Put | irge Vo | Aume (L) | 1 | 1 | 0.75 | -1- | 1 | 1 | 1 | 1 | 1.1. | 1 |
| | | | Cumulative | e Purge | e Volume (L): | 1 | 1 | 1.75 | 2.75 | 3.75 | 4,75 | 5.75 | 6.75 | #175 | 8.75 |
| TTI FILE PLANTER LOOP | ped. | Yes No | Bample Me | -mod | | | | | | | | | | nore | 00 |
| Ten-or (SI (2Mm)- | | 13:02 | | | | Waterra | a | | Peristalti | ic | 1 | Disp. Bail | ler | 1904 | |
| Agood Line of Instantioned | ALL SAM | 13:02 | Analysis | | | | | | × | 2. | | | | | |



| ~ | |
|--------------|-------|
| | |
| | |
| Not Sealed | Other |
| Not required | Other |
| | |

| Head | Space | Gas | Measurements |
|------|-------|-----|--------------|
|------|-------|-----|--------------|

| | Lipe. | Apples |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 730 |

Well properly sealed for gas monitoring: Yes SNo Details: SDAS IN PVC

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | (B,HNO₃ | 120 | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | M HCL | 40 | - |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 4 | - | 500 | 1 |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 8 | NaOH | 145 | i |
| 4 | 250 ml (glass) | Ammonía (NH3) | 120 ml | ÷ | H-SO4 | 250 | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | E HNO3 | 120 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 8 | Zinc Acetate, then NaOH | 100 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | * | 030 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | E Field Filtered | | GEI | |

| General Notes | (Condition of well | or other features): |
|---------------|--------------------|---------------------|
|---------------|--------------------|---------------------|

| NUBLINEET 300 - 500 SINC | ce beginning of purge, everything else is sicilie | |
|--------------------------|--|---|
| 02796.0 | punge vol - IL | |
| DOMS-0.06 | 40+ VAL - 9.752 | |
| 00%-0.6 | | |
| Sulphicle - G.OR | | |
| | 4P - | |
| | 02796.0 DONG-0.06 DONG-0.6 CUIPNOLL-0.02 HUND - 2.14 | DO 189-0.6 DO 76-0.6 Sulphicle-0.02 |

| Sample Site: | KIN | (-90 | Project Numb | ber: 1343-005. | 09 | | Date: | | 00 | - 10 |
|--|-----------|-----------------------|---|-----------------------|------------------------|----|----------|-----------------|--------|------------|
| Approximate Date Drilled: | | / | Client: | GY - AAM | | | Sampl | er: | | mar |
| Piezometer Diameter / Screen Length: | - | 27 | Project Name | Mount Nat Sampling | nsen 2015 (Program | GW | Weath | er/Temperature: | 1000 C | 2.212 |
| UTM Location | Z&E | 1=0.000 N. 10000 . | Waypoint | GPS | Name | _ | Recov | ery: | Go | od 🗌 Ba |
| Photos | Cam. | WLNos. 29-126 | Purge Metho | d | | | | | | |
| Duplicate Collected: | - Ye | es-Name 25-127 | | | Waterra | | 1 | Peristaltic | Di | sp. Bailer |
| Field Blank Collected | 1 Ye | es Name | Analysis | | | | | | | |
| Initial Depth to Water (m): | | | Purge Start T | Time: | | F | Purge En | i Time: | | |
| Depth to Bottom (m): | | 4,910 | Purge Interva Time () m | al nin, Vol. () L | | | | | | |
| Submerged Tubing Depth (| m); | | Depth to wate | er (m) | | | | | | |
| Well Stick-up Height (m): | | 0.805 | Temperature | (°C) | | | | | | |
| Estimated Water Volume (L | .): | | pH (pH Units |) | | | | _ | | |
| | | | Cond. (µs/cm | 1) | 1 | 1 | | | | |
| | | | Specific Con | d. (µs/cm) | / | / | | | | |
| (DTB - DTW) x 2 (for 2" w | ell diam | eter) = 1 well volume | Redox (mV) | | _ | - | ∇ | 1 | | |
| | | | DO (mg/L) | | | 1 | 22 | - 1 | - | |
| (DTB-DTW) x 1.1 (for 1.5 | " diame | ter) = 1 well volume | DO (%) | | | ~ | - | 1 | - | - |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | | / | / | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | | Sulphide (mg/L) | 1 | | - | | | |
| 6 5/8" sand pack has | | | final | Turbidity (NTU) | | | | | | |
| | | | Interval Purge Volume (L) | | | | | | | |
| | | | Cumulative Purge Volume (L): | |): | | | | | |
| YE) Field Parameters Logg | edi: | Yes No | Sample Mean | 100 | | | | | | |
| Time on YSI (24ml | | | | | Waterra | | | Peristaltic | Di | sp. Bailer |
| Actual time of measuremen | in edding | | Analysis | | | | | | | |

| Sample Site (Con't): DOUCOL- | |
|--|--------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug RVC Cap | Not Scaled Other |
| Seal Replaced: J-Plug DVC Cap | Not required Other |
| Well properly sealed for gas monitoring: | Yes No Details: |

Head Space Gas Measurements

| | Unite | Talkes |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 0- 5 |
| Carbon Dioxide (C02) | PPM | 1300 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | | - | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | · . | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | e | | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | ~ | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | (e) | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | e | | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 5 | 1 | |

| General Notes (Cond | lition of well or oth | er features): | Ann HAT-In | a free s | |
|---------------------|-----------------------|---------------|---------------|----------|--|
| - GRE battery | (chives) 406 | e concintate | sign : bet in | es dan- | |
| | | | | | |
| | | | | | |
| | | | | | |

| Sample Site: | MW | 09-13 | Project Nut | mber: | 1343-005.0 | 9 | | Date: | | | 01/0 | 6/2013 |
|--|-----------|-------------------------|-------------------------------|-----------------------|---|------|----------------------|---------|-----------|----------|------|----------|
| Approximate Date Drilled: | 24 | known | Client: | | GY - AAM | | | Samp | ler: | | AN F | |
| Piezometer Diameter / Screen Length: | 2" | I viknowy | Project Nar | mot | e: Mount Nansen 2015 GW Sampling Program | | Weather/Temperature: | | perature: | Rainter | | |
| UTM Location | Z.SE | 5.387005 N. 688 1663 | Waypoint GPS AN Name MUNOR-13 | | MAR-13 | Reco | very: | | Goo | | | |
| Photos | Cam | R Nos. 141-146 | Purge Method | | - | | - | | | - | | |
| Duplicate Collected: | Y | es Name | Waterra | | rra | | Peristal | tic | Disp | . Bailer | | |
| Field Blank Collected | Y | es Name | Analysis | | | | | | | | | |
| Initial Depth to Water (m): 1 | CE | 8.986 | Purge Start | t Time: | | | P | urge En | d Time: | | 1 | |
| Depth to Bottom (m): | | | Purge Inter Time () | | .(_)L | | | | | | | |
| Submerged Tubing Depth (| m): | | Depth to w | ater (m) | | | | | | | | |
| Well Stick-up Height (m): 0.76 | | Temperatu | re (°C) 3 | % | | | | | | | | |
| Estimated Water Volume (L) |): | | pH (pH Uni | its) ±0.1 | | | | 1 | | 1 | | |
| | | | Cond. (µs/c | cm) 3% | | | | - | | 11 | | |
| | | | Specific Co | ond. (µs/o | cm) 3% | | | - | / | X | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | Redox (mV) 10% | | | | 1 | V | | 7 | | |
| | | and a subscription of a | DO (mg/L) | 10% | | | | ht | | // | I | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | ter) = 1 well volume. | DO (%) 10% | Ye | | | 10 | 0 | / | / | | |
| 2" casing has 0.16 | | | Appearance Silty, HC or | e & Odor dours, et | ur (Clear, c.) | | KK | / | 1/ | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphic | de (mg/L) | | / | | 1 | 7 | | |
| 6 5/8" sand pack has (| | | final readings | Turbidi | ty (NTU) | | | | - | | - | |
| and the state of the state of the state of | | | Interval Pu | | | | | | | | | - |
| | | Cumulative | | | 1 | | | - | | | | |
| YSI Field Parameters Logge | ett. | Yes No | Sample Me | thod | | | | | | | 100 | |
| Time on YSH (24hr): | | | 1.1 | | | Wate | rra | | Peristal | tic | Disp | . Bailer |
| Actual true of measurement | 1 (2410) | | Analysis | - | | | | | | | | |

| Sample Site (Con't): | M | W09-13 | <u> </u> | |
|----------------------|-----------|-------------|--------------|----------|
| Sample Date (Con't) | : | | | |
| Sample Time: | _ | | | |
| Well Head Seal: |] J-Plug | PVC Cap | Not Sealed | Other |
| Seal Replaced: | -Plug [|] PVC Cap | Not required | Other_ |
| Well properly sealed | d for gas | monitoring: | LYes TINO | Details: |

Head Space Gas Measurements

| | Units | Valuet |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | 0 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | 51 | □ NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | e. | H2SO4 | | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 9. | HNO, | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | 1 |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | ÷ | | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 4.7 | | |

| Sample Site: | Min | 109-14 | Project Nur | mber: | 1343-005.0 | 9 | | Date: | | | 01101 | 612015 |
|--|----------|------------------------|----------------------------|--------------------------------|--|-----------|----------------------|---------|-----------|------|-------|--------|
| Approximate Date Drilled: | Uni | known | Client: | | GY - AAM | | | Samp | ler: | | ANR | |
| Plezometer Diameter / Screen Length: | 2" | limknown | Project Nar | 1161 | Mount Nansen 2015 GW Sampling Program | | Weather/Temperature: | | erature: | Rain | | |
| UTM Location | Z.ØF | 5.389 007N.68 81 662 | Waypoint | Waypoint GPS AN Name MW07-14 R | | Recov | rery: | | Good | Bac | | |
| Photos | Cam | ELR Nos. 141-146 | Purge Method | | | | _ | | | | | |
| Duplicate Collected: | | es Name | Waterra | | 1 | Peristalt | ic | Disp | Bailer | | | |
| Field Blank Collected | 1 Y | es Name | Analysis | | | | | 1 | | | | - |
| Initial Depth to Matter (m): | ict " | 4.965 | Purge Start | t Time: | | | P | urge En | d Time: | | S | _ |
| Depth to Bottom (m): | | Purge Inter Time () | | .(_)L | | | | | | | | |
| Submerged Tubing Depth (m): | | Depth to wa | ater (m) | | | | | | | | | |
| Well Stick-up Height (m): 0.74 | | Temperatu | re (°C) 3% | la | | | | | | | | |
| Estimated Water Volume (L |): | | pH (pH Uni | ts) ±0.1 | | | | | | | | |
| | | | Cond. (µs/cm) 3% | | | | | 1 | | | | |
| | | | Specific Cond. (µs/cm) 3% | | 1 | 1 - | - 1 | | | | | |
| (DTB - DTW) x 2 (for 2" w | ell diam | eter) = 1 well volume | Redox (mV) 10% | | | | 1 | Di | 0 | | | |
| | | Street and an a street | DO (mg/L) 10% | | | 1 | V | / | 1 | | | |
| (DTB-DTW) x 1.1 (for 1.5 | diame | ter) = 1 well volume | DO (%) 10% | | 100 | | | | | | | |
| 2" casing has 0.16 | | | Appearance Silty, HC of | | | | KL | / | / | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphic | ie (mg/L) | | 1 | | C | 7 | | |
| 6 5/8" sand pack has I | | | final readings | Turbidi | ty (NTU) | - | - | - | | 10 | , | |
| | | | Interval Pu | | | | | | | | | |
| | | | Cumulative | | | | | | | | | |
| VSt Huld Panameters Logge | at: | Yes No | Sample Me | Mood | | | | | | | - | - |
| Tome on VSI (24hr): | | | | | | Waterr | a | 1 | Peristalt | ic | Disp | Bailer |
| Actual time of measurement | 1 (24brt | | Analysis | | | | - | | | | | |

| Sample Site (Con't): CAUGO 1- | 14 |
|--------------------------------------|--------------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plog PVC | Cap 🔲 Not Sealed 🔲 Other |
| Seal Replaced: J-Plug DVC Ca | p Not required Other |
| Well properly sealed for gas monitor | ing Pres I No Details |

Head Space Gas Measurements

| | Units | Maline |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | Q |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | °C. |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | × . | 7 | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | 91 | H2SO4 | 1 m | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | + | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 2 | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | | 7 | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 47 | 1 | |

| Sample Site: | MW109-15 | Project Number | 1343-005 | .09 | Date: | 01/06/2015 |
|---|--|-----------------------------------|-------------------------------|-------------------------|----------------------|--------------|
| Approximate Date Drilled: | untenours | Client: | GY - AAM | 1 | Sampler: | AN RM. |
| Piezometer Diameter / Screen Length: | 2"/unlenown | Project Name: | Mount Na Sampling | nsen 2015 GW Program | Weather/Temperature: | 0 |
| UTM Location | Z.BE.38820 N.688172 | 3 Waypoint | Waypoint GPSAN Name MUST-/5 R | | Recovery: | Good Ba |
| Photos | Cam. ELR Nos. 138-190 | Purge Method | | | | |
| Duplicate Collected: | Yes Name | | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | |
| Initial Depth to Water (m): | 13.976 | Purge Start Tim | Purge Start Time: Purg | | Purge End Time: | |
| Depth to-Battom (m): ICE 14.077 | | Purge Interval Time () min | , Vol. () L | | | |
| Submerged Tubing Depth (| m): | Depth to water | (m) | | | |
| Well Stick-up Height (m): | 0.90 | Temperature (% | C) 3% | 1.1 | | |
| Estimated Water Volume (L |): | pH (pH Units) ± | 0.1 | 1 | | |
| | | Cond. (µs/cm) 3 | 3% | | | |
| | | Specific Cond. | (µs/cm) 3% | | | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volume | Redox (mV) 10% | | 111111 | all | |
| | | DO (mg/L) 10% | | T | 000 0 | |
| (DTB-DTW) x 1.1 (for 1.5) | " diameter) = 1 well volume | DO (%) 10% | | X | RU | |
| | USgal/ft or 2.032 l/m | Appearance & C Silty, HC odour | | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | lphide (mg/L) | | | |
| | 0.50 USgal/ft or 6.35 l/m | final readings Tur | bidity (NTU) | | 14-12 | |
| | | Interval Purge \ | | | 6 | |
| | | Cumulative Pur | | ĸ | | |
| VEI Field Parameters Logon | d: Yes No | Sample Method | | | | |
| Three on YSI (24tor): | | 1 7 | | Waterra | Peristaltic | Disp. Bailer |
| Actual time of messurement | i (24m): | Analysis | | | | |

| Sample Site (Con' | t):M | W09-15 | | |
|--------------------|-------------|---------------|--------------|---------|
| Sample Date (Con | i't): | | | |
| Sample Time: | | | | |
| Well Head Seal: | 1-Plug | PVC Cap | Not Scaled | Other |
| Seal Replaced: | J-Plug | PVC Cap | Not required | Other |
| Well properly seal | led for gas | s monitoring: | Yes INO I | Details |

Head Space Gas Measurements

| | Liona- | Value |
|----------------------|--------|-------|
| Methane (CH4) | %LEL | 2 |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | Ø |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | é i l | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | A | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | ~ | HNO ₃ | | |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | ~ | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | * | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | A. | | |

General Notes (Condition of well or other features): Small amount of GW detected on top of ice blockage,

| Sample Site: | LIN | 39-16 | Project Number: 1343-005.09 Client: GY - AAM | |) | | Date: | | | 01-1 | Jun -15 | | |
|--|-------------|-----------------------|--|------------------------|---------------------------|---------|-------|----------|---------------------|-------|---------|-------------|--|
| Approximate Date Drilled: | 1 | | | | Sampl | er: | | DC TAM | | | | | |
| Piezometer Diameter / Screen Length: | | 2.4 | Project Na | me. | Mount Nans Sampling Pr | | GW | Weath | eather/Temperature: | | | overceat | |
| UTM Location | Z.8 E | 383900N.6881096 | Waypoint | | GPS ELE Na | me WW | 09-16 | Recov | ery: | | GG | ood 🗌 Ba | |
| Photos | Cam. | UL Nos 103-105 | Purge Met | hod | | | | - | | - | | - | |
| Duplicate Collected: | XYe | s Name DP-Q- | | | | Waterra | 1 | 1 | Peristalti | ic | D | isp. Baller | |
| Field Blank Collected | Ye | s Name 1/1 | Analysis | - | | | | | X | - | | | |
| Initial Depth to Water (m): | | 1.830 | Purge Star | t Time: | 17.07 | - | P | urge End | d Time: | | | | |
| Depth to Bottom (m): | | 2 745 | Purge Interval Time (5) min, Vol. () L | | 17:33 | 17:38 | 17:43 | 17:4B | 11:33 | 17.58 | 18:03 | | |
| Submerged Tubing Depth (| m): | 182 | Depth to water (m) | | 1.8% | 1.826 | | 1.826 | 1.806 | | 1.826 | | |
| Well Stick-up Height (m): | | 314 | Temperature (°C) 3% | | 6.6 | 5.3 | 5.2 | 5.2 | 5.1 | 5.1 | 5.0 | | |
| Estimated Water Volume (L |): | 1.83 | pH (pH Units) ±0.1 | | 7.06 | 6.180 | 6.78 | 6.77 | 676 | 6.75 | 6.75 | | |
| | | Cond. (µs/cm) 3% | | 1345 | 1254 | 12.59 | 1259 | 1259 | 1261 | 1257 | | | |
| | | | Specific Cond. (µs/cm) 3% Redox (mV) 10% DO (mg/L) 10% | | 1378 | 2075 | 2027 | 2024 | 2009 | 2634 | 2536 | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | | | 114,6 | 605 | 1233 | 124.5 | 126.2 | 983 | 38.4 | | |
| | | | | | 0.08 | 0.66 | 006 | 0.05 | 0.06 | 0.06 | 0.05 | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | er) = 1 well volume | DO (%) 10% | | | 07 | 0.6 | 0.5 | 0.5 | 0.6 | 0.6 | 0.5 | |
| 2" casing has 0.16 | | | Appearance Silty, HC o | ce & Odou dours, et | ur (Clear, c.) | CLEDS | CHEOS | CLEOT | Clear | chear | Clear | CLEASE | |
| 1" casing has 0.04 8" sand pack has 0.7 | 3 USgal | /ft or 9.271 l/m | Only for final | Sulphic | le (mg/L) | - | _ | - | 1 | 1 | 1 | 0 | |
| 6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m | | readings | Turbidi | ty (NTU) | - | - | 0-01 | 1 | 1 | 1 | 0.89 | | |
| | | Interval Pu | irge Volu | me (L) | 1 | 1 | 1 | 1 | 1 | 1 | 1-1- | | |
| | | | Cumulativ | e Purge V | olume (L): | 1 | 1 | 2 | 3 | H | 5 | 6 | |
| VSI Flam Parameters Lingen | adis . | Yes No | Sumple Mi | nines. | | _ | | | | | | | |
| Time on YSI (20hr): | _ | 11 | | | | Waterra | 1 | | Peristalti | ic | D | isp. Bailer | |
| Artua) time or mensurelying | e (Selter): | | Analysis | | - 1 | | | | V | | | | |

| Sample Site (Con't): MAICA - 115 | |
|---|---------------------------|
| Sample Date (Con't): | |
| Sample Time: 18 00 | |
| Well Head Seal: J-Plug SPVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoring | Yes INO Details and suche |

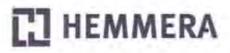
Head Space Gas Measurements

| | Lines | Variation |
|----------------------|-------|-----------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 19.5 |
| Carbon Dioxide (C02) | PPM | 3160 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | 180 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | 43 | 1.2 |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | ÷ | 4 | COCAN | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | D:NaOH | 45 | 1. |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 mi | - | DKH2SO4 | 680 | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | EkHNO ₃ | 180 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | ÷ | Zinc Acetate, then NaOH | 180 | 1.000 |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | * | | 250 | 12 |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | 120 | 2 |

General Notes (Condition of well or other features):

222 collected



| Sample Site: | MW09-17 | Project Num | ber: 1343-005.09 | 9 | | Date: | | | June 2 | 2015 |
|---|--|-------------------|---|---------|-------|----------|-----------|----------|-------------|-----------|
| Approximate Date Drilled: | nharma | Client; | GY - AAM | | | Samp | ler: | | 1010 | Apri |
| Piezometer Diameter / Screen Length: | 2 | Project Nam | Mount Nans Sampling P | | GW | Weath | ner/Temp | erature: | cloudy, B=c | |
| UTM Location | Z.8 E. 309000N. 6880 | Waypoint | GPS ELT N | amelawb | 9-17 | Recov | very: | | Go Go | od 🗌 Ba |
| Photos | Cam. we Nos. manual | 13-05 Purge Metho | bd | | | 2 | | | | |
| Duplicate Collected: | Ves Name N/A | | | Waterra | 1 | | Peristalt | ic | Dis | p. Bailer |
| Field Blank Collected | Yes Name_///A | Analysis | | | | | × | | | |
| Initial Depth to Water (m): | 2004 U.94 | Purge Start | Time: 11.00. | | | Purge En | d Time: | - | 11:3 | 0 |
| Depth to Bottom (m): | 第1年5.71 | Purge Interv | Purge Interval Time (5) min, Vol. () L | | 11110 | 11:15 | 11+20 | 11.25 | 11:30 | |
| Submerged Tubing Depth (| n): 5 | Depth to wa | Depth to water (m) | | 4.994 | 4.944 | 4.944 | 4.944 | 4.944 | |
| Well Stick-up Height (m): | 0.985 | Temperature | Temperature (°C) 3% | | 1.5 | 13 | 1.2 | 1.2 | 6.0 | |
| Estimated Water Volume (L | 1.554 | pH (pH Unit | pH (pH Units) ±0.1 | | 6.93 | 6.89 | 4.93 | 6.92 | 6.92 | |
| | | Cond. (µs/cr | Cond. (µs/cm) 3% | | 1592 | 1517 | 1573 | 1573 | 15-50 | 1.1 |
| | | Specific Cor | nd. (µs/cm) 3% | 2537 | 2855 | 2885 | 2885 | 2885 | 2884 | |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well volu | me Redox (mV) | 10% | 80.0 | 84.2 | 85.1 | 84.0 | 844 | SH. O | |
| | | | DO (mg/L) 10% | | 1.05 | 1-36 | 1.15 | 0.47 | 6.86 | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volum | ne DO (%) 10% | DO (%) 10% | | 8.7 | 11:0 | 9.6 | 8.1 | 2.2 | |
| | USgal/ft or 2.032 l/m | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | clear | cleur | clear | clear | 000 | |
| 8" sand pack has 0.7 | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | Only for final | Sulphide (mg/L) | - | 1.00 | 121 | 1 | - | 6.01 | |
| 6 5/8" sand pack has (| 0.50 USgal/ft or 6.35 l/m | readings | | | - | 8.1 | - | + | 0.02 | 1.11 |
| | | Interval Pur | | | 1 | ×. | 1 | | Å. | |
| | | Cumulative | Purge Volume (L): | 0.5 | 115 | 2.5 | 3-5 | 4,5 | 5.5 | |
| VSI Field Parametera Loggi | M Ves No | Sample Mil | Hod | | | | | | | - |
| Thoman YSI (24b/): | 1121 | | | Waterra | a | | Peristalt | ic | Dis | p. Bailer |
| Assurement time of measurement | *(B4m): 11-31 | Analysis | | | | | × | | - | |

[] HEMMERA

| Sample Site (Con't): | |
|--|---------------------|
| Sample Date (Con't): | |
| Sample Time: 11135 | |
| Well Head Seal: J-Plug DVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | XNot required Other |
| Well properly sealed for gas monitoring: | Yes No Details: |

Head Space Gas Measurements

| | Livits | Value |
|----------------------|---------|-------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 8.0 |
| Carbon Dioxide (C02) | -PPM= % | 3.00 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|------------------|-------------------------|---------------------|--|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | E-Field Filtered | ⊠ HNO3 | 120 . | |
| 15 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | D HCL | 40 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 14.00 C | 1 | 500. | 1. |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | - | 🖾 NaOH | 145 | (1 |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | + | H2SO4 | 250 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | | 🖾 HNO3 | 120 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | A | Zinc Acetate, then NaOH | 120 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | - | 250 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 mi | Field Filtered | 7 | .80 | |

General Notes (Condition of well or other features):

- CO2 so high it would not dispose PPM - Bentronite on tope when lope wethous way to up @ 1.204 Lexinitial believes ... Brinner shows ignistillicities an and so per-

- was getting a the turbidity reading (-0.20), calibrated using one nith solution.

| Sample Site: | MM | 109-18 | Project Nu | mber: 1 | 343-005.09 | 9 | | Date: | | | June | 2/15 | |
|--|-----------|-----------------------|--|---------------|------------|---------------------------|-------|---------|------------|-----------------|-------|-----------|-------|
| Approximate Date Drilled: | 10 | Known | Client: GY - AAM | | | - 1 | Sampl | er: | | JC/MM | | | |
| Piezometer Diameter / Screen Length: | | 2ª | Project Name: Mount Nanse Sampling Pro | | | 5 GW Weather/Temperature: | | | | sun, clouds 8+0 | | | |
| UTM Location | Z.08 E | .0388054 N. 4880984 | Waypoint | G | PS ELR N | ame MW | 09-16 | Recov | ery: | | ØG | iood [| Bad |
| Photos | Cam. | Nos. 109-110-1 | Purge Met | hod | - | | - | - | - | | - | - | |
| Duplicate Collected: | Ye | s Name_N/A | | | | Waterra | 1 | 1 | Peristalti | ic | C | isp. Bail | er |
| Field Blank Collected | Ye | s Name_N/A | Analysis | | | | | | × | | | | |
| Initial Depth to Water (m): | | 4.598 | Purge Star | t Time: | 9 | 28 | F | urge En | d Time: | | 10.01 | | |
| Depth to Bottom (m): | | 1, 199 | Purge Interval Time (5_) min, Vol. () L | | 9:30 | 9 37 | 9.42 | 41.44 | 9:50 | 0.57 | 10.00 | 10 114 | |
| Submerged Tubing Depth (| m): | A 1.5 | Depth to water (m) | | 4.584 | 4.588 | 4389 | 4,590 | 100 100 | | | 9590 | |
| Well Stick-up Height (m): | _ | 0.380 | Temperature (°C) 3% | | | 116 | 1.0 | 1.0 | 1.1 | 12 | 1.3 | 1.4 | 1.4 |
| Estimated Water Volume (L |): | 6 402 | pH (pH Units) ±0.1 | | 735 | 7.04 | 6.98 | 6.96 | 6.98 | 6.94 | 694 | 19694 | |
| | | Cond. (µs/cm) 3% | | 1488 | 1991 | GPUI | 1450 | 1452 | 457 | 1469 | 495 | | |
| | | | Specific Co | ond. (µs/cr | n) 3% | 2661 | 265R | 266 | 2665 | 2668 | 247 | 266 | 2700 |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | Redox (mV | /) 10% | | 41.3 | 54.0 | 59.9 | 627 | 64.2 | 65.5 | 66.2 | 66.2 |
| | | | DO (mg/L) | 10% | | 2.58 | 0.78 | 1.0 | 1.04 | 078 | 0.60 | | 0.52 |
| (DTB-DTW) x 1.1 (for 1.5 | " diamet | er) = 1 well volume | DO (%) 10% | | 21.6 | | 8.2 | 2.8 | 6.6 | 6.0 | 4.3 | 43 | |
| 2" casing has 0.16 | | | Appearance Silty, HC o | | | 2005 | CADE | clear | 2000 | 13.80C | Jos . | Clear | Clear |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for final | Sulphide | (mg/L) | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0.01 |
| 6 5/8" sand pack has t | 0.50 USg | gal/ft or 6.35 l/m | readings Turbidity (NTU) | | 1 | / | 1 | 1 | 1 | 1 | 1 | 0-51 | |
| | | Interval Pu | rge Volum | e (L) | 1 | 1 | 1 | 1 | 1. | - 1- | 1 | 1 | |
| | | | Cumulative | e Purge Vo | lume (L): | 1 | 1-1- | 2 | 3 | 4 | 5 | L | F |
| vS/ Fold Parameters Logge | ed: | □Yes ⊠No | Sorroske Ma | in the second | | | | | _ | - | 1 | | |
| Tima on YSI (24hr): | | | 1 | | | Waterra | 3 | | Peristalti | ic | D | isp. Bail | ler |
| Actual time of measurement | t (24im)- | | Analysis | - | | _ | | | X | | - | | |

| Sample Site (Con't): MW 09-18 | |
|---------------------------------------|----------------------|
| Sample Date (Con't): June 2.2015 | |
| Sample Time: 10-10 | |
| Well Head Seal: J-Plug DPVC C | Cap Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitori | ng Ves No Details: |

Head Space Gas Measurements

| | Units | Values |
|----------------------|-------|--------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 104 |
| Carbon Dioxide (C02) | PPM | 570 |

| Priority Bottle Type | | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments | |
|----------------------|----------------------|--|-------------|------------------|-------------------------|---------------------|----------|--|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml. | S Field Filtered | K HNO3 | 120 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | S Field Filtered | I HCL | 40 | spilled. | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | * | 500 | 1 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | 🖾 NaOH | 145 | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | | K H2SO4 | 1 so | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | a C | I HNO1 | 120 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 4.1 | Zinc Acetate, then NaOH | 120 | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | - | 4 | 250 | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 mi | S Field Filtered | - | 120 | | |

General Notes (Condition of well or other features): - Ice in tubing, nod to crock it to get wooder to flow

In the manufactor

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | MWO | 19-19 | | Project Number: 1343-005.09 | | | Date: | | | June 2,2015 | | | | | | | |
|---|---|---|--|---|--|-----------------|--------------------------|----------------------|---------|-------------------------|-----------------------|-------|--------------------|---------------|---------------------|-------|-----|
| Approximate Date Drilled: | Cam. WL No. No. | | Client: | | GY - AAM | | Sampler: | | | Je. | / MM | | 1 | | | | |
| Piezometer Diameter / Screen Length: | | | Desiget Manas | | Mount Nansen 2015 GW Sampling Program | | | Weather/Temperature: | | | cloudy, do 50C | | | | | | |
| UTM Location | | | Waypoint | GPS CLE N | | ame NW00-10 | | Recovery: | | | Good Bad | | | No 12 | e | | |
| Photos | | | Purge Method | | | | | | | | | 1 | | | | | |
| Duplicate Collected: | | | Analysis | | Peristaltic | | | Disp. Bailer | | | | | | | | | |
| Field Blank Collected | | | | | | | | × | | | | | | 1 | | | |
| itial Depth to Water (m): | | Purge Star | Time: 756 | | | Purge End Time: | | | 8:35 - | | | 1 | | | | | |
| Depth to Bottom (m): | | 5.88 | 5 | Purge Inte Time () | | ol. (0-5.) L | 1:59 | alez | 8.05 | 8:08 | -95 U | 8114 | 8.17 | 8.20 | 8 25 | 资 1.6 | 8 D |
| Submerged Tubing Depth (m): >< | | Depth to water (m) Temperature (°C) 3% | | 2-865 | 2,955 | 0-8 | | 1.049 0.8 | 3.079 | 3.038 | 3.014 | 3,032 | 3.079 | 3.(37) 0-7 | | | |
| | | | | | | | | | | | 1/0 | | | | | | |
| Estimated Water Volume (L): | | | pH (pH Units) ±0.1 | | 6:45 | 6.84 | 6-8Z | 4.50 | 6.79 | 6.78 | \$.78 | 6.78 | 675 | 6.715 | 8- | | |
| (DTB – DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume | | Cond. (µs/cm) 3% | | ISPY | 1356 | 1878 | 1388 | 1387 | 1357 | 137) | 1387 | 1314 | 1301 | 12/ | | | |
| | | | Specific Cond. (µs/cm) 3% Redox (mV) 10% DO (mg/L) 10% DO (%) 10% | | 2495 | 2532 | 2566 | 2584 | 2583 | 2528 | 1539 | 2556 | 2548 | 2539 | | | |
| | | ell volume | | | -62.7 | -64-5 | -618 | 1-37 1417 | | - 78-8 11117 11-5 | - 80.8 1.13 9.4 | -82.5 | 83.6 106 1.4 | | 250 +\$6. 144 | | |
| | | | | | 1.45 | 1.12, | 1-37 | | | | | | | | | | |
| | | I volume | | | 19.8 | 13 7 | 1.0 | | | | | 9.5 | | | | | |
| 2" casing has 0.16 USgal/ft or 2.032 l/m 1" casing has 0.04 USgal/ft or 0.508 l/m 8" sand pack has 0.73 USgal/ft or 9.271 l/m 6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m | | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | citat | citor | Litor | ellear. | elear | liese | clear | clear | dear | citar | | |
| | | | l l/m | Only for final | Sulph | ide (mg/L) | - | ÷ . | ± 1 | 1 - | - | 2 | - a - | 4 | | 0 | |
| | | | 35 l/m | readings Turb | Turbi | dity (NTU) | ~ | ~ | ~ | 1.00 | - | - | - | 1 | - | | |
| | | | | Interval Purge Volume | | ume (L) | 2.5 | 0.5 | 0.5 | av5 | 0.5 | 0.5 | 0.5 | 0.5 | 9.5 | 0.5 | 0.5 |
| | | | Cumulativ | e Purge | Volume (L): | 0.5 | 1. | 1.5 | 2 | 215 | 3 | 3/5 | 9 | 4.5 | 5 | 5.5 | |
| VSI Field Parameters Loggs | ade: | I Ves | 🗆 No | Sample Method | | | the second second second | | | | | | | | | | |
| Time on YSI (24hr): | | 8/51 | | | | Waterra | 3 | Peristaltic | | | Disp. Bailer | | | | | 1 | |
| Antual Bate of numeraminator (24hr): | | | Analysis | | | | X | | | | | | | ging | | | |

Turbidity (NTW) = 0.22 Sulphick mallisons

| Sample Site (Con't): HW09-19 | ~ | |
|--|--------------|-------------|
| Sample Date (Con't):une 2, 2015 | | |
| Sample Time: 8330 | | |
| Well Head Seal: J-Plug Q PVC Cap | Not Scaled | Other |
| Seal Replaced: J-Plug PVC Cap | Not required | Other |
| Well properly sealed for gas monitoring: | Yes No L | Details: 51 |

Head Space Gas Measurements

| | Umbs | Values |
|----------------------|------|--------|
| Methane (CH4) | %LEL | 5 |
| Oxygen (O2) | % | 20 5 |
| Carbon Dioxide (C02) | PPM | 760 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|------------------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | 150 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | ST HCL | 40 | - |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 1 | - | 590 | 1 |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 mi | ÷ | ⊡kNaOH | 145 | |
| 4 | 250 ml (giass) | Ammonia (NH3) | 120 ml | + | H2SO4 | 250 | 1. |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | + | HNO3 | 130 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | 170 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | * | 210 | 1 |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 mi | Field Filtered | + | 120 | Villian Internet |

General Notes (Condition of well or other features):

- @ Sim ice proont, able to break through , had to creek ice in tubing to get water to flow

DI water botch ZG- May 15

2014 DTB= 3.71 DRY

CI HEMMERA

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | MW09-20 | Project Number: | 1343-005.0 | 9 | Date | | 04-310 | -15 |
|---|--|----------------------------------|---|-------------------------|---------|------------------|-----------|------|
| Approximate Date Drilled: | ~ | Client: | GY - AAM | | Sam | pler: | JC/MA | |
| Plezometer Diameter / Screen Length: | 2" | Project Name: | Mount Nan Sampling F | isen 2015 GW Program | Weat | her/Temperature: | OWNERDST, | |
| UTM Location | Z.5 E. 388902N.6880581 | Waypoint | GPS BLA | Name MUDa -2 | P Reco | very: | Good | Bad |
| Photos | Cam. WL Nos. 158-163 | Purge Method | | | | | | |
| Duplicate Collected: | Ves Name 166-168 | | 1 | Waterra | - | Peristaltic | Disp. Ba | iler |
| Field Blank Collected | Yes Name | Analysis | | | | | | |
| Initial Depth to Water (m): | 024. | Purge Start Time | 6 | | Purge E | nd Time: | | |
| Depth to Bottom (m): | 3.684 | Purge Interval Time () min, V | Vol. () L | | | | | |
| Submerged Tubing Depth (r | m): | Depth to water (n | n) | | 1/ | | | |
| Well Stick-up Height (m): | 0.923 | Temperature (°C) |) 3% | | | - | | |
| Estimated Water Volume (L) |): N | pH (pH Units) ±0.1 | | | / | | 1.1.1.1 | |
| | | Cond. (µs/cm) 3% | | 5 | 1 | / | | |
| | | Specific Cond. (µs/cm) 3% | | 5 | XX | | 1 | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volume | Redox (mV) 10% | | | V | | / · · · | |
| | | DO (mg/L) 10% | | - | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | diameter) = 1 well volume | DO (%) 10% | | 1 | / | | | |
| | USgal/ft or 2.032 l/m | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | 1 | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | hide (mg/L) | | 1 | | | |
| | 0.50 USgal/ft or 6.35 l/m | final readings Turb | idity (NTU) | | - | | | - |
| | | Interval Purge Volume (L) | | | - | | | - |
| | | Cumulative Purge Volume (L): | | | | | - | |
| VSV Freid Parameters Lague | Yes No | Sample Jack-on | | a color | | | | |
| Totos an VSH (24m) | | 1. 1 | | Waterra | 1 | Peristaltic | Disp. Ba | iler |
| Athlet time of measuremen | 1 (2670) | Analysis | | | | | | |

| Sample Site (Con't): 100 - 20 | > | |
|--------------------------------|--------------|-------|
| Sample Date (Con't): | | |
| Sample Time: | | |
| Well Head Seal: J-Plug PVC Cap | Not Sealed | Other |
| Seal Replaced: J-Plug PVC Cap | Not required | Other |

| | | alles - |
|----------------------|------|---------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | ROG |
| Carbon Dioxide (C02) | PPM | 950 |

Head Space Gas Measurements

Well properly sealed for gas monitoring: Yes No Details:

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 16 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | 2 | S | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | é. | D NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 mi | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | + | - | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 2 | | |

General Notes (Condition of well or other features):

GROUNDWATER SAMPLE COLLECTION SHEET

LIN DRG. 362

| Sample Site: | HW09-21 | Project Number: | 1343-005.09 | Date: | 03-June-15 |
|---|--|--------------------------------------|--|----------------------|--------------|
| Approximate Date Drilled: | ~ | Client: | GY - AAM | Sampler: | JC/MM |
| Piezometer Diameter / Screen Length: | 3 | Project Name: | Mount Nansen 2015 GW Sampling Program | Weather/Temperature: | |
| UTM Location | Z. OB E. DISASS N. LEEDSTI | Waypoint | GPS ILM Name MWD9-21 | Recovery: | Good Ba |
| Photos | Cam. ML Nos. 186-158 | Purge Method | | | |
| Duplicate Collected: | Cam Nos 57-15 | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | |
| Initial Depth to Water (m): | 1.493 | Purge Start Time: | £ | Purge End Time: | |
| Depth to Bottom (m): | 1.552 | Purge Interval Time () min, V | /ol. () L | | |
| Submerged Tubing Depth (r | m): | Depth to water (m | ן) | / / | / |
| Well Stick-up Height (m): | 0 744 | Temperature (°C) | | | |
| Estimated Water Volume (L |): | pH (pH Units) | / | | 11 |
| | | Cond. (µs/cm) | | | |
| | | Specific Cond. (µ | Specific Cond. (µs/cm) | | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volume | Redox (mV) | | 004 | |
| | | DO (mg/L) | | YY / | /// |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) | | | |
| | USgal/ft or 2.032 l/m | Appearance & Oo Silty, HC odours, | | // | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9 271 l/m | | hide (mg/L) | XX | |
| 8" sand pack has 0.73 USgal/ft or 9.271 l/m 6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m | | final readings Turb | idity (NTU) | | |
| | | Interval Purge Vo | | | |
| | | Cumulative Purg | e Volume (L): | | |
| VSI Field Paramaters Lagre | tl: Yes No | Sample Methou | | | |
| Tome on VSI (2dfm): | | | Waterra | Peristaltic | Disp. Bailer |
| Actual time of measurement | L(zhir)_ | Analysis | | | |

[] HEMMERA

| Sample Site (Con't): NMO9 - 21 | <u>E</u> |
|--|--------------------|
| Sample Date (Con't): | |
| Sample Time: | |
| Well Head Seal: J-Plug S.PVC Cap | Not Sealed Other |
| Seal Replaced: J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoring: | Yes No Details: |

Head Space Gas Measurements

| | -Unit- | - |
|----------------------|--------|------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 460 |

Priority **Bottle Type** Parameters Analyzed Min Volume Treatment X Preservative Added Vol. Collected (ml) Comments 1a 120 ml (plastic) **Dissolved Metals** 100 mi Field Filtered HNO3 1b 40 ml (glass) **Dissolved Mercury** 15 mL Field Filtered - HCL 2 1 L (plastic) General Chemistry 200 ml Cyanide (total, free, weak 3 145 ml (plastic) 100 ml □ NaOH acid dissociable) 4 250 ml (glass) Ammonia (NH3) 120 ml H2SO4 -5 120 ml (plastic) Thiocyanate (SCN) 50 ml HNO3 6 120 ml (plastic) Sulphide 100 ml Zinc Acetate, then NaOH -7 250 ml (glass amber) Total Inorganic Carbon 100 ml 8 120 ml (plastic) **Dissolved Alkalinity** 100 ml Field Filtered

General Notes (Condition of well or other features): -Frozen autempted to that for SD mins

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | MWO | 9-22 | Project Nur | nber: 1343- | 005.09 | 1 | | Date: | | June 3,201 | 5 |
|--|-----------|-----------------------|--|--------------------|--------|------------------|---------------------|---------|----------------|------------|--------|
| Approximate Date Drilled: | 1 | / | Client: | GY - A | MAA | | | Samp | oter: | Seller | |
| Piezometer Diameter / Screen Length: | 2 | W. | Project Name: Mount Nansen 2015 GW Sampling Program | | Weat | her/Temperature: | Survey, 130 K. wind | | | | |
| UTM Location | Z.08 E | 0369496 N. 6880547 | Waypoint | GPS | ILR Na | me_Mwi | 09-22 | Reco | very: | Good | X Bac |
| Photos | | Nos. 182-158 | Purge Meth | bod | | | | | | | 1 |
| Duplicate Collected: | Ye | s Name 153-156 | | | | Waterra | 1 | | Peristaltic | Disp. I | Bailer |
| Field Blank Collected | | s Name FB-4 | Analysis | | | | | | x | | |
| Initial Depth to Water (m): | | 4.531 | Purge Start | t Time: | 1615 | | F | urge Er | nd Time: | | |
| Depth to Bottom (m): | | 5.207 | Purge Inter Time (_5_) | val min, Vol. (| JL | 16.17 | 16 72 | | June4 10:44 | | |
| Submerged Tubing Depth (| m): | 5.00 | Depth to wa | ater (m) | | 4.794 | 4.953 | | / | | |
| Well Stick-up Height (m): | | 0.389 | Temperatur | re (°C) | - | 4.2 | 3.7 | | 3.4 | | |
| Estimated Water Volume (L | .): | 0-7- +2 = 1.4 L | pH (pH Units) | | | 6.80 | 6:10 | | 6.25 | | |
| | | | Cond. (µs/cm) | | 425.3 | 988 | 4 | 991 | | | |
| | | | Specific Cond. (µs/cm) | | | 705.4 | 1662 | 2 2 | 1674 | | |
| (DTB - DTW) x 2 (for 2" w | ell diame | eter) = 1 well volume | Redox (mV) | | | P-B(= | 9.3 | 3 | 17.7 | | |
| | | | DO (mg/L) | | | 0.03 | 0-06 | TE | 0.26 | | |
| (DTB-DTW) x 1.1 (for 1.5 | o" diamet | er) = 1 well volume | DO (%) | | | 0.3 | 0.6 | 0 | A2.3 | | |
| 2" casing has 0.16 | | | Appearance & Odour (Clear, Silty, HC odours, etc.) | | ear, | tor bid | Yellow turbid | JEGED | Deaux | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for final | Sulphide (mg | g/L) | 1 | 2 | d | 0.07 | | |
| 6 5/8" sand pack has | 0.50 US | gal/ft or 6.35 l/m | readings | Turbidity (N1 | FU) | 1 | ~ | _ | 12.0 | | |
| | | Interval Pu | rge Volume (L |) | 0.25 | 0.75 | - | 1 | | | |
| | | | Cumulative Purge Volume (L): | | e (L): | 0.25 | 1 | | | | |
| YSI Field Parametern Frage | en: | Ves No | Sample Mexico | | | | | | | | |
| Time on YSI (24m) | | | | | | Waterra | 8 | | Peristaltic | Disp. | Bailer |
| Action ions of measuremen | 1 (24)00 | | Analysis | | | | | | X | | |

HEMMERA

| Sample Site (Con't): MW 09-32 | |
|--|--------------------|
| Sample Date (Con't): June 4 115 | |
| Sample Time: 10.10 | |
| Well Head Seal: 🔲 J-Plug 🖾 PVC Cap | Not Sealed Other |
| Seal Replaced:] J-Plug D-PVC Cap | Not required Other |
| Well properly sealed for gas monitoring: | Yes No Details: |

Head Space Gas Measurements

| | =7000. | 1.5 |
|----------------------|--------|------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.6 |
| Carbon Dioxide (C02) | PPM | 2850 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|------------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | D Field Filtered | D HNO3 | 60 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | K HCL | 40 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | + | 4 | 500 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | ÷ | МаОН | 145 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | H | H2SO4 | 250 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | ÷ | HNO3 | 120 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 19 T | Zinc Acetate, then NaOH | 120 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 4 | - | 250 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | SD | |

General Notes (Condition of well or other features):

- Noted poor recovery & lorge draw idown while purging

- lowered tubring to bottom of MWS and purged dry Broome thick, brown and zilly

to to return tomorrow to direct comple.

-Juney DTW -4,549 -FB Batch 30- MM-15

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | MW | 09-23 | Project Nu | mber: | 1343-005.09 | 9 | | Date: | | | 37 | Tane | Tait |
|--|------------|---------------------|-----------------------------------|---|-------------|---------|----------------------|----------|------------|----------------|--------|------------|------|
| Approximate Date Drilled: | 2 | 2009 | Client: | | GY - AAM | - | | Sampler: | | | AN, RM | | - |
| Plezometer Diameter / Screen Length: | 2 | "/unknown | Project Na | Project Name: Mount Nansen 2015 G Sampling Program | | GW | Weather/Temperature: | | erature: | overcast 8C | | | |
| UTM Location | Z.7 E.3 | 589459N. 6880553 | Waypoint | | GPS AN Na | ame MW | 09-23 | Reco | very: | | KG | ood [| Bad |
| Photos | CamE | RNOS. 183-185 | Purge Met | hod | | | | | - | | | | |
| Duplicate Collected: | Yes | Name | 1 | V | | Waterra | 3 | 1 | Peristalti | c | D | isp. Bail | er |
| Field Blank Collected | Ves Yes | Name | Analysis | | | × | | | | | | | |
| Initial Depth to Water (m): | | 12 748 | Purge Star | t Time: | 13:0 | 04 | P | urge En | d Time: | | | | |
| Depth to Bottom (m): | | 15.890 | Purge Inter Time () | | .(_)L | 13:06 | 13:09 | 13:12 | 13:16 | 13:25 | | | |
| Submerged Tubing Depth (| m): | 15.2 | Depth to w | ater (m) | | / | / | / | / | 12.805 | _ | 10 | B |
| Well Stick-up Height (m): | | F1.0 | Temperature (°C) 3% | | 1.25 | 1.27 | 0.78 | 0.71 | 0.85 | 2 | Ra | D,C | |
| Estimated Water Volume (L | .): | 6.0 | pH (pH Units) ±0.1 | | 7.00 | 6.93 | 6.94 | 6.90 | 6.90 | 50 | 08.0 | 201 | |
| | | | Cond. (10)(01) 3% (~5/~) | | (106 | 1,105 | 1,130 | 1.155 | 1.(80 | | 106 | 1 | |
| | | | Specific C | ond. (µs/o | :m) 3% | 2019 | 2021 | 2101 | 2148 | 2189 | C | Al | |
| (DTB - DTW) x 2 (for 2" w | ell diamet | er) = 1 well volume | Redox (m) | /) 10% | | -262 | -29,9 | -38.9 | - 452 | -513 | | | |
| | | | DO (mg/L) | 10% | | 3.92 | 4:26 | 3.41 | 2.95 | 2.47 | | - | |
| (DTB-DTW) x 1.1 (for 1.5 | i" diamete | r) = 1 well volume | DO (%) 10 | % | | 285 | 29.5 | 24.0 | 20.7 | 17.4 | | | |
| 2" casing has 0,16 | | | Appearance Silty, HC o | | | Slinet, | shigrey | Sauce | p | Sound. | | | 1.00 |
| 1" casing has 0.04 8" sand pack has 0.7 | - | | Only for | Sulphie | ie (mg/L) | | Card | | | | | 0.64 | 3 |
| 6 5/8" sand pack has | | | final readings Turbidity (NTU) | | | | 1 | | | - | 66 | \uparrow | |
| | | | Interval Pu | irge Volu | me (L) | 5 | 5 | 5 | 5 | 5 | - | | 1 |
| | | | Cumulativ | e Purge \ | /olume (L): | 5 | 5 | 10 | 15 | 20 | | - | |
| Yoi Flets Feramators Lurge | ed: | Yes No | Sample M | inei | | | | | | | | | |
| Time on VSI (24)mi | | | 1 | | | Waterr | a | 1 | Peristalt | ic | C | Disp. Bai | ler |
| ACULAR STATE OF PRESIDENT OF | th (26m)= | | Analysis | | | × | | | | | | | |

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HEMMERA

| Sample Site (Con't):MW09 | -23 |
|-----------------------------------|---------------------------------|
| Sample Date (Con't): 04/06/ | 2015 |
| Sample Time: 08-15 | |
| Well Head Seal: J-Plug PV | /C Cap 🔲 Not Sealed 🔲 Other |
| Seal Replaced: J-Plug DPVC | Cap Not required Other |
| Well properly sealed for gas moni | toring: TYes No Details: 51:45. |

Head Space Gas Measurements

| | Um | Values |
|----------------------|------|--------|
| Methane (CH4) | %LEL | Ø |
| Oxygen (O2) | % | 204 |
| Carbon Dioxide (C02) | PPM | 25 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 mi | Field Filtered | ⊡/ANO ₃ | 100 | |
| 15 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | 14 FICL | 15 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | ÷1 | | 200 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 5 | ⊡ NaOH | 100 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | £ | DASO. | (20 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | 9 C | IL HNO: | 50 | 1 |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | * | Zinc Acetate, then NaOH | 100 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 mi | 8.5 | • | 100 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | 100 | |

General Notes (Condition of well or other features): Used 16m of waterra tubing and foot value and waterra fost value. Replaced metal wire for tranducer. Wire was frayed, potential to break and drop down well Purged well on Jun 3/2015 Sample very turbid. Good recharge. 20 C purged will return to sample once well water has settled. Suggered using a different sampling method, dedicated plastic submissible pup. Well has been damaged by grading/addition of rock material to tailings dame (bent @ ~30" from vertical).

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | MNO | 19-24 | Project Nu | mber: 1343 | 3-005.09 |) | | Date: | | | 04/ | 06/2015 |
|--|------------|---------------------|---|-------------------------------|----------|---------------|-------|---------------------|-----------|----------------|--------------|--------------|
| Approximate Date Drilled: | inthe | ~05~m | Client: | GY - | AAM | | | Sampler: | | | AN, RM | |
| Piezometer Diameter / Screen Length: | 2" / | Inknown | Project Name: Mount Nanser Sampling Proj | | W/ost | | | er/Temp | erature: | oversast -10.c | | |
| UTM Location | Z.8 E.3 | 389560 N.6880624 | Waypoint | GPS | AN Na | ame Mw | 09-24 | Recov | ery: | | ØG | Good 🗌 Ba |
| Photos | Cam.EL | R Nos. 2121-229 | Purge Meth | hod | | | | | | | | |
| Duplicate Collected: | Yes | Name 224-226 | | | Waterra | R. | 3 | Peristalti | c | C | Disp. Bailer | |
| Field Blank Collected | Yes | | Analysis | | | | | | | | X | |
| Initial Depth to Water (m): | | 9.540 | Purge Star | t Time: | 11 40 | | F | urge End | d Time: | | 11:54 | |
| Depth to Bottom (m): | | 11. 190 | Purge Interval Time () min, Vol. () L | | 11:43 | 11.46 | 11:50 | 11:54 | | | | |
| Submerged Tubing Depth (| m): | | Depth to water (m) | | | | 221 | 9.541 | 20.201 | | | |
| Well Stick-up Height (m): | | | Temperature (°C) | | 1.94 | 0.58 | 0.60 | 0.67 | 11.11 | | | |
| Estimated Water Volume (L | .): | ~3.3 | pH (pH Uni | its) | | 7.08 | 6.95 | 6.98 | 7.03 | | | |
| | | | Cond. (µs/ | cm) | | 0.544 | 0.500 | 0.499 | 0.499 | | _ | |
| | | | Specific Co | ond. (µs/cm) | | 190 | 939 | 936 | 933 | | | |
| (DTB - DTW) x 2 (for 2" w | ell diamet | er) = 1 well volume | Redox (mV | /) | | 1=1.8 | 123.4 | 122.2 | 121.1 | 1.1.1.1. | | 120.110 |
| | | | DO (mg/L) | 1 | | 1203 | 7.56 | 6.96 | 8.27 | | - | |
| (DTB-DTW) x 1.1 (for 1.5 | " diamete | er) = 1 well volume | DO (%) | | 16:56 | 54.3 | 48.5 | 56.8 | | | | |
| 2" casing has 0.16 | | | | ce & Odour (C dours, etc.) | lear, | grey silfy | Same | slightly furbid. | Some | | | |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for | Sulphide (m | ng/L) | - | | 1 1 | | 0.04 | | |
| 6 5/8" sand pack has | | | final readings Turbidity (NTU) | | | | | | 2.06 | | | |
| | | | Interval Purge Volume (L) | | 6 | 4 | 5 | 5 | | | | |
| | | | Cumulative | e Purge Volur | ne (L): | 6 | 10 | 15 | 20 | | | |
| YSI Emild Parameters Large | - | Yes No | Sample Mu | ethod | | | | | | | | |
| Time on YSI (24hr). | | | | | | Waterra | 1 | | Peristalt | ic | I | Disp. Bailer |
| Actual time of muasurament | n (24md. | | Analysis | | | _ | | | | | | X |

[] HEMMERA

| Sample Site (Con't): | MW09-24 | | |
|--------------------------|----------------|--------------|---------|
| Sample Date (Con't):(| 04/06/2019 | 5 | |
| Sample Time: | 14.4 | | |
| Well Head Seal: 🔲 J-Ph | ug DVC Cap | Not Sealed | Other |
| Seal Replaced: 🗌 J-Plug | PVC Cap | Not required | Other |
| Well properly sealed for | gas monitoring | Ves DNo I | betails |

Head Space Gas Measurements

| | Jnits. | Values |
|----------------------|--------|--------|
| Methane (CH4) | %LEL | 15 |
| Oxygen (O2) | % | 20.4 |
| Carbon Dioxide (C02) | PPM | 200 |

| Priority | Eottle Type | Parameters Analyzed | Min. Volume | Treatment | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 18 | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | 120 | |
| 15 | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | 40 | |
| 2 | -1 I. (plastic) | General Chemistry | 200 ml | ÷. | | 1000 | 15 |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | • | □ NaOH | 145 | P'set |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | £ | H2SO4 | 250 | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | (20 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | A. | Zinc Acetate, then NaOH | 120 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | * | - | 250 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | ÷ | 120 | |

General Notes (Condition of well or other features):

Purged 20 L @ 11:40 will return to sample after the well has settled (sightly turbid). Using bailer

Sandy/windy conditions while sampling. Potential for dust contamination.

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | W141030838H01 | Project Number | 1343-005.0 | 9 | Date: | June 3, 2015 |
|--|--|-----------------------------------|-------------------------|------------------------|---------------------|---------------|
| Approximate Date Drilled: | | Client: | GY - AAM | | Sampler: | JC/MM |
| Piezometer Diameter / Screen Length: | 2* | Project Name: | Mount Nan Sampling P | sen 2015 GW Program | Weather/Temperature | E Sunny, 13+C |
| UTM Location | Z.08 E. 0389519 N. 6880667 | Waypoint | GPS ELR N | ame_BHOI | Recovery: | Good Ba |
| Photos | Cam. we Nos. 145-145 | Purge Method | - | | | |
| Duplicate Collected: | Ves Name 144 - 146 | | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | |
| Initial Depth to Water (m): | - (DRY) | Purge Start Tim | e: | | Purge End Time: | |
| Depth to Bottom (m): | 5.538 (ICE) | Purge Interval Time () min | , Vol. () L | | | |
| Submerged Tubing Depth (| m): | Depth to water | (m) | | | |
| Well Stick-up Height (m): | 0.635 | Temperature (°C | C) | | | |
| Estimated Water Volume (L |): | pH (pH Units) | | | | |
| | | Cond. (µs/cm) | 0.00 | | MACEN | |
| | | Specific Cond. | (µs/cm) | | FRANCI | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volume | Redox (mV) | | | 1 | |
| | | DO (mg/L) | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) | | | | |
| | USgal/ft or 2.032 l/m | Appearance & C Silty, HC odour | | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | | phide (mg/L) | | | |
| and a set of the set o | 0.50 USgal/ft or 6.35 l/m | final readings Tur | bidity (NTU) | | | |
| | and the second second | Interval Purge \ | | | | |
| | | Cumulative Pur | | | | |
| YSI Field Parameters Logge | No Yes No | Sample Mumor | 1 A A | | 1 | |
| Time on VSI (24trr): | | The state of the second | | Waterra | Peristaltic | Disp. Bailer |
| Actual time of measuremen | r (24hr)- | Analysis | | | | |

| Sample Site (Con't): | 101 | |
|---|--------------|-----------------|
| Sample Date (Con't): | | |
| Sample Time: | | |
| Well Head Seal:] J-Plug PVC Cap | Not Sealed | Other |
| Seal Replaced: 🗌 J-Plug 🛛 PVC Cap | Not required | Other |
| Well properly sealed for gas monitoring | Yes No 1 | Details: No Cap |

Head Space Gas Measurements

| | date | stille |
|----------------------|------|--------|
| Methane (CH4) | %LEL | o |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 620 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO3 | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | 14 · | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | 8 | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120-mi | 8 | H2SO4 | | 1 |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | - | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | 2 | + | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | | |

General Notes (Condition of well or other features):

DTB 2014= 6.76

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GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | WITTOSOB3BHOZ | Project Number | 1343-005.0 | 9 | Date: | June 3/15 |
|---|---|------------------------------------|--------------------------|-----------------------|----------------------|--------------|
| Approximate Date Drilled: | | Client: | GY - AAM | | Sampler: | JC/MH |
| Piezometer Dlameter / Screen Length: | 2 | Project Name: | Mount Nans Sampling P | sen 2015 GW rogram | Weather/Temperature: | Sunny 1392 |
| UTM Location | Z.08 E. 0389560 N. 6580664 | Waypoint | GPS ELR N | ame_BH02 | Recovery: | Good Bad |
| Photos | Cam. WL Nos. 149-150 | Purge Method | | | | |
| Duplicate Collected: | Ves Name | | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | |
| Initial Depth to Water (m): | - (DRY) | Purge Start Tim | e: | | Purge End Time: | |
| Depth to Bottom (m): | 6.766 (ILE) | Purge Interval Time () min, | Vol. () L | | | |
| Submerged Tubing Depth (| m): | Depth to water (| m) | | | |
| Well Stick-up Height (m): | 0.790 | Temperature (°C | ;) | | | |
| Estimated Water Volume (L |): | pH (pH Units) | | | | |
| | | Cond. (µs/cm) | A | | | |
| | | Specific Cond. | µs/cm) | | FRUZEN | |
| (DTB - DTW) x 2 (for 2" w | ell diameter) = 1 well volume | Redox (mV) | | | FRUSP | |
| | | DO (mg/L) | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) = 1 well volume | DO (%) | | | | |
| | USgal/ft or 2.032 l/m | Appearance & C Silty, HC odours | | | | |
| | USgal/ft or 0.508 l/m '3 USgal/ft or 9.271 l/m | | phide (mg/L) | | | |
| | 0.50 USgal/ft or 6.35 l/m | final readings Tur | bidity (NTU) | | | |
| | | Interval Purge \ | olume (L) | | | |
| | | Cumulative Pur | ge Volume (L): | | | |
| YSI Field Parameters Logge | MI Ves No | Sample Menson | and the second second | | | |
| Time on YSI (24hr); | | | | Waterra | Peristaltic | Disp. Bailer |
| Actual time of measuremen | L (ZADE) | Analysis | | | | |

| Sample Site (Con | n't): | 840 | 2 | |
|------------------|--------------|------------|--------------|-------------------|
| Sample Date (Co | n't): | June 5 715 | | |
| Sample Time: | | | | |
| Well Head Seal: |] J-Plug | PVC Cap | Not Sealed | Other |
| Seal Replaced: [| J-Plug [| PVC Cap | Not required | Other |
| Well properly se | aled for gas | monitoring | Ves DINA F | staile Not Seales |

Head Space Gas Measurements

| | Uns | Vallas. |
|----------------------|------|---------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 460 |

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | HNO, | | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | - | | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120.ml | * | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | ~ | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | . \ | | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | | | |

General Notes (Condition of well or other features):

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | WHIC | BORSBHOS | Project Nur | nber: 1343-005.0 | 9 | | Date: | | | 00 | 340 | -15 | | |
|--|--------------|------------------------------|-------------------------|-----------------------------------|---------|---------|----------|------------|----------|-------|------------|--------------|------|----------|
| Approximate Date Drilled: | | | Client: | GY - AAM | | | Sampl | er: | | | INN | | 1 | |
| Plezometer Diameter / Screen Length: | 2 | | Project Nar | ne: Mount Nans Sampling P | | GW | Weath | er/Temp | erature: | | COST, | | | |
| UTM Location | Z.8 E. 22 | REON. 689070 | Waypoint | GPSEARN | ame WH | -BHQB | Recov | ery: | | G | ood [| Bad | 1 | |
| Photos | | Nos 2-38 | Purge Meth | od | - | | | | | - | | | | |
| Duplicate Collected: | Yes 1 | Name M/A rez-1 | 24 | | Waterra | 2 | 1 | Peristalti | c | C | isp. Bail | er | | |
| Field Blank Collected | Yes 1 | 1.178 | Analysis | | | | | Y | | | | | 1 | |
| Initial Depth to Water (m): | | 621 | Purge Start | Time: S | :01 | P | urge End | Time: | - | | | | 1 | |
| Depth to Bottom (m): | | 879(100) 393 Franciast 40 | Purge Inter Time (5) | val min, Vol. () L | P | wrok | 8:23 | 8:28 | 8:33 | 8:38 | 8:43 | 8.48 | 8:53 | 8:28 |
| Submerged Tubing Depth (| m): | ~1.8 | Depth to w | ater (m) | Dul Z. | 1040 | 1 | 1 | 1 | / | 1 | / | 1 | 12 |
| Well Stick-up Height (m): | 0 | 1.75 | Temperatu | re (°C) 3% | 5.8 | 0-7 | 25 | 1.9 | 19 | 20 | 23 | 1.8 | 1.8 | 2 |
| Estimated Water Volume (L | .): | 0.5 | pH (pH Uni | ts) ±0.1 | 7.33 | Ser al | 7.26 | 7.6 | 6.93 | 6.90 | 6.90 | 6.87 | 6.87 | 16F |
| | | | Cond. (µs/c | cm) 3% | 779 | to | 678 | 655 | 598 | 680 | 680 | 675 | 130 | 483 |
| | | 1 C A 4 | Specific Co | ond. (µs/cm) 3% | 1228 | 11 | 1069 | 1173 | 11583 | 1104 | 1204 | 15077 | 958 | 120 |
| (DTB - DTW) x 2 (for 2" w | ell diameter |) = 1 well volume | Redox (mV |) 10% | -805 | 1 | 70.8 | 75.2 | 747 | 74.5 | 68.0 | 159.6 | 70.3 | 66 |
| | | | DO (mg/L) | 10% | 217 | · · · · | 1.25 | 1.29 | 4.11 | 4.17 | 2.86 | 181 | 1.29 | 518 |
| (DTB-DTW) x 1.1 (for 1.5 | " diameter) | = 1 well volume | DO (%) 10% | 6 | 2.31 | | 11.1 | 10.3 | 9.4.1 | 34.5 | 25.6 | 14.9 | 用子 | 421 |
| 2" casing has 0.16 | | | | e & Odour (Clear, dours, etc.) | Cardin | | 2 CONT | Source | Some | ec.W2 | Science | -un po | Ces | 4 server |
| 1" casing has 0.04 8" sand pack has 0.7 | | | Only for final | Sulphide (mg/L) | 0.06 | | / | / | 1 | 1 | 1 | 1 | 1 | 0.0 |
| 6 5/8" sand pack has | 0.50 USgal/ | ft or 6.35 l/m | readings | Turbidity (NTU) | 6.15 | | / | 1 | 1 | 1 | 1 | - <i>(</i> - | 10 | 2,18 |
| | | | Interval Pu | rge Volume (L) | 1 | | 1 | | 0.5 | 1 | 05 | 05 | 0.75 | 0. |
| | | | Cumulative | e Purge Volume (L): | 11 | | 1 | 1 | 15 | 25 | 124 | 3,5 | 4.25 | 5 |
| (6) Finid Paramitons Logg | ed: | Yes I No | Sample Ma | the | | | - | | | 1 | | | | |
| The on VSI (2454): | | 16:14 | - | | Waterr | а | | Peristalt | ic | 1 | Disp. Bail | ler | | |
| Actual line of measurement | 01 (2467) | 16:14 | Analysis | | | - | | X | | | | | 1 | |

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8,58

. Incle when I = 7.4L, continues are 25L purged us toroug towards well at project

- colibrated turbidity meter June 3/19 @ BING

+> Returned 05/June to purge property + cample; was purged ~ D.S.L. F yesterday, will check for phone paminettes (see other side) -> Somera OS/Junits (2 B.45

Not required Other

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Sample Site (Con't): UI41630828403 Sample Date (Con't): see above note Sample Time: Well Head Seal: J-Plug PVC Cap Not Sealed Other Seal Replaced: J-Plug PVC Cap

Head Space Gas Measurements

| | Units | |
|----------------------|-------|------|
| Methane (CH4) | %LEL | 0 |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 530 |

Well properly sealed for gas monitoring: Yes Who Details: Do Sale

metal and aper).

| Priority | Bottle Type | Parameters Analyzed | Min. Volume | Treatment 🖂 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|---|-------------|----------------|-------------------------|---------------------|----------|
| 1a | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | CHNO3 | 80 | |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | DI HCL | 46 | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | - | 1 | 500 | |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | | NaOH | 145 | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - I | H2SO4 | 100 250 | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | ÷ | HNO3 | 120 | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | 2 | Zinc Acetate, then NaOH | 120 | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | .e. | 250 | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | - | 100 | |

General Notes (Condition of well or other features):

FIDERD (00 1 839

- SITION of when you were in the source worker or too of well ice (another we bic balled mence two primes ton in Daw n prilled

Dune 2/15

- water unt this bid -assumption that there is a crade in the lice. Attempted direct sample of the weeker above the is + was able to fill an arrive bothe soft bak parameters as well, will return affer consultation an adjustion we should try an entire strive + resomple.

- no copy when return will try to remember to Dring J-plug.

- Pili sampling done is now two my that was added ...

- will redum tomorrow to some purge + sounder

GROUNDWATER SAMPLE COLLECTION SHEET

| Sample Site: | WIHI03083BIIO4 | Project Number: | 1343-005.0 | 9 | Date: | June 312015 |
|---|--|------------------------------------|-------------------------|------------------------|----------------------|---------------------------------------|
| Approximate Date Drilled: | | Client: | GY - AAM | | Sampler: | JC / MM |
| Piezometer Diameter / Screen Length: | I'' | Project Name: | Mount Nan Sampling F | sen 2015 GW Program | Weather/Temperature: | Sunny, 13ºC |
| UTM Location | Z.08 E.0389543 N. 6880663 | Waypoint | GPS FLR N | ame BHOH | Recovery: | Good Bad |
| Photos | Cam. WL Nos. 1967148 | Purge Method | 6 1 2 | | | |
| Duplicate Collected: | Yes Name 147-14* | L | | Waterra | Peristaltic | Disp. Bailer |
| Field Blank Collected | Yes Name | Analysis | | | | |
| Initial Depth to Water (m): | - (DRY) | Purge Start Time | 22 | | Purge End Time: | |
| Depth to Bottom (m): | 6.457 (ICE) | Purge Interval Time () min, | Vol. () L | | | |
| Submerged Tubing Depth (r | n): | Depth to water (| m) | | | |
| Well Stick-up Height (m): | 0795 | Temperature (°C |) | | | |
| Estimated Water Volume (L | | pH (pH Units) | | | | |
| | | Cond. (µs/cm) | | | | · · · · · · · · · · · · · · · · · · · |
| | | Specific Cond. (| us/cm) | | -CN | |
| (DTB - DTW) x 2 (for 2" we | ell diameter) = 1 well volume | Redox (mV) | | | FROZEN | |
| | | DO (mg/L) | | | | |
| (DTB-DTW) x 1.1 (for 1.5 | diameter) = 1 well volume | DO (%) | | | | |
| | USgal/ft or 2.032 l/m | Appearance & O Silty, HC odours | | | | |
| | USgal/ft or 0.508 l/m 3 USgal/ft or 9.271 l/m | Only for Sulp | ohide (mg/L) | | | |
| 6 5/8" sand pack has (| 0.50 USgal/ft or 6.35 l/m | | bidity (NTU) | | | |
| | | Interval Purge V | olume (L) | | | |
| | | Cumulative Purg | je Volume (L): | | | |
| YSI Elniki Parameters Lauge | U Yes No | Sample Method | | | | |
| I ma un VSt (24m) | | | | Waterra | Peristaltic | Disp. Bailer |
| Actual Imp. of measurances | C (2ASIE) | Analysis | | | | |

| Sample Site (Con't): 6H0H | |
|---|----------------------------|
| Sample Date (Con't): | c |
| Sample Time: | |
| Well Head Seal: 🗍 J-Plug 🗌 PVC Cap | 🖾 Not Sealed 🔲 Other |
| Seal Replaced:] J-Plug PVC Cap | Not required Other |
| Well properly sealed for gas monitoring | Yes DANO Details: Not Sent |

Head Space Gas Measurements

| | - | (April 20 |
|----------------------|------|------------|
| Methane (CH4) | %LEL | o. |
| Oxygen (O2) | % | 20.9 |
| Carbon Dioxide (C02) | PPM | 840 |

| Priority | Bottle Type | Parameters Analyzed | Min: Volume | Treatment 🖾 | Preservative Added | Vol. Collected (ml) | Comments |
|----------|----------------------|--|-------------|----------------|-------------------------|---------------------|----------|
| 1à | 120 ml (plastic) | Dissolved Metals | 100 ml | Field Filtered | | | _ |
| 1b | 40 ml (glass) | Dissolved Mercury | 15 mL | Field Filtered | HCL | | |
| 2 | 1 L (plastic) | General Chemistry | 200 ml | ~ | 2. | | - |
| 3 | 145 ml (plastic) | Cyanide (total, free, weak acid dissociable) | 100 ml | - | 🗆 NaOH | | |
| 4 | 250 ml (glass) | Ammonia (NH3) | 120 ml | - | H2SO4 | | |
| 5 | 120 ml (plastic) | Thiocyanate (SCN) | 50 ml | - | HNO3 | | |
| 6 | 120 ml (plastic) | Sulphide | 100 ml | ÷ | Zinc Acetate, then NaOH | | |
| 7 | 250 ml (glass amber) | Total Inorganic Carbon | 100 ml | | | | |
| 8 | 120 ml (plastic) | Dissolved Alkalinity | 100 ml | Field Filtered | 2 | | |

General Notes (Condition of well or other features):

APPENDIX C Laboratory Reports



HEMMERA ENVIROCHEM INC. ATTN: Natasha Sandys 230 - 2237 2nd Avenue Whitehorse YK Y1A 0K7 Date Received:03-JUN-15Report Date:16-JUN-15 13:41 (MT)Version:FINAL

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1620902

Project P.O. #: Job Reference: C of C Numbers: Legal Site Desc: NOT SUBMITTED 1343-005.09 1, 2

Mack

Brent Mack, B.Sc. Account Manager

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



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L1620902 CONTD.... PAGE 2 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-2 Water 02-JUN-15 13:50 GS1-HA-01A | L1620902-3 Water 02-JUN-15 11:35 MW09-017 | L1620902-4 Water 02-JUN-15 10:10 MW09-018 | L1620902-5 Water 02-JUN-15 08:30 MW09-019 | L1620902-6 Water 02-JUN-15 08:30 FB-2 |
|-------------------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | 977 | 2740 | 2560 | 2340 | <2.0 |
| | Hardness (as CaCO3) (mg/L) | 593 | 1950 | 1780 | 1460 | <0.50 |
| | рН (рН) | 8.14 | 8.02 | 8.05 | 7.80 | 5.55 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 257 | 425 | 396 | 403 | <1.0 |
| | Ammonia, Total (as N) (mg/L) | 0.0669 | <0.0050 | 0.0284 | 3.23 | <0.0050 |
| | Chloride (Cl) (mg/L) | <0.50 | <5.0 | <5.0 | <5.0 | <0.50 |
| | Fluoride (F) (mg/L) | 0.118 | <0.20 | <0.20 | 0.28 | <0.020 |
| | Nitrate (as N) (mg/L) | 0.0059 | 0.391 | DLA <0.050 | ola <0.050 | <0.0050 |
| | Nitrite (as N) (mg/L) | <0.0010 | DLA <0.010 | DLA <0.010 | DLA <0.010 | <0.0010 |
| | Total Kjeldahl Nitrogen (mg/L) | 0.346 | 0.093 | 0.129 | 4.02 | <0.050 |
| | Sulfate (SO4) (mg/L) | 312 | 1540 | 1440 | 1230 | <0.30 |
| | Sulphide as S (mg/L) | 0.133 | <0.020 | <0.020 | 0.123 | <0.020 |
| | Anion Sum (meq/L) | 11.7 | 40.7 | 38.0 | 33.6 | <0.10 |
| | Cation Sum (meq/L) | 12.4 | 39.7 | 36.3 | 31.7 | <0.10 |
| | Cation - Anion Balance (%) | 3.0 | -1.2 | -2.2 | -3.0 | 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 |
| | Thiocyanate (SCN) (mg/L) | <0.50 | <0.50 | <0.50 | 0.53 | <0.50 |
| | Cyanide, Free (mg/L) | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | 51.4 | 95.1 | 95.6 | 96.4 | <0.50 |
| | Total Organic Carbon (mg/L) | 4.27 | 2.49 | 2.63 | 12.6 | <0.50 |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |
| | Lithium (Li)-Total (mg/L) | | | | | |

L1620902 CONTD.... PAGE 3 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-7 Water 02-JUN-15 14:40 MP09-14 | L1620902-8 Water 02-JUN-15 17:00 CH-P-13-05/50 | L1620902-9 Water 02-JUN-15 13:50 MW09-004 | L1620902-10 Water 02-JUN-15 13:50 DUP-1 | L1620902-11 Water 02-JUN-15 13:50 FB1 |
|-------------------------------|---|--|--|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | | 2860 | 2670 | 2660 | <2.0 |
| | Hardness (as CaCO3) (mg/L) | 372 | 1940 | 1630 | 1630 | <0.50 |
| | рН (рН) | • | 7.16 | 8.09 | 8.12 | 5.66 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | | 76.8 | 100 | 97.0 | <1.0 |
| | Ammonia, Total (as N) (mg/L) | | 0.0395 | 6.27 | 6.19 | <0.0050 |
| | Chloride (Cl) (mg/L) | | <5.0 DLA | <5.0 | <5.0 | <0.50 |
| | Fluoride (F) (mg/L) | | 0.25 | 0.64 | 0.55 | <0.020 |
| | Nitrate (as N) (mg/L) | | DLA <0.050 | 0.269 | 0.300 | <0.0050 |
| | Nitrite (as N) (mg/L) | | DLA <0.010 | 0.040 | 0.045 | <0.0010 |
| | Total Kjeldahl Nitrogen (mg/L) | | 0.240 | 7.51 | 7.21 | <0.050 |
| | Sulfate (SO4) (mg/L) | | 2040 | 1550 | 1760 | <0.30 |
| | Sulphide as S (mg/L) | | <0.020 | <0.020 | <0.020 | <0.020 |
| | Anion Sum (meq/L) | | 44.1 | 34.4 | 38.5 | <0.10 |
| | Cation Sum (meq/L) | | 42.0 | 35.5 | 35.4 | <0.10 |
| | Cation - Anion Balance (%) | | -2.4 | 1.6 | -4.2 | 0.0 |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Cyanide, Total (mg/L) | | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| | Thiocyanate (SCN) (mg/L) | | <0.50 | <0.50 | <0.50 | <0.50 |
| | Cyanide, Free (mg/L) | | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | 12.0 | 18.7 | 19.0 | <0.50 |
| | Total Organic Carbon (mg/L) | | 5.34 | 6.29 | 6.23 | <0.50 |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |
| | Lithium (Li)-Total (mg/L) | | | | | |

L1620902 CONTD.... PAGE 4 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-12 Water TRAVEL BLANK | L1620902-13 Water 02-JUN-15 15:10 MW09-03 | L1620902-14 Water 02-JUN-15 10:20 MW09-02 | L1620902-16 Water 01-JUN-15 18:00 MW09-016 | L1620902-17 Water 01-JUN-15 18:00 DUP-2 |
|-------------------------------|---|--------------------------------------|---|---|--|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | <2.0 | 2600 | 2930 | 1970 | 1960 |
| | Hardness (as CaCO3) (mg/L) | <0.50 | 1600 | 1410 | 1260 | 1280 |
| _ | pH (pH) | 5.48 | 8.01 | 7.03 | 7.97 | 7.98 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | <1.0 | 137 | 26.6 | 224 | 240 |
| | Ammonia, Total (as N) (mg/L) | 0.0071 | 3.06 | 14.2 | 0.0331 | 0.0321 |
| | Chloride (Cl) (mg/L) | <0.50 | <5.0 | <5.0 | <5.0 | <2.5 |
| | Fluoride (F) (mg/L) | <0.020 | 0.58 | 0.82 | 0.47 | 0.25 |
| | Nitrate (as N) (mg/L) | <0.0050 | 0.534 | DLA <0.050 | DLA <0.050 | DLA <0.025 |
| | Nitrite (as N) (mg/L) | <0.0010 | 0.072 | DLA <0.010 | ola <0.010 | DLA <0.0050 |
| | Total Kjeldahl Nitrogen (mg/L) | <0.050 | 3.70 | 16.1 | 0.181 | 0.192 |
| | Sulfate (SO4) (mg/L) | <0.30 | 1610 | 2240 | 1100 | 1120 |
| | Sulphide as S (mg/L) | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| | Anion Sum (meq/L) | <0.10 | 36.4 | 47.2 | 27.5 | 28.2 |
| | Cation Sum (meq/L) | <0.10 | 35.2 | 38.3 | 26.0 | 26.4 |
| | Cation - Anion Balance (%) | 0.0 | -1.6 | -10.4 | -2.8 | -3.4 |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | <0.0050 | 0.0118 | 0.0192 | <0.0050 | <0.0050 |
| | Cyanide, Total (mg/L) | <0.0050 | 0.0363 | 0.132 | <0.0050 | <0.0050 |
| | Thiocyanate (SCN) (mg/L) | <0.50 | <0.50 | 1.34 | <0.50 | <0.50 |
| | Cyanide, Free (mg/L) | <0.0050 | 0.0108 | <0.0050 | <0.0050 | <0.0050 |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | <0.50 | 27.8 | 2.3 | 52.2 | 50.5 |
| | Total Organic Carbon (mg/L) | <0.50 | 6.60 | 5.87 | 3.57 | 3.56 |
| Total Metals | Aluminum (Al)-Total (mg/L) | <0.0030 | | | | |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | | | | |
| | Arsenic (As)-Total (mg/L) | <0.00010 | | | | |
| | Barium (Ba)-Total (mg/L) | <0.000050 | | | | |
| | Beryllium (Be)-Total (mg/L) | <0.000020 | | | | |
| | Bismuth (Bi)-Total (mg/L) | <0.000050 | | | | |
| | Boron (B)-Total (mg/L) | <0.010 | | | | |
| | Cadmium (Cd)-Total (mg/L) | <0.000050 | | | | |
| | Calcium (Ca)-Total (mg/L) | <0.050 | | | | |
| | Chromium (Cr)-Total (mg/L) | <0.00010 | | | | |
| | Cobalt (Co)-Total (mg/L) | <0.00010 | | | | |
| | Copper (Cu)-Total (mg/L) | <0.00050 | | | | |
| | Iron (Fe)-Total (mg/L) | <0.010 | | | | |
| | Lead (Pb)-Total (mg/L) | <0.000050 | | | | |
| | Lithium (Li)-Total (mg/L) | <0.0010 | | | | |

L1620902 CONTD.... PAGE 5 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-22 Water 02-JUN-15 13:50 GSI-HA-01A FILTERED ALK | L1620902-23 Water 02-JUN-15 11:35 MW09-17 FILTERED ALK | L1620902-24 Water 02-JUN-15 10:10 MW09-18 FILTERED ALK | L1620902-25 Water 02-JUN-15 08:30 MW09-19 FILTERED ALK | L1620902-26 Water 02-JUN-15 08:30 FB-2 FILTERED ALK |
|-------------------------------|---|--|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | | | | | |
| | Hardness (as CaCO3) (mg/L) | | | | | |
| | рН (рН) | | | | | |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 242 | 423 | 415 | 409 | <1.0 |
| | Ammonia, Total (as N) (mg/L) | | | | | |
| | Chloride (Cl) (mg/L) | | | | | |
| | Fluoride (F) (mg/L) | | | | | |
| | Nitrate (as N) (mg/L) | | | | | |
| | Nitrite (as N) (mg/L) | | | | | |
| | Total Kjeldahl Nitrogen (mg/L) | | | | | |
| | Sulfate (SO4) (mg/L) | | | | | |
| | Sulphide as S (mg/L) | | | | | |
| | Anion Sum (meq/L) | | | | | |
| | Cation Sum (meq/L) | | | | | |
| | Cation - Anion Balance (%) | | | | | |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | | | | | |
| | Cyanide, Total (mg/L) | | | | | |
| | Thiocyanate (SCN) (mg/L) | | | | | |
| | Cyanide, Free (mg/L) | | | | | |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | | | | |
| | Total Organic Carbon (mg/L) | | | | | |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |
| | Lithium (Li)-Total (mg/L) | | | | | |

L1620902 CONTD.... PAGE 6 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-27 Water 02-JUN-15 17:00 CH-P-13-05/50 FILTERED ALK | L1620902-28 Water 02-JUN-15 13:50 MW09-04 | L1620902-29 Water 02-JUN-15 13:50 DUP-1 FILTERED ALK | L1620902-30 Water 02-JUN-15 13:50 FB1 FILTERED ALK | L1620902-31 Water 02-JUN-15 15:10 MW09-03 FILTERED ALK |
|-------------------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | | | | | |
| | Hardness (as CaCO3) (mg/L) | | | | | |
| | рН (рН) | | | | | |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 71.0 | 96.4 | 96.3 | <1.0 | 121 |
| | Ammonia, Total (as N) (mg/L) | | | | | |
| | Chloride (Cl) (mg/L) | | | | | |
| | Fluoride (F) (mg/L) | | | | | |
| | Nitrate (as N) (mg/L) | | | | | |
| | Nitrite (as N) (mg/L) | | | | | |
| | Total Kjeldahl Nitrogen (mg/L) | | | | | |
| | Sulfate (SO4) (mg/L) | | | | | |
| | Sulphide as S (mg/L) | | | | | |
| | Anion Sum (meq/L) | | | | | |
| | Cation Sum (meq/L) | | | | | |
| | Cation - Anion Balance (%) | | | | | |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | | | | | |
| | Cyanide, Total (mg/L) | | | | | |
| | Thiocyanate (SCN) (mg/L) | | | | | |
| | Cyanide, Free (mg/L) | | | | | |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | | | | |
| | Total Organic Carbon (mg/L) | | | | | |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |
| | Lithium (Li)-Total (mg/L) | | | | | |

L1620902 CONTD.... PAGE 7 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-32 Water 02-JUN-15 10:20 MW09-02 FILTERED ALK | L1620902-33 Water 01-JUN-15 18:00 MW09-16 FILTERED ALK | L1620902-34 Water 01-JUN-15 18:00 DUP-2 MW09-16 | |
|-------------------------------|---|---|---|---|--|
| Grouping | Analyte | | | | |
| WATER | | | | | |
| Physical Tests | Conductivity (uS/cm) | | | | |
| | Hardness (as CaCO3) (mg/L) | | | | |
| | рН (рН) | | | | |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 25.9 | 221 | 241 | |
| | Ammonia, Total (as N) (mg/L) | | | | |
| | Chloride (Cl) (mg/L) | | | | |
| | Fluoride (F) (mg/L) | | | | |
| | Nitrate (as N) (mg/L) | | | | |
| | Nitrite (as N) (mg/L) | | | | |
| | Total Kjeldahl Nitrogen (mg/L) | | | | |
| | Sulfate (SO4) (mg/L) | | | | |
| | Sulphide as S (mg/L) | | | | |
| | Anion Sum (meq/L) | | | | |
| | Cation Sum (meq/L) | | | | |
| | Cation - Anion Balance (%) | | | | |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | | | | |
| | Cyanide, Total (mg/L) | | | | |
| | Thiocyanate (SCN) (mg/L) | | | | |
| | Cyanide, Free (mg/L) | | | | |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | | | |
| | Total Organic Carbon (mg/L) | | | | |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | |
| | Arsenic (As)-Total (mg/L) | | | | |
| | Barium (Ba)-Total (mg/L) | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | |
| | Boron (B)-Total (mg/L) | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | |
| | Copper (Cu)-Total (mg/L) | | | | |
| | Iron (Fe)-Total (mg/L) | | | | |
| | Lead (Pb)-Total (mg/L) | | | | |
| | Lithium (Li)-Total (mg/L) | | | | |

L1620902 CONTD.... PAGE 8 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-2 Water 02-JUN-15 13:50 GS1-HA-01A | L1620902-3 Water 02-JUN-15 11:35 MW09-017 | L1620902-4 Water 02-JUN-15 10:10 MW09-018 | L1620902-5 Water 02-JUN-15 08:30 MW09-019 | L1620902-6 Water 02-JUN-15 08:30 FB-2 |
|-------------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Dissolved Metals Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Aluminum (AI)-Dissolved (mg/L) | 0.0031 | <0.0020 | <0.0020 | 0.0090 | <0.0010 |
| | Antimony (Sb)-Dissolved (mg/L) | 0.00017 | 0.00032 | 0.00034 | DLA <0.00020 | <0.00010 |
| | Arsenic (As)-Dissolved (mg/L) | 0.0115 | 0.0208 | 0.0518 | 0.117 | <0.00010 |
| | Barium (Ba)-Dissolved (mg/L) | 0.161 | 0.00749 | 0.00768 | 0.0460 | <0.000050 |
| | Beryllium (Be)-Dissolved (mg/L) | <0.000020 | ol.000040 | ol.000040 | DLA <0.000040 | <0.000020 |
| | Bismuth (Bi)-Dissolved (mg/L) | <0.000050 | DLA <0.00010 | ol.00010 | DLA <0.00010 | <0.000050 |
| | Boron (B)-Dissolved (mg/L) | <0.010 | 0.083 | <0.020 | 0.190 | <0.010 |
| | Cadmium (Cd)-Dissolved (mg/L) | 0.0000071 | 0.000017 | 0.000056 | DLA <0.000010 | <0.0000050 |
| | Calcium (Ca)-Dissolved (mg/L) | 153 | 337 | 323 | 313 | <0.050 |
| | Chromium (Cr)-Dissolved (mg/L) | 0.00044 | DLA <0.00020 | OLA <0.00020 | DLA <0.00020 | <0.00010 |
| | Cobalt (Co)-Dissolved (mg/L) | 0.00019 | <0.00020 | <0.00020 | 0.00251 | <0.00010 |
| | Copper (Cu)-Dissolved (mg/L) | 0.00020 | 0.00061 | ol.00040 | DLA <0.00040 | <0.00020 |
| | Iron (Fe)-Dissolved (mg/L) | 3.71 | <0.010 | <0.010 | 20.5 | <0.010 |
| | Lead (Pb)-Dissolved (mg/L) | 0.000056 | O.00010 | <0.00010 | DLA <0.00010 | <0.000050 |
| | Lithium (Li)-Dissolved (mg/L) | 0.0068 | 0.0199 | 0.0212 | 0.0106 | <0.0010 |

L1620902 CONTD.... PAGE 9 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-7 Water 02-JUN-15 14:40 MP09-14 | L1620902-8 Water 02-JUN-15 17:00 CH-P-13-05/50 | L1620902-9 Water 02-JUN-15 13:50 MW09-004 | L1620902-10 Water 02-JUN-15 13:50 DUP-1 | L1620902-11 Water 02-JUN-15 13:50 FB1 |
|------------------|---|--|--|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Dissolved Metals Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Aluminum (AI)-Dissolved (mg/L) | 0.0041 | 0.0599 | DLA <0.0020 | DLA <0.0020 | <0.0010 |
| | Antimony (Sb)-Dissolved (mg/L) | 0.00586 | 0.00436 | 0.285 | 0.283 | <0.00010 |
| | Arsenic (As)-Dissolved (mg/L) | 3.44 | 0.00966 | 3.84 | 3.85 | <0.00010 |
| | Barium (Ba)-Dissolved (mg/L) | 0.145 | 0.00604 | 0.00758 | 0.00735 | <0.000050 |
| | Beryllium (Be)-Dissolved (mg/L) | <0.000020 | 0.00015 | DLA <0.000040 | DLA <0.000040 | <0.000020 |
| | Bismuth (Bi)-Dissolved (mg/L) | <0.000050 | DLA <0.00025 | DLA <0.00010 | DLA <0.00010 | <0.000050 |
| | Boron (B)-Dissolved (mg/L) | 0.025 | <0.050 | 0.307 | 0.296 | <0.010 |
| | Cadmium (Cd)-Dissolved (mg/L) | 0.0000311 | 0.329 | 0.000029 | 0.000026 | <0.0000050 |
| | Calcium (Ca)-Dissolved (mg/L) | 121 | 455 | 469 | 484 | <0.050 |
| | Chromium (Cr)-Dissolved (mg/L) | 0.00019 | DLA <0.00050 | DLA <0.00020 | <0.00020 | <0.00010 |
| | Cobalt (Co)-Dissolved (mg/L) | 0.00068 | 0.0365 | 0.00089 | 0.00086 | <0.00010 |
| | Copper (Cu)-Dissolved (mg/L) | <0.00020 | 0.0150 | DLA <0.00040 | DLA <0.00040 | <0.00020 |
| | Iron (Fe)-Dissolved (mg/L) | 7.72 | 12.8 | 0.011 | 0.019 | <0.010 |
| | Lead (Pb)-Dissolved (mg/L) | 0.000798 | 0.00573 | 0.00052 | 0.00071 | <0.000050 |
| | Lithium (Li)-Dissolved (mg/L) | 0.0063 | 0.0394 | 0.0093 | 0.0093 | <0.0010 |

L1620902 CONTD.... PAGE 10 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-12 Water TRAVEL BLANK | L1620902-13 Water 02-JUN-15 15:10 MW09-03 | L1620902-14 Water 02-JUN-15 10:20 MW09-02 | L1620902-16 Water 01-JUN-15 18:00 MW09-016 | L1620902-17 Water 01-JUN-15 18:00 DUP-2 |
|------------------|---|--------------------------------------|---|---|--|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Magnesium (Mg)-Total (mg/L) | <0.10 | | | | |
| | Manganese (Mn)-Total (mg/L) | <0.00010 | | | | |
| | Mercury (Hg)-Total (mg/L) | <0.0000050 | | | | |
| | Molybdenum (Mo)-Total (mg/L) | <0.000050 | | | | |
| | Nickel (Ni)-Total (mg/L) | <0.00050 | | | | |
| | Phosphorus (P)-Total (mg/L) | <0.050 | | | | |
| | Potassium (K)-Total (mg/L) | <0.10 | | | | |
| | Selenium (Se)-Total (mg/L) | <0.000050 | | | | |
| | Silicon (Si)-Total (mg/L) | <0.050 | | | | |
| | Silver (Ag)-Total (mg/L) | <0.000010 | | | | |
| | Sodium (Na)-Total (mg/L) | <0.050 | | | | |
| | Strontium (Sr)-Total (mg/L) | <0.00020 | | | | |
| | Sulfur (S)-Total (mg/L) | <0.50 | | | | |
| | Thallium (TI)-Total (mg/L) | <0.000010 | | | | |
| | Tin (Sn)-Total (mg/L) | <0.00010 | | | | |
| | Titanium (Ti)-Total (mg/L) | <0.00030 | | | | |
| | Uranium (U)-Total (mg/L) | <0.000010 | | | | |
| | Vanadium (V)-Total (mg/L) | <0.00050 | | | | |
| | Zinc (Zn)-Total (mg/L) | <0.0030 | | | | |
| | Zirconium (Zr)-Total (mg/L) | < 0.00030 | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | | FIELD | FIELD | FIELD | FIELD |
| | Dissolved Metals Filtration Location | | FIELD | FIELD | FIELD | FIELD |
| | Aluminum (AI)-Dissolved (mg/L) | | DLA <0.0050 | DLA <0.0050 | <0.0010 | <0.0010 |
| | Antimony (Sb)-Dissolved (mg/L) | | 0.467 | 0.00314 | 0.0801 | 0.0780 |
| | Arsenic (As)-Dissolved (mg/L) | | 1.47 | 20.2 | 0.0426 | 0.0420 |
| | Barium (Ba)-Dissolved (mg/L) | | 0.0316 | 0.00683 | 0.0144 | 0.0147 |
| | Beryllium (Be)-Dissolved (mg/L) | | DLA <0.00010 | DLA <0.00010 | <0.000020 | <0.000020 |
| | Bismuth (Bi)-Dissolved (mg/L) | | <0.00025 | <0.00025 | <0.000050 | < 0.000050 |
| | Boron (B)-Dissolved (mg/L) | | 0.155 | <0.00023 DLA <0.050 | 0.062 | 0.068 |
| | Cadmium (Cd)-Dissolved (mg/L) | | 0.000608 | 0.000447 | 0.0440 | 0.0448 |
| | Calcium (Ca)-Dissolved (mg/L) | | 493 | 438 | 297 | 303 |
| | Chromium (Cr)-Dissolved (mg/L) | | <0.00050 | <0.00050 | <0.00010 | <0.00010 |
| | Cobalt (Co)-Dissolved (mg/L) | | 0.00325 | 0.0104 | 0.00295 | 0.00290 |
| | Copper (Cu)-Dissolved (mg/L) | | 0.00323 DLA <0.0010 | 0.0104 DLA <0.0010 | 0.00526 | 0.00513 |
| | Iron (Fe)-Dissolved (mg/L) | | 0.167 | 46.4 | 0.033 | 0.034 |
| | Lead (Pb)-Dissolved (mg/L) | | <0.00025 | <0.00025 | 0.00583 | 0.00635 |
| | Lithium (Li)-Dissolved (mg/L) | | <0.00023 DLA <0.0050 | 0.0239 | 0.0097 | 0.0101 |

L1620902 CONTD.... PAGE 11 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-22 Water 02-JUN-15 13:50 GSI-HA-01A FILTERED ALK | L1620902-23 Water 02-JUN-15 11:35 MW09-17 FILTERED ALK | L1620902-24 Water 02-JUN-15 10:10 MW09-18 FILTERED ALK | L1620902-25 Water 02-JUN-15 08:30 MW09-19 FILTERED ALK | L1620902-26 Water 02-JUN-15 08:30 FB-2 FILTERED ALK |
|------------------|---|--|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | | | | | |
| | Dissolved Metals Filtration Location | | | | | |
| | Aluminum (AI)-Dissolved (mg/L) | | | | | |
| | Antimony (Sb)-Dissolved (mg/L) | | | | | |
| | Arsenic (As)-Dissolved (mg/L) | | | | | |
| | Barium (Ba)-Dissolved (mg/L) | | | | | |
| | Beryllium (Be)-Dissolved (mg/L) | | | | | |
| | Bismuth (Bi)-Dissolved (mg/L) | | | | | |
| | Boron (B)-Dissolved (mg/L) | | | | | |
| | Cadmium (Cd)-Dissolved (mg/L) | | | | | |
| | Calcium (Ca)-Dissolved (mg/L) | | | | | |
| | Chromium (Cr)-Dissolved (mg/L) | | | | | |
| | Cobalt (Co)-Dissolved (mg/L) | | | | | |
| | Copper (Cu)-Dissolved (mg/L) | | | | | |
| | Iron (Fe)-Dissolved (mg/L) | | | | | |
| | Lead (Pb)-Dissolved (mg/L) | | | | | |
| | Lithium (Li)-Dissolved (mg/L) | | | | | |

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| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-27 Water 02-JUN-15 17:00 CH-P-13-05/50 FILTERED ALK | L1620902-28 Water 02-JUN-15 13:50 MW09-04 | L1620902-29 Water 02-JUN-15 13:50 DUP-1 FILTERED ALK | L1620902-30 Water 02-JUN-15 13:50 FB1 FILTERED ALK | L1620902-31 Water 02-JUN-15 15:10 MW09-03 FILTERED ALK |
|------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | | | | | |
| | Dissolved Metals Filtration Location | | | | | |
| | Aluminum (Al)-Dissolved (mg/L) | | | | | |
| | Antimony (Sb)-Dissolved (mg/L) | | | | | |
| | Arsenic (As)-Dissolved (mg/L) | | | | | |
| | Barium (Ba)-Dissolved (mg/L) | | | | | |
| | Beryllium (Be)-Dissolved (mg/L) | | | | | |
| | Bismuth (Bi)-Dissolved (mg/L) | | | | | |
| | Boron (B)-Dissolved (mg/L) | | | | | |
| | Cadmium (Cd)-Dissolved (mg/L) | | | | | |
| | Calcium (Ca)-Dissolved (mg/L) | | | | | |
| | Chromium (Cr)-Dissolved (mg/L) | | | | | |
| | Cobalt (Co)-Dissolved (mg/L) | | | | | |
| | Copper (Cu)-Dissolved (mg/L) | | | | | |
| | Iron (Fe)-Dissolved (mg/L) | | | | | |
| | Lead (Pb)-Dissolved (mg/L) | | | | | |
| | Lithium (Li)-Dissolved (mg/L) | | | | | |

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| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-32 Water 02-JUN-15 10:20 MW09-02 FILTERED ALK | L1620902-33 Water 01-JUN-15 18:00 MW09-16 FILTERED ALK | L1620902-34 Water 01-JUN-15 18:00 DUP-2 MW09-16 | |
|------------------|---|---|---|---|--|
| Grouping | Analyte | | | | |
| WATER | | | | | |
| Total Metals | Magnesium (Mg)-Total (mg/L) | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | |
| | Potassium (K)-Total (mg/L) | | | | |
| | Selenium (Se)-Total (mg/L) | | | | |
| | Silicon (Si)-Total (mg/L) | | | | |
| | Silver (Ag)-Total (mg/L) | | | | |
| | Sodium (Na)-Total (mg/L) | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | |
| | Sulfur (S)-Total (mg/L) | | | | |
| | Thallium (TI)-Total (mg/L) | | | | |
| | Tin (Sn)-Total (mg/L) | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | |
| | Uranium (U)-Total (mg/L) | | | | |
| | Vanadium (V)-Total (mg/L) | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | | | | |
| | Dissolved Metals Filtration Location | | | | |
| | Aluminum (Al)-Dissolved (mg/L) | | | | |
| | Antimony (Sb)-Dissolved (mg/L) | | | | |
| | Arsenic (As)-Dissolved (mg/L) | | | | |
| | Barium (Ba)-Dissolved (mg/L) | | | | |
| | Beryllium (Be)-Dissolved (mg/L) | | | | |
| | Bismuth (Bi)-Dissolved (mg/L) | | | | |
| | Boron (B)-Dissolved (mg/L) | | | | |
| | Cadmium (Cd)-Dissolved (mg/L) | | | | |
| | Calcium (Ca)-Dissolved (mg/L) | | | | |
| | Chromium (Cr)-Dissolved (mg/L) | | | | |
| | Cobalt (Co)-Dissolved (mg/L) | | | | |
| | Copper (Cu)-Dissolved (mg/L) | | | | |
| | Iron (Fe)-Dissolved (mg/L) | | | | |
| | Lead (Pb)-Dissolved (mg/L) | | | | |
| | Lithium (Li)-Dissolved (mg/L) | | | | |

L1620902 CONTD.... PAGE 14 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-2 Water 02-JUN-15 13:50 GS1-HA-01A | L1620902-3 Water 02-JUN-15 11:35 MW09-017 | L1620902-4 Water 02-JUN-15 10:10 MW09-018 | L1620902-5 Water 02-JUN-15 08:30 MW09-019 | L1620902-6 Water 02-JUN-15 08:30 FB-2 |
|------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Magnesium (Mg)-Dissolved (mg/L) | 51.1 | 269 | 237 | 165 | <0.10 |
| | Manganese (Mn)-Dissolved (mg/L) | 0.185 | DLA <0.00020 | 0.611 | 7.05 | <0.00010 |
| | Mercury (Hg)-Dissolved (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Dissolved (mg/L) | 0.000406 | DLA <0.00010 | DLA <0.00010 | 0.00018 | <0.000050 |
| | Nickel (Ni)-Dissolved (mg/L) | 0.00251 | DLA <0.0010 | DLA <0.0010 | DLA <0.0010 | <0.00050 |
| | Phosphorus (P)-Dissolved (mg/L) | <0.050 | <0.050 | <0.050 | 0.145 | <0.050 |
| | Potassium (K)-Dissolved (mg/L) | 3.38 | 7.11 | 6.99 | 6.76 | <0.10 |
| | Selenium (Se)-Dissolved (mg/L) | <0.000050 | 0.00061 | 0.00059 | 0.00021 | <0.000050 |
| | Silicon (Si)-Dissolved (mg/L) | 6.38 | 5.10 | 4.96 | 8.46 | <0.050 |
| | Silver (Ag)-Dissolved (mg/L) | <0.000010 | DLA <0.000020 | DLA <0.000020 | DLA <0.000020 | <0.000010 |
| | Sodium (Na)-Dissolved (mg/L) | 5.08 | 12.7 | 11.1 | 16.8 | <0.050 |
| | Strontium (Sr)-Dissolved (mg/L) | 0.341 | 1.01 | 0.929 | 1.07 | <0.00020 |
| | Sulfur (S)-Dissolved (mg/L) | 103 | 462 | 414 | 345 | <0.50 |
| | Thallium (TI)-Dissolved (mg/L) | <0.000010 | 0.000094 | 0.000261 | DLA <0.000020 | <0.000010 |
| | Tin (Sn)-Dissolved (mg/L) | <0.00010 | DLA <0.00020 | DLA <0.00020 | DLA <0.00020 | <0.00010 |
| | Titanium (Ti)-Dissolved (mg/L) | <0.00030 | DLA <0.00060 | DLA <0.00060 | 0.00079 | <0.00030 |
| | Uranium (U)-Dissolved (mg/L) | 0.000030 | 0.00753 | 0.00652 | 0.000755 | <0.000010 |
| | Vanadium (V)-Dissolved (mg/L) | <0.00050 | DLA <0.0010 | DLA <0.0010 | DLA <0.0010 | <0.00050 |
| | Zinc (Zn)-Dissolved (mg/L) | 0.0023 | DLA <0.0020 | 0.0025 | DLA <0.0020 | <0.0010 |
| | Zirconium (Zr)-Dissolved (mg/L) | <0.00030 | DLA <0.00060 | DLA <0.00060 | DLA <0.00060 | <0.00030 |
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| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-7 Water 02-JUN-15 14:40 MP09-14 | L1620902-8 Water 02-JUN-15 17:00 CH-P-13-05/50 | L1620902-9 Water 02-JUN-15 13:50 MW09-004 | L1620902-10 Water 02-JUN-15 13:50 DUP-1 | L1620902-11 Water 02-JUN-15 13:50 FB1 |
|------------------|---|--|--|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Magnesium (Mg)-Dissolved (mg/L) | 16.7 | 194 | 112 | 101 | <0.10 |
| | Manganese (Mn)-Dissolved (mg/L) | 0.363 | 34.3 | 6.47 | 6.32 | <0.00010 |
| | Mercury (Hg)-Dissolved (mg/L) | 0.0000067 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Dissolved (mg/L) | 0.00146 | 0.00040 | 0.00573 | 0.00570 | <0.000050 |
| | Nickel (Ni)-Dissolved (mg/L) | 0.00146 | 0.0129 | ol.0010 | DLA <0.0010 | <0.00050 |
| | Phosphorus (P)-Dissolved (mg/L) | <0.050 | <0.050 | 0.078 | 0.074 | <0.050 |
| | Potassium (K)-Dissolved (mg/L) | 31.5 | 5.01 | 35.0 | 36.7 | <0.10 |
| | Selenium (Se)-Dissolved (mg/L) | 0.000128 | DLA <0.00025 | DLA <0.00010 | DLA <0.00010 | <0.000050 |
| | Silicon (Si)-Dissolved (mg/L) | 2.90 | 7.50 | 13.4 | 13.8 | <0.050 |
| | Silver (Ag)-Dissolved (mg/L) | <0.000010 | DLA <0.000050 | DLA <0.000020 | DLA <0.000020 | <0.000010 |
| | Sodium (Na)-Dissolved (mg/L) | 17.7 | 7.72 | 30.8 | 30.3 | <0.050 |
| | Strontium (Sr)-Dissolved (mg/L) | 0.442 | 0.584 | 1.34 | 1.31 | <0.00020 |
| | Sulfur (S)-Dissolved (mg/L) | 72.3 | 621 | 535 | 493 | <0.50 |
| | Thallium (TI)-Dissolved (mg/L) | <0.000010 | 0.000564 | 0.000107 | 0.000108 | <0.000010 |
| | Tin (Sn)-Dissolved (mg/L) | <0.00010 | DLA <0.00050 | ola <0.00020 | DLA <0.00020 | <0.00010 |
| | Titanium (Ti)-Dissolved (mg/L) | <0.00030 | <0.0015 | ol.00060 | ol.00060 | <0.00030 |
| | Uranium (U)-Dissolved (mg/L) | 0.000355 | 0.000749 | 0.000346 | 0.000332 | <0.000010 |
| | Vanadium (V)-Dissolved (mg/L) | <0.00050 | ol.0025 | ol.0010 | DLA <0.0010 | <0.00050 |
| | Zinc (Zn)-Dissolved (mg/L) | 0.0018 | 29.1 | 0.713 | 0.705 | <0.0010 |
| | Zirconium (Zr)-Dissolved (mg/L) | <0.00030 | ol.0015 | <0.00060 | ola <0.00060 | <0.00030 |
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L1620902 CONTD.... PAGE 16 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Description Sampled Date Sampled Time Client ID | Water TRAVEL BLANK | Water 02-JUN-15 15:10 MW09-03 | Water 02-JUN-15 10:20 MW09-02 | Water 01-JUN-15 18:00 MW09-016 | L1620902-17 Water 01-JUN-15 18:00 DUP-2 |
|------------------|--|-----------------------|--|--|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Magnesium (Mg)-Dissolved (mg/L) | | 89.8 | 75.7 | 127 | 128 |
| | Manganese (Mn)-Dissolved (mg/L) | | 35.1 | 38.2 | 0.803 | 0.777 |
| | Mercury (Hg)-Dissolved (mg/L) | | <0.0000050 | 0.0000051 | 0.0000175 | 0.0000165 |
| | Molybdenum (Mo)-Dissolved (mg/L) | | 0.00511 | 0.00491 | 0.000222 | 0.000228 |
| | Nickel (Ni)-Dissolved (mg/L) | | DLA <0.0025 | 0.0027 | 0.00535 | 0.00518 |
| | Phosphorus (P)-Dissolved (mg/L) | | 0.051 | <0.050 | <0.050 | <0.050 |
| | Potassium (K)-Dissolved (mg/L) | | 22.1 | 82.7 | 6.32 | 6.49 |
| | Selenium (Se)-Dissolved (mg/L) | | DLA <0.00025 | DLA <0.00025 | 0.000097 | 0.000100 |
| | Silicon (Si)-Dissolved (mg/L) | | 13.9 | 5.81 | 4.53 | 4.61 |
| | Silver (Ag)-Dissolved (mg/L) | | DLA <0.000050 | DLA <0.000050 | 0.000097 | 0.000103 |
| | Sodium (Na)-Dissolved (mg/L) | | 27.6 | 73.5 | 7.32 | 6.99 |
| | Strontium (Sr)-Dissolved (mg/L) | | 1.27 | 0.933 | 0.665 | 0.676 |
| | Sulfur (S)-Dissolved (mg/L) | | 490 | 538 | 317 | 321 |
| | Thallium (TI)-Dissolved (mg/L) | | 0.000055 | 0.000216 | 0.000459 | 0.000454 |
| | Tin (Sn)-Dissolved (mg/L) | | DLA <0.00050 | <0.00050 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Dissolved (mg/L) | | DLA <0.0015 | <0.0015 | <0.00030 | <0.00030 |
| | Uranium (U)-Dissolved (mg/L) | | 0.00149 | 0.000535 | 0.00301 | 0.00293 |
| | Vanadium (V)-Dissolved (mg/L) | | <0.0025 | <0.0025 | < 0.00050 | <0.00050 |
| | Zinc (Zn)-Dissolved (mg/L) | | <0.0020 DLA <0.0050 | 0.178 | 6.24 | 6.09 |
| | Zirconium (Zr)-Dissolved (mg/L) | | <0.0000 DLA <0.0015 | <0.0015 | <0.00030 | <0.00030 |
| | | | <0.0015 | <0.0015 | <0.00030 | <0.00030 |
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L1620902 CONTD.... PAGE 17 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-22 Water 02-JUN-15 13:50 GSI-HA-01A FILTERED ALK | L1620902-23 Water 02-JUN-15 11:35 MW09-17 FILTERED ALK | L1620902-24 Water 02-JUN-15 10:10 MW09-18 FILTERED ALK | L1620902-25 Water 02-JUN-15 08:30 MW09-19 FILTERED ALK | L1620902-26 Water 02-JUN-15 08:30 FB-2 FILTERED ALK |
|------------------|---|--|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Magnesium (Mg)-Dissolved (mg/L) | | | | | |
| | Manganese (Mn)-Dissolved (mg/L) | | | | | |
| | Mercury (Hg)-Dissolved (mg/L) | | | | | |
| | Molybdenum (Mo)-Dissolved (mg/L) | | | | | |
| | Nickel (Ni)-Dissolved (mg/L) | | | | | |
| | Phosphorus (P)-Dissolved (mg/L) | | | | | |
| | Potassium (K)-Dissolved (mg/L) | | | | | |
| | Selenium (Se)-Dissolved (mg/L) | | | | | |
| | Silicon (Si)-Dissolved (mg/L) | | | | | |
| | Silver (Ag)-Dissolved (mg/L) | | | | | |
| | Sodium (Na)-Dissolved (mg/L) | | | | | |
| | Strontium (Sr)-Dissolved (mg/L) | | | | | |
| | Sulfur (S)-Dissolved (mg/L) | | | | | |
| | Thallium (TI)-Dissolved (mg/L) | | | | | |
| | Tin (Sn)-Dissolved (mg/L) | | | | | |
| | Titanium (Ti)-Dissolved (mg/L) | | | | | |
| | Uranium (U)-Dissolved (mg/L) | | | | | |
| | Vanadium (V)-Dissolved (mg/L) | | | | | |
| | Zinc (Zn)-Dissolved (mg/L) | | | | | |
| | Zirconium (Zr)-Dissolved (mg/L) | | | | | |
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L1620902 CONTD.... PAGE 18 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-27 Water 02-JUN-15 17:00 CH-P-13-05/50 FILTERED ALK | L1620902-28 Water 02-JUN-15 13:50 MW09-04 | L1620902-29 Water 02-JUN-15 13:50 DUP-1 FILTERED ALK | L1620902-30 Water 02-JUN-15 13:50 FB1 FILTERED ALK | L1620902-34 Water 02-JUN-15 15:10 MW09-03 FILTERED AL ^J |
|------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Magnesium (Mg)-Dissolved (mg/L) | | | | | |
| | Manganese (Mn)-Dissolved (mg/L) | | | | | |
| | Mercury (Hg)-Dissolved (mg/L) | | | | | |
| | Molybdenum (Mo)-Dissolved (mg/L) | | | | | |
| | Nickel (Ni)-Dissolved (mg/L) | | | | | |
| | Phosphorus (P)-Dissolved (mg/L) | | | | | |
| | Potassium (K)-Dissolved (mg/L) | | | | | |
| | Selenium (Se)-Dissolved (mg/L) | | | | | |
| | Silicon (Si)-Dissolved (mg/L) | | | | | |
| | Silver (Ag)-Dissolved (mg/L) | | | | | |
| | Sodium (Na)-Dissolved (mg/L) | | | | | |
| | Strontium (Sr)-Dissolved (mg/L) | | | | | |
| | Sulfur (S)-Dissolved (mg/L) | | | | | |
| | Thallium (TI)-Dissolved (mg/L) | | | | | |
| | Tin (Sn)-Dissolved (mg/L) | | | | | |
| | Titanium (Ti)-Dissolved (mg/L) | | | | | |
| | Uranium (U)-Dissolved (mg/L) | | | | | |
| | Vanadium (V)-Dissolved (mg/L) | | | | | |
| | Zinc (Zn)-Dissolved (mg/L) | | | | | |
| | Zirconium (Zr)-Dissolved (mg/L) | | | | | |
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L1620902 CONTD.... PAGE 19 of 23 16-JUN-15 13:41 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1620902-32 Water 02-JUN-15 10:20 MW09-02 FILTERED ALK | L1620902-33 Water 01-JUN-15 18:00 MW09-16 FILTERED ALK | L1620902-34 Water 01-JUN-15 18:00 DUP-2 MW09-16 | |
|-------------------------|---|---|---|---|--|
| Grouping | Analyte | | | | |
| WATER | | | | | |
| Dissolved Metals | Magnesium (Mg)-Dissolved (mg/L) | | | | |
| | Manganese (Mn)-Dissolved (mg/L) | | | | |
| | Mercury (Hg)-Dissolved (mg/L) | | | | |
| | Molybdenum (Mo)-Dissolved (mg/L) | | | | |
| | Nickel (Ni)-Dissolved (mg/L) | | | | |
| | Phosphorus (P)-Dissolved (mg/L) | | | | |
| | Potassium (K)-Dissolved (mg/L) | | | | |
| | Selenium (Se)-Dissolved (mg/L) | | | | |
| | Silicon (Si)-Dissolved (mg/L) | | | | |
| | Silver (Ag)-Dissolved (mg/L) | | | | |
| | Sodium (Na)-Dissolved (mg/L) | | | | |
| | Strontium (Sr)-Dissolved (mg/L) | | | | |
| | Sulfur (S)-Dissolved (mg/L) | | | | |
| | Thallium (TI)-Dissolved (mg/L) | | | | |
| | Tin (Sn)-Dissolved (mg/L) | | | | |
| | Titanium (Ti)-Dissolved (mg/L) | | | | |
| | Uranium (U)-Dissolved (mg/L) | | | | |
| | Vanadium (V)-Dissolved (mg/L) | | | | |
| | Zinc (Zn)-Dissolved (mg/L) | | | | |
| | Zirconium (Zr)-Dissolved (mg/L) | | | | |
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QC Samples with Qualifiers & Comments:

| QC Type Description | Parameter | Qualifier | Applies to Sample Number(s) |
|---------------------|--------------------------|-----------|--|
| Duplicate | Total Inorganic Carbon | HTA | L1620902-10, -13, -16, -4, -5, -9 |
| Duplicate | Total Inorganic Carbon | HTA | L1620902-10, -13, -16, -4, -5, -9 |
| Duplicate | Total Inorganic Carbon | HTA | L1620902-10, -13, -16, -4, -5, -9 |
| Matrix Spike | Total Inorganic Carbon | MS-B | L1620902-10, -13, -16, -4, -5, -9 |
| Matrix Spike | Thiocyanate (SCN) | MS-B | L1620902-10, -11, -12, -13, -14, -16, -17, -2, -3, -4, -5, -6, -8, -9 |
| Matrix Spike | Thiocyanate (SCN) | MS-B | L1620902-10, -11, -12, -13, -14, -16, -17, -2, -3, -4, -5, -6, -8, -9 |
| Matrix Spike | Sulfate (SO4) | MS-B | L1620902-10, -11, -12, -13, -14, -16, -17, -2, -3, -4, -5, -6, -8, -9 |
| Matrix Spike | Barium (Ba)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Manganese (Mn)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Sodium (Na)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Total Organic Carbon | MS-B | L1620902-8 |
| Matrix Spike | Total Organic Carbon | MS-B | L1620902-8 |
| Matrix Spike | Sulfur (S)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Sulfur (S)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Total Kjeldahl Nitrogen | MS-B | L1620902-10, -11, -12, -13, -14, -16, -17, -2, -3, -4, -5, -6, -8, -9 |
| Matrix Spike | Boron (B)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Manganese (Mn)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Sodium (Na)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1620902-10, -11, -13, -14, -16, -17, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Total Inorganic Carbon | MS-B | L1620902-3, -8 |

QualifierDescriptionDLADetection Limit adjusted for required dilutionHTAAnalytical holding time was exceeded.MS-BMatrix Spike recovery could not be accurately calculated due to high analyte background in sample.RRAReported Result Is The Average Of 2 Or More AnalysesRRVReported Result Verified By Repeat Analysis

Test Method References:

| ALS Test Code | Matrix | Test Description | Method Reference** |
|-------------------------|------------------|---|---|
| ALK-PCT-VA | Water | Alkalinity by Auto. Titration | APHA 2320 "Alkalinity" |
| | | edures adapted from APHA Method 2320 "Alkalini ate and hydroxide alkalinity are calculated from photocome | ty". Total alkalinity is determined by potentiometric titration to a enolphthalein alkalinity and total alkalinity values. |
| ALK-PCT-VA | Water | Alkalinity by Auto. Titration | APHA 2320 Alkalinity |
| | | edures adapted from APHA Method 2320 "Alkalini ate and hydroxide alkalinity are calculated from photocome | ty". Total alkalinity is determined by potentiometric titration to a enolphthalein 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 filte | ered (0.45 um), | preserved with nitric acid, and analyzed by CRC I | CPMS. |
| Method Limitation (re: | Sulfur): Sulfide | and volatile sulfur species may not be recovered b | y this method. |
| | | | |

BE-T-L-CCMS-VA

| Water samples are digeste | ed with nitric a | and hydrochloric acids, and analyzed by CRC ICPMS. | |
|--|------------------------------|---|--|
| Method Limitation (re: Sulf | ur): Sulfide a | nd volatile sulfur species may not be recovered by this | method. |
| CARBONS-TIC-VA | Water | Total inorganic carbon by CO2 purge | APHA 5310B TOTAL ORGANIC CARBON (TOC) |
| This analysis is carried out | using procee | dures adapted from APHA Method 5310 "Total Organic | Carbon (TOC)". |
| CARBONS-TOC-VA This analysis is carried out | Water using procee | Total organic carbon by combustion dures adapted from APHA Method 5310 "Total Organic | APHA 5310B TOTAL ORGANIC CARBON (TOC) Carbon (TOC)". |
| CL-IC-N-WR | Water | Chloride in Water by IC | EPA 300.1 (mod) |
| Inorganic anions are analy | zed by Ion Cl | nromatography with conductivity and/or UV detection. | |
| CN-FREE-CFA-VA | Water | Free Cyanide in water by CFA | ASTM 7237 |
| | | | with Flow Injection Analysis (FIA) Utilizing Gas Diffusion at pH 6 with final determination by colourimetric analysis. |
| CN-SCN-VA | Water | Thiocyanate by Colour | APHA 4500-CN CYANIDE |
| This analysis is carried out colourimetric method. | using procee | dures adapted from APHA Method 4500-CN- M "Thiocy | anate" Thiocyanate is determined by the ferric nitrate |
| CN-T-CFA-VA | Water | Total Cyanide in water by CFA | ISO 14403:2002 |
| CFA)". Total or strong acid colourimetric analysis. Met | dissociable hod Limitatio | dures adapted from ISO Method 14403:2002 "Determin (SAD) cyanide is determined by in-line UV digestion alon: This method is susceptible to interference from thio s method, but it would be less than 1% and could be as | ong with sample distillation and final determination by cyanate (SCN). If SCN is present in the sample, there |
| CN-WAD-CFA-VA | Water | Weak Acid Diss. Cyanide in water by CFA | APHA 4500-CN CYANIDE |
| | | dures adapted from APHA Method 4500-CN I. "Weak A sample distillation with final determination by colourine | |
| EC-PCT-VA | Water | Conductivity (Automated) | APHA 2510 Auto. Conduc. |
| This analysis is carried out electrode. | using procee | dures adapted from APHA Method 2510 "Conductivity". | Conductivity is determined using a conductivity |
| F-IC-N-WR | Water | Fluoride in Water by IC | EPA 300.1 (mod) |
| | | nromatography with conductivity and/or UV detection. | |
| HARDNESS-CALC-VA | Water | Hardness | APHA 2340B |
| Hardness (also known as 1 | Fotal Hardnes | contractions is a calculated from the sum of Calcium and Magnesia contrations are preferentially used for the hardness calculated for the h | um concentrations, expressed in CaCO3 equivalents. |
| HG-D-CVAA-VA | Water | Diss. Mercury in Water by CVAAS or CVAFS | APHA 3030B/EPA 1631E (mod) |
| Water samples are filtered with stannous chloride, and | | reserved with hydrochloric acid, then undergo a cold-ox / CVAAS or CVAFS. | idation using bromine monochloride prior to reduction |
| HG-T-CVAA-VA | Water | Total Mercury in Water by CVAAS or CVAFS | EPA 1631E (mod) |
| Water samples undergo a | cold-oxidatio | n using bromine monochloride prior to reduction with st | annous chloride, and analyzed by CVAAS or CVAFS. |
| IONBALANCE-VA | Water | Ion Balance Calculation | APHA 1030E |
| | | ce (as % difference) are calculated based on guidance aqueous solutions are electrically neutral, the calculated | |
| Cation and Anion Sums are included where data is pres | | eq/L concentration of major cations and anions. Dissolvance is calculated as: | ved species are used where available. Minor ions are |
| Ion Balance (%) = [Cation | Sum-Anion S | um] / [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), p | reserved with nitric acid, and analyzed by CRC ICPMS. | |
| Method Limitation (re: Sulf | ur): Sulfide a | nd 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 Prote optical emission spectroph | | | lethod 3005A) and analysis by inductively coupled plasma - |
|--|----------------------------|--|---|
| MET-T-CCMS-VA | Water | Total Metals in Water by CRC ICPMS | EPA 200.2/6020A (mod) |
| Water samples are digeste | d with nitric a | and hydrochloric acids, and analyzed by CRC ICP | MS. |
| Method Limitation (re: Sulf | ur): Sulfide a | nd volatile sulfur species may not be recovered by | <i>i</i> this method. |
| MET-TOT-LOW-ICP-VA | Water | Total Metals in Water by ICPOES | EPA 3005A/6010B |
| American Public Health As States Environmental Prote | sociation, an | d with procedures adapted from "Test Methods fo y (EPA). The procedures may involve preliminary | amination of Water and Wastewater" published by the or Evaluating Solid Waste" SW-846 published by the United of sample treatment by acid digestion, using either hotblock or asma - optical emission spectrophotometry (EPA Method |
| NH3-F-VA | Water | Ammonia in Water by Fluorescence | APHA 4500 NH3-NITROGEN (AMMONIA) |
| | | | ed from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society f trace levels of ammonium in seawater", Roslyn J. Waston et |
| NH3-F-VA | Water | Ammonia in Water by Fluorescence | J. ENVIRON. MONIT., 2005, 7, 37-42, RSC |
| | | | ed from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society f trace levels of ammonium in seawater", Roslyn J. Waston et |
| NO2-L-IC-N-WR | Water | Nitrite in Water by IC (Low Level) | EPA 300.1 (mod) |
| Inorganic anions are analyz | zed by Ion Cl | nromatography with conductivity and/or UV detect | ion. |
| NO3-L-IC-N-WR | Water | Nitrate in Water by IC (Low Level) | EPA 300.1 (mod) |
| Inorganic anions are analyz | zed by Ion Cl | nromatography with conductivity and/or UV detect | ion. |
| PH-PCT-VA | Water | pH by Meter (Automated) | APHA 4500-H "pH Value" |
| This analysis is carried out electrode | using procee | dures adapted from APHA Method 4500-H "pH Va | lue". The pH is determined in the laboratory using a pH |
| It is recommended that this | s analysis be | conducted in the field. | |
| PH-PCT-VA | Water | pH by Meter (Automated) | APHA 4500-H pH Value |
| This analysis is carried out electrode | using procee | dures adapted from APHA Method 4500-H "pH Va | alue". The pH is determined in the laboratory using a pH |
| It is recommended that this | s analysis be | conducted in the field. | |
| S-DIS-ICP-VA | Water | Dissolved Sulfur in Water by ICPOES | EPA SW-846 3005A/6010B |
| American Public Health As States Environmental Prote | sociation, an | d with procedures adapted from "Test Methods fo y (EPA). The procedures may involve preliminary | amination of Water and Wastewater" published by the r Evaluating Solid Waste" SW-846 published by the United sample treatment by acid digestion, using either hotblock or y coupled plasma - optical emission spectrophotometry (EPA |
| | n lost during | the sampling, preservation and analysis process. | r other volatile forms of sulfur that may be present in The data reported as total and/or dissolved sulfur represents |
| S-TOT-ICP-VA | Water | Total Sulfur in Water by ICPOES | EPA SW-846 3005A/6010B |
| American Public Health As States Environmental Prote | sociation, an ection Agenc | d with procedures adapted from "Test Methods fo y (EPA). The procedures may involve preliminary | amination of Water and Wastewater" published by the r Evaluating Solid Waste" SW-846 published by the United y sample treatment by acid digestion, using either hotblock or y coupled plasma - optical emission spectrophotometry (EPA |
| | n lost during | the sampling, preservation and analysis process. | r other volatile forms of sulfur that may be present in The data reported as total and/or dissolved sulfur represents |
| S2-T-COL-VA | Water | Total Sulphide by Colorimetric | APHA 4500-S2 Sulphide |
| This analysis is carried out colourimetric method. | using proce | dures adapted from APHA Method 4500-S2 "Sulpl | hide". Sulphide is determined using the methlyene blue |
| 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.

| TKN-F-VA | Water | TKN in Water by Fluorescence | APHA 4500-NORG D. | | | | | | | | | | |
|-------------------------|---|--|---|--------|--|--|--|--|--|--|--|--|--|
| | | edures adapted from APHA Method 4500-N estion followed by Flow-injection analysis w | org D. "Block Digestion and Flow Injection Analysis". Total K | eldahl | | | | | | | | | |
| ** ALS test methods ma | ** ALS test methods may incorporate modifications from specified reference methods to improve performance. | | | | | | | | | | | | |
| The last two letters of | 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 | n Code Labor | atory Location | | | | | | | | | | | |

| Eaboratory Demintion Obac | Laboratory Loodatori |
|---------------------------|---|
| WR | ALS ENVIRONMENTAL - WHITEHORSE, YUKON, CANADA |
| VA | ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA |

Chain of Custody Numbers:

1 2

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



| | COC | Number: | 1 |
|--|-----|---------|---|
|--|-----|---------|---|

Page 1 of 2

| (ALS) | Environm | ental | Cana | ida Toll Free: 1 800 | 668 9878 | ** ** **!# #{## | _1620902-C | | | | | | | | | | | | - | | - |
|--------------------------------|---|--------------|---------------------------------------|--------------------------|--|--|----------------|--|--------------------------------------|------------------|---------------|------------------|----------------------------------|--------------------------|-------------------|----------|------------------------|----------------------|----------|------------|----------------------|
| Report To | www.alsglobal.com | | | | Report Forma | | -1020902-0 | OFC | ~ | | | | w/Rus | h Tum | amun | i Time | /TAT) i | s not av | vailahte | for all te | esis) |
| Company: | Hemmera Environchem In | C. | | Select Report | | | PEDD (DIGITAL) | 15 | 17.000 | | | - | | | | | | | | | |
| Contact: | Natasha Sandys | <u>.</u> | | | (QC) Report with I | | | | | | | | | | | | | | | | |
| Address: | 230 - 2237 2nd Avenue | | | | ort - provide details bek | • | | E Emergency (1-2 bus, days in received by 3pm) 100% surcharge - contact ALS to confirm TAT | | | | | | | | | | | | | |
| | Whitehorse, YT | | | Select Distribu | • | | □ FAX | E2 Same day or weekend emergency - contact ALS to confirm TAT and surcharge | | | | | | | | | | | | | |
| Phone: | 867-456-4865 | | | | nsandys@hemme | | | | Specify Date Required for E2,E or P: | | | | | | | | | | | | |
| | | | | Email 2 | chris@elr.ca | · · · · · · · · · · · · · · · · · · · | | Analysis Request | | | | | | | | | | | | | |
| nvoice To | Same as Report To | 🗹 Yes | ⊡ No | · · · · · | | istribution | | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below | | | | | | | | | | | | | |
| | Copy of Invoice with Report | rt 🔲 Yes | Mo No | Select Invoice | Distribution: | MAIL []MAIL | □ FAX | F/P | F/P | | | | P | P | Р | Р | | F | | | 1 |
| Company: | Hemmera Environchem In | C. | | Email 1 or Fax | nsandys@hemme | era.com | | | | | | ū | | | | | | | | | 1 |
| Contact: | Natasha Sandys | | | Email 2 | chris@elr.ca | | | | | | nit. | Balan | æ | Carbon | | | | | | | <u>ه</u> |
| | Project Info | ormation | | C C | il and Gas Require | ed Fields (client | use) | | | NY N | alkaünity | nio | Total, Free | S. | | | | | | | L La |
| ALS Quote #: | Q50588 | | | Approver ID: | | Cost Center: | | | | | рН, а | VLC | g | aric | | | | | | | ntai |
| Job #: | 1343-005.09 | | | GL Account: | | Routing Code: | | SSS | | Kjełdaht N (TKN) | | Sum,Cation/Anion | | Organic | | | | | | | č |
| PO/AFE: | | | | Activity Code: | | | | Hardness | | Ť | Ctivi | Ē | Si | otal | | | 5 | | | | er o |
| SD: | | | | Location: | | | | | ≧ | Total | conductivity, | | Acid Diss. | Ξ, Ţ | ŝ | | arb | £ | | | Number of Containers |
| ALS Lab Wo | b Work Order # (lab use only) | | | | | Sampler: | RM, JC, AN, MI | | d Mercu | Nitrite, T | Sulfate, c | Sum, Cation | - Weak | a N (tota | hate (SC | as S | nganic (| d Alkalir | | | Z |
| ALS Sample # (lab use only) | | | n and/or Coordin appear on the rep | | Date (dd-mmm-yy) | Time (hh:mm) | Sample Type | Dissolved | Dissolved Mercury | Nitrate, 1 | CI, FI, SI | Anian St | Cyanide | Ammonia N (totat), Total | Thiocyanate (SCN) | Sulphide | Total Inorganic Carbon | Dissolved Alkalinity | | | |
| | GSI-HA-05A | | | | 01-Jun-15 | 16:45 | Water | R | | | | | | | | | 1 | | | | 1 |
| <u></u> | GSI-HA-01A | | | | 02-Jun-15 | 13:50 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | MW09-17 | | | | 02-Jun-15 | 11:35 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | MW09-18 | | | | 02-Jun-15 | 10:10 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | MW09-19 | | | | 02-Jun-15 | 8:30 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | FB-2 | | | | 02-Jun-15 | 8:30 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | MP09-14 | | | | 02-Jun-15 | 14:50 | Water | R | R | | | | | | | | | | | | 2 |
| | CH-P-13-05/50 | | | | 02-Jun-15 | 17:00 | Water | R | R | R | R | R | R | R | R | Ŕ | R | R | R | R | 9 |
| in garantin. Ngaranting | MW09-04 | | | | 02-Jun-15 | 13:50 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | DUP-1 | | | | 02-Jun-15 | 13:50 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | FB1 | | | | 02-Jun-15 | 13:50 | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| | Travel Blank | | | | | | Water | R | R | R | R | R | R | R | R | R | R | R | R | R | 9 |
| Drinking | g Water (DW) Samples ¹ (cli | ent use) | Sr | ecial Instructions / Spe | cify Criteria to add o | n report (client L | se) | | | | SAMP | LE CO | NDITI | <u> </u> | | | | | e only) | , | |
| | | | | F- | | ······································ | ; | Froze | · • | • • • | | | | SIF | Obser | vatio | ⊓s <u>~</u> | Yes | | No | |
| re samples tak L Y | ren from a Regulated DW Sys ∕es IV: No | | | | ter sheet for list of full parameters and metals required. | | | | acks ng Init | 1. C | | No | o 🔲 Custody seal intact Yes 🔲 No | | | | | | | | |
| re samples for | samples for human drinking water use? | | | 4, GS1-HA. | -03A, 6SI | - HA - 051 | please 1 | · . | | | TEMPE | RATURE | S °C | | n Theat | FINAL | COOL | LER TEMPERATURES " | | | °C |
| - | TYes PNO | | | | POL DY NOIOL | | | | | | | | | 3.7 | | | | JER TEMPERATURES | | | |
| ····· | SHIPMENT RELEASE | (client use) | Ι | INITIAL | INITIAL SHIPMENT RECEPTION (lab use only) | | | | FINAL SHIPMENT RECEPTIO | | | | | | TIO | l (lab | | | | | |
| Released by: | cilnelshi J | te: alir | Time: | Received by | | | | | Received by: | | | | | | | | | | | | |

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



Request Form

Canada Toll Free: 1 800 668 9878



Page <u>2</u> of <u>2</u>

| | www.alsglobal.com | <u>11</u> | | | | | | | | | | | 1 | | | | | | | | | |
|-------------------------------------|------------------------------------|--------------------------|----------------|-----------------------------|---|---------------------|---------------|--|-------------------|--|----------------------------|---|----------------------------|--------------------|-------------------|-------------|-------------|----------------------|----------|----------|----------------------|--|
| Report To | | · | | | Report Format / | | | | | .w (Rush Tumaround Time (TAT) is not available for all tests) | | | | | | | | | | | | |
| Company: | Hemmera Environche | minc. | | Select Report | Select Report Format: 🖓 DF VEXCEL VEDD (DIGITAL) | | | | | | | | | | | | | | | | | |
| Contact: | Natasha Sandys | | | Quality Control | Quality Control (QC) Report with Report 🛛 🖓 Yes 🕅 No | | | | | | | | | | | | | | | | | |
| Address: | 230 - 2237 2nd Avenu | e | | Criteria on Rep | 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 | | | | | | | | | | | | |
| | Whitehorse, YT | | | Select Distribu | Select Distribution: DEMAIL MAIL FAX | | | | | E2 Same day or weekend emergency - contact ALS to confirm TAT and surcharge | | | | | | | | | | | | |
| Phone: | 867-456-4865 | | | Email 1 or Fax | nsandys@hemme | era.com, rmartin | ka@hemmera.co | or Spec | cify Da | te Rec | uired t | or E2,I | E or P: | | | | | | | | | |
| | | | | Email 2 | chris@elr.ca | | | | | | | | A | nalys | is Re | ques | at | | | | | |
| Invoice To | Same as Report To | 🔽 Yes | 🗔 No | | Invoice D | istribution | | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below | | | | | | | | | | | | | | |
| | Copy of Invoice with R | eport 🛛 🗖 Yes | Mo No | Select Invoice | Distribution: | EMAIL MAIL | □ FAX | F/P | F/P | | | | Р | Р | Р | Р | Τ | ۴ | | T | 1 | |
| Company: | Hemmera Environche | m Inc. | | Email 1 or Fax | nsandys@hemme | era.com | | | 1 | 1 | | <u><u></u></u> | | | | | 1 | | | | 1 | |
| Contact: | Natasha Sandys | | | Email 2 | chris@elr.ca | | | | | _ | atkalinity | Ba | æ | Carbon | | | | | | | φ | |
| | Project | Information | | Ó Ó | il and Gas Require | ed Fields (client | use) | | | X | skal | vio. | Total, Free | Gai | | | 1 | | | | iner T | |
| ALS Quote #: | Q50588 | | | Approver ID: | | Cost Center: | | 1 | | ž | Τ | d'no | otal | anic | | | | | | | Duta D | |
| Job #: | 1343-005.09 | | | GL Account: | | Routing Code: | | - sa | | dah | t∧ A | Cati | 5 | Organic (| | | | 1 | | | ĮŬ | |
| PO / AFE: | | | | Activity Code: | | • | · · | Hardness | | 2 E | clivi | Ë | ŝ | Total | 1 | | 5 | 1 | | Ì | er o | |
| LSD: | | | | Location: | | | | ן <u>ד</u> | 2 | otal | npu | S H | Acid | L C | Î | | Carbon | .≥ | | | Number of Containers | |
| ALS Lab Work Order # (lab use only) | | | | ALS Contact: | | Sampler: | RM, JC, AN, M | ed Metals | Dissolved Mercury | Nitrate, Nitrite, Total Kjeldahl N (TKN) | Sulfate, conductivity, pH, | Anion Sum, Cation Sum, Cation/Anion Balan | Cyanide - Weak Acid Diss., | Ammonia N (total), | Thiocyanate (SCN) | e as S | Inorganic C | Dissolved Alkalinity | | | Ī | |
| ALS Sample # (lab use only) | 1 | mple Identification will | | | Date (dd-mmm-yy) | Time (hh:mm) | Sample Type | " <u>≷</u> " | Dissolve | Nitrate, 1 | Ci Ei S | Anion St | Cyanide | Ammoni | Thiocyar | Sulphide as | Total Inc | Dissolve | | | | |
| | MW09-03 | | | | 02-Jun-15 | 15:10 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 | |
| | MW09-02 | | | | 02-Jun-15 | 10:20 | Water | R | R | R | R | R | R | R | R | R | R | R | <u> </u> | 1 | 9 | |
| | GSI-HA-03A | | | | 01-Jun-15 | 16:15 | Water | R | R | | | | | | | <u> </u> | <u> </u> | | | <u> </u> | 2 | |
| | MW09-16 | | | | 01-Jun-15 | 18;00 | Water | R | R | R | R | R | R | R | R | R | R | R | | ╂───┘ | 9 | |
| | DP-2 | | | | 01-Jun-15 | 18:00 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 | |
| | GSI-HA-02A | | | | 01-Jun-15 | 15:30 | Water | R | R | | | | | | | | <u> </u> | | <u> </u> | <u> </u> | 2 | |
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| D -1-11-1 | | ····· | | | | _L | | <u> </u> | | · ; | SAMP | LE CO | NDITIO | ON A | S RE | CEIV | ED (Ir | ib us | e only | <u> </u> | | |
| Drinking | g Water (DW) Samples | (client use) | | Special Instructions / Spec | city Criteria to add o | on report (client U | se) | Froze | en | · . | | | | | Obser | | | Yes | _ | · | | |
| ۳Y | | · | - See attached | parameter sheet for list o | f full parameters an | d metals require | J. | Cooli | acks ng Init | | | 1977 | | Cust | | | | | | Nò | | |
| Are samples for | rhuman drinking water u es 😥 No | se? | | | | | | INI | TIAL CO | OLER | TEMPE | ATURE | s℃ | | F | INAL. | COOL | ER TEI | IPERA | TURES | °C | |
| L. 1 | | ^_ | 1 | | | | | | | | | | | | | | | | | | | |
| Delegending | SHIPMENT RELEASE (client use) | | | | SHIPMENT RECEP | · · · · · | | | | | FIN | AL SH | IPMEN | VT RI | | - · · | l (lab | | | | | |
| rkeleased by: | Released by: Date: Time: Re | | | Received by: | | Date: | Time: | Received by: Date: Time: | | | | | | | | | | | | | | |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0026e v09 Front/04 January 2014

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



HEMMERA ENVIROCHEM INC. ATTN: Natasha Sandys 230 - 2237 2nd Avenue Whitehorse YK Y1A 0K7 Date Received: 05-JUN-15 Report Date: 23-JUN-15 12:48 (MT) Version: FINAL

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1622366

Project P.O. #: Job Reference: C of C Numbers: Legal Site Desc: NOT SUBMITTED 1343-005.09 1, 2

Comments: ADDITIONAL 18-JUN-15 11:36

Brent Mack, B.Sc. Account Manager

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

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L1622366 CONTD.... PAGE 2 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-1 Water 03-JUN-15 17:45 MP09-05 | L1622366-2 Water 02-JUN-15 14:55 MW09-06 | L1622366-3 Water 03-JUN-15 08:45 W14103083BH03 | L1622366-4 Water 03-JUN-15 12:15 MW09-01 | L1622366-5 Water 04-JUN-15 14:40 MW09-24 |
|-------------------------------|---|--|--|--|--|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | 2120 | 1970 | 1070 | 2700 | 900 |
| | Hardness (as CaCO3) (mg/L) | 1270 | 1230 | 657 | 1490 | 550 |
| | рН (рН) | 6.95 | 7.90 | 7.23 | 7.91 | 7.86 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 280 | 182 | 378 | 255 | 280 |
| | Ammonia, Total (as N) (mg/L) | 10.1 | 1.15 | 1.76 | 17.8 | <0.0050 |
| | Chloride (Cl) (mg/L) | <2.5 | <2.5 | <0.50 | <5.0 DLA | 1.10 |
| | Fluoride (F) (mg/L) | 0.14 | 0.41 | <0.20 | 0.33 | 0.038 |
| | Nitrate (as N) (mg/L) | <0.025 | 2.54 | <0.0050 | 0.053 | 2.37 |
| | Nitrite (as N) (mg/L) | DLA <0.0050 | 0.0919 | <0.0010 | DLA <0.010 | 0.0019 |
| | Total Kjeldahl Nitrogen (mg/L) | 13.8 | 1.81 | 2.76 | 21.6 | 0.542 |
| | Sulfate (SO4) (mg/L) | 1120 | 1160 | 265 | 1640 | 226 |
| | Sulphide as S (mg/L) | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| | Anion Sum (meq/L) | 28.9 | 28.0 | 13.1 | 39.2 | 10.5 |
| | Cation Sum (meq/L) | 31.1 | 26.5 | 15.7 | 36.4 | 11.3 |
| | Cation - Anion Balance (%) | 3.5 | -2.8 | 9.3 | -3.8 | 3.9 |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | <0.0050 | <0.0050 | <0.0050 | 0.0091 | <0.0050 |
| | Cyanide, Total (mg/L) | 0.0108 | <0.0050 | <0.0050 | 0.0881 | <0.0050 |
| | Thiocyanate (SCN) (mg/L) | 0.78 | <0.50 | 0.53 | 4.84 | <0.50 |
| | Cyanide, Free (mg/L) | <0.0050 | <0.0050 | <0.0050 | 0.0058 | <0.0050 |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | 61.3 | 40.1 | 83.2 | 56.9 | 66.9 |
| | Total Organic Carbon (mg/L) | 25.4 | 9.74 | 19.0 | 17.8 | 7.74 |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |

L1622366 CONTD.... PAGE 3 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-6 Water 04-JUN-15 17:41 GSI-PC-03-B | L1622366-7 Water 04-JUN-15 08:15 MW09-23 | L1622366-8 Water 04-JUN-15 08:05 MP09-09 | L1622366-9 Water 04-JUN-15 09:10 MP09-11 | L1622366-10 Water 04-JUN-15 10:10 MW09-22 |
|-------------------------------|---|--|--|--|--|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | 3490 | 2040 | 631 | 717 | 1560 |
| | Hardness (as CaCO3) (mg/L) | 2440 | 1270 | 288 | 383 | 924 |
| | рН (рН) | 8.07 | 7.54 | 8.90 | 7.75 | 6.33 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 935 | 336 | 63.9 | 386 | 70.6 |
| | Ammonia, Total (as N) (mg/L) | | 3.80 | 3.88 | 9.49 | 1.47 |
| | Chloride (Cl) (mg/L) | <10 DLA | <2.5 | 2.59 | 0.58 | <2.5 |
| | Fluoride (F) (mg/L) | OLM <0.60 | 0.18 | 1.62 | 0.491 | 0.10 |
| | Nitrate (as N) (mg/L) | 0.17 | OLA <0.025 | 0.0273 | 0.0103 | 0.039 |
| | Nitrite (as N) (mg/L) | DLA <0.020 | <0.0050 | 0.0040 | 0.0143 | 0.0205 |
| | Total Kjeldahl Nitrogen (mg/L) | | 6.81 | 5.82 | 12.9 | 4.42 |
| | Sulfate (SO4) (mg/L) | 1570 | 979 | 234 | 22.1 | 809 |
| | Sulphide as S (mg/L) | | <0.020 | DLM <1.0 | <0.020 | <0.020 |
| | Anion Sum (meq/L) | 51.3 | 27.1 | 6.32 | 8.21 | 18.3 |
| | Cation Sum (meq/L) | 54.8 | 29.0 | 7.40 | 9.59 | 24.0 |
| | Cation - Anion Balance (%) | 3.3 | 3.4 | 7.9 | 7.8 | 13.5 |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | <0.0050 | <0.0050 | 0.278 | <0.0050 | <0.0050 |
| | Cyanide, Total (mg/L) | <0.0050 | 0.0093 | 1.36 | 0.0254 | 0.0124 |
| | Thiocyanate (SCN) (mg/L) | | 0.51 | 0.98 | 0.56 | <0.50 |
| | Cyanide, Free (mg/L) | <0.0050 | <0.0050 | 0.251 | <0.0050 | 0.0059 |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | 77.7 | 8.43 | 85.7 | 15.6 |
| | Total Organic Carbon (mg/L) | | 14.9 | 31.4 | 34.3 | 14.6 |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |

L1622366 CONTD.... PAGE 4 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-11 Water 04-JUN-15 10:10 FB-4 | L1622366-12 Water 04-JUN-15 13:10 MW09-08 | L1622366-13 Water 03-JUN-15 17:45 FB-3 | L1622366-14 Water 03-JUN-15 17:45 DUP-4 | L1622366-15 Water 05-JUN-15 TRAVEL BLANK |
|-------------------------------|---|--|---|--|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | <2.0 | 385 | <2.0 | 2120 | <2.0 |
| | Hardness (as CaCO3) (mg/L) | <0.50 | 201 | <0.50 | 1300 | <0.50 |
| | рН (рН) | 5.58 | 6.66 | 5.50 | 7.06 | 5.43 |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | <1.0 | 125 | <1.0 | 277 | <1.0 |
| | Ammonia, Total (as N) (mg/L) | <0.0050 | 2.15 | <0.0050 | 10.1 | <0.0050 |
| | Chloride (Cl) (mg/L) | <0.50 | <0.50 | <0.50 | <5.0 DLA | <0.50 |
| | Fluoride (F) (mg/L) | <0.020 | <0.20 | <0.020 | <0.20 | <0.020 |
| | Nitrate (as N) (mg/L) | <0.0050 | <0.0050 | <0.0050 | <0.050 | <0.0050 |
| | Nitrite (as N) (mg/L) | <0.001 | <0.0010 | <0.0010 | DLA <0.010 | <0.0010 |
| | Total Kjeldahl Nitrogen (mg/L) | <0.050 | 2.94 | <0.050 | 13.6 | <0.050 |
| | Sulfate (SO4) (mg/L) | <0.30 | 75.9 | <0.30 | 1090 | <0.30 |
| | Sulphide as S (mg/L) | <0.020 | 0.058 | <0.020 | <0.020 | <0.020 |
| | Anion Sum (meq/L) | <0.10 | 4.08 | <0.10 | 28.2 | <0.10 |
| | Cation Sum (meq/L) | <0.10 | 7.98 | <0.10 | 31.9 | <0.10 |
| | Cation - Anion Balance (%) | 94.6 | 32.4 | 0.0 | 6.1 | 0.0 |
| | | 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 | 0.0069 | <0.0050 | 0.0140 | <0.0050 |
| | Thiocyanate (SCN) (mg/L) | <0.50 | 0.62 | <0.50 | 0.78 | <0.50 |
| | Cyanide, Free (mg/L) | <0.0050 | <0.0050 | <0.0050 | 0.0060 | <0.0050 |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | <0.50 | 28.0 | <0.50 | 58.3 | <0.50 |
| | Total Organic Carbon (mg/L) | <0.50 | 15.4 | <0.50 | 26.2 | 0.52 |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | <0.0030 |
| | Antimony (Sb)-Total (mg/L) | | | | | <0.00010 |
| | Arsenic (As)-Total (mg/L) | | | | | <0.00010 |
| | Barium (Ba)-Total (mg/L) | | | | | <0.000050 |
| | Beryllium (Be)-Total (mg/L) | | | | | <0.000020 |
| | Bismuth (Bi)-Total (mg/L) | | | | | <0.000050 |
| | Boron (B)-Total (mg/L) | | | | | <0.010 |
| | Cadmium (Cd)-Total (mg/L) | | | | | <0.0000050 |
| | Calcium (Ca)-Total (mg/L) | | | | | <0.050 |
| | Chromium (Cr)-Total (mg/L) | | | | | <0.00010 |
| | Cobalt (Co)-Total (mg/L) | | | | | <0.00010 |
| | Copper (Cu)-Total (mg/L) | | | | | <0.00050 |
| | Iron (Fe)-Total (mg/L) | | | | | <0.010 |
| | Lead (Pb)-Total (mg/L) | | | | | <0.000050 |

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| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-16 Water 03-JUN-15 17:45 MP09-05 FILTERED ALK | L1622366-17 Water 03-JUN-15 14:55 MW09-06 FILTERED ALK | L1622366-18 Water 03-JUN-15 08:45 W14103083BH03 FILTERED ALK | L1622366-19 Water 03-JUN-15 12:15 MW09-01 FILTERED ALK | L1622366-20 Water 04-JUN-15 14:40 MW09-24 FILTERED ALK |
|-------------------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | | | | | |
| | Hardness (as CaCO3) (mg/L) | | | | | |
| | рН (рН) | | | | | |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 282 | 185 | 376 | 264 | 282 |
| | Ammonia, Total (as N) (mg/L) | | | | | |
| | Chloride (Cl) (mg/L) | | | | | |
| | Fluoride (F) (mg/L) | | | | | |
| | Nitrate (as N) (mg/L) | | | | | |
| | Nitrite (as N) (mg/L) | | | | | |
| | Total Kjeldahl Nitrogen (mg/L) | | | | | |
| | Sulfate (SO4) (mg/L) | | | | | |
| | Sulphide as S (mg/L) | | | | | |
| | Anion Sum (meq/L) | | | | | |
| | Cation Sum (meq/L) | | | | | |
| | Cation - Anion Balance (%) | | | | | |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | | | | | |
| | Cyanide, Total (mg/L) | | | | | |
| | Thiocyanate (SCN) (mg/L) | | | | | |
| | Cyanide, Free (mg/L) | | | | | |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | | | | |
| | Total Organic Carbon (mg/L) | | | | | |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |

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| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-22 Water 04-JUN-15 08:15 MW09-23 FILTERED ALK | L1622366-23 Water 04-JUN-15 08:05 MP09-09 FILTERED ALK | L1622366-24 Water 04-JUN-15 09:10 MP09-11 FILTERED ALK | L1622366-25 Water 04-JUN-15 10:10 MW09-22 FILTERED ALK | L1622366-26 Water 04-JUN-15 10:10 FB-4 FILTERED ALK |
|-------------------------------|---|---|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Physical Tests | Conductivity (uS/cm) | | | | | |
| | Hardness (as CaCO3) (mg/L) | | | | | |
| | рН (рН) | | | | | |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 349 | 62.8 | 395 | 117 | <1.0 |
| | Ammonia, Total (as N) (mg/L) | | | | | |
| | Chloride (Cl) (mg/L) | | | | | |
| | Fluoride (F) (mg/L) | | | | | |
| | Nitrate (as N) (mg/L) | | | | | |
| | Nitrite (as N) (mg/L) | | | | | |
| | Total Kjeldahl Nitrogen (mg/L) | | | | | |
| | Sulfate (SO4) (mg/L) | | | | | |
| | Sulphide as S (mg/L) | | | | | |
| | Anion Sum (meq/L) | | | | | |
| | Cation Sum (meq/L) | | | | | |
| | Cation - Anion Balance (%) | | | | | |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | | | | | |
| | Cyanide, Total (mg/L) | | | | | |
| | Thiocyanate (SCN) (mg/L) | | | | | |
| | Cyanide, Free (mg/L) | | | | | |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | | | | |
| | Total Organic Carbon (mg/L) | | | | | |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | | |
| | Arsenic (As)-Total (mg/L) | | | | | |
| | Barium (Ba)-Total (mg/L) | | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | | |
| | Boron (B)-Total (mg/L) | | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | | |
| | Copper (Cu)-Total (mg/L) | | | | | |
| | Iron (Fe)-Total (mg/L) | | | | | |
| | Lead (Pb)-Total (mg/L) | | | | | |

L1622366 CONTD.... PAGE 7 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-27 Water 04-JUN-15 13:10 MW09-08 FILTERED ALK | L1622366-28 Water 03-JUN-15 17:45 FB-3 FILTERED ALK | L1622366-29 Water 03-JUN-15 17:45 DUP-4 FILTERED ALK | |
|-------------------------------|---|---|--|---|--|
| Grouping | Analyte | | | | |
| WATER | | | | | |
| Physical Tests | Conductivity (uS/cm) | | | | |
| | Hardness (as CaCO3) (mg/L) | | | | |
| | рН (рН) | | | | |
| Anions and Nutrients | Alkalinity, Total (as CaCO3) (mg/L) | 130 | <1.0 | 288 | |
| | Ammonia, Total (as N) (mg/L) | | | | |
| | Chloride (Cl) (mg/L) | | | | |
| | Fluoride (F) (mg/L) | | | | |
| | Nitrate (as N) (mg/L) | | | | |
| | Nitrite (as N) (mg/L) | | | | |
| | Total Kjeldahl Nitrogen (mg/L) | | | | |
| | Sulfate (SO4) (mg/L) | | | | |
| | Sulphide as S (mg/L) | | | | |
| | Anion Sum (meq/L) | | | | |
| | Cation Sum (meq/L) | | | | |
| | Cation - Anion Balance (%) | | | | |
| Cyanides | Cyanide, Weak Acid Diss (mg/L) | | | | |
| | Cyanide, Total (mg/L) | | | | |
| | Thiocyanate (SCN) (mg/L) | | | | |
| | Cyanide, Free (mg/L) | | | | |
| Organic / Inorganic Carbon | Total Inorganic Carbon (mg/L) | | | | |
| | Total Organic Carbon (mg/L) | | | | |
| Total Metals | Aluminum (Al)-Total (mg/L) | | | | |
| | Antimony (Sb)-Total (mg/L) | | | | |
| | Arsenic (As)-Total (mg/L) | | | | |
| | Barium (Ba)-Total (mg/L) | | | | |
| | Beryllium (Be)-Total (mg/L) | | | | |
| | Bismuth (Bi)-Total (mg/L) | | | | |
| | Boron (B)-Total (mg/L) | | | | |
| | Cadmium (Cd)-Total (mg/L) | | | | |
| | Calcium (Ca)-Total (mg/L) | | | | |
| | Chromium (Cr)-Total (mg/L) | | | | |
| | Cobalt (Co)-Total (mg/L) | | | | |
| | Copper (Cu)-Total (mg/L) | | | | |
| | Iron (Fe)-Total (mg/L) | | | | |
| | Lead (Pb)-Total (mg/L) | | | | |

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| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-1 Water 03-JUN-15 17:45 MP09-05 | L1622366-2 Water 02-JUN-15 14:55 MW09-06 | L1622366-3 Water 03-JUN-15 08:45 W14103083BH03 | L1622366-4 Water 03-JUN-15 12:15 MW09-01 | L1622366-5 Water 04-JUN-15 14:40 MW09-24 |
|------------------|---|--|--|--|--|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Lithium (Li)-Total (mg/L) | | | | | |
| | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Dissolved Metals Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Aluminum (AI)-Dissolved (mg/L) | 0.0218 | DLA <0.0020 | 0.0208 | DLA <0.0020 | 0.0016 |
| | Antimony (Sb)-Dissolved (mg/L) | 0.00033 | 0.259 | 0.00060 | 0.0442 | 0.00020 |
| | Arsenic (As)-Dissolved (mg/L) | 0.00755 | 0.122 | 0.0541 | 0.206 | 0.00169 |
| | Barium (Ba)-Dissolved (mg/L) | 0.0321 | 0.00611 | 0.101 | 0.0217 | 0.0996 |
| | Beryllium (Be)-Dissolved (mg/L) | DLA <0.000040 | DLA <0.000040 | <0.000020 | DLA <0.000040 | <0.000020 |
| | Bismuth (Bi)-Dissolved (mg/L) | DLA <0.00010 | DLA <0.00010 | <0.000050 | DLA <0.00010 | <0.000050 |
| | Boron (B)-Dissolved (mg/L) | 0.074 | 0.116 | 0.028 | 0.098 | 0.013 |
| | Cadmium (Cd)-Dissolved (mg/L) | 0.00141 | 0.00623 | 0.0000064 | 0.0332 | 0.0000435 |
| | Calcium (Ca)-Dissolved (mg/L) | 382 | 380 | 190 | 502 | 151 |
| | Chromium (Cr)-Dissolved (mg/L) | 0.00069 | DLA <0.00020 | 0.00045 | DLA <0.00020 | 0.00037 |
| | Cobalt (Co)-Dissolved (mg/L) | 0.0183 | 0.00151 | 0.00467 | 0.0192 | <0.00010 |
| | Copper (Cu)-Dissolved (mg/L) | 0.00096 | 0.0107 | 0.00050 | 0.00361 | 0.00855 |
| | Iron (Fe)-Dissolved (mg/L) | 42.3 | <0.010 | 32.9 | 1.75 | <0.010 |
| | Lead (Pb)-Dissolved (mg/L) | -2.0 DLA <0.00010 | 0.00045 | 0.000090 | 0.00430 | <0.000050 |

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| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-6 Water 04-JUN-15 17:41 GSI-PC-03-B | L1622366-7 Water 04-JUN-15 08:15 MW09-23 | L1622366-8 Water 04-JUN-15 08:05 MP09-09 | L1622366-9 Water 04-JUN-15 09:10 MP09-11 | L1622366-10 Water 04-JUN-15 10:10 MW09-22 |
|------------------|---|--|--|--|--|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Lithium (Li)-Total (mg/L) | | | | | |
| | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Dissolved Metals Filtration Location | FIELD | FIELD | FIELD | FIELD | FIELD |
| | Aluminum (AI)-Dissolved (mg/L) | 0.0472 | 0.0133 | 0.0030 | 0.0046 | 0.0475 |
| | Antimony (Sb)-Dissolved (mg/L) | 0.00220 | DLA <0.00050 | 0.0776 | 0.0140 | 0.00019 |
| | Arsenic (As)-Dissolved (mg/L) | 0.0969 | 0.0136 | 15.3 | 7.35 | 0.0131 |
| | Barium (Ba)-Dissolved (mg/L) | 0.108 | 0.0734 | 0.00053 | 0.145 | 0.202 |
| | Beryllium (Be)-Dissolved (mg/L) | DLA <0.000040 | DLA <0.00010 | DLA <0.000040 | <0.000020 | <0.000020 |
| | Bismuth (Bi)-Dissolved (mg/L) | DLA <0.00010 | DLA <0.00025 | DLA <0.00010 | <0.000050 | <0.000050 |
| | Boron (B)-Dissolved (mg/L) | 0.057 | 0.148 | 0.254 | 0.033 | 0.028 |
| | Cadmium (Cd)-Dissolved (mg/L) | 0.000048 | DLA <0.000025 | 0.000438 | 0.0000719 | 0.0000778 |
| | Calcium (Ca)-Dissolved (mg/L) | 149 | 308 | 114 | 86.2 | 320 |
| | Chromium (Cr)-Dissolved (mg/L) | 0.0296 | DLA <0.00050 | DLA <0.00020 | 0.00101 | 0.00079 |
| | Cobalt (Co)-Dissolved (mg/L) | 0.00802 | 0.0215 | 0.0424 | 0.00128 | 0.0144 |
| | Copper (Cu)-Dissolved (mg/L) | 0.00122 | DLA <0.0010 | 0.526 | 0.00043 | 0.00034 |
| | Iron (Fe)-Dissolved (mg/L) | 15.4 | 15.1 | 0.171 | 8.87 | 64.7 |
| | Lead (Pb)-Dissolved (mg/L) | 0.00038 | DLA <0.00025 | 0.00027 | 0.00171 | <0.000050 |

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| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-11 Water 04-JUN-15 10:10 FB-4 | L1622366-12 Water 04-JUN-15 13:10 MW09-08 | L1622366-13 Water 03-JUN-15 17:45 FB-3 | L1622366-14 Water 03-JUN-15 17:45 DUP-4 | L1622366-15 Water 05-JUN-15 TRAVEL BLANK |
|------------------|---|--|---|--|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Lithium (Li)-Total (mg/L) | | | | | <0.0010 |
| | Magnesium (Mg)-Total (mg/L) | | | | | <0.10 |
| | Manganese (Mn)-Total (mg/L) | | | | | <0.00010 |
| | Mercury (Hg)-Total (mg/L) | | | | | <0.0000050 |
| | Molybdenum (Mo)-Total (mg/L) | | | | | <0.000050 |
| | Nickel (Ni)-Total (mg/L) | | | | | <0.00050 |
| | Phosphorus (P)-Total (mg/L) | | | | | <0.050 |
| | Potassium (K)-Total (mg/L) | | | | | <0.10 |
| | Selenium (Se)-Total (mg/L) | | | | | <0.000050 |
| | Silicon (Si)-Total (mg/L) | | | | | <0.050 |
| | Silver (Ag)-Total (mg/L) | | | | | <0.000010 |
| | Sodium (Na)-Total (mg/L) | | | | | <0.050 |
| | Strontium (Sr)-Total (mg/L) | | | | | <0.00020 |
| | Sulfur (S)-Total (mg/L) | | | | | <0.50 |
| | Thallium (TI)-Total (mg/L) | | | | | <0.000010 |
| | Tin (Sn)-Total (mg/L) | | | | | <0.00010 |
| | Titanium (Ti)-Total (mg/L) | | | | | <0.00030 |
| | Uranium (U)-Total (mg/L) | | | | | <0.000010 |
| | Vanadium (V)-Total (mg/L) | | | | | <0.00050 |
| | Zinc (Zn)-Total (mg/L) | | | | | < 0.0030 |
| | Zirconium (Zr)-Total (mg/L) | | | | | <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) | <0.0010 | 0.0553 | <0.0010 | 0.0230 | |
| | Antimony (Sb)-Dissolved (mg/L) | <0.00010 | 0.00021 | <0.00010 | 0.00033 | |
| | Arsenic (As)-Dissolved (mg/L) | <0.00010 | 0.189 | <0.00010 | 0.00811 | |
| | Barium (Ba)-Dissolved (mg/L) | <0.000050 | 0.191 | <0.000050 | 0.0324 | |
| | Beryllium (Be)-Dissolved (mg/L) | <0.000020 | <0.000020 | <0.000020 | DLA <0.000040 | |
| | Bismuth (Bi)-Dissolved (mg/L) | <0.000050 | <0.000050 | <0.000050 | DLA <0.00010 | |
| | Boron (B)-Dissolved (mg/L) | <0.010 | <0.010 | <0.010 | 0.071 | |
| | Cadmium (Cd)-Dissolved (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | 0.00128 | |
| | Calcium (Ca)-Dissolved (mg/L) | <0.050 | 61.3 | < 0.050 | 392 | |
| | Chromium (Cr)-Dissolved (mg/L) | <0.00010 | 0.00082 | <0.00010 | 0.00160 | |
| | Cobalt (Co)-Dissolved (mg/L) | <0.00010 | 0.00119 | <0.00010 | 0.0181 | |
| | Copper (Cu)-Dissolved (mg/L) | <0.00020 | <0.00020 | <0.00020 | 0.00098 | |
| | Iron (Fe)-Dissolved (mg/L) | <0.010 | 65.0 | <0.010 | 43.8 | |
| | Lead (Pb)-Dissolved (mg/L) | <0.00050 | 0.000070 | <0.000050 | 43.0 DLA <0.00010 | |

L1622366 CONTD.... PAGE 11 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-16 Water 03-JUN-15 17:45 MP09-05 FILTERED ALK | L1622366-17 Water 03-JUN-15 14:55 MW09-06 FILTERED ALK | L1622366-18 Water 03-JUN-15 08:45 W14103083BH03 FILTERED ALK | L1622366-19 Water 03-JUN-15 12:15 MW09-01 FILTERED ALK | L1622366-20 Water 04-JUN-15 14:40 MW09-24 FILTERED ALK |
|------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Lithium (Li)-Total (mg/L) | | | | | |
| | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | | | | | |
| | Dissolved Metals Filtration Location | | | | | |
| | Aluminum (Al)-Dissolved (mg/L) | | | | | |
| | Antimony (Sb)-Dissolved (mg/L) | | | | | |
| | Arsenic (As)-Dissolved (mg/L) | | | | | |
| | Barium (Ba)-Dissolved (mg/L) | | | | | |
| | Beryllium (Be)-Dissolved (mg/L) | | | | | |
| | Bismuth (Bi)-Dissolved (mg/L) | | | | | |
| | Boron (B)-Dissolved (mg/L) | | | | | |
| | Cadmium (Cd)-Dissolved (mg/L) | | | | | |
| | Calcium (Ca)-Dissolved (mg/L) | | | | | |
| | Chromium (Cr)-Dissolved (mg/L) | | | | | |
| | Cobalt (Co)-Dissolved (mg/L) | | | | | |
| | Copper (Cu)-Dissolved (mg/L) | | | | | |
| | Iron (Fe)-Dissolved (mg/L) | | | | | |
| | Lead (Pb)-Dissolved (mg/L) | | | | | |

L1622366 CONTD.... PAGE 12 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-22 Water 04-JUN-15 08:15 MW09-23 FILTERED ALK | L1622366-23 Water 04-JUN-15 08:05 MP09-09 FILTERED ALK | L1622366-24 Water 04-JUN-15 09:10 MP09-11 FILTERED ALK | L1622366-25 Water 04-JUN-15 10:10 MW09-22 FILTERED ALK | L1622366-26 Water 04-JUN-15 10:10 FB-4 FILTERED ALK |
|------------------|---|---|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Total Metals | Lithium (Li)-Total (mg/L) | | | | | |
| | Magnesium (Mg)-Total (mg/L) | | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | | |
| | Potassium (K)-Total (mg/L) | | | | | |
| | Selenium (Se)-Total (mg/L) | | | | | |
| | Silicon (Si)-Total (mg/L) | | | | | |
| | Silver (Ag)-Total (mg/L) | | | | | |
| | Sodium (Na)-Total (mg/L) | | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | | |
| | Sulfur (S)-Total (mg/L) | | | | | |
| | Thallium (TI)-Total (mg/L) | | | | | |
| | Tin (Sn)-Total (mg/L) | | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | | |
| | Uranium (U)-Total (mg/L) | | | | | |
| | Vanadium (V)-Total (mg/L) | | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | | | | | |
| | Dissolved Metals Filtration Location | | | | | |
| | Aluminum (AI)-Dissolved (mg/L) | | | | | |
| | Antimony (Sb)-Dissolved (mg/L) | | | | | |
| | Arsenic (As)-Dissolved (mg/L) | | | | | |
| | Barium (Ba)-Dissolved (mg/L) | | | | | |
| | Beryllium (Be)-Dissolved (mg/L) | | | | | |
| | Bismuth (Bi)-Dissolved (mg/L) | | | | | |
| | Boron (B)-Dissolved (mg/L) | | | | | |
| | Cadmium (Cd)-Dissolved (mg/L) | | | | | |
| | Calcium (Ca)-Dissolved (mg/L) | | | | | |
| | Chromium (Cr)-Dissolved (mg/L) | | | | | |
| | Cobalt (Co)-Dissolved (mg/L) | | | | | |
| | Copper (Cu)-Dissolved (mg/L) | | | | | |
| | Iron (Fe)-Dissolved (mg/L) | | | | | |
| | Lead (Pb)-Dissolved (mg/L) | | | | | |

L1622366 CONTD.... PAGE 13 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-27 Water 04-JUN-15 13:10 MW09-08 FILTERED ALK | L1622366-28 Water 03-JUN-15 17:45 FB-3 FILTERED ALK | L1622366-29 Water 03-JUN-15 17:45 DUP-4 FILTERED ALK | |
|------------------|---|---|--|---|--|
| Grouping | Analyte | | | | |
| WATER | | | | | |
| Total Metals | Lithium (Li)-Total (mg/L) | | | | |
| | Magnesium (Mg)-Total (mg/L) | | | | |
| | Manganese (Mn)-Total (mg/L) | | | | |
| | Mercury (Hg)-Total (mg/L) | | | | |
| | Molybdenum (Mo)-Total (mg/L) | | | | |
| | Nickel (Ni)-Total (mg/L) | | | | |
| | Phosphorus (P)-Total (mg/L) | | | | |
| | Potassium (K)-Total (mg/L) | | | | |
| | Selenium (Se)-Total (mg/L) | | | | |
| | Silicon (Si)-Total (mg/L) | | | | |
| | Silver (Ag)-Total (mg/L) | | | | |
| | Sodium (Na)-Total (mg/L) | | | | |
| | Strontium (Sr)-Total (mg/L) | | | | |
| | Sulfur (S)-Total (mg/L) | | | | |
| | Thallium (TI)-Total (mg/L) | | | | |
| | Tin (Sn)-Total (mg/L) | | | | |
| | Titanium (Ti)-Total (mg/L) | | | | |
| | Uranium (U)-Total (mg/L) | | | | |
| | Vanadium (V)-Total (mg/L) | | | | |
| | Zinc (Zn)-Total (mg/L) | | | | |
| | Zirconium (Zr)-Total (mg/L) | | | | |
| Dissolved Metals | Dissolved Mercury Filtration Location | | | | |
| | Dissolved Metals Filtration Location | | | | |
| | Aluminum (Al)-Dissolved (mg/L) | | | | |
| | Antimony (Sb)-Dissolved (mg/L) | | | | |
| | Arsenic (As)-Dissolved (mg/L) | | | | |
| | Barium (Ba)-Dissolved (mg/L) | | | | |
| | Beryllium (Be)-Dissolved (mg/L) | | | | |
| | Bismuth (Bi)-Dissolved (mg/L) | | | | |
| | Boron (B)-Dissolved (mg/L) | | | | |
| | Cadmium (Cd)-Dissolved (mg/L) | | | | |
| | Calcium (Ca)-Dissolved (mg/L) | | | | |
| | Chromium (Cr)-Dissolved (mg/L) | | | | |
| | Cobalt (Co)-Dissolved (mg/L) | | | | |
| | Copper (Cu)-Dissolved (mg/L) | | | | |
| | Iron (Fe)-Dissolved (mg/L) | | | | |
| | Lead (Pb)-Dissolved (mg/L) | | | | |

L1622366 CONTD.... PAGE 14 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-1 Water 03-JUN-15 17:45 MP09-05 | L1622366-2 Water 02-JUN-15 14:55 MW09-06 | L1622366-3 Water 03-JUN-15 08:45 W14103083BH03 | L1622366-4 Water 03-JUN-15 12:15 MW09-01 | L1622366-5 Water 04-JUN-15 14:40 MW09-24 |
|------------------|---|--|--|--|--|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Lithium (Li)-Dissolved (mg/L) | DLA <0.0020 | 0.0099 | 0.0010 | 0.0054 | 0.0010 |
| | Magnesium (Mg)-Dissolved (mg/L) | 75.6 | 67.1 | 44.3 | 56.9 | 42.0 |
| | Manganese (Mn)-Dissolved (mg/L) | 15.0 | 5.77 | 6.37 | 20.5 | 0.00029 |
| | Mercury (Hg)-Dissolved (mg/L) | <0.0000050 | 0.0000180 | <0.000050 | 0.0000103 | <0.0000050 |
| | Molybdenum (Mo)-Dissolved (mg/L) | 0.00085 | 0.00401 | 0.000970 | 0.00260 | 0.000309 |
| | Nickel (Ni)-Dissolved (mg/L) | 0.0083 | 0.0025 | 0.00241 | 0.0066 | <0.00050 |
| | Phosphorus (P)-Dissolved (mg/L) | <0.050 | <0.050 | 0.074 | <0.050 | <0.050 |
| | Potassium (K)-Dissolved (mg/L) | 8.48 | 16.4 | 3.98 | 14.8 | 1.50 |
| | Selenium (Se)-Dissolved (mg/L) | 0.00027 | 0.00019 | 0.000139 | 0.00013 | 0.00102 |
| | Silicon (Si)-Dissolved (mg/L) | 5.85 | 7.56 | 9.64 | 6.55 | 6.20 |
| | Silver (Ag)-Dissolved (mg/L) | DLA <0.000020 | 0.000062 | <0.000010 | 0.000076 | <0.000010 |
| | Sodium (Na)-Dissolved (mg/L) | 46.2 | 29.8 | 8.68 | 93.2 | 7.35 |
| | Strontium (Sr)-Dissolved (mg/L) | 1.08 | 0.748 | 0.498 | 1.10 | 0.537 |
| | Sulfur (S)-Dissolved (mg/L) | 368 | 364 | 90.7 | 516 | 80.1 |
| | Thallium (TI)-Dissolved (mg/L) | 0.000024 | 0.000298 | <0.000010 | 0.000860 | <0.000010 |
| | Tin (Sn)-Dissolved (mg/L) | <0.00020 | DLA <0.00020 | <0.00010 | DLA <0.00020 | <0.00010 |
| | Titanium (Ti)-Dissolved (mg/L) | 0.00113 | <0.00060 | 0.00102 | DLA <0.00060 | <0.00030 |
| | Uranium (U)-Dissolved (mg/L) | 0.00217 | 0.00215 | 0.00115 | 0.00189 | 0.00436 |
| | Vanadium (V)-Dissolved (mg/L) | 0.0017 | <0.0010 | 0.00158 | <0.0010 <0.0010 | < 0.00050 |
| | Zinc (Zn)-Dissolved (mg/L) | 0.0249 | 0.171 | 0.0027 | 2.98 | 0.0011 |
| | Zirconium (Zr)-Dissolved (mg/L) | 0.00076 | <0.00060 | 0.00054 | 2.00 DLA <0.00060 | < 0.00030 |
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| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-6 Water 04-JUN-15 17:41 GSI-PC-03-B | L1622366-7 Water 04-JUN-15 08:15 MW09-23 | L1622366-8 Water 04-JUN-15 08:05 MP09-09 | L1622366-9 Water 04-JUN-15 09:10 MP09-11 | L1622366-10 Water 04-JUN-15 10:10 MW09-22 |
|------------------|---|--|--|--|--|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Lithium (Li)-Dissolved (mg/L) | 0.0526 | DLA <0.0050 | DLA <0.0020 | 0.0022 | <0.0010 |
| | Magnesium (Mg)-Dissolved (mg/L) | 502 | 122 | 1.10 | 40.8 | 30.3 |
| | Manganese (Mn)-Dissolved (mg/L) | 2.67 | 24.9 | 0.0239 | 2.48 | 9.41 |
| | Mercury (Hg)-Dissolved (mg/L) | <0.0000050 | <0.0000050 | 0.0000661 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Dissolved (mg/L) | 0.0155 | 0.00311 | 0.0219 | 0.00350 | 0.000235 |
| | Nickel (Ni)-Dissolved (mg/L) | 0.0845 | DLA <0.0025 | 0.0195 | 0.00654 | 0.00267 |
| | Phosphorus (P)-Dissolved (mg/L) | <0.050 | <0.050 | 0.205 | <0.050 | <0.050 |
| | Potassium (K)-Dissolved (mg/L) | 25.1 | 9.27 | 9.37 | 8.36 | 4.49 |
| | Selenium (Se)-Dissolved (mg/L) | 0.00035 | DLA <0.00025 | 0.00188 | 0.000246 | 0.000168 |
| | Silicon (Si)-Dissolved (mg/L) | 8.59 | 6.24 | 6.22 | 9.06 | 5.07 |
| | Silver (Ag)-Dissolved (mg/L) | DLA <0.000020 | DLA <0.000050 | 0.0244 | 0.000012 | 0.000021 |
| | Sodium (Na)-Dissolved (mg/L) | 103 | 30.2 | 25.3 | 11.0 | 33.7 |
| | Strontium (Sr)-Dissolved (mg/L) | 2.84 | 0.727 | 0.168 | 0.667 | 1.06 |
| | Sulfur (S)-Dissolved (mg/L) | 516 | 330 | 95.7 | 8.48 | 295 |
| | Thallium (TI)-Dissolved (mg/L) | DLA <0.000020 | DLA <0.000050 | 0.000042 | 0.000012 | <0.000010 |
| | Tin (Sn)-Dissolved (mg/L) | 0.00043 | <0.00050 | <0.00020 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Dissolved (mg/L) | 0.00257 | <0.0015 | DLA <0.00060 | 0.00123 | <0.0018 |
| | Uranium (U)-Dissolved (mg/L) | 0.0164 | 0.00340 | 0.000861 | 0.000281 | 0.000293 |
| | Vanadium (V)-Dissolved (mg/L) | 0.0029 | <0.0025 | DLA <0.0010 | 0.00354 | 0.00150 |
| | Zinc (Zn)-Dissolved (mg/L) | 0.0071 | 0.0807 | <0.0010 DLA <0.0020 | 0.0401 | 0.0040 |
| | Zirconium (Zr)-Dissolved (mg/L) | | DLA | DLA | | |
| | | 0.00076 | <0.0015 | <0.00060 | 0.00160 | 0.00047 |

L1622366 CONTD.... PAGE 16 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-11 Water 04-JUN-15 10:10 FB-4 | L1622366-12 Water 04-JUN-15 13:10 MW09-08 | L1622366-13 Water 03-JUN-15 17:45 FB-3 | L1622366-14 Water 03-JUN-15 17:45 DUP-4 | L1622366-15 Water 05-JUN-15 TRAVEL BLANI |
|------------------|---|--|---|--|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Lithium (Li)-Dissolved (mg/L) | <0.0010 | <0.0010 | <0.0010 | DLA <0.0020 | |
| | Magnesium (Mg)-Dissolved (mg/L) | <0.10 | 11.6 | <0.10 | 78.4 | |
| | Manganese (Mn)-Dissolved (mg/L) | <0.00010 | 5.59 | <0.00010 | 15.1 | |
| | Mercury (Hg)-Dissolved (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | |
| | Molybdenum (Mo)-Dissolved (mg/L) | <0.000050 | 0.000162 | <0.000050 | 0.00078 | |
| | Nickel (Ni)-Dissolved (mg/L) | <0.00050 | <0.00050 | <0.00050 | 0.0081 | |
| | Phosphorus (P)-Dissolved (mg/L) | <0.050 | 0.100 | <0.050 | <0.050 | |
| | Potassium (K)-Dissolved (mg/L) | <0.10 | 1.54 | <0.10 | 9.07 | |
| | Selenium (Se)-Dissolved (mg/L) | <0.000050 | 0.000119 | <0.000050 | 0.00031 | |
| | Silicon (Si)-Dissolved (mg/L) | <0.050 | 10.0 | <0.050 | 5.92 | |
| | Silver (Ag)-Dissolved (mg/L) | <0.000010 | <0.000010 | <0.000010 | DLA <0.000020 | |
| | Sodium (Na)-Dissolved (mg/L) | <0.050 | 1.75 | <0.050 | 45.2 | |
| | Strontium (Sr)-Dissolved (mg/L) | <0.00020 | 0.238 | <0.00020 | 1.07 | |
| | Sulfur (S)-Dissolved (mg/L) | <0.50 | 26.3 | <0.50 | 355 | |
| | Thallium (TI)-Dissolved (mg/L) | <0.000010 | <0.000010 | <0.000010 | 0.000020 | |
| | Tin (Sn)-Dissolved (mg/L) | <0.00010 | <0.00010 | <0.00010 | DLA <0.00020 | |
| | Titanium (Ti)-Dissolved (mg/L) | < 0.00030 | 0.00259 | <0.00030 | OLM <0.0015 | |
| | Uranium (U)-Dissolved (mg/L) | <0.000010 | 0.000067 | <0.000010 | 0.00216 | |
| | Vanadium (V)-Dissolved (mg/L) | <0.00050 | 0.00257 | <0.00050 | 0.0017 | |
| | Zinc (Zn)-Dissolved (mg/L) | <0.0010 | 0.0022 | <0.0010 | 0.0251 | |
| | Zirconium (Zr)-Dissolved (mg/L) | <0.00030 | 0.00066 | <0.00030 | 0.00075 | |
| | | | | | | |

L1622366 CONTD.... PAGE 17 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-16 Water 03-JUN-15 17:45 MP09-05 FILTERED ALK | L1622366-17 Water 03-JUN-15 14:55 MW09-06 FILTERED ALK | L1622366-18 Water 03-JUN-15 08:45 W14103083BH03 FILTERED ALK | L1622366-19 Water 03-JUN-15 12:15 MW09-01 FILTERED ALK | L1622366-20 Water 04-JUN-15 14:40 MW09-24 FILTERED ALK |
|------------------|---|---|---|---|---|---|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Lithium (Li)-Dissolved (mg/L) | | | | | |
| | Magnesium (Mg)-Dissolved (mg/L) | | | | | |
| | Manganese (Mn)-Dissolved (mg/L) | | | | | |
| | Mercury (Hg)-Dissolved (mg/L) | | | | | |
| | Molybdenum (Mo)-Dissolved (mg/L) | | | | | |
| | Nickel (Ni)-Dissolved (mg/L) | | | | | |
| | Phosphorus (P)-Dissolved (mg/L) | | | | | |
| | Potassium (K)-Dissolved (mg/L) | | | | | |
| | Selenium (Se)-Dissolved (mg/L) | | | | | |
| | Silicon (Si)-Dissolved (mg/L) | | | | | |
| | Silver (Ag)-Dissolved (mg/L) | | | | | |
| | Sodium (Na)-Dissolved (mg/L) | | | | | |
| | Strontium (Sr)-Dissolved (mg/L) | | | | | |
| | Sulfur (S)-Dissolved (mg/L) | | | | | |
| | Thallium (TI)-Dissolved (mg/L) | | | | | |
| | Tin (Sn)-Dissolved (mg/L) | | | | | |
| | Titanium (Ti)-Dissolved (mg/L) | | | | | |
| | Uranium (U)-Dissolved (mg/L) | | | | | |
| | Vanadium (V)-Dissolved (mg/L) | | | | | |
| | Zinc (Zn)-Dissolved (mg/L) | | | | | |
| | Zirconium (Zr)-Dissolved (mg/L) | | | | | |
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L1622366 CONTD.... PAGE 18 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-22 Water 04-JUN-15 08:15 MW09-23 FILTERED ALK | L1622366-23 Water 04-JUN-15 08:05 MP09-09 FILTERED ALK | L1622366-24 Water 04-JUN-15 09:10 MP09-11 FILTERED ALK | L1622366-25 Water 04-JUN-15 10:10 MW09-22 FILTERED ALK | L1622366-20 Water 04-JUN-15 10:10 FB-4 FILTEREI ALK |
|------------------|---|---|---|---|---|--|
| Grouping | Analyte | | | | | |
| WATER | | | | | | |
| Dissolved Metals | Lithium (Li)-Dissolved (mg/L) | | | | | |
| | Magnesium (Mg)-Dissolved (mg/L) | | | | | |
| | Manganese (Mn)-Dissolved (mg/L) | | | | | |
| | Mercury (Hg)-Dissolved (mg/L) | | | | | |
| | Molybdenum (Mo)-Dissolved (mg/L) | | | | | |
| | Nickel (Ni)-Dissolved (mg/L) | | | | | |
| | Phosphorus (P)-Dissolved (mg/L) | | | | | |
| | Potassium (K)-Dissolved (mg/L) | | | | | |
| | Selenium (Se)-Dissolved (mg/L) | | | | | |
| | Silicon (Si)-Dissolved (mg/L) | | | | | |
| | Silver (Ag)-Dissolved (mg/L) | | | | | |
| | Sodium (Na)-Dissolved (mg/L) | | | | | |
| | Strontium (Sr)-Dissolved (mg/L) | | | | | |
| | Sulfur (S)-Dissolved (mg/L) | | | | | |
| | Thallium (TI)-Dissolved (mg/L) | | | | | |
| | Tin (Sn)-Dissolved (mg/L) | | | | | |
| | Titanium (Ti)-Dissolved (mg/L) | | | | | |
| | Uranium (U)-Dissolved (mg/L) | | | | | |
| | Vanadium (V)-Dissolved (mg/L) | | | | | |
| | Zinc (Zn)-Dissolved (mg/L) | | | | | |
| | Zirconium (Zr)-Dissolved (mg/L) | | | | | |
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L1622366 CONTD.... PAGE 19 of 23 23-JUN-15 12:48 (MT) Version: FINAL

| | Sample ID Description Sampled Date Sampled Time Client ID | L1622366-27 Water 04-JUN-15 13:10 MW09-08 FILTERED ALK | L1622366-28 Water 03-JUN-15 17:45 FB-3 FILTERED ALK | L1622366-29 Water 03-JUN-15 17:45 DUP-4 FILTERED ALK | |
|-------------------------|---|---|--|---|--|
| Grouping | Analyte | | | | |
| WATER | | | | | |
| Dissolved Metals | Lithium (Li)-Dissolved (mg/L) | | | | |
| | Magnesium (Mg)-Dissolved (mg/L) | | | | |
| | Manganese (Mn)-Dissolved (mg/L) | | | | |
| | Mercury (Hg)-Dissolved (mg/L) | | | | |
| | Molybdenum (Mo)-Dissolved (mg/L) | | | | |
| | Nickel (Ni)-Dissolved (mg/L) | | | | |
| | Phosphorus (P)-Dissolved (mg/L) | | | | |
| | Potassium (K)-Dissolved (mg/L) | | | | |
| | Selenium (Se)-Dissolved (mg/L) | | | | |
| | Silicon (Si)-Dissolved (mg/L) | | | | |
| | Silver (Ag)-Dissolved (mg/L) | | | | |
| | Sodium (Na)-Dissolved (mg/L) | | | | |
| | Strontium (Sr)-Dissolved (mg/L) | | | | |
| | Sulfur (S)-Dissolved (mg/L) | | | | |
| | Thallium (TI)-Dissolved (mg/L) | | | | |
| | Tin (Sn)-Dissolved (mg/L) | | | | |
| | Titanium (Ti)-Dissolved (mg/L) | | | | |
| | Uranium (U)-Dissolved (mg/L) | | | | |
| | Vanadium (V)-Dissolved (mg/L) | | | | |
| | Zinc (Zn)-Dissolved (mg/L) | | | | |
| | Zirconium (Zr)-Dissolved (mg/L) | | | | |
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QC Samples with Qualifiers & Comments:

| QC Type Description | Parameter | Qualifier | Applies to Sample Number(s) |
|---------------------|--------------------------|-----------|--|
| Duplicate | Fluoride (F) | DLM | L1622366-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -6, - 7, -8, -9 |
| Duplicate | Total Inorganic Carbon | HTA | L1622366-1, -11, -12, -13, -14, -15, -3, -4, -5, -7, -9 |
| Duplicate | Total Inorganic Carbon | HTA | L1622366-1, -11, -12, -13, -14, -15, -3, -4, -5, -7, -9 |
| Duplicate | Total Inorganic Carbon | HTA | L1622366-1, -11, -12, -13, -14, -15, -3, -4, -5, -7, -9 |
| Matrix Spike | Total Inorganic Carbon | MS-B | L1622366-1, -11, -12, -13, -14, -15, -3, -4, -5, -7, -9 |
| Matrix Spike | Thiocyanate (SCN) | MS-B | L1622366-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -7, - 8, -9 |
| Matrix Spike | Thiocyanate (SCN) | MS-B | L1622366-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -7, - 8, -9 |
| Matrix Spike | Antimony (Sb)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Barium (Ba)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Manganese (Mn)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Barium (Ba)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Sodium (Na)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Strontium (Sr)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Ammonia, Total (as N) | MS-B | L1622366-14, -4 |
| Matrix Spike | Manganese (Mn)-Dissolved | MS-B | L1622366-1, -10, -11, -12, -13, -14, -2, -3, -4, -5, -6, -7, - 8, -9 |
| Matrix Spike | Total Kjeldahl Nitrogen | MS-B | L1622366-1, -10, -11, -12, -13, -14, -15, -2, -3, -5, -7, -8, - 9 |

Qualifiers for Individual Parameters Listed:

 Qualifier
 Description

 DLA
 Detection Limit adjusted for required dilution

 DLM
 Detection Limit Adjusted due to sample matrix effects.

 HTA
 Analytical holding time was exceeded.

 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-PCT-VA | Water | Alkalinity by Auto. Titration | APHA 2320 "Alkalinity" |
| | 01 | edures adapted from APHA Method 2320 "Alkalinit te and hydroxide alkalinity are calculated from phe | y". Total alkalinity is determined by potentiometric titration to a nonphthalein alkalinity and total alkalinity values. |
| ALK-PCT-VA | Water | Alkalinity by Auto. Titration | APHA 2320 Alkalinity |
| | | edures adapted from APHA Method 2320 "Alkalinit te and hydroxide alkalinity are calculated from phe | y". Total alkalinity is determined by potentiometric titration to a nolphthalein 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 filter | red (0.45 um), | preserved with nitric acid, and analyzed by CRC IC | PMS. |
| Method Limitation (re: S | sulfur): Sulfide a | and volatile sulfur species may not be recovered by | y this method. |
| BE-T-L-CCMS-VA | Water | Total Be (Low) in Water by CRC ICPMS | EPA 200.2/6020A (mod) |
| Water samples are dige | sted with nitric | and hydrochloric acids, and analyzed by CRC ICF | PMS. |
| Method Limitation (re: S | Sulfur): Sulfide a | and volatile sulfur species may not be recovered by | y this method. |

| CARBONS-TIC-VA | | | |
|--|--|--|--|
| | Water | Total inorganic carbon by CO2 purge | APHA 5310B TOTAL ORGANIC CARBON (TOC) |
| This analysis is carried out | using proced | lures adapted from APHA Method 5310 "Total Organic | Carbon (TOC)". |
| CARBONS-TOC-VA | Water | Total organic carbon by combustion | APHA 5310B TOTAL ORGANIC CARBON (TOC) |
| This analysis is carried out | using proced | lures adapted from APHA Method 5310 "Total Organic | Carbon (TOC)". |
| CL-IC-N-WR | Water | Chloride in Water by IC | EPA 300.1 (mod) |
| Inorganic anions are analyz | zed by Ion Ch | romatography with conductivity and/or UV detection. | |
| CN-FREE-CFA-VA | Water | Free Cyanide in water by CFA | ASTM 7237 |
| | | | with Flow Injection Analysis (FIA) Utilizing Gas Diffusion tt pH 6 with final determination by colourimetric analysis. |
| CN-SCN-VA | Water | Thiocyanate by Colour | APHA 4500-CN CYANIDE |
| This analysis is carried out colourimetric method. | using proced | lures adapted from APHA Method 4500-CN- M "Thiocya | anate" Thiocyanate is determined by the ferric nitrate |
| CN-T-CFA-VA | Water | Total Cyanide in water by CFA | ISO 14403:2002 |
| CFA)". Total or strong acid colourimetric analysis. Met | dissociable (hod Limitation | lures adapted from ISO Method 14403:2002 "Determina SAD) cyanide is determined by in-line UV digestion alon n: This method is susceptible to interference from thioc method, but it would be less than 1% and could be as | ng with sample distillation and final determination by cyanate (SCN). If SCN is present in the sample, there |
| CN-WAD-CFA-VA | Water | Weak Acid Diss. Cyanide in water by CFA | APHA 4500-CN CYANIDE |
| | | lures adapted from APHA Method 4500-CN I. "Weak Ad sample distillation with final determination by colourime | |
| EC-PCT-VA | Water | Conductivity (Automated) | APHA 2510 Auto. Conduc. |
| This analysis is carried out electrode. | using proced | lures adapted from APHA Method 2510 "Conductivity". | Conductivity is determined using a conductivity |
| F-IC-N-WR | Water | Fluoride in Water by IC | EPA 300.1 (mod) |
| Inorganic anions are analyz | zed by Ion Ch | rromatography with conductivity and/or UV detection. | |
| HARDNESS-CALC-VA | Water | Hardness | APHA 2340B |
| | | s) is calculated from the sum of Calcium and Magnesiu centrations are preferentially used for the hardness calc | |
| HG-D-CVAA-VA | Water | Diss. Mercury in Water by CVAAS or CVAFS | APHA 3030B/EPA 1631E (mod) |
| Water samples are filtered with stannous chloride, and | | eserved with hydrochloric acid, then undergo a cold-oxi CVAAS or CVAFS. | idation using bromine monochloride prior to reduction |
| | | | |
| HG-T-CVAA-VA | Water | Total Mercury in Water by CVAAS or CVAFS | EPA 1631E (mod) |
| | | Total Mercury in Water by CVAAS or CVAFS a using bromine monochloride prior to reduction with sta | |
| | | | |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a | cold-oxidation Water nd Ion Baland | n using bromine monochloride prior to reduction with sta | Annous chloride, and analyzed by CVAAS or CVAFS. APHA 1030E from APHA Standard Methods (1030E Checking |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). I should be near-zero. | cold-oxidation Water nd Ion Baland Because all a e the total me | n using bromine monochloride prior to reduction with sta lon Balance Calculation ce (as % difference) are calculated based on guidance to queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolv | Annous chloride, and analyzed by CVAAS or CVAFS. APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). If should be near-zero. Cation and Anion Sums are included where data is pres | cold-oxidation Water nd Ion Baland Because all a e the total me sent. Ion Bala | n using bromine monochloride prior to reduction with sta lon Balance Calculation ce (as % difference) are calculated based on guidance to queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolv | Annous chloride, and analyzed by CVAAS or CVAFS. APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). If should be near-zero. Cation and Anion Sums are included where data is pres | cold-oxidation Water nd Ion Baland Because all a e the total me sent. Ion Bala | n using bromine monochloride prior to reduction with sta Ion Balance Calculation ce (as % difference) are calculated based on guidance i queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolv ance is calculated as: | Annous chloride, and analyzed by CVAAS or CVAFS. APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). If should be near-zero. Cation and Anion Sums are included where data is press Ion Balance (%) = [Cation S MET-D-CCMS-VA | cold-oxidation Water Ind Ion Baland Because all a e the total me sent. Ion Bala Sum-Anion S Water | n using bromine monochloride prior to reduction with sta Ion Balance Calculation ce (as % difference) are calculated based on guidance f queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolv ance is calculated as: um] / [Cation Sum+Anion Sum] | Annous chloride, and analyzed by CVAAS or CVAFS. APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) red species are used where available. Minor ions are |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). If should be near-zero. Cation and Anion Sums are included where data is press Ion Balance (%) = [Cation S MET-D-CCMS-VA Water samples are filtered | water Mater Ind Ion Baland Because all a e the total me sent. Ion Bala Sum-Anion S Water (0.45 um), pr | n using bromine monochloride prior to reduction with state Ion Balance Calculation ce (as % difference) are calculated based on guidance for queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolve ance is calculated as: um] / [Cation Sum+Anion Sum] Dissolved Metals in Water by CRC ICPMS | APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) red species are used where available. Minor ions are APHA 3030B/6020A (mod) |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). If should be near-zero. Cation and Anion Sums are included where data is press Ion Balance (%) = [Cation S MET-D-CCMS-VA Water samples are filtered | water Mater Ind Ion Baland Because all a e the total me sent. Ion Bala Sum-Anion S Water (0.45 um), pr | n using bromine monochloride prior to reduction with state Ion Balance Calculation ce (as % difference) are calculated based on guidance for queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolve ance is calculated as: um] / [Cation Sum+Anion Sum] Dissolved Metals in Water by CRC ICPMS reserved with nitric acid, and analyzed by CRC ICPMS. | APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) red species are used where available. Minor ions are APHA 3030B/6020A (mod) |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). If should be near-zero. Cation and Anion Sums are included where data is press Ion Balance (%) = [Cation S MET-D-CCMS-VA Water samples are filtered Method Limitation (re: Sulfu MET-DIS-LOW-ICP-VA This analysis is carried out American Public Health As | cold-oxidation Water Ind Ion Baland Because all a e the total me sent. Ion Bala Sum-Anion S Water (0.45 um), pr ur): Sulfide ar Water using proced sociation, and ection Agency | In using bromine monochloride prior to reduction with state Ion Balance Calculation ce (as % difference) are calculated based on guidance if queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolve ance is calculated as: um] / [Cation Sum+Anion Sum] Dissolved Metals in Water by CRC ICPMS reserved with nitric acid, and analyzed by CRC ICPMS. Ind volatile sulfur species may not be recovered by this r Dissolved Metals in Water by ICPOES lures adapted from "Standard Methods for the Examina d with procedures adapted from "Test Methods for Eval y (EPA). The procedure involves filtration (EPA Method | APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) red species are used where available. Minor ions are APHA 3030B/6020A (mod) method. EPA 3005A/6010B tion of Water and Wastewater" published by the uating Solid Waste" SW-846 published by the United |
| Water samples undergo a d IONBALANCE-VA Cation Sum, Anion Sum, a Correctness of Analysis). If should be near-zero. Cation and Anion Sums are included where data is press Ion Balance (%) = [Cation S MET-D-CCMS-VA Water samples are filtered Method Limitation (re: Sulfu MET-DIS-LOW-ICP-VA This analysis is carried out American Public Health As States Environmental Prote | cold-oxidation Water Ind Ion Baland Because all a e the total me sent. Ion Bala Sum-Anion S Water (0.45 um), pr ur): Sulfide ar Water using proced sociation, and ection Agency | In using bromine monochloride prior to reduction with state Ion Balance Calculation ce (as % difference) are calculated based on guidance if queous solutions are electrically neutral, the calculated eq/L concentration of major cations and anions. Dissolve ance is calculated as: um] / [Cation Sum+Anion Sum] Dissolved Metals in Water by CRC ICPMS reserved with nitric acid, and analyzed by CRC ICPMS. Ind volatile sulfur species may not be recovered by this r Dissolved Metals in Water by ICPOES lures adapted from "Standard Methods for the Examina d with procedures adapted from "Test Methods for Eval y (EPA). The procedure involves filtration (EPA Method | APHA 1030E from APHA Standard Methods (1030E Checking ion balance (% difference of cations minus anions) red species are used where available. Minor ions are APHA 3030B/6020A (mod) method. EPA 3005A/6010B tion of Water and Wastewater" published by the uating Solid Waste" SW-846 published by the United |

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

al.

EPA 3005A/6010B **MET-TOT-LOW-ICP-VA** Water Total Metals in Water by ICPOES 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 Ammonia in Water by Fluorescence APHA 4500 NH3-NITROGEN (AMMONIA) Water 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 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 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. EPA 300.1 (mod) NO3-L-IC-N-WR Water Nitrate in Water by IC (Low Level) 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 **Dissolved Sulfur in Water by ICPOES** EPA SW-846 3005A/6010B Water 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. S2-T-COL-VA Water Total Sulphide by Colorimetric APHA 4500-S2 Sulphide This analysis is carried out using procedures adapted from APHA Method 4500-S2 "Sulphide". Sulphide is determined using the methlyene blue colourimetric method. 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. **TKN-F-VA** APHA 4500-NORG D. Water TKN in Water by Fluorescence This analysis is carried out using procedures adapted from APHA Method 4500-Norg D. "Block Digestion and Flow Injection Analysis". Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection.

** 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 |
|----------------------------|---|
| WR | ALS ENVIRONMENTAL - WHITEHORSE, YUKON, CANADA |
| 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.

2

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**



COC Number: 1 -

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Page 1 of 2

| LS) | Environmental |
|-----|-------------------|
| | www.olegiobal.com |

Canada Toli Free: 1 800 668 9878

| | www.asgiobal.com | | | | | | | _ | _ | | | | | | | | | | | _ |
|---|--|---------------------------------------|-------------------------|---------------------------|--------------------|------------------|--|---|--|------------------------------|-------------------------------------|--|--------------------|-------------------|----------------|-----------------|----------------------|----------|------|----------------------|
| Report To | | | | Report Format | | | Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) | | | | | | | | | | | | | |
| Company: | Hemmera Environchem Inc. | S | Select Report F | ormat: 🗇 DF | TEXCEL . | EDD (DIGITAL) | R | √Reg | jular (St | andard | TAT if re | ceived | суу 3 рп | n - bus | iness d | lays) | | | | |
| Contact: | Natasha Sandys | c | Quality Control | (QC) Report with R | Report 🛛 🗹 Ye | es 🗖 No | Р | | | | ays if rec | | | | | - | | | | |
| Address: | 230 - 2237 2nd Avenue | | | rt - provide details belo | | | E Emergency (1-2 bus, days if received by 3pm) 100% surcharge - contact ALS to confirm TAT | | | | | | | | | | | | | |
| | Whitehorse, YT | | Select Distributi | | | ☐FAX | E2 | E2 Barne day or weekend emergency - contact ALS to confirm TAT and surcharge Specify Date Required for E2.E or P: | | | | | | | | | | | | |
| Phone: | 867-456-4865 | | | | | Spec | ify Da | te Req | uired f | or E2,E | | | | | | | | | | |
| | · · · · · · · · · · · · · · · · · · · | | Email 2 chris@elr.ca | | | Analysis Request | | | | | | | | | | - | | | | |
| Invoice To | Same as Report To Ves | | No Invoice Distribution | | | | | icate Fit | ered (F |), Prese | | | . | nd Pre: | served | (F/P) b | elow | | | |
| | Copy of Invoice with Report 🛛 🗖 Yes | | Select Invoice E | | MAIL 🗹 MAIL | FAX | F/P | F/P | | | | Р | P | Ρ | Ρ | | F | | | |
| Company: | Hemmera Environchem Inc. | | | nsandys@hemme | ra.com | | | | | ~ | aian | | _ | | | | | | | |
| Contact: | Natasha Sandys | · E | | chris@elr.ca | | | 1 | | \$ | linit | E E | 9 | Carbon | | | - | | | | 12 |
| | Project Information | ×. | | and Gas Require | | use) | | | Ē | alka | Anio | E 77 | Ö | | | | | | | aine |
| ALS Quote #: | ····· | | Approver ID: | | Cost Center: | | | | Z | Æ | tion/ | Tot | gani | | | | | | | ğ |
| Job #: | 1343-005.09 | | GL Account: | | Routing Code: | | Jess | | ga | vity. | S. | 8 | Total Organic | | | | | | | 5 T |
| PO / AFE: | | | Activity Code: | | | | Hardn | | Γ.Υ. | lucti | L INS | | Tota | | | Carbon | | | | per |
| LSD: | | 1 | ocation: | e dite. | | | , L | ŝ | Tota | conductivity, pH, alkalinity | tion | k Ac | tal), | ŝ | | | inity | | | Number of Containers |
| ALS Lab W | ork Order # (lab use only) | Α | LS Contact: | | Sampler: | RM, JC, AN, M | ed Meta | Dissolved Mercury | Nitrate, Nitrite, Total Kjeldahl N (TKN) | Sulfate, | Sum, Cation Sum, Cation/Anion Batan | Cyanide - Weak Acid Diss., Total, Free | Ammonia N (total), | Thiocyanate (SCN) | e as S | Fotal Inorganic | Dissolved Alkalinity | | | - |
| ALS Sample # | sample identification | n and/or Coordinates | | Date | Time | Sample Type | | | ate, | EI, S | S | nide | LON I | C a | Sulphide a | Ĕ. | solve | | | |
| (lab use only) |) (This description will | appear on the report) | | (dd∝mmm-yy) | (hh:mm) | Sample Type | Disso | Disi. | ž | CI, FI, | Anion | Cya | Am | Ĕ | Т. Т. Т. | Tota | Dist | | | |
| 1 | MP09-05 | | | 03-Jun-15 | 17:45 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 2 | MW09-06 | | | 03-Jun-15 | 14:55 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 3 | W14103083BH03 | | | 03-Jun-15 | 8:45 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 4 | MW09-01 | | | 03-Jun-15 | 12:15 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 5 | े MW09-24 | | | 04-Jun-15 | 14:40 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| Ğ | GSI-PC-03-B | • ••• · | | 04-Jun-15 | 17:41 | Water | R | R | R | R | R | R | | | | | | | | 4 |
| 7 | MW09-23 | | | 04-Jun-15 | 8:15 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 8 | MP09-09 | | | 04-Jun-15 | 8:05 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 9 | MP09-11 | · · · · · · · · · · · · · · · · · · · | | 04-Jun-15 | 9:10 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 10 | MW09-22 | | | 04-Jun-15 | 10:10 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 11 | FB-4 | | | 04-Jun-15 | 10:10 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| 12 | MW09-08 | | | 04-Jun-15 | 13:10 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 |
| Datation | g Water (DW) Samples ¹ (client use) | Spacial lasts | uctions / Snee | fy Criteria to add o | n report (client) | ea) | | | | SAMP | LE CO | NDITI | ON A | S RE | CEIV | ED (la | b use | e only) |): * | |
| | | ohariai III20 | astiona / opeci | | a report (chant U | | Froze | n j | | | | | SIF C | Obser | vatior | 15 * | Yes | | Nó | |
| - | ken from a Regulated DW System? | - See attached normalist | chaot for list of | full parameters and | d motole rocules | | Ice pa | acks | Yes | Ø, | No | | Cust | ody s | eal in | lact | Yes | | No | |
| | Yes 🔽 No | - See attached parameter s | ancer IOF list Of | tun parameters and | u metais required | u. | | ng Initi | | Ø | | | <u> </u> | | · . | <u> </u> | | <u>.</u> | | |
| Are samples for human drinking water use? | | | | | | INI | TIAL CO | | EMPE | RATURE | S °C | | 1 | INAL | COOLI | ER TEN | IPERAT | TURES | °C | |
| <u>רח</u> | | | | | | | | 7 | 0. | 6 _ | 1. | 7 | | | _ | | | | | |
| | SHIPMENT RELEASE (client use) | - A- | | HIPMENT RECEP | TION (lab use or | | | 1 | | FIN | AL SH | PME | NT RE | | | (lab i | _ | | | |
| Released by: | Much Dune Stais | Time: Received | by: | | Date: | 1:15 | Rece | eived b | y: | | | | | Date | : | | Time | | | |
| -1 - 1 - | CK PAGE FOR ALS LOCATIONS AND SAMPLI | | | | TE - LABORATOR | | | | IT COP | | | | | 5 A. | 1.1 | 26a v09 Fr | | | | |

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



Chain of Custody (COC) / Analytical Request Form



COC Number: 1 -

Page 2 of 2

| ALS) | citvioimenta | | | | | | | | |
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| www.alsolobal.com | | | | | | | | | |

Canada Toll Free: 1 800 668 9878

| | www.alsglobal.com | | | <u> </u> | | | | | | | ÷. | | | | | | | | | |
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| Report To | | | Report Format / Distribution | | | | Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) | | | | | | | | | | | | | |
| Company: Hemmera Environchem Inc. | | | Select Report Format: IPDF IEXCEL IEDD (DIGITAL) | | | | | | R @Regular (Standard TAT if received by 3 pm - business days) | | | | | | | | | | | |
| Contact: | Natasha Sandys | Quality Contro | 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: | 230 - 2237 2nd Avenue | Criteria on Rep | Criteria on Report - provide details below if box checked | | | | | | | ergency (1-2 bus, days if received by 3pm) 100% surcharge - contact ALS to confirm TAT | | | | | | | | | | |
| | Whitehorse, YT | Select Distribu | Select Distribution: DEMAIL MAIL AX E2 Same day or wee | | | | | | | eekend emergency - contact ALS to confirm TAT and surcharge | | | | | | | | | | |
| Phone: | 867-456-4865 | Email 1 or Fax | Email 1 or Fax nsandys@hemmera.com, rmartinka@hemmera.cor | | | | | | Specify Date Required for E2,E or P: | | | | | | | | | | | |
| | | Email 2 | | | | | | Analysis Request | | | | | | | | | | | | |
| Invoice To | Same as Report To 🛛 🕅 Yes 🖾 No | | Invoice Distribution | | | | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below | | | | | | | | | | | | | |
| | Copy of Invoice with Report | Select Invoice | Distribution: Demail Demail Tax | | | | F/P | | | | Р | Р | Р | Р | | F | | | | |
| Company: | Hemmera Environchem Inc. | Email 1 or Fax nsandys@hemmera.com | | | | | | | | lan | | | | | | | | | | |
| Contact: Natasha Sandys | | | Email 2 chris@elr.ca | | | | | | ti u | 88 | 8 | Ę | | | | | | | ν | |
| | Project Information | 0 | Oil and Gas Required Fields (client use) | | | | | Ϋ́ | aikalinity | nio | , Free | 0 0 | | | | | | | iner | |
| ALS Quote #: | Q50588 | Approver ID: | Approver ID: Cost Center: | | | | | z | Τ | d/uo | ota | anio | | | | | | | onta | |
| Job #: | 1343-005.09 | GL Account: | GL Account: Routing Code: | | | | Dissolved Metals, Hardness Dissolved Mercury Nitrate, Nitrite, Total Kjeldahl N (TKN) Cl, Fl, Sulfate, conductivity, pH, alkafinity Anion Sum, Cation Sum, Cation/Anion Balan Anion Sum, Cation Sum, Cation/Anion Balan Anion Sum, Cation Sum, Cation/Anion Balan Anion Sum, Cation Sum, Cation/Anion Balan Cyamide - Weak Acid Diss., Total, Free Antmonia N (total), Total Organic Carbon Thiocyanate (SCN) Sulphide as S Total Inorganic Carbon Dissolved Alkalinity | | | | | | | | | | Ŭ | | | |
| PO/AFE: | | Activity Code: | Activity Code: | | | | | | | | | | | | | linity Number of Containers | | | | |
| LSD: | | Location: | 1. S. | | · · · · · | ŢΫ | 5 | otal | npu | S S | Acid | ÷ ا | Î | | - Ť | <u>a</u> | | | Ę | |
| ALS Lab Work Order # (lab use only) | | | | Sampler: | RM, JC, AN, M | | d Mercu | vitrite, 7 | lfate, co | m, Cati | - Weak | i N (tota | late (SC | as S | ganic (| d Alkalir | | | Ż | |
| ALS Sample # (lab use only) | Sample Identification and/or Coo (This description will appear on the | | Date (dd-mmm-yy) | Time (hh:mm) | Sample Type | Dissolved | Dissolved Mercury | Nitrate, Nitrite, | CI, FI, St | Anion Sum, | Syanide | Ammonia N (total), | Thiocyanate (SCN) | Sulphide as | Total Inorganic Carbon | Dissolved Alkalinity | | | | |
| 13 | FB-3 | | 03-Jun-15 | 17:45 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 | |
| 14 | Dup-4 | | 03-Jun-15 | 17:45 | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 | |
| 15 | Travel Blank | | | | Water | R | R | R | R | R | R | R | R | R | R | R | | | 9 | |
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| Drinking | Water (DW) Samples ¹ (client use) | Special Instructions / Spec | lify Criteria to add / | an report (client l | leol | 1 | | | SAMP | LE CO | NDIT | ON A | S RE | CEIV | ED (la | ab use | only | | | |
| | | | | on report (eneme | | Froze | en | | \Box | | i e g | SIF | Obse | rvatio | ns | Yes | | No - | | |
| Are samples tak ∏∵Y | en from a Regulated DW System? res IV: No - See attach | d parameter sheet for list o | r sheet for list of full parameters and metals required. | | | | Ice packs Yes . No Custody seal intact Yes No Cooling Initiated | | | | | | | | | | | | | |
| Are samples for | human drinking water use? | | | | | | INIITIAL COOLER TEMPERATURES *C FINAL COOLER TEMPERATURES *C | | | | | | | | | | | •C | | |
| ΠY | • | | | | | | 0.7 06 1.8 | | | | | | | | | | | | | |
| | SHIPMENT RELEASE (client use) | / INITIAL S | / INITIAL SHIPMENT RECEPTION (lab use only) | | | | FINAL SHIPMENT RECEPTION (lab use only) | | | | | | | | | | | | | |
| Released by: (ENN) (| Much Date: June 52015 9:15 | Received by: | | | Time 9:15 | Rece | eived b | y: | | | | | Dat | | | Time: | | | | |
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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY Failure to complete all portions of this form may delay analysis. Please fil in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the while - report copy.

APPENDIX D

Response to Comments Received in Draft Report

Response to Comments from Draft Report Version (as Received September 22, 2015).

| Comment No. | Page | Comment | Response | | | | | | |
|----------------|------|--|---|--|--|--|--|--|--|
| 1 | 1 | Merge to introduction | Merge Completed | | | | | | |
| 2 | 10 | Please explain further here (i.e. give rationale provided in October 2014 report). | A rationale for the inclusion has been provided in the text. | | | | | | |
| 3 | 23 | Explain what this means. So as a result of this test; is there any change that should happen with the program; why or why not. | An explanation and rationale has been provided. | | | | | | |
| 4 | 24 | Is this something that can be completed by Hemmera (i.e. within budget)? Was it completed in Fall event? | This comment has been revised. This recommendation was re-assessed by a new program hydrogeologist and at the time of the September 2015 sampling event a submersible pump was not used as there was sufficient volume in the well to sample using flexible Waterra tubing with a footvalve. Should conditions favour the implementation of this recommendation during future events, it should be achievable within the regular program budget. | | | | | | |
| 5 | 24 | Is this something that can be completed by Hemmera (i.e. within budget)? Was it completed in Fall event? | The recommended repairs could have been completed within the available budget for well repairs during the fall event, however a repair was not attempted as the well was found to be dry during that sample event. This repair can be attempted during a future sampling event. | | | | | | |
| 6 | 25 | Through air lift method or other? | Text has been revised. Due to the presence of tailings fines that are quite thick it should be possible through one of three methods – using open ended Waterra tubing to capture the sediment (repeatedly pushing the tubing into the sediment and cutting off the end of the tubing, they re-inserting into the well), adding water as needed to re-suspend the sediment or soften fines, and re- developing using foot valves and surge blocks. | | | | | | |
| 7 | 25 | Is this something that can be completed by Hemmera (i.e. within budget)? Was it completed in Fall event? | Yes – some initial cleaning was completed during the September 2015 event. An interim repair to the broken well tubing was completed in order to prevent further introduction of fines. Re-developing was also attempted, and did remove some fines, however this was limited by the available water column within the well. | | | | | | |
| 8 | 25 | Through air lift method or other? | Text has been updated. This would be likely completed using Waterra tubing with a surge block. | | | | | | |
| 9 | 25 | Is this something that can be completed by Hemmera (i.e. within budget)? Was it completed in Fall event? | This is something that can be completed within the existing program, however it was not completed during the fall 2015 event. | | | | | | |
| 10 | 25 | Is this something that can be completed by Hemmera (i.e. within budget)? Was it completed in Fall event? | This is something that could be completed within the program budget and was started during the fall 2015 sampling event, but has not been fully completed. | | | | | | |