

Faro Mine Complex, September 2015 Groundwater Sampling

Prepared for:
Yukon Government

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1.0 INTRODUCTION

Hemmera Envirochem Inc. (“Hemmera”) and Ecological Logistics & Research Ltd. (ELR) were retained by the Government of Yukon (GY), Assessment and Abandoned Mines (AAM) to conduct a groundwater sampling program at the Faro Mine Complex (FMC). The program consists of two sampling events: June and September, 2015. This report summarizes the activities completed and analytical results from the September 2015 sampling event.

This Work was performed in accordance with contract C00028446 between Hemmera Envirochem Inc. (“Hemmera”) and Yukon Government (“Client”), dated May 11, 2015 (“Contract”). This Report has been prepared by Hemmera, based on fieldwork conducted by Hemmera, for sole benefit and use by Yukon Government. In performing this Work, Hemmera has relied in good faith on information provided by others, and has assumed that the information provided by those individuals is both complete and accurate. This Work was performed to current industry standard practice for similar environmental work, within the relevant jurisdiction and same locale. The findings presented herein should be considered within the context of the scope of work and project terms of reference; further, the findings are time sensitive and are considered valid only at the time the Report was produced. The conclusions and recommendations contained in this Report are based upon the applicable guidelines, regulations, and legislation existing at the time the Report was produced; any changes in the regulatory regime may alter the conclusions and/or recommendations.

1.1 SITE LOCATION

The FMC is located approximately thirteen (13) kilometres (km) northeast of the Town of Faro, Yukon (20 km by road). The FMC consists of two distinct areas, the Faro Mine Area and the Vangorda/Grum Area (**Figure 1-1**), which are connected by a fourteen (14) km roadway (the Haul Road; **Figure 1-1**). Groundwater sampling stations exist throughout the FMC and surrounding area, a series of which were sampled during the September 2015 program. Specific sampling locations and general sample site distribution are described in **Sections 1.2** and **1.3**.

1.2 SCOPE OF WORK

The scope of work (SOW) included the coordination and execution of the September 2015 groundwater sampling program and the preparation of this summary report. This report provides a summary of the sampling program activities, methodologies (including any deviations from standard methodologies), field *in-situ* and laboratory analytical results, concentrations of contaminants exceeding the applicable guidelines, and recommendations relating to sample procedures and monitoring well conditions. This report does not provide an interpretation of the analytical results or provide recommendations relating to the program. The groundwater sampling event at the FMC was conducted over a seven (7) day period between September 10 and September 16, 2015. A total of one hundred and twenty-two (122)

groundwater wells were specified by AAM for the event (**Table 1-1**), including three (3) wells (P05-01-02, P05-01-04, and P05-02) that were not listed in the original scope of work, but requested by AAM as additions. Sampling was conducted by a team of four (4) field staff from Hemmera/ELR.

At each well (sampling station) the groundwater level and depth to bottom of the well were measured, the well was purged appropriately, and field parameters were measured (pH, water temperature, and conductivity). Groundwater samples were collected following field measurements and purging, and were analysed for general groundwater quality chemistry (major anions/cations and physical parameters) and dissolved metals. A detailed description of the sampling methodology is provided in **Section 2**, below.

1.3 SAMPLE SITES

September 2015 groundwater sampling was conducted at one hundred and twenty-two (122) wells across sixteen (16) different areas of the FMC (**Table 1-1; Figures 1-1 to 1-4**). This included the one hundred and nineteen (119) wells identified in the SOW document, and three (3) additional wells in the Cross Valley Dam (CVD) area added to the program at the request of AAM. One hundred fifteen (115) of the one hundred twenty two (122) wells identified for the event were successfully sampled. The majority of the sample sites were located in the Faro Mine Area (91 wells), with the remaining wells located in the Vangorda/Grum Area (31 wells). A large portion of the wells sampled in the Faro Mine Area were located in the S-Wells Area (26 wells; **Figure 1-3**), with additional wells in the surrounding areas. Wells in the Vangorda/Grum Area were primarily located in the vicinity of the Grum Sulphide Cell (**Figure 1-4**). **Table 1-1** summarizes sample sites included in the sampling program, while **Figures 1-2 through 1-4** show locations and general distribution of the sites. Photographs of each sample site are included as **Appendix A**.

Table 1-1 Summary of Groundwater Sample Sites Identified for September 2015 Program

Area	Well Name	UTM (Zone 8N)		Well Status	Sample Successfully Collected	QA/QC Sample Collected
		Easting	Northing			
Cross Valley Dam (CVD)	P01-11	580092	6914486	Good	✓	Duplicate, Field Blank
	P03-09-6	579948	6914411	Dry	-	-
	P03-09-9	579948	6914411	Good	✓	-
	P05-01-02	580056	6914505	Good	✓	-
	P05-01-03	580056	6914505	Good	✓	-
	P05-01-04	580056	6914505	Good	✓	-
	P05-01-05	580056	6914505	Good	✓	-
	P05-02	580036	6914439	Good	✓	-
	P09-C2	580012	6914402	Good	✓	Duplicate, Field Blank
	P09-C3	579970	6914316	Good	✓	-

Area	Well Name	UTM (Zone 8N)		Well Status	Sample Successfully Collected	QA/QC Sample Collected
		Easting	Northing			
Down Gradient of CVD	P01-01A	579701	6914854	Good	✓	-
	P01-01B	579701	6914854	Good	✓	-
Emergency Tailings (ETA) Area	P09-ETA-1	582700	6913813	Good	✓	-
	P09-ETA-2	582700	6913812	Good	✓	-
	P96-8A	583220	6914072	Good	✓	-
	P96-8B	583220	6914072	Good	✓	-
	SRK04-3A	582870	6913995	Good	✓	-
	SRK05-ETA-BR1	582863	6914019	Good	✓	-
	SRK05-ETA-BR2	582879	6913997	Good	✓	-
Haul Road Near NFRC	MW14-02D	584758	6913127	Good	✓	-
	MW14-02S	584758	6913127	Good	✓	-
	MW14-03	584613	6913290	Good	✓	-
	MW14-04D	584648	6913321	Blocked	-	-
	MW14-04S	584658	6913321	Slow Recharge	✓	-
	MW14-05	584694	6913345	Good	✓	Duplicate
Haul Road Near NFRC	PW14-01	584752	6913151	Good	✓	Duplicate, Field Blank
	PW14-06	584476	6913310	Good	✓	Duplicate
	PW14-07	584690	6913192	Good	✓	-
Intermediate Dam	P01-03	580516	6914255	Good	✓	-
	P01-04A	580372	6914074	Good	✓	-
	P01-04B	580372	6914074	Good	✓	-
	X24-96D	580544	6914298	Slow Recharge	✓	-
	X25-96A	580544	6914298	Good	✓	-
	X25-96B	580407	6914119	Good	✓	-
Intermediate Dump	P96-6	584902	6913313	Good	✓	Duplicate, Field Blank
Main Dump	SRK08-P9	583682	6913620	Good	✓	-
Mill Area	SRK08-10A	582718	6914052	Good	✓	-
	SRK08-11A	582583	6914571	Good	✓	Duplicate
	SRK08-11B	582587	6914571	Good	✓	-
NFRC Rock Drain Pond	MW14-12D	584858	6913264	Good	✓	-
	MW14-12S	584858	6913264	Good	✓	-
	MW14-13	584921	6913285	Good	✓	-
	MW14-14	584821	6913250	Slow Recharge	✓	-
	MW14-15	584831	6913263	Good	✓	-
	MW14-16	584887	6913289	Good	✓	-

Area	Well Name	UTM (Zone 8N)		Well Status	Sample Successfully Collected	QA/QC Sample Collected
		Easting	Northing			
Northeast Dumps	BH13B	585746	6914494	Good	✓	-
	BH14A	585584	6914005	Good	✓	-
	BH14B	585584	6914005	Good	✓	-
Second Impoundment	P03-01-2	583179	6912761	Good	✓	-
	P03-01-8	583179	6912761	Good	✓	-
	P03-03-2	583068	6912698	Good	✓	-
	P03-03-4	582484	6913117	Good	✓	-
	P03-03-9	582948	6912879	Good	✓	-
	P03-05-4	582605	6912934	Good	✓	-
	P03-06-1	582452	6913496	Good	✓	-
	P03-06-2	582452	6913496	Good	✓	-
	P03-06-6	582452	6913496	Good	✓	-
	P03-06-7	582452	6913496	Dry	-	-
S-Wells Area	P09-SIS1	584478	6913128	Slow Recharge	✓	-
	P09-SIS2	584487	6913125	Good	✓	Duplicate
	P09-SIS3	584493	6913117	Good	✓	-
	P09-SIS4	584512	6913107	Good	✓	-
	P09-SIS5	584515	6913110	Slow Recharge	✓	-
	P96-7	584127	6913287	Good	✓	-
	S1A	584433	6913114	Good	✓	-
	S1B	584433	6913114	Slow Recharge	✓	-
	S2A	584471	6913123	Good	✓	-
	S2B	584471	6913123	Good	✓	-
	SRK05-SP-1A	584621	6913075	Good	✓	-
	SRK05-SP-1B	584621	6913075	Good	✓	-
	SRK05-SP-3A	584543	6913094	Good	✓	-
	SRK05-SP-3B	584543	6913094	Good	✓	-
	SRK05-SP-4A	584506	6913110	Good	✓	-
	SRK05-SP-4B	584506	6913110	Good	✓	-
	SRK05-SP-5	584467	6913133	Good	✓	-
	SRK05-SP-6	584492	6912975	Dry	-	-
	SRK08-SBR1	584472	6913128	Damaged	-	-
	SRK08-SBR2	584484	6913123	Good	✓	-
	SRK08-SBR3	584394	6913146	Good	✓	-
	SRK08-SBR4	584447	6913140	Good	✓	-
	SRK08-SP-7A	584437	6913095	Good	✓	-
SRK08-SP-7B	584437	6913095	Good	✓	-	
SRK08-SP-8A	584295	6912952	Good	✓	-	
SRK08-SP-8B	584295	6912952	Good	✓	-	

Area	Well Name	UTM (Zone 8N)		Well Status	Sample Successfully Collected	QA/QC Sample Collected
		Easting	Northing			
NFRC Near S-Wells Area	MW14-08	584701	6913035	Slow Recharge	✓	-
	MW14-09	584691	6913044	Good	✓	-
	MW14-10	584679	6913040	Good	✓	-
	MW14-11	584677	6913028	Slow Recharge	✓	-
	SRK05-SP-2	584681	6913035	Good	✓	Duplicate, Field Blank
Upstream of Tailings	TH86-2	583536	6912494	Good	✓	Duplicate
	TH86-5	583587	6912570	Good	✓	-
Vangorda /Grum	BH05-9B-R	592640	6903347	Good	✓	-
	P09-GS1A	592494	6904832	Good	✓	-
	P09-GS1B	592485	6904833	Good	✓	-
	P09-LCD1	593358	6903316	Good	✓	-
	P09-LCD4	593330	6903278	Good	✓	-
	P09-LCD6	593313	6903251	Good	✓	Duplicate
	P09-VC1	593518	6903418	Good	✓	-
	P09-VC2	593517	6903431	Good	✓	Field Blank
	P2001-02A	593132	6902866	Slow Recharge	✓	-
	P2001-02B	593132	6902866	Slow Recharge	✓	-
	P2001-3	593099	6902881	Frozen	-	-
	P96-9A	592648	6903345	Good	✓	-
	SRK05-07	592375	6903189	Good	✓	Duplicate, Field Blank
	SRK05-08	592582	6903238	Good	✓	-
	SRK05-5C	592763	6903382	Good	✓	-
	SRK05-9	592949	6903158	Good	✓	-
	SRK08-P14	591759	6903699	Good	✓	-
	SRK08-P15	591960	6903534	Good	✓	-
	SRK08-P16	592198	6903145	Frozen	-	-
	V34	593428	6902476	Slow Recharge	✓	-
V35	593175	6902554	Slow Recharge	✓	-	
V36	593133	6902916	Good	✓	-	
V37	593309	6903079	Slow Recharge	✓	-	

Area	Well Name	UTM (Zone 8N)		Well Status	Sample Successfully Collected	QA/QC Sample Collected
		Easting	Northing			
Zone 2 Outwash/Pit	BH10A	585122	6913711	Good	✓	-
	BH10B	585122	6913711	Good	✓	-
	BH5	585088	6913550	Good	✓	-
	BH6	585092	6913645	Good	✓	-
	BH8	585144	6913777	Slow Recharge	✓	-
	P05-04	585115	6913650	Good	✓	-
	SRK08-P12A	585228	6913687	Good	✓	-
	SRK08-P12B	585228	6913687	Good	✓	-

580000

585000

590000

595000

6915000

6910000

6905000

580000

585000

590000

595000



Faro Mine Area

Faro Mine Complex

Haul Road

Town of Faro

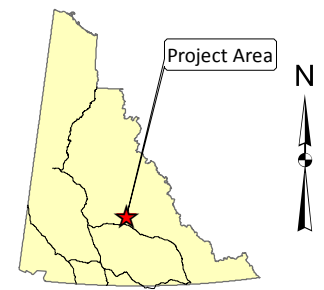
Vangorda/Grum Area

NOTES:
 1. Units: Meters
 2. Projection: UTM Zone 8 NAD83
 3. 2008 Quickbird imagery (courtesy of Yukon Geomatics) and spatial data provided by Yukon government.

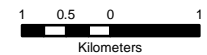
September 2015 FMC
 Groundwater Sampling Program



Client:



Scale: 1:85,000



December 16, 2015

Hemerra Project: 1343.005-12

ELR Project: 15-199.2

FIGURE 1-1

Site Location - Faro Mine Complex

NOTES:
 1. Units: Meters
 2. NTS Mapsheet: 115103
 3. Projection: UTM Zone 8 NAD83
 4. Site features (e.g., roads, trails, streams, waterbodies, watercourses and infrastructure areas) digitized by ELR using 2008 Quickbird imagery (courtesy of Yukon Geomatics) and spatial data provided by Yukon government.
 5. ELR Groundwater Sampling Locations collected by ELR (Sept, 2014 and Sept, 2015).

September 2015 FMC
 Groundwater Sampling Program

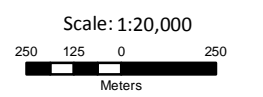
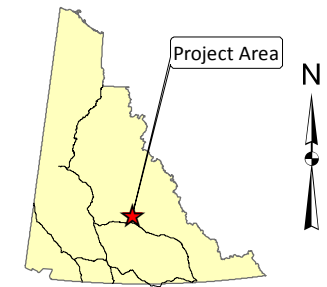


Client:



Legend

- Groundwater Monitoring Well Locations



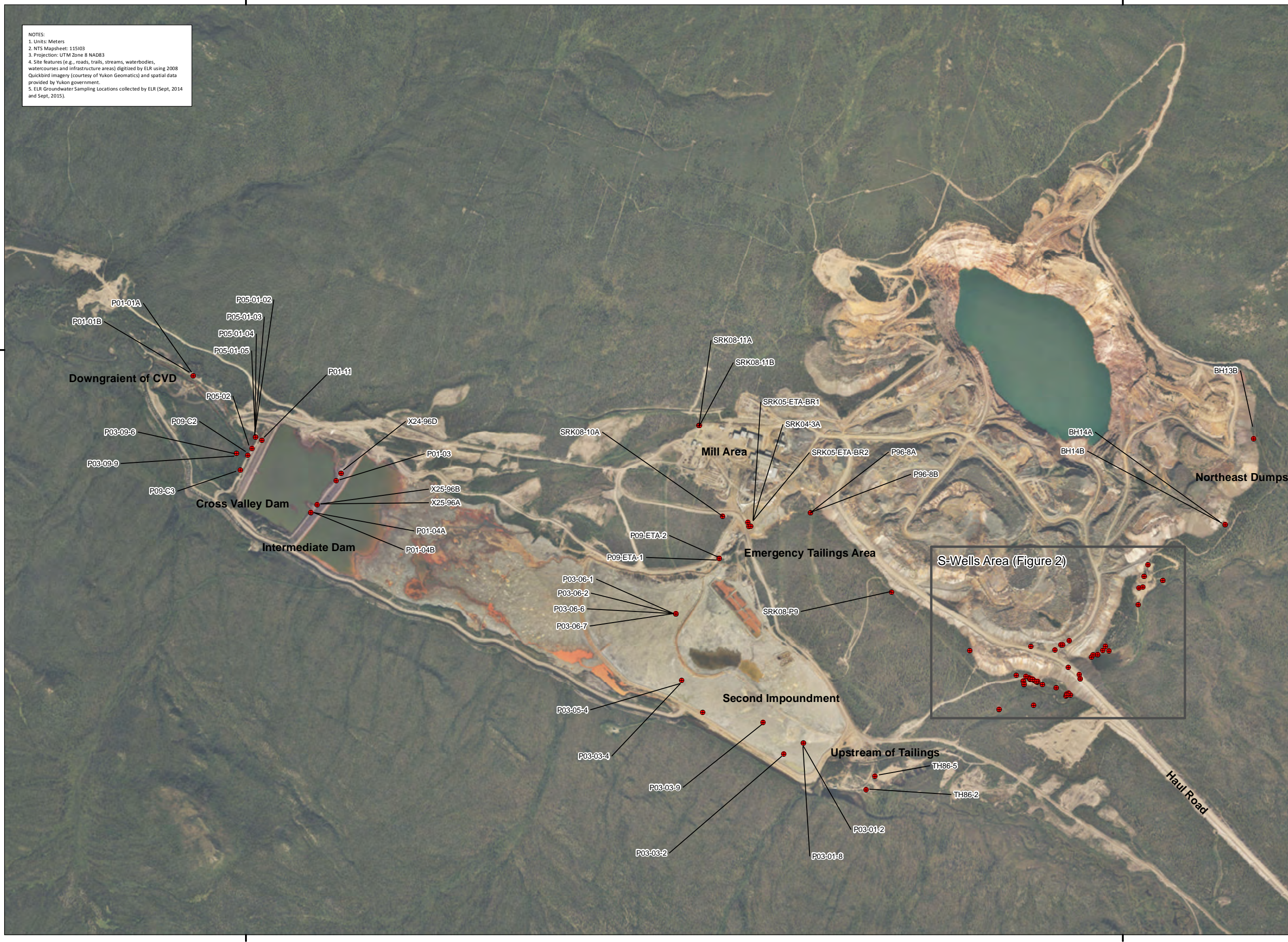
December 16, 2015

Hemerra Project: 1343.005-12

ELR Project: 15-199.2

FIGURE 1-2
 Groundwater Sampling Locations
 Faro Mine Area

Drawn by: AN
 Checked by: CJ



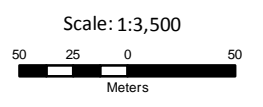
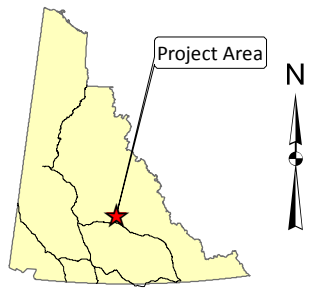
NOTES:
 1. Units: Meters
 2. NTS Mapsheet: 115103
 3. Projection: UTM Zone 8 NAD83
 4. Site features (e.g., roads, trails, streams, waterbodies, watercourses and infrastructure areas) digitized by ELR using 2008 Quickbird imagery (courtesy of Yukon Geomatics) and spatial data provided by Yukon government.
 5. ELR Groundwater Sampling Locations collected by ELR (September, 2014 and September, 2015).

September 2015 FMC
 Groundwater Sampling Program



Client:
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Legend
 ● Groundwater Monitoring Well Locations



December 16, 2015

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 ELR Project: 15-199.2

FIGURE 1-3
 Groundwater Sampling Locations
 S-Wells Area

Drawn by: AN
 Checked by: CJ



NOTES:
 1. Units: Meters
 2. NTS Mapsheet: 115103
 3. Projection: UTM Zone 8 NAD83
 4. Site features (e.g., roads, trails, streams, waterbodies, watercourses and infrastructure areas) digitized by ELR using 2008 Quickbird imagery (courtesy of Yukon Geomatics) and spatial data provided by Yukon government.
 5. ELR Groundwater Sampling Locations collected by ELR (September, 2014 and September, 2015).

September 2015 FMC
 Groundwater Sampling Program

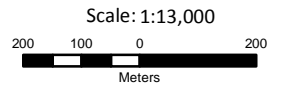
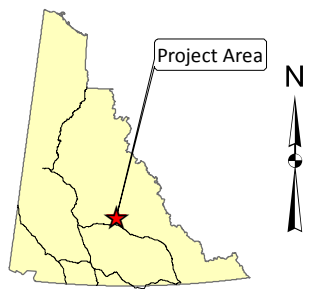


Client:



Legend

● Groundwater Monitoring Well Locations



December 16, 2015

Hemerra Project: 1343.005-12

ELR Project: 15-199.2

FIGURE 1-4
 Groundwater Sampling Locations
 Vangorda Grum Area

Drawn by: AN

Checked by: CJ



2.0 METHODOLOGY

2.1 PROTOCOLS

Groundwater purging and sampling conducted by Hemmera/ELR was in accordance with Yukon Environment's *Protocol for the Contaminated Sites Regulation #7 – Groundwater Monitoring Well Installation, Sampling and Decommissioning* (Yukon Environment, March 2011). Methods used were also consistent with the ASTM *D4448-01 Standard Guide for Sampling Groundwater Monitoring Wells* (ASTM, 2013), the *D6452-99 Guide for Purging Methods for Wells used for Groundwater Quality Investigations* (ASTM, 2012) and in accordance with *Standard Methods for the Examination of Water and Wastewater* (Rice et al., 2012).

2.2 WELL MEASUREMENTS AND PURGING

Upon arriving at each location, the well structure and casing were inspected for damage, closure, and general conditions. Several measurements were recorded from each well, including depth to water (DTW; m), depth to bottom (DTB; m), well diameter (cm), and well stick-up height (m).

DTB and DTW were measured using either a Solinst - Model 102 Water Level Meter (for 2.54 cm diameter wells) or a Heron Water Tape (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 was drawn on the highest point of the well and measurement taken from that line if no distinguishable point of measure was present. Based on information reviewed by Hemmera/ELR, it is unknown where the point of measurement was for previous sampling programs. 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 decontaminated between each sample site using a combination of Alconox low-foaming phosphate-free detergent solution and de-ionized water.

Following the initial checks and measurements described above, groundwater wells were purged and sampled using one of four (4) techniques: 1) Hydrolift electric pump using dedicated high density polyethylene (HDPE) Waterra tubing and footvalve, 2) Manual purging using dedicated HDPE Waterra tubing and footvalve, 3) GeoPump peristaltic pump using dedicated HDPE and silicone tubing, or 4) Grundfos Redi-Flo2 submersible pump using dedicated 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 (3) 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 groundwater equivalent to three (3) standing well volumes of groundwater had been purged. Groundwater turbidity measured in Nephelometric Turbidity Units (NTU) was also measured prior to sampling and was used as an indication of sample quality. Where possible samples were not collected until turbidity was less than 50 NTU.

Purge volume measurements were collected using a graduated container and stop watch. All well measurements, purging details, and additional field notes were recorded on field forms, this information is presented in **Table 3-1**.

Table 2-1 Groundwater Sampling – Field Parameter Purging Criteria

Field Parameter	Allowable Variance in 3 Consecutive Readings
Temperature (°C)	±3%
pH (pH Units)	±0.1
Conductivity (µS/cm)	±3%

2.3 FIELD PARAMETERS

Hemmera/ELR measured general field parameters using a YSI Professional Plus multi-parameter meter. Where possible, field parameters were collected using a flow through cell in order to minimize field parameter variability. Field parameters recorded at each sample site included; groundwater temperature (°C), conductivity (µS/cm), specific conductivity (µS/cm), pH (pH Units), and oxidation-reduction potential (redox; mV). Where possible, field parameters were recorded throughout the purging process at five-minute intervals. For wells with slow recharge field parameters were recorded at volume related intervals (e.g., every 500 mL). Groundwater turbidity was measured at the time of sample collection using either a LaMotte 2020we or a Hach 2100Q Portable turbidity meter.

2.4 GROUNDWATER QUALITY SAMPLE COLLECTION

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 Global was the analytical subcontractor chosen for this project, and an example summary of the sample set collected at each sample location, including parameters analysed and preservation techniques, is provided in **Table 2-2**.

Table 2-2 Groundwater Sampling – Preservation and Intended Analysis

Bottle Type	Parameters Analyzed	Sample Treatment	Preservation Added
120 mL (Plastic)	Dissolved Metals (except mercury)	Field Filtered and Preserved	HNO3
1 L (Plastic)	Acidity, alkalinity, chloride, conductivity, pH, hardness, sulfate, total suspended solids (TSS)	-	None

2.5 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 3-2**.

2.6 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

2.6.1 Field QA/QC

Several controls were used by Hemmera/ELR staff while in the field to help ensure that sample integrity was maintained and that data was 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. The only exception to this was a Grundfos Redi-Flo2 submersible pump that was required for several deep wells in the September program. Field staff wore dedicated disposable nitrile gloves for all measurements, purging, and sampling. Water level meters and the submersible pump were cleaned using Alconox low-foaming phosphate-free detergent and de-ionized water and between wells, and field instruments (YSI field meters and turbidity meters) 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 C** of this report.

2.6.2 Laboratory and Sampling QA/QC

Laboratory and sampling QA/QC measures taken as part of the September 2015 sampling program include the collection of travel blanks, duplicates, and field blanks, as outlined in the SOW and as per standard industry practice. Eleven (11) duplicate samples were collected in relation to one-hundred and twenty-two (122) regular samples. Additionally, six (6) field blanks were collected, and two (2) travel blanks accompanied the analytical supplies and samples during shipping to and from the laboratory.

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% indicates a greater variance than would normally be anticipated and may be due to a number of factors (e.g., short-term change in parameter concentration, sediment in the sample, sampling or instrument error, large relative % difference but very low actual difference in concentration, such as 0.0001 vs 0.0002 mg/L). RPD was calculated according to the following formula:

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

RPD is not calculated if either the sample or the field duplicate concentration is less than five times the detection limit. QA/QC analytical results including RPD values are presented in **Table 3-3**.

Laboratory replicates and additional quality control measures (i.e., measures against lab standards) were conducted by ALS. Laboratory QA/QC analytical results are included as **Appendix B** and discussed in **Section 3.3**.

3.0 RESULTS

Summary tables of the laboratory analytical results are presented in **Table 3-2** of this report, including comparisons of results to CCME FAL guidelines. A summary of the QA/QC sampling results is also attached, including analytical data for duplicates, field blanks, and travel blanks (**Table 3-3**). Laboratory analytical reports are provided as **Appendix B**.

3.1 GROUNDWATER SAMPLING SUMMARY

Groundwater sampling was completed between September 10 and September 16, 2015. Weather conditions varied throughout the sampling program, with ambient air temperature ranging from 0°C to 15°C. Weather conditions were pre-dominantly overcast, with occasional sunny periods and light rain. All one hundred and twenty-two (122) groundwater wells specified for the sampling event were located and assessed by Hemmera/ELR. Groundwater samples were successfully collected at one hundred fifteen (115) of the one hundred twenty-two (122) sampling locations, as outlined in **Table 1-1**. Of the seven (7) wells that could not be sampled, three (3) were dry (P03-09-6, P03-06-7, and SRK05-SP-6), two (2) were frozen (P2001-3 and SRK08-P16), one (1) was blocked (MW14-04D), and one (1) was damaged (SRK08-SBR1). A summary of groundwater wells sampled during the September 2015 sampling event, including field parameters and well measurements, is provided in **Table 3-1**. All samples were received by the laboratory within the required holding times and temperature limits.

A summary of the sampling results and guideline exceedances is provided in the following sections, organized by area.

Area	Well Name	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 (l/min)	Criteria (3WV / PS)	Draw Down (m)	pH (pH Units)	Temperature (°C)	Conductivity (µs/cm)	Specific Conductivity (µs/cm)	Oxidation Reduction Potential (mV)	Field Turbidity (NTU)	Method Used	Well diameter (cm)
Zone 2 Outwash/Pit	BH10A	12/09/2015	1.703	6.050	6.890	1.70	2.2	15:43	16:01	0:18	0.12	PS	0.015	6.34	3.4	192.9	324.8	123.8	6.51	peri. pump	5.08
	BH10B	12/09/2015	0.883	5.228	9.148	7.95	2.2	16:15	16:30	0:15	0.15	PS	0.027	6.24	2.8	231.9	402.5	151.3	26.80	peri. pump	5.08
	BH5	12/09/2015	0.724	2.103	7.500	10.94	2.8	16:08	16:32	0:24	0.11	PS	0.012	5.67	4.0	312.8	522	76.7	8.37	peri. pump	5.08
	BH6	12/09/2015	0.750	3.252	6.636	6.86	2.3	16:52	17:09	0:17	0.14	PS	0.008	5.91	3.6	301	509.9	109.4	3.30	peri. pump	5.08
	BH8	13/09/2015	0.786	15.353	20.777	10.99	9.0	17:25	17:42	0:17	0.53	PS	4.747	4.78	5.3	1332	2138	197.7	30.10	hydrolift	5.08
	P05-04	12/09/2015	0.680	3.001	7.035	8.18	2.3	17:19	17:33	0:14	0.16	PS	0.049	5.94	3.3	271.5	464.8	161.5	0.49	peri. pump	5.08
	SRK08-P12A	12/09/2015	0.720	2.005	12.690	21.66	5.0	14:25	14:53	0:28	0.18	PS	0.025	5.58	1.7	754	1358	98.3	8.03	peri. pump	5.08
	SRK08-P12B	12/09/2015	0.730	1.990	8.433	13.06	2.0	15:02	15:18	0:16	0.13	PS	0.010	5.60	1.7	543	979	127.9	5.52	peri. pump	5.08

Notes:

NR = Not recorded in the field, NR* = Not Recorded due to limiting diameter of well casing

'-' = Not Applicable.

3.2 ANALYTICAL RESULTS

Analytical results, including a brief summary of CCME FAL guideline exceedances and factors which may have influenced data precision, are provided below. In some instances the laboratory detection limits (DL) exceeded applicable CCME FAL standards (values shaded in light grey in **Table 3-2**). This occurs when samples with high levels of some elements or compounds require dilution in order for the lab to properly analyse the sample. Accordingly, the laboratory detection limit must then be increased. In the case of mercury, low-level analytical methods are required to achieve detection limits relevant to the guidelines. Because mercury was not specified in the SOW, specific sampling for mercury was not included as part of the laboratory program during this sample event, and therefore the low-level analytical methods were not used. For the purpose of this report, samples where the reported DL is higher than the applicable guideline have not been reported as CCME FAL exceedances.

3.2.1 Cross Valley Dam

Groundwater wells located in the Cross Valley Dam (CVD) area were sampled between September 13 and 14, 2015. Samples were obtained from nine (9) of the ten (10) wells within this area identified for the sampling event. Groundwater well P03-09-6 was dry during the time of sampling.

Concentrations of dissolved aluminum, arsenic, cadmium, iron, silver, and zinc in groundwater exceeded the CCME FAL guidelines in all samples collected from the CVD area. Field dissolved oxygen concentrations were less than the CCME FAL guideline level for all measurements collected in this area. Field pH was also outside the CCME FAL guideline range in six (6) of the nine (9) wells.

Groundwater turbidity of all CVD samples was less than 50 NTU.

3.2.2 Down Gradient of Cross Valley Dam

Groundwater wells located down gradient of the CVD area were sampled on September 13, 2015. Samples were obtained from both wells (2) within this area identified for the sampling event.

Concentrations of dissolved cadmium and iron in groundwater exceeded the CCME FAL guidelines in samples collected down gradient of the CVD area.

Groundwater turbidity in all samples within this area was less than 50 NTU.

3.2.3 ETA Area

Groundwater wells located in the ETA area were sampled on September 14, 2015. Samples were obtained from seven (7) wells in this area identified for the sampling event.

Field and laboratory groundwater pH were outside the CCME FAL guideline range in five (5) of the seven (7) samples (ranging from 3.70 to 6.07 based on laboratory pH values). Concentrations of dissolved aluminum, arsenic, cadmium, copper, iron, lead, nickel, thallium, and zinc in groundwater exceeded the CCME FAL guidelines in at least one sample.

Groundwater was turbid at site SRK05-ETA-BR2 (62.8 NTU) during the time of sampling. Groundwater turbidity in all other samples collected within the ETA area was less than 50 NTU.

3.2.4 Haul Road/Near NFRC

Groundwater wells located on the Haul Road near the NFRC were sampled between September 10 and 13, 2015. Samples were obtained from eight (8) of nine (9) wells in this area identified for the sampling event. Groundwater well MW14-04D was blocked during the time of sampling (refer to **Section 3.4**).

Laboratory and/or field pH in the Haul Road area was outside the CCME FAL guideline range in five (5) of the eight (8) samples (ranging from 4.62 to 6.16 based on laboratory pH values). Concentrations of dissolved aluminum, cadmium, iron, lead, nickel, thallium, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in one (1) or more samples collected in the area.

Groundwater was very turbid at site MW14-04S (811 NTU) during the time of sampling. Groundwater turbidity in all other samples collected within the Haul Road area was less than 50 NTU.

3.2.5 Intermediate Dam

Groundwater wells located within the intermediate dam area were sampled between September 13 and 14, 2015. Samples were collected from all six (6) wells within this area identified for the sampling event.

Field and laboratory groundwater pH in the Intermediate Dam area was outside the CCME FAL guideline range in two (2) of the six (6) samples. Concentrations of dissolved aluminum, cadmium, iron, nickel, selenium, silver, and zinc in groundwater exceeded the CCME FAL guidelines in samples collected within the Intermediate Dam area.

Groundwater was moderately turbid at site P01-03 (50.2 NTU) during the time of sampling. Groundwater turbidity in all other samples collected within the Intermediate Dam area was less than 50 NTU.

3.2.6 Intermediate Dump

The one (1) groundwater well located within the Intermediate Dump area (well P96-6) was sampled on September 12, 2015.

Concentrations of dissolved selenium, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in samples from this well. The groundwater turbidity of the sample collected from well P96-6 was less than 50 NTU.

3.2.7 Main Dump

The one (1) groundwater well located within the Main Dump area (well SRK08-P9) was sampled on September 14, 2015.

No CCME FAL guideline exceedances were observed in the sample collected from this well. The groundwater turbidity of the sample collected from well SRK08-P9 was less than 50 NTU.

3.2.8 Mill Area

Groundwater wells located in the mill area were sampled on September 14, 2015. Samples were collected from three (3) wells in this area identified for the sampling event.

Field pH was outside the CCME FAL guideline range in two of the three samples collected. Concentrations of dissolved aluminum, cadmium, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in samples collected within the Mill Area.

Groundwater was turbid at site SRK08-10A (191 NTU) during the time of sampling. Groundwater turbidity in all other samples collected within the Mill Area was less than 50 NTU.

3.2.9 NFRC Rock Drain Pond

Groundwater wells located in the NFRC Rock Drain Pond Area were sampled on September 12, 2015. Samples were collected from all six (6) wells in this area identified for the sampling event.

Field and/or laboratory groundwater pH in the NFRC Rock Drain Pond Area was outside the CCME FAL guideline range in all samples collected. Concentrations of dissolved aluminum, cadmium, nickel, and zinc in groundwater exceeded the CCME FAL guidelines in samples collected within the NFRC Rock Drain Pond area.

Groundwater was moderately turbid at site MW14-15 (65 NTU) during the time of sampling. Groundwater turbidity in all other samples collected within the NFRC Rock Drain Pond area was less than 50 NTU.

3.2.10 Northeast Dumps

Groundwater wells located in the Northeast Dumps area were sampled on September 14, 2015. Samples were collected from all three (3) wells in this area identified for the sampling event.

Field pH was outside the CCME FAL guideline range in one sample from this area. Concentrations of dissolved aluminium, cadmium, copper, lead, nickel, selenium, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in samples collected within the Northeast Dumps area.

Groundwater turbidity of all samples within the Northeast Dumps area was less than 50 NTU.

3.2.11 Second Impoundment

Groundwater wells located in the Second Impoundment area were sampled between September 13 and 16, 2015. Samples were collected from nine (9) of the ten (10) wells in this area identified for the sampling event. Well P03-06-7 was dry during the time of sampling.

Field and laboratory groundwater pH in the Second Impoundment area was outside the CCME FAL guideline range in eight (8) of the nine (9) samples collected (ranging from 3.12 to 5.40, based on laboratory pH values). Concentrations of dissolved aluminum, arsenic, cadmium, copper, iron, lead, nickel, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in samples collected from the Second Impoundment area.

Groundwater was moderately turbid at sites P03-01-8 (109 NTU) and P03-03-2 (67 NTU) during the time of sampling. Samples collected from wells P03-06-2 and P03-06-6 were extremely turbid (2903 and 2145 NTU, respectively), likely due to the placement of the wells within the tailings area. Groundwater turbidity of all other collected samples within the Second Impoundment area was less than 50 NTU.

3.2.12 S-Wells Area

Groundwater wells located in the S-Wells area were sampled between September 10 and 13, 2015. Samples were collected from twenty-four (24) of the twenty-six (26) wells in this area identified for the sampling event. Well SRK05-SP-6 was dry and well SRK08-SBR1 was damaged during the time of sampling (refer to **Section 3.4**).

Field and/or laboratory groundwater pH in the S-Wells area was outside the CCME FAL guideline range in twenty two (22) of the samples collected in this area. Concentrations of dissolved aluminum, arsenic, cadmium, copper, iron, nickel, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in one or more samples collected from the S-Wells area.

Groundwater was turbid at sites S2A (93.8 NTU) and SRK08-SBR3 (78.4 NTU) during the time of sampling. Groundwater turbidity of all other collected samples within the S-Wells area was less than 50 NTU.

3.2.13 NFRC near S-Wells Area

Groundwater wells located at the NFRC near the S-Wells area were sampled on September 10, 2015. Samples were collected from all five (5) of the wells in this area identified for the sampling event.

Laboratory pH was outside the CCME FAL guideline range at one of the six samples collected in this area. Concentrations of dissolved aluminum, arsenic, cadmium, iron, selenium, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in samples collected from the S-Wells area near NFRC.

Groundwater was moderately turbid at site MW14-08 (66.7 NTU) during the time of sampling. Groundwater turbidity of all other collected samples within the NFRC area was less than 50 NTU.

3.2.14 Upstream of Tailings

Groundwater wells located Upstream of the Tailing area were sampled on September 13, 2015. Samples were collected from both wells in this area identified for the sampling event.

Concentrations of dissolved arsenic and iron in groundwater exceeded the CCME FAL guidelines in samples collected from one well in the Upstream of the Tailings area.

Groundwater turbidity of all samples collected Upstream of the Tailings area was less than 50 NTU.

3.2.15 Groundwater Vangorda/Grum

Groundwater wells located in the Vangorda/Grum area were sampled between September 15 and 16, 2015. Samples were collected from twenty-three (23) of the twenty-five (25) wells in this area identified for the sampling event. Wells P2001-3 and SRK08-P16 were frozen at the time of sampling.

Laboratory groundwater pH in the Vangorda/Grum area was outside the CCME FAL guideline range in one (1) of the twenty-three (23) samples collected (5.38). Concentrations of dissolved arsenic, cadmium, copper, iron, lead, selenium, thallium, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in one or more samples collected from the Vangorda/Grum area.

Groundwater was turbid at sites BH05-9B-R (82.9 NTU), P2001-02A (162 NTU), and V37 (87 NTU) during the time of sampling. Groundwater turbidity of all other collected samples within the Vangorda/Grum area was less than 50 NTU.

3.2.16 Zone 2 Outwash/Pit

Groundwater wells located in the Zone 2 Outwash/Pit area were sampled on September 12, 2015. Samples were collected from all eight (8) wells in this area identified for the sampling event.

Field and/or laboratory groundwater pH in the Zone 2 Outwash/Pit area was outside the CCME FAL guideline range in all samples collected from this area. Concentrations of dissolved aluminium, cadmium, copper, iron, lead, nickel, thallium, uranium, and zinc in groundwater exceeded the CCME FAL guidelines in samples collected from the Zone 2 Outwash/Pit area.

Groundwater turbidity of all samples collected within the Zone 2 Outwash/Pit area was less than 50 NTU.

3.3 QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

Eleven (11) duplicate groundwater samples were collected during the September 2015 sampling event. Two (2) travel blanks were provided by the laboratory and accompanied the samples through the sampling program. Six (6) field blanks were prepared during the sampling program between September 10 and September 15, 2015. The detailed results of the QA/QC sampling program are provided in Table 3-3, including RPD values for all duplicate and sample pairs collected.

3.3.1 Field and Travel Blanks

All field blank analytical results were reported less than the RDL with exception of acidity as CaCO_2 which was detected in two (2) of the six (6) field blanks (Field Blank-200 and Field Blank-300). In both cases, acidity was measured slightly greater than the RDL (1.1 and 1.8 mg/L, RDL <1.0). The program analytical supplier (ALS Global) indicated that this occurs periodically through the absorption of carbon dioxide into deionized water, and that it should not be considered as a form of contamination at the field or laboratory level.

Detectable concentrations of total iron (0.03 mg/L; RDL = 0.01 mg/L) and total manganese (0.00027 mg/L; RDL = 0.0001 mg/L) were reported in the travel blank included in the first sample shipment. Detectable total chromium (0.0001 mg/L; RDL = 0.001 mg/L) was reported in the travel blank included with the second shipment. All other travel blank analytical results were reported as less than the RDL (**Table 3-3**).

The source of the trace metals detected in the travel blanks is not known but could potentially be the result of contamination during the laboratory analysis, transportation to and from the field, or travel blank preparation (at the laboratory). ALS Global was contacted to inquire about potential sources of contamination in the travel blanks, and a sample of the batch of water used in the travel blank preparation was re-tested for metals by the laboratory. All re-tested parameters were less than the laboratory detection limits, indicating that the observed contamination was likely somewhere within the chain of custody of the samples. The travel blanks are not opened during the transportation or field sampling process by Hemmera/ELR, and therefore there is not an obvious source of contamination for these samples. ALS Global analytical results for the water used in the travel blank preparation are provided in **Appendix B**.

Based on the re-testing of the blank source water there is a potential for a minor source of contamination in the two travel blanks, however the relatively low levels at which metals were detected (less than or equal to three times detection limits) in those travel blanks suggests that any potential contamination within the chain of custody is unlikely to have significantly impact the overall program results.

3.3.2 Field Duplicates

3.3.2.1 SRK05-SP-2 / MW15-100

The RPD value for acidity (44.14%), between SRK05-SP-2 and MW15-100, was reported outside the acceptable range of variability. Field notes and measurements do not identify any potential source of contamination or suggest variability in groundwater quality during the purging process (**Table 3-1**). All other analytical results for this duplicate pair were within the 20% RPD threshold limit (**Table 3-3**).

3.3.2.2 MW14-05 / MW15-200

The RPD values for total suspended solids (25.74%), acidity (45.16%), and dissolved aluminium (126.93%) were reported outside the acceptable range of variability between MW14-05 and MW15-200. Field notes and measurements do not identify any potential sources of contamination or suggest variability in groundwater quality during the purging process (**Table 3-1**). All other duplicate and duplicate pair analytical results show that RPD values for samples MW14-05 and MW15-200 were within the 20% RPD threshold limit (**Table 3-3**).

3.3.2.3 P09-SIS2 / MW15-300

The RPD values for all corresponding pairs of results between P09-SIS2 and MW15-300 were within the 20% QA/QC threshold, indicating that sampling variation was within acceptable limits.

3.3.2.4 PW14-01 / MW15-400

The RPD value for total suspended solids (31.88%) was reported outside the acceptable range of variability between PW14-01 and MW15-400. Field notes/measurements do not identify a potential source of contamination or suggest variability in groundwater quality during the purging process (**Table 3-1**). All other duplicate and duplicate pair analytical results show that RPD values for samples PW14-01 and MW15-400 were within the 20% RPD threshold limit (**Table 3-3**).

3.3.2.5 P96-06 / MW15-500

The RPD values for all corresponding pairs of results between P96-06 and MW15-500 were within the 20% QA/QC threshold, indicating that sampling variation was within acceptable limits.

3.3.2.6 PW14-06 / MW15-600

The RPD value for sulphate (38.07%) was reported outside the acceptable range of variability between PW14-06 and MW15-600. Field notes/measurements do not identify a potential source of contamination or suggest variability in groundwater quality during the purging process (**Table 3-1**). All other duplicate and duplicate pair analytical results show that RPD values for samples PW14-06 and MW15-600 were within the 20% RPD threshold limit (**Table 3-3**).

3.3.2.7 TH86-2 / MW15-700

The RPD values for all corresponding pairs of results between TH86-2 and MW15-700 were within the 20% QA/QC threshold, indicating that sampling variation was within acceptable limits.

3.3.2.8 P01-11 / MW15-800

The RPD values for all corresponding pairs of results between P01-11 and MW15-800 were within the 20% QA/QC threshold, indicating that sampling variation was within acceptable limits.

3.3.2.9 P09-C2 / MW15-900

The RPD values for all corresponding pairs of results between P09-C2 and MW15-900 were within the 20% QA/QC threshold, indicating that sampling variation was within acceptable limits.

3.3.2.10 SRK08-11A / MW15-1000

The RPD values for all corresponding pairs of results between SRK08-11A and MW15-1000 were within the 20% QA/QC threshold, indicating that sampling variation was within acceptable limits.

3.3.2.11 SRK05-07 / MW15-1100

The RPD values for acidity (49.41%) and dissolved cadmium (48.78%) were reported outside the acceptable range of variability between SRK05-07 and MW15-1100. Field notes/measurements do not identify a potential source of contamination or suggest variability in groundwater quality during the purging process (**Table 3-2**). All other duplicate and duplicate pair analytical results show that RPD values for samples SRK05-07 and MW15-1100 were within the 20% RPD threshold limit (**Table 3-3**).

3.3.3 Quality Assurance and Quality Control Summary

Results for the QA/QC analytical program shows minimal evidence of sample contamination or variability during the field collection process, and the possibility of trace metals contamination during the field transportation or laboratory process. Overall, amongst the six (6) field blanks, analytical results showed no detections related to contamination. The results from two (2) travel blanks showed detectable concentrations of iron (0.03 mg/L), total manganese (0.00027 mg/L), and total chromium (0.0001 mg/L), which suggest some type of minor contamination within the chain of custody, but not at levels that may

have significantly altered program results. The observed contamination was not detected during re-testing of the water used in the travel blank preparation (ruling out the water as a potential source), however the contamination is not considered systematic within the results.

Duplicate and duplicate pair analytical results demonstrated several isolated cases of variability in acidity, total suspended solids, sulphate, as well as dissolved aluminium and dissolved cadmium. Overall, amongst eleven (11) duplicate sample pairs, cases of RPD exceedences occurred in five (5), with only seven (7) individual occurrences across all pairs and parameters. The most notable variation observed was between MW14-05 and MW15-200, with differences between dissolved aluminium concentrations resulting in a 126.93% RPD. Based on a review of field notes for those sites associated with duplicate-sample variance, no conditions were noted that may be attributable to the observed variance (e.g. dust, highly turbid samples, etc.). Additionally, the variances observed appeared to be isolated, and did not constitute a systematic difference amongst various parameters. Accordingly, the observed RPD exceedences are not considered to be the result of a sampling bias or error, but rather the likely result of slight variations in groundwater concentration during sampling.

3.4 GROUNDWATER WELL DAMAGE & REPAIRS

3.4.1 SRK08-SBR1

SRK08-SBR1 was reported as damaged during the time of sampling. During previous events, groundwater well SRK08-SBR1 was plugged with bentonite (at 1.22 m from the surface) and recorded as “broken” (Hemmera, 2014a). During the September 2015 sampling event, further attempts were made to sample this well. On initial inspection, depth to bottom (35.067 m) and depth to water (6.723 m) measurements were obtained (**Table 3-1**). Waterra tubing was then installed and attempts were made to purge the well using a hydrolift. Following the start of the purging process, the footvalve became severely plugged with sediment before any water could be removed from the well. The tubing was then removed in order to replace the plugged footvalve, and when attempts were made to continue the purging process, it was observed that the well had become plugged with bentonite (at 1.275 m from the surface). The well was recorded as “damaged” and samples were not obtained from well SRK08-SBR1 during the September 2015 program.

3.4.2 SRK08-SBR2

Attempts were made during the September 2015 sampling program to repair groundwater well SRK08-SBR2. During the September 2014 sampling program, stickup of well SRK08-SBR2 was measured on an angle (~45°) and reported as “damaged” (Hemmera, 2014a). It was suspected that the well had been damaged below the surface and that the PVC required replacement in order to straighten the well casing. During the September 2015 sampling event, the well was excavated to a depth of 1.2 meters in order to investigate the suspected damage. The point of damage was not found and the angle of the well casing

was consistent throughout the observed depth. Although the well casing was not replaced, a steel monument was installed to protect the well against future damage. Samples were collected from this location prior to restorative work and the work completed did not impact the ability to sample the well in the future.

3.4.3 SRK08-P9

Repairs were recommended for well SRK08-P9 during the spring 2015 sampling event (Hemmera, 2015). A new PVC coupler and j-plug were installed at this location to increase stability and performance of the well. Samples were collected from this location prior to any restorative work.

3.4.4 P09-VC2

Repairs were recommended for well P09-VC2 during the spring 2015 sampling event (Hemmera, 2015). After inspection, it was determined that minor repairs were required. The PVC was loose from the top coupler and the well cap had a tight fit. The PVC coupler was tightened and the well cap was replaced with a j-plug. Samples were collected from this location prior to any restorative work.

3.4.5 SRK05-SP-4A

Repairs were recommended for well SRK05-SP-4A during the spring 2015 sampling event (Hemmera, 2015). The top PVC coupler was damaged at the time of sampling. The top portion of the well casing and coupler was replaced during the 2015 September site visit. Depth to bottom (22.447 m) and depth to water (4.544 m) were measured following the repairs. Groundwater well measurements listed in **Table 3-1** reflect monitoring conditions prior to restorative work. Samples were collected from this location prior to restorative work.

3.4.6 SRK05-SP-5

Repairs were recommended for well SRK05-SP-5 during the spring 2015 sampling event (Hemmera, 2015). After inspection, it was determined that repairs were not required at this location. Although the well casing was slightly loose, the four inch PVC surrounding the well was securely cemented in place and considered a sufficient protective casing. No repairs were completed at this location.

3.4.7 MW14-04D

Repairs were recommended for well MW14-04D during the spring 2015 sampling event (Hemmera, 2015). Attempts were made to retrieve a disposable bailer that had fallen into this well causing a blockage. Rare earth magnets were lowered into the well with the intention of extracting the weighted bailer. Attempts to remove the bailer were unsuccessful. Depth-to-bottom (70.32 m) measured during the September 2015 sampling event were inconsistent with measurements recorded during the fall 2014 event (75.2 m), suggesting a blockage is responsible for the variance, and it was not possible to source a down-well camera to investigate the bailers or other potential blockage. No samples were collected from this location during the September 2015 sampling program.

4.0 RECOMMENDATIONS

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

1. Damaged or degraded wells should be repaired, if possible.

SRK08-SBR1 was reported as damaged during the time of sampling. During previous events, groundwater well SRK08-SBR1 was plugged with bentonite (1.22 m; depth-to-blockage) and recorded as “broken” (Hemmera, 2014a). During the September 2015 sampling event, further attempts were made to sample this well (**Section 3.4**). Samples were not collected from this location during the September 2015 sampling event and the well was again recorded as “damaged”. Attempts could be made to push through the bentonite plug and re-develop the well. Hemmera/ELR also recommend excavating the well to 1.2 m depth (the depth of the blockage) to identify whether there may be a crack or opening that is allowing bentonite to enter the well.

MW14-04D was reported as blocked during the September 2015 sampling event. Attempts were made to retrieve a disposable bailer that had fallen into this well causing a blockage (**Section 3.4**). No samples were collected from this location during the September 2015 sampling program. Attempts should be made to clear this well again, including the use of a down-well camera.

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.

Report prepared by:

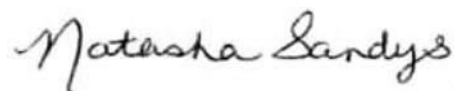
ELR



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6.0 REFERENCES

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TABLES

Table 3-3: Quality Assurance and Quality Control Analytical Results for 2015 September Groundwater Sampling Program

Parameter	Units	Site Location																																			
		P01-11						P09-C2						MW14-05						PW14-01						PW14-06						P96-6					
		Sample ID	Field Blank-400	MW15-800	P01-11	RPD (%) ¹²	Field Blank-500	P09-C2	MW15-900	RPD (%) ¹²	MW15-200	MW14-05	RPD (%) ¹²	Field Blank-200	MW15-400	PW14-01	RPD (%) ¹²	MW15-600	PW14-06	RPD (%) ¹²	Field Blank-300	MW15-500	P96-6	RPD (%) ¹²													
		Date Sampled	13/09/2015	13/09/2015	13/09/2015		14/09/2015	14/09/2015	14/09/2015		10/09/2015	10/09/2015		11/09/2015	11/09/2015	11/09/2015		12/09/2015	12/09/2015		12/09/2015	12/09/2015	12/09/2015		12/09/2015	12/09/2015	12/09/2015										
ALS Work Number	L1674376	L1674376	L1674376	L1674376	L1674376		L1674376	L1674376	L1674376		L1674376	L1674376		L1674376	L1674376	L1674376		L1674376	L1674376		L1674376	L1674376	L1674376		L1674376	L1674376	L1674376										
Station Status	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good															
CCME-FAL ^{1,2,3,4}																																					
Total Metals																																					
Aluminum (Al)	mg/L	Varies ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
<i>Aluminum CCME Guideline</i>	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Antimony (Sb)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Arsenic (As)	mg/L	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Barium (Ba)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Beryllium (Be)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Bismuth (Bi)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Boron (B)	mg/L	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Cadmium (Cd)	mg/L	Varies ⁸	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
<i>Cadmium CCME Guideline</i>	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Calcium (Ca)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Chromium (Cr)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Cobalt (Co)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Copper (Cu)	mg/L	Varies ⁹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
<i>Copper CCME Guideline</i>	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Iron (Fe)	mg/L	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Lead (Pb)	mg/L	Varies ¹⁰	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
<i>Lead CCME Guideline</i>	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Lithium (Li)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Magnesium (Mg)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Manganese (Mn)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Molybdenum (Mo)	mg/L	0.073	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Nickel (Ni)	mg/L	Varies ¹¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
<i>Nickel CCME Guideline</i>	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Phosphorus (P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Potassium (K)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Selenium (Se)	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Silicon (Si)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Silver (Ag)	mg/L	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Sodium (Na)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Strontium (Sr)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Thallium (Tl)	mg/L	0.0008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Tin (Sn)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Titanium (Ti)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Uranium (U)	mg/L	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Vanadium (V)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Zinc (Zn)	mg/L	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														
Zirconium (Zr)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-														

Table 3-3: Quality Assurance and Quality Control Analytical Results for 2015 September Groundwater Sampling Program

Parameter	Units	Site Location	SRK08-11A		P09-SIS2		SRK05-SP-2			TH86-2		SRK05-07			TRAVEL_BLANK	TRAVEL_BLANK		
		Sample ID	MW15-1000	SRK08-11A	MW15-300	P09-SIS2	Field Blank-100	MW15-100	SRK05-SP-2	MW15-700	TH86-2	Field Blank-600	MW15-1100	SRK05-07	14/09/2015	16/09/2015		
		Date Sampled	14/09/2015	14/09/2015	11/09/2015	11/09/2015	10/09/2015	10/09/2015	10/09/2015	13/09/2015	13/09/2015	15/09/2015	15/09/2015	15/09/2015	14/09/2015	16/09/2015		
		ALS Work Number	L1674376	L1674376	L1674376	L1674376	L1674376	L1674376	L1674376	L1674376	L1674376	L1674376	L1674773	L1674773	L1674773	L1674376	L1674773	
		Station Status	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good				
		CCME-FAL ^{1,2,3,4}	RPD (%) ¹²		RPD (%) ¹²		RPD (%) ¹²			RPD (%) ¹²		RPD (%) ¹²						
Total Metals																		
Aluminum (Al)	mg/L	Varies ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0030	<0.0030
Aluminum CCME Guideline	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00010	<0.00010
Bismuth (Bi)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000050	<0.000050
Boron (B)	mg/L	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	<0.010
Cadmium (Cd)	mg/L	Varies ⁸	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000050	<0.000050
Cadmium CCME Guideline	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 ⁹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00050	<0.00050
Copper CCME Guideline	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron (Fe)	mg/L	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.030	<0.010
Lead (Pb)	mg/L	Varies ¹⁰	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000050	<0.000050
Lead CCME Guideline	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithium (Li)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0010	<0.0010
Magnesium (Mg)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0050	<0.0050
Manganese (Mn)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00027	<0.00010
Molybdenum (Mo)	mg/L	0.073	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000050	<0.000050
Nickel (Ni)	mg/L	Varies ¹¹	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00050	<0.00050
Nickel CCME Guideline	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus (P)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050
Potassium (K)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.050	<0.050
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 (Tl)	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) 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.
- (8) 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;
 $CWQG (\mu\text{g/L}) = 10\{0.83(\log[\text{hardness}]) - 2.46\}$
0.00 if H>280
- (9) 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;
 $CWQG (\mu\text{g/L}) = 0.2 * e\{0.8545[\ln(\text{hardness})]-1.465\}$
0.004 if H>180
- (10) 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;
 $CWQG (\mu\text{g/L}) = e\{1.273[\ln(\text{hardness})]-4.705\}$
0.007 if H>180
- (11) Nickel varies with Hardness in mg/L as follows for CCME FAL:
0.025 if H<60
0.025 - 0.15 if H>=60 and H<=180 as follows;
 $CWQG (\mu\text{g/L}) = e\{0.76[\ln(\text{hardness})]+1.06\}$
0.15 if H>180
- (12) 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.
- and underlined indicates values above RD L in Field Blank or Travel Blank
 and Italic Indicates QAQC values exceed expected results (i.e. RDP values exceed 20%).

APPENDIX A
Site Photos



Photo 1: View of well P01-11. Photo taken on September 13th, 2015.



Photo 2: View of wells P03-09-6 and P03-09-9. Photo taken on September 13th, 2015.



Photo 3: View of well P05-01. Photo taken on September 13th, 2015.



Photo 4: View of well P09-C2. Photo taken on September 14th, 2015.



Photo 5: View of well P09-C3. Photo taken on September 14th, 2015.



Photo 6: View of wells P01-01A and P01-01B. Photo taken on September 13th, 2015.



Photo 7: View of wells P09-ETA-1 and P09-ETA-2. Photo taken on September 14th, 2015.



Photo 8: View of wells P96-8A and P96-8B. Photo taken on September 14th, 2015.



Photo 9: View of well SRK04-3A. Photo taken on September 14th, 2015.



Photo 10: View of well SRK05-ETA-BR1. Photo taken on September 14th, 2015.



Photo 11: View of well SRK05-ETA-BR2. Photo taken on September 14th, 2015.



Photo 12: View of wells MW14-02S and MW14-02D. Photo taken on September 10th, 2015.



Photo 13: View of well MW14-03. Photo taken on September 10th, 2015.



Photo 14: View of wells MW14-04S and MW14-04D. Photo taken on September 12th, 2015.

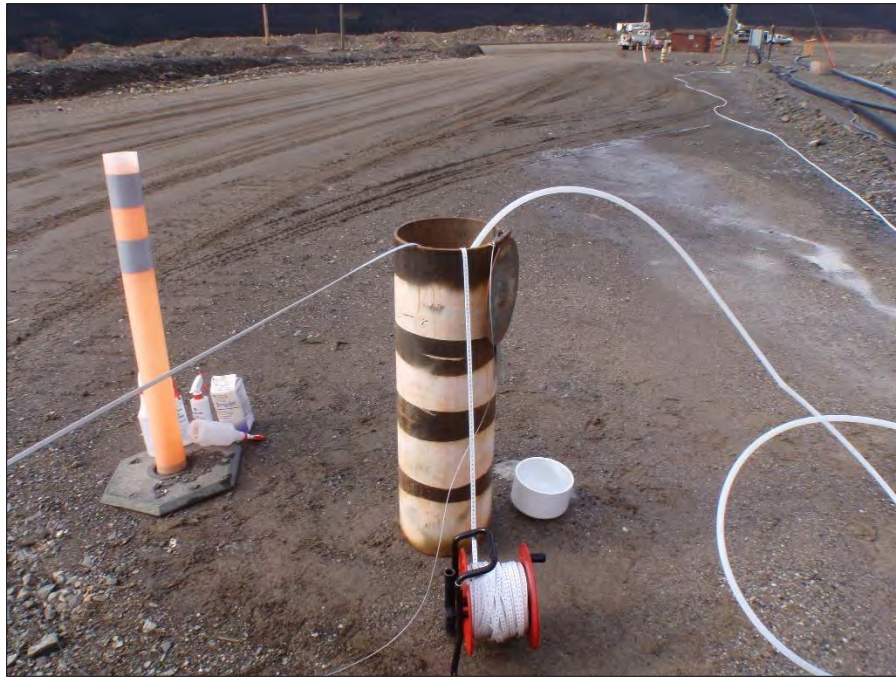


Photo 15: View of well MW14-05. Photo taken on September 10th, 2015.



Photo 16: View of well PW14-01. Photo taken on September 11th, 2015.



Photo 17: View of well PW14-06. Photo taken on September 12th, 2015.



Photo 18: View of well PW14-07. Photo taken on September 12th, 2015.



Photo 19: View of well P01-03. Photo taken on September 13th, 2015.



Photo 20: View of wells P01-04A and P01-04B. Photo taken on September 13th, 2015.



Photo 21: View of well X24-96D. Photo taken on September 13th, 2015.



Photo 22: View of wells X25-96A and X25-96B. Photo taken on September 13th, 2015.



Photo 23: View of well P96-6. Photo taken on September 12th, 2015.



Photo 24: View of well SRK08-P9. Photo taken on September 14th, 2015.



Photo 25: View of well SRK08-10A. Photo taken on September 14th, 2015.



Photo 26: View of well SRK08-11A. Photo taken on September 14th, 2015.



Photo 27: View of well SRK08-11B. Photo taken on September 14th, 2015.



Photo 28: View of wells MW14-12D and MW14-12S. Photo taken on September 12th, 2015.



Photo 29: View of well MW14-13. Photo taken on September 12th, 2015.



Photo 30: Views of Well MW14-14. Photo taken September 12th, 2015.



Photo 31: View of well MW14-15. Photo taken on September 12th, 2015.



Photo 32: View of well MW14-16. Photo taken on September 12th, 2015.



Photo 33: View of well BH13B. Photo taken on September 14th, 2015.

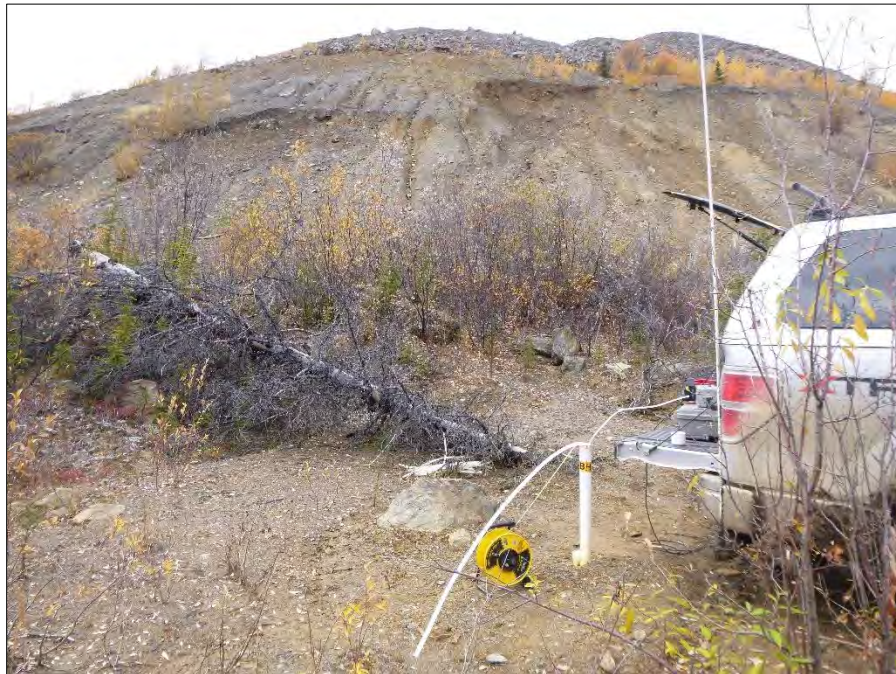


Photo 34: View of wells BH14A and BH14B. Photo taken on September 14th, 2015.



Photo 35: View of wells P03-01-2 and P03-01-8. Photo taken on September 16th, 2015.



Photo 36: View of well P03-03. Photo taken on September 15th, 2015.



Photo 37: View of well P03-05-4. Photo taken on September 15th, 2015.



Photo 38: View of well P03-06. Photo taken on September 15th, 2015.



Photo 39: View of well P09-SIS1. Photo taken on September 11th, 2015.



Photo 40: View of well P09-SIS2. Photo taken on September 11th, 2015.



Photo 41: View of well P09-SIS3. Photo taken on September 11th, 2015.



Photo 42: View of well P09-SIS4. Photo taken on September 11th, 2015.



Photo 43: View of well P09-SIS5. Photo taken on September 10th, 2015.



Photo 44: View of well P96-7. Photo taken on September 11th, 2015.

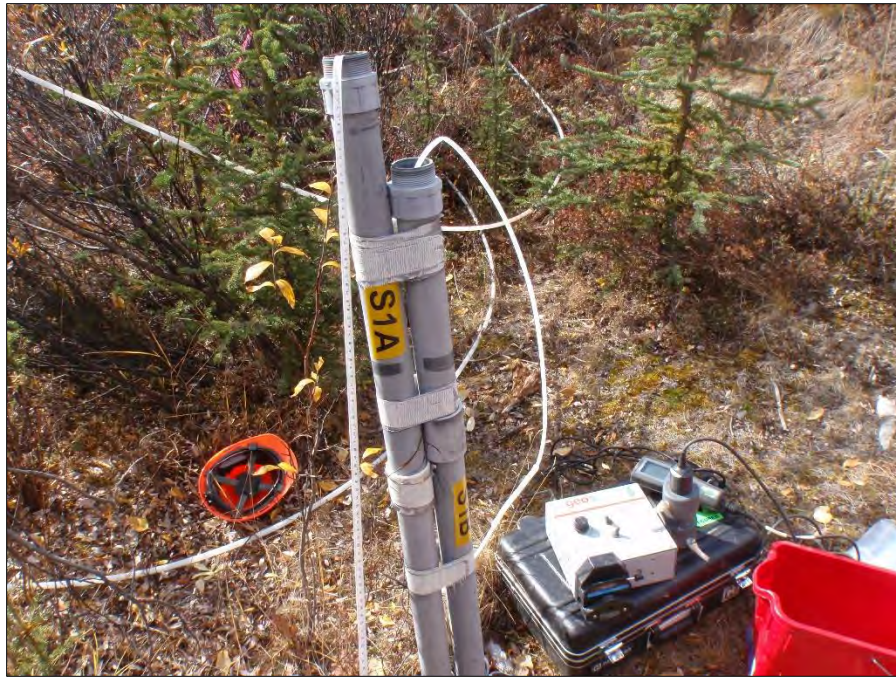


Photo 45: View of well S1A and S1B. Photo taken on September 11th, 2015.



Photo 46: View of wells S2A and S2B. Photo taken on September 11th, 2015.



Photo 47: View of wells SRK05-SP-1A and SRK05-SP-1B. Photo taken on September 10th, 2015.



Photo 48: View of wells SRK05-SP-3A and SRK05-SP-3B. Photo taken on September 10th, 2015.

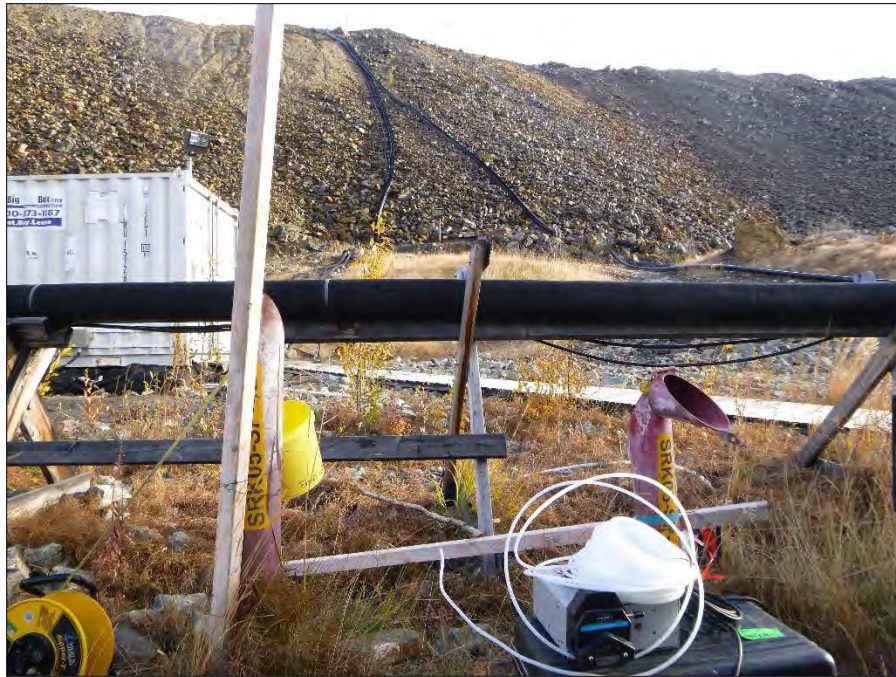


Photo 49: View of well SRK05-SP-4A and SRK05-SP-4B. Photo taken on September 11th, 2015.



Photo 50: View of well SRK05-SP-5. Photo taken on September 11th, 2015.



Photo 51: View of well SRK05-SP-6. Photo taken on September 11th, 2015.

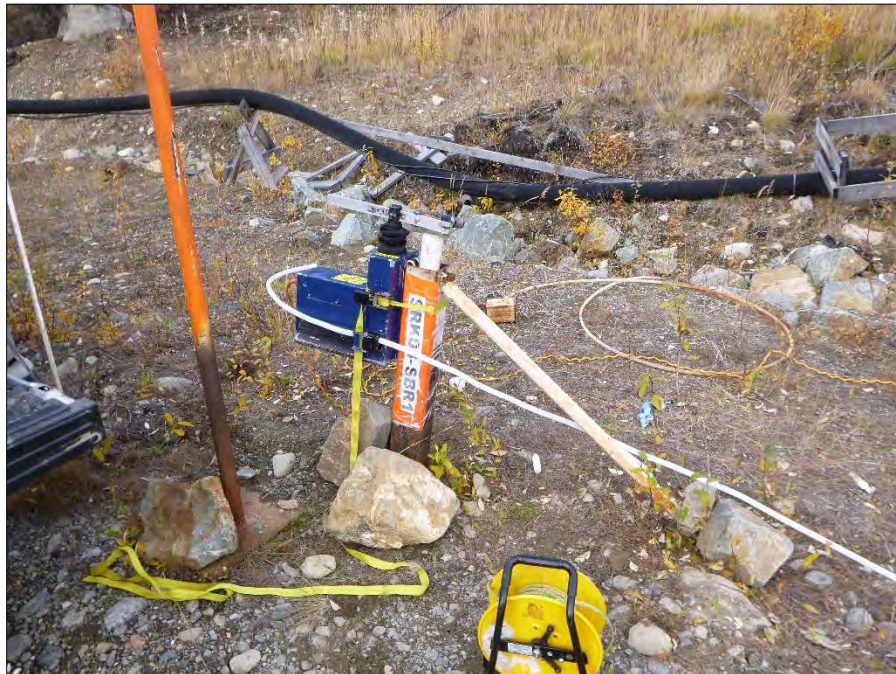


Photo 52: View of well SRK08-SBR1. Photo taken on September 11th, 2015.



Photo 53: View of well SRK08-SBR2. Photo taken on September 12th, 2015.



Photo 54: View of well SRK08-SBR3. Photo taken on September 11th, 2015.



Photo 55: View of well SRK08-SBR4. Photo taken on September 11th, 2015.

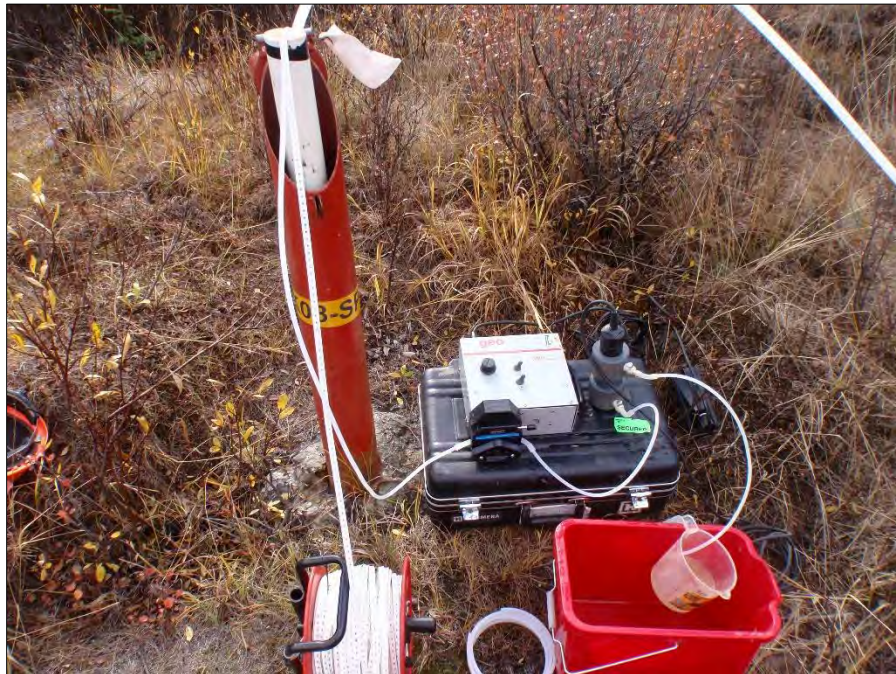


Photo 56: View of well SRK08-SP-7A. Photo taken on September 11th, 2015.



Photo 57: View of well SRK08-SP-7B. Photo taken on September 11th, 2015.



Photo 58: View of well SRK08-SP-8A. Photo taken on September 11th, 2015.



Photo 59: View of well SRK08-SP-8B. Photo taken on September 11th, 2015.



Photo 60: View of well MW14-08. Photo taken on September 10th, 2015.



Photo 61: View of well MW14-09. Photo taken on September 10th, 2015.



Photo 62: View of well MW14-10. Photo taken on September 10th, 2015.



Photo 63: View of well MW14-11. Photo taken on September 10th, 2015.



Photo 64: View of well SRK05-SP-2. Photo taken on September 10th, 2015.



Photo 65: View of well TH86-2. Photo taken on September 13th, 2015.



Photo 66: View of well TH86-5. Photo taken on September 13th, 2015.



Photo 67: View of well BH05-9B-R. Photo taken on September 15th, 2015.



Photo 68: View of well P09-GS1A. Photo taken on September 15th, 2015.



Photo 69: View of well P09-GS1B. Photo taken on September 15th, 2015.



Photo 70: View of well P09-LCD4. Photo taken on September 14th, 2015.



Photo 71: View of well P09-LCD1. Photo taken on September 14th, 2015.



Photo 72: View of well P09-LCD6. Photo taken on September 14th, 2015.



Photo 73: View of well P09-VC1. Photo taken on September 16th, 2015.



Photo 74: View of well P09-VC2. Photo taken on September 16th, 2015.

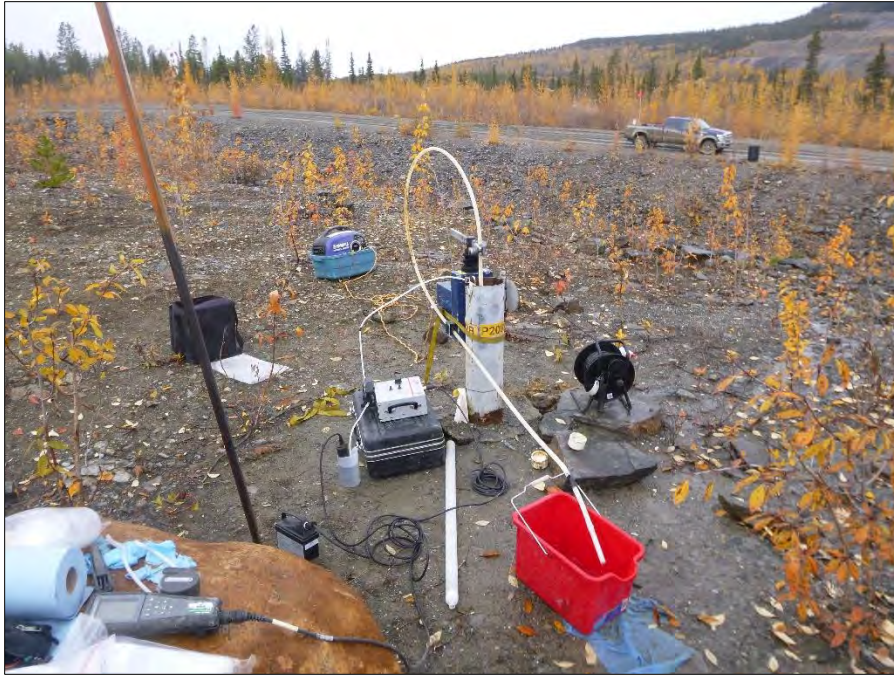


Photo 75: View of wells P2001-02A and P2001-02B. Photo taken on September 16th, 2015.



Photo 76: View of well P2001-3. Photo taken on September 15th, 2015.



Photo 77: View of well P96-9A. Photo taken on September 15th, 2015.



Photo 78: View of well SRK05-07. Photo taken on September 15th, 2015.



Photo 79: View of well SRK05-08. Photo taken on September 15th, 2015.



Photo 80: View of well SRK05-5C. Photo taken on September 15th, 2015.



Photo 81: View of well SRK05-09. Photo taken on September 15th, 2015.



Photo 82: View of well SRK08-P14. Photo taken on September 15th, 2015.



Photo 83: View of well SRK08-P15. Photo taken on September 16th, 2015.



Photo 84: View of well SRK08-P16. Photo taken on September 15th, 2015.



Photo 85: View of well V34. Photo taken on September 15th, 2015.



Photo 86: View of well V35. Photo taken on September 15th, 2015.



Photo 87: View of well V36. Photo taken on September 15th, 2015.



Photo 88: View of well V37. Photo taken on September 15th, 2015.



Photo 89: View of wells BH10A and BH10B. Photo taken on September 13th, 2015.



Photo 90: View of well BH5. Photo taken on September 12th, 2015.



Photo 91: View of well BH6. Photo taken on September 15th, 2015.



Photo 92: View of well BH8. Photo taken on September 12th, 2015.



Photo 93: View of well P05-04. Photo taken on September 12th, 2015.



Photo 94: View of well SRK08-P12A. Photo taken on September 12th, 2015.



Photo 95: View of well SRK08-P12B. Photo taken on September 12th, 2015.



Photo 96: View of well P03-01-8. Photo taken on September 12th, 2015.



Photo 97: View of well P09-LCD6. Photo taken on September 15th, 2015.



Photo 98: View of well P05-02. Photo taken on September 13th, 2015.



Photo 99: View of well SRK08-SBR2. Photo taken following well repairs on September 14th, 2015.

APPENDIX B
Laboratory Analytical Reports



HEMMERA ENVIROCHEM INC.
ATTN: Natasha Sandys
230 - 2237 2nd Avenue
Whitehorse YK Y1A 0K7

Date Received: 17-SEP-15
Report Date: 02-NOV-15 15:13 (MT)
Version: FINAL REV. 2

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1674376
Project P.O. #: NOT SUBMITTED
Job Reference: 1343-005.12
C of C Numbers: 1-1343-005.12
Legal Site Desc:

Comments:

2-NOV-2015 This report replaces the previous version and contains the addition of the calculation of Hardness to all samples.

Brent Mack, B.Sc.
Account Manager

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

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-1	L1674376-2	L1674376-3	L1674376-4	L1674376-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15
		Sampled Time	17:10	15:30	13:05	10:44	17:18
		Client ID	MW14-02D	MW14-02S	MW14-03	MW14-05	PO9-SIS5
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		514	146	1120	5090	4800
	Hardness (as CaCO3) (mg/L)		247	72.1	658	4360	3710
	pH (pH)		6.07	7.74	7.24	6.77	6.83
	Total Suspended Solids (mg/L)		135	2.4	7.4	22.8	59.1
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		314	<1.0	50.4	171	106
	Alkalinity, Total (as CaCO3) (mg/L)		210	69.1	447	607	370
	Chloride (Cl) (mg/L)		4.16	<0.50	11.1	16	<10 ^{DLA}
	Sulfate (SO4) (mg/L)		64.9	10.1	226	3480	3650
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-6 Water 10-SEP-15 16:52 SRK05-SP-3A	L1674376-7 Water 10-SEP-15 16:14 SRK05-SP-3B	L1674376-8 Water 10-SEP-15 15:38 SRK05-SP-1A	L1674376-9 Water 10-SEP-15 15:00 SRK05-SP-1B	L1674376-10 Water 10-SEP-15 13:35 MW14-10
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	1240	1470	1620	1170	1020
	Hardness (as CaCO3) (mg/L)	669	851	967	693	297
	pH (pH)	6.26	6.07	5.98	6.55	7.87
	Total Suspended Solids (mg/L)	13.6	1.0	11.2	7.6	23.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	281	379	430	182	10.4
	Alkalinity, Total (as CaCO3) (mg/L)	305	274	214	384	354
	Chloride (Cl) (mg/L)	1.6	1.4	3.3	<1.0 ^{DLA}	<1.0 ^{DLA}
	Sulfate (SO4) (mg/L)	436	613	804	344	235
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-11	L1674376-12	L1674376-13	L1674376-14	L1674376-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15
		Sampled Time	11:20	10:20	11:54	12:42	11:20
		Client ID	SRK05-SP-2	MW14-11	MW14-08	MW14-09	MW15-100
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		1020	631	1190	905	1030
	Hardness (as CaCO3) (mg/L)		576	364	617	480	562
	pH (pH)		6.51	7.39	7.13	6.71	6.72
	Total Suspended Solids (mg/L)		<1.0	44.0	365	23.4	<1.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		84.9	30.0	100	100	54.2
	Alkalinity, Total (as CaCO3) (mg/L)		161	368	744	299	160
	Chloride (Cl) (mg/L)		<1.0 ^{DLA}	<0.50	2.3	<0.50	<1.0 ^{DLA}
	Sulfate (SO4) (mg/L)		467	12.6	6.60	236	444
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-16 Water 10-SEP-15 10:44 MW15-200	L1674376-17 Water 10-SEP-15 11:20 FIELD BLANK-100	L1674376-18 Water 11-SEP-15 15:36 S1A	L1674376-19 Water 11-SEP-15 16:30 SRK08-SP7A	L1674376-20 Water 11-SEP-15 17:04 SRK08-SP7B
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	4900	<2.0	1940	1450	237
	Hardness (as CaCO3) (mg/L)	4340	<0.50	1170	851	111
	pH (pH)	7.02	5.52	6.11	6.40	7.00
	Total Suspended Solids (mg/L)	17.6	<1.0	13.6	24.8	2.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	108	<1.0	390	136	22.7
	Alkalinity, Total (as CaCO3) (mg/L)	605	<1.0	279	139	88.2
	Chloride (Cl) (mg/L)	16	<0.50	<2.5 ^{DLA}	<1.0 ^{DLA}	<0.50
	Sulfate (SO4) (mg/L)	3480	<0.30	965	741	37.4
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-21	L1674376-22	L1674376-23	L1674376-24	L1674376-25
		Water 11-SEP-15 11:06 P96-7	Water 11-SEP-15 09:16 PW14-01	Water 11-SEP-15 09:16 MW15-400	Water 11-SEP-15 09:16 FIELD BLANK-200	Water 11-SEP-15 13:36 SRK08-SBR4
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	2890	640	628	<2.0	8290
	Hardness (as CaCO3) (mg/L)	2160	314	316	<0.50	8300
	pH (pH)	7.75	6.16	6.16	5.39	6.46
	Total Suspended Solids (mg/L)	2.0	12.0	8.7	<1.0	5.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	16.3	327	309	1.1	760
	Alkalinity, Total (as CaCO3) (mg/L)	231	269	266	<1.0	114
	Chloride (Cl) (mg/L)	<5.0 ^{DLA}	<0.50	<0.50	<0.50	<10 ^{DLA}
	Sulfate (SO4) (mg/L)	1930	89.8	90.1	<0.30	8170
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-26	L1674376-27	L1674376-28	L1674376-29	L1674376-30
		Description	Water	Water	Water	Water	Water
		Sampled Date	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15
		Sampled Time	12:29	12:00	14:14	17:41	15:38
		Client ID	SRK08-SP8B	SRK08-SP8A	SRK08-SBR3	SRK05-SP-5	S2B
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		2130	2000	3150	7980	9920
	Hardness (as CaCO3) (mg/L)		1430	1320	2650	9630	9240
	pH (pH)		6.39	6.28	7.24	6.45	6.47
	Total Suspended Solids (mg/L)		81.3	13.3	117	8.4	28.7
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		262	352	93.1	970	840
	Alkalinity, Total (as CaCO3) (mg/L)		309	363	721	148	149
	Chloride (Cl) (mg/L)		<2.5 ^{DLA}	<2.5 ^{DLA}	<2.5 ^{DLA}	<10 ^{DLA}	<25 ^{DLA}
	Sulfate (SO4) (mg/L)		1230	1060	1870	9200	12000
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-31	L1674376-32	L1674376-33	L1674376-34	L1674376-35
		Description	Water	Water	Water	Water	Water
		Sampled Date	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15
		Sampled Time	14:45	10:13	13:30	12:40	10:36
		Client ID	S2A	SRK05-SP-4A	P09-SIS1	P09-SIS2	P09-SIS3
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		1570	1130	6140	10400	9690
	Hardness (as CaCO3) (mg/L)		1030	658	6940	10600	9490
	pH (pH)		6.28	6.46	6.83	6.22	6.63
	Total Suspended Solids (mg/L)		111	17.7	38.7	15.6	2.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		194	229	526	910	750
	Alkalinity, Total (as CaCO3) (mg/L)		282	278	287	91.7	105
	Chloride (Cl) (mg/L)		<2.5 ^{DLA}	1.2	<10 ^{DLA}	<25 ^{DLA}	<25 ^{DLA}
	Sulfate (SO4) (mg/L)		829	443	7350	12100	11400
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674376-36	L1674376-37	L1674376-38	L1674376-39	L1674376-40
					Water	Water	Water	Water	Water
		11-SEP-15	09:40	SRK05-SP-4B	11-SEP-15	11-SEP-15	11-SEP-15	12-SEP-15	12-SEP-15
					08:40	08:40	12:40	16:35	15:00
					P09-SIS4	P09-SIS4	MW15-300	BH5	MW14-14
Grouping	Analyte								
WATER									
Physical Tests	Conductivity (uS/cm)	8080	6610	10400	540	3010			
	Hardness (as CaCO3) (mg/L)	7650	6010	10500	236	2150			
	pH (pH)	6.16	6.60	6.20	6.01	6.92			
	Total Suspended Solids (mg/L)	12.2	10.6	2.0	15.0	278			
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	843	475	850	244	165			
	Alkalinity, Total (as CaCO3) (mg/L)	37.7	130	90.5	155	61.5			
	Chloride (Cl) (mg/L)	<10 ^{DLA}	<10 ^{DLA}	<25 ^{DLA}	<0.50	<5.0 ^{DLA}			
	Sulfate (SO4) (mg/L)	7770	6020	11400	130	2360			
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)								
	Cesium (Cs)-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)								
	Magnesium (Mg)-Total (mg/L)								
	Manganese (Mn)-Total (mg/L)								
	Molybdenum (Mo)-Total (mg/L)								
	Nickel (Ni)-Total (mg/L)								
	Phosphorus (P)-Total (mg/L)								
	Potassium (K)-Total (mg/L)								
	Rubidium (Rb)-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)									

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-41	L1674376-42	L1674376-43	L1674376-44	L1674376-45
		Water 12-SEP-15 09:00 P96-06	Water 12-SEP-15 09:00 MW15-500	Water 12-SEP-15 09:00 FIELD BLANK-300	Water 12-SEP-15 10:58 MW14-12D	Water 12-SEP-15 10:17 MW14-12S
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	1910	2120	<2.0	558	1150
	Hardness (as CaCO3) (mg/L)	1450	1460	<0.50	289	654
	pH (pH)	7.10	7.17	5.29	7.37	6.58
	Total Suspended Solids (mg/L)	3.4	1.6	<1.0	86.7	4.6
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	32.4	27.7	1.8	12.8	114
	Alkalinity, Total (as CaCO3) (mg/L)	281	286	<1.0	56.0	237
	Chloride (Cl) (mg/L)	<2.5 ^{DLA}	<2.5 ^{DLA}	<0.50	<0.50	<1.0 ^{DLA}
	Sulfate (SO4) (mg/L)	1140	1120	<0.30	246	471
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-46 Water 12-SEP-15 13:08 MW14-15	L1674376-47 Water 12-SEP-15 13:51 MW14-13	L1674376-48 Water 12-SEP-15 14:39 MW14-16	L1674376-49 Water 12-SEP-15 17:34 P05-04	L1674376-50 Water 12-SEP-15 17:10 BH6
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	2330	1470	933	454	467
	Hardness (as CaCO3) (mg/L)	1970	1000	570	229	234
	pH (pH)	7.40	5.98	7.40	6.71	7.14
	Total Suspended Solids (mg/L)	137	2.8	3.2	<1.0	1.6
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	52.1	349	66.8	33.9	46.1
	Alkalinity, Total (as CaCO3) (mg/L)	55.9	346	213	148	110
	Chloride (Cl) (mg/L)	<5.0 ^{DLA}	<2.5 ^{DLA}	<1.0 ^{DLA}	<0.50	<0.50
	Sulfate (SO4) (mg/L)	1800	679	377	94.9	145
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-51	L1674376-52	L1674376-53	L1674376-54	L1674376-55
		Water 12-SEP-15 16:31 BH10B	Water 12-SEP-15 16:02 BH10A	Water 12-SEP-15 14:54 SRK08-P12A	Water 12-SEP-15 15:20 SRK08-P12B	Water 12-SEP-15 13:58 MW14-04S
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	357	299	1320	882	4820
	Hardness (as CaCO3) (mg/L)	198	159	712	483	4120
	pH (pH)	6.70	7.60	6.01	6.16	6.97
	Total Suspended Solids (mg/L)	36.4	8.0	17.4	7.0	394
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	19.2	15.2	397	579	76.8
	Alkalinity, Total (as CaCO3) (mg/L)	141	130	641	439	1010
	Chloride (Cl) (mg/L)	<0.50	<0.50	<1.0 ^{DLA}	<1.0 ^{DLA}	11
	Sulfate (SO4) (mg/L)	66.5	36.9	171	124	3320
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-56 Water 12-SEP-15 11:53 PW14-07	L1674376-57 Water 12-SEP-15 09:54 PW14-06	L1674376-58 Water 12-SEP-15 09:54 MW15-600	L1674376-59 Water 12-SEP-15 08:10 S1B	L1674376-60 Water 13-SEP-15 16:58 X25-96A
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	936	14200	14300	841	1820
	Hardness (as CaCO3) (mg/L)	472	14500	14000	439	1120
	pH (pH)	5.99	4.62	4.62	7.16	7.50
	Total Suspended Solids (mg/L)	6.4	16.0	14.0	12.2	22.4
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	249	4060	4120	25.1	19.4
	Alkalinity, Total (as CaCO3) (mg/L)	259	<1.0 ^{DLA}	<1.0 ^{DLA}	319	314 ^{DLA}
	Chloride (Cl) (mg/L)	<1.0 ^{DLA}	<25 ^{DLA}	<25 ^{DLA}	<0.50	<2.5 ^{DLA}
	Sulfate (SO4) (mg/L)	272	13400	19700	163	910
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-61	L1674376-62	L1674376-63	L1674376-64	L1674376-65
		Water 13-SEP-15 17:24 X25-96B	Water 13-SEP-15 16:22 P01-03	Water 13-SEP-15 15:43 P05-01-05	Water 13-SEP-15 15:21 P05-01-04	Water 13-SEP-15 14:49 P05-01-03
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	1520	3630	3130	3370	3370
	Hardness (as CaCO3) (mg/L)	1030	2090	2110	2370	2400
	pH (pH)	8.14	5.89	6.74	6.63	6.73
	Total Suspended Solids (mg/L)	9.0	135	26.4	59.6	24.4
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	6.0	659	52.9	76.1	92.8
	Alkalinity, Total (as CaCO3) (mg/L)	311	186	408	444	442
	Chloride (Cl) (mg/L)	<2.5 ^{DLA}	<10 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}
	Sulfate (SO4) (mg/L)	844	2760	1950	2200	2100
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-66 Water 13-SEP-15 14:25 P05-01-02	L1674376-67 Water 13-SEP-15 13:09 P03-09-9	L1674376-68 Water 13-SEP-15 11:48 P01-11	L1674376-69 Water 13-SEP-15 11:48 MW15-800	L1674376-70 Water 13-SEP-15 11:48 FIELD BLANK-400
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	3370	2060	3340	3350	<2.0
	Hardness (as CaCO3) (mg/L)	2320	1300	2340	2310	<0.50
	pH (pH)	6.87	7.53	6.81	6.84	5.65
	Total Suspended Solids (mg/L)	18.8	31.2	75.5	78.2	<1.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	69.2	13.8	137	134	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	434	362	450	450	<1.0
	Chloride (Cl) (mg/L)	<5.0 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}	<0.50
	Sulfate (SO4) (mg/L)	2280	1090	2060	2270	<0.30
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-71	L1674376-72	L1674376-73	L1674376-74	L1674376-75
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15
		Sampled Time	10:19	08:51	17:40	17:05	14:38
		Client ID	P03-01-8	SRK08-SBR2	P01-04A	P01-04B	P09-C3
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		25500	3520	1240	1990	1190
	Hardness (as CaCO3) (mg/L)		5390	2400	594	1860	763
	pH (pH)		3.12	6.58	7.18	7.20	7.26
	Total Suspended Solids (mg/L)		1270	351	1.0	24.8	6.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		67800	272	47.1	28.4	22.7
	Alkalinity, Total (as CaCO3) (mg/L)		<1.0	272	737	401	615
	Chloride (Cl) (mg/L)		<25 ^{DLA}	<10 ^{DLA}	9.7	<5.0 ^{DLA}	4.9
	Sulfate (SO4) (mg/L)		67600	2620	30.2	1570	314
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-76	L1674376-77	L1674376-78	L1674376-79	L1674376-80
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15
		Sampled Time	13:40	11:34	13:15	10:17	10:17
		Client ID	P01-01B	TH86-5	P01-01A	TH86-2	MW15-700
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		1450	863	2050	238	237
	Hardness (as CaCO3) (mg/L)		899	456	1400	121	120
	pH (pH)		7.84	7.09	7.58	7.63	7.66
	Total Suspended Solids (mg/L)		9.0	83.2	6.2	15.2	14.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		4.9	24.2	9.4	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)		327	504	347	113	111
	Chloride (Cl) (mg/L)		1.2	0.95	<2.5 ^{DLA}	<0.50	<0.50
	Sulfate (SO4) (mg/L)		615	24.5	1090	18.5	18.4
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-81	L1674376-82	L1674376-83	L1674376-84	L1674376-85
		Water 13-SEP-15 08:40 BH-08	Water 14-SEP-15 16:45 BH-14A	Water 14-SEP-15 17:15 BH14B	Water 14-SEP-15 16:02 BH13B	Water 14-SEP-15 11:45 P09-ETA-1
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	3580	3900	3500	978	369
	Hardness (as CaCO3) (mg/L)	1450	3200	2830	558	172
	pH (pH)	3.97	7.57	7.92	7.39	8.23
	Total Suspended Solids (mg/L)	52.7	9.8	3.8	2.2	125
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	1780	65.3	26.2	3.4	1.5
	Alkalinity, Total (as CaCO3) (mg/L)	<1.0	566 ^{DLA}	500	105	184
	Chloride (Cl) (mg/L)	<10 ^{DLA}	<10 ^{DLA}	7.0	<0.50	<0.50
	Sulfate (SO4) (mg/L)	2890	2120	2170	451	30.9
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-86 Water 14-SEP-15 12:15 P09-ETA-2	L1674376-87 Water 14-SEP-15 10:15 P05-02	L1674376-88 Water 14-SEP-15 09:30 P09-C2	L1674376-89 Water 14-SEP-15 09:30 MW15-900	L1674376-90 Water 14-SEP-15 09:30 FIELD BLANK-500
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	5060	3190	2440	2480	<2.0
	Hardness (as CaCO3) (mg/L)	4300	2350	936	934	<0.50
	pH (pH)	6.07	6.89	6.78	6.71	5.61
	Total Suspended Solids (mg/L)	49.3	11.3	65.2	68.7	<1.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	518	60.6	377	438	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	148	444	1610	1680	<1.0
	Chloride (Cl) (mg/L)	11	<5.0 ^{DLA}	20.7	20.6	<0.50
	Sulfate (SO4) (mg/L)	4830	2000	<3.0 ^{DLA}	<3.0 ^{DLA}	<0.30
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-91	L1674376-92	L1674376-93	L1674376-94	L1674376-95
		Description	Water	Water	Water	Water	Water
		Sampled Date	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15
		Sampled Time	08:25	17:00	15:59	14:43	14:24
		Client ID	X24-96D	SRK08-10A	SRK08-P9	P96-8B	P96-8A
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		3260	3450	1760	7270	3590
	Hardness (as CaCO3) (mg/L)		2290	2200	1230	6320	5730
	pH (pH)		6.18	7.07	8.07	5.29	3.70
	Total Suspended Solids (mg/L)		82.4	272	3.4	10.0	2.4
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		344	106	10.7	1930	1880
	Alkalinity, Total (as CaCO3) (mg/L)		244	650	278	8.4	<1.0
	Chloride (Cl) (mg/L)		<10 ^{DLA}	110	0.91	12	<10 ^{DLA}
	Sulfate (SO4) (mg/L)		2540	1630	885	9100	7810
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-96	L1674376-97	L1674376-98	L1674376-99	L1674376-100
		Description	Water	Water	Water	Water	Water
		Sampled Date	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15
		Sampled Time	12:08	11:14	10:29	08:45	09:18
		Client ID	SRK05-ETA-BR1	SRK05-ETA-BR2	SRK04-3A	SRK08-11B	SRK08-11A
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		6620	2410	7360	1570	911
	Hardness (as CaCO3) (mg/L)		4390	1620	6090	960	570
	pH (pH)		5.26	7.03	5.68	7.47	7.95
	Total Suspended Solids (mg/L)		42.0	50.7	59.3	6.2	3.8
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		3120	24.2	750	14.9	1.1
	Alkalinity, Total (as CaCO3) (mg/L)		50.6	137	69.0	157	181
	Chloride (Cl) (mg/L)		<10 ^{DLA}	8.2	<10 ^{DLA}	0.62	<1.0 ^{DLA}
	Sulfate (SO4) (mg/L)		7210	1390	7880	853	448
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-101 Water 14-SEP-15 09:18 MW15-1000	L1674376-102 Water 14-SEP-15 TRAVEL BLANK		
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (uS/cm)	1030	<2.0		
	Hardness (as CaCO3) (mg/L)	628	<0.50		
	pH (pH)	7.52	5.61		
	Total Suspended Solids (mg/L)	5.4	<1.0		
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	1.6	<1.0		
	Alkalinity, Total (as CaCO3) (mg/L)	181	1.0		
	Chloride (Cl) (mg/L)	<1.0 ^{DLA}	<0.50		
	Sulfate (SO4) (mg/L)	451	<0.30		
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)		<0.00010		
	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		
	Cesium (Cs)-Total (mg/L)		<0.000010		
	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)		0.030 ^{RRV}		
	Lead (Pb)-Total (mg/L)		<0.000050		
	Lithium (Li)-Total (mg/L)		<0.0010		
	Magnesium (Mg)-Total (mg/L)		<0.0050		
	Manganese (Mn)-Total (mg/L)		0.00027 ^{RRV}		
	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)		<0.050		
	Rubidium (Rb)-Total (mg/L)		<0.00020		
	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			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-1	L1674376-2	L1674376-3	L1674376-4	L1674376-5
		Water 10-SEP-15 17:10 MW14-02D	Water 10-SEP-15 15:30 MW14-02S	Water 10-SEP-15 13:05 MW14-03	Water 10-SEP-15 10:44 MW14-05	Water 10-SEP-15 17:18 PO9-SIS5
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0328	0.0067	0.0022	0.0698	0.0076
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Arsenic (As)-Dissolved (mg/L)	0.00139	0.00039	0.00063	0.00124	0.00078
	Barium (Ba)-Dissolved (mg/L)	0.0364	0.0398	0.100	0.0427	0.0191
	Beryllium (Be)-Dissolved (mg/L)	0.00064	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.00010 ^{DLA}	<0.00010 ^{DLA}
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	0.010	<0.020 ^{DLA}	<0.020 ^{DLA}
	Cadmium (Cd)-Dissolved (mg/L)	0.0000720	0.0000086	0.0000486	0.000029	0.000602
	Calcium (Ca)-Dissolved (mg/L)	66.9	21.8	188	374	485
	Cesium (Cs)-Dissolved (mg/L)	0.000031	0.000014	0.000027	0.00102	<0.000020 ^{DLA}
	Chromium (Cr)-Dissolved (mg/L)	0.00266	0.00166	0.00096	0.00179	0.00034
	Cobalt (Co)-Dissolved (mg/L)	0.00436	<0.00010	0.00030	0.00505	0.0145
	Copper (Cu)-Dissolved (mg/L)	0.00023	0.00081	0.00028	<0.00040 ^{DLA}	0.00105
	Iron (Fe)-Dissolved (mg/L)	12.3	0.069	0.049	13.7	44.4
	Lead (Pb)-Dissolved (mg/L)	0.000262	0.000104	<0.000050	0.00060	<0.00010 ^{DLA}
	Lithium (Li)-Dissolved (mg/L)	0.0378	0.0028	0.0539	0.0835	0.0663
	Magnesium (Mg)-Dissolved (mg/L)	19.5	4.31	45.7	833	606
	Manganese (Mn)-Dissolved (mg/L)	1.09	0.0188	0.382	1.98	13.2
	Molybdenum (Mo)-Dissolved (mg/L)	0.000616	0.000647	0.00124	0.00061	0.00076
	Nickel (Ni)-Dissolved (mg/L)	0.0164	0.00156	0.00371	0.0261	0.118
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.10 ^{DLA}	<0.10 ^{DLA}
	Potassium (K)-Dissolved (mg/L)	2.61	0.532	7.77	10.5	9.85
	Rubidium (Rb)-Dissolved (mg/L)	0.00834	0.00079	0.00167	0.0116	0.00146
	Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000233	0.000080	0.00010	0.00018
	Silicon (Si)-Dissolved (mg/L)	10.5	5.11	9.01	9.82	11.6
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	0.000037	<0.000020 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-6	L1674376-7	L1674376-8	L1674376-9	L1674376-10
		Description	Water	Water	Water	Water	Water
		Sampled Date	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15
		Sampled Time	16:52	16:14	15:38	15:00	13:35
		Client ID	SRK05-SP-3A	SRK05-SP-3B	SRK05-SP-1A	SRK05-SP-1B	MW14-10
Grouping	Analyte						
WATER							
Total Metals	Tellurium (Te)-Total (mg/L)						
	Thallium (Tl)-Total (mg/L)						
	Thorium (Th)-Total (mg/L)						
	Tin (Sn)-Total (mg/L)						
	Titanium (Ti)-Total (mg/L)						
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0361	0.0435	0.0815	0.0087	0.0025	
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	0.00017	
	Arsenic (As)-Dissolved (mg/L)	0.00352	0.00018	0.00419	0.0243	0.00031	
	Barium (Ba)-Dissolved (mg/L)	0.0255	0.0198	0.0160	0.0473	0.0383	
	Beryllium (Be)-Dissolved (mg/L)	0.00067	0.00065	0.00182	0.00015	<0.00010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	0.0000494	0.0000339	0.0000923	0.0000228	
	Calcium (Ca)-Dissolved (mg/L)	170	220	236	165	87.8	
	Cesium (Cs)-Dissolved (mg/L)	0.000058	0.000078	0.000175	0.000013	<0.000010	
	Chromium (Cr)-Dissolved (mg/L)	0.00030	<0.00010	0.00048	0.00019	0.00082	
	Cobalt (Co)-Dissolved (mg/L)	0.00411	0.00690	0.00776	0.00301	<0.00010	
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	0.00072	
	Iron (Fe)-Dissolved (mg/L)	21.1	17.1	50.3	14.6	<0.010	
	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000206	0.000062	<0.000050	<0.000050	
	Lithium (Li)-Dissolved (mg/L)	0.0610	0.0651	0.0857	0.0345	0.0262	
	Magnesium (Mg)-Dissolved (mg/L)	59.4	73.4	91.6	68.0	18.9	
	Manganese (Mn)-Dissolved (mg/L)	0.980	1.67	2.14	0.816	0.00113	
	Molybdenum (Mo)-Dissolved (mg/L)	0.000234	0.000144	0.000132	0.000617	0.000867	
	Nickel (Ni)-Dissolved (mg/L)	0.0139	0.0216	0.0256	0.00792	0.00091	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	0.181	<0.050	
	Potassium (K)-Dissolved (mg/L)	4.57	5.59	5.62	4.89	4.03	
	Rubidium (Rb)-Dissolved (mg/L)	0.00956	0.00975	0.0134	0.00193	0.00029	
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	0.000101	0.00218	
	Silicon (Si)-Dissolved (mg/L)	12.8	12.2	14.2	12.8	5.63	
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-11	L1674376-12	L1674376-13	L1674376-14	L1674376-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15
		Sampled Time	11:20	10:20	11:54	12:42	11:20
		Client ID	SRK05-SP-2	MW14-11	MW14-08	MW14-09	MW15-100
Grouping	Analyte						
WATER							
Total Metals	Tellurium (Te)-Total (mg/L)						
	Thallium (Tl)-Total (mg/L)						
	Thorium (Th)-Total (mg/L)						
	Tin (Sn)-Total (mg/L)						
	Titanium (Ti)-Total (mg/L)						
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0118	0.0064	0.0276	0.0164	0.0116	
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	0.00015	<0.00010	<0.00010	
	Arsenic (As)-Dissolved (mg/L)	<0.00010	0.00348	0.0614	0.00384	0.00010	
	Barium (Ba)-Dissolved (mg/L)	0.0624	0.219	0.617	0.0898	0.0627	
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.010	0.013	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	0.000382	0.0000099	0.0000141	0.0000231	0.000396	
	Calcium (Ca)-Dissolved (mg/L)	156	81.3	184	133	150	
	Cesium (Cs)-Dissolved (mg/L)	0.000013	<0.000010	0.000093	<0.000010	<0.000010	
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00023	0.00056	0.00013	<0.00010	
	Cobalt (Co)-Dissolved (mg/L)	0.0191	0.00077	0.00793	0.00469	0.0195	
	Copper (Cu)-Dissolved (mg/L)	0.00083	<0.00020	0.00022	0.00037	0.00085	
	Iron (Fe)-Dissolved (mg/L)	0.066	15.3	59.6	3.80	0.080	
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	0.000620	<0.000050	<0.000050	
	Lithium (Li)-Dissolved (mg/L)	0.0169	0.0136	0.0072	0.0180	0.0163	
	Magnesium (Mg)-Dissolved (mg/L)	44.9	39.2	38.4	35.8	45.2	
	Manganese (Mn)-Dissolved (mg/L)	4.34	0.995	7.09	2.73	4.41	
	Molybdenum (Mo)-Dissolved (mg/L)	0.000118	0.00134	0.00268	0.000781	0.000110	
	Nickel (Ni)-Dissolved (mg/L)	0.0140	0.00152	0.00305	0.00747	0.0142	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	0.246	0.133	<0.050	<0.050	
	Potassium (K)-Dissolved (mg/L)	2.49	2.93	4.25	3.18	2.53	
	Rubidium (Rb)-Dissolved (mg/L)	0.00554	0.00079	0.00987	0.00204	0.00544	
	Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000158	0.000686	0.000127	<0.000050	
	Silicon (Si)-Dissolved (mg/L)	8.27	7.59	12.8	8.45	8.22	
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-16 Water 10-SEP-15 10:44 MW15-200	L1674376-17 Water 10-SEP-15 11:20 FIELD BLANK-100	L1674376-18 Water 11-SEP-15 15:36 S1A	L1674376-19 Water 11-SEP-15 16:30 SRK08-SP7A	L1674376-20 Water 11-SEP-15 17:04 SRK08-SP7B
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0156	<0.0010	0.0254	0.0066	0.0284
	Antimony (Sb)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00122	<0.00010	<0.00050 ^{DLA}	0.00550	0.00390
	Barium (Ba)-Dissolved (mg/L)	0.0420	<0.000050	0.0162	0.0250	0.0605
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	0.00037	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.000050	<0.00025 ^{DLA}	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.010	<0.050 ^{DLA}	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000023	<0.0000050	0.00175	0.0000374	<0.0000050
	Calcium (Ca)-Dissolved (mg/L)	372	<0.050	226	226	13.5
	Cesium (Cs)-Dissolved (mg/L)	0.00100	<0.000010	0.000154	0.000275	<0.000010
	Chromium (Cr)-Dissolved (mg/L)	0.00173	<0.00010	<0.00050 ^{DLA}	<0.00010	0.00042
	Cobalt (Co)-Dissolved (mg/L)	0.00488	<0.00010	0.0201	0.00945	0.00089
	Copper (Cu)-Dissolved (mg/L)	<0.00040 ^{DLA}	<0.00020	<0.0010 ^{DLA}	<0.00020	0.00049
	Iron (Fe)-Dissolved (mg/L)	13.3	<0.010	21.2	25.7	2.88
	Lead (Pb)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.000050	<0.00025 ^{DLA}	0.000073	0.000103
	Lithium (Li)-Dissolved (mg/L)	0.0825	<0.0010	0.0587	0.0643	0.0192
	Magnesium (Mg)-Dissolved (mg/L)	828	<0.0050	146	69.9	18.9
	Manganese (Mn)-Dissolved (mg/L)	1.97	<0.00010	9.37	1.91	1.26
	Molybdenum (Mo)-Dissolved (mg/L)	0.00055	<0.000050	<0.00025 ^{DLA}	0.000108	0.000381
	Nickel (Ni)-Dissolved (mg/L)	0.0257	<0.00050	0.117	0.0242	0.00824
	Phosphorus (P)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.050	<0.25 ^{DLA}	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	10.5	<0.050	5.69	5.73	1.84
	Rubidium (Rb)-Dissolved (mg/L)	0.0114	<0.00020	0.0014	0.0103	0.00094
	Selenium (Se)-Dissolved (mg/L)	0.00015	<0.000050	<0.00025 ^{DLA}	<0.000050	0.000120
	Silicon (Si)-Dissolved (mg/L)	9.69	<0.050	14.2	14.0	8.47
	Silver (Ag)-Dissolved (mg/L)	0.000035	<0.000010	<0.000050 ^{DLA}	<0.000010	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674376-21	L1674376-22	L1674376-23	L1674376-24	L1674376-25
					Water	Water	Water	Water	Water
		11-SEP-15	11-SEP-15		11:06	09:16	09:16	09:16	13:36
					P96-7	PW14-01	MW15-400	FIELD BLANK-200	SRK08-SBR4
Grouping	Analyte								
WATER									
Total Metals	Tellurium (Te)-Total (mg/L)								
	Thallium (Tl)-Total (mg/L)								
	Thorium (Th)-Total (mg/L)								
	Tin (Sn)-Total (mg/L)								
	Titanium (Ti)-Total (mg/L)								
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD		FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0023	0.0354	0.0329	<0.0010	0.067			
	Antimony (Sb)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	<0.0050 ^{DLA}			
	Arsenic (As)-Dissolved (mg/L)	<0.00020 ^{DLA}	0.00138	0.00144	<0.00010	<0.0050 ^{DLA}			
	Barium (Ba)-Dissolved (mg/L)	0.0115	0.0929	0.0925	<0.000050	0.0145			
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	0.00033	0.00034	<0.00010	<0.0050 ^{DLA}			
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.000050	<0.000050	<0.000050	<0.0025 ^{DLA}			
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.010	<0.010	<0.010	<0.50 ^{DLA}			
	Cadmium (Cd)-Dissolved (mg/L)	0.000041	0.0000558	0.0000579	<0.000050	0.159			
	Calcium (Ca)-Dissolved (mg/L)	513	89.9	90.8	<0.050	439			
	Cesium (Cs)-Dissolved (mg/L)	0.000081	0.000204	0.000205	<0.000010	0.00232 ^{DLA}			
	Chromium (Cr)-Dissolved (mg/L)	0.00046	0.00068	0.00064	<0.00010	<0.0050 ^{DLA}			
	Cobalt (Co)-Dissolved (mg/L)	<0.00020 ^{DLA}	0.00800	0.00811	<0.00010	1.48			
	Copper (Cu)-Dissolved (mg/L)	<0.00040 ^{DLA}	0.00061	0.00062	<0.00020	0.012			
	Iron (Fe)-Dissolved (mg/L)	<0.020 ^{DLA}	23.8	24.1	<0.010	2.29			
	Lead (Pb)-Dissolved (mg/L)	<0.00010 ^{DLA}	0.000221	0.000066	<0.000050	<0.0025 ^{DLA}			
	Lithium (Li)-Dissolved (mg/L)	0.0320	0.0220	0.0221	<0.0010	0.250			
	Magnesium (Mg)-Dissolved (mg/L)	213	21.7	21.7	<0.0050	1750			
	Manganese (Mn)-Dissolved (mg/L)	0.00025	3.33	3.33	<0.00010	111			
	Molybdenum (Mo)-Dissolved (mg/L)	0.00096	0.000235	0.000240	<0.000050	<0.0025 ^{DLA}			
	Nickel (Ni)-Dissolved (mg/L)	0.0013	0.0113	0.0116	<0.00050	2.69			
	Phosphorus (P)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.050	<0.050	<0.050	<2.5 ^{DLA}			
	Potassium (K)-Dissolved (mg/L)	5.68	2.48	2.54	<0.050	17.3			
	Rubidium (Rb)-Dissolved (mg/L)	<0.00040 ^{DLA}	0.00886	0.00879	<0.00020	0.025			
	Selenium (Se)-Dissolved (mg/L)	0.00052	0.000091	0.000106	<0.000050	<0.0025 ^{DLA}			
	Silicon (Si)-Dissolved (mg/L)	6.48	11.3	11.2	<0.050	12.7			
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000010	<0.000010	<0.000010	<0.00050 ^{DLA}			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-26 Water 11-SEP-15 12:29 SRK08-SP8B	L1674376-27 Water 11-SEP-15 12:00 SRK08-SP8A	L1674376-28 Water 11-SEP-15 14:14 SRK08-SBR3	L1674376-29 Water 11-SEP-15 17:41 SRK05-SP-5	L1674376-30 Water 11-SEP-15 15:38 S2B
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0142	0.0042	0.0026	0.15	<0.10 ^{DLA}
	Antimony (Sb)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Arsenic (As)-Dissolved (mg/L)	0.00483	0.0111	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Barium (Ba)-Dissolved (mg/L)	0.0134	0.0125	0.0139	0.0206	0.0269
	Beryllium (Be)-Dissolved (mg/L)	0.00022	0.00048	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Boron (B)-Dissolved (mg/L)	<0.020	<0.020	<0.020	<1.0	<1.0
	Cadmium (Cd)-Dissolved (mg/L)	0.000044	<0.000010 ^{DLA}	<0.000010 ^{DLA}	0.423	0.187
	Calcium (Ca)-Dissolved (mg/L)	312	326	469	446	486
	Cesium (Cs)-Dissolved (mg/L)	0.000391	0.00167	0.00236	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Cobalt (Co)-Dissolved (mg/L)	0.00715	0.00494	0.00032	2.42	2.22
	Copper (Cu)-Dissolved (mg/L)	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}
	Iron (Fe)-Dissolved (mg/L)	26.5	27.1	<0.020	<1.0	13.2
	Lead (Pb)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Lithium (Li)-Dissolved (mg/L)	0.0832	0.121	0.0873	0.25	0.22
	Magnesium (Mg)-Dissolved (mg/L)	158	123	359	2070	1950
	Manganese (Mn)-Dissolved (mg/L)	6.02	2.16	0.00513	176	174
	Molybdenum (Mo)-Dissolved (mg/L)	0.00018	0.00015	<0.00010 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Nickel (Ni)-Dissolved (mg/L)	0.0163	0.0181	0.0282	3.94	3.41
	Phosphorus (P)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}
	Potassium (K)-Dissolved (mg/L)	5.23	5.42	7.92	18.3	16.3
	Rubidium (Rb)-Dissolved (mg/L)	0.00682	0.0105	0.0149	<0.020 ^{DLA}	<0.020 ^{DLA}
	Selenium (Se)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	0.00095	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Silicon (Si)-Dissolved (mg/L)	14.4	15.2	5.56	14.7	12.6
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-31 Water 11-SEP-15 14:45 S2A	L1674376-32 Water 11-SEP-15 10:13 SRK05-SP-4A	L1674376-33 Water 11-SEP-15 13:30 P09-SIS1	L1674376-34 Water 11-SEP-15 12:40 P09-SIS2	L1674376-35 Water 11-SEP-15 10:36 P09-SIS3
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0137	0.0212	0.086	0.85	0.18
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00020	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Arsenic (As)-Dissolved (mg/L)	0.00027	0.00021	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Barium (Ba)-Dissolved (mg/L)	0.0464	0.0106	0.0231	0.0233	0.0200
	Beryllium (Be)-Dissolved (mg/L)	0.00012	0.00080	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.50	<1.0	<1.0
	Cadmium (Cd)-Dissolved (mg/L)	0.00105	0.00149	0.0553	0.454	0.517
	Calcium (Ca)-Dissolved (mg/L)	253	149	479	459	441
	Cesium (Cs)-Dissolved (mg/L)	<0.000010	0.000421	<0.00050 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Cobalt (Co)-Dissolved (mg/L)	0.0233	0.0310	0.357	2.68	2.00
	Copper (Cu)-Dissolved (mg/L)	0.00059	0.00022	<0.010 ^{DLA}	<0.020 ^{DLA}	0.025 ^{DLA}
	Iron (Fe)-Dissolved (mg/L)	21.5	17.2	13.9	2.5	<1.0 ^{DLA}
	Lead (Pb)-Dissolved (mg/L)	0.00213	<0.000050	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Lithium (Li)-Dissolved (mg/L)	0.0693	0.0796	0.302	0.28	0.26
	Magnesium (Mg)-Dissolved (mg/L)	97.4	69.3	1390	2290	2040
	Manganese (Mn)-Dissolved (mg/L)	4.25	3.33	99.6	183	166
	Molybdenum (Mo)-Dissolved (mg/L)	0.000131	<0.000050	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Nickel (Ni)-Dissolved (mg/L)	0.0433	0.0847	1.33	4.11	4.15
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<2.5 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}
	Potassium (K)-Dissolved (mg/L)	6.06	5.28	14.3	19.1	19.2
	Rubidium (Rb)-Dissolved (mg/L)	0.00415	0.00888	<0.010 ^{DLA}	0.030	0.024
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Silicon (Si)-Dissolved (mg/L)	14.8	14.8	13.6	13.0	14.9
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.00050 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1674376-36 Water 11-SEP-15 09:40 SRK05-SP-4B	L1674376-37 Water 11-SEP-15 08:40 P09-SIS4	L1674376-38 Water 11-SEP-15 12:40 MW15-300	L1674376-39 Water 12-SEP-15 16:35 BH5	L1674376-40 Water 12-SEP-15 15:00 MW14-14
Grouping	Analyte				
WATER					
Total Metals	Tellurium (Te)-Total (mg/L)				
	Thallium (Tl)-Total (mg/L)				
	Thorium (Th)-Total (mg/L)				
	Tin (Sn)-Total (mg/L)				
	Titanium (Ti)-Total (mg/L)				
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.12	<0.050 ^{DLA}	0.84	0.0307
	Antimony (Sb)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.00010
	Arsenic (As)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.010 ^{DLA}	0.00028
	Barium (Ba)-Dissolved (mg/L)	0.0187	0.0151	0.0228	0.0307
	Beryllium (Be)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.010 ^{DLA}	0.00020
	Bismuth (Bi)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.000050
	Boron (B)-Dissolved (mg/L)	<1.0	<0.50	<1.0	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.106	0.0478	0.451	0.000760
	Calcium (Ca)-Dissolved (mg/L)	482	439	461	61.3
	Cesium (Cs)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}	0.00105
	Chromium (Cr)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.010 ^{DLA}	0.00014
	Cobalt (Co)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.0050 ^{DLA}	2.63	0.0127
	Copper (Cu)-Dissolved (mg/L)	0.024	0.014	<0.020 ^{DLA}	0.00037
	Iron (Fe)-Dissolved (mg/L)	1.7	<0.50 ^{DLA}	2.6	16.4
	Lead (Pb)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.0025 ^{DLA}	<0.0050 ^{DLA}	0.00129
	Lithium (Li)-Dissolved (mg/L)	0.22	0.175	0.28	0.0326
	Magnesium (Mg)-Dissolved (mg/L)	1560	1190	2260	20.0
	Manganese (Mn)-Dissolved (mg/L)	5.25	1.08	180	1.21
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	2.79	1.69	4.10	0.0185
	Phosphorus (P)-Dissolved (mg/L)	<5.0 ^{DLA}	<2.5 ^{DLA}	<5.0 ^{DLA}	<0.050
	Potassium (K)-Dissolved (mg/L)	16.3	14.0	19.0	2.84
	Rubidium (Rb)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.010 ^{DLA}	0.032	0.00725
	Selenium (Se)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.000050
	Silicon (Si)-Dissolved (mg/L)	16.9	15.8	13.5	9.73
	Silver (Ag)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-41	L1674376-42	L1674376-43	L1674376-44	L1674376-45
		Description	Water	Water	Water	Water	Water
		Sampled Date	12-SEP-15	12-SEP-15	12-SEP-15	12-SEP-15	12-SEP-15
		Sampled Time	09:00	09:00	09:00	10:58	10:17
		Client ID	P96-06	MW15-500	FIELD BLANK-300	MW14-12D	MW14-12S
Grouping	Analyte						
WATER							
Total Metals	Tellurium (Te)-Total (mg/L)						
	Thallium (Tl)-Total (mg/L)						
	Thorium (Th)-Total (mg/L)						
	Tin (Sn)-Total (mg/L)						
	Titanium (Ti)-Total (mg/L)						
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0025	0.0021	<0.0010	0.0210	0.0233	
	Antimony (Sb)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	
	Arsenic (As)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	0.00017	0.00020	
	Barium (Ba)-Dissolved (mg/L)	0.0216	0.0216	<0.000050	0.0535	0.152	
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050	<0.000050	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	0.000284	0.000283	<0.0000050	0.000771	0.00141	
	Calcium (Ca)-Dissolved (mg/L)	364	370	<0.050	67.6	183	
	Cesium (Cs)-Dissolved (mg/L)	0.000315	0.000320	<0.000010	<0.000010	0.000011	
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	0.00023	0.00018	
	Cobalt (Co)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	0.00015	
	Copper (Cu)-Dissolved (mg/L)	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00020	0.00130	0.00130	
	Iron (Fe)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.010	0.012	0.028	
	Lead (Pb)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050	<0.000050	0.000119	
	Lithium (Li)-Dissolved (mg/L)	0.0379	0.0385	<0.0010	0.0103	0.0112	
	Magnesium (Mg)-Dissolved (mg/L)	131	130	<0.0050	29.3	47.8	
	Manganese (Mn)-Dissolved (mg/L)	0.00056	0.00053	<0.00010	0.0597	0.0425	
	Molybdenum (Mo)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050	0.000096	0.000057	
	Nickel (Ni)-Dissolved (mg/L)	0.0131	0.0130	<0.00050	0.0162	0.0607	
	Phosphorus (P)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.050	<0.050	<0.050	
	Potassium (K)-Dissolved (mg/L)	4.69	4.65	<0.050	2.34	3.57	
	Rubidium (Rb)-Dissolved (mg/L)	0.00162	0.00154	<0.00020	0.00028	0.00277	
	Selenium (Se)-Dissolved (mg/L)	0.00437	0.00418	<0.000050	0.000108	0.000332	
	Silicon (Si)-Dissolved (mg/L)	9.42	9.51	<0.050	10.6	10.8	
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010	<0.000010	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-46	L1674376-47	L1674376-48	L1674376-49	L1674376-50
		Description	Water	Water	Water	Water	Water
		Sampled Date	12-SEP-15	12-SEP-15	12-SEP-15	12-SEP-15	12-SEP-15
		Sampled Time	13:08	13:51	14:39	17:34	17:10
		Client ID	MW14-15	MW14-13	MW14-16	P05-04	BH6
Grouping	Analyte						
WATER							
Total Metals	Tellurium (Te)-Total (mg/L)						
	Thallium (Tl)-Total (mg/L)						
	Thorium (Th)-Total (mg/L)						
	Tin (Sn)-Total (mg/L)						
	Titanium (Ti)-Total (mg/L)						
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0068	0.0791	0.0178	0.0551	0.0268	
	Antimony (Sb)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	
	Arsenic (As)-Dissolved (mg/L)	<0.00050 ^{DLA}	0.00031	0.00016	<0.00010	<0.00010	
	Barium (Ba)-Dissolved (mg/L)	0.0364	0.0385	0.0402	0.0272	0.0244	
	Beryllium (Be)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.00025 ^{DLA}	<0.00010 ^{DLA}	<0.000050	<0.000050	<0.000050	
	Boron (B)-Dissolved (mg/L)	<0.050 ^{DLA}	<0.020 ^{DLA}	<0.010	<0.010	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	0.00341	0.00491	0.00105	0.00278	0.00148	
	Calcium (Ca)-Dissolved (mg/L)	273	267	163	65.0	65.6	
	Cesium (Cs)-Dissolved (mg/L)	<0.000050 ^{DLA}	<0.000020 ^{DLA}	<0.000010	0.000046	0.000083	
	Chromium (Cr)-Dissolved (mg/L)	<0.00050 ^{DLA}	0.00048	0.00015	<0.00010	<0.00010	
	Cobalt (Co)-Dissolved (mg/L)	0.00072	0.00033	0.00019	0.00111	0.0332	
	Copper (Cu)-Dissolved (mg/L)	0.0020	0.00338	0.00159	0.00053	<0.00020	
	Iron (Fe)-Dissolved (mg/L)	<0.050 ^{DLA}	<0.020 ^{DLA}	<0.010	<0.010	4.32	
	Lead (Pb)-Dissolved (mg/L)	<0.00025 ^{DLA}	<0.00010 ^{DLA}	0.000057	0.000077	0.000774	
	Lithium (Li)-Dissolved (mg/L)	0.0577	0.0412	0.0174	0.0138	0.0305	
	Magnesium (Mg)-Dissolved (mg/L)	312	81.8	39.8	16.2	17.0	
	Manganese (Mn)-Dissolved (mg/L)	0.212	1.20	0.0110	0.0183	1.17	
	Molybdenum (Mo)-Dissolved (mg/L)	0.00033	<0.00010 ^{DLA}	0.000091	0.000057	0.000082	
	Nickel (Ni)-Dissolved (mg/L)	0.182	0.162	0.0440	0.0115	0.0368	
	Phosphorus (P)-Dissolved (mg/L)	<0.25 ^{DLA}	<0.10 ^{DLA}	<0.050	<0.050	<0.050	
	Potassium (K)-Dissolved (mg/L)	3.17	5.08	3.19	1.41	2.03	
	Rubidium (Rb)-Dissolved (mg/L)	<0.0010 ^{DLA}	0.00313	0.00151	0.00267	0.00268	
	Selenium (Se)-Dissolved (mg/L)	0.00033	0.00043	0.000659	0.000455	<0.000050	
	Silicon (Si)-Dissolved (mg/L)	9.23	14.1	7.84	6.11	7.81	
	Silver (Ag)-Dissolved (mg/L)	<0.000050 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010	<0.000010	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1674376-51 Water 12-SEP-15 16:31 BH10B	L1674376-52 Water 12-SEP-15 16:02 BH10A	L1674376-53 Water 12-SEP-15 14:54 SRK08-P12A	L1674376-54 Water 12-SEP-15 15:20 SRK08-P12B	L1674376-55 Water 12-SEP-15 13:58 MW14-04S
Grouping	Analyte				
WATER					
Total Metals	Tellurium (Te)-Total (mg/L)				
	Thallium (Tl)-Total (mg/L)				
	Thorium (Th)-Total (mg/L)				
	Tin (Sn)-Total (mg/L)				
	Titanium (Ti)-Total (mg/L)				
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0627	0.0050	0.0227	0.0396
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	0.00023	<0.00010
	Arsenic (As)-Dissolved (mg/L)	<0.00010	<0.00010	0.00388	0.00016
	Barium (Ba)-Dissolved (mg/L)	0.00845	0.0120	0.0268	0.120
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	0.00067	0.00052
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.00123	0.00276	0.0000556	0.0000774
	Calcium (Ca)-Dissolved (mg/L)	55.9	46.0	193	136
	Cesium (Cs)-Dissolved (mg/L)	0.000344	0.000264	0.00186	0.00117
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	0.00020	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010	0.00763	0.00419
	Copper (Cu)-Dissolved (mg/L)	0.00062	0.00108	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)	<0.010	0.015	14.8	4.02
	Lead (Pb)-Dissolved (mg/L)	0.00222	0.000259	0.000443	0.000108
	Lithium (Li)-Dissolved (mg/L)	0.0147	0.0095	0.100	0.105
	Magnesium (Mg)-Dissolved (mg/L)	14.1	10.6	56.1	35.0
	Manganese (Mn)-Dissolved (mg/L)	0.00110	0.00112	0.813	0.812
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	0.00374	0.00167	0.0136	0.00807
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	1.48	1.12	3.49	3.73
	Rubidium (Rb)-Dissolved (mg/L)	0.00507	0.00392	0.0118	0.0107
	Selenium (Se)-Dissolved (mg/L)	0.000318	0.000284	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)	5.68	5.64	10.9	11.2
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-56 Water 12-SEP-15 11:53 PW14-07	L1674376-57 Water 12-SEP-15 09:54 PW14-06	L1674376-58 Water 12-SEP-15 09:54 MW15-600	L1674376-59 Water 12-SEP-15 08:10 S1B	L1674376-60 Water 13-SEP-15 16:58 X25-96A
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0769	25.3	24.4	0.0073	0.0073
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.020 ^{DLA}	<0.020 ^{DLA}	0.00019	<0.00050 ^{DLA}
	Arsenic (As)-Dissolved (mg/L)	0.00393	<0.020 ^{DLA}	<0.020 ^{DLA}	0.00029	0.00063
	Barium (Ba)-Dissolved (mg/L)	0.0548	0.018	0.017	0.0438	0.0680
	Beryllium (Be)-Dissolved (mg/L)	0.00088	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.00010	<0.00050 ^{DLA}
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.010 ^{DLA}	<0.010 ^{DLA}	<0.000050	<0.00025 ^{DLA}
	Boron (B)-Dissolved (mg/L)	<0.010	<2.0 ^{DLA}	<2.0 ^{DLA}	<0.010	<0.050 ^{DLA}
	Cadmium (Cd)-Dissolved (mg/L)	0.0000594	0.757	0.747	0.000144	0.000109
	Calcium (Ca)-Dissolved (mg/L)	117	436	427	127	330
	Cesium (Cs)-Dissolved (mg/L)	0.000135	0.0150	0.0150	<0.000010	<0.000050 ^{DLA}
	Chromium (Cr)-Dissolved (mg/L)	0.00155	<0.020 ^{DLA}	<0.020 ^{DLA}	0.00017	<0.00050 ^{DLA}
	Cobalt (Co)-Dissolved (mg/L)	0.00531	4.61	4.49	<0.00010	0.0192
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.040 ^{DLA}	<0.040 ^{DLA}	0.00323	<0.0010 ^{DLA}
	Iron (Fe)-Dissolved (mg/L)	24.8	611	600	0.015	11.9
	Lead (Pb)-Dissolved (mg/L)	0.000192	0.626	0.613	<0.000050	<0.00025 ^{DLA}
	Lithium (Li)-Dissolved (mg/L)	0.0577	0.51	0.50	0.0149	0.0052
	Magnesium (Mg)-Dissolved (mg/L)	43.9	3250	3130	29.6	71.1
	Manganese (Mn)-Dissolved (mg/L)	1.26	332	320	0.0215	22.1
	Molybdenum (Mo)-Dissolved (mg/L)	0.000285	<0.010 ^{DLA}	<0.010 ^{DLA}	0.000277	0.00120
	Nickel (Ni)-Dissolved (mg/L)	0.0172	7.40	7.22	0.00383	0.0146
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<10 ^{DLA}	<10 ^{DLA}	<0.050	<0.25 ^{DLA}
	Potassium (K)-Dissolved (mg/L)	3.80	14	13	2.89	5.31
	Rubidium (Rb)-Dissolved (mg/L)	0.00803	0.071	0.072	0.00133	<0.0010 ^{DLA}
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.010 ^{DLA}	<0.010 ^{DLA}	0.000226	<0.00025 ^{DLA}
	Silicon (Si)-Dissolved (mg/L)	13.0	12	11	6.31	9.52
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.0020 ^{DLA}	<0.0020 ^{DLA}	<0.000010	<0.000050 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1674376-61	L1674376-62	L1674376-63	L1674376-64	L1674376-65
Description	Water	Water	Water	Water	Water
Sampled Date	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15
Sampled Time	17:24	16:22	15:43	15:21	14:49
Client ID	X25-96B	P01-03	P05-01-05	P05-01-04	P05-01-03
Grouping	Analyte				
WATER					
Total Metals	Tellurium (Te)-Total (mg/L)				
	Thallium (Tl)-Total (mg/L)				
	Thorium (Th)-Total (mg/L)				
	Tin (Sn)-Total (mg/L)				
	Titanium (Ti)-Total (mg/L)				
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0020 ^{DLA}	0.025	0.0179	0.021
	Antimony (Sb)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}
	Arsenic (As)-Dissolved (mg/L)	0.00131	<0.0010 ^{DLA}	0.00528	0.0033
	Barium (Ba)-Dissolved (mg/L)	0.0263	0.0113	0.0165	0.0148
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00050 ^{DLA}	<0.00025 ^{DLA}	<0.00050 ^{DLA}
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.10	<0.050	<0.10
	Cadmium (Cd)-Dissolved (mg/L)	0.000013	0.00135	0.000474	<0.000050 ^{DLA}
	Calcium (Ca)-Dissolved (mg/L)	330	451	624	691
	Cesium (Cs)-Dissolved (mg/L)	0.000027	<0.00010 ^{DLA}	<0.000050 ^{DLA}	0.00016
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}
	Cobalt (Co)-Dissolved (mg/L)	<0.00020 ^{DLA}	0.347	0.0287	0.0199
	Copper (Cu)-Dissolved (mg/L)	<0.00040 ^{DLA}	<0.0020 ^{DLA}	<0.0010 ^{DLA}	<0.0020 ^{DLA}
	Iron (Fe)-Dissolved (mg/L)	3.09	403	36.3	48.2
	Lead (Pb)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00050 ^{DLA}	<0.00025 ^{DLA}	<0.00050 ^{DLA}
	Lithium (Li)-Dissolved (mg/L)	0.0099	0.033	0.0281	0.028
	Magnesium (Mg)-Dissolved (mg/L)	49.7	235	133	156
	Manganese (Mn)-Dissolved (mg/L)	0.289	98.0	47.1	57.6
	Molybdenum (Mo)-Dissolved (mg/L)	0.00036	0.00114	0.00062	0.00106
	Nickel (Ni)-Dissolved (mg/L)	<0.0010 ^{DLA}	0.157	0.0265	0.0067
	Phosphorus (P)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.50 ^{DLA}	<0.25 ^{DLA}	<0.50 ^{DLA}
	Potassium (K)-Dissolved (mg/L)	4.37	7.92	7.93	7.38
	Rubidium (Rb)-Dissolved (mg/L)	0.00594	<0.0020 ^{DLA}	0.0043	0.0082
	Selenium (Se)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00050 ^{DLA}	<0.00025 ^{DLA}	<0.00050 ^{DLA}
	Silicon (Si)-Dissolved (mg/L)	4.83	11.8	11.2	11.7
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.00010 ^{DLA}	<0.000050 ^{DLA}	<0.00010 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-66 Water 13-SEP-15 14:25 P05-01-02	L1674376-67 Water 13-SEP-15 13:09 P03-09-9	L1674376-68 Water 13-SEP-15 11:48 P01-11	L1674376-69 Water 13-SEP-15 11:48 MW15-800	L1674376-70 Water 13-SEP-15 11:48 FIELD BLANK-400
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.015	0.0063	0.0151	0.0152	<0.0010
	Antimony (Sb)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00050 ^{DLA}	<0.00010
	Arsenic (As)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00020 ^{DLA}	0.0446	0.0448	<0.00010
	Barium (Ba)-Dissolved (mg/L)	0.0210	0.0242	0.0220	0.0216	<0.000050
	Beryllium (Be)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00050 ^{DLA}	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00010 ^{DLA}	<0.00025 ^{DLA}	<0.00025 ^{DLA}	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.020	<0.050	<0.050	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050 ^{DLA}	0.000338	0.000040	0.000034	<0.0000050
	Calcium (Ca)-Dissolved (mg/L)	678	388	683	676	<0.050
	Cesium (Cs)-Dissolved (mg/L)	0.00033 ^{DLA}	<0.000020 ^{DLA}	<0.000050 ^{DLA}	<0.000050 ^{DLA}	<0.000010
	Chromium (Cr)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00050 ^{DLA}	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	<0.0010 ^{DLA}	0.00554 ^{DLA}	0.0176	0.0172	<0.00010
	Copper (Cu)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.00040 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00020
	Iron (Fe)-Dissolved (mg/L)	33.6	0.176	86.9	85.7	<0.010
	Lead (Pb)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00010 ^{DLA}	<0.00025 ^{DLA}	<0.00025 ^{DLA}	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.037	0.0148	0.0243	0.0232	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)	152	80.8	153	150	<0.0050
	Manganese (Mn)-Dissolved (mg/L)	49.0	19.3	46.0	45.5	<0.00010
	Molybdenum (Mo)-Dissolved (mg/L)	0.00067 ^{DLA}	0.00100	0.00102	0.00099	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	<0.0050 ^{DLA}	0.0334 ^{DLA}	0.0363 ^{DLA}	0.0359 ^{DLA}	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	<0.50 ^{DLA}	<0.10 ^{DLA}	<0.25 ^{DLA}	<0.25 ^{DLA}	<0.050
	Potassium (K)-Dissolved (mg/L)	7.23	5.00	7.77	7.75	<0.050
	Rubidium (Rb)-Dissolved (mg/L)	0.0111	0.00094	0.0093	0.0094	<0.00020
	Selenium (Se)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00010 ^{DLA}	<0.00025 ^{DLA}	<0.00025 ^{DLA}	<0.000050
	Silicon (Si)-Dissolved (mg/L)	11.0	8.53	12.2	12.2	<0.050
	Silver (Ag)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.000020 ^{DLA}	<0.000050 ^{DLA}	<0.000050 ^{DLA}	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-71 Water 13-SEP-15 10:19 P03-01-8	L1674376-72 Water 13-SEP-15 08:51 SRK08-SBR2	L1674376-73 Water 13-SEP-15 17:40 P01-04A	L1674376-74 Water 13-SEP-15 17:05 P01-04B	L1674376-75 Water 13-SEP-15 14:38 P09-C3
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.88	0.056	0.0030	0.0053	0.0016
	Antimony (Sb)-Dissolved (mg/L)	<0.050 ^{DLA}	<0.0010 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00010
	Arsenic (As)-Dissolved (mg/L)	<0.050 ^{DLA}	<0.0010 ^{DLA}	<0.00010	0.00202	0.00092
	Barium (Ba)-Dissolved (mg/L)	<0.025 ^{DLA}	0.0211	0.495	0.0165	0.0783
	Beryllium (Be)-Dissolved (mg/L)	<0.050 ^{DLA}	<0.0010 ^{DLA}	0.00026	<0.00020 ^{DLA}	0.00016
	Bismuth (Bi)-Dissolved (mg/L)	<0.025 ^{DLA}	<0.00050 ^{DLA}	<0.000050	<0.00010 ^{DLA}	<0.000050
	Boron (B)-Dissolved (mg/L)	<5.0 ^{DLA}	<0.10	0.019	<0.020 ^{DLA}	0.015
	Cadmium (Cd)-Dissolved (mg/L)	0.0104	0.0409	<0.0000050	0.000022	<0.0000050
	Calcium (Ca)-Dissolved (mg/L)	469	292	148	577	186
	Cesium (Cs)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.00010 ^{DLA}	0.00159	0.000190 ^{DLA}	0.000833
	Chromium (Cr)-Dissolved (mg/L)	<0.050 ^{DLA}	<0.0010 ^{DLA}	0.00022	<0.00020 ^{DLA}	0.00019
	Cobalt (Co)-Dissolved (mg/L)	0.091	0.208	0.00015	0.00416	0.00016
	Copper (Cu)-Dissolved (mg/L)	<0.10 ^{DLA}	0.0048	<0.00020	<0.00040 ^{DLA}	0.00062
	Iron (Fe)-Dissolved (mg/L)	34900	13.4	0.438	19.2	3.81
	Lead (Pb)-Dissolved (mg/L)	<0.025 ^{DLA}	0.00421	<0.000050	<0.00010 ^{DLA}	<0.000050
	Lithium (Li)-Dissolved (mg/L)	<0.50 ^{DLA}	0.089	0.159	0.0232	0.0944
	Magnesium (Mg)-Dissolved (mg/L)	1020	405	54.5	102	72.5
	Manganese (Mn)-Dissolved (mg/L)	292	24.9	0.278	13.3	0.443
	Molybdenum (Mo)-Dissolved (mg/L)	<0.025 ^{DLA}	0.00064	<0.000050	0.00050	0.000170
	Nickel (Ni)-Dissolved (mg/L)	<0.25 ^{DLA}	0.446	<0.00050	0.0068	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	<25 ^{DLA}	<0.50 ^{DLA}	<0.050	<0.10 ^{DLA}	<0.050
	Potassium (K)-Dissolved (mg/L)	108	7.51	3.55	5.93	3.82
	Rubidium (Rb)-Dissolved (mg/L)	0.19	0.0053	0.00805	0.00813	0.00479
	Selenium (Se)-Dissolved (mg/L)	<0.025 ^{DLA}	<0.00050 ^{DLA}	0.00121	<0.00010 ^{DLA}	0.000236
	Silicon (Si)-Dissolved (mg/L)	<25 ^{DLA}	13.1	9.20	8.62	9.00
	Silver (Ag)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.00010 ^{DLA}	0.000259	<0.000020 ^{DLA}	0.000107

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1674376-76 Water 13-SEP-15 13:40 P01-01B	L1674376-77 Water 13-SEP-15 11:34 TH86-5	L1674376-78 Water 13-SEP-15 13:15 P01-01A	L1674376-79 Water 13-SEP-15 10:17 TH86-2	L1674376-80 Water 13-SEP-15 10:17 MW15-700
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0010	0.0017	0.0033	0.0011	0.0012
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00190	0.0148	<0.00020 ^{DLA}	0.00015	0.00016
	Barium (Ba)-Dissolved (mg/L)	0.0504	0.192	0.0459	0.0614	0.0613
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 ^{DLA}	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.020 ^{DLA}	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	<0.0000050	0.00127	0.0000050	0.0000084
	Calcium (Ca)-Dissolved (mg/L)	268	138	409	36.4	36.0
	Cesium (Cs)-Dissolved (mg/L)	0.000466	0.000056	<0.000020 ^{DLA}	<0.000010	<0.000010
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00049	<0.00020 ^{DLA}	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00025	0.00046	0.00335	<0.00010	<0.00010
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.00020	0.00043	0.00039	0.00041
	Iron (Fe)-Dissolved (mg/L)	0.657	7.14	<0.020 ^{DLA}	0.197	0.199
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 ^{DLA}	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0122	0.0626	0.0146	0.0029	0.0027
	Magnesium (Mg)-Dissolved (mg/L)	55.6	27.3	90.9	7.33	7.20
	Manganese (Mn)-Dissolved (mg/L)	0.165	0.516	11.0	0.00848	0.00873
	Molybdenum (Mo)-Dissolved (mg/L)	0.000866	0.00282	0.00083	0.000774	0.000772
	Nickel (Ni)-Dissolved (mg/L)	0.00100	0.00201	0.0178	0.00064	0.00066
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.10 ^{DLA}	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	4.41	2.73	6.90	1.19	1.17
	Rubidium (Rb)-Dissolved (mg/L)	0.00220	0.00292	0.00111	<0.00020	<0.00020
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 ^{DLA}	0.000288	0.000317
	Silicon (Si)-Dissolved (mg/L)	6.21	10.7	8.06	4.20	4.12
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000020 ^{DLA}	<0.000010	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-81 Water 13-SEP-15 08:40 BH-08	L1674376-82 Water 14-SEP-15 16:45 BH-14A	L1674376-83 Water 14-SEP-15 17:15 BH14B	L1674376-84 Water 14-SEP-15 16:02 BH13B	L1674376-85 Water 14-SEP-15 11:45 P09-ETA-1
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	25.4	0.0204	<0.0020 ^{DLA}	0.0041	0.0035
	Antimony (Sb)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	0.00015
	Barium (Ba)-Dissolved (mg/L)	0.0109	0.0140	0.0158	0.0233	0.0114
	Beryllium (Be)-Dissolved (mg/L)	0.0170	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0025 ^{DLA}	<0.00025 ^{DLA}	<0.00010 ^{DLA}	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.50 ^{DLA}	<0.050 ^{DLA}	<0.020 ^{DLA}	<0.010	0.012
	Cadmium (Cd)-Dissolved (mg/L)	0.555	0.00224	0.000194	0.0000289	<0.0000050
	Calcium (Ca)-Dissolved (mg/L)	251	547	537	131	53.4
	Cesium (Cs)-Dissolved (mg/L)	0.00255	0.00326	0.00338	0.000095	0.000029
	Chromium (Cr)-Dissolved (mg/L)	0.0082	<0.00050 ^{DLA}	0.00021 ^{DLA}	0.00050	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.578	0.00074	<0.00020 ^{DLA}	0.00135	<0.00010
	Copper (Cu)-Dissolved (mg/L)	3.05	0.0014	0.00066 ^{DLA}	0.00418	<0.00020
	Iron (Fe)-Dissolved (mg/L)	540	0.138	<0.020 ^{DLA}	<0.010	0.099
	Lead (Pb)-Dissolved (mg/L)	1.02	0.00655	0.00918	0.000269	0.000307
	Lithium (Li)-Dissolved (mg/L)	0.079	0.108	0.0753	0.0134	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)	199	446	362	55.8	9.28
	Manganese (Mn)-Dissolved (mg/L)	11.8	0.239	0.00648	0.00100	0.00715
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0025 ^{DLA}	0.00044	0.00020	0.00414	0.000067
	Nickel (Ni)-Dissolved (mg/L)	0.530	0.291	0.0092	0.00660	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	<2.5 ^{DLA}	<0.25 ^{DLA}	<0.10 ^{DLA}	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	6.2	4.28	4.39	2.67	0.283
	Rubidium (Rb)-Dissolved (mg/L)	0.018	0.0195	0.0187	0.00147	0.00058
	Selenium (Se)-Dissolved (mg/L)	<0.0025 ^{DLA}	0.00062	0.00073	0.00610	<0.000050
	Silicon (Si)-Dissolved (mg/L)	6.6	11.1	9.78	3.90	9.11
	Silver (Ag)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.000050 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-86 Water 14-SEP-15 12:15 P09-ETA-2	L1674376-87 Water 14-SEP-15 10:15 P05-02	L1674376-88 Water 14-SEP-15 09:30 P09-C2	L1674376-89 Water 14-SEP-15 09:30 MW15-900	L1674376-90 Water 14-SEP-15 09:30 FIELD BLANK-500
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.090	0.020	0.0125	0.0131	<0.0010
	Antimony (Sb)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.112	0.0016	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010
	Barium (Ba)-Dissolved (mg/L)	0.0089	0.0202	0.720	0.727	<0.000050
	Beryllium (Be)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0010 ^{DLA}	0.00258	0.00254	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.20 ^{DLA}	<0.10 ^{DLA}	0.091	0.092	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.00037	0.000264	<0.000010 ^{DLA}	<0.000010 ^{DLA}	<0.0000050
	Calcium (Ca)-Dissolved (mg/L)	493	694	205	201	<0.050
	Cesium (Cs)-Dissolved (mg/L)	0.00035	<0.00010 ^{DLA}	0.0101	0.00991	<0.000010
	Chromium (Cr)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0010 ^{DLA}	<0.00020 ^{DLA}	0.00027 ^{DLA}	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.488	0.0216	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010
	Copper (Cu)-Dissolved (mg/L)	<0.0040 ^{DLA}	<0.0020 ^{DLA}	<0.00020	<0.00040 ^{DLA}	<0.00020
	Iron (Fe)-Dissolved (mg/L)	245	25.8	3.20	3.18	<0.010
	Lead (Pb)-Dissolved (mg/L)	0.0013	<0.00050 ^{DLA}	0.00034	<0.00010 ^{DLA}	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.102	0.032	0.914	0.903	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)	746	149	103	105	<0.0050
	Manganese (Mn)-Dissolved (mg/L)	64.9	52.7	0.120	0.121	<0.00010
	Molybdenum (Mo)-Dissolved (mg/L)	0.0011	0.00082	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	0.453	0.0234	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	<1.0 ^{DLA}	<0.50 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.050
	Potassium (K)-Dissolved (mg/L)	8.7	7.68	12.0	12.3	<0.050
	Rubidium (Rb)-Dissolved (mg/L)	0.0117	0.0094	0.0308	0.0320	<0.00020
	Selenium (Se)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050
	Silicon (Si)-Dissolved (mg/L)	13.0	11.4	11.0	11.2	<0.050
	Silver (Ag)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010 ^{DLA}	0.000333	0.000342	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1674376-91 Water 14-SEP-15 08:25 X24-96D	L1674376-92 Water 14-SEP-15 17:00 SRK08-10A	L1674376-93 Water 14-SEP-15 15:59 SRK08-P9	L1674376-94 Water 14-SEP-15 14:43 P96-8B	L1674376-95 Water 14-SEP-15 14:24 P96-8A
Grouping	Analyte				
WATER					
Total Metals	Tellurium (Te)-Total (mg/L) Thallium (Tl)-Total (mg/L) Thorium (Th)-Total (mg/L) Tin (Sn)-Total (mg/L) Titanium (Ti)-Total (mg/L) Tungsten (W)-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 Metals Filtration Location FIELD FIELD FIELD ^{DLA} FIELD FIELD				
Aluminum (Al)-Dissolved (mg/L)	0.054	0.0078	<0.0020 ^{DLA}	3.89	16.6
Antimony (Sb)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
Arsenic (As)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	0.00024	<0.010 ^{DLA}	<0.010 ^{DLA}
Barium (Ba)-Dissolved (mg/L)	0.0218	0.0189	0.0372	0.0141	0.0107
Beryllium (Be)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
Bismuth (Bi)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00025 ^{DLA}	<0.00010 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
Boron (B)-Dissolved (mg/L)	<0.10	<0.050	<0.020	<1.0	<1.0
Cadmium (Cd)-Dissolved (mg/L)	0.00647	0.000641	0.000060	0.151	0.163
Calcium (Ca)-Dissolved (mg/L)	557	701	370	372	343
Cesium (Cs)-Dissolved (mg/L)	<0.00010 ^{DLA}	0.000055 ^{DLA}	0.000068	<0.0010 ^{DLA}	<0.0010 ^{DLA}
Chromium (Cr)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	0.00033	<0.010 ^{DLA}	<0.010 ^{DLA}
Cobalt (Co)-Dissolved (mg/L)	0.377	0.00181	0.00035	1.71	1.73
Copper (Cu)-Dissolved (mg/L)	<0.0020 ^{DLA}	0.0020 ^{DLA}	0.00113 ^{DLA}	<0.020 ^{DLA}	0.144
Iron (Fe)-Dissolved (mg/L)	156	<0.050 ^{DLA}	<0.020 ^{DLA}	288	207
Lead (Pb)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00025 ^{DLA}	<0.00010 ^{DLA}	0.0951	0.139
Lithium (Li)-Dissolved (mg/L)	0.034	0.0245	0.0145	0.18	0.22
Magnesium (Mg)-Dissolved (mg/L)	218	110	73.9	1310	1180
Manganese (Mn)-Dissolved (mg/L)	109	0.0341	0.00410	121	115
Molybdenum (Mo)-Dissolved (mg/L)	0.00126	0.00026	0.00150	<0.0050 ^{DLA}	0.0067
Nickel (Ni)-Dissolved (mg/L)	0.290	0.0183	0.0309	1.92	2.00
Phosphorus (P)-Dissolved (mg/L)	<0.50 ^{DLA}	<0.25 ^{DLA}	<0.10 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}
Potassium (K)-Dissolved (mg/L)	7.79	13.8	6.28	17.6	15.9
Rubidium (Rb)-Dissolved (mg/L)	<0.0020 ^{DLA}	0.0013 ^{DLA}	0.00362	0.028	0.037
Selenium (Se)-Dissolved (mg/L)	<0.00050 ^{DLA}	<0.00025 ^{DLA}	0.00098	<0.0050 ^{DLA}	<0.0050 ^{DLA}
Silicon (Si)-Dissolved (mg/L)	9.18	10.3	6.97	14.6	33.5
Silver (Ag)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.000050 ^{DLA}	<0.000020 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-96 Water 14-SEP-15 12:08 SRK05-ETA-BR1	L1674376-97 Water 14-SEP-15 11:14 SRK05-ETA-BR2	L1674376-98 Water 14-SEP-15 10:29 SRK04-3A	L1674376-99 Water 14-SEP-15 08:45 SRK08-11B	L1674376-100 Water 14-SEP-15 09:18 SRK08-11A
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	1.45	0.0022	1.28	0.0020	<0.0010
	Antimony (Sb)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.00020 ^{DLA}	0.064	0.00011	0.00014
	Barium (Ba)-Dissolved (mg/L)	0.0083	0.0344	0.0105	0.0574	0.111
	Beryllium (Be)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.00010 ^{DLA}	<0.0050 ^{DLA}	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<1.0 ^{DLA}	<0.020 ^{DLA}	<1.0 ^{DLA}	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.0586	0.000089	0.0562	0.00178	0.0000275
	Calcium (Ca)-Dissolved (mg/L)	386	513	404	240	163
	Cesium (Cs)-Dissolved (mg/L)	<0.0010 ^{DLA}	0.000221	<0.0010 ^{DLA}	<0.000010	0.000106
	Chromium (Cr)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	1.75	0.0226	2.00	0.00057	<0.00010
	Copper (Cu)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.00040 ^{DLA}	<0.020 ^{DLA}	0.00158	0.00122
	Iron (Fe)-Dissolved (mg/L)	1030	12.3	792	<0.010	<0.010
	Lead (Pb)-Dissolved (mg/L)	0.0571	<0.00010 ^{DLA}	0.0158	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.11	0.0111	0.16	0.0201	0.0135
	Magnesium (Mg)-Dissolved (mg/L)	832	81.8	1230	87.6	39.3
	Manganese (Mn)-Dissolved (mg/L)	110	3.15	134	0.837	0.00027
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0050 ^{DLA}	0.00015	<0.0050 ^{DLA}	0.000165	0.000204
	Nickel (Ni)-Dissolved (mg/L)	1.40	0.0206	1.68	0.0286	0.00235
	Phosphorus (P)-Dissolved (mg/L)	<5.0 ^{DLA}	<0.10 ^{DLA}	<5.0 ^{DLA}	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	12.0	3.96	15.1	4.50	3.75
	Rubidium (Rb)-Dissolved (mg/L)	<0.020 ^{DLA}	0.00303	<0.020 ^{DLA}	0.00273	0.00429
	Selenium (Se)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.00010 ^{DLA}	<0.0050 ^{DLA}	<0.000050	0.000179
	Silicon (Si)-Dissolved (mg/L)	15.7	8.29	17.1	8.21	7.03
	Silver (Ag)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.000020 ^{DLA}	<0.0010 ^{DLA}	<0.000010	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-101 Water 14-SEP-15 09:18 MW15-1000	L1674376-102 Water 14-SEP-15 TRAVEL BLANK		
Grouping	Analyte				
WATER					
Total Metals	Tellurium (Te)-Total (mg/L)		<0.00020		
	Thallium (Tl)-Total (mg/L)		<0.000010		
	Thorium (Th)-Total (mg/L)		<0.00010		
	Tin (Sn)-Total (mg/L)		<0.00010		
	Titanium (Ti)-Total (mg/L)		<0.00030		
	Tungsten (W)-Total (mg/L)		<0.00010		
	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 Metals Filtration Location	FIELD			
	Aluminum (Al)-Dissolved (mg/L)	0.0013			
	Antimony (Sb)-Dissolved (mg/L)	<0.00010			
	Arsenic (As)-Dissolved (mg/L)	0.00030			
	Barium (Ba)-Dissolved (mg/L)	0.110			
	Beryllium (Be)-Dissolved (mg/L)	<0.00010			
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050			
	Boron (B)-Dissolved (mg/L)	<0.010			
	Cadmium (Cd)-Dissolved (mg/L)	0.0000172			
	Calcium (Ca)-Dissolved (mg/L)	177			
	Cesium (Cs)-Dissolved (mg/L)	0.000105			
	Chromium (Cr)-Dissolved (mg/L)	<0.00010			
	Cobalt (Co)-Dissolved (mg/L)	<0.00010			
	Copper (Cu)-Dissolved (mg/L)	0.00127			
	Iron (Fe)-Dissolved (mg/L)	<0.010			
	Lead (Pb)-Dissolved (mg/L)	<0.000050			
	Lithium (Li)-Dissolved (mg/L)	0.0150			
	Magnesium (Mg)-Dissolved (mg/L)	45.3			
	Manganese (Mn)-Dissolved (mg/L)	0.00031			
	Molybdenum (Mo)-Dissolved (mg/L)	0.000221			
	Nickel (Ni)-Dissolved (mg/L)	0.00222			
	Phosphorus (P)-Dissolved (mg/L)	<0.050			
	Potassium (K)-Dissolved (mg/L)	3.81			
	Rubidium (Rb)-Dissolved (mg/L)	0.00448			
	Selenium (Se)-Dissolved (mg/L)	0.000165			
	Silicon (Si)-Dissolved (mg/L)	6.94			
	Silver (Ag)-Dissolved (mg/L)	<0.000010			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-1 Water 10-SEP-15 17:10 MW14-02D	L1674376-2 Water 10-SEP-15 15:30 MW14-02S	L1674376-3 Water 10-SEP-15 13:05 MW14-03	L1674376-4 Water 10-SEP-15 10:44 MW14-05	L1674376-5 Water 10-SEP-15 17:18 PO9-SIS5
Grouping	Analyte					
WATER						
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	8.44	1.84	8.95	12.2	105
	Strontium (Sr)-Dissolved (mg/L)	0.419	0.0923	0.851	1.57	1.93
	Sulfur (S)-Dissolved (mg/L)	21.6	3.46	77.7	1340	1300
	Tellurium (Te)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00040 ^{DLA}	<0.00040 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)	0.000014	<0.000010	<0.000010	<0.000020 ^{DLA}	0.000029 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	0.00498 ^{DLA}	<0.00060 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Uranium (U)-Dissolved (mg/L)	0.00112	0.000654	0.0192	0.196	0.0102
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)	1.02	0.0366	0.111	1.08	11.9
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.00030	0.00177	<0.00060 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-6	L1674376-7	L1674376-8	L1674376-9	L1674376-10
		Description	Water	Water	Water	Water	Water
		Sampled Date	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15
		Sampled Time	16:52	16:14	15:38	15:00	13:35
		Client ID	SRK05-SP-3A	SRK05-SP-3B	SRK05-SP-1A	SRK05-SP-1B	MW14-10
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		10.5	9.98	17.9	11.5	128
	Strontium (Sr)-Dissolved (mg/L)		0.736	0.848	1.06	0.731	0.484
	Sulfur (S)-Dissolved (mg/L)		152	230	284	116	82.4
	Tellurium (Te)-Dissolved (mg/L)		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	0.00011	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	0.00041	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.00223	0.00310	0.000237	0.00203	0.0192
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.722	0.924	1.59	0.265	0.0015
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-11	L1674376-12	L1674376-13	L1674376-14	L1674376-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15	10-SEP-15
		Sampled Time	11:20	10:20	11:54	12:42	11:20
		Client ID	SRK05-SP-2	MW14-11	MW14-08	MW14-09	MW15-100
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		11.8	5.54	49.9	19.9	12.0
	Strontium (Sr)-Dissolved (mg/L)		0.602	0.574	0.899	0.624	0.586
	Sulfur (S)-Dissolved (mg/L)		164	4.45	3.02	81.6	161
	Tellurium (Te)-Dissolved (mg/L)		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		0.000012	<0.000010	<0.000010	0.000013	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	0.00032	0.00153	0.00033	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.00010	<0.00010	0.00013	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.00399	0.00113	0.00144	0.00720	0.00381
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	0.00178	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.314	0.0017	0.0023	0.0898	0.315
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	0.00161	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-16	L1674376-17	L1674376-18	L1674376-19	L1674376-20
		Description	Water	Water	Water	Water	Water
		Sampled Date	10-SEP-15	10-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15
		Sampled Time	10:44	11:20	15:36	16:30	17:04
		Client ID	MW15-200	FIELD BLANK-100	S1A	SRK08-SP7A	SRK08-SP7B
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		12.1	<0.050	12.5	10.8	2.66
	Strontium (Sr)-Dissolved (mg/L)		1.59	<0.00020	0.758	0.934	0.107
	Sulfur (S)-Dissolved (mg/L)		1330	<0.50	347	278	12.5
	Tellurium (Te)-Dissolved (mg/L)		<0.00040 ^{DLA}	<0.00020	<0.0010 ^{DLA}	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		<0.000020 ^{DLA}	<0.000010	<0.000050 ^{DLA}	<0.000010	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		0.00066 ^{DLA}	<0.00030	<0.0015 ^{DLA}	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.195	<0.000010	0.00286	0.000745	0.000178
	Vanadium (V)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.00050	<0.0025 ^{DLA}	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		1.08	<0.0010	27.4	0.689	1.95
	Zirconium (Zr)-Dissolved (mg/L)		0.00171	<0.00030	<0.0015 ^{DLA}	<0.00030	0.00045

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-21	L1674376-22	L1674376-23	L1674376-24	L1674376-25
		Description	Water	Water	Water	Water	Water
		Sampled Date	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15
		Sampled Time	11:06	09:16	09:16	09:16	13:36
		Client ID	P96-7	PW14-01	MW15-400	FIELD BLANK-200	SRK08-SBR4
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		20.2	6.18	6.21	<0.050	72.7
	Strontium (Sr)-Dissolved (mg/L)		0.602	0.413	0.417	<0.00020	2.05
	Sulfur (S)-Dissolved (mg/L)		748	30.5	30.0	<0.50	3140
	Tellurium (Te)-Dissolved (mg/L)		<0.00040 ^{DLA}	<0.00020	<0.00020	<0.00020	<0.010 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)		<0.000020 ^{DLA}	<0.000010	<0.000010	<0.000010	<0.00050 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	<0.0050 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	<0.0050 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)		<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030	<0.015 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	<0.0050 ^{DLA}
	Uranium (U)-Dissolved (mg/L)		0.0277	0.00253	0.00260	<0.000010	0.00134
	Vanadium (V)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.00050	<0.00050	<0.00050	<0.025 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)		0.0189	0.837	0.854	<0.0010	475
	Zirconium (Zr)-Dissolved (mg/L)		<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030	<0.015 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-26	L1674376-27	L1674376-28	L1674376-29	L1674376-30
		Description	Water	Water	Water	Water	Water
		Sampled Date	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15
		Sampled Time	12:29	12:00	14:14	17:41	15:38
		Client ID	SRK08-SP8B	SRK08-SP8A	SRK08-SBR3	SRK05-SP-5	S2B
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		18.7	22.1	58.4	65.7	59.5
	Strontium (Sr)-Dissolved (mg/L)		1.20	1.52	1.18	2.03	2.08
	Sulfur (S)-Dissolved (mg/L)		453	396	705	3750	3530
	Tellurium (Te)-Dissolved (mg/L)		<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)		<0.000020 ^{DLA}	<0.000020 ^{DLA}	0.000048 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)		<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}
	Uranium (U)-Dissolved (mg/L)		0.00293	0.00116	0.0350	0.0018	<0.0010 ^{DLA}
	Vanadium (V)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.050 ^{DLA}	<0.050 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)		0.506	0.266	0.0462	734	686
	Zirconium (Zr)-Dissolved (mg/L)		<0.00060 ^{DLA}	0.00143	<0.00060 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674376-31	L1674376-32	L1674376-33	L1674376-34	L1674376-35
					Water	Water	Water	Water	Water
					11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15	11-SEP-15
					14:45	10:13	13:30	12:40	10:36
					S2A	SRK05-SP-4A	P09-SIS1	P09-SIS2	P09-SIS3
Grouping	Analyte								
WATER									
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	11.6	10.3	53.6	76.3	54.5			
	Strontium (Sr)-Dissolved (mg/L)	0.875	0.645	2.29	2.14	2.21			
	Sulfur (S)-Dissolved (mg/L)	309	162	2550	4120	3810			
	Tellurium (Te)-Dissolved (mg/L)	<0.00020	<0.00020	<0.010 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	0.000012	<0.00050 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}			
	Thorium (Th)-Dissolved (mg/L)	<0.00010	<0.00010	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}			
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}			
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	<0.015 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}			
	Tungsten (W)-Dissolved (mg/L)	<0.00010	<0.00010	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}			
	Uranium (U)-Dissolved (mg/L)	0.00296	0.00181	0.00268	0.0013	0.0015			
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.025 ^{DLA}	<0.050 ^{DLA}	<0.050 ^{DLA}			
	Zinc (Zn)-Dissolved (mg/L)	3.00	10.1	293	783	774			
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	<0.015 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-36	L1674376-37	L1674376-38	L1674376-39	L1674376-40
		Description	Water	Water	Water	Water	Water
		Sampled Date	11-SEP-15	11-SEP-15	11-SEP-15	12-SEP-15	12-SEP-15
		Sampled Time	09:40	08:40	12:40	16:35	15:00
		Client ID	SRK05-SP-4B	P09-SIS4	MW15-300	BH5	MW14-14
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		49.7	39.9	75.7	10.5	8.6
	Strontium (Sr)-Dissolved (mg/L)		2.27	2.00	2.12	0.290	1.11
	Sulfur (S)-Dissolved (mg/L)		2900	2210	4080	43.8	780
	Tellurium (Te)-Dissolved (mg/L)		<0.020 ^{DLA}	<0.010 ^{DLA}	<0.020 ^{DLA}	<0.00020	<0.0040 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}	0.000070	<0.00020 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)		<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.0020 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)		<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.0020 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)		<0.030 ^{DLA}	<0.015 ^{DLA}	<0.030 ^{DLA}	<0.00030	<0.0060 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)		<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.0020 ^{DLA}
	Uranium (U)-Dissolved (mg/L)		<0.0010 ^{DLA}	0.00182 ^{DLA}	0.0013 ^{DLA}	0.000188	0.00023 ^{DLA}
	Vanadium (V)-Dissolved (mg/L)		<0.050 ^{DLA}	<0.025 ^{DLA}	<0.050 ^{DLA}	<0.00050	<0.010 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)		542	311	774	2.07	101
	Zirconium (Zr)-Dissolved (mg/L)		<0.030 ^{DLA}	<0.015 ^{DLA}	<0.030 ^{DLA}	<0.00030	<0.0060 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-41 Water 12-SEP-15 09:00 P96-06	L1674376-42 Water 12-SEP-15 09:00 MW15-500	L1674376-43 Water 12-SEP-15 09:00 FIELD BLANK-300	L1674376-44 Water 12-SEP-15 10:58 MW14-12D	L1674376-45 Water 12-SEP-15 10:17 MW14-12S
Grouping	Analyte					
WATER						
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	6.06	6.00	<0.050	7.35	7.74
	Strontium (Sr)-Dissolved (mg/L)	0.860	0.879	<0.00020	0.291	0.659
	Sulfur (S)-Dissolved (mg/L)	437	443	<0.50	83.9	167
	Tellurium (Te)-Dissolved (mg/L)	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00020	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010	<0.000010
	Thorium (Th)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)	0.0590	0.0605	<0.000010	0.000058	0.00284
	Vanadium (V)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.375	0.362	<0.0010	2.41	2.96
	Zirconium (Zr)-Dissolved (mg/L)	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-46	L1674376-47	L1674376-48	L1674376-49	L1674376-50
		Description	Water	Water	Water	Water	Water
		Sampled Date	12-SEP-15	12-SEP-15	12-SEP-15	12-SEP-15	12-SEP-15
		Sampled Time	13:08	13:51	14:39	17:34	17:10
		Client ID	MW14-15	MW14-13	MW14-16	P05-04	BH6
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		17.5	11.5	5.55	4.87	5.40
	Strontium (Sr)-Dissolved (mg/L)		1.15	0.977	0.547	0.327	0.320
	Sulfur (S)-Dissolved (mg/L)		696	243	135	32.3	49.5
	Tellurium (Te)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.00040 ^{DLA}	<0.00020	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		<0.000050 ^{DLA}	<0.000020 ^{DLA}	0.000014	<0.000010	0.000051
	Thorium (Th)-Dissolved (mg/L)		<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.0015 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.000339	0.00367	0.00322	0.00100	0.00119
	Vanadium (V)-Dissolved (mg/L)		<0.0025 ^{DLA}	<0.0010 ^{DLA}	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		28.6	11.8	2.19	1.49	4.14
	Zirconium (Zr)-Dissolved (mg/L)		<0.0015 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-51 Water 12-SEP-15 16:31 BH10B	L1674376-52 Water 12-SEP-15 16:02 BH10A	L1674376-53 Water 12-SEP-15 14:54 SRK08-P12A	L1674376-54 Water 12-SEP-15 15:20 SRK08-P12B	L1674376-55 Water 12-SEP-15 13:58 MW14-04S
Grouping	Analyte					
WATER						
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	4.71	3.74	26.1	18.8	13.0
	Strontium (Sr)-Dissolved (mg/L)	0.254	0.226	1.17	0.898	2.30
	Sulfur (S)-Dissolved (mg/L)	22.6	12.2	57.6	41.5	1090
	Tellurium (Te)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.0010 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)	0.000256	0.000054	0.000089	0.000055	<0.000050 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	0.00014	<0.00010	<0.00050 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	0.00057	<0.00030	<0.0015 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00050 ^{DLA}
	Uranium (U)-Dissolved (mg/L)	0.000113	0.000044	0.00141	0.00130	0.252
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.0025 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)	0.711	0.422	1.04	0.268	0.108
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	0.00125	<0.00030	<0.0015 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-56	L1674376-57	L1674376-58	L1674376-59	L1674376-60
		Description	Water	Water	Water	Water	Water
		Sampled Date	12-SEP-15	12-SEP-15	12-SEP-15	12-SEP-15	13-SEP-15
		Sampled Time	11:53	09:54	09:54	08:10	16:58
		Client ID	PW14-07	PW14-06	MW15-600	S1B	X25-96A
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		9.74	48	46	28.1	21.2
	Strontium (Sr)-Dissolved (mg/L)		0.568	2.46	2.47	0.391	0.806
	Sulfur (S)-Dissolved (mg/L)		92.1	6360 ^{DLA}	6340 ^{DLA}	56.9	316 ^{DLA}
	Tellurium (Te)-Dissolved (mg/L)		<0.00020	<0.040 ^{DLA}	<0.040 ^{DLA}	<0.00020	<0.0010 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	0.0147 ^{DLA}	0.0149 ^{DLA}	<0.000010	<0.000050 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)		<0.00010	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.00010	<0.00050 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.00010	<0.00050 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.060 ^{DLA}	<0.060 ^{DLA}	<0.00030	<0.0015 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)		<0.00010	<0.020 ^{DLA}	<0.020 ^{DLA}	0.00012	<0.00050 ^{DLA}
	Uranium (U)-Dissolved (mg/L)		0.00299	0.110 ^{DLA}	0.107 ^{DLA}	0.00358	0.0109 ^{DLA}
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.00050	<0.0025 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)		1.26	1760 ^{DLA}	1740 ^{DLA}	0.0196	0.0068 ^{DLA}
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.060 ^{DLA}	<0.060 ^{DLA}	<0.00030	<0.0015 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1674376-61	L1674376-62	L1674376-63	L1674376-64	L1674376-65	
Description	Water	Water	Water	Water	Water	
Sampled Date	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	
Sampled Time	17:24	16:22	15:43	15:21	14:49	
Client ID	X25-96B	P01-03	P05-01-05	P05-01-04	P05-01-03	
Grouping	Analyte					
WATER						
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	50.9	28.4	31.6	33.6	34.3
	Strontium (Sr)-Dissolved (mg/L)	0.636	2.12	1.58	1.66	1.67
	Sulfur (S)-Dissolved (mg/L)	288	881	677	711	735
	Tellurium (Te)-Dissolved (mg/L)	<0.00040 ^{DLA}	<0.0020 ^{DLA}	<0.0010 ^{DLA}	<0.0020 ^{DLA}	<0.0020 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.00010 ^{DLA}	<0.000050 ^{DLA}	<0.00010 ^{DLA}	<0.00010 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)	<0.00060 ^{DLA}	<0.0030 ^{DLA}	<0.0015 ^{DLA}	<0.0030 ^{DLA}	<0.0030 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Uranium (U)-Dissolved (mg/L)	0.00625	0.00434	0.00595	0.00203	0.00062
	Vanadium (V)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.0050 ^{DLA}	<0.0025 ^{DLA}	<0.0050 ^{DLA}	<0.0050 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)	0.0026	1.13	0.0055	<0.010 ^{DLA}	<0.010 ^{DLA}
	Zirconium (Zr)-Dissolved (mg/L)	<0.00060 ^{DLA}	<0.0030 ^{DLA}	<0.0015 ^{DLA}	<0.0030 ^{DLA}	<0.0030 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-66	L1674376-67	L1674376-68	L1674376-69	L1674376-70
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15
		Sampled Time	14:25	13:09	11:48	11:48	11:48
		Client ID	P05-01-02	P03-09-9	P01-11	MW15-800	FIELD BLANK-400
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		34.1	28.1	33.7	33.2	<0.050
	Strontium (Sr)-Dissolved (mg/L)		1.63	0.876	1.61	1.59	<0.00020
	Sulfur (S)-Dissolved (mg/L)		691	360	702	710	<0.50
	Tellurium (Te)-Dissolved (mg/L)		<0.0020 ^{DLA}	<0.00040 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		<0.00010 ^{DLA}	<0.000020 ^{DLA}	<0.000050 ^{DLA}	<0.000050 ^{DLA}	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00050 ^{DLA}	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00050 ^{DLA}	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.0030 ^{DLA}	<0.00060 ^{DLA}	<0.0015 ^{DLA}	<0.0015 ^{DLA}	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00050 ^{DLA}	<0.00050 ^{DLA}	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.00047	0.00949	0.0103	0.0102	<0.000010
	Vanadium (V)-Dissolved (mg/L)		<0.0050 ^{DLA}	<0.0010 ^{DLA}	<0.0025 ^{DLA}	<0.0025 ^{DLA}	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		<0.010 ^{DLA}	0.0596	0.234	0.231	<0.0010
	Zirconium (Zr)-Dissolved (mg/L)		<0.0030 ^{DLA}	<0.00060 ^{DLA}	<0.0015 ^{DLA}	<0.0015 ^{DLA}	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-71	L1674376-72	L1674376-73	L1674376-74	L1674376-75
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15
		Sampled Time	10:19	08:51	17:40	17:05	14:38
		Client ID	P03-01-8	SRK08-SBR2	P01-04A	P01-04B	P09-C3
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		137	18.6	73.1	37.4	60.7
	Strontium (Sr)-Dissolved (mg/L)		2.08	1.09	2.00	1.43	2.29
	Sulfur (S)-Dissolved (mg/L)		22700	776	14.5	534	110
	Tellurium (Te)-Dissolved (mg/L)		<0.10 ^{DLA}	<0.0020 ^{DLA}	0.00020	<0.00040 ^{DLA}	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		<0.0050 ^{DLA}	<0.00010 ^{DLA}	<0.000010	<0.000020 ^{DLA}	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.050 ^{DLA}	<0.0010 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.050 ^{DLA}	<0.0010 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.15 ^{DLA}	<0.0030 ^{DLA}	<0.00030	<0.00060 ^{DLA}	0.00068
	Tungsten (W)-Dissolved (mg/L)		<0.050 ^{DLA}	0.0014	0.00013	<0.00020 ^{DLA}	0.00074
	Uranium (U)-Dissolved (mg/L)		<0.0050 ^{DLA}	0.00172	0.000256	0.00688	0.000840
	Vanadium (V)-Dissolved (mg/L)		<0.25 ^{DLA}	<0.0050 ^{DLA}	0.00101	<0.0010 ^{DLA}	0.00051
	Zinc (Zn)-Dissolved (mg/L)		2510	83.9	0.0018	0.0593	0.0012
	Zirconium (Zr)-Dissolved (mg/L)		<0.15 ^{DLA}	<0.0030 ^{DLA}	0.0811	<0.00060 ^{DLA}	0.0328

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-76	L1674376-77	L1674376-78	L1674376-79	L1674376-80
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15	13-SEP-15
		Sampled Time	13:40	11:34	13:15	10:17	10:17
		Client ID	P01-01B	TH86-5	P01-01A	TH86-2	MW15-700
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		24.4	23.8	20.5	2.25	2.19
	Strontium (Sr)-Dissolved (mg/L)		0.891	0.943	1.21	0.170	0.167
	Sulfur (S)-Dissolved (mg/L)		217	8.35	402	6.14	6.14
	Tellurium (Te)-Dissolved (mg/L)		<0.00020	<0.00020	<0.00040 ^{DLA}	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000020 ^{DLA}	<0.000010	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00060 ^{DLA}	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.00969	0.00257	0.00869	0.00226	0.00223
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.0010 ^{DLA}	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0010	0.0017	0.0053	0.0044	0.0026
	Zirconium (Zr)-Dissolved (mg/L)		0.00123	0.00035	<0.00060 ^{DLA}	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674376-81	L1674376-82	L1674376-83	L1674376-84	L1674376-85
		Description	Water	Water	Water	Water	Water
		Sampled Date	13-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15
		Sampled Time	08:40	16:45	17:15	16:02	11:45
		Client ID	BH-08	BH-14A	BH14B	BH13B	P09-ETA-1
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		20.1	19.5	17.2	5.99	17.6
	Strontium (Sr)-Dissolved (mg/L)		1.07	3.23	3.42	0.666	0.422
	Sulfur (S)-Dissolved (mg/L)		911	873	790	158	10.4
	Tellurium (Te)-Dissolved (mg/L)		<0.010 ^{DLA}	<0.0010 ^{DLA}	<0.00040 ^{DLA}	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		0.00554 ^{DLA}	<0.000050 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.0050 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.0050 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.015 ^{DLA}	<0.0015 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.0050 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.00010	0.00014
	Uranium (U)-Dissolved (mg/L)		0.0477	0.140	0.197	0.00156	0.000069
	Vanadium (V)-Dissolved (mg/L)		<0.025 ^{DLA}	<0.0025 ^{DLA}	<0.0010 ^{DLA}	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		195	26.0	0.385	0.0015	<0.0010
	Zirconium (Zr)-Dissolved (mg/L)		<0.015 ^{DLA}	<0.0015 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1674376-86 Water 14-SEP-15 12:15 P09-ETA-2	L1674376-87 Water 14-SEP-15 10:15 P05-02	L1674376-88 Water 14-SEP-15 09:30 P09-C2	L1674376-89 Water 14-SEP-15 09:30 MW15-900	L1674376-90 Water 14-SEP-15 09:30 FIELD BLANK-500	
Grouping	Analyte					
WATER						
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	46.0	35.7	324	328	<0.050
	Strontium (Sr)-Dissolved (mg/L)	3.57	1.67	4.46	4.31	<0.00020
	Sulfur (S)-Dissolved (mg/L)	1630	691	<1.0	<1.0	<0.50
	Tellurium (Te)-Dissolved (mg/L)	<0.0040 ^{DLA}	<0.0020 ^{DLA}	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00020
	Thallium (Tl)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00010 ^{DLA}	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000010
	Thorium (Th)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010
	Tin (Sn)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0010 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.0060 ^{DLA}	<0.0030 ^{DLA}	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030
	Tungsten (W)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0010 ^{DLA}	0.00120	0.00116	<0.00010
	Uranium (U)-Dissolved (mg/L)	0.00485	0.00485	0.000400	0.000387	<0.000010
	Vanadium (V)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.0050 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	175	0.071	0.0032	<0.0020 ^{DLA}	<0.0010
	Zirconium (Zr)-Dissolved (mg/L)	<0.0060 ^{DLA}	<0.0030 ^{DLA}	0.151	0.152	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674376-91	L1674376-92	L1674376-93	L1674376-94	L1674376-95
					Water	Water	Water	Water	Water
					14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15
					08:25	17:00	15:59	14:43	14:24
					X24-96D	SRK08-10A	SRK08-P9	P96-8B	P96-8A
Grouping	Analyte								
WATER									
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	34.2	161	11.6	62.0	56.2			
	Strontium (Sr)-Dissolved (mg/L)	2.16	1.57	4.71	3.48	3.13			
	Sulfur (S)-Dissolved (mg/L)	807	610	336	2710	2590			
	Tellurium (Te)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0010 ^{DLA}	<0.00040 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}			
	Thallium (Tl)-Dissolved (mg/L)	0.00045 ^{DLA}	<0.000050 ^{DLA}	<0.000020 ^{DLA}	<0.0010 ^{DLA}	0.0015 ^{DLA}			
	Thorium (Th)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}			
	Tin (Sn)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}			
	Titanium (Ti)-Dissolved (mg/L)	<0.0030 ^{DLA}	<0.0015 ^{DLA}	<0.00060 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}			
	Tungsten (W)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.00050 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.010 ^{DLA}			
	Uranium (U)-Dissolved (mg/L)	0.00306 ^{DLA}	0.0338 ^{DLA}	0.00751 ^{DLA}	0.0023 ^{DLA}	0.0143 ^{DLA}			
	Vanadium (V)-Dissolved (mg/L)	<0.0050 ^{DLA}	<0.0025 ^{DLA}	<0.0010 ^{DLA}	<0.050 ^{DLA}	<0.050 ^{DLA}			
	Zinc (Zn)-Dissolved (mg/L)	0.530 ^{DLA}	0.898 ^{DLA}	0.0234 ^{DLA}	852 ^{DLA}	880 ^{DLA}			
	Zirconium (Zr)-Dissolved (mg/L)	<0.0030 ^{DLA}	0.0031 ^{DLA}	<0.00060 ^{DLA}	<0.030 ^{DLA}	<0.030 ^{DLA}			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1674376-96	L1674376-97	L1674376-98	L1674376-99	L1674376-100	
Description	Water	Water	Water	Water	Water	
Sampled Date	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15	14-SEP-15	
Sampled Time	12:08	11:14	10:29	08:45	09:18	
Client ID	SRK05-ETA-BR1	SRK05-ETA-BR2	SRK04-3A	SRK08-11B	SRK08-11A	
Grouping	Analyte					
WATER						
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	47.5	28.0	57.2	12.4	7.14
	Strontium (Sr)-Dissolved (mg/L)	3.92	6.77	4.02	0.974	0.694
	Sulfur (S)-Dissolved (mg/L)	2400	547	2820	312	156
	Tellurium (Te)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.00040 ^{DLA}	<0.020 ^{DLA}	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.000020 ^{DLA}	<0.0010 ^{DLA}	0.000032	<0.000010
	Thorium (Th)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)	<0.010 ^{DLA}	<0.00020 ^{DLA}	<0.010 ^{DLA}	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.030 ^{DLA}	<0.00060 ^{DLA}	<0.030 ^{DLA}	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)	<0.010 ^{DLA}	0.00028	<0.010 ^{DLA}	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)	0.0079	0.000678	0.0079	0.00127	0.00207
	Vanadium (V)-Dissolved (mg/L)	<0.050 ^{DLA}	<0.0010 ^{DLA}	<0.050 ^{DLA}	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	646	8.13	706	2.08	0.0185
	Zirconium (Zr)-Dissolved (mg/L)	<0.030 ^{DLA}	<0.00060 ^{DLA}	<0.030 ^{DLA}	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674376-101 Water 14-SEP-15 09:18 MW15-1000	L1674376-102 Water 14-SEP-15 TRAVEL BLANK		
Grouping	Analyte				
WATER					
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)	7.37			
	Strontium (Sr)-Dissolved (mg/L)	0.723			
	Sulfur (S)-Dissolved (mg/L)	160			
	Tellurium (Te)-Dissolved (mg/L)	<0.00020			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010			
	Thorium (Th)-Dissolved (mg/L)	<0.00010			
	Tin (Sn)-Dissolved (mg/L)	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	<0.00030			
	Tungsten (W)-Dissolved (mg/L)	<0.00010			
	Uranium (U)-Dissolved (mg/L)	0.00202			
	Vanadium (V)-Dissolved (mg/L)	<0.00050			
	Zinc (Zn)-Dissolved (mg/L)	0.0168			
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030			

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

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Tin (Sn)-Dissolved	DLA	76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99 L1674376-1, -10, -100, -101, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -5, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -6, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -7, -70, -71, -72, -73, -74, -75, -76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99
Duplicate	Vanadium (V)-Dissolved	DLA	L1674376-1, -10, -100, -101, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -5, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -6, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -7, -70, -71, -72, -73, -74, -75, -76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1674376-1, -10, -100, -101, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -5, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -6, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -7, -70, -71, -72, -73, -74, -75, -76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99
Duplicate	Silver (Ag)-Dissolved	DLA	L1674376-1, -10, -100, -101, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -5, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -6, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -7, -70, -71, -72, -73, -74, -75, -76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99
Duplicate	Titanium (Ti)-Dissolved	DLA	L1674376-1, -10, -100, -101, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -5, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -6, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -7, -70, -71, -72, -73, -74, -75, -76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99
Duplicate	Cadmium (Cd)-Dissolved	DLM	L1674376-1, -10, -100, -101, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -5, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -6, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -7, -70, -71, -72, -73, -74, -75, -76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99
Matrix Spike	Sulfate (SO4)	MS-B	L1674376-30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Sulfate (SO4)	MS-B	L1674376-30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Sulfate (SO4)	MS-B	L1674376-100, -101, -102, -91, -92, -93, -94, -95, -96, -97, -98, -99
Matrix Spike	Sulfate (SO4)	MS-B	L1674376-100, -101, -102, -91, -92, -93, -94, -95, -96, -97, -98, -99
Matrix Spike	Sulfate (SO4)	MS-B	L1674376-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -22, -23, -24, -25, -26, -27, -28, -29, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1674376-1, -10, -100, -101, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49, -5, -50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -6, -60, -61, -62, -63, -64, -65, -66, -67, -68, -69, -7, -70, -71, -72, -73, -74, -75, -

Reference Information

Parameter	Qualifier	Applies to Sample Number(s)
		76, -77, -78, -79, -8, -80, -81, -82, -83, -84, -85, -86, -87, -88, -89, -9, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACY-PCT-VA	Water	Acidity by Automatic Titration	APHA 2310 "Acidity"
<p>This analysis is carried out using procedures adapted from APHA Method 2310 "Acidity". Acidity is determined by potentiometric titration to a specified endpoint.</p> <p>Samples of industrial wastes, acid mine drainage, or other solutions that contain appreciable amounts of hydrolyzable metal ions such as aluminum, iron, and manganese may require hot peroxide treatment to ensure oxidation and hydrolysis of reduced forms of polyvalent cations. Acidity results may be highly variable if this procedure is not followed. Results in this report for 'Acidity (as CaCO3)' have not been peroxide treated.</p>			
ACY-PCT-VA	Water	Acidity by Automatic Titration	APHA 2310 Acidity
<p>This analysis is carried out using procedures adapted from APHA Method 2310 "Acidity". Acidity is determined by potentiometric titration to a specified endpoint.</p> <p>Samples of industrial wastes, acid mine drainage, or other solutions that contain appreciable amounts of hydrolyzable metal ions such as aluminum, iron, and manganese may require hot peroxide treatment to ensure oxidation and hydrolysis of reduced forms of polyvalent cations. Acidity results may be highly variable if this procedure is not followed. Results in this report for 'Acidity (as CaCO3)' have not been peroxide treated.</p>			
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity
<p>This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.</p>			
CL-IC-N-WR	Water	Chloride in Water by IC	EPA 300.1 (mod)
<p>Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.</p>			
EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.
<p>This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.</p>			
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
<p>Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.</p>			
MET-D-CCMS-VA	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)
<p>Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.</p> <p>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.</p>			
MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)
<p>Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.</p> <p>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.</p>			
PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H "pH Value"
<p>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</p> <p>It is recommended that this analysis be conducted in the field.</p>			
PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H pH Value
<p>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</p> <p>It is recommended that this analysis be conducted in the field.</p>			
SO4-IC-N-WR	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Reference Information

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

TSS-LOW-WR Water Total Suspended Solids by Grav. (1 mg/L) APHA 2540 D

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

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

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

Laboratory Definition Code	Laboratory Location
----------------------------	---------------------

Chain of Custody Numbers:

1-1343-005.12

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.



L1674376-COFC

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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)											
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT		<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge											
		Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jo			Specify Date Required for E2, E or P:											
		Email 2 chris@elr.ca			Analysis Request											
Invoice To		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX														
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Email 1 or Fax nsandys@hemmera.com														
Company: Hemmera Environchem Inc.		Email 2 chris@elr.ca														
Contact: Natasha Sandys																
Project Information		Oil and Gas Required Fields (client use)														
ALS Quote #: Q50399		Approver ID:			Cost Center:											
Job #: 1343-005.12		GL Account:			Routing Code:											
PO / AFE:		Activity Code:														
LSD:		Location:														
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Sluggett			Sampler: JH, MM											
ALS Sample # (lab use only)		Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)		Time (hh:mm)		Sample Type						Number of Containers	
MW14-08					10/09/2015		11:54		Water		R R R R R R R R R R					
MW14-09					10/09/2015		12:42		Water		R R R R R R R R R R					
MW15-100					10/09/2015		11:20		Water		R R R R R R R R R R					
MW15-200					10/09/2015		10:44		Water		R R R R R R R R R R					
Field Blank-100					10/09/2015		11:20		Water		R R R R R R R R R R					
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report (client use)			SAMPLE CONDITION AS RECEIVED (lab use only)											
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>											
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>											
					Cooling Initiated <input type="checkbox"/>											
					INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C						
										7.8 - 7 coolers avg.						
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)										
Released by:			Received by:			Received by: lady			Date: Sept. 18			Time: 2pm				
Date:			Date:			Date:			Date:			Time:				



Chain of Custody (COC) / Analytical Request Form



L1674376-COFC

COC Number: 1 - 1343-005.12

Page 3 of 10

Canada Toll Free: 1 800 668 9878

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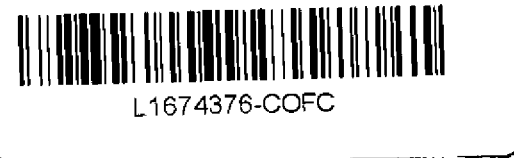
Report To		Report Format / Distribution			Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)												
Company: Hemmera Environchem Inc.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)												
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT												
Address: 230 - 2237 2nd Avenue Whitehorse, YT		<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT												
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge												
		Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jch			Specify Date Required for E2, E or P:												
		Email 2 chris@elr.ca			Analysis Request												
Invoice To		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX															
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Email 1 or Fax nsandys@hemmera.com															
Company: Hemmera Environchem Inc.		Email 2 chris@elr.ca															
Contact: Natasha Sandys																	
Project Information		Oil and Gas Required Fields (client use)															
ALS Quote #: Q50399		Approver ID:			Cost Center:												
Job #: 1343-005.12		GL Account:			Routing Code:												
PO / AFE:		Activity Code:															
LSD:		Location:															
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Sluggett		Sampler: JH, GR, JC, AN													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers	
	S1A			11/09/2015	15:36	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-SP7A			11/09/2015	16:30	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-SP7B			11/09/2015	17:04	WATER	R	R	R	R	R	R	R	R	R	2	
	P96-7			11/09/2015	11:06	WATER	R	R	R	R	R	R	R	R	R	2	
	PW14-01			11/09/2015	9:16	WATER	R	R	R	R	R	R	R	R	R	2	
	MW15-400			11/09/2015	9:16	WATER	R	R	R	R	R	R	R	R	R	2	
	Field Blank-200			11/09/2015	9:16	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-SBR4			11/09/2015	13:36	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-SP8B			11/09/2015	12:29	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-SP8A			11/09/2015	12:00	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-SBR3			11/09/2015	14:14	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK05-SP-5			11/09/2015	17:41	WATER	R	R	R	R	R	R	R	R	R	2	
Drinking Water (DW) Samples¹ (client use)				Special Instructions / Specify Criteria to add on report (client use)				SAMPLE CONDITION AS RECEIVED (lab use only)									
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>									
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>									
								Cooling initiated <input type="checkbox"/>					INITIAL COOLER TEMPERATURES °C				
													FINAL COOLER TEMPERATURES °C 7.8°C - 7 coolers avg.				
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by:		Date:		Time:		Received by:		Date:		Time:		Received by: lady		Date: Sept-18		Time: 2pm	

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS Form 0226 v05 Proc04 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.



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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)				R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)									
Contact: Natasha Sandys			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT									
Address: 230 - 2237 2nd Avenue Whitehorse, YT			<input type="checkbox"/> Criteria on Report - provide details below if box checked				E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT									
Phone: 867-456-4865			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge									
			Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jo				Specify Date Required for E2, E or P:									
			Email 2 chris@elr.ca				Analysis Request									
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Invoice Distribution				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below									
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX													
Company: Hemmera Environchem Inc.			Email 1 or Fax nsandys@hemmera.com													
Contact: Natasha Sandys			Email 2 chris@elr.ca													
Project Information			Oil and Gas Required Fields (client use)													
ALS Quote #: Q50399			Approver ID:		Cost Center:											
Job #: 1343-005.12			GL Account:		Routing Code:											
PO / AFE:			Activity Code:													
LSD:			Location:													
ALS Lab Work Order # (lab use only)			ALS Contact: Sean Sluggett		Sampler: JH, GR, JC, AN											
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers
	S2B			11/09/2015	15:38	WATER	R	R	R	R	R	R	R	R	R	2
	S2A			11/09/2015	14:45	WATER	R	R	R	R	R	R	R	R	R	2
	SRK05-SP-4A			11/09/2015	10:13	WATER	R	R	R	R	R	R	R	R	R	2
	P09-SIS1			11/09/2015	13:30	WATER	R	R	R	R	R	R	R	R	R	2
	P09-SIS2			11/09/2015	12:40	WATER	R	R	R	R	R	R	R	R	R	2
	P09-SIS3			11/09/2015	10:36	WATER	R	R	R	R	R	R	R	R	R	2
	SRK05-SP-4B			11/09/2015	9:40	WATER	R	R	R	R	R	R	R	R	R	2
	P09-SIS4			11/09/2015	8:40	WATER	R	R	R	R	R	R	R	R	R	2
	MW15-300			11/09/2015	12:40	WATER	R	R	R	R	R	R	R	R	R	2
Drinking Water (DW) Samples¹ (client use)			Special Instructions / Specify Criteria to add on report (client use)				SAMPLE CONDITION AS RECEIVED (lab use only)									
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>									
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>									
							Cooling Initiated <input type="checkbox"/>									
							INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
												7.8°C - 7 coolers are				
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by: lady			Date: Sept. 18			Time: 2pm				


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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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)												
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT												
Address: 230 - 2237 2nd Avenue Whitehorse, YT		<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT												
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge												
		Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jcs			Specify Date Required for E2, E or P:												
		Email 2 chris@elr.ca			Analysis Request												
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX															
Company: Hemmera Environchem Inc.		Email 1 or Fax nsandys@hemmera.com															
Contact: Natasha Sandys		Email 2 chris@elr.ca															
Project Information		Oil and Gas Required Fields (client use)															
ALS Quote #: Q50399		Approver ID:			Cost Center:												
Job #: 1343-005.12		GL Account:			Routing Code:												
PO / AFE:		Activity Code:															
LSD:		Location:															
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Sluggett			Sampler: JH, GR, JC, AN												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers	
	BH5			12/09/2015	16:35	WATER	R	R	R	R	R	R	R	R		2	
	MW14-14			12/09/2015	15:00	WATER	R	R	R	R	R	R	R	R		2	
	P96-06			12/09/2015	9:00	WATER	R	R	R	R	R	R	R	R		2	
	MW15-500			12/09/2015	9:00	WATER	R	R	R	R	R	R	R	R		2	
	Field Blank-300			12/09/2015	9:00	WATER	R	R	R	R	R	R	R	R		2	
	MW14-12D			12/09/2015	10:58	WATER	R	R	R	R	R	R	R	R		2	
	MW14-12S			12/09/2015	10:17	WATER	R	R	R	R	R	R	R	R		2	
	MW14-15			12/09/2015	13:08	WATER	R	R	R	R	R	R	R	R		2	
	MW14-13			12/09/2015	13:51	WATER	R	R	R	R	R	R	R	R		2	
	MW14-16			12/09/2015	14:39	WATER	R	R	R	R	R	R	R	R		2	
	P05-04			12/09/2015	17:34	WATER	R	R	R	R	R	R	R	R		2	
	BH6			12/09/2015	17:10	WATER	R	R	R	R	R	R	R	R		2	
Drinking Water (DW) Samples¹ (client use)				Special Instructions / Specify Criteria to add on report (client use)				SAMPLE CONDITION AS RECEIVED (lab use only)									
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>									
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>									
								Cooling Initiated <input type="checkbox"/>					INITIAL COOLER TEMPERATURES °C				
													FINAL COOLER TEMPERATURES °C				
													7.8 °C - 7 coolers any				
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by:		Date:	Time:	Received by:		Date:	Time:	Received by: Lady			Date: 12-18		Time: 2pm				



L1674376-COFC

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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)												
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT												
Address: 230 - 2237 2nd Avenue Whitehorse, YT		<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT												
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge												
		Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jchris@elr.ca			Specify Date Required for E2, E or P:												
		Email 2 chris@elr.ca			Analysis Request												
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX															
Company: Hemmera Environchem Inc.		Email 1 or Fax nsandys@hemmera.com															
Contact: Natasha Sandys		Email 2 chris@elr.ca															
Project Information		Oil and Gas Required Fields (client use)															
ALS Quote #: Q50399		Approver ID:			Cost Center:												
Job #: 1343-005.12		GL Account:			Routing Code:												
PO / AFE:		Activity Code:															
LSD:		Location:															
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Sluggett			Sampler: JH, GR, JC, AN												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers	
BH10B				12/09/2015	16:31	WATER	R	R	R	R	R	R	R	R	R	2	
BH10A				12/09/2015	16:02	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-P12A			12/09/2015	14:54	WATER	R	R	R	R	R	R	R	R	R	2	
	SRK08-P12B			12/09/2015	15:20	WATER	R	R	R	R	R	R	R	R	R	2	
MW14-04S				12/09/2015	13:58	WATER	R	R	R	R	R	R	R	R	R	2	
PW14-07				12/09/2015	11:53	WATER	R	R	R	R	R	R	R	R	R	2	
PW14-06				12/09/2015	9:54	WATER	R	R	R	R	R	R	R	R	R	2	
MW15-800				12/09/2015	9:54	WATER	R	R	R	R	R	R	R	R	R	2	
S1B				12/09/2015	8:10	WATER	R	R	R	R	R	R	R	R	R	2	
Drinking Water (DW) Samples¹ (client use)				Special Instructions / Specify Criteria to add on report (client use)				SAMPLE CONDITION AS RECEIVED (lab use only)									
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>									
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>									
								Cooling Initiated <input type="checkbox"/>									
								INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
													7.8 - 7 coolers avg.				
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by:		Date:		Time:		Received by:		Date:		Time:		Received by:		Date:		Time:	
												Landy		Sept. 18		2pm	



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L1674376-COFC

COC Number: 1 - 1343-005.12

Page 7 of 10

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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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)				R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)											
Contact: Natasha Sandys			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT			<input type="checkbox"/> Criteria on Report - provide details below if box checked				E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-456-4865			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge											
			Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jcsandys@hemmera.com				Specify Date Required for E2, E or P:											
			Email 2 chris@elr.ca				Analysis Request											
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Invoice Distribution				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX															
Company: Hemmera Environchem Inc.			Email 1 or Fax nsandys@hemmera.com															
Contact: Natasha Sandys			Email 2 chris@elr.ca															
Project Information			Oil and Gas Required Fields (client use)															
ALS Quote #: Q50399			Approver ID: _____ Cost Center: _____															
Job #: 1343-005.12			GL Account: _____ Routing Code: _____															
PO / AFE: _____			Activity Code: _____															
LSD: _____			Location: _____															
ALS Lab Work Order # (lab use only)			ALS Contact: Sean Sluggett		Sampler: JH, GR, JC, AN													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers		
X25-96A				13/09/2015	16:58	WATER	R	R	R	R	R	R	R	R	R	2		
X25-96B				13/09/2015	17:24	WATER	R	R	R	R	R	R	R	R	R	2		
	P01-03			13/09/2015	16:22	WATER	R	R	R	R	R	R	R	R	R	2		
	P05-01-05			13/09/2015	15:43	WATER	R	R	R	R	R	R	R	R	R	2		
P05-01-04				13/09/2015	15:21	WATER	R	R	R	R	R	R	R	R	R	2		
P05-01-03				13/09/2015	14:49	WATER	R	R	R	R	R	R	R	R	R	2		
P05-01-02				13/09/2015	14:25	WATER	R	R	R	R	R	R	R	R	R	2		
P03-09-9				13/09/2015	13:09	WATER	R	R	R	R	R	R	R	R	R	2		
P01-11				13/09/2015	11:48	WATER	R	R	R	R	R	R	R	R	R	2		
MW15-800				13/09/2015	11:48	WATER	R	R	R	R	R	R	R	R	R	2		
	Field Blank-400			13/09/2015	11:48	WATER	R	R	R	R	R	R	R	R	R	2		
P03-01-8				13/09/2015	10:19	WATER	R	R	R	R	R	R	R	R	R	2		
Drinking Water (DW) Samples ¹ (client use)			Special Instructions / Specify Criteria to add on report (client use)				SAMPLE CONDITION AS RECEIVED (lab use only)											
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>											
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>											
							Cooling Initiated <input type="checkbox"/>											
							INITIAL COOLER TEMPERATURES °C						FINAL COOLER TEMPERATURES °C					
													7.8°C - 7 coolers avg.					
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)											
Released by:		Date:	Time:	Received by:		Date:	Time:	Received by: <i>Lady</i>				Date: <i>Sept. 18</i>	Time: <i>2pm</i>					

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 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.

NA-PH-0326-005 Form 04 January 2014



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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)									
Contact: Natasha Sandys			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT									
Address: 230 - 2237 2nd Avenue Whitehorse, YT			<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT									
Phone: 867-456-4865			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge									
			Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jo			Specify Date Required for E2,E or P:									
			Email 2 chris@elr.ca			Analysis Request									
Invoice To			Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below									
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX												
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Email 1 or Fax nsandys@hemmera.com												
Company: Hemmera Environchem Inc.			Email 2 chris@elr.ca												
Contact: Natasha Sandys															
Project Information			Oil and Gas Required Fields (client use)												
ALS Quote #: Q50399			Approver ID:			Cost Center:									
Job #: 1343-005.12			GL Account:			Routing Code:									
PO / AFE:			Activity Code:												
LSD:			Location:												
ALS Lab Work Order # (lab use only)			ALS Contact: Sean Sluggett		Sampler: JH, GR, JC, AN										
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers
	SRK08-SBR2		13/09/2015	8:51	WATER	R	R	R	R	R	R	R	R	R	2
	P01-04A		13/09/2015	17:40	WATER	R	R	R	R	R	R	R	R	R	2
	P01-04B		13/09/2015	17:05	WATER	R	R	R	R	R	R	R	R	R	2
	P09-C3		13/09/2015	14:38	WATER	R	R	R	R	R	R	R	R	R	2
	P01-01B		13/09/2015	13:40	WATER	R	R	R	R	R	R	R	R	R	2
	TH86-5		13/09/2015	11:34	WATER	R	R	R	R	R	R	R	R	R	2
	P01-01A		13/09/2015	13:15	WATER	R	R	R	R	R	R	R	R	R	2
	TH86-2		13/09/2015	10:17	WATER	R	R	R	R	R	R	R	R	R	2
	MW15-700		13/09/2015	10:17	WATER	R	R	R	R	R	R	R	R	R	2
	BH-08		13/09/2015	8:40	WATER	R	R	R	R	R	R	R	R	R	2
Drinking Water (DW) Samples¹ (client use)			Special Instructions / Specify Criteria to add on report (client use)			SAMPLE CONDITION AS RECEIVED (lab use only)									
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>									
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>									
						Cooling Initiated <input type="checkbox"/>									
						INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
											7.8 - 7 coolers avg.				
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)									
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by: lady			Date: Sept. 18			Time: 2pm			



L1674376-COFC

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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)				R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)											
Contact: Natasha Sandys			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT			<input type="checkbox"/> Criteria on Report - provide details below if box checked				E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-456-4865			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge											
			Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jo				Specify Date Required for E2, E or P:											
			Email 2 chris@elr.ca				Analysis Request											
Invoice To			Invoice Distribution				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX															
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Email 1 or Fax nsandys@hemmera.com															
Company: Hemmera Environchem Inc.			Email 2 chris@elr.ca															
Contact: Natasha Sandys																		
Project Information			Oil and Gas Required Fields (client use)															
ALS Quote #: Q50399			Approver ID:				Cost Center:											
Job #: 1343-005.12			GL Account:				Routing Code:											
PO / AFE:			Activity Code:															
LSD:			Location:															
ALS Lab Work Order # (lab use only)			ALS Contact: Sean Sluggett		Sampler: JH, GR, JC, AM													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers		
	BH14A			14/09/2015	16:45	WATER	R	R	R	R	R	R	R	R	R		2	
	BH14B			14/09/2015	17:15	WATER	R	R	R	R	R	R	R	R	R		2	
	BH13B			14/09/2015	16:02	WATER	R	R	R	R	R	R	R	R	R		2	
	P09-ETA-1			14/09/2015	11:45	WATER	R	R	R	R	R	R	R	R	R		2	
	P09-ETA-2			14/09/2015	12:15	WATER	R	R	R	R	R	R	R	R	R		2	
	P05-02			14/09/2015	10:15	WATER	R	R	R	R	R	R	R	R	R		2	
	P09-C2			14/09/2015	9:30	WATER	R	R	R	R	R	R	R	R	R		2	
	MW15-900			14/09/2015	9:30	WATER	R	R	R	R	R	R	R	R	R		2	
	Field Blank-500			14/09/2015	9:30	WATER	R	R	R	R	R	R	R	R	R		2	
	X24-96D			14/09/2015	8:25	WATER	R	R	R	R	R	R	R	R	R		2	
	SRK08-10A			14/09/2015	17:00	WATER	R	R	R	R	R	R	R	R	R		2	
	SRK08-P9			14/09/2015	15:59	WATER	R	R	R	R	R	R	R	R	R		2	
Drinking Water (DW) Samples¹ (client use)				Special Instructions / Specify Criteria to add on report (client use)				SAMPLE CONDITION AS RECEIVED (lab use only)										
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>										
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>										
								Cooling Initiated <input type="checkbox"/>										
								INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C					
													7.8 - 7 coolers any.					
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)										
Released by:		Date:	Time:	Received by:		Date:	Time:	Received by: lady			Date: 8 Sept. 18		Time: 2pm					



L1674376-COFC

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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)												
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT												
Address: 230 - 2237 2nd Avenue Whitehorse, YT		<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT												
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge												
		Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jchris@elr.ca			Specify Date Required for E2, E or P:												
		Email 2 chris@elr.ca			Analysis Request												
Invoice To		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX															
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Email 1 or Fax nsandys@hemmera.com															
Company: Hemmera Environchem Inc.		Email 2 chris@elr.ca															
Contact: Natasha Sandys																	
Project Information		Oil and Gas Required Fields (client use)															
ALS Quote #: Q50399		Approver ID:															
Job #: 1343-005.12		GL Account:															
PO / AFE:		Activity Code:															
LSD:		Location:															
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Sluggett		Sampler: JH, GR, JC, AN													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers	
	P96-8B			14/09/2015	14:43	Water	R	R	R	R	R	R	R	R	R	R	2
	P96-8A			14/09/2015	14:24	Water	R	R	R	R	R	R	R	R	R	R	2
	SRK05-ETA-BR1			14/09/2015	12:08	Water	R	R	R	R	R	R	R	R	R	R	2
	SRK05-ETA-BR2			14/09/2015	11:14	Water	R	R	R	R	R	R	R	R	R	R	2
	SRK04-3A			14/09/2015	10:29	Water	R	R	R	R	R	R	R	R	R	R	2
	SRK08-11B			14/09/2015	8:45	Water	R	R	R	R	R	R	R	R	R	R	2
	SRK08-11A			14/09/2015	9:18	Water	R	R	R	R	R	R	R	R	R	R	2
	MW15-1000			14/09/2015	9:18	Water	R	R	R	R	R	R	R	R	R	R	2
	TRAVEL BLANK			14/09/2015		Water	R	R	R	R	R	R	R	R	R	R	4
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report (client Use)			SAMPLE CONDITION AS RECEIVED (lab use only)												
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>												
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>												
					Cooling Initiated <input type="checkbox"/>												
					INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C							
										7.8 - 7 coolers aug							
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)												
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by: lady			Date: Sept. 16			Time: 2pm					



L1674376-COFC

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: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)				R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)											
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT		<input type="checkbox"/> Criteria on Report - provide details below if box checked				E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge											
		Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jchris@elr.ca				Specify Date Required for E2, E or P:											
		Email 2 chris@elr.ca				Analysis Request											
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Invoice Distribution				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input checked="" type="checkbox"/> MAIL <input type="checkbox"/> FAX															
Company: Hemmera Environchem Inc.		Email 1 or Fax nsandys@hemmera.com															
Contact: Natasha Sandys		Email 2 chris@elr.ca															
Project Information		Oil and Gas Required Fields (client use)															
ALS Quote #: Q50399		Approver ID:		Cost Center:													
Job #: 1343-005.12		GL Account:		Routing Code:													
PO / AFE:		Activity Code:															
LSD:		Location:															
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Sluggett		Sampler: JH, MM													
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers	
	MW14-02D			10/09/2015	17:10	WATER	R	R	R	R	R	R	R	R		2	
	MW14-02S			10/09/2015	15:30	WATER	R	R	R	R	R	R	R	R		2	
	MW14-03			10/09/2015	13:05	WATER	R	R	R	R	R	R	R	R		2	
	MW14-05			10/09/2015	10:44	WATER	R	R	R	R	R	R	R	R		2	
	P09-SIS5			10/09/2015	17:18	WATER	R	R	R	R	R	R	R	R		2	
	SRK05-SP-3A			10/09/2015	16:52	WATER	R	R	R	R	R	R	R	R		2	
	SRK05-SP-3B			10/09/2015	16:14	WATER	R	R	R	R	R	R	R	R		2	
	SRK05-SP-1A			10/09/2015	15:38	WATER	R	R	R	R	R	R	R	R		2	
	SRK05-SP-1B			10/09/2015	15:00	WATER	R	R	R	R	R	R	R	R		2	
	MW14-10			10/09/2015	13:35	WATER	R	R	R	R	R	R	R	R		2	
	SRK05-SP-2			10/09/2015	11:20	WATER	R	R	R	R	R	R	R	R		2	
	MW14-11			10/09/2015	10:20	WATER	R	R	R	R	R	R	R	R		2	
Drinking Water (DW) Samples¹ (client use)				Special Instructions / Specify Criteria to add on report (client use)				SAMPLE CONDITION AS RECEIVED (lab use only)									
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>									
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>									
								Cooling Initiated <input type="checkbox"/>									
								INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
								2.5, 2.1, 2.4, 2.5					3.5, 2.1, 4.0, 3.0, 2.4, 2.5 S 7.8°C - 7 coolers avg.				
SHIPMENT RELEASE (client use)				INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by: C. J. Steinhilber		Date: Sept 17/15		Time: 09:45		Received by: [Signature]		Date: 4:45		Time: 17:30		Received by: lady		Date: Sept 18		Time: 2pm	



HEMMERA ENVIROCHEM INC.
ATTN: Natasha Sandys
230 - 2237 2nd Avenue
Whitehorse YK Y1A 0K7

Date Received: 17-SEP-15
Report Date: 02-NOV-15 15:18 (MT)
Version: FINAL REV. 2

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1674773
Project P.O. #: NOT SUBMITTED
Job Reference: 1343-005.12
C of C Numbers: 1-1343-005.12(2)
Legal Site Desc:

Comments:

2-NOV-2015 This report replaces the previous version and contains the addition of Hardness calculation to all samples.

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-1	L1674773-2	L1674773-3	L1674773-4	L1674773-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
		Sampled Time	17:00	16:20	15:42	15:15	14:27
		Client ID	SRK05-5C	SRK05-9	P96-9A	BH05-9B-R(P96-9BR)	SRK05-8
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		758	1560	2200	564	2250
	Hardness (as CaCO3) (mg/L)		428	1310	2250	210	2020
	pH (pH)		8.32	7.68	8.06	8.45	7.85
	Total Suspended Solids (mg/L)		37.8	36.4	5.2	91.7	3.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		<1.0	1.5	16.8	<1.0	31.8
	Alkalinity, Total (as CaCO3) (mg/L)		191	350	539	147	590
	Chloride (Cl) (mg/L)		<0.50	<0.50	<5.0 ^{DLA}	1.05	<5.0 ^{DLA}
	Sulfate (SO4) (mg/L)		284	928	1710	167	1370
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674773-6	L1674773-7	L1674773-8	L1674773-9	L1674773-10
					Water	Water	Water	Water	Water
		15-SEP-15	13:45	SRK05-07	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
					13:45	10:50	13:45	13:45	09:05
					SRK05-07	V36	MW15-1100	FIELD BLANK-600	V34
Grouping	Analyte								
WATER									
Physical Tests	Conductivity (uS/cm)	2540	2350	2520	<2.0	1780			
	Hardness (as CaCO3) (mg/L)	2590	2320	2540	<0.50	1490			
	pH (pH)	7.86	7.78	7.53	5.57	7.41			
	Total Suspended Solids (mg/L)	3.2	6.0	5.2	<1.0	19.0			
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	34.9	36.2	57.8	<1.0	76.0			
	Alkalinity, Total (as CaCO3) (mg/L)	687	628	681	<1.0	942			
	Chloride (Cl) (mg/L)	<5.0 ^{DLA}	<5.0 ^{DLA}	<5.0 ^{DLA}	<0.50	<2.5 ^{DLA}			
	Sulfate (SO4) (mg/L)	1810	1540	1610	<0.30	597			
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)								
	Cesium (Cs)-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)								
	Magnesium (Mg)-Total (mg/L)								
	Manganese (Mn)-Total (mg/L)								
	Molybdenum (Mo)-Total (mg/L)								
	Nickel (Ni)-Total (mg/L)								
	Phosphorus (P)-Total (mg/L)								
	Potassium (K)-Total (mg/L)								
	Rubidium (Rb)-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)									

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-11	L1674773-12	L1674773-13	L1674773-14	L1674773-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
		Sampled Time	09:40	17:52	15:56	16:33	11:23
		Client ID	V35	SRK08-P14	P09-GSIB	P09-GSIA	P09-LCD1
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)		2380	1730	1410	1030	944
	Hardness (as CaCO3) (mg/L)		2310	1440	970	667	568
	pH (pH)		7.52	8.00	7.97	7.94	8.17
	Total Suspended Solids (mg/L)		7.4	7.6	39.7	1.8	12.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		54.8	11.3	9.6	9.5	4.0
	Alkalinity, Total (as CaCO3) (mg/L)		637	292	263	246	293
	Chloride (Cl) (mg/L)		<5.0 ^{DLA}	<2.5 ^{DLA}	<1.0 ^{DLA}	<1.0 ^{DLA}	<1.0 ^{DLA}
	Sulfate (SO4) (mg/L)		1390	1100	834	455	319
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1674773-16 Water 15-SEP-15 10:35 P09-LCD4	L1674773-17 Water 15-SEP-15 09:50 P09-LCD6	L1674773-18 Water 15-SEP-15 09:50 MW15-1200	L1674773-19 Water 15-SEP-15 08:33 V37	L1674773-20 Water 16-SEP-15 09:30 P09-VC2	
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	760	926	952	1060	349
	Hardness (as CaCO3) (mg/L)	326	596	599	672	190
	pH (pH)	8.45	8.26	8.22	8.48	8.40
	Total Suspended Solids (mg/L)	21.0	18.0	21.2	193	38.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	<1.0	1.4	2.4	<1.0	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	357	274	270	481	170
	Chloride (Cl) (mg/L)	<0.50 ^{DLA}	<1.0 ^{DLA}	<1.0 ^{DLA}	<1.0 ^{DLA}	<0.50
	Sulfate (SO4) (mg/L)	113	350	353	272	38.4
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-21	L1674773-22	L1674773-23	L1674773-24	L1674773-25
		Description	Water	Water	Water	Water	Water
		Sampled Date	16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15
		Sampled Time	09:30	10:20	11:42	11:26	13:15
		Client ID	FIELD BLANK-700	P09-VC1	P2001-2A	P2001-2B	SRK08-P15
Grouping	Analyte						
WATER							
Physical Tests	Conductivity (uS/cm)	<2.0	332	2520	2420	1880	
	Hardness (as CaCO3) (mg/L)	<0.50	143	2510	2560	1320	
	pH (pH)	5.38	8.39	7.42	7.07	7.78	
	Total Suspended Solids (mg/L)	<1.0	71.3	201	81.0	6.4	
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	<1.0	<1.0	70.1	74.6	20.3	
	Alkalinity, Total (as CaCO3) (mg/L)	<1.0	129	826 ^{DLA}	785 ^{DLA}	371 ^{DLA}	
	Chloride (Cl) (mg/L)	<0.50	<0.50	<5.0	<5.0	<2.5	
	Sulfate (SO4) (mg/L)	<0.30	61.1	1800	1740	964	
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)						
	Cesium (Cs)-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)						
	Magnesium (Mg)-Total (mg/L)						
	Manganese (Mn)-Total (mg/L)						
	Molybdenum (Mo)-Total (mg/L)						
	Nickel (Ni)-Total (mg/L)						
	Phosphorus (P)-Total (mg/L)						
	Potassium (K)-Total (mg/L)						
	Rubidium (Rb)-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)							

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674773-26 Water 16-SEP-15 15:05 P03-03-2	L1674773-27 Water 16-SEP-15 15:01 P03-01-2	L1674773-28 Water 16-SEP-15 16:45 P03-03-4	L1674773-29 Water 16-SEP-15 16:00 P03-03-9	L1674773-30 Water 16-SEP-15 14:35 P03-05-4
Grouping	Analyte					
WATER						
Physical Tests	Conductivity (uS/cm)	2880	437	2040	22600	2370
	Hardness (as CaCO3) (mg/L)	513	225	672	3380	1020
	pH (pH)	4.13	7.96	5.31	3.24	5.40
	Total Suspended Solids (mg/L)	45.7	11.4	22.7	1110	18.7
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2740	4.4	1170	38900	594
	Alkalinity, Total (as CaCO3) (mg/L)	<1.0	185	2.1	<1.0	9.5
	Chloride (Cl) (mg/L)	<10 ^{DLA}	<0.50	<5.0 ^{DLA}	<25 ^{DLA}	<5.0 ^{DLA}
	Sulfate (SO4) (mg/L)	2990	61.6	1790	44200	1710
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)					
	Cesium (Cs)-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)					
	Magnesium (Mg)-Total (mg/L)					
	Manganese (Mn)-Total (mg/L)					
	Molybdenum (Mo)-Total (mg/L)					
	Nickel (Ni)-Total (mg/L)					
	Phosphorus (P)-Total (mg/L)					
	Potassium (K)-Total (mg/L)					
	Rubidium (Rb)-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)						

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1674773-31 Water 16-SEP-15 12:17 P03-06-01	L1674773-32 Water 16-SEP-15 09:47 P03-06-06	L1674773-33 Water 16-SEP-15 10:53 P03-06-02	L1674773-34 Water TRAVEL BLANK	
Grouping	Analyte				
WATER					
Physical Tests	Conductivity (uS/cm)	3990	10100	4940	<2.0
	Hardness (as CaCO3) (mg/L)	1900	4430	1920	<0.50
	pH (pH)	4.52	3.76	4.23	5.54
	Total Suspended Solids (mg/L)	74.7	1400	2690	<1.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2640	5870	2850	<1.0
	Alkalinity, Total (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0
	Chloride (Cl) (mg/L)	<10 ^{DLA}	<25 ^{DLA}	<10 ^{DLA}	<0.50
	Sulfate (SO4) (mg/L)	4460	12500	4680	<0.30
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)				<0.00010
	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
	Cesium (Cs)-Total (mg/L)				<0.000010
	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
	Magnesium (Mg)-Total (mg/L)				<0.0050
	Manganese (Mn)-Total (mg/L)				<0.00010
	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)				<0.050
	Rubidium (Rb)-Total (mg/L)				<0.00020
	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

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674773-1	L1674773-2	L1674773-3	L1674773-4	L1674773-5
					Water	Water	Water	Water	Water
		15-SEP-15	17:00	SRK05-5C	15-SEP-15	16:20	15-SEP-15	15:42	15-SEP-15
					SRK05-5C	SRK05-9	P96-9A	BH05-9B-R(P96-9BR)	SRK05-8
Grouping	Analyte								
WATER									
Total Metals	Tellurium (Te)-Total (mg/L)								
	Thallium (Tl)-Total (mg/L)								
	Thorium (Th)-Total (mg/L)								
	Tin (Sn)-Total (mg/L)								
	Titanium (Ti)-Total (mg/L)								
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0050	0.0017	0.0040	0.0025	<0.0020 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00020	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Arsenic (As)-Dissolved (mg/L)	0.00452	0.00100	0.00109	0.0199	0.00105	0.0199	0.00105	0.00105
	Barium (Ba)-Dissolved (mg/L)	0.0818	0.0301	0.0538	0.0160	0.0117	0.0160	0.0117	0.0117
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 ^{DLA}	<0.000050	<0.00010 ^{DLA}	<0.000050	<0.00010 ^{DLA}	<0.00010 ^{DLA}
	Boron (B)-Dissolved (mg/L)	0.010	<0.010	<0.020 ^{DLA}	0.038	<0.020 ^{DLA}	0.038	<0.020 ^{DLA}	<0.020 ^{DLA}
	Cadmium (Cd)-Dissolved (mg/L)	0.0000271	0.000161	0.000758	0.0000063	0.000027	0.0000063	0.000027	0.000027
	Calcium (Ca)-Dissolved (mg/L)	96.7	239	359	47.6	421	47.6	421	421
	Cesium (Cs)-Dissolved (mg/L)	<0.000010	0.000035	<0.000020 ^{DLA}	0.000213	<0.000020 ^{DLA}	0.000213	<0.000020 ^{DLA}	<0.000020 ^{DLA}
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00057	0.00048	<0.00010	0.00073	<0.00010	0.00073	0.00073
	Cobalt (Co)-Dissolved (mg/L)	0.00090	<0.00010	0.00022	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Copper (Cu)-Dissolved (mg/L)	0.00046	0.00100	0.00293	<0.00020	0.00283	<0.00020	0.00283	0.00283
	Iron (Fe)-Dissolved (mg/L)	0.245	<0.010	<0.020 ^{DLA}	0.793	<0.020 ^{DLA}	0.793	<0.020 ^{DLA}	<0.020 ^{DLA}
	Lead (Pb)-Dissolved (mg/L)	0.000331	0.000341	0.00011	0.00132	0.00012	0.00132	0.00012	0.00012
	Lithium (Li)-Dissolved (mg/L)	0.0087	0.0077	0.0130	0.0228	0.0194	0.0228	0.0194	0.0194
	Magnesium (Mg)-Dissolved (mg/L)	45.3	173	328	22.1	235	22.1	235	235
	Manganese (Mn)-Dissolved (mg/L)	1.10	0.00028	0.0643	0.0930	<0.00020 ^{DLA}	0.0930	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Molybdenum (Mo)-Dissolved (mg/L)	0.0198	0.00126	0.00077	0.0108	0.00044	0.0108	0.00044	0.00044
	Nickel (Ni)-Dissolved (mg/L)	0.00205	0.00135	0.0174	<0.00050	0.0021	<0.00050	0.0021	0.0021
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.10 ^{DLA}	<0.050	<0.10 ^{DLA}	<0.050	<0.10 ^{DLA}	<0.10 ^{DLA}
	Potassium (K)-Dissolved (mg/L)	1.76	3.05	5.71	1.78	1.99	1.78	1.99	1.99
	Rubidium (Rb)-Dissolved (mg/L)	0.00135	0.00129	0.00046	0.00330	0.00104	0.00330	0.00104	0.00104
	Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000892	0.00020	<0.000050	0.00031	<0.000050	0.00031	0.00031
	Silicon (Si)-Dissolved (mg/L)	5.59	4.61	6.85	6.68	6.67	6.68	6.67	6.67
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000020 ^{DLA}	<0.000010	<0.000020 ^{DLA}	<0.000010	<0.000020 ^{DLA}	<0.000020 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1674773-6 Water 15-SEP-15 13:45 SRK05-07	L1674773-7 Water 15-SEP-15 10:50 V36	L1674773-8 Water 15-SEP-15 13:45 MW15-1100	L1674773-9 Water 15-SEP-15 13:45 FIELD BLANK-600	L1674773-10 Water 15-SEP-15 09:05 V34
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0020 ^{DLA}	<0.0020 ^{DLA}	<0.0010	0.0010
	Antimony (Sb)-Dissolved (mg/L)	0.00038	<0.00020 ^{DLA}	0.00040	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00297	0.00267	0.00314	<0.00010	0.00268
	Barium (Ba)-Dissolved (mg/L)	0.0490	0.00834	0.0486	<0.000050	0.0401
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.010	0.021
	Cadmium (Cd)-Dissolved (mg/L)	0.000093	0.000442	0.000153	<0.000050	<0.000050
	Calcium (Ca)-Dissolved (mg/L)	496	431	487	<0.050	222
	Cesium (Cs)-Dissolved (mg/L)	0.000031	0.000044	0.000034	<0.000010	<0.000010
	Chromium (Cr)-Dissolved (mg/L)	0.00069	0.00030	0.00065	<0.00010	0.00037
	Cobalt (Co)-Dissolved (mg/L)	0.00113	0.00240	0.00110	<0.00010	0.00202
	Copper (Cu)-Dissolved (mg/L)	0.00107	0.00149	0.00105	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)	<0.020 ^{DLA}	0.118	<0.020 ^{DLA}	<0.010	2.19
	Lead (Pb)-Dissolved (mg/L)	0.00014	0.00141	0.00011	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0115	0.0495	0.0111	<0.0010	0.0284
	Magnesium (Mg)-Dissolved (mg/L)	328	302	322	<0.0050	228
	Manganese (Mn)-Dissolved (mg/L)	0.0138	0.157	0.0142	<0.00010	0.0631
	Molybdenum (Mo)-Dissolved (mg/L)	0.00044	0.00212	0.00046	<0.000050	0.00133
	Nickel (Ni)-Dissolved (mg/L)	0.0266	0.0144	0.0271	<0.00050	0.00535
	Phosphorus (P)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	2.76	5.98	2.76	<0.050	4.71
	Rubidium (Rb)-Dissolved (mg/L)	0.00220	0.00279	0.00217	<0.00020	0.00295
	Selenium (Se)-Dissolved (mg/L)	0.00019	0.00058	0.00014	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)	7.49	7.98	7.37	<0.050	7.69
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674773-11	L1674773-12	L1674773-13	L1674773-14	L1674773-15
					Water	Water	Water	Water	Water
		15-SEP-15	09:40	V35	15-SEP-15	17:52	15-SEP-15	16:33	15-SEP-15
					V35	SRK08-P14	P09-GSIB	P09-GSIA	P09-LCD1
Grouping	Analyte								
WATER									
Total Metals	Tellurium (Te)-Total (mg/L)								
	Thallium (Tl)-Total (mg/L)								
	Thorium (Th)-Total (mg/L)								
	Tin (Sn)-Total (mg/L)								
	Titanium (Ti)-Total (mg/L)								
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.0020 ^{DLA}	0.0011	0.0010	<0.0010	0.0010	0.0010	<0.0010
	Antimony (Sb)-Dissolved (mg/L)	0.00030	0.00020	0.00030	0.0152	0.00022	0.0152	0.0152	0.00022
	Arsenic (As)-Dissolved (mg/L)	0.00152	0.00085	1.52	0.0878	0.110	0.0878	0.0878	0.110
	Barium (Ba)-Dissolved (mg/L)	0.00945	0.0526	0.0251	0.0131	0.0430	0.0131	0.0131	0.0430
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	0.014	<0.010	0.012	<0.010	<0.010	0.012
	Cadmium (Cd)-Dissolved (mg/L)	0.000201	0.000051	0.0000635	0.00142	0.0000380	0.00142	0.00142	0.0000380
	Calcium (Ca)-Dissolved (mg/L)	476	403	245	160	155	160	160	155
	Cesium (Cs)-Dissolved (mg/L)	<0.000020 ^{DLA}	0.00424	0.000761	0.00245	0.000018	0.00245	0.00245	0.000018
	Chromium (Cr)-Dissolved (mg/L)	0.00076	0.00024	0.00014	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.00020 ^{DLA}	0.00429	0.0752	0.00061	0.0752	0.0752	0.00061
	Copper (Cu)-Dissolved (mg/L)	0.00069	0.00378	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)	<0.020 ^{DLA}	<0.020 ^{DLA}	3.62	0.626	5.10	0.626	0.626	5.10
	Lead (Pb)-Dissolved (mg/L)	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.000050	0.0388	0.0270	0.0388	0.0388	0.0270
	Lithium (Li)-Dissolved (mg/L)	0.0267	0.0101	0.0136	0.0091	0.0104	0.0091	0.0091	0.0104
	Magnesium (Mg)-Dissolved (mg/L)	273	106	87.3	65.0	44.0	65.0	65.0	44.0
	Manganese (Mn)-Dissolved (mg/L)	0.00490	0.00141	0.700	1.70	0.695	1.70	1.70	0.695
	Molybdenum (Mo)-Dissolved (mg/L)	0.00111	0.00078	0.00326	0.00205	0.00521	0.00205	0.00205	0.00521
	Nickel (Ni)-Dissolved (mg/L)	0.0058	0.0019	0.0198	0.129	0.00100	0.129	0.129	0.00100
	Phosphorus (P)-Dissolved (mg/L)	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	4.31	1.22	3.03	3.94	2.88	3.94	3.94	2.88
	Rubidium (Rb)-Dissolved (mg/L)	0.00131	0.00238	0.00548	0.00557	0.00124	0.00557	0.00557	0.00124
	Selenium (Se)-Dissolved (mg/L)	0.00127	0.00159	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)	6.62	6.31	7.19	2.16	7.68	2.16	2.16	7.68
	Silver (Ag)-Dissolved (mg/L)	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-16	L1674773-17	L1674773-18	L1674773-19	L1674773-20
		Description	Water	Water	Water	Water	Water
		Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	16-SEP-15
		Sampled Time	10:35	09:50	09:50	08:33	09:30
		Client ID	P09-LCD4	P09-LCD6	MW15-1200	V37	P09-VC2
Grouping	Analyte						
WATER							
Total Metals	Tellurium (Te)-Total (mg/L)						
	Thallium (Tl)-Total (mg/L)						
	Thorium (Th)-Total (mg/L)						
	Tin (Sn)-Total (mg/L)						
	Titanium (Ti)-Total (mg/L)						
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0030	<0.0010	<0.0010	0.0014	0.0015	
	Antimony (Sb)-Dissolved (mg/L)	0.00051	0.00010	0.00011	<0.00010	0.00048	
	Arsenic (As)-Dissolved (mg/L)	0.00304	0.123	0.126	0.00239	0.119	
	Barium (Ba)-Dissolved (mg/L)	0.0811	0.0467	0.0459	0.0432	0.0433	
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
	Boron (B)-Dissolved (mg/L)	0.012	0.011	0.011	0.037	<0.010	
	Cadmium (Cd)-Dissolved (mg/L)	0.0000899	0.0000219	0.0000215	0.0000056	<0.0000050	
	Calcium (Ca)-Dissolved (mg/L)	89.8	161	162	93.0	57.9	
	Cesium (Cs)-Dissolved (mg/L)	0.000015	0.000026	0.000025	0.000011	0.000036	
	Chromium (Cr)-Dissolved (mg/L)	0.00023	<0.00010	<0.00010	0.00014	<0.00010	
	Cobalt (Co)-Dissolved (mg/L)	0.00018	0.00105	0.00106	0.00039	0.00023	
	Copper (Cu)-Dissolved (mg/L)	0.00469	<0.00020	<0.00020	<0.00020	<0.00020	
	Iron (Fe)-Dissolved (mg/L)	0.017	7.86	7.88	0.028	1.91	
	Lead (Pb)-Dissolved (mg/L)	0.000998	0.00930	0.00964	<0.000050	0.000844	
	Lithium (Li)-Dissolved (mg/L)	0.0065	0.0085	0.0084	0.0285	0.0078	
	Magnesium (Mg)-Dissolved (mg/L)	24.7	47.3	47.5	107	11.1	
	Manganese (Mn)-Dissolved (mg/L)	0.283	0.550	0.555	0.0988	0.0922	
	Molybdenum (Mo)-Dissolved (mg/L)	0.00464	0.00233	0.00230	0.0238	0.00999	
	Nickel (Ni)-Dissolved (mg/L)	0.00487	0.00145	0.00146	0.00173	<0.00050	
	Phosphorus (P)-Dissolved (mg/L)	<0.050	0.058	0.057	0.203	<0.050	
	Potassium (K)-Dissolved (mg/L)	1.67	2.42	2.41	5.39	1.12	
	Rubidium (Rb)-Dissolved (mg/L)	0.00078	0.00123	0.00120	0.00258	0.00185	
	Selenium (Se)-Dissolved (mg/L)	0.000230	<0.000050	<0.000050	0.000100	<0.000050	
	Silicon (Si)-Dissolved (mg/L)	4.81	7.84	8.01	3.83	7.05	
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1674773-21 Water 16-SEP-15 09:30 FIELD BLANK-700	L1674773-22 Water 16-SEP-15 10:20 P09-VC1	L1674773-23 Water 16-SEP-15 11:42 P2001-2A	L1674773-24 Water 16-SEP-15 11:26 P2001-2B	L1674773-25 Water 16-SEP-15 13:15 SRK08-P15
Grouping	Analyte					
WATER						
Total Metals	Tellurium (Te)-Total (mg/L)					
	Thallium (Tl)-Total (mg/L)					
	Thorium (Th)-Total (mg/L)					
	Tin (Sn)-Total (mg/L)					
	Titanium (Ti)-Total (mg/L)					
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0010	0.0012	0.0033	0.0025	<0.0020 ^{DLA}
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}	0.00026
	Arsenic (As)-Dissolved (mg/L)	<0.00010	0.00173	0.00999	0.00062	0.00025
	Barium (Ba)-Dissolved (mg/L)	<0.000050	0.0175	0.0136	0.0298	0.0366
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 ^{DLA}	<0.00010 ^{DLA}	<0.00010 ^{DLA}
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.020 ^{DLA}	<0.020 ^{DLA}	<0.020 ^{DLA}
	Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	<0.0000050	0.000201	<0.000010 ^{DLA}	0.000070
	Calcium (Ca)-Dissolved (mg/L)	<0.050	42.9	524	548	333
	Cesium (Cs)-Dissolved (mg/L)	<0.000010	0.000582	<0.000020 ^{DLA}	<0.000020 ^{DLA}	0.000589
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	0.00025	<0.00020 ^{DLA}	0.00057 ^{DLA}
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010	0.00093	0.00032	<0.00020 ^{DLA}
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.00020	0.00065	<0.00040 ^{DLA}	0.00104 ^{DLA}
	Iron (Fe)-Dissolved (mg/L)	<0.010	0.334	2.79	3.86	<0.020 ^{DLA}
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	0.00017	<0.00010 ^{DLA}	0.00031
	Lithium (Li)-Dissolved (mg/L)	<0.0010	0.0031	0.0444	0.0388	0.0113
	Magnesium (Mg)-Dissolved (mg/L)	<0.0050	8.77	292	289	120
	Manganese (Mn)-Dissolved (mg/L)	<0.00010	0.0128	0.178	0.203	<0.00020 ^{DLA}
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	0.000352	0.00103	0.00046	0.00082
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	0.0068	0.0032	0.0167
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.10 ^{DLA}	<0.10 ^{DLA}	<0.10 ^{DLA}
	Potassium (K)-Dissolved (mg/L)	<0.050	0.959	5.59	5.56	1.98
	Rubidium (Rb)-Dissolved (mg/L)	<0.00020	0.00161	0.00134	0.00147	0.00107
	Selenium (Se)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 ^{DLA}	<0.00010 ^{DLA}	0.00149
	Silicon (Si)-Dissolved (mg/L)	<0.050	6.10	8.39	8.05	5.63
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000020 ^{DLA}	0.000027	<0.000020 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674773-26	L1674773-27	L1674773-28	L1674773-29	L1674773-30
					Water	Water	Water	Water	Water
		16-SEP-15	15:05	P03-03-2	16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15
					15:05	15:01	16:45	16:00	14:35
					P03-03-2	P03-01-2	P03-03-4	P03-03-9	P03-05-4
Grouping	Analyte								
WATER									
Total Metals	Tellurium (Te)-Total (mg/L)								
	Thallium (Tl)-Total (mg/L)								
	Thorium (Th)-Total (mg/L)								
	Tin (Sn)-Total (mg/L)								
	Titanium (Ti)-Total (mg/L)								
	Tungsten (W)-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 Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	2.78	0.0022	0.0781	<0.20 ^{DLA}	0.0133			
	Antimony (Sb)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.020 ^{DLA}	<0.00050 ^{DLA}			
	Arsenic (As)-Dissolved (mg/L)	<0.0020 ^{DLA}	0.00101	0.00388	<0.020 ^{DLA}	0.00129			
	Barium (Ba)-Dissolved (mg/L)	0.0084	0.133	0.0309	<0.010 ^{DLA}	0.0276			
	Beryllium (Be)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.020 ^{DLA}	<0.00050 ^{DLA}			
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.000050	<0.00025 ^{DLA}	<0.010 ^{DLA}	<0.00025 ^{DLA}			
	Boron (B)-Dissolved (mg/L)	<0.20 ^{DLA}	<0.010	<0.050 ^{DLA}	<2.0 ^{DLA}	<0.050 ^{DLA}			
	Cadmium (Cd)-Dissolved (mg/L)	0.00771	<0.0000050	0.0107	0.0257	0.00101			
	Calcium (Ca)-Dissolved (mg/L)	138	70.3	179	441	306			
	Cesium (Cs)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.000010	<0.000050 ^{DLA}	0.0043 ^{DLA}	<0.000050 ^{DLA}			
	Chromium (Cr)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.020 ^{DLA}	<0.00050 ^{DLA}			
	Cobalt (Co)-Dissolved (mg/L)	0.0932	0.00723	0.339	<0.020 ^{DLA}	0.194			
	Copper (Cu)-Dissolved (mg/L)	<0.0040 ^{DLA}	<0.00020	<0.0010 ^{DLA}	<0.040 ^{DLA}	<0.0010 ^{DLA}			
	Iron (Fe)-Dissolved (mg/L)	1100	0.391	497	21600	289			
	Lead (Pb)-Dissolved (mg/L)	0.0034	0.000166	0.00085	<0.010 ^{DLA}	<0.00025 ^{DLA}			
	Lithium (Li)-Dissolved (mg/L)	0.043	0.0052	0.0611	<0.20 ^{DLA}	0.0530			
	Magnesium (Mg)-Dissolved (mg/L)	40.8	12.1	54.8	554	63.4			
	Manganese (Mn)-Dissolved (mg/L)	14.1	0.539	46.4	138	46.0			
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0010 ^{DLA}	0.00333	0.00050	<0.010 ^{DLA}	0.00065			
	Nickel (Ni)-Dissolved (mg/L)	0.148	0.00170	0.379	0.11	0.0784			
	Phosphorus (P)-Dissolved (mg/L)	<1.0 ^{DLA}	<0.050	<0.25 ^{DLA}	<10 ^{DLA}	<0.25 ^{DLA}			
	Potassium (K)-Dissolved (mg/L)	4.8	2.52	5.64	75	4.71			
	Rubidium (Rb)-Dissolved (mg/L)	<0.0040 ^{DLA}	0.00062	<0.0010 ^{DLA}	0.100	0.0011			
	Selenium (Se)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.000050	<0.00025 ^{DLA}	<0.010 ^{DLA}	<0.00025 ^{DLA}			
	Silicon (Si)-Dissolved (mg/L)	20.6	5.28	18.4	<10 ^{DLA}	13.0			
	Silver (Ag)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.000010	<0.000050 ^{DLA}	<0.0020 ^{DLA}	<0.000050 ^{DLA}			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1674773-31 Water 16-SEP-15 12:17 P03-06-01	L1674773-32 Water 16-SEP-15 09:47 P03-06-06	L1674773-33 Water 16-SEP-15 10:53 P03-06-02	L1674773-34 Water TRAVEL BLANK	
Grouping	Analyte				
WATER					
Total Metals	Tellurium (Te)-Total (mg/L)				<0.00020
	Thallium (Tl)-Total (mg/L)				<0.000010
	Thorium (Th)-Total (mg/L)				<0.00010
	Tin (Sn)-Total (mg/L)				<0.00010
	Titanium (Ti)-Total (mg/L)				<0.00030
	Tungsten (W)-Total (mg/L)				<0.00010
	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 Metals Filtration Location	FIELD	FIELD	FIELD	
	Aluminum (Al)-Dissolved (mg/L)	4.46	0.61	3.10	
	Antimony (Sb)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.010 ^{DLA}	<0.0020 ^{DLA}	
	Arsenic (As)-Dissolved (mg/L)	<0.0020 ^{DLA}	0.040	<0.0020 ^{DLA}	
	Barium (Ba)-Dissolved (mg/L)	0.0135	0.0069	0.0130	
	Beryllium (Be)-Dissolved (mg/L)	0.0058	<0.010 ^{DLA}	0.0043 ^{DLA}	
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.0050 ^{DLA}	<0.0010 ^{DLA}	
	Boron (B)-Dissolved (mg/L)	<0.20 ^{DLA}	<1.0 ^{DLA}	<0.20 ^{DLA}	
	Cadmium (Cd)-Dissolved (mg/L)	0.0597	0.161	0.0459	
	Calcium (Ca)-Dissolved (mg/L)	449	293	463	
	Cesium (Cs)-Dissolved (mg/L)	<0.00020 ^{DLA}	0.0011 ^{DLA}	<0.00020 ^{DLA}	
	Chromium (Cr)-Dissolved (mg/L)	<0.0020 ^{DLA}	<0.010 ^{DLA}	<0.0020 ^{DLA}	
	Cobalt (Co)-Dissolved (mg/L)	2.32	0.338	2.06	
	Copper (Cu)-Dissolved (mg/L)	0.0082	<0.020 ^{DLA}	<0.0040 ^{DLA}	
	Iron (Fe)-Dissolved (mg/L)	1180	1830	1260	
	Lead (Pb)-Dissolved (mg/L)	0.0134	0.163	0.0144	
	Lithium (Li)-Dissolved (mg/L)	0.157	0.22	0.159	
	Magnesium (Mg)-Dissolved (mg/L)	188	898	186	
	Manganese (Mn)-Dissolved (mg/L)	156	201	146	
	Molybdenum (Mo)-Dissolved (mg/L)	0.0016	<0.0050 ^{DLA}	0.0017	
	Nickel (Ni)-Dissolved (mg/L)	2.58	0.335 ^{DLA}	2.38 ^{DLA}	
	Phosphorus (P)-Dissolved (mg/L)	<1.0 ^{DLA}	<5.0 ^{DLA}	<1.0 ^{DLA}	
	Potassium (K)-Dissolved (mg/L)	9.0	11.9	9.4	
	Rubidium (Rb)-Dissolved (mg/L)	<0.0040 ^{DLA}	0.034 ^{DLA}	<0.0040 ^{DLA}	
	Selenium (Se)-Dissolved (mg/L)	<0.0010 ^{DLA}	<0.0050 ^{DLA}	<0.0010 ^{DLA}	
	Silicon (Si)-Dissolved (mg/L)	38.3	7.5	36.7	
	Silver (Ag)-Dissolved (mg/L)	<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00020 ^{DLA}	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-1	L1674773-2	L1674773-3	L1674773-4	L1674773-5
		Description	Water	Water	Water	Water	Water
		Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
		Sampled Time	17:00	16:20	15:42	15:15	14:27
		Client ID	SRK05-5C	SRK05-9	P96-9A	BH05-9B-R(P96-9BR)	SRK05-8
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		17.1	9.22	12.3	48.2	10.6
	Strontium (Sr)-Dissolved (mg/L)		0.758	0.751	1.25	1.11	1.47
	Sulfur (S)-Dissolved (mg/L)		94.0	324	597	56.1	489
	Tellurium (Te)-Dissolved (mg/L)		<0.00020	<0.00020	<0.00040 ^{DLA}	<0.00020	<0.00040 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)		0.000012	<0.000010	<0.000020 ^{DLA}	<0.000010	<0.000020 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)		0.00032	<0.00030	<0.00060 ^{DLA}	<0.00030	<0.00060 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00010	<0.00020 ^{DLA}
	Uranium (U)-Dissolved (mg/L)		0.00403	0.0271	0.0444	0.00103	0.0295
	Vanadium (V)-Dissolved (mg/L)		<0.00050	<0.00050	<0.0010 ^{DLA}	0.00058	<0.0010 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)		0.0014	0.0041	0.136	<0.0010	<0.0020 ^{DLA}
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00060 ^{DLA}	<0.00030	<0.00060 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

02-NOV-15 15:18 (MT)

Version: FINAL REV. 2

		Sample ID	L1674773-6	L1674773-7	L1674773-8	L1674773-9	L1674773-10
		Description	Water	Water	Water	Water	Water
		Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
		Sampled Time	13:45	10:50	13:45	13:45	09:05
		Client ID	SRK05-07	V36	MW15-1100	FIELD BLANK-600	V34
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		14.2	9.40	14.2	<0.050	8.14
	Strontium (Sr)-Dissolved (mg/L)		1.47	1.89	1.45	<0.00020	1.66
	Sulfur (S)-Dissolved (mg/L)		663	570	640	<0.50	203
	Tellurium (Te)-Dissolved (mg/L)		<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		<0.000020 ^{DLA}	0.000089 ^{DLA}	<0.000020 ^{DLA}	<0.000010	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	0.00043
	Tungsten (W)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.0353	0.0660	0.0349	<0.000010	0.0216
	Vanadium (V)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0041	0.0746	0.0040	<0.0010	0.0031
	Zirconium (Zr)-Dissolved (mg/L)		0.00064	<0.00060 ^{DLA}	0.00061	<0.00030	0.00174

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-11	L1674773-12	L1674773-13	L1674773-14	L1674773-15
		Description	Water	Water	Water	Water	Water
		Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15
		Sampled Time	09:40	17:52	15:56	16:33	11:23
		Client ID	V35	SRK08-P14	P09-GSIB	P09-GSIA	P09-LCD1
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		8.85	6.27	18.6	10.5	17.2
	Strontium (Sr)-Dissolved (mg/L)		1.16	1.77	1.64	0.596	0.955
	Sulfur (S)-Dissolved (mg/L)		583	379	255	155	108
	Tellurium (Te)-Dissolved (mg/L)		<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00020	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		0.000028 ^{DLA}	<0.000020 ^{DLA}	0.000072	0.00589	0.000012
	Thorium (Th)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.00020 ^{DLA}	0.00060	<0.00010	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.0910	0.00849	0.00867	0.0152	0.00812
	Vanadium (V)-Dissolved (mg/L)		<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0062	0.0051	0.476	4.48	0.0067
	Zirconium (Zr)-Dissolved (mg/L)		<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00030	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-16	L1674773-17	L1674773-18	L1674773-19	L1674773-20
		Description	Water	Water	Water	Water	Water
		Sampled Date	15-SEP-15	15-SEP-15	15-SEP-15	15-SEP-15	16-SEP-15
		Sampled Time	10:35	09:50	09:50	08:33	09:30
		Client ID	P09-LCD4	P09-LCD6	MW15-1200	V37	P09-VC2
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		65.9	7.02	6.97	29.6	5.95
	Strontium (Sr)-Dissolved (mg/L)		0.452	0.846	0.844	0.662	0.804
	Sulfur (S)-Dissolved (mg/L)		39.1	119	120	93.3	13.1
	Tellurium (Te)-Dissolved (mg/L)		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Thallium (Tl)-Dissolved (mg/L)		0.000015	<0.000010	<0.000010	<0.000010	<0.000010
	Thorium (Th)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
	Tungsten (W)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00010	0.00042	<0.00010
	Uranium (U)-Dissolved (mg/L)		0.00331	0.00361	0.00354	0.00274	0.00325
	Vanadium (V)-Dissolved (mg/L)		0.00069	<0.00050	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)		0.0056	0.0029	0.0023	0.0042	0.0789
	Zirconium (Zr)-Dissolved (mg/L)		0.00038	<0.00030	<0.00030	<0.00030	<0.00030

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-21	L1674773-22	L1674773-23	L1674773-24	L1674773-25
		Description	Water	Water	Water	Water	Water
		Sampled Date	16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15
		Sampled Time	09:30	10:20	11:42	11:26	13:15
		Client ID	FIELD BLANK-700	P09-VC1	P2001-2A	P2001-2B	SRK08-P15
Grouping	Analyte						
WATER							
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		<0.050	20.0	37.2	9.51	5.79
	Strontium (Sr)-Dissolved (mg/L)		<0.00020	0.561	2.58	2.71	1.13
	Sulfur (S)-Dissolved (mg/L)		<0.50	20.4	609	649	329
	Tellurium (Te)-Dissolved (mg/L)		<0.00020	<0.00020	<0.00040 ^{DLA}	<0.00040 ^{DLA}	<0.00040 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)		<0.000010	<0.000010	<0.000020 ^{DLA}	<0.000020 ^{DLA}	<0.000020 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)		<0.00010	<0.00010	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)		<0.00030	<0.00030	<0.00060 ^{DLA}	<0.00060 ^{DLA}	<0.00060 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)		<0.00010	0.00056	<0.00020 ^{DLA}	<0.00020 ^{DLA}	<0.00020 ^{DLA}
	Uranium (U)-Dissolved (mg/L)		<0.000010	0.00548	0.0855	0.0720	0.0231
	Vanadium (V)-Dissolved (mg/L)		<0.00050	0.00053	<0.0010 ^{DLA}	<0.0010 ^{DLA}	<0.0010 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)		<0.0010	<0.0010	0.0101	0.0031	0.0053
	Zirconium (Zr)-Dissolved (mg/L)		<0.00030	<0.00030	0.00073	0.00099	<0.00060 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1674773-26	L1674773-27	L1674773-28	L1674773-29	L1674773-30
					Water	Water	Water	Water	Water
					16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15	16-SEP-15
					15:05	15:01	16:45	16:00	14:35
					P03-03-2	P03-01-2	P03-03-4	P03-03-9	P03-05-4
Grouping	Analyte								
WATER									
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)				10.9	4.90	21.7	315	19.0
	Strontium (Sr)-Dissolved (mg/L)				0.504	0.322	0.619	0.854	0.878
	Sulfur (S)-Dissolved (mg/L)				927	19.4	582	14700	549
	Tellurium (Te)-Dissolved (mg/L)				<0.0040 ^{DLA}	<0.00020	<0.0010 ^{DLA}	<0.040 ^{DLA}	<0.0010 ^{DLA}
	Thallium (Tl)-Dissolved (mg/L)				<0.00020 ^{DLA}	<0.000010	0.000088 ^{DLA}	<0.0020 ^{DLA}	<0.000050 ^{DLA}
	Thorium (Th)-Dissolved (mg/L)				<0.0020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.020 ^{DLA}	<0.00050 ^{DLA}
	Tin (Sn)-Dissolved (mg/L)				<0.0020 ^{DLA}	<0.00010	<0.00050 ^{DLA}	<0.020 ^{DLA}	<0.00050 ^{DLA}
	Titanium (Ti)-Dissolved (mg/L)				<0.0060 ^{DLA}	<0.00030	<0.0015 ^{DLA}	<0.060 ^{DLA}	<0.0015 ^{DLA}
	Tungsten (W)-Dissolved (mg/L)				<0.0020 ^{DLA}	0.00060	<0.00050 ^{DLA}	<0.020 ^{DLA}	<0.00050 ^{DLA}
	Uranium (U)-Dissolved (mg/L)				0.00182	0.00294	0.000170	<0.0020 ^{DLA}	0.000715 ^{DLA}
	Vanadium (V)-Dissolved (mg/L)				<0.010 ^{DLA}	<0.00050	<0.0025 ^{DLA}	<0.10 ^{DLA}	<0.0025 ^{DLA}
	Zinc (Zn)-Dissolved (mg/L)				132	0.0163	18.1	713	0.503
	Zirconium (Zr)-Dissolved (mg/L)				<0.0060 ^{DLA}	<0.00030	<0.0015 ^{DLA}	<0.060 ^{DLA}	<0.0015 ^{DLA}

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1674773-31	L1674773-32	L1674773-33	L1674773-34
		Description	Water	Water	Water	Water
		Sampled Date	16-SEP-15	16-SEP-15	16-SEP-15	
		Sampled Time	12:17	09:47	10:53	
		Client ID	P03-06-01	P03-06-06	P03-06-02	TRAVEL BLANK
Grouping	Analyte					
WATER						
Dissolved Metals	Sodium (Na)-Dissolved (mg/L)		24.3	58.9	24.1	
	Strontium (Sr)-Dissolved (mg/L)		2.03	0.467	1.97	
	Sulfur (S)-Dissolved (mg/L)		1450	3150	1530	
	Tellurium (Te)-Dissolved (mg/L)		<0.0040 ^{DLA}	<0.020 ^{DLA}	<0.0040 ^{DLA}	
	Thallium (Tl)-Dissolved (mg/L)		<0.00020 ^{DLA}	<0.0010 ^{DLA}	<0.00020 ^{DLA}	
	Thorium (Th)-Dissolved (mg/L)		<0.0020 ^{DLA}	<0.010 ^{DLA}	<0.0020 ^{DLA}	
	Tin (Sn)-Dissolved (mg/L)		<0.0020 ^{DLA}	<0.010 ^{DLA}	<0.0020 ^{DLA}	
	Titanium (Ti)-Dissolved (mg/L)		<0.0060 ^{DLA}	<0.030 ^{DLA}	<0.0060 ^{DLA}	
	Tungsten (W)-Dissolved (mg/L)		<0.0020 ^{DLA}	<0.010 ^{DLA}	<0.0020 ^{DLA}	
	Uranium (U)-Dissolved (mg/L)		0.00373	0.0682	0.00211	
	Vanadium (V)-Dissolved (mg/L)		<0.010 ^{DLA}	<0.050 ^{DLA}	<0.010 ^{DLA}	
	Zinc (Zn)-Dissolved (mg/L)		35.2	796	39.3	
	Zirconium (Zr)-Dissolved (mg/L)		<0.0060 ^{DLA}	<0.030 ^{DLA}	<0.0060 ^{DLA}	

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

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Alkalinity, Total (as CaCO3)	B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -32, -33, -34, -4, -5, -6, -7, -8
Duplicate	Beryllium (Be)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Bismuth (Bi)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Chromium (Cr)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Cobalt (Co)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Iron (Fe)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Lead (Pb)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Phosphorus (P)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Thallium (Tl)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Thorium (Th)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Tin (Sn)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Vanadium (V)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Zirconium (Zr)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Silver (Ag)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Titanium (Ti)-Dissolved	DLA	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Duplicate	Cadmium (Cd)-Dissolved	DLM	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	K	L1674773-10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -6, -7, -8, -9
Certified Reference Material	Conductivity	LCS-H	L1674773-29, -30, -32, -33
Matrix Spike	Sulfate (SO4)	MS-B	L1674773-1, -2, -3, -4, -5
Matrix Spike	Sulfate (SO4)	MS-B	L1674773-1, -2, -3, -4, -5
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Nickel (Ni)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1674773-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -32, -33, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
DLA	Detection Limit adjusted for required dilution
DLM	Detection Limit Adjusted due to sample matrix effects.
K	Matrix Spike recovery outside ALS DQO due to sample matrix effects.
LCS-H	Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.
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**
ACY-PCT-VA	Water	Acidity by Automatic Titration	APHA 2310 "Acidity"
This analysis is carried out using procedures adapted from APHA Method 2310 "Acidity". Acidity is determined by potentiometric titration to a specified endpoint.			
Samples of industrial wastes, acid mine drainage, or other solutions that contain appreciable amounts of hydrolyzable metal ions such as aluminum, iron, and manganese may require hot peroxide treatment to ensure oxidation and hydrolysis of reduced forms of polyvalent cations. Acidity results may be highly variable if this procedure is not followed. Results in this report for 'Acidity (as CaCO3)' have not been peroxide treated.			
ACY-PCT-VA	Water	Acidity by Automatic Titration	APHA 2310 Acidity
This analysis is carried out using procedures adapted from APHA Method 2310 "Acidity". Acidity is determined by potentiometric titration to a specified endpoint.			
Samples of industrial wastes, acid mine drainage, or other solutions that contain appreciable amounts of hydrolyzable metal ions such as aluminum, iron, and manganese may require hot peroxide treatment to ensure oxidation and hydrolysis of reduced forms of polyvalent cations. Acidity results may be highly variable if this procedure is not followed. Results in this report for 'Acidity (as CaCO3)' have not been peroxide treated.			
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity
This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.			
CL-IC-N-WR	Water	Chloride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
EC-PCT-VA	Water	Conductivity (Automated)	APHA 2510 Auto. Conduc.
This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.			
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
MET-D-CCMS-VA	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)
Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			

Reference Information

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

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

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

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

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

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

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

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

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

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

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

TSS-LOW-WR Water Total Suspended Solids by Grav. (1 mg/L) APHA 2540 D

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

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

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

Laboratory Definition Code	Laboratory Location
----------------------------	---------------------

Chain of Custody Numbers:

1-1343-005.12(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.



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: <input type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3pm - business days)											
Contact: Natasha Sandys			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT			<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-456-4865			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge											
			Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jo			Specify Date Required for E2,E or P:											
			Email 2 chris@elr.ca			Analysis Request											
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Copy of invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX														
Company: Hemmera Environchem Inc.			Email 1 or Fax nsandys@hemmera.com														
Contact: Natasha Sandys			Email 2 chris@elr.ca														
Project Information			Oil and Gas Required Fields (client use)														
ALS Quote #: Q50399			Approver ID:			Cost Center:											
Job #: 1343-005.12			GL Account:			Routing Code:											
PO / AFE:			Activity Code:														
LSD:			Location:														
ALS Lab Work Order # (lab use only)			ALS Contact: Sean Sluggett			Sampler: JH, GR, AN, JC											
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers		
	SRK05-5C		15/09/2015	17:00	WATER	R	R	R	R	R	R	R	R		2		
	SRK05-9		15/09/2015	16:20	WATER	R	R	R	R	R	R	R	R		2		
		P96-9A	15/09/2015	15:42	WATER	R	R	R	R	R	R	R	R		2		
	BH05-9B-R(P96-9BR)		15/09/2015	15:15	WATER	R	R	R	R	R	R	R	R		2		
	SRK05-8		15/09/2015	14:27	WATER	R	R	R	R	R	R	R	R		2		
	SRK05-07		15/09/2015	13:45	WATER	R	R	R	R	R	R	R	R		2		
	V36		15/09/2015	10:50	WATER	R	R	R	R	R	R	R	R		2		
	MW15-1100		15/09/2015	13:45	WATER	R	R	R	R	R	R	R	R		2		
	Field Blank-600		15/09/2015	13:45	WATER	R	R	R	R	R	R	R	R		2		
	V34		15/09/2015	9:05	WATER	R	R	R	R	R	R	R	R		2		
		V35	15/09/2015	9:40	WATER	R	R	R	R	R	R	R	R		2		
	SRK08-P14		15/09/2015	17:52	WATER	R	R	R	R	R	R	R	R		2		
Drinking Water (DW) Samples ¹ (client use)			Special Instructions / Specify Criteria to add on report (client Use)			SAMPLE CONDITION AS RECEIVED (lab use only)											
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.			Frozen <input type="checkbox"/>						SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>					
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/>						Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>					
						Cooling Initiated <input type="checkbox"/>											
						INITIAL COOLER TEMPERATURES °C						FINAL COOLER TEMPERATURES °C					
						4.9 3.4 2.5 2.5 5.0						7.8 - 7 coolers an.					
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)											
Released by: <i>Justin Hains</i>			Received by: <i>Sluggett</i>			Received by: <i>Lady</i>											
Date: <i>Sept 17, 2015</i>			Date: <i>17 Sept 15</i>			Date: <i>Sept 18</i>											
Time: <i>15:00</i>			Time: <i>1510</i>			Time: <i>2pm</i>											



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: <input type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)											
Contact: Natasha Sandys			Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT			<input type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-458-4865			Select Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge											
			Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jc			Specify Date Required for E2,E or P:											
			Email 2 chris@elr.ca			Analysis Request											
Invoice To Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX														
Company: Hemmera Environchem Inc.			Email 1 or Fax nsandys@hemmera.com														
Contact: Natasha Sandys			Email 2 chris@elr.ca														
Project Information			Oil and Gas Required Fields (client use)														
ALS Quote #: Q50399			Approver ID:			Cost Center:									Number of Containers		
Job #: 1343-005.12			GL Account:			Routing Code:											
PO / AFE:			Activity Code:														
LSD:			Location:														
ALS Lab Work Order # (lab use only)			ALS Contact: Sean Sluggett			Sampler: JH, GR, AN, JC											
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	addity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)			
	P09-GSIB		15/09/2015	15:56	WATER	R	R	R	R	R	R	R	R				2
	P09-GSIA		15/09/2015	16:33	WATER	R	R	R	R	R	R	R	R				2
		P09-LCD1	15/09/2015	11:23	WATER	R	R	R	R	R	R	R	R				2
	P09-LCD4		15/09/2015	10:35	WATER	R	R	R	R	R	R	R	R				2
	P09-LCD6		15/09/2015	9:50	WATER	R	R	R	R	R	R	R	R				2
	MW15-1200		15/09/2015	9:50	WATER	R	R	R	R	R	R	R	R				2
	V37		15/09/2015	8:33	WATER	R	R	R	R	R	R	R	R				2
Drinking Water (DW) Samples¹ (client use)			Special Instructions / Specify Criteria to add on report (client Use)			SAMPLE CONDITION AS RECEIVED (lab use only)											
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>											
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>											
						Cooling Initiated <input type="checkbox"/>											
						INITIAL COOLER TEMPERATURES °C						FINAL COOLER TEMPERATURES °C					
												7.8-7 coolers avg.					
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)											
Released by: Justin Hains		Date: Sep 17 2015	Time: 15:00	Received by: Lady		Date: Sep 18	Time: 2pm										



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: <input type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)											
Contact: Natasha Sandys		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT											
Address: 230 - 2237 2nd Avenue Whitehorse, YT		Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT											
Phone: 867-456-4865		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge											
		Email 1 or Fax nsandys@hemmera.com, jhains@hemmera.com, jc			Specify Date Required for E2, E or P:											
		Email 2 chris@elr.ca			Analysis Request											
Invoice To		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Same as Report To <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX														
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Email 1 or Fax nsandys@hemmera.com														
Company: Hemmera Environchem Inc.		Email 2 chris@elr.ca														
Contact: Natasha Sandys																
Project Information		Oil and Gas Required Fields (client use)														
ALS Quote #: Q50399		Approver ID:		Cost Center:												
Job #: 1343-005.12		GL Account:		Routing Code:												
PO / AFE:		Activity Code:														
LSD:		Location:														
ALS Lab Work Order # (lab use only)		ALS Contact: Sean Sluggett		Sampler: JH, GR, AN, JC												
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	acidity (to pH 8.3)	alkalinity	chloride	conductivity	pH	sulphate	suspended solids, total (TSS)	dissolved metals (excluding mercury)	total metals (excluding mercury)	Number of Containers
	P09-VC2			16/09/2015	9:30	WATER	R	R	R	R	R	R	R	R		2
	Field Blank-700			16/09/2015	9:30	WATER	R	R	R	R	R	R	R	R		2
	P09-VC1			16/09/2015	10:20	WATER	R	R	R	R	R	R	R	R		2
	P2001-2A			16/09/2015	11:42	WATER	R	R	R	R	R	R	R	R		2
	P2001-2B			16/09/2015	11:26	WATER	R	R	R	R	R	R	R	R		2
	SRK08-P15			16/09/2015	13:15	WATER	R	R	R	R	R	R	R	R		2
	P03-03-2			16/09/2015	15:05	WATER	R	R	R	R	R	R	R	R		2
	P03-01-2			16/09/2015	15:01	WATER	R	R	R	R	R	R	R	R		2
	P03-03-4			16/09/2015	16:45	WATER	R	R	R	R	R	R	R	R		2
	P03-03-9			16/09/2015	16:00	WATER	R	R	R	R	R	R	R	R		2
	P03-05-4			16/09/2015	14:35	WATER	R	R	R	R	R	R	R	R		2
	P03-06-01			16/09/2015	12:17	WATER	R	R	R	R	R	R	R	R		2
Drinking Water (DW) Samples¹ (client use)			Special Instructions / Specify Criteria to add on report (client Use)				SAMPLE CONDITION AS RECEIVED (lab use only)									
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			- EDD must be in EQUIS format common to Faro Mine Remediation Project. Contact client if clarification is required. - See attached parameter sheet for required detection limits.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>									
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							Ice packs Yes <input type="checkbox"/> No <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>									
							Cooling Initiated <input type="checkbox"/>									
							INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C				
												7-8-7 coolers any				
SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)									
Released by: Justin Hains		Date: Sept 17, 2015	Time: 15:00	Received by:		Date:	Time:	Received by: Andy		Date: Sept 18	Time: 2pm					



ALS ENVIRONMENTAL - Whitehorse
ATTN: Helen Franco
13A - 151 Industrial Road
Whitehorse YT Y1A 2V3

Date Received: 16-NOV-15
Report Date: 17-NOV-15 17:01 (MT)
Version: FINAL

Client Phone: 867-686-6689

Certificate of Analysis

Lab Work Order #: L1702587
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers:
Legal Site Desc:

Selam Worku
Account Manager

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

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1702587-1 ALS METALS TB							
Sampled By: CLIENT							
Matrix: Water							
Total Metals in Water + Hg (BC MDG)							
Hardness							
Hardness (as CaCO3)	<0.50		0.50	mg/L		17-NOV-15	
Total Be (Low) in Water by CRC ICPMS							
Beryllium (Be)-Total	<0.000020		0.000020	mg/L		17-NOV-15	R3312617
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	<0.0030		0.0030	mg/L		17-NOV-15	R3312617
Antimony (Sb)-Total	<0.00010		0.00010	mg/L		17-NOV-15	R3312617
Arsenic (As)-Total	<0.00010		0.00010	mg/L		17-NOV-15	R3312617
Barium (Ba)-Total	<0.000050		0.000050	mg/L		17-NOV-15	R3312617
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L		17-NOV-15	R3312617
Boron (B)-Total	<0.010		0.010	mg/L		17-NOV-15	R3312617
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L		17-NOV-15	R3312617
Chromium (Cr)-Total	<0.00010		0.00010	mg/L		17-NOV-15	R3312617
Cobalt (Co)-Total	<0.00010		0.00010	mg/L		17-NOV-15	R3312617
Copper (Cu)-Total	<0.00050		0.00050	mg/L		17-NOV-15	R3312617
Lead (Pb)-Total	<0.000050		0.000050	mg/L		17-NOV-15	R3312617
Lithium (Li)-Total	<0.0010		0.0010	mg/L		17-NOV-15	R3312617
Manganese (Mn)-Total	<0.00010		0.00010	mg/L		17-NOV-15	R3312617
Molybdenum (Mo)-Total	<0.000050		0.000050	mg/L		17-NOV-15	R3312617
Nickel (Ni)-Total	<0.00050		0.00050	mg/L		17-NOV-15	R3312617
Selenium (Se)-Total	<0.000050		0.000050	mg/L		17-NOV-15	R3312617
Silver (Ag)-Total	<0.000010		0.000010	mg/L		17-NOV-15	R3312617
Sodium (Na)-Total	<0.050		0.050	mg/L		17-NOV-15	R3312617
Strontium (Sr)-Total	<0.00020		0.00020	mg/L		17-NOV-15	R3312617
Thallium (Tl)-Total	<0.000010		0.000010	mg/L		17-NOV-15	R3312617
Tin (Sn)-Total	<0.00010		0.00010	mg/L		17-NOV-15	R3312617
Titanium (Ti)-Total	<0.00030		0.00030	mg/L		17-NOV-15	R3312617
Uranium (U)-Total	<0.000010		0.000010	mg/L		17-NOV-15	R3312617
Vanadium (V)-Total	<0.00050		0.00050	mg/L		17-NOV-15	R3312617
Zinc (Zn)-Total	<0.0030		0.0030	mg/L		17-NOV-15	R3312617
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L		17-NOV-15	R3312617
Total Metals in Water by ICPOES							
Calcium (Ca)-Total	<0.050		0.050	mg/L		16-NOV-15	R3312656
Iron (Fe)-Total	<0.010		0.010	mg/L		16-NOV-15	R3312656
Magnesium (Mg)-Total	<0.10		0.10	mg/L		16-NOV-15	R3312656
Phosphorus (P)-Total	<0.050		0.050	mg/L		16-NOV-15	R3312656
Potassium (K)-Total	<0.10		0.10	mg/L		16-NOV-15	R3312656
Silicon (Si)-Total	<0.050		0.050	mg/L		16-NOV-15	R3312656
Total Sulfur in Water by ICPOES							
Sulfur (S)-Total	<0.50		0.50	mg/L		16-NOV-15	R3312656

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BE-T-L-CCMS-VA	Water	Total Be (Low) in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
HARDNESS-CALC-VA	Water	Hardness	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)
Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.			
Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.			
MET-TOT-LOW-ICP-VA	Water	Total Metals in Water by ICPOES	EPA 3005A/6010B
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotblock or microwave oven (EPA Method 3005A). Instrumental analysis is by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).			
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.			

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

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

Laboratory Definition Code	Laboratory Location
Chain of Custody Numbers:	

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

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

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

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.

Walter Lin

From: Walter Lin
Sent: Monday, November 16, 2015 10:41 AM
To: Sean Sluggett; Brent Mack; ALSEV Login Rush
Cc: ALSEV Metals Rush
Subject: RE: Metals Travel Blank

Hi Sean,

When are we expecting the sample?

Thanks,
Walter



From: Sean Sluggett
Sent: Monday, November 16, 2015 9:17 AM
To: Brent Mack; ALSEV Login Rush
Cc: ALSEV Metals Rush
Subject: RE: Metals Travel Blank

Hello – please label this as L1702587 when the sample arrives.

Thanks!

Sean.

Sean Sluggett

Lead Chemist / Supervisor
ALS Life Sciences Division | Environmental

SAMPLE CONDITION AS RECEIVED (lab use only)						
Frozen	<input type="checkbox"/>	SIF Observations	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Ice packs	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Custody seal intact	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Cooling Initiated	<input checked="" type="checkbox"/>					
INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			
2.5		4	4	3		
FINAL SHIPMENT RECEPTION (lab use only)						
Received by:	Sean		Date:	NOV 16 2015		
			Time:	9:53		

1 - CLIENT COPY

1 page of the white - report copy.

From: Brent Mack
Sent: Monday, November 16, 2015 9:13 AM
To: Sean Sluggett; ALSEV Login Rush
Cc: ALSEV Metals Rush
Subject: RE: Metals Travel Blank

Pretty sure....if you want data reported to ALS Whitehorse you should have an account and log this guy in. How do you normally do your water checks?

Brent

APPENDIX C

Field Forms

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH05-95-R (P16-95R)	Project Number:	1343-005.12	Date:	Sept 15, 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN + JH						
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 10°C						
UTM Location:	Z.08 E.0992641 N.6903353	Waypoint:	GPS <u>AN</u> Name <u>BH05-95R</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	CamAN Nos. 201-203	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes - Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes - Name _____		X								
Initial Depth to Water (m):	0.792	Purge Start Time:	14:51	Purge End Time:	15:13						
Depth to Bottom (m):	19.790	Purge Interval Time (3) min, Vol. () L	14:55	14:58	15:02	15:06	15:09	15:13			
Submerged Tubing Depth (m):	19.5	Depth to water (m)	1.220	—	1.543	1.580	1.645				
Well Stick-up Height (m):	0.92	Temperature (°C)	5.3	5.4	5.2	5.3	5.3	5.3			
Estimated Water Volume (L):	38L	pH (pH Units)	7.72	7.64	7.64	7.67	7.67	7.70			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	394.0	393.2	390.9	391.6	391.5	391.4				
	Specific Cond. (µs/cm)	632.2	628.4	627.8	628.9	626.7	627.8				
	Redox (mV)	-100.9	-128.2	-116.2	-154.9	-158.2	-161.1				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	slight turbid.	clear.	clear	sand	sand	sand				
	Turbidity (NTU):	—	—	—	—	—	82.9				
	Interval Purge Volume (L):	0.8	0.45	0.9	0.6	0.45	0.5				
	Cumulative Purge Volume (L):	0.8	1.25	2.15	2.75	3.15	3.65				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): B105-9B-R (196-9BR)

Sample Date (Con't): Sept 15, 2015

Sample Time: 15:15

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

-used 6" silicone
1" & tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BHS	Project Number:	1343-005.12	Date:	Sept. 12/2015		
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.		
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Sunny ~10°C.		
UTM Location:	Z. 8 E. 0585085 N. 6913547	Waypoint:	GPS AN Name <u>BHS</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. <u>114-116</u>	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	2.103	Purge Start Time:	16:08			Purge End Time:	16:32.
Depth to Bottom (m):	7.500	Purge Interval Time (5) min, Vol. () L	16:10	16:15	16:20	16:26	16:32
Submerged Tubing Depth (m):	~7.2	Depth to water (m)	2.115	same.	same.	same.	same.
Well Stick-up Height (m):	0.724	Temperature (°C)	5.0	4.1	4.0	4.0	4.0
Estimated Water Volume (L):	~11.0	pH (pH Units)	6.24	5.72	5.69	5.89	5.67
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	357.6	318.8	312.7	313.3	312.8	
	Specific Cond. (µs/cm)	579.3	531.5	523.9	521.9	522.0	
	Redox (mV)	61.2	76.9	76.4	76.4	76.7	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear. slight turbid.	clear.	same	same.	same.	
	Turbidity (NTU):					8.37	
	Interval Purge Volume (L):	.15	0.6	0.5	0.9	0.6	
	Cumulative Purge Volume (L):	.15	.75	1.25	2.15	2.75	
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	could not log sample on YSI	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): BH5

 Sample Date (Con't): Sept. 12/2015

 Sample Time: 16:35

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 Could not log YSI, BH5 was not in pre-programmed list and instrument would not allow for manually adding site.
 Used: 1.0 m of per. tubing
 6" of silicon.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH6	Project Number:	1343-005.12	Date:	SEPT 12 2015		
Approximate Date Drilled:	- / - / -	Client:	GY - AAM	Samplers:	GK + JH		
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Sunny 15°C		
UTM Location:	Z. 69 E. 585090 N. 6913642	Waypoint:	GPS # Name (Xm only)	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. # Nos. 197-199	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	3.252	Purge Start Time:	16:52		Purge End Time:	17:09	
Depth to Bottom (m):	6.636	Purge Interval Time (3) min, Vol. () L	16:57	17:00	17:03	17:06	17:09
Submerged Tubing Depth (m):	6.4	Depth to water (m)	3.260	3.260	3.260	3.260	-
Well Stick-up Height (m):	0.75	Temperature (°C)	4.0	3.8	3.7	3.6	3.6
Estimated Water Volume (L):	6.7	pH (pH Units)	5.99	5.93	5.92	5.93	5.91
<p>3-386 x 2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	206.3	301.9	301.6	301.3	301.0	
	Specific Cond. (µs/cm)	511.7	509.2	508.6	509.5	509.9	
	Redox (mV)	119.0	115.8	107.1	110.1	109.4	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	turbid	less turbid	clear	clear	clear	
	Turbidity (NTU):	-	-	-	-	3.36	
	Interval Purge Volume (L):	0.3	0.5	0.5	0.5	0.5	
	Cumulative Purge Volume (L):	0.3	0.8	1.3	1.8	2.3	
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	YSI log full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): BH6

Sample Date (Con't): Sept 12, 2015

Sample Time: 17:10

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- used 1 J-plug
6" silicone
6" 1/4 tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH-08	Project Number:	1343-005.12	Date:	Sept. 12 2015		
Approximate Date Drilled:	9	Client:	GY - AAM	Samplers:	AN, JC		
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Sunny ~10°C		
UTM Location:	Z. 8 E. 0585140 N. 6913778	Waypoint:	GPS AN Name BH8	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 117-119	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo		
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	HydroLIFT			Other		
Initial Depth to Water (m):	15.353	Purge Start Time:	17:25		Purge End Time:	17:42	
Depth to Bottom (m):	20.777	Purge Interval Time () min, Vol. (5) L	17:31	17:42	DRY		
Submerged Tubing Depth (m):	19.7	Depth to water (m)	18.23	20.10			
Well Stick-up Height (m):	0.786	Temperature (°C)	5.0	5.3			
Estimated Water Volume (L):	10.848	pH (pH Units)	4.57	4.78			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2025	1332				
	Specific Cond. (µs/cm)	3280	2138				
	Redox (mV)	220.2	197.7				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear Noodor	Sand				
	Turbidity (NTU):						
	Interval Purge Volume (L):	5L	4L				
	Cumulative Purge Volume (L):	5	9L				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	no recharge	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	HydroLIFT					

Sampled with backflow on Sept. 13/2015 @ 8:40
 collected @ time of sample.

30.1

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±5%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): BH-08

Sample Date (Con't): Sept. 13/2015

Sample Time: 8:40

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Purged on Sept. 12/2015. until ~ DRY.
 Will return to sample following day.
 Returned to sample with bailer on Sept. 13/2015
 @ 8:40
 Used: 1x2" bailer and twine.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	800	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH10A	Project Number:	1343-005.12	Date:	SEPT 12 2015						
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JH						
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~ 13°C PARTLY CLOUDY						
UTM Location:	Z. 06V E. 0585125 N. 6913715	Waypoint:	GPSH Name <u>UTM only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. <u>EUR</u> Nos. <u>0585125, 115-19</u>	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	6.050 _m	Purge Start Time:	1543.	Purge End Time:	16:01						
Depth to Bottom (m):	6.890 _m	Purge Interval Time () min, Vol. () L	1546	1549	1552	1555	1558	16:01			
Submerged Tubing Depth (m):	6.7 _m	Depth to water (m)	6.065	6.065	-	-	6.065	-			
Well Stick-up Height (m):	1.703 _m	Temperature (°C)	4.2	3.9	3.8	3.7	3.8	3.7			
Estimated Water Volume (L):	~ 1.68 _L	pH (pH Units)	6.47	6.39	6.30	6.32	6.33	6.34			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	207.5	195.1	193.9	193.0	193.3	192.9				
	Specific Cond. (µs/cm)	342.9	327.4	327.2	325.5	325.1	324.8				
	Redox (mV)	118.3	136.9	125.6	123.9	123.6	123.8				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	→	→	→	→	→				
	Turbidity (NTU):	-	-	-	-	-	6.51				
	Interval Purge Volume (L):	0.2	0.4	0.4	0.4	0.4	0.4				
	Cumulative Purge Volume (L):	0.2	0.6	1.0	1.4	1.8	2.2				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	Ysi log full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): BH10A

Sample Date (Con't): Sept 12, 2015

Sample Time: 16:02

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Well in good condition
 - Used - 6" silicone
 - 6" 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH10 B	Project Number:	1343-005.12	Date:	SEPT 12 2015					
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JH					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~13°C PARTLY CLOUDY					
UTM Location:	Z. 08V E. 058512N. 6913715	Waypoint:	GPS Here Name <u>VIA only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. <u>EX</u> Nos. _____	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	5.228 m	Purge Start Time:	16:15	Purge End Time:	16:30					
Depth to Bottom (m):	9.148 m	Purge Interval Time (3) min, Vol. () L	16:18	16:21	16:24	16:27	16:30			
Submerged Tubing Depth (m):	8.9 m	Depth to water (m)	5.255	5.255	-	-	5.255			
Well Stick-up Height (m):	0-883	Temperature (°C)	3.4	2.9	2.9	2.9	2.8			
Estimated Water Volume (L):	8 L	pH (pH Units)	6.28	6.22	6.24	6.25	6.24			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	235.3	232.0	232.4	232.5	231.9				
	Specific Cond. (µs/cm)	404.5	401.6	402.9	402.4	402.5				
	Redox (mV)	146.2	151.7	153.1	152.1	151.3				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	turbid	turbid	less turbid	less turbid	clear				
	Turbidity (NTU):	-	-	-	-	26.8				
	Interval Purge Volume (L):	.2	.5	.5	.5	.5				
	Cumulative Purge Volume (L):	.2	.7	1.2	1.7	2.2				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	YSI log full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): BH10B
 Sample Date (Con't): Sept 12, 2015
 Sample Time: 16:31

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

-well in good condition
 -Used 6" silicone
 6" 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH13B BH13B	Project Number:	1343-005.12	Date:	Sept. 14/2015
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JH.
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast ~50C.
UTM Location:	Z. 8 E. 0585747 N. 6914472	Waypoint:	GPS AN Name BH13B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad
Photos:	Cam. AN Nos. 172-174	Purge Method:			
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		Peristaltic		
Initial Depth to Water (m):	2.395	Purge Start Time:	15:42	Purge End Time:	15:59
Depth to Bottom (m):	4.424	Purge Interval Time (5) min, Vol. () L	15:44	15:49	15:54
Submerged Tubing Depth (m):	~4.0	Depth to water (m)	2.404	2.406	2.395
Well Stick-up Height (m):	0.74	Temperature (°C)	1.8	1.5	1.5
Estimated Water Volume (L):	~4.1	pH (pH Units)	6.94	6.94	6.87
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	617	545	535	530
	Specific Cond. (µs/cm)	1106	988	968	962
	Redox (mV)	45.3	76.6	91.9	102.8
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear no odour.	same	same.	same
	Turbidity (NTU):	—	—	—	2.52
	Interval Purge Volume (L):	0.3	0.7	0.85	1.0
	Cumulative Purge Volume (L):	0.3	1.0	1.85	2.85
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):	16.01	Waterra	Peristaltic	Disp. Bailer	Redi-flo
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		Peristaltic		

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): RH13R

Sample Date (Con't): Sept. 14/2015

Sample Time: 16:02

Additional Purge Data:										
Purge Interval Time () min, Vol. () L										
Depth to water (m)										
Temperature (°C)										
pH (pH Units)										
Cond. (µs/cm)										
Specific Cond. (µs/cm)										
Redox (mV)										
Appearance & Odour (Clear, Silty, HC odours, etc.)										
Turbidity (NTU)										
Interval Purge Volume (L)										
Cumulative Purge Volume (L):										

General Notes (Condition of well, consumables, or other features):

Used 6" silicon tubing.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH14A	Project Number:	1343-005.12	Date:	Sept 14, 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AW + JH					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy 10°C					
UTM Location:	Z. 8 E. 0585581 N. 6914009	Waypoint:	GPS AN Name BH14A	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. AN Nos. 175-178	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		Peristaltic							
Initial Depth to Water (m):	3.252m	Purge Start Time:	16:22		Purge End Time:					
Depth to Bottom (m):	6436	Purge Interval Time (5) min, Vol. () L	16:27	16:33	16:38	16:43				
Submerged Tubing Depth (m):	~6.0	Depth to water (m)	3.210	3.35	3.40	3.450				
Well Stick-up Height (m):	0.45	Temperature (°C)	5.3	5.2	4.7	4.5				
Estimated Water Volume (L):	64	pH (pH Units)	6.55	6.55	6.54	6.53				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2096	2118	2105	2101					
	Specific Cond. (µs/cm)	3363	3413	3441	3448					
	Redox (mV)	125.7	127.8	127.1	125.4					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear	Clear	Clear	Same					
	Turbidity (NTU):	-	-	-	2.74					
	Interval Purge Volume (L):	.7	1.0	1.0	1.0					
	Cumulative Purge Volume (L):	.7	1.7	2.7	3.7					
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:							
Time logged on YSI (24hr):	16.44	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		Peristaltic							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): BH14A

Sample Date (Con't): Sept. 14/2015

Sample Time: 16:45

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Used: 6" silicon.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	BH14B	Project Number:	1343-005.12	Date:	Sept 14, 2015	
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN + JH	
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 10C	
UTM Location:	Z. 8 E. 0595581 N. 6914009	Waypoint:	GPS AN Name BH14A	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 175-178	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	3.551	Purge Start Time:	16:54	Purge End Time:	17:15	
Depth to Bottom (m):	10.101	Purge Interval Time (Σ) min, Vol. () L	16:59	17:04	17:09	17:15
Submerged Tubing Depth (m):	9.9	Depth to water (m)	4.301	4.603	4.945	5.205
Well Stick-up Height (m):	0.65	Temperature (°C)	3.7	3.8	3.9	4.0
Estimated Water Volume (L):	~19.9	pH (pH Units)	6.73	6.70	6.69	6.69
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1886	1896	1904	1903	
	Specific Cond. (µs/cm)	3188	3185	3185	3181	
	Redox (mV)	116.2	118.3	120.4	122.9	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear.	Sand	Sand	Sand	
	Turbidity (NTU):	—	—	—	8.42	
	Interval Purge Volume (L):	1.0	1.0	0.45	.6	
	Cumulative Purge Volume (L):	1.0	2.0	2.45	3.05	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	17:15	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): BH14B

Sample Date (Con't): Sept. 14/2015

Sample Time: 17:15

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
Used: 6" silicon.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-02D	Project Number:	1343-005.12	Date:	SEPT 10 2015	
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	2" PVC / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~8°C PARTLY CLOUDY	
UTM Location:	208VE0584769N. 6913129	Waypoint:	GPS H Name <u>UTMS ONLY</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. <u>ELR</u> Nos. <u>131-133</u>	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name _____	X W/GER				
Initial Depth to Water (m):	58.258	Purge Start Time:	1610 1610	Purge End Time:		
Depth to Bottom (m):	78.913	Purge Interval Time () min, Vol. () L	1620 1630 1648 1654 1704			
Submerged Tubing Depth (m):	~77.045	Depth to water (m)				
Well Stick-up Height (m):	0.945	Temperature (°C)	4.2 7.0 6.5 7.0 6.9			
Estimated Water Volume (L):	~41.3	pH (pH Units)	5.79 5.74 5.86 5.78 6.07			
$20.65 \times 2 = 41.3$ (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	309.7 357.5 363.5 358.0 356.7				
	Specific Cond. (µs/cm)	512 560.3 562.0 546.7 546.5				
	Redox (mV)	115.4 105.6 92.2 100.3 93.5				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY TURBID SLIGHTLY TURBID MILKY → → →				
	Turbidity (NTU):	— — — — 47.6				
Interval Purge Volume (L):	10 12 11 3 43					
Cumulative Purge Volume (L):	10 22 33 36 39					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	1710	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Pump Speeds: { 189 V. AT 1631 186
 4.5 A → 43
 315 Hz 311

Sample Site (Con't): MW14-02D

Sample Date (Con't): SEPT 10 2015

Sample Time: 1710

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

AT 1635 PUMP SHUT DOWN AND
ALLOWED TO COOL. KINK IN WATERLINE
MAY BE CREATING EXTRA PRESSURE.
TURNED BACK ON 1642
TURNED OFF AGAIN 16:54
ON AGAIN AT 17:02
COLLECTED SAMPLE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	—
1 L (plastic)	General Chemistry	500 ml	-	-	↓	—

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-025	Project Number:	1343-005.12	Date:	SEPT 10 2015					
Approximate Date Drilled:	UNKNOWN	Client:	GY - AAM	Samplers:	GR + JH					
Piezometer Diameter / Screen Length:	3.75" Grey Plastic ABS?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~ 8°C PARTLY CLOUDY.					
UTM Location:	Z. 08V E. 058465 N. 6913129.	Waypoint:	GPS# Name <u>UTMS ONLY</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. <u>EUR</u> Nos. <u>131-133</u>	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	X w/gen								
Initial Depth to Water (m):	57.712	Purge Start Time:	1443			Purge End Time:				
Depth to Bottom (m):	68.0	Purge Interval Time (10 min, Vol. L)	1453	1503	1513	1523	1528			
Submerged Tubing Depth (m):	67.0	Depth to water (m)	58.025	57.98	→					
Well Stick-up Height (m):	98.5 - 45 = 0.94	Temperature (°C)	7.0	7.8	7.9	8.0	8.0			
Estimated Water Volume (L):	81	pH (pH Units)	7.77	7.48	7.39	7.35	7.36			
<p>10.288 X</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	98.4	102.5	103.0	103.4	103.3				
	Specific Cond. (µs/cm)	151.2	152.6	152.7	152.9	153.0				
	Redox (mV)	185.7	148.4	120.5	112.1	108.7				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY TURBID	CLEAR	CLEAR	CLEAR	CLEAR				
	Turbidity (NTU):	-	-	-	-	1.81				
	Interval Purge Volume (L):	16.17	27.75	20.75	21.75	8				
	Cumulative Purge Volume (L):	16.17	44	64	75	83				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	1530	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14 - 025

Sample Date (Con't): SEPT 10 2015

Sample Time: 1530

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

USED WATERPK IN WELL.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW ⁴ 18 -03	Project Number:	1343-005.12	Date:	Sept 16, 2015						
Approximate Date Drilled:	✓	Client:	GY - AAM	Samplers:	GR + JH						
Piezometer Diameter / Screen Length:	6" PVC	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy, 7°C						
UTM Location:	Z: 08VE. 0584611N. 6913289	Waypoint:	GPS #. Name UTM5 only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. ^{EXR} Nos. 128-130	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	✓ 1 Gen.			X						
Initial Depth to Water (m):	53.32 18 m	Purge Start Time:	12-26			Purge End Time:	1305.				
Depth to Bottom (m):	59.310 18-087 ⁵⁹⁻³⁹² m	Purge Interval Time () min, Vol. () L	12-31	12-36	1241	1247	1252	1257	1302		
Submerged Tubing Depth (m):	~ 57	Depth to water (m)	✓	✓	✓	✓	✓	55-065			
Well Stick-up Height (m):	0.895	Temperature (°C)	7.8	9.8	11.9	10.9	10.9	11.0	11.1		
Estimated Water Volume (L):	~ 97	pH (pH Units)	6.87	6.83	6.84	6.85	6.84	6.84	6.86		
$5.98 \times 0.0974 \times 1000 = 97$ (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	801	836	874	864	858	861	845			
	Specific Cond. (µs/cm)	1180	1185	1188	1193	1196	1183	1194			
	Redox (mV)	57	38.2	31.3	61.3	70.0	88.8	98.			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	DARK BLACK	GREY	GREY	CLEAR	GREY	CLEARING	CLEAR.			
	Turbidity (NTU):							7.75.			
	Interval Purge Volume (L):	12	4	10	13	16	10	8			
	Cumulative Purge Volume (L):	12	17	27	40	56	66	76.			
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	1305	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	✓									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW¹⁴03

Sample Date (Con't): Sept 10, 2015

Sample Time: 1305

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

5/8" Water in = 62m

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	Good
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-04D	Project Number:	1343-005.12	Date:	Sept 12, 2015
Approximate Date Drilled:	7	Client:	GY - AAM	Samplers:	GL + JT
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy, 5°C
UTM Location:	Z.03 E. 58464 N. 6913520	Waypoint:	GPS Pen Name UTM only	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos:	Cam. Pen Nos. 184-186 184-186	Purge Method:			
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo
Field Blank Collected:	<input type="checkbox"/> Yes Name _____				Other
Initial Depth to Water (m):	Dry	Purge Start Time:			
Depth to Bottom (m):	70.32m	Purge Interval Time () min, Vol. () L			
Submerged Tubing Depth (m):	/	Depth to water (m)			
Well Stick-up Height (m):	0.86m	Temperature (°C)			
Estimated Water Volume (L):	/	pH (pH Units)			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)				
	Specific Cond. (µs/cm)				
	Redox (mV)				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Turbidity (NTU):				
	Interval Purge Volume (L):				
	Cumulative Purge Volume (L):				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit				Other
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.					

Sample Site (Con't): MW14-04D

Sample Date (Con't): SEPT 12 2015

Sample Time: _____

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

12:00 - Attempted to retrieve the old bailer from the bottom of the well using a magnet attached to bailer string. Attempted 3 times. All 3 attempts resulted in the magnet being stopped out around 30-40m btop. The water level tape was able to get down to 72m, thus there may be some metal ~~interaction~~ interaction around 30-40m preventing the magnet from continuing passed it. Used 3 bailer string rolls and was unable to retrieve the bailer.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃		
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-045	Project Number:	1343-005.12	Date:	Sept 12, 2015	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	4" obs / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy, 15°C	
UTM Location:	Z. 02 E. 058464 N. 6913320	Waypoint:	GPS Pen Name VTM only	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad	
Photos:	Cam. Nos. 181-183	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____			X		
Initial Depth to Water (m):	60.424m	Purge Start Time:	13:27		Purge End Time:	13:44
Depth to Bottom (m):	61.1 62.5m	Purge Interval Time () min, Vol. () L	13:27	13:36	13:39	13:44
Submerged Tubing Depth (m):	—	Depth to water (m)	-	-	-	-
Well Stick-up Height (m):	0.88m	Temperature (°C)	7.8	7.6	7.6	7.6
Estimated Water Volume (L):	≈ 12 L	pH (pH Units)	6.70	6.68	6.65	6.65
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	3634	3621	3605	3602	3600
	Specific Cond. (µs/cm)	5410	5429	5392	5391	5413
	Redox (mV)	152.5	122.3	130.6	134.2	130.6
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	turbid	turbid	turbid
	Turbidity (NTU):	-	-	-	-	811
	Interval Purge Volume (L):	.7	1	1	1	1
	Cumulative Purge Volume (L):	.7	1.7	2.7	3.7	4.7
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	13:58	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit			X		

Conductivity probe wasn't submerged

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-045

Sample Date (Con't): SEPT 12 2015

Sample Time: 13-58

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

1 X BAILER. W/ TWINE.
V. TURBID.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-05	Project Number:	1343-005.12	Date:	SEPT 10 2015					
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JH					
Piezometer Diameter / Screen Length:	6" PVC / UNKNOWN	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	OVERCAST ~ 7°C					
UTM Location:	ZONE E. 058469 N. 6913353	Waypoint:	GPSH Name <u>UTMS ONLY</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. <u>EUR</u> Nos. <u>125-127</u>	Purge Method:								
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name <u>MW15-200</u>	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
Field Blank Collected:	<input type="checkbox"/> Yes Name /	<input checked="" type="checkbox"/> w/ 5000 GEN.			<input checked="" type="checkbox"/>					
Initial Depth to Water (m):	53.656	Purge Start Time:	10:14	Purge End Time:	10:40					
Depth to Bottom (m):	~ 67.0	Purge Interval Time (S) min, Vol. (L)	10-19	10-25	10-30	10-35	10-40			
Submerged Tubing Depth (m):	~ 66.0	Depth to water (m)		54.530		55.115				
Well Stick-up Height (m):	0.925 - 8 = 8.945	Temperature (°C)	7.8	9.8	10.1	10.4	10.5			
Estimated Water Volume (L):	476.28 217	pH (pH Units)	6.09	6.2	6.23	6.26	6.31			
<p>13.35 x (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	3579	3765	3810	3880	3808				
	Specific Cond. (µs/cm)	5352	5302	5347	5387	5403				
	Redox (mV)	111.0	78.3	60.7	49.3	35.3				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	CLEAR	CLEAR	→	→				
	Turbidity (NTU):	-	-	-	-	-	14.9			
	Interval Purge Volume (L):	10	10	13	10	10				
	Cumulative Purge Volume (L):	10	20	33	43	53				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	10.44	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>					

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

$$0.72 \times 0.72 \times 3.62$$

$$= 0.0162 \times 16.28$$

Volts: 181
Freq. 305 Hz

Sample Site (Con't): MW14-05

Sample Date (Con't): SEPT 10 2015

Sample Time: 10-45

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

WATERL 5/8"

~ 70m USED.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-08	Project Number:	1343-005.12	Date:	Sept. 10/2015		
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.		
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast ~80C.		
UTM Location:	Z. 8 E. 0584697 N. 6913036	Waypoint:	GPS AN Name MW14-08	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 46-48	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	1.760	Purge Start Time:	11:38			Purge End Time:	11:52
Depth to Bottom (m):	3.250	Purge Interval Time (Σ) min, Vol. () L	11:40	11:43	11:46	11:49	11:52
Submerged Tubing Depth (m):	3.0	Depth to water (m)	1.962	1.994	2.039	2.052	2.053
Well Stick-up Height (m):	1.057	Temperature (°C)	7.2	7.2	7.2	7.1	7.0
Estimated Water Volume (L):	~ 3.03	pH (pH Units)	6.59	6.88	6.95	7.00	7.01
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1055	1006	1063	990	966	
	Specific Cond. (µs/cm)	1601	1615	1613	1500	1470	
	Redox (mV)	-98.5	-124.7	-133.2	-140.2	-142.1	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	slightly turbid greenish	Sample.	Sample.	Sample.	Sample.	
	Turbidity (NTU):					66.7	
	Interval Purge Volume (L):	0.3	0.3	0.4	0.25	0.3	
	Cumulative Purge Volume (L):	0.3	0.6	1.0	1.25	1.55	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	11:52	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-08

 Sample Date (Con't): Sept. 10/2015

 Sample Time: 11:54

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Well sealed w/ J-plug.
slow recharge.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃		
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-09	Project Number:	1343-005.12	Date:	Sept 10 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JL AN						
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	80°C overcast						
UTM Location:	Z. B. E. 0584609 N. 6913039	Waypoint:	GPS AN Name MW14-09	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 049-051	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	2.699	Purge Start Time:	12:10	Purge End Time:							
Depth to Bottom (m):	6.500	Purge Interval Time (3) min, Vol. () L	12:10	12:16	12:19	12:23	12:27	12:30	12:33	12:37	12:40
Submerged Tubing Depth (m):	6.0	Depth to water (m)	2.777	2.796	2.803	2.810	2.795	2.743	2.79	-	-
Well Stick-up Height (m):	0.859	Temperature (°C)	3.9	3.7	3.4	3.2	3.6	3.8	3.8	3.7	3.6
Estimated Water Volume (L):	~ 7.72	pH (pH Units)	7.10	6.96	6.78	6.64	6.64	6.65	6.59	6.55	6.50
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	603	599	584	572	577	581	578	572	569	
	Specific Cond. (µs/cm)	1014	1009	996	977	974	978	971	964	960	
	Redox (mV)	-36.7	-36.3	-37.7	-4.1	-7.5	-8.5	-2.8	0.1	5.2	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear greenish slight turbidity	Same	Same	Same	light green clear	Same	Same	Same	Same	
	Turbidity (NTU):									15.9	
	Interval Purge Volume (L):	0.25	0.50	0.45	0.5	0.5	0.4	0.4	0.4	0.4	
	Cumulative Purge Volume (L):	0.25	0.75	1.25	1.75	2.25	2.65	3.05	3.45	3.85	
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	12:41	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-09

Sample Date (Con't): Sept 10 2015

Sample Time: 12:42

Additional Purge Data:										
Purge Interval Time () min, Vol. () L										
Depth to water (m)										
Temperature (°C)										
pH (pH Units)										
Cond. (µs/cm)										
Specific Cond. (µs/cm)										
Redox (mV)										
Appearance & Odour (Clear, Silty, HC odours, etc.)										
Turbidity (NTU)										
Interval Purge Volume (L)										
Cumulative Purge Volume (L):										

General Notes (Condition of well, consumables, or other features):

6" Silicon.

7.5m 1/4 HDPE used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	40ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-10	Project Number:	1343-005.12	Date:	Sept 10 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC AN						
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	8° overcast						
UTM Location:	Z. 08 E. 0584683N. 6913049	Waypoint:	GPSAN Name MW14-10	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 052-054	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	3.097	Purge Start Time:	12:57	Purge End Time:	13:30						
Depth to Bottom (m):	5.520	Purge Interval Time (5) min, Vol. () L	12:58	13:03	13:10	13:15	13:20	13:25	13:30		
Submerged Tubing Depth (m):	5.0	Depth to water (m)	-	3.26	3.31	3.32	3.35	3.375	3.390		
Well Stick-up Height (m):	0.875	Temperature (°C)	5.3	4.5	4.9	5.4	5.1	5.0	5.0		
Estimated Water Volume (L):	10.8L	pH (pH Units)	7.14	7.30	7.31	7.31	7.33	7.32	7.32		
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	649	642	643	653	650	650	657			
	Specific Cond. (µs/cm)	1045	1054	1044	1044	1050	1051	1063			
	Redox (mV)	3.3	2.5	4.0	4.6	5.4	6.7	6.5			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear slightly turbid	Sand	Sand	Same	same	Sand	Sand			
	Turbidity (NTU):								28.7		
	Interval Purge Volume (L):	0.1	0.6	0.7	0.6	0.6	0.65	0.6			
	Cumulative Purge Volume (L):	0.1	0.7	1.4	2.0	2.6	3.25	3.85			
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	13:31	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-10

Sample Date (Con't): Sept 10 2015

Sample Time: 13:35

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silicon
1 m 1/4 HDPE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	500	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-11	Project Number:	1343-005.12	Date:	Sept. 10/2015					
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JC					
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast ~ 5°C					
UTM Location:	Z. 8 E. 0584680 N. 6913051	Waypoint:	GPS AN Name MW14-11	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad					
Photos:	Cam. AN Nos. 40-42	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		Peristaltic							
Initial Depth to Water (m):	1.793	Purge Start Time:	9:50	Purge End Time:						
Depth to Bottom (m):	4.443	Purge Interval Time (3) min, Vol. () L	9:53	9:56	9:59	10:02	10:05	10:10	10:14	10:17
Submerged Tubing Depth (m):	~ 4.0	Depth to water (m)	2.005	2.030	2.056	2.096	2.121	2.136	2.450	2.151
Well Stick-up Height (m):	0.81	Temperature (°C)	5.0	5.1	5.3	5.3	5.4	5.2	5.2	5.1
Estimated Water Volume (L):	~ 5.4	pH (pH Units)	6.19	6.41	6.55	6.66	6.75	6.81	6.83	6.89
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	460.4	455.6	455.5	452.8	446.0	443.0	440.1	437.2	
	Specific Cond. (µs/cm)	745.5	730.4	730.1	726.5	719.4	712.1	708.3	704.8	
	Redox (mV)	-38.7	-62.6	-71.6	-81.3	-87.6	-94.4	-97.9	-99.2	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear slight sulphur	Same	Same	Same	Same	Same	Same	Same	
	Turbidity (NTU):								8.40	
	Interval Purge Volume (L):	0.3	0.25	0.2	0.3	0.3	0.7	0.3	0.5	
	Cumulative Purge Volume (L):	0.3	0.55	0.7	1.0	1.3	2.0	2.3	2.6	
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:							
Time logged on YSI (24hr):	10:10	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		Peristaltic							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-11

Sample Date (Con't): Sept. 10/2015

Sample Time: 10:20

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
Well sealed with 3-plug.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	1	
1 L (plastic)	General Chemistry	500 ml	-	-	1	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-12D	Project Number:	1343-005.12	Date:	Sept 12 2011
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN SC
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	80C overcast
UTM Location:	Z. 08 E. 0584860N. 6913272	Waypoint:	GPS AN Name MW14-12SID	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad
Photos:	Cam. AN Nos. 097-0100	Purge Method:			
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X		
Initial Depth to Water (m):	1.035	Purge Start Time:	10:33	Purge End Time:	10:58
Depth to Bottom (m):	6.340	Purge Interval Time (5) min, Vol. () L	10:36	10:41	10:46
Submerged Tubing Depth (m):	6.0	Depth to water (m)	1.050	1.050	1.060
Well Stick-up Height (m):	1.015	Temperature (°C)	3.6	3.2	3.2
Estimated Water Volume (L):	10.6	pH (pH Units)	6.08	5.91	5.88
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	621	639	640	645
	Specific Cond. (µs/cm)	1054	1094	1096	1105
	Redox (mV)	173.4	186.2	192.5	199.3
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear	Clear	Clear	Sand. Sew.
	Turbidity (NTU):				3.71
	Interval Purge Volume (L):	0.4	0.8	0.9	0.8
	Cumulative Purge Volume (L):	0.4	1.2	2.1	2.9
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:		
Time logged on YSI (24hr):	10:57	Waterra	Peristaltic	Disp. Bailer	Redi-flo
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X		

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-18D
 Sample Date (Con't): Sept 10 2015
 Sample Time: 10:58

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

0.75m 1/4 HDPE used.
6" Silicom.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	100	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-125	Project Number:	1343-005.12	Date:	Sept 12 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN JC						
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	92 overcast						
UTM Location:	Z. 08 E. 0584860 N. 6913272	Waypoint:	GPS AN Name MW14-125/D	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 097-0100	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	1.873	Purge Start Time:	9:55			Purge End Time:	10:16				
Depth to Bottom (m):	3.919	Purge Interval Time (3) min, Vol. () L	9:59	10:02	10:05	10:08	10:11	10:15			
Submerged Tubing Depth (m):	3.719	Depth to water (m)	1.805	1.840	1.845	1.845	1.855	1.875			
Well Stick-up Height (m):	1.010	Temperature (°C)	4.4	4.4	4.6	4.6	4.6	4.6			
Estimated Water Volume (L):	4.1L	pH (pH Units)	7.05	6.67	6.47	6.37	6.31	6.24			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	342.3	362.7	355.3	347.4	341.4	341.9				
	Specific Cond. (µs/cm)	641.3	546.2	581.3	569.1	591.7	561.5				
	Redox (mV)	143.8	160.0	168.1	171.0	175.1	179.0				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slightly turbid, no odour	Slight turbidity	Sand	Sand	Sand	Sand				
	Turbidity (NTU):						24.7				
	Interval Purge Volume (L):	0.15	0.3	0.2	0.2	0.3	0.3				
	Cumulative Purge Volume (L):	0.15	0.45	0.65	0.85	1.15	1.45				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	10:17	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MV14-12S

Sample Date (Con't): Sept 12 2015

Sample Time: 10:17

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silicon.

Able to sample with low flow pump

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1000 ml	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-13	Project Number:	1343-005.12	Date:	Sept. 12/2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN, JC.					
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast ~5°C					
UTM Location:	Z. 8 E. 0584922 N. 643280	Waypoint:	GPS AN Name MW14-13	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. ___ Nos. 107-116	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	2.440	Purge Start Time:	13:34			Purge End Time:				
Depth to Bottom (m):	5.00	Purge Interval Time (3) min, Vol. () L	13:36	13:39	13:42	13:45	13:48			
Submerged Tubing Depth (m):	~4.5	Depth to water (m)	2.446	2.446	same.	same.	2.45			
Well Stick-up Height (m):	0.985	Temperature (°C)	4.3	3.5	3.3	3.4	3.2			
Estimated Water Volume (L):	~5.2	pH (pH Units)	5.80	5.68	5.65	5.65	5.64			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	974	925	914	913	910				
	Specific Cond. (µs/cm)	1622	1517	1562	1557	1556				
	Redox (mV)	194.6	207.5	215.7	220.7	226.5				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	slightly turbid brown.	less turbid.	same.	same.	same.				
	Turbidity (NTU):					0.51				
	Interval Purge Volume (L):	.15	.3	.35	0.4	0.4				
	Cumulative Purge Volume (L):	.15	.45	.8	1.2	1.6				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	13:50	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-13

 Sample Date (Con't): Sept. 12/2015

 Sample Time: 13:51

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 Used: 6" peri. tubing.
 12" silicon tubing.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-14	Project Number:	1343-005.12	Date:	Sept 10 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC AN					
Piezometer Diameter / Screen Length:	2" / 2	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	8°C overcast					
UTM Location:	Z. 08 E. 0584820 N. 6913241	Waypoint:	GPS <u>AN</u> Name <u>MW14-14</u>	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad					
Photos:	Cam. <u>AN</u> Nos. <u>0101-0103</u>	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	0.670	Purge Start Time:	11:31			Purge End Time:				
Depth to Bottom (m):	3.530	Purge Interval Time (3) min, Vol. () L	11:32	11:36	11:41	11:46	11:49	14:56		
Submerged Tubing Depth (m):	—	Depth to water (m)	1.170	2.005	2.255	3.150	DRY	1.487		
Well Stick-up Height (m):	0.980	Temperature (°C)	5.5	5.5	5.7	5.5	5.1			
Estimated Water Volume (L):	3.146	pH (pH Units)	6.11	6.09	6.10	6.34	6.27			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1489	1346	1213	791					
	Specific Cond. (µs/cm)	2366	2145	1910	1261					
	Redox (mV)	182.5	175.7	173.3	158.2					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slightly turbid light grey	same	same	same					
	Turbidity (NTU):							16.0		
	Interval Purge Volume (L):	0.05	0.3	0.45	0.10	0.1				
	Cumulative Purge Volume (L):	0.05	0.35	0.80	0.90	1.00				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	well went dry.	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit			X 1" Bailer						

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW/4-14
 Sample Date (Con't): Sept 12 2015
 Sample Time: 15:00

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silicon
 1 x 1" Bailer
 Well is located in the lake ~ 1m
 from shoreline.
 purged dry and collected YSE
 Readings. Returned @ 15:00 to
 sample using 1" Bailer

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	500	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-15	Project Number:	1343-005.12	Date:	Sept 12 2015	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN JC	
Piezometer Diameter / Screen Length:	1" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	8°C overcast	
UTM Location:	Z. 08 E. 05 8481 N. 6913263	Waypoint:	GPS AN Name MW14-15	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 104-106	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	1.162	Purge Start Time:	12:45	Purge End Time:	13:07	
Depth to Bottom (m):	3.572	Purge Interval Time (3) min, Vol. () L	12:46	12:49	12:52	
Submerged Tubing Depth (m):	3.2	Depth to water (m)	1.290	1.295	1.295	
Well Stick-up Height (m):	1.26	Temperature (°C)	6.0	5.9	5.7	
Estimated Water Volume (L):	4.8 2.651	pH (pH Units)	6.42	6.36	6.37	
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1980	1945	1802	1672	
	Specific Cond. (µs/cm)	311	3061	2857	2671	2638
	Redox (mV)	164.0	166.8	168.8	172.1	175.1
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Silty, Brown	Silty, Brown	clearly w/ abt	same	same
	Turbidity (NTU):					65.0
	Interval Purge Volume (L):	0.2	0.3	0.25	0.5	0.4
	Cumulative Purge Volume (L):	0.2	0.5	0.75	1.25	1.65
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):	13:07	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW4-15

Sample Date (Con't): Sept 15 2015

Sample Time: 13:00

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silica

1 m 1/4 HDPE

Manometer is sunken in and must
be lifted to access well.

Bottom of the manometer is sitting
in water.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1000 ml	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	MW14-16	Project Number:	1343-005.12	Date:	Sept 12 2015		
Approximate Date Drilled:	July 2014	Client:	GY - AAM	Samplers:	JC AN		
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	9°C Overcast		
UTM Location:	Z. 08 E. 058488 N. 6913284	Waypoint:	GPS Name MW14-16	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 111-113	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	4.065	Purge Start Time:	14:15			Purge End Time:	
Depth to Bottom (m):	6.865	Purge Interval Time (5) min, Vol. () L	14:17	14:22	14:27	14:32	14:37
Submerged Tubing Depth (m):	6.565	Depth to water (m)	4.080	4.080	4.080	4.080	4.080
Well Stick-up Height (m):	0.985	Temperature (°C)	4.5	3.7	3.6	3.7	3.6
Estimated Water Volume (L):	5.6	pH (pH Units)	6.03	6.01	6.02	6.01	6.00
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	853	641	595	563	563	
	Specific Cond. (µs/cm)	1426	1080	1005	951	956	
	Redox (mV)	202.2	206.9	210.1	213.0	216.0	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slightly turbid / odorous	clear / odorous	Same	Same	Same	
	Turbidity (NTU):					1.69	
	Interval Purge Volume (L):	0.25	0.4	0.5	0.6	0.650	
	Cumulative Purge Volume (L):	0.25	0.65	1.15	1.75	2.40	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	14:38	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): MW14-16
 Sample Date (Con't): Sept 12 2015
 Sample Time: 14:39

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

1 m 1/4 HDPE
 6" Silicon

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PO1-01A	Project Number:	1343-005.12	Date:	Sept. 13/2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2' / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast windy 20°C.						
UTM Location:	Z. 8 E. 0579697 N. 6914855	Waypoint:	GPS AN Name PO1-01A/B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 130-153	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Hydro: ft.									
Initial Depth to Water (m):	3.556	Purge Start Time:	12:52			Purge End Time:					
Depth to Bottom (m):	20.322	Purge Interval Time (Σ) min, Vol. (Σ) L	12:55	13:00	13:05	13:09	13:12	13:14			
Submerged Tubing Depth (m):	~20.0	Depth to water (m)	no change.			→					
Well Stick-up Height (m):	0.62	Temperature (°C)	2.3	2.2	2.1	2.2	2.0	2.1			
Estimated Water Volume (L):	~34.0	pH (pH Units)	6.95	6.88	6.88	6.88	6.89	6.88			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	866	1096	1005	1095	1090	1090				
	Specific Cond. (µs/cm)	1534	1945	1790	1942	1742	1940				
	Redox (mV)	88.4	89.2	91.7	90.2	92.8	94.9				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	same	same	same	same	same				
	Turbidity (NTU):	_____						0.12			
	Interval Purge Volume (L):	10	10	10	10	10	10				
	Cumulative Purge Volume (L):	10	20	30	40	50	60				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	13:16	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydro: ft.									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): Pol-01A

Sample Date (Con't): Sept. 13/2015

Sample Time: 13:15

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
no consumables used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000.	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P01-01B	Project Number:	1343-005.12	Date:	Sept. 13/2015	
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JC.	
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy/windy ~8°C.	
UTM Location:	Z. 8 E. 0579677 N. 6914855	Waypoint:	GPS AN Name P01-01A/B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 130-133	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Hydrolift.				
Initial Depth to Water (m):	3.617	Purge Start Time:	15:23	Purge End Time:	13:38	
Depth to Bottom (m):	35.264	Purge Interval Time () min, Vol. (10) L	13:27	13:30	13:35	13:38
Submerged Tubing Depth (m):	~34	Depth to water (m)	no change			
Well Stick-up Height (m):	2.57	Temperature (°C)	2.3	2.4	2.3	2.4
Estimated Water Volume (L):	~64.3	pH (pH Units)	7.14	7.16	7.18	7.18
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	810	812	811	813	
	Specific Cond. (µs/cm)	1431	1430	1430	1427	
	Redox (mV)	-14.6	-30.6	-33.4	-35.3	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear.	Samp	Samp.	Same	
	Turbidity (NTU):				0.24	
	Interval Purge Volume (L):	10	10	10	10	
	Cumulative Purge Volume (L):	10	20	30	40	
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):	13:39	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydrolift.				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO1-01AB

Sample Date (Con't): Sept. 13/2015

Sample Time: 13:40

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
No consumables used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000.	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PO1-03	Project Number:	1343-005.12	Date:	Sept 13, 2015	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR RJH	
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Sun 5 th 72AIN 11 ^{oc}	
UTM Location:	Z08V E0580517N 6914252	Waypoint:	GPS H Name UTM only	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. # Nos. 229-231	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	2.325m	Purge Start Time:	1608.		Purge End Time:	
Depth to Bottom (m):	9.608m	Purge Interval Time (4) min, Vol. () L	1611	1614	1617	1620
Submerged Tubing Depth (m):	9.4m	Depth to water (m)	2.630	2.880	3.090	3.325
Well Stick-up Height (m):	0.56	Temperature (°C)	4.3	4.1	4.2	4.1
Estimated Water Volume (L):	14.6	pH (pH Units)	5.99	5.97	6.00	5.99
<p>7.3</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	2568	2556	2558	2549	
	Specific Cond. (µs/cm)	4253	4257	4248	4246	
	Redox (mV)	-13.4	-16.3	-18.3	-20.6	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY CLOUDY.	CLEAR	CLEAR	CLEAR	
	Turbidity (NTU):	/	/	/	50.2	
	Interval Purge Volume (L):	0.4	0.450	0.450	0.5	
	Cumulative Purge Volume (L):	0.4	0.850	1.3	1.8	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	16-22	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO1-03
 Sample Date (Con't): SEPT 13 2015
 Sample Time: 16-22

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" PERI
 6" SILICONE.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PO1-04A	Project Number:	1343-005.12	Date:	Sept. 13/2015				
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.				
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast/rain ~30C.				
UTM Location:	Z. 8 E. 0580374 N. 6714076	Waypoint:	GPS AN Name PO1-04A/B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad				
Photos:	Cam. AN Nos. _____	Purge Method:							
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Hydrolift.							
Initial Depth to Water (m):	0.730	Purge Start Time:	17:07			Purge End Time:	17:41		
Depth to Bottom (m):	53.295	Purge Interval Time () min, Vol. (10) L	17:12	17:16	17:22	17:27	17:32	17:38	17:41
Submerged Tubing Depth (m):	~51.0	Depth to water (m)	0.895	0.91	Same	Same.	Same.	Same.	Same.
Well Stick-up Height (m):	.18	Temperature (°C)	3.7	3.6	3.6	3.7	3.7	3.7	3.6
Estimated Water Volume (L):	~106.8	pH (pH Units)	6.63	6.63	6.62	6.61	6.62	6.62	6.64
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	712	657	735	735	526	708	519	
	Specific Cond. (µs/cm)	1203	1112	1234	1238	883	1194	901	
	Redox (mV)	-37.7	-42.8	-43.2	-44.7	-46.4	-46.8	-47.7	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear Sulphur odour.	Same.	Same	Same.	Same	Same	Same	
	Turbidity (NTU):							0.43	
	Interval Purge Volume (L):	12	12	12	12	12	12	10	
	Cumulative Purge Volume (L):	12	24	36	48	60	72	82	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:							
Time logged on YSI (24hr):	17:42	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydrolift.							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P01-04A

Sample Date (Con't): Sept. 13/2015

Sample Time: 17:40

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

No consumables used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P01-04B	Project Number:	1343-005.12	Date:	Sept. 13 / 2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast/rain ~2°C						
UTM Location:	Z. 8 E. 0580374 N. 6914076	Waypoint:	GPS AN Name P01-04A/B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 137-139	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	HydroLift.									
Initial Depth to Water (m):	1.391	Purge Start Time:	16:33			Purge End Time:					
Depth to Bottom (m):	33.272	Purge Interval Time () min, Vol. (10) L	16:37	16:41	16:45	16:49	16:53	16:57	17:00		
Submerged Tubing Depth (m):	~31	Depth to water (m)	1.41	1.41	same.	same.	same.	same.	same.		
Well Stick-up Height (m):	7.0 0.17	Temperature (°C)	3.4	3.3	3.3	3.2	3.2	3.2	3.2		
Estimated Water Volume (L):	~64.7	pH (pH Units)	6.70	6.71	6.73	6.73	6.73	6.74	6.74		
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	870	1382	1090	1504	1505	1156	1500			
	Specific Cond. (µs/cm)	1482	2364	1867	2574	2575	1996	2567			
	Redox (mV)	-45.0	-44.6	-46.1	-46.3	-44.6	-44.8	-45.9			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear.	clear	same	same	same.	same.	same.			
	Turbidity (NTU):								0.14		
	Interval Purge Volume (L):	14	10	12	10	10	12	10			
	Cumulative Purge Volume (L):	14	24	36	46	56	68	78			
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	17:02	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	HydroLift.									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P01-04B

 Sample Date (Con't): Sept. 13/2015

 Sample Time: 17:05

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

No consumables used.
Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P01-11	Project Number:	1343-005.12	Date:	SEPT 13 2015	
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C sunny	
UTM Location:	Z. 08V E. 0530699 N. 6914488	Waypoint:	GPS H Name <u>UTMS only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam <u>EUR</u> Nos. 214-216	Purge Method:				
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name <u>MWIS-800</u>	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name <u>Field Blank-400</u>		X			
Initial Depth to Water (m):	1.116	Purge Start Time:	11-32	Purge End Time:	11:47	
Depth to Bottom (m):	10.995	Purge Interval Time (3) min, Vol. () L	11:35	11:38	11:41	
Submerged Tubing Depth (m):	~10.5	Depth to water (m)	1.120	1.120 1.120	1.120	
Well Stick-up Height (m):	1.20	Temperature (°C)	5.9	5.5	5.4	
Estimated Water Volume (L):	~19.75	pH (pH Units)	6.33	6.54	6.54	
9.88×2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2739	2449	2401	2388	
	Specific Cond. (µs/cm)	4299	3907	3856	3834	
	Redox (mV)	-94.7	-99.1	98.5	-98.1	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	
	Turbidity (NTU):	-	-	-	-	651
	Interval Purge Volume (L):	.4	.6	.6	.6	
	Cumulative Purge Volume (L):	.4	1	1.6	2.2	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	11:48	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO1-11

Sample Date (Con't): SEPT 13 2015

Sample Time: 11:48

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Good condition
 - used 6" silicone
 6" 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-01-2	Project Number:	1343-005.12	Date:	Sept 16, 2015						
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JH						
Piezometer Diameter / Screen Length:	1/2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast/Rain ~2°C						
UTM Location:	Z. 8 E. 0583182 N. 6912764	Waypoint:	GPS AN Name P03-01	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 226-228	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes - Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes - Name _____	X									
Initial Depth to Water (m):	5.708	Purge Start Time:	14:32	Purge End Time:							
Depth to Bottom (m):	391.330m	Purge Interval Time (3) min, Vol. () L	14:35	14:39	14:42	14:45	14:48	14:51	14:54	14:57	15:00
Submerged Tubing Depth (m):	~38.5	Depth to water (m)	—	—	—	could not measure (well diameter)					
Well Stick-up Height (m):	0.40	Temperature (°C)	5.0	4.9	4.9	4.8	4.7	4.7	4.6	4.6	4.6
Estimated Water Volume (L):	~4.27	pH (pH Units)	6.90	6.81	6.91	7.04	7.14	7.23	7.28	7.32	7.34
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	308.6	279.1	274.6	277.6	280.2	282.1	283.3	284.1	284.5	
	Specific Cond. (µs/cm)	496.6	452.8	446.6	452.3	457.2	461.5	463.5	464.8	465.8	
	Redox (mV)	-14.2	17.4	31.3	23.2	-0.6	-23.3	-39.0	-49.0	-56.3	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	light grey	slight turbid.	same.	same	same.	same	same.	same.	same.	same.
	Turbidity (NTU):	—	—	—	—	—	—	—	—	—	10.5
	Interval Purge Volume (L):	.2	.3	.4	.3	.3	.4	.4	.4	.4	
	Cumulative Purge Volume (L):	.2	.5	.9	1.2	1.5	1.9	2.3	2.7	3.1	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	15.01	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P03-01-2

 Sample Date (Con't): Sept. 16/2015

 Sample Time: 15:01

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Used . 40m of peri. tubing.
6" of silicon.
CMT nested well, or tailings.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-01-8	Project Number:	1343-005.12	Date:	Sept 13, 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + SH					
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	clear, 3°C					
UTM Location:	Z08 E.0583181 N.6912760	Waypoint:	GPS H Name UTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. H Nos. 209-211 213	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	2.49 m	Purge Start Time:	10:01 9:49			Purge End Time:				
Depth to Bottom (m):	10.066 m	Purge Interval Time (3) min, Vol. () L	9:54	9:57	10:01	10:04	10:07	10:10	10:14	10:17
Submerged Tubing Depth (m):	9.8 m	Depth to water (m)	-	-	-	-	-	-	-	-
Well Stick-up Height (m):	0.57 m	Temperature (°C)	5.5	5.4	5.5	5.3	5.2	5.3	5.4	5.2
Estimated Water Volume (L):	2 L	pH (pH Units)	4.52	5.23	5.41	5.58	5.65	5.79	5.89	5.94
$(10.0 - 2.5) \times \pi R^2$ (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	26231	26751	26678	26584	26473	26285	26112	25899	
	Specific Cond. (µs/cm)	41922	42779	42756	42573	42381	42107	41899	41637	
	Redox (mV)	149.2	-1.1	-63.9	-103.6	-122.6	-146.6	-153.6	-156.8	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Silty light green →		CLEARING	CLEAR SLIGHT GREEN →	CLEAR →				
	Turbidity (NTU):	-	-	-	-	-	-	-	109	
	Interval Purge Volume (L):	.3	.4	.5 #3	.150	.250	0.250	0.250	.250	
	Cumulative Purge Volume (L):	.3	.7	1.2	1.350	1.7	1.950	2.2	2.450	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	10-19	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO3-01-8

Sample Date (Con't): SEPT 13 2015

Sample Time: ~~SEPT 13 2015~~ 10:19

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

11 m PERI
 6" SILICONE
 - water colour is green

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-03-Z	Project Number:	1343-005.12	Date:	SEPT 16 2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JH						
Piezometer Diameter / Screen Length:	0.5 / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast/rain ~2°C						
UTM Location:	Z. 8 E. 0502948 N. 6912883	Waypoint:	GPS HM Name 110	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. ICR Nos. 299-301	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo						
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X		Other						
Initial Depth to Water (m):	5.805	Purge Start Time:	15.49	Purge End Time:							
Depth to Bottom (m):	34.263	Purge Interval Time (3) min, Vol. () L	15.51	15.54	15.58	15.01	15.04				
Submerged Tubing Depth (m):	34.0	Depth to water (m)	—	—	—	—	—				
Well Stick-up Height (m):	0.67	Temperature (°C)	5.0	4.9	4.7	4.7	4.6				
Estimated Water Volume (L):	~7.2	pH (pH Units)	7.66	4.65	4.69	4.68	4.67				
28.65 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1754	2095	2100	2098	2095					
	Specific Cond. (µs/cm)	2088	3407	3430	3430	3432					
	Redox (mV)	350.6	206.6	177.7	173.8	171.5					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slight turbid.	clear.	Same.	Same.	Same.					
	Turbidity (NTU):	—	—	—	—	67.0					
	Interval Purge Volume (L):	0.1	.65	.25	.25	0.3					
	Cumulative Purge Volume (L):	0.1	.75	1.0	1.25	1.55					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	15.04	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P03-03-2
 Sample Date (Con't): Sept. 16/2015
 Sample Time: 15:05

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 Used: 6" silicom.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000.	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-03-4	Project Number:	1343-005.12	Date:	SEPT 16 2015						
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JC						
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C OVERCAST LIGHT RAIN						
UTM Location:	Z.084 E.0582948 N.6912883	Waypoint:	GPS H Name 110	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. EUR Nos. 299-301	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	7.021	Purge Start Time:	16:23			Purge End Time:	16:44				
Depth to Bottom (m):	23.352	Purge Interval Time (3) min, Vol. () L	16:25	16:28	16:31	16:34	16:37	16:40	16:43		
Submerged Tubing Depth (m):	~22	Depth to water (m)	—	—	—	—	—	—	—		
Well Stick-up Height (m):	0.74	Temperature (°C)	9.2	5.0	4.9	4.9	4.8	4.8	4.7		
Estimated Water Volume (L):	4.15	pH (pH Units)	3.63	5.05	5.21	5.27	5.29	5.31	5.32		
<p>16.33 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	1040	1043	1141	1539	1593	1616	1620			
	Specific Cond. (µs/cm)	1676	1675	1852	2513	2597	2634	2649			
	Redox (mV)	3544	290.9	161.2	124.7	111.4	103.0	97.9			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slight turbid	→	→	clear	clear	clear	clear			
	Turbidity (NTU):	—	—	—	—	—	—	—	1.70		
	Interval Purge Volume (L):	.4	.2	.3	.3	.5	.4	.4			
	Cumulative Purge Volume (L):	.4	.6	.9	1.2	1.7	2.1	2.5			
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	16:43	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P03-03-4
 Sample Date (Con't): Sept 16, 2015
 Sample Time: 16:45

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Need to correct location on figure.
 - P03-03-2, -4, -9 all in the same well location

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 L	
1 L (plastic)	General Chemistry	500 ml	-	-	1 L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-03-09	Project Number:	1343-005.12	Date:	Sept 16 2015				
Approximate Date Drilled:		Client:	GY - AAM	Samplers:	GR + JC				
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~70C LIGHT RAIN.				
UTM Location:	208V E.0582948 N.6712883	Waypoint:	GPSH Name 110	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad				
Photos:	Cam: <u>PLR</u> Nos. <u>299-301</u>	Purge Method:							
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X						
Initial Depth to Water (m):	7.070	Purge Start Time:	15:25	Purge End Time:					
Depth to Bottom (m):	10.182	Purge Interval Time (min, Vol. (L))	1531	1537	1541	1545	1550	1554	1558
Submerged Tubing Depth (m):	9.98	Depth to water (m)	-	-	-	-	-	-	-
Well Stick-up Height (m):	0.81	Temperature (°C)	5.6	5.9	5.6	5.4	5.4	5.3	5.2
Estimated Water Volume (L):	0.788	pH (pH Units)	3.74	4.29	4.27	4.63	5.13	5.39	5.46
<p>3.1</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	7582	8893	9186	9383	9527	9637	9756	
	Specific Cond. (µs/cm)	1210	14058	14620	14983	15254	15465	15681	
	Redox (mV)	267.2	200.7	170.9	114.1	24.4	25.3	-48.7	NOT STABILIZING
	Appearance & Odour (Clear, Silty, HC odours, etc.)	TURBID CLOUDY	SLIGHTLY GREY	CLEAR	CLEAR	CLEAR	CLEAR	SLIGHT GREEN TINGE	
	Turbidity (NTU):	-	-	-	-	-	-	-	9.76
	Interval Purge Volume (L):	0.250	0.200	0.250	0.350	0.250	0.300	0.300	
	Cumulative Purge Volume (L):	0.250	0.450	0.7	1.050	1.3	1.6	1.9	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:							
Time logged on YSI (24hr):	1559	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X						

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

3.605
34
2.49
7.021
23.352

Sample Site (Con't): P03-03-9

Sample Date (Con't): SEPT 16 2015

Sample Time: 1600

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

11.5m PERI
6" SILICONE.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	V. SLOW PURGE + SAMPLE.

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-05-4 1	Project Number:	1343-005.12	Date:	SEPT 16 2015						
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + JC						
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C OVERCAST						
UTM Location:	Z.08V E.0582486N. 6913115	Waypoint:	GPS H Name 109	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. <u>EXR</u> Nos. <u>0295-0298</u>	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____					Micro W.					
Initial Depth to Water (m):	8.553	Purge Start Time:	13:36:14:10			Purge End Time:	14:33				
Depth to Bottom (m):	24.502	Purge Interval Time () min, Vol. () L	142	1416	1418	1421	1423	1425	1428	1431	1433
Submerged Tubing Depth (m):		Depth to water (m)									
Well Stick-up Height (m):	2.083 0.83	Temperature (°C)	4.7	4.8	4.8	4.4	4.6	4.5	4.6	4.4	4.4
Estimated Water Volume (L):	15.9 4.04	pH (pH Units)	6.04	6.02	5.99	5.97	5.97	5.95	5.97	5.97	5.98
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	927	1000	1041	1062	1121	1157	1194	1203	1219	
	Specific Cond. (µs/cm)	1512	1527	1695	1750	1836	1903	1959	1963 2009		
	Redox (mV)	-10.8	2.8	4.9	2.5	-3.4	-8.2	-11.2	-11.0	-13.0	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY TURBID	SAND	→	→	→	→	CLEARER	CLEARER	CLEARER	
	Turbidity (NTU):	-	-	-	-	-	-	-	-	3.40	
	Interval Purge Volume (L):	1	1	1	1	1	1	1	1	1	
	Cumulative Purge Volume (L):	1	2	3	4	5	6	7	8	9	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	1434	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit						Micro W.				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P03-05-4
 Sample Date (Con't): SEPT 16 2015
 Sample Time: 1435

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 Micro Waterra very stiff in the well but it does work.
 30 m of micro wat.
 1X 5510 footvalve
 9 m of Peri tubing.
 6" silicone PERISTALTIC WAS ATTEMPTED BUT NOT QUITE POSSIBLE.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-06-01	Project Number:	1343-005.12	Date:	SEPT 16 2015						
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JC						
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C LIGHT RAIN						
UTM Location:	ZONE AS FOR N. 7, 6 + 2	Waypoint:	GPS 4 Name UTM5 ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. <u>ELR</u> Nos. <u>288-294</u>	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo						
Field Blank Collected:	<input type="checkbox"/> Yes Name _____				Other						
Initial Depth to Water (m):	12.068	Purge Start Time:	11:37	Purge End Time:	12:15						
Depth to Bottom (m):	26.606	Purge Interval Time () min, Vol. () L	11:42	11:47	11:53	11:58	12:06	12:15			
Submerged Tubing Depth (m):		Depth to water (m)	—	—	—	—					
Well Stick-up Height (m):	0.812	Temperature (°C)	4.9	4.7	5.2	5.4	6.1	5.3			
Estimated Water Volume (L):	~3.69	pH (pH Units)	4.41	4.41	4.39	4.67	4.76	4.77			
14.53 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2011	2107	2238	2317	2429	2371				
	Specific Cond. (µs/cm)	3270	3442	3599	3706	3807	3796				
	Redox (mV)	241.4	221.9	223.0	169.8	152.0	148.8				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY TURBID SLIGHTLY TURBID	→	→	→	→	→				
	Turbidity (NTU):	—	—	—	—	—	—	14.7			
	Interval Purge Volume (L):	1	1	1	1	1	1				
	Cumulative Purge Volume (L):	1	2	3	4	5	6				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	12:16	Waterra	Peristaltic	Disp. Bailer	Redi-flo						
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit				Other						
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.											

Sample Site (Con't): P03-06-01
 Sample Date (Con't): SEPT 16 2015
 Sample Time: 1217

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

NO CONSUMABLES
 TOUGH WELL BECAUSE:
 - After pulling tube you have to wait for recharge (~0.75 hr) to get a water level.
 - The friction on the tubing during purging + sampling makes it hard on the legs + arms.
 - Tubing may need changing next time because of weak points above well.

- EXPECT TO STEND 4 HOURS AT THIS LOCATION -01-02-06 & 07

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

12-205

Sample Site:	P013-06-02		Project Number:	1343-005.12		Date:	SEPT 16 2015				
Approximate Date Drilled:	✓		Client:	GY - AAM		Samplers:	GR + JC				
Piezometer Diameter / Screen Length:	5/8" / ?		Project Name:	Faro 2015 GW Fall Sampling Program		Weather/Temperature:	LIGHT RAIN. ~ 6°C				
UTM Location:	ZONV E. 15 FOR 06 N. 06		Waypoint:	GPS H Name UTM5 ONLY		Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad				
Photos:	Cam. B.R. Nos. 288-294		Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____						MICRO. W.				
Initial Depth to Water (m):	23.660 12.060		Purge Start Time:	1033		Purge End Time:					
Depth to Bottom (m):	23.660		Purge Interval Time () min, Vol. () L	10-35	10-43	10-43	10-46	10-49			
Submerged Tubing Depth (m):	23.660		Depth to water (m)	✓							
Well Stick-up Height (m):	0.765		Temperature (°C)	4.2	3.6	3.5	3.5	3.6			
Estimated Water Volume (L):	2.95		pH (pH Units)	3.01	4.49	4.65	4.65	4.70			
11.8 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1913	2055	2104	2121	2146					
	Specific Cond. (µs/cm)	3188	3472	3570	3594	3628					
	Redox (mV)	406.4	203.1	171.8	175.8	165.7					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	TURBID GREEN TINGE → → → →									
	Turbidity (NTU):	— — — — — [2903 AU]									
	Interval Purge Volume (L):	0.75	1	1	1	1					
	Cumulative Purge Volume (L):	0.75	1.75	2.75	3.75	4.75					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Sample Method:								
Time logged on YSI (24hr):	10-53		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit						MICRO. WAT.				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P03 -06 -02
 Sample Date (Con't): SEPT 16 2015
 Sample Time: 1053

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

 1X INLINE FILTER
 3" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	INLINE FILTER w/SILICONE
1 L (plastic)	General Chemistry	500 ml	-	-	⬆	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-06-076		Project Number:	1343-005.12		Date:	SEPT 16 2015			
Approximate Date Drilled:	-		Client:	GY - AAM		Samplers:	GR & JC			
Piezometer Diameter / Screen Length:	5/8" /		Project Name:	Faro 2015 GW Fall Sampling Program		Weather/Temperature:	~7°C OVERCAST → LIGHT RAIN.			
UTM Location:	Z08VE.082450N.691392		Waypoint:	GPS ¹⁷ Name UTM5 ONLY		Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad BUT SHALLOW			
Photos:	Camera Nos. 288-294		Purge Method:							
Duplicate Collected:	<input type="checkbox"/> Yes Name _____		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
Field Blank Collected:	<input type="checkbox"/> Yes Name _____						MICRO-W.			
Initial Depth to Water (m):	12.205		Purge Start Time:	09:12				Purge End Time:	9:44	
Depth to Bottom (m):	13.621		Purge Interval Time () min, Vol. () L	9:22	9:30	9:37	9:44			
Submerged Tubing Depth (m):	13.62		Depth to water (m)	-	-	-	-			
Well Stick-up Height (m):	0.914		Temperature (°C)	6.1	5.3	5.3	4.9			
Estimated Water Volume (L):	0.217		pH (pH Units)	3.78	5.20	5.52	5.71			
<p>1.41</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	1959	2185	2630	3003					
	Specific Cond. (µs/cm)	3065	3508	4015	4874					
	Redox (mV)	327.3	52.1	0.8	-44.1					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	V. DARK TURBID → → →								
	Turbidity (NTU):	2145 AU								
	Interval Purge Volume (L):	0.550	0.750	0.7	0.750					
	Cumulative Purge Volume (L):	0.550	1.30	2.1	2.850					
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No		Sample Method:							
Time logged on YSI (24hr):	9-46		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit						MICRO WAT.			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Photo 0288

0-0043

Sample Site (Con't): P03-06-06
 Sample Date (Con't): SEPT 16 2015
 Sample Time: 0947

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 3" SILICONE
 1X INLINE FILTER
 Can back up back to well - WITHIN 1 FOOT.
 PHOTO 0288 of TURBIDITY
 13 WELL VOLUMES PUGGED
 PARAMETERS DIDN'T STABILIZE.
 VERY TURBID. ABLE TO FIX INLINE FILTER TO MICROWATERRA USING SILICONE (PHOTO 0289)
 WORKED PERFECTLY

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃	FULL	INLINE FILTER w/ SILICONE CONNECTOR
1 L (plastic)	General Chemistry	500 ml	-	-	↓	



GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PO3-06-07	Project Number:	1343-005.12	Date:	SEPT 16 2015	
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JC	
Piezometer Diameter / Screen Length:	5/8" / UNKNOWN	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C overcast	
UTM Location:	Z. 08V E. 0582452 N. 6913492	Waypoint:	GPS# Name <u>UTMS ONLY</u>	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad	
Photos:	Cam. <u>ELR</u> Nos. <u>288-294</u>	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name <u>—</u>	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name <u>—</u>	—	—	—	—	—
Initial Depth to Water (m):	DRY	Purge Start Time:	—	Purge End Time:	—	
Depth to Bottom (m):	11.812 11.812	Purge Interval Time () min, Vol. () L				
Submerged Tubing Depth (m):	—	Depth to water (m)				
Well Stick-up Height (m):	0.933	Temperature (°C)				
Estimated Water Volume (L):		pH (pH Units)	DRY			
<p>(DTB – DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)					
	Specific Cond. (µs/cm)					
	Redox (mV)					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Turbidity (NTU):					
	Interval Purge Volume (L):					
	Cumulative Purge Volume (L):					
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	—	—	—	—	

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

P03-06-07

Sample Site (Con't): ~~SEPT 16 2015~~

Sample Date (Con't): SEPT 16 2015

Sample Time: DRY

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

DRY WELL

can back track up to well and work off tailgate. Negative use of poly.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃		DRY
1 L (plastic)	General Chemistry	500 ml	-	-		↓

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P03-09-6	Project Number:	1343-005.12	Date:	Sept 13, 2015
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + JH
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 10°C
UTM Location:	Z. 08 E. 057943 N. 0914413	Waypoint:	GPS H Name UTA only	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos:	Cam. 14 Nos. 220-222	Purge Method:			
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		Not purged		
Initial Depth to Water (m):	Dry	Purge Start Time:		Purge End Time:	
Depth to Bottom (m):	19.610m	Purge Interval Time () min, Vol. () L			
Submerged Tubing Depth (m):	/	Depth to water (m)			
Well Stick-up Height (m):	0.62m	Temperature (°C)	Dry		
Estimated Water Volume (L):	/	pH (pH Units)			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)				
	Specific Cond. (µs/cm)				
	Redox (mV)				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Turbidity (NTU):				
	Interval Purge Volume (L):				
	Cumulative Purge Volume (L):				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		Not sampled		
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.					

2.75
8.40

Sample Site (Con't): P03-06-6⁰⁶

Sample Date (Con't): Spot 13, 2015

Sample Time: Not Sampled

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- well dry
 - we sipped this well several times and no water readings. Confirmed that the water level tape works in P03-09-09.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃	X	
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	09 P03-06-9	Project Number:	1343-005.12	Date:	Sept 13, 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + SH					
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 10°C					
UTM Location:	Z. 08 E. (057994) N. 6914413	Waypoint:	GPS H Name V11 only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. 14 Nos. 217-219	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	2.735	Purge Start Time:	12:41	Purge End Time:	13:08					
Depth to Bottom (m):	8.401	Purge Interval Time (3) min, Vol. () L	12:44	12:47	12:50	12:53	12:56	12:59	13:04	13:07
Submerged Tubing Depth (m):	8.25	Depth to water (m)	-	-	-	-	-	-	-	-
Well Stick-up Height (m):	0.69	Temperature (°C)	4.4	4.5	4.5	4.5	4.6	4.7	4.8	4.8
Estimated Water Volume (L):	0.92 1.15	pH (pH Units)	6.64	6.80	6.64	6.63	6.65	6.65	6.63	6.65
5.7 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1341	1353	1352	1352	1354	1360	1361	1364	
	Specific Cond. (µs/cm)	2207	2223	2223	2221	2221	2220	2217	2223	
	Redox (mV)	-19.0	-14.9	-4.0	0.3	6.6	5.8	14.7	14.1	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	silty	less silty grey	turbid	→	→	→	→	→	
	Turbidity (NTU):	-	-	-	-	-	-	-	-	8.03
	Interval Purge Volume (L):	0.6	.6	.4	.45	.5	.5	.5	.5	.5
	Cumulative Purge Volume (L):	0.6	1.2	1.6	2.05	2.55	3.05	3.55	4.05	4.55
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	13:09	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P03-09-9
 Sample Date (Con't): Sept 13, 2015
 Sample Time: 13:09

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- 3 well volumes purged. All parameters stable except for ORP which is bouncing around. We start sampling after 3 well volumes

- Used 6" Silicone

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 L	
1 L (plastic)	General Chemistry	500 ml	-	-	1 L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P05-01-02	Project Number:	1343-005.12	Date:	SEPT 13, 2015		
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH		
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~11°C SUNNY		
UTM Location:	Z.08VE.058006°N.6914511	Waypoint:	GPS # Name (OTMS ONLY)	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. # Nos. 223-228	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		*				
Initial Depth to Water (m):	0.443	Purge Start Time:	1403	Purge End Time:	1424		
Depth to Bottom (m):	20.782	Purge Interval Time (min, Vol. (L))	1407 1411 1415 1419 1423				
Submerged Tubing Depth (m):	20.5	Depth to water (m)	—				
Well Stick-up Height (m):	0.50	Temperature (°C)	5.9 5.7 5.6 5.5 5.5				
Estimated Water Volume (L):	5.1	pH (pH Units)	6.25 6.26 6.27 6.27 6.26				
<p>20.3 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	2414 2408 2403 2399 2395					
	Specific Cond. (µs/cm)	3798 3817 3818 3814 3822					
	Redox (mV)	-13.8 -17.8 -21.5 -22.3 -23.6					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLOUDY CLEARING CLEARER CLEAR CLEAR					
	Turbidity (NTU):	— / / / / 0.88					
	Interval Purge Volume (L):	1 0.750 0.750 0.8 0.7					
	Cumulative Purge Volume (L):	1 1.750 2.7 3.3 4					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	14-25	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): POS-01-02
 Sample Date (Con't): SEPT 13 2015
 Sample Time: 1425

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

22m PERI
 6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	POS-01-03	Project Number:	1343-005.12	Date:	SEPT 13 2015	
Approximate Date Drilled:	✓	Client:	GY - AAM	Samplers:	GR + JP	
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~11°C SUNNY → OVERCAST	
UTM Location:	ZONE E. 058006 N. 6914511	Waypoint:	GPS H Name UTM ONLY	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. URL Nos. 223-228	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	1.525	Purge Start Time:	1432	Purge End Time:	1449	
Depth to Bottom (m):	17.802	Purge Interval Time (min, Vol. (L))	1436 1440 1444 1448			
Submerged Tubing Depth (m):	~17.60	Depth to water (m)	✓	✓		
Well Stick-up Height (m):	0.52	Temperature (°C)	5.6	5.3	5.2	5.3
Estimated Water Volume (L):	~4.1	pH (pH Units)	6.30	6.26	6.26	6.27
<p>16.3 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	2395	2392	2387	2389	
	Specific Cond. (µs/cm)	3812	3835	3836	3836	
	Redox (mV)	-26.2	-25.3	-	-25.4	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY CLOUDY.	CLEARING	CLEAR	CLEAR	
	Turbidity (NTU):	0.750	✓	✓	✓	2.87
	Interval Purge Volume (L):	0.750	0.750	0.750	0.750	
	Cumulative Purge Volume (L):	0.750	0.75	2.25	3	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	14-49	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P05-01-03
 Sample Date (Con't): SEPT 13 2015
 Sample Time: 14-49

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

19 m Reel
 6" silicone.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P05-01-04	Project Number:	1343-005.12	Date:	SEPT 13 2015		
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH		
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~11°C Sunny		
UTM Location:	Z.08V E.058006 N.691451	Waypoint:	GPSH Name UTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. <u>EUR</u> Nos. <u>223-228</u>	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	1.640	Purge Start Time:	14-56	Purge End Time:	1520		
Depth to Bottom (m):	12.326	Purge Interval Time (4) min, Vol. () L	1500 1505 1511 1515 1519				
Submerged Tubing Depth (m):	~12.1	Depth to water (m)	— — — — —				
Well Stick-up Height (m):	0.57	Temperature (°C)	5.3 5.2 5.1 5.1 5.1				
Estimated Water Volume (L):	~2.7	pH (pH Units)	6.32 6.28 6.30 6.29 6.31				
<p>10.6</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	2345 2375 2379 2379 2380					
	Specific Cond. (µs/cm)	3768 3822 3837 3839 3837					
	Redox (mV)	-26.6 -27.2 -29.6 -30.6 -31.7					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLOUDY SLIGHT BR Rain → CLEARLY SLIGHTLY CLOUDY	CLEARLY CLEAR	CLEARLY CLEAR	ALMOST CLEAR		
	Turbidity (NTU):	— — — — —				10.5	
	Interval Purge Volume (L):	1 0.6 1.1 0.6 0.6					
	Cumulative Purge Volume (L):	1 1.6 2.7 3.3 3.9					
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	15-21	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P05-01-04
 Sample Date (Con't): SEPT 13 2015
 Sample Time: 1521

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

13.5 PERI TUBING
 6" SILICONE.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	POS-01-05	Project Number:	1343-005.12	Date:	SEPT 13 2015		
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH		
Piezometer Diameter / Screen Length:	5/8" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~10° ± Clouding over		
UTM Location:	Z.05 V E.00058006 N.6914511	Waypoint:	GPS4 Name UTM's ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. EUR Nos. 223-228	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	1.917	Purge Start Time:	1530	Purge End Time:	15:43		
Depth to Bottom (m):	6.555	Purge Interval Time (min), Vol. (L)	1533 1536 1539 1542				
Submerged Tubing Depth (m):	6.3	Depth to water (m)	/ / / /				
Well Stick-up Height (m):	0.61	Temperature (°C)	6.3 6.2 6.2 6.1				
Estimated Water Volume (L):	1.1	pH (pH Units)	6.34 6.35 6.34 6.34				
<p>4.6</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Conductivity (µs/cm)	2244 2250 2247 2244					
	Specific Conduct. (µs/cm)	2495 3513 3511 3511					
	Redox (mV)	-19.4 -20.1 -21.0 -22.2					
	Appearance & Odour (Clear, Silty, HC odours, etc.)		clear clear				
	Turbidity (NTU):	/ / - 0.76					
	Interval Purge Volume (L):	.4 .3 .3 .3					
	Cumulative Purge Volume (L):	.4 .7 1.0 1.3					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	15:43	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): POS-01-05
 Sample Date (Con't): SEPT 13 2015
 Sample Time: 1543

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

8.5 PERI
 6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	POS-02	Project Number:	1343-005.12	Date:	Sept 14, 2015		
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JH + AN		
Piezometer Diameter / Screen Length:	2" PVC / 7'	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 6°C		
UTM Location:	Z. 08 E. 0580006N. 6914439	Waypoint:	GPS E Name UTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. E Nos. 144-146	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	2.564m	Purge Start Time:	9:57	Purge End Time:	10:12		
Depth to Bottom (m):	5.885m	Purge Interval Time (3) min, Vol. () L	10:00	10:03	10:06	10:09	10:12
Submerged Tubing Depth (m):	5.6m	Depth to water (m)	2.56	2.56	2.56	2.56	2.56
Well Stick-up Height (m):	1.78m	Temperature (°C)	5.0	5.1	5.1	5.1	5.2
Estimated Water Volume (L):	6.6L	pH (pH Units)	6.52	6.39	6.34	6.33	6.32
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2133	2112	2083	2063	2055	
	Specific Cond. (µs/cm)	3450	3405	3358	3323	3308	
	Redox (mV)	-3.1	-2.3	-3.2	-4.0	-4.3	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear	
	Turbidity (NTU):	-	-	-	-	0.32	
	Interval Purge Volume (L):	.4	.4	.4	.4	.4	
	Cumulative Purge Volume (L):	.4	.8	1.2	1.6	2.0	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	10:13	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): POS-02
 Sample Date (Con't): Sept 14, 2015
 Sample Time: 10:15

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Well casing sticks up out of the normal well in otherwise good condition.
 - Used 6" silicone
 6m of tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	



GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	POS-04	Project Number:	1343-005.12	Date:	Sept 12, 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + JH					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Sunny 15°C					
UTM Location:	Z. 08 E. 0585170 N. 6713644	Waypoint:	GPS H Name Un only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. H Nos. 200-202	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	3.001 m	Purge Start Time:	17:19	Purge End Time:	17:33					
Depth to Bottom (m):	7.035 m	Purge Interval Time (3) min, Vol. () L	17:21	17:24	17:27	17:30	17:33			
Submerged Tubing Depth (m):	6.9 m	Depth to water (m)	3.050	3.050	3.050	3.050	-			
Well Stick-up Height (m):	0.68 m	Temperature (°C)	3.8	3.2	3.1	3.3	3.3			
Estimated Water Volume (L):	8 L	pH (pH Units)	6.10	5.98	5.97	5.99	5.94			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	282.8	269.5	268.8	271.5	271.5				
	Specific Cond. (µs/cm)	472.3	463.0	462.8	464.2	464.8				
	Redox (mV)	133.8	151.2	152.5	157.3	161.5				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear				
	Turbidity (NTU):	-	-	-	-	0.49				
	Interval Purge Volume (L):	.3	.5	.5	.5	.5				
	Cumulative Purge Volume (L):	.3	.8	1.3	1.8	2.3				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	YSI log full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO5-04
 Sample Date (Con't): Sept 12, 2015
 Sample Time: 17:34

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Good condition
 - used - 6" silicone
 - 6" 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-C2	Project Number:	1343-005.12	Date:	Sept. 14/2015		
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JH.		
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast ~0°C.		
UTM Location:	Z. 8 E. 0580013 N. 6914401	Waypoint:	GPS AN Name P09-C2	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 141-143	Purge Method:					
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MW15-900	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name FIELD BLANK-500	Hydro-lift.					
Initial Depth to Water (m):	0.245	Purge Start Time:	9:09	Purge End Time:			
Depth to Bottom (m):	52.183	Purge Interval Time () min, Vol. () L	9:11	9:16	9:20	9:24	9:29
Submerged Tubing Depth (m):	~50.5	Depth to water (m)					
Well Stick-up Height (m):	1.150	Temperature (°C)	4.1	4.0	4.0	4.0	4.0
Estimated Water Volume (L):	~105.5	pH (pH Units)	6.36	6.36	6.35	6.40	6.49
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1465	1504	1379	1537	1532	
	Specific Cond. (µs/cm)	2440	2510	2297	2568	2562	
	Redox (mV)	4.0	7.4	7.0	0.3	-8.9	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	light green sulphur odour	Same.	clear	Same no odour.	Silty	
	Turbidity (NTU):					19.4	
	Interval Purge Volume (L):	15	15	15	15	15	
	Cumulative Purge Volume (L):	15	30	45	60	75	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	9.29	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydro-lift.					

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-C2

 Sample Date (Con't): Sept. 14/2015.

 Sample Time: 9:30

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

used: ~53 m waterline tubing and foot valve.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-C3	Project Number:	1343-005.12	Date:	Sept. 13/2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Sunny / cloudy ~10°C.						
UTM Location:	Z. 8 E. 0579973 N. 6914315	Waypoint:	GPS AN Name P09-C3	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. _____	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Hydro: fl.									
Initial Depth to Water (m):	1.253	Purge Start Time:	14:15			Purge End Time:	14:36				
Depth to Bottom (m):	52.031	Purge Interval Time () min, Vol. (10) L	14:19	14:22	14:26	14:30	14:33	14:36			
Submerged Tubing Depth (m):	~ 51.0	Depth to water (m)	_____						1.282		
Well Stick-up Height (m):	0.72*	Temperature (°C)	4.8	4.4	4.3	4.2	4.2	4.2			
Estimated Water Volume (L):	~ 103.18	pH (pH Units)	6.82	6.78	6.79	6.76	6.77	6.74			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	895	881	876	715	871	868				
	Specific Cond. (µs/cm)	1459	1454	1450	1172	1446	1442				
	Redox (mV)	-47.2	-48.7	-50.3	-50.0	-51.8	-51.8				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear sulphur odour	slight turbid	clear	Sand	Sand.	Sand.				
	Turbidity (NTU):	_____						1.10			
	Interval Purge Volume (L):	10	10	10	10	10	10				
	Cumulative Purge Volume (L):	10	20	30	40	50	60				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	14:37	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydro: fl.									

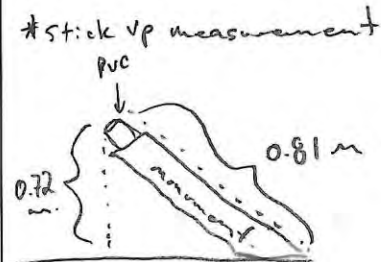
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-C3
 Sample Date (Con't): Sept. 13/2015
 Sample Time: 14:38

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

No consumables used -



Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PO9-ETA-1	Project Number:	1343-005.12	Date:	Sept. 14/2015		
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, 3H.		
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast ~50C.		
UTM Location:	Z. 8 E. 0582704 N. 6913610	Waypoint:	GPS AN Name PO9-ETA-1/2	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 150-154	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes - Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes - Name _____	Hydro: Pt.					
Initial Depth to Water (m):	5.810	Purge Start Time:	11:06			Purge End Time:	
Depth to Bottom (m):	33.240	Purge Interval Time () min, Vol. (15) L	11:12	11:18	11:24	11:34	11:42
Submerged Tubing Depth (m):	~31	Depth to water (m)					
Well Stick-up Height (m):	0.98	Temperature (°C)	6.9	5.4	5.0	5.0	5.1
Estimated Water Volume (L):	~56	pH (pH Units)	7.73	7.86	7.88	7.91	7.94
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	269.0	244.1	220.2	241.1	242.1	
	Specific Cond. (µs/cm)	412.9	390.0	355.4	390.3	396.3	
	Redox (mV)	-123.1	-92.7	-85.3	-90.8	-97.4	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Grey turbid.	Clear.	Same.	Same	Same	
	Turbidity (NTU):	—	—	—	—	39.4	
	Interval Purge Volume (L):	15	15	15	15	9	
	Cumulative Purge Volume (L):	15	30	45	60	69	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	11:42	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydro: Pt.					
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.							

Sample Site (Con't): P09-ETA-1

Sample Date (Con't): Sept 14, 2015

Sample Time: 11:45

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- This well is in good condition, however the stick-up casing is in disrepair. It seems as though several sampling acts has created a cavity below the cement footing of the casing. While purging the hydroliift the cavity gave as the casing slid down into it. The well PVC now sticks out of the well monument making the hydroliift unusable. To repair this well the monument will have to be re-cast into the ground. The ground material is tailings and a full risk assessment to the worker should be completed before any work is done to the well.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-ETA-2	Project Number:	1343-005.12	Date:	Sept. 14/2015					
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JH.					
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast - 50C.					
UTM Location:	Z. B E. 0582704 N. 6913810	Waypoint:	GPS AN Name P09-ETA-1/2	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. AN Nos. 150-153	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Name _____	Hydro: ft.								
Initial Depth to Water (m):	9.900	Purge Start Time:	11:55		Purge End Time:					
Depth to Bottom (m):	17.590	Purge Interval Time () min, Vol. (5) L	11:59	12:02	12:06	12:10	12:14			
Submerged Tubing Depth (m):	16.9	Depth to water (m)	/	/	/	/	-			
Well Stick-up Height (m):	0.67	Temperature (°C)	8.0	6.5	6.5	6.2	6.1			
Estimated Water Volume (L):	~ 15	pH (pH Units)	6.51	6.37	6.36	6.37	6.38			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	3162	2846	3160	3146	3142				
	Specific Cond. (µs/cm)	4675	4412	4918	4911	4909				
	Redox (mV)	-62.4	-47.1	-44.0	-43.7	-44.3				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear.	Sand.	Sand	Sand	Sand				
	Turbidity (NTU):	—	—	—	—	1.98				
	Interval Purge Volume (L):	5	5	5	5	5				
Cumulative Purge Volume (L):	5	10	15	20	25					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	12:15	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydro: ft.								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO9-ETA-2

Sample Date (Con't): Sept 14, 2015

Sample Time: 12:15

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
well in good condition

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml			1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P49-GS1A	Project Number:	1343-005.12	Date:	SEPT 15 2015					
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JC					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C overcast					
UTM Location:	Z. 85 E. 0592495 N. 6904832	Waypoint:	GPS Name VTA only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. Nos. 282-284	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	2.580	Purge Start Time:	1611	Purge End Time:	1632					
Depth to Bottom (m):	7.390	Purge Interval Time (L) min, Vol. (L)	1615	1619	1623	1627	1631			
Submerged Tubing Depth (m):	~7.0	Depth to water (m)	2.58	2.60	2.62	2.58	same			
Well Stick-up Height (m):	1.209	Temperature (°C)	8.2	8.1	8.1	8.1	8.1			
Estimated Water Volume (L):	~9.6	pH (pH Units)	6.95	6.92	6.91	6.89	6.89			
<p>4.81 x 2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	822	769	744	721	739				
	Specific Cond. (µs/cm)	1204	1135	1098	1094	1090				
	Redox (mV)	-10.9	-12.3	-13.5	-13.9	-14.6				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	CLEAR	same	→	→	0.88			
	Turbidity (NTU):	-	-	-	-	-				
	Interval Purge Volume (L):	1	1	1	1	1				
Cumulative Purge Volume (L):	1	2	3	4	5					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	1632	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.										

Sample Site (Con't): P09-GS1A

Sample Date (Con't): SEPT 15 2015

Sample Time: 1633

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

3 FT PERI
6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-G51B	Project Number:	1343-005.12	Date:	SEPT 15, 2015					
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JC					
Piezometer Diameter / Screen Length:	2" PVC	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C OVERCAST.					
UTM Location:	Z. <u>OV</u> E. <u>0592488</u> N. <u>6904837</u>	Waypoint:	GPS <u>H</u> Name <u>UTM50m6</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam <u>EUR</u> Nos. <u>219-231</u>	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	2.342	Purge Start Time:	1536	Purge End Time:	15:55					
Depth to Bottom (m):	29.725	Purge Interval Time (<u>4</u>) min, Vol. () L	1538	1542	1546	1550	15:54			
Submerged Tubing Depth (m):	29.5	Depth to water (m)	/	2.66	2.875	2.95	3.04			
Well Stick-up Height (m):	0.943	Temperature (°C)	7.5	7.1	6.9	7.2	7.1			
Estimated Water Volume (L):	~54.76	pH (pH Units)	7.78	7.15	7.00	6.95	6.90			
<p>27.38</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	995	997	993	996	987				
	Specific Cond. (µs/cm)	1500	1517	1516	1511	1499				
	Redox (mV)	0.9	-53.7	-55.9	-57.1	-50.0				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	CLEAR	→	-7	-7				
	Turbidity (NTU):	/	/	✓	✓	✓	14.2			
	Interval Purge Volume (L):	0.200	0.600	0.5	0.5	0.3				
	Cumulative Purge Volume (L):	0.200	1	1.5	2.0	2.3				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	15:55	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO9-GSIB
 Sample Date (Con't): SEPT 15 2015
 Sample Time: 15.56

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" SILICONE.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full ↓	
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-LCD1	Project Number:	1343-005.12	Date:	SEPT 15 2015						
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + JC						
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C LIGHT RAIN						
UTM Location:	Z. 8V E. 0593362 N. 6903310	Waypoint:	GPS H Name UTHSAND	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. GR Nos. 276-298	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo						
Field Blank Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Name _____		X								
Initial Depth to Water (m):	3.685	Purge Start Time:	10:56	Purge End Time:	11:21						
Depth to Bottom (m):	7.320	Purge Interval Time (4) min, Vol. () L	10:57	11:01	11:05	11:09	11:13	11:17	11:21		
Submerged Tubing Depth (m):	7.0	Depth to water (m)	3.70	3.70	Same	Same	Saw	Saw			
Well Stick-up Height (m):	0.915	Temperature (°C)	4.2	3.6	3.4	3.4	3.4	3.4	3.4		
Estimated Water Volume (L):	~7.2	pH (pH Units)	7.17	6.99	7.00	7.01	7.03	7.03	7.05		
<p>3.63</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	607	618	654	635	640	641	641			
	Specific Cond. (µs/cm)	1009	1048	1077	1082	1090	1092	1092			
	Redox (mV)	-35.1	-71.0	-61.9	-83.2	-89.0	-91.7	-91.3			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear colorless	CLEAR	same	same	same	same	same	same		
	Turbidity (NTU):	-	-	-	-	-	-	-	0.76		
	Interval Purge Volume (L):	0.15	0.600	0.7	0.7	0.8	0.5	0.8			
	Cumulative Purge Volume (L):	0.15	0.715	1.415	2.115	2.915	3.415	4.215			
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	11:21	Waterra	Peristaltic	Disp. Bailer	Redi-flo						
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-LCD1

Sample Date (Con't): SEPT 15 2015

Sample Time: 11:23

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" SILICONE.
2 FT PERI

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-LCD4	Project Number:	1343-005.12	Date:	SEPT 15, 2015						
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JC						
Piezometer Diameter / Screen Length:	PVC 2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~6°C RAINING						
UTM Location:	Z08V E0593327 N. 6903272	Waypoint:	GPS H Name UTM5 ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad SLOW						
Photos:	Cam. <u>GR</u> Nos. <u>273-275</u>	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Waterra	X								
Initial Depth to Water (m):	6.154	Purge Start Time:	10:00			Purge End Time:	1035				
Depth to Bottom (m):	12.217	Purge Interval Time (4) min, Vol. () L	1012	1013	1017	1021	1025	1030	1034		
Submerged Tubing Depth (m):	~11.90	Depth to water (m)	6.90	7.045	7.14	7.19	7.24	7.28			
Well Stick-up Height (m):	0.943	Temperature (°C)	4.4	4.0	3.4	3.5	3.7	3.8	3.9		
Estimated Water Volume (L):	~12	pH (pH Units)	7.21	7.23	7.27	7.27	7.28	7.28	7.28		
<p>6.063 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	2	579	520	509	509	510	510			
	Specific Cond. (µs/cm)		967	884	864	858	857	854			
	Redox (mV)		36.0	23.1	19.9	18.9	19.5	19.2			
	Appearance & Odour (Clear, Silty, HC odours, etc.)		CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR			
	Turbidity (NTU):		/	/	/	/	/	/	16.1		
	Interval Purge Volume (L):		0.1	0.350	0.250	0.150	0.150	0.150			
	Cumulative Purge Volume (L):		0.1	0.450	0.7	0.850	1.000	1.150			
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	1034	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO9-CC04

Sample Date (Con't): SEPT 15 2015

Sample Time: 1035

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

12" PERI
0" SILICON

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	



GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-LC06		Project Number:	1343-005.12		Date:	SEPT 15, 2015				
Approximate Date Drilled:	—		Client:	GY - AAM		Samplers:	GR + JC				
Piezometer Diameter / Screen Length:	2 1/2 PVC		Project Name:	Faro 2015 GW Fall Sampling Program		Weather/Temperature:	~ 6 RAIN				
UTM Location:	Z08V E. 0593313 N. 6903251		Waypoint:	GPS# Name UTM5 ONLY		Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad				
Photos:	Cam. GR Nos. 269-272		Purge Method:								
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MW15-1200		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____			X							
Initial Depth to Water (m):	5.770		Purge Start Time:	0914			Purge End Time:	9:46			
Depth to Bottom (m):	7.980 ^{2.062}		Purge Interval Time (4) min, Vol. () L	9:18	9:22	9:26	9:30	9:34	9:38	9:42	9:46
Submerged Tubing Depth (m):	7.9		Depth to water (m)	5.79	5.79	5.795	5.80	5.80	→	→	→
Well Stick-up Height (m):	0.765		Temperature (°C)	3.5	3.4	3.4	3.4	3.4	3.3	3.2	3.3
Estimated Water Volume (L):	~4.4		pH (pH Units)	6.02	6.47	6.58	6.70	6.77	6.82	6.86	6.90
<p>2.21 x 2.98</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	651	648	650	652	652	651	649	653		
	Specific Cond. (µs/cm)	1104	1101	1105	1108	1109	1110	1110	1114		
	Redox (mV)	9.7	-35.1	-76.6	-92.8	-100.7	-106.3	-110.5	-113.0		
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SUGAR TURBID	SLIGHT TURBID	→	→	→	CLEAR	CLEAR	CLEAR	CLEAR	
	Turbidity (NTU):	—	—	—	—	—	—	—	—	4.63	
	Interval Purge Volume (L):	0.4	0.6	0.400	0.500	0.500	0.550	0.600	0.600		
	Cumulative Purge Volume (L):	0.4	1	1.4	1.9	2.4	2.950	2.950	3.550		
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sample Method:								
Time logged on YSI (24hr):	9:47		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit			X							
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.											

Sample Site (Con't): P09-LC06
 Sample Date (Con't): SEPT 15 2015
 Sample Time: 09-50

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

 6" SILICONE
 3 FT PERI.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃		
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-SIS1	Project Number:	1343-005.12	Date:	Sept 11 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC AN						
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	10° overcast						
UTM Location:	Z. 8 E. 05 84474N. 6913129	Waypoint:	GPS AN Name P09-SIS1	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 78-81	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	X									
Initial Depth to Water (m):	4.742	Purge Start Time:	13:02			Purge End Time:					
Depth to Bottom (m):	6.641	Purge Interval Time (3) min, Vol. () L	13:04	13:08	13:12	13:16	13:19	13:23			
Submerged Tubing Depth (m):	1.000 6.0	Depth to water (m)	4.981	5.066	5.140	5.196	5.212	5.235			
Well Stick-up Height (m):	1.0	Temperature (°C)	7.4	7.8	8.6	7.8	8.3	9.1			
Estimated Water Volume (L):	3.8 L	pH (pH Units)	6.15	6.22	6.15	6.18	6.17	6.18			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	5048	4760	4825	4752	4912	5063				
	Specific Cond. (µs/cm)	7578	7077	7036	7066	7185	7299				
	Redox (mV)	58.4	40.1	37.9	37.9	38.0	39.5				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slightly turbid light brown.	same.	same	same.	same.	clear.				
	Turbidity (NTU):						16.2				
	Interval Purge Volume (L):	0.2	0.4	0.35	0.3	0.2	0.25				
	Cumulative Purge Volume (L):	0.2	0.6	0.95	1.25	1.45	1.7				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	13:28	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-SIS2

Sample Date (Con't): Sept 11 2015

Sample Time: 13:30

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silican
0.5m 1/4 tubing.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field-Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-S152	Project Number:	1343-005.12	Date:	Sept. 11 / 2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast/windy. ~8°C.						
UTM Location:	Z. 8 E. 0584485 N. 6913123	Waypoint:	GPS AN Name P09-S152	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 75-77	Purge Method:									
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MW15-300	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	4.033	Purge Start Time:	12:08			Purge End Time:	12:36				
Depth to Bottom (m):	6.182	Purge Interval Time (3) min, Vol. () L	12:09	12:12	12:16	12:19	12:22	12:25	12:29	12:33	12:36
Submerged Tubing Depth (m):	~5.5	Depth to water (m)	4.080	4.081	4.081	4.081	Same.	Same.	Same.		
Well Stick-up Height (m):	1.120	Temperature (°C)	7.2	7.0	7.6	7.7	7.8	7.7	7.3	7.4	7.1
Estimated Water Volume (L):	~4.4	pH (pH Units)	6.26	6.26	6.15	6.93	5.89	5.72	5.59	5.54	5.55
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	5204	5326	5910	6181	6402	6536	6562	6661	6596	
	Specific Cond. (µs/cm)	7902	8126	8861	9222	9531	9773	9923	10057	10024	
	Redox (mV)	-6.2	1.6	21.3	45.7	69.3	105.7	130.6	139.1	141.5	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Sewage smell slight turbid	Same	Same.	Same.	Same.	Same.	Same.	Same.	Same.	Same.
	Turbidity (NTU):										2.78
	Interval Purge Volume (L):	0.2	0.4	0.35	0.4	0.4	0.35	0.5	0.55	0.3	
	Cumulative Purge Volume (L):	0.2	0.6	0.95	1.35	1.75	2.05	2.55	3.1	3.4	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	12:37	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-5152

 Sample Date (Con't): Sept. 11 / 2015

 Sample Time: 12:40

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Used: 70cm of per. tubing
 6" of silicon.
 - 2" jplug
 Well slipcap had transducer line
 with no transducer. Aircraft cable
 was rusty and frayed at the end.
 Removed old slipcap and replaced
 with a new 2" jplug.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	fill sat collected for OUP.
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-5153	Project Number:	1343-005.12	Date:	Sept. 11 / 2015				
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JC.				
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast windy ~ 5%.				
UTM Location:	Z. 8 E. 0584495 N. 6913120	Waypoint:	GPS AN Name P09-5153	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad				
Photos:	Cam. 9N Nos. 72-74	Purge Method:							
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X						
Initial Depth to Water (m):	7.458 3.745	Purge Start Time:	10:18			Purge End Time:	10:33		
Depth to Bottom (m):	4.585	Purge Interval Time (3) min, Vol. () L	10:19	10:23	10:27	10:30	10:33		
Submerged Tubing Depth (m):	~4.0	Depth to water (m)	—	3.745	3.747	3.747	3.747		
Well Stick-up Height (m):	1.065	Temperature (°C)	6.6	6.3	6.5	6.5	6.6		
Estimated Water Volume (L):	~1.68	pH (pH Units)	5.83	5.83	5.82	5.81	5.81		
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	5236	5691	5814	5913	5941			
	Specific Cond. (µs/cm)	8140	8852	8963	8914	9173			
	Redox (mV)	129.9	151.0	159.3	165.7	169.9			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear. no odour.	Sand.	Sand	Sand	Sand			
	Turbidity (NTU):					1.86			
	Interval Purge Volume (L):	0.2	0.6	0.25	0.3	0.3			
	Cumulative Purge Volume (L):	0.2	0.8	1.05	1.35	1.65			
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:						
Time logged on YSI (24hr):	10:34	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X						

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-SIS3

Sample Date (Con't): Sept. 11 / 2015

Sample Time: 10:36

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 used ~ 2 m peri. tubing
 6" silicon tubing.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	09-SIS4	Project Number:	1343-005.12	Date:	Sept 11 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN JC					
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	6° overcast					
UTM Location:	Z. 8 E. 0584511 N. 69 13111	Waypoint:	GPS AN Name _____	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. AN Nos. 65-67	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	3.808	Purge Start Time:	8:21	Purge End Time:						
Depth to Bottom (m):	4.435	Purge Interval Time (3) min, Vol. () L	8:23	8:27	8:30	8:34	8:37			
Submerged Tubing Depth (m):	4.235	Depth to water (m)	3.903	3.93	3.945	3.960				
Well Stick-up Height (m):	6.96	Temperature (°C)	6.1	6.1	6.2	6.0	6.0			
Estimated Water Volume (L):	5.6	pH (pH Units)	6.21	5.96	5.90	5.88	5.87			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	4271	4155	4144	4129	4129				
	Specific Cond. (µs/cm)	6689	6500	6470	6477	6492				
	Redox (mV)	161.8	171.6	1755	178.9	179.3				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear colorless	same	same	same	same				
	Turbidity (NTU):					4.75				
	Interval Purge Volume (L):	0.25	0.25	0.25	0.25	0.25				
	Cumulative Purge Volume (L):	0.25	0.5	0.75	1.00	1.25				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	8:38	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-SIS4
 Sample Date (Con't): Sept 11 2015
 Sample Time: 8:40

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silican used
 1.5m 1/4 HDPE used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-SISS	Project Number:	1343-005.12	Date:	Sept 10 2015	
Approximate Date Drilled:	7.	Client:	GY - AAM	Samplers:	SC AN	
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	10°C overcast	
UTM Location:	Z. 08 E. 0504515 N. 0913109	Waypoint:	GPS AN Name P09-SISS	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 062-064	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	3.495	Purge Start Time:	17:06	Purge End Time:	17:18	
Depth to Bottom (m):	4.594	Purge Interval Time (3) min, Vol. () L	17:08	17:11	17:14	17:17
Submerged Tubing Depth (m):	4.15	Depth to water (m)	3.62	3.74	3.836	3.900
Well Stick-up Height (m):	1.112	Temperature (°C)	6.9	7.0	7.1	6.9
Estimated Water Volume (L):	2.198	pH (pH Units)	6.30	6.34	6.36	6.38
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2941	3012	3065	3096	
	Specific Cond. (µs/cm)	4512	4593	4660	4727	
	Redox (mV)	9.4	3.2	4.8	3.6	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear (colourless)	Same.	Same.	Same.	
	Turbidity (NTU):				10.11	
	Interval Purge Volume (L):	0.15	0.15	0.15	0.15	
	Cumulative Purge Volume (L):	0.15	0.300	0.450	0.600	
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):	17:18	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.						

Sample Site (Con't): P09-SISS

Sample Date (Con't): Sept 10 2015

Sample Time: 17:18

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- 6" Silicon
 - 0.5m 1/4 HDPE
 Transducers in well
 No well plug or cap due to transducers

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	600ml	Try @ 600 ml

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-vc1	Project Number:	1343-005.12	Date:	Sept 16, 2015	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN + JH	
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 5°C	
UTM Location:	Z. 08 E. 0593518 N. 6965422	Waypoint:	GPS AN Name <u>vtm only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam AN Nos. 216 218	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name _____	Hydro. ft				
Initial Depth to Water (m):	3.781	Purge Start Time:	9:53	Purge End Time:	10:20	
Depth to Bottom (m):	68.635	Purge Interval Time () min, Vol. (30) L	10:01	10:06	10:12	10:19
Submerged Tubing Depth (m):	67.00	Depth to water (m)	/	/	/	/
Well Stick-up Height (m):	1.0m	Temperature (°C)	3.5	3.5	3.5	3.5
Estimated Water Volume (L):	130L	pH (pH Units)	7.78	7.86	7.89	7.91
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	214.8	214.6	213.3	220.1	
	Specific Cond. (µs/cm)	364.7	366.1	369.5	367.4	
	Redox (mV)	-1340	-1413	-1495	-1471	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	
	Turbidity (NTU):	/	/	/	/	28.3
	Interval Purge Volume (L):	30	30	30	30	
	Cumulative Purge Volume (L):	30	60	90	120	
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):	10:20	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydro. ft				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P09-VC1
 Sample Date (Con't): Sept 16, 2015
 Sample Time: 10:20

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Well installed on an angle, in good condition

- Used - 72m Waberna tubing
 - 1 Foot valve

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 L	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P09-VC2	Project Number:	1343-005.12	Date:	Sept 16, 2015		
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AW + JH		
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 5°C		
UTM Location:	Z.08 E.0593515 N.6963433	Waypoint:	GPS AW Name <u>UTM only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. <u>AW Nos. 213-215</u>	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name: <u>Field Blank-700</u>	<u>Hydrolyt</u>					
Initial Depth to Water (m):	1.484 _m	Purge Start Time:	9:13			Purge End Time:	
Depth to Bottom (m):	19.77 _m	Purge Interval Time () min, Vol. (10) L	9:15	9:19	9:22	9:25	9:28
Submerged Tubing Depth (m):	18 _m	Depth to water (m)	/	/	/	/	/
Well Stick-up Height (m):	0.950 _m	Temperature (°C)	3.9	3.5	3.4	3.4	3.3
Estimated Water Volume (L):	36 L	pH (pH Units)	6.92	6.96	6.92	6.97	6.62
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	244.6	240.4	139.3	234.5	235.5	
	Specific Cond. (µs/cm)	410.0	407.5	237.1	402.3	460.1	
	Redox (mV)	-67.0	-76.5	-78.9	-82.6	-85.3	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Silty dark grey	same	clearing up	turbid	less turbid	
	Turbidity (NTU):	/	/	/	/		
	Interval Purge Volume (L):	10	10	10	10	10	
	Cumulative Purge Volume (L):	10	20	30	40	50	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	09:29	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	<u>Hydrolyt</u>					

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PO9-VCZ
 Sample Date (Con't): Sept 16, 2015
 Sample Time: 9:30

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- used 5' water
 - 1 J-plug

Well Repair

- Cylar + top 3' of 2" PVC were in good condition, just loose. The cap was extremely tight. Replaced the cap with a J-plug and hammered to cylar + top 3' of pvc back on to well. Well is now in good condition.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1 L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P2001-2A	Project Number:	1343-005.12	Date:	Sept 16, 2015	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN + SH	
Piezometer Diameter / Screen Length:	2" PVC / 7'	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 6°C	
UTM Location:	Z.08 E.0593132 N.6402861	Waypoint:	GPS AN Name Utm only	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 219-221	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	3.915m	Purge Start Time:	11:09	Purge End Time:	11:25	
Depth to Bottom (m):	6.365	Purge Interval Time (min), Vol. (L)	11:13 11:16 11:19 11:22 11:25			
Submerged Tubing Depth (m):	6.15	Depth to water (m)	4.400 - 4.720			
Well Stick-up Height (m):	0.56m	Temperature (°C)	5.2 5.3 5.4 5.3 5.4			
Estimated Water Volume (L):	4.8L	pH (pH Units)	6.65 6.62 6.62 6.69 6.62			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2266 2272 2776 2244 2265				
	Specific Cond. (µs/cm)	3643 3644 3642 3596 3623				
	Redox (mV)	-26.2 -14.5 -15.1 -17.1 -6.4				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	turbid turbid less turbid clear up clear				
	Turbidity (NTU):	/ / / / /			162	
	Interval Purge Volume (L):	.6 .4 .3 .3 .3				
	Cumulative Purge Volume (L):	.6 1.0 1.3 1.6 1.9				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	11:26	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P2001-2A

Sample Date (Con't): Sept 16, 2015

Sample Time: 11:26

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

-ORP was constantly bouncing around
and therefore not used for stabilization
monitoring at this well

-Used 6" silicone
6" 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P2001-2B	Project Number:	1343-005.12	Date:	Sept 16, 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN - JH						
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 5°C						
UTM Location:	Z08 E.059313Z N.6902861	Waypoint:	GPS AN Name Utm only	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad						
Photos:	Cam, AN Nos. 219-221	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Hydrofl									
Initial Depth to Water (m):	2.830m	Purge Start Time:	10:57	Purge End Time:	11:39						
Depth to Bottom (m):	27.380m	Purge Interval Time () min, Vol. (10) L	10:59	11:02	11:06	11:10	11:20	11:38			
Submerged Tubing Depth (m):	26m	Depth to water (m)	8.1	/	/	/	22.500	20.5			
Well Stick-up Height (m):	0.37m	Temperature (°C)	3.3	3.1	3.0	3.1	3.4	3.5			
Estimated Water Volume (L):	50L	pH (pH Units)	6.65	6.64	6.68	6.78	6.96	7.02			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1162	1211	2084	1976	2018	2229				
	Specific Cond. (µs/cm)	1980	2678	3592	3402	3434	3623				
	Redox (mV)	18.6	12.3	-6.6	-38.0	-49.9	-36.7				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	silty	silty				
	Turbidity (NTU):	/	/	/	/	/	78.7				
	Interval Purge Volume (L):	10	10	10	10	10	0.5				
	Cumulative Purge Volume (L):	10	20	30	40	50	50.5				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	Log Fall	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Hydrofl									

Pump turn off to allow recharge

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P2001-ZB

Sample Date (Con't): Sept 16, 2015

Sample Time: 11:42

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- well has bentonite overflowing from the stick-up casing into the well. I removed a bunch of bentonite so it is now 6" below the top of P2001-ZB. We cleaned at the top 30cm inside the well. Water coming out is clear.

*The problem was the driller had filled the stick-up casing with bentonite instead of sand. Bentonite expands when it gets wet.

- Water not recharging. We turned pump off after remaining 50L. Water is becoming increasingly silty

- Sampled after remaining 1 well volume

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P2001-3	Project Number:	1343-005.12	Date:	Sep 15, 2015
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN + JH
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy 8°C
UTM Location:	Z.08 E.0593096 N6902877	Waypoint:	GPS AN Name UTM only	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos:	CamAN Nos. 186 188	Purge Method:			
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Not purged			
Initial Depth to Water (m):	Dry/Frozen	Purge Start Time:		Purge End Time:	
Depth to Bottom (m):	28.595m	Purge Interval Time () min, Vol. () L			
Submerged Tubing Depth (m):	/	Depth to water (m)			
Well Stick-up Height (m):	0.705	Temperature (°C)			
Estimated Water Volume (L):	none	pH (pH Units)			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)				DRY/Frozen Not Sampled
	Specific Cond. (µs/cm)				
	Redox (mV)				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Turbidity (NTU):				
	Interval Purge Volume (L):				
	Cumulative Purge Volume (L):				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Not Sampled			
*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.					

Sample Site (Con't): P2001-3

Sample Date (Con't): Sept 15, 2015

Sample Time: Frozen not sampled

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Well frozen, cold not sampled.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃		
1 L (plastic)	General Chemistry	500 ml	-	-	<i>Not</i>	<i>Sampled</i>

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P96-06	Project Number:	1343-005.12	Date:	Sept. 12/2015		
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.		
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast ~5°C.		
UTM Location:	Z. 8 E. 0584902 N. 6913313	Waypoint:	GPS AN Name P96-06	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 94-96	Purge Method:					
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MW15-500	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name FIELD-BLANK-300	hydro lift.					
Initial Depth to Water (m):	10.960	Purge Start Time:	8:36	Purge End Time:	8:59		
Depth to Bottom (m):	18.370	Purge Interval Time (5) min, Vol. () L	8:41	8:47	8:53	8:59	
Submerged Tubing Depth (m):	~ 17.0	Depth to water (m)	—	could not measure DTW due to hydro lift.			10.990 ← measured after purge/sample.
Well Stick-up Height (m):	0.71	Temperature (°C)	1.9	1.5	1.5	1.5	
Estimated Water Volume (L):	~ 15.66	pH (pH Units)	7.04	6.82	6.97	6.99	
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1190	1179	1168	1157		
	Specific Cond. (µs/cm)	2152	2141	2119	2101		
	Redox (mV)	119.3	128.9	126.5	135.4		
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear no odour.	Same	Same	Same		
	Turbidity (NTU):				0.33		
	Interval Purge Volume (L):	8.0	8.0	8.0	8.0		
	Cumulative Purge Volume (L):	8.0	16.0	24.0	32.0		
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	9:00	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Waterra					

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P96-06

Sample Date (Con't): Sept. 12 / 2015

Sample Time: 9:00

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
no consumables used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P96-7	Project Number:	1343-005.12	Date:	SEPT 11 2015	
Approximate Date Drilled:	UNKNOWN	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	2" ABS? / UNKNOWN	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~ 8°C OVERCAST	
UTM Location:	208V E. 058412 N. 6913282	Waypoint:	GPS H Name UTM5 ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. ELR Nos. 137-139.	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	4.620.	Purge Start Time:	10-4 47 10-52	Purge End Time:	1104	
Depth to Bottom (m):	9.818.	Purge Interval Time (5) min, Vol. () L	10-47	10-52	10-58	11-03
Submerged Tubing Depth (m):	8.8.	Depth to water (m)	4.70	4.71	4.71 →	
Well Stick-up Height (m):	725.	Temperature (°C)	2.6	2.3	2.4	2.4
Estimated Water Volume (L):	10.4	pH (pH Units)	6.94	6.95	7.04	7.04
<p>5.198 x 2 =</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	1829	1796	1801	1804	
	Specific Cond. (µs/cm)	3202	3170	3173	3178	
	Redox (mV)	196.7	200.6	195.0	199.0	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY TURBID	CLEAR	CLEAR	→	
	Turbidity (NTU):	-	/	/	1.21	
	Interval Purge Volume (L):	0.750	0.750	0.750	0.750	
	Cumulative Purge Volume (L):	0.750	1.5	2.25	3.00	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	1106	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P96-7

Sample Date (Con't): SEPT 11 2015

Sample Time: 1106

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" SILICONE }
6" PERI TUBING. } HEMMERA.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	896-8A	Project Number:	1343-005.12	Date:	Sept 14 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	SC GR						
Piezometer Diameter / Screen Length:	2' 18"	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	9°C overcast.						
UTM Location:	Z. 08 E. 0583223 N. 6914075	Waypoint:	GPS km Name <u>VTM only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. ___ Nos. _____	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	2.395	Purge Start Time:	14:01			Purge End Time:	14:24				
Depth to Bottom (m):	4.897	Purge Interval Time (3) min, Vol. () L	14:03	14:06	14:09	14:12	14:16	14:19	14:22		
Submerged Tubing Depth (m):	4.6	Depth to water (m)	2.41	2.41	Same.	Same.	Same.	Same.	Same.		
Well Stick-up Height (m):	0.69	Temperature (°C)	8.7	8.6	8.7	8.8	8.8	8.8	8.9		
Estimated Water Volume (L):	~5 L	pH (pH Units)	3.83	3.78	3.70	3.63	3.53	3.47	3.56		
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	6905	6948	6939	6818	6006	5900	5876			
	Specific Cond. (µs/cm)	10045	10108	10064	9970	8686	8540	8489			
	Redox (mV)	307.5	280.4	288.5	303.2	340.1	340.7	338.5			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear colourless	Same.	Same.	Same.	Same.	Same.	Same.			
	Turbidity (NTU):								0.58		
	Interval Purge Volume (L):	0.25	0.75	0.50	0.7	1.0	0.6	0.9			
	Cumulative Purge Volume (L):	0.25	1.00	1.5	2.2	3.2	3.8	4.7			
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	14:24	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P96-8A
 Sample Date (Con't): Sept 14 2015
 Sample Time: 14:24

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

 8" Silicon
 0.5 m 1/4 HDPE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P96-88	Project Number:	1343-005.12	Date:	Sept 14 2015	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	SC GR	
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	8°C overcast	
UTM Location:	Z. 08 E. 0583223 N. 6914075	Waypoint:	GPS km Name UTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. LR Nos. 0255-258	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name _____		R			
Initial Depth to Water (m):	2.328	Purge Start Time:	(4:31)	Purge End Time:	4:42	
Depth to Bottom (m):	9.456	Purge Interval Time (3) min, Vol. () L	14:33	14:36	14:39	14:42
Submerged Tubing Depth (m):	9.256	Depth to water (m)	2.310	2.320	2.30	Same.
Well Stick-up Height (m):	0.61	Temperature (°C)	8.2	7.8	7.8	7.8
Estimated Water Volume (L):	~144	pH (pH Units)	4.77	4.95	4.97	4.98
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	6505	6399	6408	6408	
	Specific Cond. (µs/cm)	9513	9546	9547	9544	
	Redox (mV)	201.6	176.4	164.6	166.1	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear colorless	Same	Same	Same	
	Turbidity (NTU):				1.95	
	Interval Purge Volume (L):	0.3	0.65	0.7	1.00	
	Cumulative Purge Volume (L):	0.3	0.95	1.65	2.65	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	14.42	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P96-8B

Sample Date (Con't): Sept 14 2015

Sample Time: 14:43

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silicon
0.75m 1/4 HDPE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	100	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	P96-9A	Project Number:	1343-005.12	Date:	Sep 15, 2015		
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AW + JH		
Piezometer Diameter / Screen Length:	2" ABS / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy 10°C		
UTM Location:	Z.08 E. 0592644 N. 6903343	Waypoint:	GPS AN/Name LTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 204-206	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	5.820	Purge Start Time:	15:22	Purge End Time:			
Depth to Bottom (m):	9.295	Purge Interval Time (3) min, Vol. () L	15:25 15:28 15:31 15:34 15:39	5:42			
Submerged Tubing Depth (m):	9.0	Depth to water (m)	6.85 5.875 - - 5.875 5.875				
Well Stick-up Height (m):	0.93m	Temperature (°C)	6.1 6.0 6.0 6.1 6.3				
Estimated Water Volume (L):	6.8	pH (pH Units)	6.66 6.61 6.61 6.60 6.61				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1990 2032 2039 2050 2062					
	Specific Cond. (µs/cm)	3123 3188 3197 3206 2060 3204					
	Redox (mV)	39.1 48.3 57.3 64.0 68.2					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear clear clear clear clear					
	Turbidity (NTU):	- - - - 1.87					
	Interval Purge Volume (L):	0.5 0.5 0.3 0.5 0.4					
	Cumulative Purge Volume (L):	0.5 1 1.3 1.8 2.2					
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	Log is full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): P96-9A

Sample Date (Con't): Sept 15, 2015

Sample Time: 15:42

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

used:
 - 6" Silicone
 - 10m 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PW14-01	Project Number:	1343-005.12	Date:	SEPT 11 2015		
Approximate Date Drilled:	UNKNOWN	Client:	GY - AAM	Samplers:	GR + JH		
Piezometer Diameter / Screen Length:	6" STEEL / UNKNOWN	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C OVERCAST.		
UTM Location:	ZONE E.0584751 N.6913149	Waypoint:	GPS # Name UTM5 ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. <u>EUR</u> Nos. 134-136	Purge Method:					
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MW15-400	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name FB-200	W/GEN					
Initial Depth to Water (m):	59.110	Purge Start Time:	08-34			Purge End Time:	9-13
Depth to Bottom (m):	~78	Purge Interval Time (5) min, Vol. () L	8-46	8-51	9-02	9-07	9-12
Submerged Tubing Depth (m):		Depth to water (m)					
Well Stick-up Height (m):		Temperature (°C)	3.2	3.2	5.3	4.7	6.2
Estimated Water Volume (L):	~308	pH (pH Units)	5.57	5.69	5.80	5.78	5.8
<p>18.89 x (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	371.3	398.7	424.9	416.2	436.1	
	Specific Cond. (µs/cm)	632.8	680.3	680.4	676.8	681.2	
	Redox (mV)	59.7	61.7	58.4	58.7	56.2	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	TURBID BROWN →	TURBID CLEARING →	CLEARING →			
	Turbidity (NTU):	—	/	/	/	3.91	
	Interval Purge Volume (L):	4	7	5	10	8	
	Cumulative Purge Volume (L):	4	11	16	26	34	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	09-16	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X					

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PW14 - 01

Sample Date (Con't): SEPT 11 2015

Sample Time: 9-16

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Pump shut down at 8-53.
OVER. ON AGAIN AT 9:00.
PUMP IS LIKELY HEATING THE
WATER.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PW14-06	Project Number:	1343-005.12	Date:	Sept 12, 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + JH						
Piezometer Diameter / Screen Length:	6" STEEL / ? GOES TO 4" AT 43m	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 8°C						
UTM Location:	Z.08V E.0584477 N.6913300	Waypoint:	GPS H Name UTM's only.	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. EUR Nos. 175-177	Purge Method:									
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MW5-600	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	X w/gen									
Initial Depth to Water (m):	20.780	Purge Start Time:	9:09	Purge End Time:	9:52						
Depth to Bottom (m):	~67.0 ~78	Purge Interval Time () min, Vol. (15) L	9:16	9:31	9:35	9:39	9:44	9:48			
Submerged Tubing Depth (m):	13	Depth to water (m)	21								
Well Stick-up Height (m):	0.70	Temperature (°C)	21.2	22.0	22.3	22.5	22.5	22.6			
Estimated Water Volume (L):	~71	pH (pH Units)	4.45	4.45	4.45	4.45	4.44	4.44			
<p>57.22 BASED ON 5" WELL AVERAGE.</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	289	16118	16245	16277	16289	16322				
	Specific Cond. (µs/cm)	645	17076	17108	17090	17084	17075				
	Redox (mV)	178	167.1	159.3	153.4	153.4	150.4				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	TURBID BROWN →	TURBID CLEARING →	CLEARING →	CLEAR						
	Turbidity (NTU):						4.52				
	Interval Purge Volume (L):	16	16	16	16	16	16				
	Cumulative Purge Volume (L):	16	32	48	64	80	96				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	9:51:58(?)	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	w/gen									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

12.7 cm = 5"

R = 0.063 m

Sample Site (Con't): PW14-06

Sample Date (Con't): SEPT 12 15

Sample Time: 0954

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Pump ^{stopped} at 9:16. concerned about high temperature ~~to~~ and an overheating pump but last year fall's temps were also very high (~21°C)
 Pump started again at 9:25.

VERY WARM WATER

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

+ DUP (MWIS-600)

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	PW14-07		Project Number:	1343-005.12		Date:	SEPT 12 2015					
Approximate Date Drilled:	-		Client:	GY - AAM		Samplers:	GR + JH					
Piezometer Diameter / Screen Length:	6" STEEL / ?		Project Name:	Faro 2015 GW Fall Sampling Program		Weather/Temperature:	110°C OVERCAST					
UTM Location:	Z.08 V.E. 0584695 N. 6913185		Waypoint:	GPS# Name UTM'S ONLY		Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Camera Nos. 178-180		Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name /		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name /		L/GEN									
Initial Depth to Water (m):	66.060m		Purge Start Time:	1100 1115				Purge End Time:	1151			
Depth to Bottom (m):	78m		Purge Interval Time (5 min, Vol. L)	11:20	1125	1130	1135	1140	1145	1150		
Submerged Tubing Depth (m):	73m		Depth to water (m)	66.085		66.100			66.100			
Well Stick-up Height (m):	0.95m		Temperature (°C)	3.1	5.8	6.1	5.8	5.7	5.9	5.7		
Estimated Water Volume (L):	195		pH (pH Units)	5.7	5.69	5.66	5.64	5.54	5.63	5.63		
<p>12</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	612	636	629	620	612	615	606				
	Specific Cond. (µs/cm)	1049	991	984	974	974	962	956				
	Redox (mV)	80.8	74.7	72.2	70.8	79.8	76.6	72.4				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	V. SLIGHTLY TURBID	CLEAR	CLEAR	→	→	→	→				
	Turbidity (NTU):	-	-	-	-	-	-	5.35				
	Interval Purge Volume (L):	11	6	6	6	7	7	7				
	Cumulative Purge Volume (L):	11	17	23	29	36	43	50				
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sample Method:								
Time logged on YSI (24hr):	11-53		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): PW14-07

Sample Date (Con't): SEPT 12 2015

Sample Time: 11-53

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Deep water. Took 10 mins to reach surface with Grundfos pump.

335 Hz ON CONTROL BOX

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SIA	Project Number:	1343-005.12	Date:	SEPT 12 2015	
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	24 PVC(?) / ✓	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~12°C PARTLY CLOUDY	
UTM Location:	208V E.0584430 N.6913120	Waypoint:	GPS H Name UTM5 ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. EUR Nos. 155-158	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Name _____		X			
Initial Depth to Water (m):	4.667 _m	Purge Start Time:	15-13.	Purge End Time:	15-34	
Depth to Bottom (m):	13.039 _m	Purge Interval Time () min, Vol. () L	1518. 1523 15:28 15:33			
Submerged Tubing Depth (m):	~13.0	Depth to water (m)	4.68 4.68 4.1 4.1			
Well Stick-up Height (m):	1.333	Temperature (°C)	4.2 4.2 4.1 4.1			
Estimated Water Volume (L):	16.76	pH (pH Units)	5.78 5.77 5.75 5.75			
<p>83 x 2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	1237 1243 1243 1236				
	Specific Cond. (µs/cm)	2050 2063 2069 2055				
	Redox (mV)	100.6 98.2 97.0 95.4				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR CLEAR CLEAR CLEAR				
	Turbidity (NTU):	/ / / / 5.51				
	Interval Purge Volume (L):	1 0.750 0.850 1				
	Cumulative Purge Volume (L):	1 1.750 2.600 3.6				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	15-36	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SIA
 Sample Date (Con't): SEPT 11 2015
 Sample Time: 15-36

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

14.5 m PERI
 6" SILICONE.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL ↓	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

SAMPLE COLLECTED
SEPT 12
0810

Sample Site:	SIB	Project Number:	1343-005.12	Date:	SEPT 11 2015	
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	2" PVC (P)	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~12°C + PARTLY CLOUDY.	
UTM Location:	Z. 08V E. 0584430 N. 6913120	Waypoint:	GPS # Name UTM S ONLY	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad	
Photos:	Cam. EUR Nos. 155-158.	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	4.472m	Purge Start Time:	15-44	Purge End Time:		
Depth to Bottom (m):	5.115m	Purge Interval Time () min, Vol. () L	1548 1552 1556			
Submerged Tubing Depth (m):	~5.0	Depth to water (m)	4.800			
Well Stick-up Height (m):	1.173	Temperature (°C)	4.4 6.2 3.8	PURGED DRY		
Estimated Water Volume (L):	1.286L	pH (pH Units)	6.49 6.44 6.44	AT 1557 ON SEPT 11 2015		
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	523 546 508	NEED TO RETURN TO SAMPLE.			
	Specific Cond. (µs/cm)	866 860 855				
	Redox (mV)	113.9 116. 125.7				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SLIGHTLY TURBID CLEAR CLEAR				
	Turbidity (NTU):	0.6 - -				
	Interval Purge Volume (L):	0.6 0.02 0.45			20.8.	
	Cumulative Purge Volume (L):	0.6 0.8 1.25		1.4 TOTAL.		
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	1539 1559	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): S1B
 Sample Date (Con't): SEPT 11 2015 PURGED DRY DATE
 Sample Time: SEPT 12 2015 SAMPLED 8.10

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 PURGED DRY ~~SAMPLED~~ SEPT 11
 SAMPLED SEPT 12
 VERY SIMILAR SCENARIOS IN
 BOTH SPRING 2015 AND FALL
 2014.
 6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	S2A	Project Number:	1343-005.12	Date:	Sept. 11/2015					
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.					
Piezometer Diameter / Screen Length:	2' / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast windy ~ 8°C					
UTM Location:	Z. 08 E. 0584468 N. 6913118	Waypoint:	GPS AN Name S2A/B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. AN Nos. B2-05	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes - Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes - Name _____		X							
Initial Depth to Water (m):	5.188	Purge Start Time:	14:06	Purge End Time:	14:43					
Depth to Bottom (m):	5.77 12.615	Purge Interval Time (S) min, Vol. (L)	14:07	14:12	14:17	14:22	14:27	14:32	14:38	14:43
Submerged Tubing Depth (m):	~ 12.0	Depth to water (m)	5.136	5.139	5.135	—	—	5.132	—	
Well Stick-up Height (m):	1.21	Temperature (°C)	5.0	4.0	5.8	3.8	3.8	4.3	4.3	4.1
Estimated Water Volume (L):	~ 15.22	pH (pH Units)	7.14	7.57	7.50	7.56	6.84	6.11	6.04	6.02
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	402.1	203.6	135.6	131.2	517	956	919	1006	
	Specific Cond. (µs/cm)	627.8	337.8	226.9	220.3	785.0	1581	1652	1675	
	Redox (mV)	32.3	51.5	77.6	72.7	70.1	59.0	57.0	56.0	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Brown light turbid.	Same.	Same.	Same	less turbid	same	less turbid.	Same.	
	Turbidity (NTU):	grey.							93.8	
	Interval Purge Volume (L):	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
	Cumulative Purge Volume (L):	0.2	1.2	2.2	3.2	4.0	5.0	6.0	7.0	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	14:43	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): S2A

 Sample Date (Con't): Sept. 11/2015

 Sample Time: 14:45

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Used: 6" silicon tubing.
24" peri. tubing.
Replaced 1 PVC coupling.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	S2B	Project Number:	1343-005.12	Date:	Sept 11 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC+AN						
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	11° Overcast						
UTM Location:	Z. 08 E. 058446 N. 6913118	Waypoint:	GPS AN Name S2A/B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 088-085	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	4.360	Purge Start Time:	14:53			Purge End Time:	15:37				
Depth to Bottom (m):	7.083	Purge Interval Time (5) min, Vol. () L	14:55	15:00	15:05	15:10	15:15	15:20	15:26	15:31	15:36
Submerged Tubing Depth (m):	6.5	Depth to water (m)	4.631	4.780	4.92	5.063	5.175	5.230	5.265	5.230	5.290
Well Stick-up Height (m):	0.53	Temperature (°C)	5.5	4.3	4.5	4.4	4.0	4.6	4.4	4.9	5.0
Estimated Water Volume (L):	5.446	pH (pH Units)	6.21	6.11	6.15	6.10	6.02	5.91	5.89	5.88	5.87
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1305	1162	1170	1195	2313	3971	4371	5084	5206	
	Specific Cond. (µs/cm)	2080	1919	1923	1975	2894	4021	7907	8276	8474	
	Redox (mV)	84.7	103.1	103.6	99.3	103.4	112.0	116.4	118.0	119.9	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	light grey / clear.	clear	clear.	same.	same	same.	same.	same.	same.	same.
	Turbidity (NTU):										10.43
	Interval Purge Volume (L):	.25	0.5	0.5	0.5	0.65	0.6	0.5	0.35	0.4	
	Cumulative Purge Volume (L):	.25	.75	1.25	1.75	2.4	3.0	3.5	3.85	4.25	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	15:37	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): S2B
 Sample Date (Con't): Sept 11 2015
 Sample Time: 15:38

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
No consumables used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK04-3A	Project Number:	1343-005.12	Date:	SEPT 14 2015		
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + SC		
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~ 5°C OVERCAST		
UTM Location:	Z.08V E.0582871 N.6914006	Waypoint:	GPS H Name <u>UTMs ONLY</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. ER Nos. <u>244-246</u>	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	5.868	Purge Start Time:	10-07	Purge End Time:	10:28		
Depth to Bottom (m):	12.333	Purge Interval Time (3) min, Vol. () L	10:15	10:18	10:21	10:24	10:27
Submerged Tubing Depth (m):	12.1 (Est)	Depth to water (m)	5.875	5.874	5.872	Same	Same
Well Stick-up Height (m):	0.63	Temperature (°C)	5.6	5.4	5.4	5.4	5.4
Estimated Water Volume (L):	12.93	pH (pH Units)	5.62	5.58	5.58	5.59	5.62
1.4×2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	5578	5679	5721	5725	5730	
	Specific Cond. (µs/cm)	8877	9085	9149	9161	9156	
	Redox (mV)	43.6	42.1	37.0	33.9	31.6	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear (colorless)	Same	Same	Same	Same	
	Turbidity (NTU):					12.3	
	Interval Purge Volume (L):	0.15	0.15	0.3	0.35	0.4	
Cumulative Purge Volume (L):	0.15	0.30	0.6	0.95	1.35		
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	10:28	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

72.5 - 9.5 =

Sample Site (Con't): SRK04-3A

Sample Date (Con't): SEPT 14 2015

Sample Time: 10:29

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" PERI
6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	Full	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-SC	Project Number:	1343-005.12	Date:	Sept 15, 2015		
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AK + JH		
Piezometer Diameter / Screen Length:	1.5" PC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy 12°C		
UTM Location:	Z.08 E.0592762 N.6903392	Waypoint:	GPS AN Name <u>utm only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 210-212	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	16:43	X				
Initial Depth to Water (m):	1.575 m	Purge Start Time:	16:43			Purge End Time:	16:58
Depth to Bottom (m):	3.655 m	Purge Interval Time (3) min, Vol. () L	16:46	16:49	16:52	16:55	16:58
Submerged Tubing Depth (m):	3.45	Depth to water (m)	1.780	1.832	1.840	1.815	1.810
Well Stick-up Height (m):	0.96	Temperature (°C)	5.2	5.1	5.0	5.0	5.0
Estimated Water Volume (L):	2.02	pH (pH Units)	7.67	7.48	7.45	7.44	7.43
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	470.0	504	498.6	489.4	484.4	
	Specific Cond. (µs/cm)	757.3	814	805.5	791.3	784.6	
	Redox (mV)	57.1	4.3	-13.9	-25.5	-31.5	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	same.	same	same.	same.	
	Turbidity (NTU):	-	-	-	-	29.6	
	Interval Purge Volume (L):	.65	.85	.65	0.65	0.6	
	Cumulative Purge Volume (L):	.65	1.5	2.15	2.8	3.4	
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	Not logged	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-5C

Sample Date (Con't): Sept 15, 2015

Sample Time: 17:00

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Used: 6" silicone
1' 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-07	Project Number:	1343-005.12	Date:	Sept 15, 2015	
Approximate Date Drilled:	2	Client:	GY - AAM	Samplers:	AW + JH	
Piezometer Diameter / Screen Length:	2" PVC / 17'	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy, 10°C	
UTM Location:	Z.08 E.0592370 N.6903187	Waypoint:	GPSAN Name VTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	CamAN Nos. 195-197	Purge Method:				
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MWIS-1100	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name Field Blank-600		X			
Initial Depth to Water (m):	5.646 m	Purge Start Time:	13:29		Purge End Time:	13:40
Depth to Bottom (m):	6.450 m	Purge Interval Time (3) min, Vol. () L	13:31	13:34	13:37	13:40
Submerged Tubing Depth (m):	6.35	Depth to water (m)	5.699	6.700	6.700	6.700
Well Stick-up Height (m):	0.70	Temperature (°C)	4.0	4.0	4.0	4.0
Estimated Water Volume (L):	1.6 L	pH (pH Units)	6.84	6.79	6.79	6.79
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2130	2160	2162	2162	
	Specific Cond. (µs/cm)	3565	3602	3610	3612	
	Redox (mV)	135.2	129.5	128.3	127.6	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	
	Turbidity (NTU):	-	-	-	-	1.52
	Interval Purge Volume (L):	0.3	.4	.3	.3	
	Cumulative Purge Volume (L):	0.3	.7	1.0	1.3	
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	Log full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-07
 Sample Date (Con't): Sept 15, 2015
 Sample Time: 13:45

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- used 6' silicone
 - 4' 1/4" tubing.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-8	Project Number:	1343-005.12	Date:	Sept 15, 2015		
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN + JH		
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 10°C		
UTM Location:	Z.08 E.0592582 N.0163237	Waypoint:	GPS AN Name <u>UM only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. AN Nos. 108-200	Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X				
Initial Depth to Water (m):	5.845 m	Purge Start Time:	14:12	Purge End Time:	14:27		
Depth to Bottom (m):	8.450 m	Purge Interval Time (3) min, Vol. () L	14:15	14:18	14:21	14:24	14:27
Submerged Tubing Depth (m):	2.3 m	Depth to water (m)	5.952	6.010	6.025	-	6.035
Well Stick-up Height (m):	0.74	Temperature (°C)	3.9	3.9	4.0	4.0	4.0
Estimated Water Volume (L):	4.8 L	pH (pH Units)	6.85	6.79	6.78	6.78	6.78
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1804	1795	1799	1798	1797	
	Specific Cond. (µs/cm)	3019	3013	3007	3004	3000	
	Redox (mV)	141.4	142.8	143.3	144.2	145.0	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear	
	Turbidity (NTU):	-	-	-	-	0.95	
	Interval Purge Volume (L):	.3	.7	.3	.4	.4	
	Cumulative Purge Volume (L):	.3	1	1.3	1.7	2.1	
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:					
Time logged on YSI (24hr):	Not logged	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-8
 Sample Date (Con't): Sept 15, 2015
 Sample Time: 14:27

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- 6" silicone
 - 1" 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-9	Project Number:	1343-005.12	Date:	Sept 15, 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AW + 3 H						
Piezometer Diameter / Screen Length:	1.5" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy 10°C						
UTM Location:	Z.08 E.0592950 N. 6963159	Waypoint:	GPS <u>AW</u> Name <u>um only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. <u>AW</u> Nos. <u>207-209</u>	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Micro									
Initial Depth to Water (m):	2.756m	Purge Start Time:	16:08		Purge End Time:	16:17					
Depth to Bottom (m):	4.000	Purge Interval Time () min, Vol. () L	16:09	16:11	16:13	16:15	16:17				
Submerged Tubing Depth (m):	3.7m	Depth to water (m)	2.765	2.80	2.83	2.77	2.79				
Well Stick-up Height (m):	0.51	Temperature (°C)	3.3	3.0	3.0	3.0	3.0				
Estimated Water Volume (L):	~1.5	pH (pH Units)	7.52	7.43	7.38	7.35	7.36				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1199	2048	1201	1209	1215	1214				
	Specific Cond. (µs/cm)		2098	2068	2089	2096	2093				
	Redox (mV)		105.2	104.9	106.0	107.4	108.5				
	Appearance & Odour (Clear, Silty, HC odours, etc.)		turbid	Same	Same	Same	Same				
	Turbidity (NTU):		—	—	—	—	9.83				
	Interval Purge Volume (L):		1.0	1.0	1.0	1.0	1.0				
	Cumulative Purge Volume (L):		1.0	2.0	3.0	4.0	5.0				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	Not in log	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Micro									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-9

Sample Date (Con't): Sept. 15/2015

Sample Time: 16:20

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

No consumables used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

1

Sample Site:	SRK05-ETA-BR	Project Number:	1343-005.12	Date:	SEPT 14 2015
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JC
Piezometer Diameter / Screen Length:	1" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~7°C overcast
UTM Location:	Z.08V E.0582864 N.6914016	Waypoint:	GPS H Name UTM5 ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad
Photos:	Cam. QR Nos. 250-252	Purge Method:			
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X		
Initial Depth to Water (m):	6.732	Purge Start Time:	11:25	Purge End Time:	12:07
Depth to Bottom (m):	13.197 ^{13'}	Purge Interval Time (3) min, Vol. () L	11-53	11-56	11-59
Submerged Tubing Depth (m):		Depth to water (m)	6.74	6.73	
Well Stick-up Height (m):	0.716	Temperature (°C)	6.9	6.6	6.2
Estimated Water Volume (L):	~3.28	pH (pH Units)	5.30	5.31	5.27
<p>6.46</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	5483	5450	5379	5369
	Specific Cond. (µs/cm)	8397	8461	8398	8403
	Redox (mV)	72.0	69.9	71.6	71.0
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	CLEAR	CLEAR	CLEAR
	Turbidity (NTU):	—			0.49
	Interval Purge Volume (L):	0.050	0.2	0.3	0.250
	Cumulative Purge Volume (L):	0.050	0.250	0.550	0.80
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):	12.07	Waterra	Peristaltic	Disp. Bailer	Redi-flo
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X		

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-ETA-BR1
 Sample Date (Con't): SEPT 14 2015
 Sample Time: 12-08.

Additional Purge Data:										
Purge Interval Time () min, Vol. () L										
Depth to water (m)										
Temperature (°C)										
pH (pH Units)										
Cond. (µs/cm)										
Specific Cond. (µs/cm)										
Redox (mV)										
Appearance & Odour (Clear, Silty, HC odours, etc.)										
Turbidity (NTU)										
Interval Purge Volume (L)										
Cumulative Purge Volume (L):										

General Notes (Condition of well, consumables, or other features):

 6" SILICONE
~~0.75m PERI.~~
 6"

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-ETA-BR2	Project Number:	1343-005.12	Date:	SEPT 14 2015						
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GRT JC						
Piezometer Diameter / Screen Length:	1 1/8" ID / UNKNOWN	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~70C OVERCAST						
UTM Location:	Z08V E.0582862 N.6913999	Waypoint:	GPS H Name UTM5 ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. EUR Nos. 247-249	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	4.756	Purge Start Time:	10 54	Purge End Time:							
Depth to Bottom (m):	19.360	Purge Interval Time (3) min, Vol. () L	10:59	11:02	11:06	11:10	11:13				
Submerged Tubing Depth (m):		Depth to water (m)	4.906	4.970	4.950	4.960	→				
Well Stick-up Height (m):	0.423	Temperature (°C)	5.3	5.0	5.1	5.1	5.1				
Estimated Water Volume (L):	~7.4	pH (pH Units)	6.60	6.73	6.75	6.77	6.77				
<p>14.60</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	1758	1700	1677	1666	1663					
	Specific Cond. (µs/cm)	2824	2752	2703	2685	2679					
	Redox (mV)	-19.0	-36.1	-46.6	-50.4	-48.2					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear colourless	sand	→	→	→					
	Turbidity (NTU):	-	-	-	-	-	62.8				
	Interval Purge Volume (L):	0.3	0.4	0.5	0.3	0.3					
	Cumulative Purge Volume (L):	0.5	0.7	1.2	1.5	1.8					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	11-14	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-ETA-BR2
 Sample Date (Con't): SEPT 14 2015
 Sample Time: 11-14

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

 NEEDS 6" SUP CAP.
 USED 17" OF 6" PVC FOR PROTECTION.
 6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-SP-1A	Project Number:	1343-005.12	Date:	Sept 10 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JL AN					
Piezometer Diameter / Screen Length:	2" / 8'	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	10°C overcast.					
UTM Location:	Z. 20 E. 057168 N. 6913073	Waypoint:	GPS <u>AN</u> Name <u>SRK05-SP-1A</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. <u>AN</u> Nos. <u>55-58</u>	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	7.151 - 0.293 = 6.858	Purge Start Time:	15:09		Purge End Time:					
Depth to Bottom (m):	20.130 - 0.293 = 19.837	Purge Interval Time (5) min, Vol. () L	15:16	15:21	15:26	15:31	15:36			
Submerged Tubing Depth (m):	19.3	Depth to water (m)	7.1614	7.1624	7.171	7.174	-			
Well Stick-up Height (m):	0.835 - 0.293 = 0.542	Temperature (°C)	9.4	3.3	3.2	3.4	3.7			
Estimated Water Volume (L):	25.96	pH (pH Units)	5.70	5.69	5.66	5.63	5.61			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	768	803	841	876	914				
	Specific Cond. (µs/cm)	1311	1372	1438	1488	1528				
	Redox (mV)	87.7	86.2	75.2	70.3	73.8				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear colorless	same.	same.	same.	same.				
	Turbidity (NTU):					3.66				
	Interval Purge Volume (L):	0.7	0.7	1.0	0.85	0.75				
	Cumulative Purge Volume (L):	0.7	1.4	2.4	3.25	4.00				
	YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:							
Time logged on YSI (24hr):	15:36	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

* Merged to top of Monument opening

Sample Site (Con't): SRK05-SP-1A

Sample Date (Con't): Sept 10 2015

Sample Time: 15:38

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silicon
22m 1/4 HDPE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK 05-SP-1B	Project Number:	1343-005.12	Date:	Sept 10 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC AN						
Piezometer Diameter / Screen Length:	2" / 9	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	10°C overcast						
UTM Location:	Z. 07 E. 0594618 N. 6913074	Waypoint:	GPS AN Name SRK05-SP-1B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 55-58	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	7.34* - 0.27 = 7.063	Purge Start Time:	14:27			Purge End Time:					
Depth to Bottom (m):	13.37* - 0.27 = 13.10	Purge Interval Time (5) min, Vol. () L	14:32	14:37	14:42	14:47	14:52	14:57			
Submerged Tubing Depth (m):	12.8	Depth to water (m)	7.33*	7.33*	7.34*	-	7.34*	-			
Well Stick-up Height (m):	0.850 - 0.278 = 0.572	Temperature (°C)	9.5	4.0	3.7	4.4	4.3	4.3			
Estimated Water Volume (L):	12.56 L	pH (pH Units)	6.53	6.37	6.34	6.31	6.22	6.25			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	801	707	709	731	734	735				
	Specific Cond. (µs/cm)	1142	1179	1195	1202	1213	1217				
	Redox (mV)	10.0	2.7	6.0	13.2	12.4	10.1				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear Colourless No odour	Same	Sand	Sand	Same	Same				
	Turbidity (NTU):							0.84			
	Interval Purge Volume (L):	0.05	0.550	0.50	0.6	0.7	0.6				
	Cumulative Purge Volume (L):	0.05	0.60	1.1	1.7	2.4	3.0				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	14:58	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

* Measurement to top of Manifold opening

Sample Site (Con't): SRK 05-SP-1B

Sample Date (Con't): Sept 10 2015

Sample Time: 15:00

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silicon
3m 1/4 HDPE used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1 L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-SP-2	Project Number:	1343-005.12	Date:	Sept. 10/2015						
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JC						
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast ~ 5°C						
UTM Location:	Z. 8 E. 0584684 N. 6913037	Waypoint:	GPS AN Name _____	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 43-45	Purge Method:									
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MW15-100	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name FIELD BLANK - 100		X								
Initial Depth to Water (m):	2.365*	Purge Start Time:	10:46		Purge End Time:						
Depth to Bottom (m):	11.960*	Purge Interval Time (5) min, Vol. () L	10:48	10:53	10:58	11:03	11:08	11:13			
Submerged Tubing Depth (m):	11.5*	Depth to water (m)	2.358	2.356	2.36	-	-	-			
Well Stick-up Height (m):	0.3m	Temperature (°C)	3.2	2.8	2.8	2.7	2.8	2.7			
Estimated Water Volume (L):	~ 19.5	pH (pH Units)	6.33	6.10	6.06	6.03	6.03	6.04			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	578	608	612	610	611	611				
	Specific Cond. (µs/cm)	994	1053	1063	1062	1062	1064				
	Redox (mV)	75.7	92.5	100.7	109.3	114.3	118.6				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear (colourless) No odour	Same	Same	Same	Same	Same				
	Turbidity (NTU):						0.07				
	Interval Purge Volume (L):	0.5	0.5	0.7	0.8	0.8	0.8				
	Cumulative Purge Volume (L):	0.5	1.06	1.76	2.5	3.3	4.1				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	11:15	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

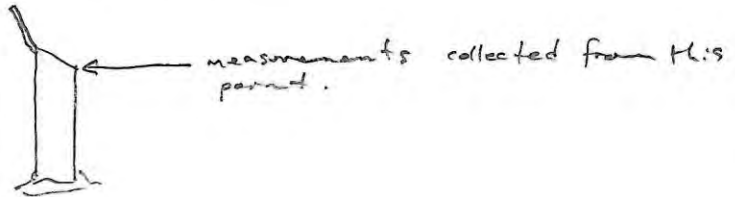
Sample Site (Con't): SRK05-SP-2

Sample Date (Con't): Sept 10, 2015

Sample Time: 11:20

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 * DTW and DTB measurements collected from top of well casing. PVC cut and unable to measure during purging process.



Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	100	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-SP-3A	Project Number:	1343-005.12	Date:	Sept. 10/2015	
Approximate Date Drilled:	unknown	Client:	GY - AAM	Samplers:	AN, JC.	
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast ~8°C.	
UTM Location:	Z. 8 E. 0584544 N. 6913093	Waypoint:	GPS AN Name SRK05-SP-3A	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 59-61	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	4.823	Purge Start Time:	16:25		Purge End Time:	16:51
Depth to Bottom (m):	23.360	Purge Interval Time (5) min, Vol. () L	16:33	16:38	16:43	16:48
Submerged Tubing Depth (m):	~22.0	Depth to water (m)	4.832	4.831	4.83	—
Well Stick-up Height (m):	0.87	Temperature (°C)	3.7	3.1	3.1	3.1
Estimated Water Volume (L):	~37.7	pH (pH Units)	5.99	5.99	5.92	5.92
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	645	644	671	687	
	Specific Cond. (µs/cm)	1694	1107	1154	1185	
	Redox (mV)	56.6	57.4	57.7	57.9	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear no odour.	same.	same.	same.	
	Turbidity (NTU):				5.56	
	Interval Purge Volume (L):	0.45	0.65	0.8	0.7	
	Cumulative Purge Volume (L):	0.45	1.1	1.9	2.6	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	16:51	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-SP-3A
 Sample Date (Con't): Sept 10 2015
 Sample Time: 16:52

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silican

★ Noticed that the wells are positioned on the wrong side of the road in the Figure, replace utms with new coordinates for next event.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1000ml	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-SP-3B	Project Number:	1343-005.12	Date:	Sept 10 ²⁰	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN JK	
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	100C Overcast	
UTM Location:	Z. 08 E. 0584544 N. 6913093	Waypoint:	GPS AN Name SRK05-SP-3A	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 59-61	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	3.995 3.795	Purge Start Time:	15:55		Purge End Time:	16:14
Depth to Bottom (m):	13.280 13.080	Purge Interval Time (5) min, Vol. () L	15:58	16:03	16:08	16:13
Submerged Tubing Depth (m):	12.58	Depth to water (m)	4.005	4.00	4.00	-
Well Stick-up Height (m):	0.72	Temperature (°C)	3.7	3.9	3.4	3.6
Estimated Water Volume (L):	18.57	pH (pH Units)	5.80	5.75	5.79	5.74
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	885	884	857	859	
	Specific Cond. (µs/cm)	1484	1482	1467	1453	
	Redox (mV)	81.3	84.7	83.3	83.1	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear	Same	Same	Same	
	Turbidity (NTU):				1.14	
	Interval Purge Volume (L):	0.5L	0.5	0.7	0.5	
	Cumulative Purge Volume (L):	0.5	1.0	1.7	2.2	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	16:10	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

* Measured to the top of Monument opening

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-SP-3B

Sample Date (Con't): Sept 10 2015

Sample Time: 16:14

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" Silican. 1/4 HDPE
 Added 4m₁ to existing tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SKK05-SP-4A	Project Number:	1343-005.12	Date:	Sept-11/2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast / windy ~5°C.						
UTM Location:	Z.08 E. 0584504. 6913111	Waypoint:	GPS AN Name SKK05-SP4	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 68-71	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	4.461 4.561 * 4.544	Purge Start Time:	9:45		Purge End Time:						
Depth to Bottom (m):	22.300 * 22.447	Purge Interval Time (S) min, Vol. (L)	9:45	9:55	10:00	10:05	10:10				
Submerged Tubing Depth (m):	21.7 #	Depth to water (m)	4.472	4.475	4.478	4.475	-				
Well Stick-up Height (m):		Temperature (°C)	5.7	3.8	3.7	3.7	3.7				
Estimated Water Volume (L):	35.7	pH (pH Units)	5.84	5.89	5.89	5.88	5.88				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1011	756	744	733	730					
	Specific Cond. (µs/cm)	1601	1268	1262	1236	1235					
	Redox (mV)	89.6	68.1	66.6	66.1	65.9					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear (colorless)	Sand.	Sand.	Sand.	Sand.					
	Turbidity (NTU):					11.1					
	Interval Purge Volume (L):	0.15	0.6	0.6	0.7	0.6					
	Cumulative Purge Volume (L):	0.15	0.75	1.35	2.05	2.65					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	10:11	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

* Measured to the top of the manometer opening

Sample Site (Con't): SRK05-SP-4A
 Sample Date (Con't): Sept 11 2015
 Sample Time: 10:13

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- PVC coupler was broken
- cut off old PVC coupler and replaced with a new coupler.
- PVC length added was 0.71m
- New DTW: 4.544
- New DTB: 22.447

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	110	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-SP-4B	Project Number:	1343-005.12	Date:	Sept. 11 / 2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy / Windy ~ 8°C.						
UTM Location:	Z. 8 E. 0584505 N. 6913111	Waypoint:	GPS AN Name SRK05-SP-4A/B	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 68-71	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	3.705	Purge Start Time:	9:21		Purge End Time:	9:40					
Depth to Bottom (m):	4.640	Purge Interval Time (3) min, Vol. () L	9:24	9:27	9:31	9:35	9:38				
Submerged Tubing Depth (m):	~ 4.0	Depth to water (m)	3.750	3.750	3.780	3.785	3.80.				
Well Stick-up Height (m):	0.82.	Temperature (°C)	6.3	5.8	6.0	5.9	6.0				
Estimated Water Volume (L):	1.89	pH (pH Units)	5.95	5.71	5.61	5.57	5.54				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	5059	4975	5003	4980	4965					
	Specific Cond. (µs/cm)	7872	7833	7845	7827	7801					
	Redox (mV)	152.1	158.6	166.1	173.4	183.0					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slightly turbid. grey.	Same.	Same.	Same.	Same.					
	Turbidity (NTU):					523					
	Interval Purge Volume (L):	0.05	0.25	0.3	0.35	0.3					
	Cumulative Purge Volume (L):	0.05	0.3	0.6	0.95	1.25					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	9:40.	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-SP-4B

 Sample Date (Con't): Sept. 11 / 2015

 Sample Time: 9:40

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

Waterera tubing removed from well.
Red/brown oxide on removed tubing.

Added: 6 m peri. tubing.
6" silicon tubing.

Transducer in well

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRKOS-SP-5	Project Number:	1343-005.12	Date:	Sept 11, 2015				
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JH				
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 10°C				
UTM Location:	Z.08 E.05844 ³⁶ N.69131 ³⁷	Waypoint:	GPS EIR Name SRKOS-SP5	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad				
Photos:	Cam. EIR Nos. 91-93	Purge Method:							
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X						
Initial Depth to Water (m):	6.830	Purge Start Time:	17:08	Purge End Time:					
Depth to Bottom (m):	14.328	Purge Interval Time (S) min, Vol. (L)	17:10	17:15	17:20	17:25	17:30	17:35	17:40
Submerged Tubing Depth (m):	14.00	Depth to water (m)	6.850	-	6.855	6.855	6.855	-	-
Well Stick-up Height (m):	1.00m	Temperature (°C)	4.9	4.8	4.8	4.7	4.5	4.5	4.4
Estimated Water Volume (L):	15L	pH (pH Units)	6.32	5.98	5.85	5.75	5.76	5.75	5.75
<p>14.3 7.50 = 15 6.8</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	5481	5654	5650	5622	5625	5608	5600	
	Specific Cond. (µs/cm)	8149	9186	9201	9177	9269	9209	9220	
	Redox (mV)	176	90.9	119.3	137.9	141.7	147.8	151.6	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	turbid	clear	clear	clear	clear	clear	clear	
	Turbidity (NTU):	-	-	-	-	-	-	4.44	
	Interval Purge Volume (L):	.5	.5	.5	.5	.5	.5	.5	
	Cumulative Purge Volume (L):	.5	1	1.5	2	2.5	3	3.5	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:							
Time logged on YSI (24hr):	17:42	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other			
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X						

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-SP-5
 Sample Date (Con't): Sept 11, 2015
 Sample Time: 17:41

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- Removed transducer for sampling
- Used 15m $\frac{1}{4}$ "
- used 6" silicone
- This well was scoped for repairs. However, it has 4" tubing that is cemented in and is sufficient for a protective casing. The 2" Pvc is a bit wobbly, however the top portion is well connected to a caplar and does not need replacing. Well is in good condition. No repairs required.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1 L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK05-SP-6	Project Number:	1343-005.12	Date:	SEPT 11 2015
Approximate Date Drilled:	2/1	Client:	GY - AAM	Samplers:	GR + JF
Piezometer Diameter / Screen Length:	2" PVC / -	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	12°C / PARTLY CLOUDY.
UTM Location:	Z.080 E.0584386 N. 6913149	Waypoint:	GPS# Name 106	Recovery:	<input checked="" type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos:	Cam. <u>EUR</u> Nos. 152-154	Purge Method:			
Duplicate Collected:	<input type="checkbox"/> Yes Name <u>/</u>	Waterra	Peristaltic	Disp. Bailer	Redi-flo
Field Blank Collected:	<input type="checkbox"/> Yes Name <u>/</u>				Other
Initial Depth to Water (m):	DRY	Purge Start Time:		Purge End Time:	
Depth to Bottom (m):	11.739	Purge Interval Time () min, Vol. () L			
Submerged Tubing Depth (m):	-	Depth to water (m)			
Well Stick-up Height (m):	0.97	Temperature (°C)			
Estimated Water Volume (L):	-	pH (pH Units)			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)				DRY X
	Specific Cond. (µs/cm)				
	Redox (mV)				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Turbidity (NTU):				
	Interval Purge Volume (L):				
	Cumulative Purge Volume (L):				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:			
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit				Other

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK05-SP-6
 Sample Date (Con't): SEPT 11 2015
 Sample Time:

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

DRY WELL

General Notes (Condition of well, consumables, or other features):

DRY WELL
 DOES HAVE WATER IN
 IN IT.

~~UTMS NEED~~
 * UPDATE FIGURE FOR
 WELL LOCATION.
 SEE UTMS AND WPT ON
 THIS SHEET.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃		
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-10A	Project Number:	1343-005.12	Date:	SEPT 14 2015							
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JC							
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~5°C OVERCAST							
UTM Location:	208V E. 058222N. 69114051	Waypoint:	GPS # Name UTM ONLY	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad							
Photos:	Cam. Ser. Nos. 264-266	Purge Method:										
Duplicate Collected:	<input type="checkbox"/> Yes Name /	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other						
Field Blank Collected:	<input type="checkbox"/> Yes Name /	X MANUAL										
Initial Depth to Water (m):	9.937	Purge Start Time:	1642	Purge End Time:								
Depth to Bottom (m):	13.835	Purge Interval Time () min, Vol. () L	3-4	1645	1647	1651	1653	1654	1657			
Submerged Tubing Depth (m):	13.8	Depth to water (m)	11.130	11.12	11.57	11.76	11.94	11.95				
Well Stick-up Height (m):	0.722	Temperature (°C)	3.0	2.7	2.7	2.6	2.5	2.6				
Estimated Water Volume (L):	7.8L	pH (pH Units)	6.65	6.46	6.52	6.46	6.41	6.33				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2303	2262	2262	2267	2279	2307					
	Specific Cond. (µs/cm)	3973	3935	3945	3959	3987	4032					
	Redox (mV)	155.9	158.2	161.0	162.7	164.5	166.9					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	TURBID MILKY	TURBID MILKY BROWN	TURBID MILKY BROWN	→	→	→					
	Turbidity (NTU):	-	-	-	-	-	191					
	Interval Purge Volume (L):	3	4	4	4	4	4					
	Cumulative Purge Volume (L):	3	7	11	15	19	23					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:										
Time logged on YSI (24hr):	1658	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other						
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X MANUAL										

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-10A
 Sample Date (Con't): SEPT 14 2015
 Sample Time: 1700

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

NO CONSUMABLES.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-11A	Project Number:	1343-005.12	Date:	SEPT 14 2015	
Approximate Date Drilled:	2" PVC	Client:	GY - AAM	Samplers:	GR + JC	
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~ 5°C overcast	
UTM Location:	Z. 08 E. 05 8258 N. 6414524	Waypoint:	GPS Name UTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. EIR Nos. 241-243	Purge Method:				
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MWIS-1000	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name		X			
Initial Depth to Water (m):	0.665	Purge Start Time:	9:02	Purge End Time:	9:17	
Depth to Bottom (m):	12.430	Purge Interval Time (3) min, Vol. () L	09:05	09:08	09:12	09:16
Submerged Tubing Depth (m):	11.930	Depth to water (m)	0.71	0.79	0.71	0.71
Well Stick-up Height (m):	0.684	Temperature (°C)	3.9	3.6	3.6	3.5
Estimated Water Volume (L):	23.530	pH (pH Units)	7.05	6.98	6.97	6.97
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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 25.9 = 7.5	Cond. (µs/cm)	669	666	661	659	
	Specific Cond. (µs/cm)	1123	1127	1119	1117	
	Redox (mV)	89.4	88.4	87.8	87.5	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear Colourless	Same	Same	Same	
	Turbidity (NTU):				1.35	
	Interval Purge Volume (L):	0.3	0.25	0.4	0.45	
	Cumulative Purge Volume (L):	0.3	0.55	0.95	1.40	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	9:17	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-11A
 Sample Date (Con't): Sept 14 2015
 Sample Time: 09:18

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 8" Silicon

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1000ml	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-11B	Project Number:	1343-005.12	Date:	Sept 14 2015	
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC GR	
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~50c OVERCAST	
UTM Location:	Z. 08 E. 0582586 N. 6914572	Waypoint:	GPS Name <u>UTMonly</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam # Nos. 238-240	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	1.120	Purge Start Time:	8:32		Purge End Time:	8:46
Depth to Bottom (m):	6.754	Purge Interval Time (3) min, Vol. () L	8:36	8:39	8:42	8:45
Submerged Tubing Depth (m):	6.55	Depth to water (m)	1.125	1.130	1.12	1.125
Well Stick-up Height (m):	1.005	Temperature (°C)	4.3	4.0	4.0	4.0
Estimated Water Volume (L):	11.268	pH (pH Units)	6.23	6.24	6.39	6.43
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1000	1027	1040	1044	
	Specific Cond. (µs/cm)	1652	1714	1739	1745	
	Redox (mV)	74.5	78.8	80.2	82.7	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear colourless	Same	Same	Same	
	Turbidity (NTU):	<	<	<	<	3.64
	Interval Purge Volume (L):	0.2	0.4	0.3	0.2	
	Cumulative Purge Volume (L):	0.2	0.6	0.9	1.1	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	08:45	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK 08-11B
 Sample Date (Con't): Sept 14 2015
 Sample Time: 8-45

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 8" Silicon.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-P9	Project Number:	1343-005.12	Date:	SEPT 14 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC GR						
Piezometer Diameter / Screen Length:	2" / 9'	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	8°C overcast						
UTM Location:	Z. 08 E. 0583687 N. 6913625	Waypoint:	GPS ^{4m} Name VTA only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. <u>ELR</u> Nos. 259-263	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	4.276 BEFORE REPAIR FULL REPAIR	Purge Start Time:	15:19			Purge End Time:	15:58				
Depth to Bottom (m):	7.176 BEFORE REPAIR 6.846 AFTER REPAIR	Purge Interval Time (3) min, Vol. () L	15:20	15:23	15:26	15:29	15:32	15:35	15:38	15:41	15:44
Submerged Tubing Depth (m):	6.8	Depth to water (m)	4.342	4.36	4.39	4.40	4.43	4.44	4.45	4.46	4.48
Well Stick-up Height (m):	0.790 (AFTER REPAIR)	Temperature (°C)	5.0	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.6
Estimated Water Volume (L):	~ 5.8	pH (pH Units)	6.32	6.75	6.86	6.93	6.96	7.00	7.03	7.04	7.02
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1400	1705	1278	1263	1252	1256	1262	1253	1242	
	Specific Cond. (µs/cm)	2260	2111	2087	2078	2058	2058	2067	2050	2031	
	Redox (mV)	48.3	46.0	31.5	40.1	47.1	51.8	63.1	69.6	72.4	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Clear No odours	Same	Same	Same	Same	Same	Same	Same	Same	
	Turbidity (NTU):										
	Interval Purge Volume (L):	0.3	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.3	
	Cumulative Purge Volume (L):	0.3	0.6	1.0	1.4	1.9	2.3	2.6	2.9	3.2	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	1558	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

0.33

Sample Site (Con't): SRK08 - P9

Sample Date (Con't): SEPT 14 2015

Sample Time: 1559

Additional Purge Data:									
Purge Interval Time () min, Vol. () L	1547	1550	1554	1557 1557					
Depth to water (m)	-	4.50	4.53	4.54					
Temperature (°C)	4.6	4.5	4.5	4.6					
pH (pH Units)	7.02	6.98	7.03	7.08					
Cond. (µs/cm)	1234	1216	1212	1204					
Specific Cond. (µs/cm)	2019	1997	1990	1975					
Redox (mV)	74.4	76.3	77.6	82.1					
Appearance & Odour (Clear, Silty, HC odours, etc.)	Slight yellow tint	→	→						
Turbidity (NTU)				3.74					
Interval Purge Volume (L)	0.3	0.3	0.3	0.3					
Cumulative Purge Volume (L):	3.5	3.8	4.1	4.4					

General Notes (Condition of well, consumables, or other features):

1 X 2" COUPLING
 TIED UP EXISTING CASING END
 (WHICH HAD BEEN SNAPPED OFF) AND
 RE-INSTALLED IT WITH COUPLING.
 1 X J-PLUG

6" PERI
 6" SILICONE
 ALL PURGE AND SAMPLING DEPTHS ARE BASED
 ON MEASUREMENTS BEFORE FULL REPAIR.

Photo 261 (BEFORE). 262 - 263 (AFTER REPAIR)

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-P12A	Project Number:	1343-005.12	Date:	Sept 12, 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + JH						
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 7°C						
UTM Location:	Z.08 E.0585234 N.6913694	Waypoint:	GPS Pen Name <u>W1M Only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. Pen Nos. 187-189	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	2.005m	Purge Start Time:	14:25	Purge End Time:	14:53						
Depth to Bottom (m):	12.690m	Purge Interval Time (5) min, Vol. () L	14:28	14:33	14:38	14:43	14:53				
Submerged Tubing Depth (m):	12.35m	Depth to water (m)	2.05	2.030	2.030	-	-				
Well Stick-up Height (m):	0.72m	Temperature (°C)	2.0	1.8	1.7	1.7	1.7				
Estimated Water Volume (L):	21.2 L	pH (pH Units)	5.63	5.51	5.55	5.59	5.58				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	767	763	759	759	754					
	Specific Cond. (µs/cm)	1369	1370	1365	1361	1358					
	Redox (mV)	86.1	87.9	92.5	96.4	98.3					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear					
	Turbidity (NTU):	-	-	-	-	8.03					
	Interval Purge Volume (L):	0.5	0.5	1	1	2					
	Cumulative Purge Volume (L):	0.5	1	2	3	5					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	logged as could not log - error	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SR108-P12A
 Sample Date (Con't): Sept 2, 2015
 Sample Time: 14:54

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- well in good condition
 - used .6" silicone
 - 6" 1/4 tubing (Peri)
 - 15-Avg

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-P12B	Project Number:	1343-005.12	Date:	Sept 12, 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	GR + JH					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 7°C					
UTM Location:	Z.08 E.05 85234 N.6913694	Waypoint:	GPS Name <u>UTM only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. <u>Hex</u> Nos. <u>190-192</u>	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	1.990m	Purge Start Time:	1502	Purge End Time:	1518					
Depth to Bottom (m):	8.433m	Purge Interval Time (3) min, Vol. () L	1505	1508	1511	1514	1517			
Submerged Tubing Depth (m):	8.1m	Depth to water (m)	2.0	2.0	2.0 2.0	→				
Well Stick-up Height (m):	0.73m	Temperature (°C)	1.9	1.8	1.8	1.7	1.7			
Estimated Water Volume (L):	4.9	pH (pH Units)	5.60	5.61	5.59	5.59	5.60			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	738	607	549	543	543				
	Specific Cond. (µs/cm)	1318	1084	989	979	979				
	Redox (mV)	103.3	110.9	123.8	126.1	127.9				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	CLEAR	→	→	→				
	Turbidity (NTU):	-	-	-	-	-	5.52			
	Interval Purge Volume (L):	0.4	0.4	0.4	0.4	0.4				
	Cumulative Purge Volume (L):	0.4	0.8	1.2	1.6	2.0				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	COULD NOT LOG	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

↓ SITE MISSING. COULD NOT ADD NEW. "ERROR"

Sample Site (Con't): SRK08-P12B

Sample Date (Con't): SEPT 12 2015

Sample Time: 1520

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" SILICONE
6" PERI.
1 J Plug

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08- P14	Project Number:	1343-005:12	Date:	Sept 15 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JK + GR						
Piezometer Diameter / Screen Length:	2" / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	12°C overcast						
UTM Location:	Z. 08 E. 0591764 N. 6903695	Waypoint:	GPS Ham Name UTM only	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. ELR Nos. 285-287	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	6.255	Purge Start Time:	17:27			Purge End Time:	17:51				
Depth to Bottom (m):	9.959	Purge Interval Time (4) min, Vol. () L	17:29	17:33	17:37	17:41	17:45	17:49			
Submerged Tubing Depth (m):	9.459	Depth to water (m)	6.29	6.29	6.29	6.29	Same	Same			
Well Stick-up Height (m):	0.725	Temperature (°C)	3.2	2.7	2.6	2.6	2.5	2.3			
Estimated Water Volume (L):	7.4	pH (pH Units)	7.31	7.12	7.06	7.04	7.02	6.99			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1081	1066	1035	1024	1011	1003				
	Specific Cond. (µs/cm)	1845	1854	1811	1792	1774	1776				
	Redox (mV)	78.1	83.0	86.5	89.2	93.1	99.1				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	turbid no colour	clearing up slightly	Same	Clear	Same	Same				
	Turbidity (NTU):	-	-	-	-	-	5.31				
	Interval Purge Volume (L):	0.2	0.3	0.5	0.6	0.9	0.7				
	Cumulative Purge Volume (L):	0.2	0.5	1.0	1.6	2.5	3.2				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	not in YSI database	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-P14
 Sample Date (Con't): Sept 15 2015
 Sample Time: 17:52

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 6" Silicon
 - Northern Goshawk - Flew over us

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-P15	Project Number:	1343-005.12	Date:	Sept 16, 2015	
Approximate Date Drilled:	9	Client:	GY - AAM	Samplers:	AN + JH	
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	cloudy 6°C	
UTM Location:	Z.09 E.0591960 N.6903541	Waypoint:	GPS <u>AN</u> Name <u>UTM only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam <u>AN</u> Nos. <u>222-224</u>	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	2.515m	Purge Start Time:	12:53	Purge End Time:		
Depth to Bottom (m):	8.4600m	Purge Interval Time (5) min, Vol. () L	12:55	13:00	13:05	13:10
Submerged Tubing Depth (m):	8.2m	Depth to water (m)	2.545	2.545	2.545	2.545
Well Stick-up Height (m):	0.39m	Temperature (°C)	2.7	2.6	2.5	2.5
Estimated Water Volume (L):	11.8 L	pH (pH Units)	7.22	7.00	6.95	6.94
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1275	1260	1243	1242	
	Specific Cond. (µs/cm)	2213	2188	2179	2176	
	Redox (mV)	92.6	94.7	97.2	99.1	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	
	Turbidity (NTU):	-	-	-	4.98	
	Interval Purge Volume (L):	0.3	1	1	1	
	Cumulative Purge Volume (L):	0.3	1.3	2.3	3.3	
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	log full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-P15
 Sample Date (Con't): Sept 16, 2015
 Sample Time: 13:15

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 Used:
 - 6" silicone
 - 1" 1/4" tubing

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-P16	Project Number:	1343-005.12	Date:	Sept-15/2015	
Approximate Date Drilled:		Client:	GY - AAM	Samplers:	AN, JH.	
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Overcast Rain ~20C	
UTM Location:	Z. 8 E. 0592200 N. 6903146	Waypoint:	GPS AN Name SRK08-P16	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam AN Nos. 192-194	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____					
Initial Depth to Water (m):	6.854	Purge Start Time:		Purge End Time:		
Depth to Bottom (m):	DRY? 6.854	Purge Interval Time () min, Vol. () L				
Submerged Tubing Depth (m):		Depth to water (m)				
Well Stick-up Height (m):	0.64	Temperature (°C)				
Estimated Water Volume (L):		pH (pH Units)				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)					
	Specific Cond. (µs/cm)					
	Redox (mV)					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Turbidity (NTU):					
	Interval Purge Volume (L):					
	Cumulative Purge Volume (L):					
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit					

DRY / FROZEN?

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-P16
 Sample Date (Con't): Sept. 15/2015
 Sample Time: N/A

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

DR

FROZEN

General Notes (Condition of well, consumables, or other features):
 Bentonite found on water level meter when well was dipped.
 Waterwa (5/8) tubing found frozen in well.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃		
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-SBR 1	Project Number:	1343-005.12	Date:	Sept. 11/2015	
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.	
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	overcast/windy ~10°C.	
UTM Location:	Z. 8 E. 0584472 N. 6913127	Waypoint:	GPS ___ Name _____	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. AN Nos. 86-89	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____					
Initial Depth to Water (m):	6.723	Purge Start Time:		Purge End Time:		
Depth to Bottom (m):	35.067	Purge Interval Time (___) min, Vol. (___) L				
Submerged Tubing Depth (m):	~	Depth to water (m)				
Well Stick-up Height (m):	0.83	Temperature (°C)				
Estimated Water Volume (L):	~57.6	pH (pH Units)				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)					
	Specific Cond. (µs/cm)					
	Redox (mV)					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Turbidity (NTU):					
	Interval Purge Volume (L):					
	Cumulative Purge Volume (L):					
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit					

DAMAGED

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-SBR1

Sample Date (Con't): Sept. 11/2015

Sample Time: not sampled.

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

Damaged

General Notes (Condition of well, consumables, or other features):
 Well documented as "broken" during fall 2014 sampling event. Visited on Sept. 11/2015. Measurements of DTW = 6.723 and DTB = 35.067 recorded. Attempted to install peri. tubing in well, could not reach bottom. Used ~20m of peri. tubing. Discarded peri. tubing. Installed 37m of watterra tubing for hydrolift. (and footvalve). Started hydrolift, no water. Removed tubing. Footvalve was plugged with sediment (refer to photos). Installed second footvalve and attempted to put watterra tubing back down well. Tubing could not be lowered past 1.275 m. Well had become plugged/blocked with bentonite. Attempted to push through bentonite plug with watterra tubing but could not pass. Well recorded as damaged and requires repairs.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃		
1 L (plastic)	General Chemistry	500 ml	-	-		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-SBR2	Project Number:	1343-005.12	Date:	Sept 13, 2015						
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + SH						
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	4°C clear						
UTM Location:	Z. 08 E. 8483 N. 613122	Waypoint:	GPS H Name <u>UTM only</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. ELR Nos. 703-708	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	X									
Initial Depth to Water (m):	6.248	Purge Start Time:	8:35	Purge End Time:	8:48						
Depth to Bottom (m):	18.635	Purge Interval Time () min, Vol. (10) L	8-37	8-39	8-41	8-45	8-48				
Submerged Tubing Depth (m):	18.5	Depth to water (m)	6.610	6.68	6.68	6.68	6.68				
Well Stick-up Height (m):	0.58	Temperature (°C)	2.8	2.7	2.7	2.6	2.6				
Estimated Water Volume (L):	24.77	pH (pH Units)	5.68	5.77	5.81	5.85	5.82				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	3276	2617	2303	2290	2259					
	Specific Cond. (µs/cm)	5692	4571	4119	3996	3946					
	Redox (mV)	1365	119.1	110.7	104.4	102.6					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	silty red/brown			clearing	turbid					
	Turbidity (NTU):	-	-	-	-	-					
	Interval Purge Volume (L):	5	10	10	10	10					
	Cumulative Purge Volume (L):	5	15	25	35	45					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	08:51	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-SBR2
 Sample Date (Con't): Sept 13, 2015
 Sample Time: 08:51

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

- water appears to be iron stained
- No consumables used

Well Repairs (Sept 14, 2015 @ 13:00)

- stick-up monument + 2" well PVC is bent.
- Dug out old stick-up and continued digging to find where PVC has bent.

14:15- Dug down 1.2m bgs and still haven't found the bend yet.
 The horizontal displacement between top of pipe and pipe 1.2m down is 1.0m. This well almost seems like it was installed on a 45° angle. After digging to 1.2m bgs, we still didn't see a bend in the pipe, so we installed the stick-up on an angle with the well to not damage it any further.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1 L	

Consumables used:
 - 1 stick-up monument
 - 4' 2" PVC
 - 1 2" caplar
 - 2 bags of cement
 See photos:

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-SBR 11	Project Number:	1343-005.12		Date:	SEPT 11 2015		
Approximate Date Drilled:	—	Client:	GY - AAM		Samplers:	GR + AN		
Piezometer Diameter / Screen Length:	2" PVC / —	Project Name:	Faro 2015 GW Fall Sampling Program		Weather/Temperature:	~10°C PARTLY CLOUDY		
UTM Location:	Z.08V E.0584391 N. 6913151	Waypoint:	GPS 4 Name UTM5 ONLY		Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos:	Cam. EUR Nos. 149-151	Purge Method:						
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other		
Field Blank Collected:	<input checked="" type="checkbox"/> Yes Name _____			X				
Initial Depth to Water (m):	11.610	Purge Start Time:				Purge End Time:		
Depth to Bottom (m):	13.197	Purge Interval Time () min, Vol. () L	1405	1406	1407	1409	1411	
Submerged Tubing Depth (m):	BAILER	Depth to water (m)	1.9	1.2	1.1			
Well Stick-up Height (m):	1.05	Temperature (°C)	1.9	1.2	1.1	1.2	1.1	
Estimated Water Volume (L):	~3.17	pH (pH Units)	6.68	6.78	6.74	6.80	6.82	
$1.587 \times 2 = 3.17$ (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	2218	2089	2068	2059	2059		
	Specific Cond. (µs/cm)	3962	3827	3802	3790	3788		
	Redox (mV)	195.3	194.3	194.1	194.3	195.3		
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	—	—	—	—		
	Turbidity (NTU):	—	—	—	—	78.4		
	Interval Purge Volume (L):	1	1	1	1	1		
Cumulative Purge Volume (L):	1	2	3	4	5			
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:						
Time logged on YSI (24hr):	1414	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other		
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit			X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-SBR 3
 Sample Date (Con't): SEPT 11 2015
 Sample Time: 1404

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

BAILER USED TO REDUCE
 TURBULENCE BUT RECHARGE
 IS GOOD.
 BAILER }
 J-PLUG } HEMMERA.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-SBR4	Project Number:	1343-005.12	Date:	SEPT 11 2015						
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JH						
Piezometer Diameter / Screen Length:	2" PVC /	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	-10°C PATCHY CLOUDS						
UTM Location:	ZONE E. 0584451 N. 6913140	Waypoint:	GPS # Name UTM ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. EIR Nos. 146-45148	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name		X								
Initial Depth to Water (m):	7.281m	Purge Start Time:	1305	Purge End Time:	1336						
Depth to Bottom (m):	21.140m	Purge Interval Time (5) min, Vol. () L	1310	1315	1320	13-25	13:30	13:35			
Submerged Tubing Depth (m):	20.1	Depth to water (m)	7.292	7.295	-	7.295	7.295	-			
Well Stick-up Height (m):	0.585m	Temperature (°C)	6.1	6.3	7.0	6.9	6.8	6.7			
Estimated Water Volume (L):	27.7	pH (pH Units)	5.77	5.72	5.77	5.75	5.73	5.70			
<p>13.86 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	6084	6254	6450	6469	6444	6425				
	Specific Cond. (µs/cm)	9550	9712	9836	9903	9877	9915				
	Redox (mV)	163.2	165.0	166.0	167.4	169.4	168.8				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	clear	clear	→	→	→				
	Turbidity (NTU):	/	-	-	-	-	-	0.93			
	Interval Purge Volume (L):	0.250	0.250	.375	0.375	0.375	0.375				
	Cumulative Purge Volume (L):	0.250	.5	0.875	1.250	1.625	2				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	13:36	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRIK08-SBR4
 Sample Date (Con't): SEPT 11 2015
 Sample Time: 1336

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" ~~PERI~~ SILICONE
 23 m PERI TUBING.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL ↓	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-SP7A	Project Number:	1343-005.12	Date:	Sept 11, 2015	
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	2" PVC / —	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~14°C PARTLY CLOUDY	
UTM Location:	Z.08 VE. 0584437 N. 6913095	Waypoint:	GPS4 Name <u>UTMS ONLY</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. <u>EUR</u> Nos. <u>159-161</u>	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	2.568m	Purge Start Time:	1607	Purge End Time:	1629	
Depth to Bottom (m):	17.660m	Purge Interval Time () min, Vol. () L	1613	1618	1623	1628
Submerged Tubing Depth (m):	17.26	Depth to water (m)	2.62	2.63	2.63	→
Well Stick-up Height (m):	0.98	Temperature (°C)	3.8	3.7	3.7	3.8
Estimated Water Volume (L):	30.18	pH (pH Units)	6.09	6.05	6.04	6.05
15.092×2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	565	839	896	914	
	Specific Cond. (µs/cm)	954	1417	1513	1538	
	Redox (mV)	62.1	58.0	56.1	54.7	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	CLEAR	→	→	
	Turbidity (NTU):	—	—	—	—	16.4
	Interval Purge Volume (L):	1	1	1	1	
	Cumulative Purge Volume (L):	1	2	3	4	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	1630	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-SP7A
 Sample Date (Con't): SEPT 11 2015
 Sample Time: 1630

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

18.5 m PERI
 6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full ↓	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-5P7B	Project Number:	1343-005.12	Date:	SEPT 11 2015						
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH						
Piezometer Diameter / Screen Length:	2" PVC / π	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~14°C PARTLY CLOUDY						
UTM Location:	Z.08V E.0584437 N.6913075	Waypoint:	GPS # Name UTM ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. EUR Nos. 162-164	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	2.645	Purge Start Time:	16:36	Purge End Time:	17:03						
Depth to Bottom (m):	8.631	Purge Interval Time () min, Vol. () L	1641	1646	1652	1657	1702				
Submerged Tubing Depth (m):	8.71 ~8.71	Depth to water (m)	2.663	2.67	—	—	—				
Well Stick-up Height (m):	1.11	Temperature (°C)	4.7	4.3	4.0	4.0	4.0				
Estimated Water Volume (L):	~11.97	pH (pH Units)	6.36	6.36	6.40	6.41	6.42				
5.986×2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	129.2	134.4	144.5	147.9	148.9					
	Specific Cond. (µs/cm)	211.0	223.0	242.5	246.9	248.5					
	Redox (mV)	76.6	61.7	44.4	37.9	34.8					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR	CLEAR	CLEAR	→	→					
	Turbidity (NTU):	/	/	/	/	1.67					
	Interval Purge Volume (L):	0.8	1	1	0.9	1					
	Cumulative Purge Volume (L):	0.8	1.8	2.8	3.7	4.7					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	1704	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08 - SP7B
 Sample Date (Con't): SEPT ~~10~~ 11 2015
 Sample Time: 1704

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

9.5 m PERI
 6" SILICONE
 J- PLUG (EXISTING SLIP CAP
 TOOK 5 MINS TO
 REMOVE)

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SRK08-SP8A	Project Number:	1343-005.12	Date:	SEPT 11 2015						
Approximate Date Drilled:	—	Client:	GY - AAM	Samplers:	GR + JH						
Piezometer Diameter / Screen Length:	2" PVC / —	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~80° OVERCAST.						
UTM Location:	Z.08V E.0584301 N.6912953	Waypoint:	GPS H Name _____	Recovery:	<input type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. <u>EUR</u> Nos. <u>140-142</u>	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Name _____		X								
Initial Depth to Water (m):	1.972	Purge Start Time:	11-34.	Purge End Time:	11-59.						
Depth to Bottom (m):	11.365	Purge Interval Time (15) min, Vol. () L	11-38	11-43	11-48	11-53	11-58				
Submerged Tubing Depth (m):	~11.00	Depth to water (m)	1.99	→	→	→					
Well Stick-up Height (m):	1.18.	Temperature (°C)	2.7	2.7	2.5	2.5	2.5				
Estimated Water Volume (L):	18.78	pH (pH Units)	5.93	5.92	5.92	5.90	5.87				
$9.3 \times 2 = 18.78$ (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1324	1300	1289	1286	1291					
	Specific Cond. (µs/cm)	2298	2268	2264	2259	2262					
	Redox (mV)	82.9	77.7	74.8	72.1	70.8					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slight Turbidity	CLEAR	→	→	→					
	Turbidity (NTU):	—	—	—	—	4.71					
	Interval Purge Volume (L):	0.8.	0.9	0.8	0.8	0.8					
	Cumulative Purge Volume (L):	0.8.	1.7	2.5	3.3	4.1					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	12:00	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRK08-SP8A
 Sample Date (Con't): SEPT 11 2015
 Sample Time: 12:00

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" PERI
 6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	SR1008-SP8B		Project Number:	1343-005.12		Date:	SEPT 11 2015	
Approximate Date Drilled:	-		Client:	GY - AAM		Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	2" PVC		Project Name:	Faro 2015 GW Fall Sampling Program		Weather/Temperature:	~7°C	
UTM Location:	Z.08VE.058434N.6912953		Waypoint:	GPS # Name <u>UTMS ONLY</u>		Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. <u>EUR</u> Nos. <u>143-145</u>		Purge Method:					
Duplicate Collected:	<input type="checkbox"/> Yes Name _____		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____			X				
Initial Depth to Water (m):	1.799	Purge Start Time:	1206			Purge End Time:	1228	
Depth to Bottom (m):	6.983	Purge Interval Time (3) min, Vol. () L	1209	1212	1215	1219	1223	1227
Submerged Tubing Depth (m):	~6.9	Depth to water (m)	1.82	1.815	→	→	→	→
Well Stick-up Height (m):	1.03	Temperature (°C)	27	23	22	25	25	27
Estimated Water Volume (L):	~10.36	pH (pH Units)	5.98	5.96	5.96	5.96	5.95	5.95
<p>5.184 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	1390	1365	1368	1369	1367	1376	
	Specific Cond. (µs/cm)	2432	2410	2395	2399	2400	2376	
	Redox (mV)	74.1	71.7	70.	68.3	66.8	65.8	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slightly TURBID	→	CLEARING	CLEAR V. SLIGHT	CLEAR	V. SLIGHTLY TURBID	
	Turbidity (NTU):	-					18.8	
	Interval Purge Volume (L):	0.4	0.6	0.6	0.6	0.6	0.5	
	Cumulative Purge Volume (L):	0.4	1	1.6	2.2	2.8	3.3	
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sample Method:					
Time logged on YSI (24hr):	1229		Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit			X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): SRIK08-SP8B

Sample Date (Con't): SEPT 11 2015

Sample Time: 1229.

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" SILICONE
6" PERI.
J- PLUG ADDED.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	TH86-2	Project Number:	1343-005.12	Date:	Sept 13 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	JC AN						
Piezometer Diameter / Screen Length:	2" / 7'	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	60 Sunny						
UTM Location:	Z. 8 E. 0583536 N. 6912494	Waypoint:	GPS AN Name TH86-2	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 120-122	Purge Method:									
Duplicate Collected:	<input checked="" type="checkbox"/> Yes Name MNIS-700	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X								
Initial Depth to Water (m):	1.673	Purge Start Time:	9:36			Purge End Time:	10:14				
Depth to Bottom (m):	11.225	Purge Interval Time (S) min, Vol. (L)	9:41	9:47	9:53	9:58	10:03	10:09	10:14		
Submerged Tubing Depth (m):	~10.75	Depth to water (m)	1.669	Same.	Same.	1.675	Same	Same	Same.		
Well Stick-up Height (m):	0.445	Temperature (°C)	5.1	5.0	4.9	4.9	4.9	4.9	4.8		
Estimated Water Volume (L):	~19.5	pH (pH Units)	7.85	8.12	7.56	7.36	7.27	7.21	7.19		
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	67.5	93.8	141.9	144.3	143.7	144.1	145.3			
	Specific Cond. (µs/cm)	142.8	151.2	230.3	234.2	233.3	234.1	236.5			
	Redox (mV)	-288.2	-313.4	-107.3	-71.4	-57.2	-50.8	-35.8			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Black particles grey. slight turbid.	Same	Same left black.	Same	Same	Same.	Same.			
	Turbidity (NTU):								17.4		
	Interval Purge Volume (L):	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
	Cumulative Purge Volume (L):	0.8	1.8	2.8	3.8	4.8	5.8	6.8			
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	10:17	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X								

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): TH 86-2
 Sample Date (Con't): Sept. 13/2015.
 Sample Time: 10:17

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 Used: 2m of peri. tubing.
 6" silicon.
 1 x inline waterwa filter.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	fill set also collected for DVP.
1 L (plastic)	General Chemistry	500 ml	-	-	1000.	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	TH86-5	Project Number:	1343-005.12	Date:	Sept. 13/2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2" / unknown.	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Sunny/cloudy ~5°C.						
UTM Location:	Z. 8 E. 0583 588 N. 6912 572	Waypoint:	GPS AN Name TH86-5	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 123-125	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Hydrolift									
Initial Depth to Water (m):	8.635	Purge Start Time:	11:07			Purge End Time:	11:31				
Depth to Bottom (m):	27.403	Purge Interval Time () min, Vol. () L	11:10	11:15	11:23	11:27	11:31				
Submerged Tubing Depth (m):	~26.0	Depth to water (m)	8.70	same.	8.72	same.	same				
Well Stick-up Height (m):	1.225	Temperature (°C)	4.3	4.4	4.6	4.3	4.2				
Estimated Water Volume (L):	~38.0	pH (pH Units)	6.69	6.73	6.73	6.71	6.72				
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	487.7	490.2	497.8	494.9	495.5					
	Specific Cond. (µs/cm)	805.7	812.5	817.0	819.1	820.7					
	Redox (mV)	-48.4	-47.2	-42.3	-37.5	-35.5					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear w/ black suspended solids.		slight sulphur odour.	same.	same					
	Turbidity (NTU):					7.27					
	Interval Purge Volume (L):	12.0	14.0	13	14	14					
	Cumulative Purge Volume (L):	12.0	26.0	39.0	53	67					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	11:32	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	hydrolift									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): TH86-5

Sample Date (Con't): Sept. 13/2015

Sample Time: 11:34

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
no consumables used.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120	
1 L (plastic)	General Chemistry	500 ml	-	-	1000	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	V34	Project Number:	1343-005.12	Date:	Sept 15, 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AW + JLI					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Rain 7°C					
UTM Location:	Z.08 E. 593427 N. 6902479	Waypoint:	GPS AW Name <u>Lim only</u>	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad					
Photos:	Cam. AW Nos. 179-181	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	5.679m	Purge Start Time:	8:45	Purge End Time:	9:01					
Depth to Bottom (m):	12.362m	Purge Interval Time (3) min, Vol. () L	8:48	8:51	8:54	8:57	9:00			
Submerged Tubing Depth (m):	12.1	Depth to water (m)	6.050	6.150	6.224	6.384	6.395			
Well Stick-up Height (m):	0.53	Temperature (°C)	2.9	2.9	2.9	2.9	2.9			
Estimated Water Volume (L):	13L	pH (pH Units)	7.14	7.02	6.98	6.95	6.93			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	205	1743	1132	1124	1113				
	Specific Cond. (µs/cm)	2024	1976	1959	1946	1929				
	Redox (mV)	-60.4	-59.6	-58.7	-57.7	-55.9				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear				
	Turbidity (NTU):	-	-	-	-	-	3.45			
	Interval Purge Volume (L):	0.35	0.35	.25	.25	.3				
	Cumulative Purge Volume (L):	0.35	0.7	0.95	1.2	1.5				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	Log Full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): V34
 Sample Date (Con't): Sept 15, 2015
 Sample Time: 9:05

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 - well is hidden in bushes under white
 drum.
 - used 6" silicone

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 L	
1 L (plastic)	General Chemistry	500 ml	-	-	1 L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	V35	Project Number:	1343-005.12	Date:	Sept 15, 2015					
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AN + JH					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Rain 7°C					
UTM Location:	Z.08 E.0592179 N.6902553	Waypoint:	GPS <u>AN</u> Name <u>UTM only</u>	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad					
Photos:	Cam. <u>AN</u> Nos. <u>182-185</u>	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X							
Initial Depth to Water (m):	6.225m	Purge Start Time:	9:23	Purge End Time:	9:39					
Depth to Bottom (m):	15.877m	Purge Interval Time (3) min, Vol. () L	9:26	9:29	9:32	9:35	9:38			
Submerged Tubing Depth (m):	15.65m	Depth to water (m)	6.470	6.610	6.795	-	6.970			
Well Stick-up Height (m):	0.57m	Temperature (°C)	3.0	2.9	2.9	2.8	2.8			
Estimated Water Volume (L):	19L	pH (pH Units)	7.15	7.05	7.00	7.00	6.99			
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1631	1548	1522	1520	1512				
	Specific Cond. (µs/cm)	2805	2680	2637	2635	2622				
	Redox (mV)	47.8	58.2	62.1	62.6	63.8				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear				
	Turbidity (NTU):	-	-	-	-	2.55				
	Interval Purge Volume (L):	0.3	.3	.45	.3	.4				
	Cumulative Purge Volume (L):	0.3	.6	1.5	1.8	2.2				
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	Log Full	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other				
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): V35

Sample Date (Con't): Sept 15, 2015

Sample Time: 9:40

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 - Well hidden in bushes under white barrel
 - Used 6" silicone

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 mL	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	V36	Project Number:	1343-005.12	Date:	Sept 15, 2015						
Approximate Date Drilled:	?	Client:	GY - AAM	Samplers:	AW + JH						
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Rain 7°C						
UTM Location:	Z. 8 E. 0593136 N. 6902918	Waypoint:	GPS <u>AW</u> Name <u>V36</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos:	Cam <u>AW</u> Nos. <u>189-191</u>	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	X	X								
Initial Depth to Water (m):	8.708m	Purge Start Time:	10:14	Purge End Time:	10:46						
Depth to Bottom (m):	11.735m	Purge Interval Time () min, Vol. () L	10:22	10:25	10:27	10:28	10:30	10:33	10:35	10:41	10:46
Submerged Tubing Depth (m):	11.6	Depth to water (m)	8.209	-	-	8.290	9.01	-	-	8.720	8.950
Well Stick-up Height (m):	0.55	Temperature (°C)	4.0	3.8	3.6	3.5	3.4	3.4	3.4	3.5	3.6
Estimated Water Volume (L):	6L	pH (pH Units)	7.42	7.32	7.25	7.17	7.09	7.01	7.00	6.97	7.11
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1370	1222	1196	1244	1395	1449	1425	1499	1519	
	Specific Cond. (µs/cm)	2288	2056	2021	2109	2375	2466	2425	2543	2567	
	Redox (mV)	30.9	-6.1	0.2	4.9	27.6	40.4	46.0	57.7	31.5	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear	clear	clear	clear	clear	
	Turbidity (NTU):	-	-	-	-	-	-	-	-	4.99	
	Interval Purge Volume (L):	1	1	1	1	3	3	3	3	3	
Cumulative Purge Volume (L):	1	2	3	4	7	10	13	16	19		
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	Not on list.	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	Manual.									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

V36

Sept 15, 2015

Sample time 10:50

Full sample set

Notes

DTW beyond the capabilities of the
perc pump. Switched to waterma.



GROUNDWATER SAMPLE COLLECTION SHEET

SAMPLED SEPT 15, 2015
 ↑

Sample Site:	V37	Project Number:	1343-005.12	Date:	SEPT 14 2015	
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + JC	
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~ 7°C LIGHT RAIN	
UTM Location:	Z. 08V E. 0593312 N. 6903072	Waypoint:	GPS # Name UTM 15 ONLY	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad <i>SLOW BUT STABLE</i>	
Photos:	Camera Nos. 0267 - 268	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name /	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input type="checkbox"/> Yes Name /	X				
Initial Depth to Water (m):	8.437 ⁵⁷	Purge Start Time:	1736	Purge End Time:	1742	
Depth to Bottom (m):	14.4 ⁵²³	Purge Interval Time () min, Vol. (3) L	1738	1740	1742	
Submerged Tubing Depth (m):	14.3	Depth to water (m)	10.5	12.91	12.21	
Well Stick-up Height (m):	0.48.4	Temperature (°C)	2.8	2.2	2.3	
Estimated Water Volume (L):	4.12	pH (pH Units)	8.00	7.45	7.41	
<p>12 L</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	710	687	693		
	Specific Cond. (µs/cm)	1254	1216	1222		
	Redox (mV)	174.0	164.1	159.3		
	Appearance & Odour (Clear, Silty, HC odours, etc.)	SIGHTLY TURBID →	→	82.0		
	Turbidity (NTU):					
	Interval Purge Volume (L):	4	4	6	PURGED ONLY ON SEPT 14 AT 17.43	
	Cumulative Purge Volume (L):	4	8	12	TO RETURN.	
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):		Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X				

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

51.2
- 2.8

Sample Site (Con't): V37

Sample Date (Con't): ~~SEPT 14 2015~~

Sample Time: 0833 (SEPT 15 2015)

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

No consumables.
 Water in Well.
 PURGED DRY ON SEPT 14 (PM)
 SAMPLED ON SEPT 15 (AM)

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	TURBID
1 L (plastic)	General Chemistry	500 ml	-	-	↓	↓

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	X24-96D	Project Number:	1343-005.12	Date:	Sept. 13/2015						
Approximate Date Drilled:	unknown.	Client:	GY - AAM	Samplers:	AN, JC.						
Piezometer Diameter / Screen Length:	2" / unknown	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	Cloudy / windy ~10°C.						
UTM Location:	Z. 8 E. 0580546 N. 6914295	Waypoint:	GPS AN Name X24-96D	Recovery:	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad						
Photos:	Cam. AN Nos. 134-136	Purge Method:									
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
Field Blank Collected:	<input type="checkbox"/> Yes Name _____	Hydroliht.									
Initial Depth to Water (m):	3.317	Purge Start Time:	15:26			Purge End Time:	15:59				
Depth to Bottom (m):	26.996	Purge Interval Time () min, Vol. (10) L	15:30	15:36	15:47	15:53	15:59	DRY.	Sept. 14. 8:24		
Submerged Tubing Depth (m):	~25.0	Depth to water (m)		11.490	12.020	19.43	25.4		9.573		
Well Stick-up Height (m):	0.74	Temperature (°C)	3.7	3.5	4.1	3.3	3.3		4.7		
Estimated Water Volume (L):	~48.0	pH (pH Units)	6.22	6.17	6.22	6.13	6.15		6.31		
(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume 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	Cond. (µs/cm)	1949	1891	1232	1891	1972		2297			
	Specific Cond. (µs/cm)	3280	3203	2048	3226	3363		3740			
	Redox (mV)	-6.4	-8.8	-15.7	-5.9	-16.8		-29.3			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	Slight turbid	Sand.	Sand	Sand.	Sand		seal.			
	Turbidity (NTU):		Reduced Purge rate.	we cont. to draw down Purge rate	increased to DRY well.			32.1			
	Interval Purge Volume (L):	10	9.0	3.0	14.0	13.0					
Cumulative Purge Volume (L):	10	19	22	36.	49.0						
YSI Field Parameters Logged:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sample Method:									
Time logged on YSI (24hr):	no recharge.	Waterra	Peristaltic	Disp. Bailer	Redi-flo	Other					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit	X									

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

* site not listed in YSI.

Sample Site (Con't): X24-96D

Sample Date (Con't): Sept. 14/2015.

Sample Time: 8:25

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

No consumables used.
 Purged DRY on Sept. 13/2015.
 Will return to sample following day.
 Returned to sample on Sept. 14/2015
 @ 8:25.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	120 ml	
1 L (plastic)	General Chemistry	500 ml	-	-	1L	



GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	X25-96A	Project Number:	1343-005.12	Date:	SEPT 13 2015					
Approximate Date Drilled:	/	Client:	GY - AAM	Samplers:	GR + JH					
Piezometer Diameter / Screen Length:	2" PVC / ?	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~40° RAINING					
UTM Location:	ZONE E. 0580414 N. 6914119	Waypoint:	GPS H Name <u>WTH3 ONLY</u>	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos:	Cam. <u>EUR</u> Nos. <u>234-237</u>	Purge Method:								
Duplicate Collected:	<input type="checkbox"/> Yes Name <u>/</u>	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
Field Blank Collected:	<input type="checkbox"/> Yes Name <u>/</u>		X							
Initial Depth to Water (m):	2.542	Purge Start Time:	1643	Purge End Time:	1656					
Depth to Bottom (m):	9.439	Purge Interval Time () min, Vol. () L	16.46	1649	1652	1655				
Submerged Tubing Depth (m):	~9.3	Depth to water (m)	/	2.545		3.12 3.45				
Well Stick-up Height (m):	0.45	Temperature (°C)	3.8	3.7	3.7	3.7				
Estimated Water Volume (L):	~13.7	pH (pH Units)	6.72	6.73	6.74	6.75				
<p>6.8 x 2 (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>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</p>	Cond. (µs/cm)	1189	1181	1182	2001 1171					
	Specific Cond. (µs/cm)	2001	1992	1992	2001					
	Redox (mV)	-38.2	-42.3	-46.0	-47.9					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	TURBID 3.76	TURBID	TURBID	CLEAR					
	Turbidity (NTU):	/	/	/	/	119				
	Interval Purge Volume (L):	.8	.8	.8	.8					
	Cumulative Purge Volume (L):	.8	1.6	2.4	3.2					
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:								
Time logged on YSI (24hr):	1657	Waterra	Peristaltic	Disp. Bailer	Redi-flo					
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X							

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): XZS-96A

Sample Date (Con't): SEPT 13 2015

Sample Time: 1658

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):

6" SILICONE.

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	Full	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	



GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site:	XZS-96B	Project Number:	1343-005.12	Date:	SEPT 13 2015	
Approximate Date Drilled:	-	Client:	GY - AAM	Samplers:	GR + JH	
Piezometer Diameter / Screen Length:	21 PVC	Project Name:	Faro 2015 GW Fall Sampling Program	Weather/Temperature:	~4°C RAINING	
UTM Location:	ZONE E. 058044 N. 691419	Waypoint:	GPS # Name VIMS ONLY	Recovery:	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos:	Cam. CLK Nos. 234-237	Purge Method:				
Duplicate Collected:	<input type="checkbox"/> Yes Name _____	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
Field Blank Collected:	<input type="checkbox"/> Yes Name _____		X			
Initial Depth to Water (m):	2.420	Purge Start Time:	1708	Purge End Time:	1721	
Depth to Bottom (m):	19.678	Purge Interval Time () min, Vol. () L	1711 1714 1717 1720			
Submerged Tubing Depth (m):	19.5	Depth to water (m)	2.43 2.43 2.42 →			
Well Stick-up Height (m):	0.44	Temperature (°C)	3.8 3.8 3.8 3.9			
Estimated Water Volume (L):	34.5	pH (pH Units)	7.27 7.31 7.33 7.34			
<p>17.25</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>2" casing has 0.16 USgal/ft or 2.032 l/m</p> <p>1" casing has 0.04 USgal/ft or 0.508 l/m</p> <p>8" sand pack has 0.73 USgal/ft or 9.271 l/m</p> <p>6 5/8" sand pack has 0.50 USgal/ft or 6.35 l/m</p>	Cond. (µs/cm)	1128 1128 1127 1129				
	Specific Cond. (µs/cm)	1893 1894 1895 1891				
	Redox (mV)	-86.6 -98.5 -97.6 -100.3				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	CLEAR → → →				
	Turbidity (NTU):	- - - - 1.52				
	Interval Purge Volume (L):	0.7 0.6 0.6 0.6				
	Cumulative Purge Volume (L):	0.7 1.3 1.9 2.5				
YSI Field Parameters Logged:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sample Method:				
Time logged on YSI (24hr):	1722	Waterra	Peristaltic	Disp. Bailer	Redi-flo	
YSI Meter or Pen Unit?:	<input checked="" type="checkbox"/> YSI <input type="checkbox"/> Pen Unit		X			

*Field parameters are considered stable when the following criteria have been met; temperature ±3%, pH ±0.1, conductivity ±3%, redox ±10%, DO ±10%, turbidity 50 NTU.

Sample Site (Con't): X25-96B
 Sample Date (Con't): SEPT 13 2015
 Sample Time: 1724

Additional Purge Data:									
Purge Interval Time () min, Vol. () L									
Depth to water (m)									
Temperature (°C)									
pH (pH Units)									
Cond. (µs/cm)									
Specific Cond. (µs/cm)									
Redox (mV)									
Appearance & Odour (Clear, Silty, HC odours, etc.)									
Turbidity (NTU)									
Interval Purge Volume (L)									
Cumulative Purge Volume (L):									

General Notes (Condition of well, consumables, or other features):
 6" SILICONE

Sample Collection

Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃	FULL	
1 L (plastic)	General Chemistry	500 ml	-	-	↓	

APPENDIX D
Response to Comments Received on Draft Report

Response to Comments from Draft Report Version (as Received December, 2015)

Comment No.	Page	Comment	Response
1	12	See comments in Section 3.3 (regarding duplicate samples)	After review the information listed in Section 3.3 was found to be correct. The text in Section 2.6.2 has been updated. Eleven (11) duplicate samples were collected in relation to one-hundred and twenty-two (122) regular samples.
2	12	See comments in Section 3.3 (regarding field blanks)	After review the information listed in Section 3.3 was found to be correct. The text in Section 2.6.2 has been updated. Six field blanks were collected during the program.
3	14	Table 1-1 indicates that P03-06-7 was dry (I believe it was dry during the June sampling event as well)	This was due to a typographical error, and text has been changed from P03-09-7 to P03-06-7. Groundwater well P03-06-7 was dry during both the June and September sampling events.
4	23	September 12 maybe?	Yes, all groundwater wells located in the Zone 2 Outwash/Pit area were sampled on September 12, 2015. The text has been updated.
5	24	Section 2.6.2 states that there were 12 duplicate samples collected	Refer to comment 1 response.
6	24	Section 2.6.2 states that there were 7 field blank samples collected	Refer to comment 2 response.
7	24	Will these results be available for the final report?	Analytical results for re-testing of the water used to prepare the travel blanks is now provided in Appendix B, and this report section has been updated.
8	26	What is meant by 'the condition of the travel blanks'? What kind of condition were they in?	This term referred to the trace metals detected in each of the blanks. This wording in the report has been updated in light of the analytical results reported for the water used in travel blank preparation, and an explanation has been provided