Faro Groundwater Monitoring Field Report - Fall 2013

PREPARED FOR:

YUKON GOVERNMENT, ASSESSMENT AND ABANDONED MINES
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PROJECT # 13-Y-0215
DATE: DECEMBER 10TH, 2013

2012 ENVIRONMENTAL EMPLOYER OF THE YEAR

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EXECUTIVE SUMMARY

Yukon Government, Energy Mines and Resources, Assessment and Abandoned Mines (AAM) retained Environmental Dynamics Inc. (EDI) to complete groundwater sampling at the Faro Mine Site Complex (FMC). A spring and a fall groundwater sampling event compose the field services contract.

EDI completed the fall sampling event between September 10th to September 15th, 2013. Groundwater samples were collected following the Yukon Government *Contaminated Sites Regulation* Protocol 7 and the ASTM D4448-01 Standard Guide for Sampling Ground-water Monitoring Wells. In addition to sample collection for analytical analyses, a number of in-situ measurements were made as part of the groundwater monitoring program which included physical water chemistry and well details.

This report presents the completed activities, field and analytical results for the spring sampling event. A brief summary of analytical results including notable constituent concentrations above CCME guidelines are provided as are considerations that could be incorporated into the groundwater program for future sampling events.

AUTHORSHIP

This report was prepared by the EDI Environmental Dynamics Inc. EDI staff who contributed to this project includes:

Caleb Light, M.Sc., Hydrologist.....Primary Author

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1 INTRODUCTION

Yukon Government, Energy Mines and Resources, Assessment and Abandoned Mines (AAM) secured Environmental Dynamics Inc. (EDI) to complete groundwater sampling from 100 groundwater wells at the Faro Mine Complex (FMC). The groundwater sampling program comprises two sampling events: spring (May) and fall (September). This report presents the completed activities, field and analytical results for only the fall sampling event.

1.1 SAMPLED GROUNDWATER WELLS

Groundwater sampling occurred over 6 days, between September 10th and September 15th, 2013. All groundwater samples were collected by EDI field staff. Figure 1 illustrates the well sites at the Faro Mine Complex (FMC), and Figure 2 shows well locations at the Grum Site. The fall sampling program consisted of samples collected from 100 wells. Table 1 summarizes the wells sampled as part of the fall sampling event as well as the frequency of sampling for each well identified by AAM. The general areas targeted by the groundwater sampling program include:

- Cross Valley Dam (CVD)
- Down gradient of CVD
- ETA Area
- Intermediate Dam
- Intermediate Dump
- Main Dump
- Mill Area
- Northeast Dumps
- Second Impoundment
- S-Wells Area
- Groundwater Vangorda/Grum

Groundwater samples were analyzed for general water quality parameters. The parameters included major anions/cations, physical parameters, total dissolved solids, total metals and dissolved metals. Detection limits for analytical parameters were designed to meet those requested by AAM. However, some analytical detection limits reported by the laboratory required upwards adjustment to accommodate high total suspended sediment (TSS) concentrations of some samples.

Table 1. Summary of Sampled Wells

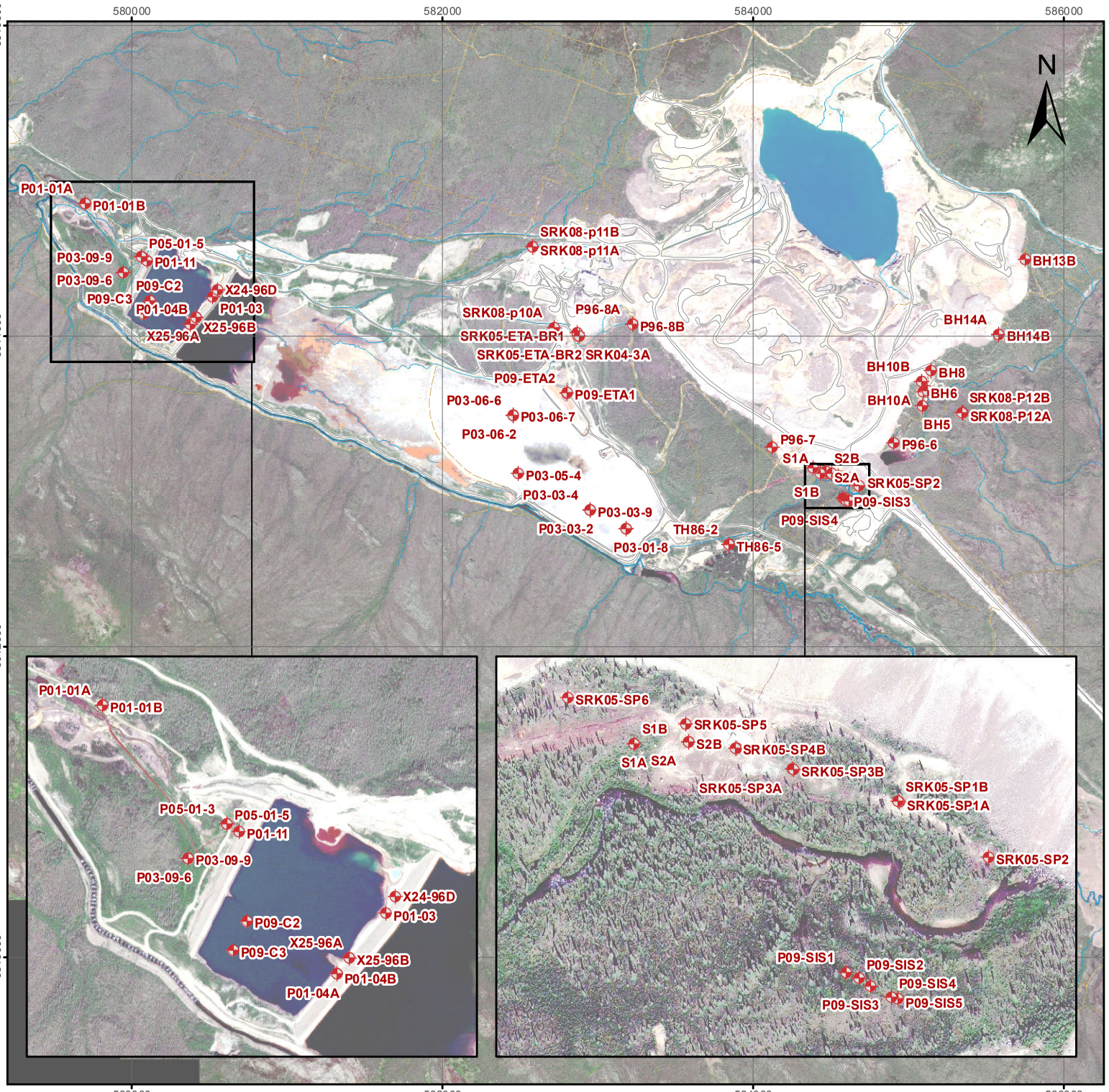
	Well Details				Sample					
Well Name	Diameter	DTW	DTB	SU	Date	Time	Purge Volume	Sample Collected	Lab Bottle Number ID	QA/QC Rep. ID
	(mm)	(m TOC)	(m TOC)	(m)	(dd/mmm/yy)	(HH:SS)	(L)	Y/N		
Cross Valley Dam										
P01-11	51	1.105	11.068	1.015	12-Sep-13	12:33	60	Y	065	
P09-C2	51	0.49	64.400	1.602	12-Sep-13	11:45	220	Y	061	
P05-01-3	16	1.985	17.765		12-Sep-13	17:50	6	Y	071	067
P05-01-5	16	1.952	6.550	0.665	12-Sep-13	17:29	6	Y	070	
P09-C3	51	1.402	52.021		12-Sep-13	10:10	300	Y	062	
P03-09-6	12	3.246	19.568		14-Sep-13	9:54	6	Y	038	
P03-09-9	12	4.052	8.349		14-Sep-13	10:22	1.75	Y	037	
Down Gradient of CVD										
P01-01A	51	3.82	20.320	0.629	12-Sep-13	8:11	100	Y	035	025
P01-01B	51	3.604	35.300	0.576	12-Sep-13	8:36	190	Y	063	
ETA Area										
P09-ETA2	51	9.774	18.493	0.68	14-Sep-13	11:28	40	Y	097	102
P09-ETA1	51	6.362	33.370		14-Sep-13	12:53	160	Y	098	
SRK04-3A	51	5.91	12.348		14-Sep-13	11:28	40	Y	080	
SRK05-ETA-BR1	51	†	†		14-Sep-13	12:43	36	Y	111	
SRK05-ETA-BR2	51	†	†		14-Sep-13	12:11	80	Y	081	
Intermediate Dam										
P01-03	51	2.8	9.720	0.33	12-Sep-13	15:44	40	Y	066	
P01-04A	51	1.218	53.470	0.2	12-Sep-13	14:30	240	Y	069	
P01-04B	51	1.862	34.100	0.105	12-Sep-13	14:05	200	Y	064	
X24-96D	51	3.504	28.376	0.858	12-Sep-13	16:40	150	Y	072	
X25-96A	51	3.028	9.500	0.43	12-Sep-13	15:00	38	Y	030	
X25-96B	51	2.91	19.740	0.416	12-Sep-13	15:20	100	Y	068	
Intermediate Dump										
P96-8A	51	2.32	4.823	0.61	13-Sep-13	16:12	15	Y	032	
P96-8B	51	2.23	9.360	0.688	13-Sep-13	16:18	40	Y	052	
P96-6		11.622	18.358		13-Sep-13	8:03	40	Y	055	
Main Dump										
SRK08-P9	51	3.215	5.135	0.78	13-Sep-13	15:18	11	Y	044	
Mill Area										
SRK08-p10A	51	9.275	13.743	0.699	14-Sep-13	17:22	27	Y	039	
SRK08-p11A	51	0.785	12.553	0.68	10-Jan-00	18:09	75	Y	036	
SRK08-p11B	51	1.038	6.739	0.77	10-Sep-13	18:03	33	Y	031	

	Well Details				Sample					
Well Name	Diameter	DTW	DTB	SU	Date	Time	Purge Volume	Sample Collected	Lab Bottle Number ID	QA/QC Rep. ID
	(mm)	(m TOC)	(m TOC)	(m)	(dd/mmm/yy)	(HH:SS)	(L)	Y/N		
Northeast Dumps										
BH14A	51	3.027	6.390	11.7	12-Sep-13	13:50	20	Y	012	
BH14B	51	3.715	10.060	NA	12-Sep-13	16:50	20	Y	058	
BH13B	51	2.592	4.446		12-Sep-13	12:42	11	Y	054	
Second Impoundment										
P03-06-1	12	†	26.820	0.912	14-Sep-13	14:59	7	Y	112	
P03-06-2	12	†	23.772	0.912	14-Sep-13	16:01	7	Y	082	
P03-06-6	12	†	13.412	0.912	14-Sep-13	16:21	0.4	Y	010	
P03-06-7	12	11.882			14-Sep-13			N		
P03-01-2	12	5.032	39.295		14-Sep-13	14:40	10	Y	100	
P03-01-8	12	5.497	10.052		14-Sep-13	15:20	2.5	Y	101	
P03-03-2	12	6.905	34.182		14-Sep-13	16:41	10	Y	105	
P03-03-4	12	7.049	23.349		14-Sep-13	17:12	5	Y	103	
P03-03-9	12	6.748	10.119		14-Sep-13	17:50	1.25	Y	110	
P03-05-4	12	†	†		14-Sep-13	18:22	9	Y	042	
S-Wells Area										
P09-SIS1	51	3.567	6.650	0.963	13-Sep-13	15:36	15	Y	087	
P09-SIS2	51	3.599	6.338	0.987	13-Sep-13	14:30	30	Y	094	
P09-SIS5	51	3.63	4.610	0.997	13-Sep-13	16:00	3	Y	109	
P96-7	51	4.035	9.884	0.68	13-Sep-13	14:40	35	Y	046	
S1A	51	4.711	13.149	0.693	14-Sep-13	9:51	50	Y	077	
S2A	51	5.149	12.698	1.299	14-Sep-13	8:15	42	Y	075	014
S2B	51	4.088	7.059	0.578	14-Sep-13	8:29	18	Y	073	
SRK05-SP4A	51	3.5	22.330	0.574	13-Sep-13	13:25	100	Y	095	
SRK05-SP5	51	10.46	14.870	1.076	13-Sep-13	16:40	28	Y	083	
SRK08-SP7A	51	2.522	17.732	0.852	14-Sep-13	9:20	90	Y	074	
SRK08-SP7B	51	2.546	8.637	0.882	13-Sep-13	17:42	36	Y	078	
P09-SIS3	51	3.741	4.632	0.97	13-Sep-13	13:54	7	Y	092	
P09-SIS4	51	3.932	4.448	0.887	13-Sep-13	12:00	7	Y	085	
S1B	51			1.199	14-Sep-13			N		
SRK05-SP4B	51	4.631	4.935	0.86	13-Sep-13	13:35	15	Y	088	
SRK08-SP8A	51	1.599	11.593	0.89	13-Sep-13	13:54	60	Y	043	
SRK08-SP8B	51	1.786	7.035	0.996	13-Sep-13	13:45	30	Y	045	047
SRK05-SP1A	51	6.885	19.883		13-Sep-13	9:00	60	Y	089	
SRK05-SP1B	51	7.23	13.281		13-Sep-13	9:22	31	Y	091	
SRK05-SP2	51	1.917	11.545		13-Sep-13	8:22	60	Y	090	

	Well Details				Sample					
Well Name	**Diameter**	**DTW**	**DTB**	**SU**	**Date**	**Time**	**Purge Volume**	**Sample Collected**	**Lab Bottle Number ID**	**QA/QC Rep. ID**
	(mm)	(m TOC)	(m TOC)	(m)	(dd/mmm/yy)	(HH:SS)	(L)	Y/N		
SRK05-SP3A	51	4.68	23.795		13-Sep-13	10:54	100	Y	093	
SRK05-SP3B	51	3.869	13.149		13-Sep-13	9:58	50	Y	086	096
SRK05-SP6	51		11.795		13-Sep-13			N		
SRK08-SBR1	51	†	†		13-Sep-13			N		
SRK08-SBR2	51	6.22	18.720		13-Sep-13	15:32	75	Y	079	084
SRK08-SBR3	51	11.542	13.230		13-Sep-13	12:50	10	Y	041	
SRK08-SBR4	51	7.49	21.422		13-Sep-13	17:16	80	Y	076	
Upstream of Tailings										
TH86-2	51	1.67	11.565		13-Sep-13	17:14	60	Y	011	
TH86-5	51	8.615	27.400		13-Sep-13	18:10	120	Y	048	
Vangorda / Grum										
P09-LCD1	51	3.786	7.342	0.928	12-Sep-13	8:06	20	Y	018	
P09-LCD4	51	5.655	12.229	0.866	12-Sep-13	9:41	12	Y	017	
P09-LCD6	51	5.735	7.914	0.745	12-Sep-13	9:15	12	Y	049	
P09-VC1	51	4.054	58.812	0.912	11-Sep-13	16:00	270	Y	01	
P2001-2A	51	4.124	6.700	0.353	11-Sep-13	13:15	21	Y	034	
P2001-2B	51	4.021	27.474	0.433	11-Sep-13	13:24	55	Y	022	
P2001-3	51	36.971	62.420	0.694	11-Sep-13	11:43	150	Y	023	
P96-9A	51	5.855	9.354	0.841	11-Sep-13	13:44	20	Y	02	
SRK05-09	38	2.936	3.963	-	11-Sep-13	17:12	3.5	Y	05	
SRK05-5C	38	1.66	3.730	1.031	11-Sep-13	12:19	11	Y	06	
SRK05-7	51	5.715	6.515	0.658	11-Sep-13	9:18	6.5	Y	029	
SRK05-8	51	4.847	8.474	0.74	11-Sep-13	10:37	22	Y	027	
V34	51	5.725	12.830	0.536	11-Sep-13	9:05	18	Y	028	
V35	51	7.193	16.001	0.442	11-Sep-13	10:07	23	Y	024	
V36	51	8.651	11.870	0.65	11-Sep-13	14:19	20	Y	020	
V37	51	8.485	14.505	0.462	11-Sep-13	15:28	15	Y	019	
BH05-9B-R	51	0.757	19.897	0.942	11-Sep-13	13:20	90	Y	026	
P09-GS1A	51	2.275	7.335	0.878	12-Sep-13	11:13	30	Y	015	050
P09-GS1B	51	2.227	30.478	0.908	12-Sep-13	11:30	160	Y	051	
P09-VC2	51	1.695	19.810	0.927	11-Sep-13	14:48	120	Y	04	
SRK08-P14	51	6.8	9.880		11-Sep-13	16:57	20	Y	016	03
SRK08-P15	51	3.228	8.330		11-Sep-13	17:37	30	Y	021	
SRK08-P16	51	7.245	7.420		11-Sep-13			N		
Zone 2 Outwash / Pit										
BH10A	38	†	†		13-Sep-13	10:11	45	Y	056	033

	Well Details				Sample					
Well Name	Diameter	DTW	DTB	SU	Date	Time	Purge Volume	Sample Collected	Lab Bottle Number ID	QA/QC Rep. ID
	(mm)	(m TOC)	(m TOC)	(m)	(dd/mmm/yy)	(HH:SS)	(L)	Y/N		
BH10B	38	†	†		13-Sep-13	10:40	70	Y	07	
BH5	51	2.119	7.540		12-Sep-13	17:42	30	Y	060	
BH6	51	3.277	6.652		12-Sep-13	15:35	20	Y	053	
BH8	51	14.735	20.752		13-Sep-13	9:36	11	Y	08	
P05-04	51	3.014	7.028		12-Sep-13	15:13	25	Y	057	
SRK08-P12A	51	2.059	12.656		13-Sep-13	11:35	60	Y	013	
SRK08-P12B	51	2.045	8.428		13-Sep-13	11:30	40	Y	059	

Notes:
Due to elevated TSS in some samples, detection limits were adjusted upwards to reflect appropriate sample detection limits.
DTW – depth to water
DTB – depth to bottom
SU – well casing stick-up above ground surface.
TOC –top of well casing.
† - Electronic water level measurement tapes could not fit within well casing, or within the sample tubing annulus. Purge water volumes based on historical purge volumes.



Map scale 1:35,000 (printed at 8.5x11)
Map Projection: North American Datum 1983 UTM Zone 8N

Groundwater MonitoringSites at the Faro Mine Complex

Data Sources

Groundwater well sites data and detailed topographic features of the Faro, Grum and Vangorda mine sites were provided by Yukon Government - Energy, Mines and Resources - Assessment and Abandoned Mines Branch (March 2012).

1:50,000 topographic spatial data provided by Geomatics - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

Background image provided by SRK Consulting.

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MP	CB/MK	22/10/2013	FIG. 1

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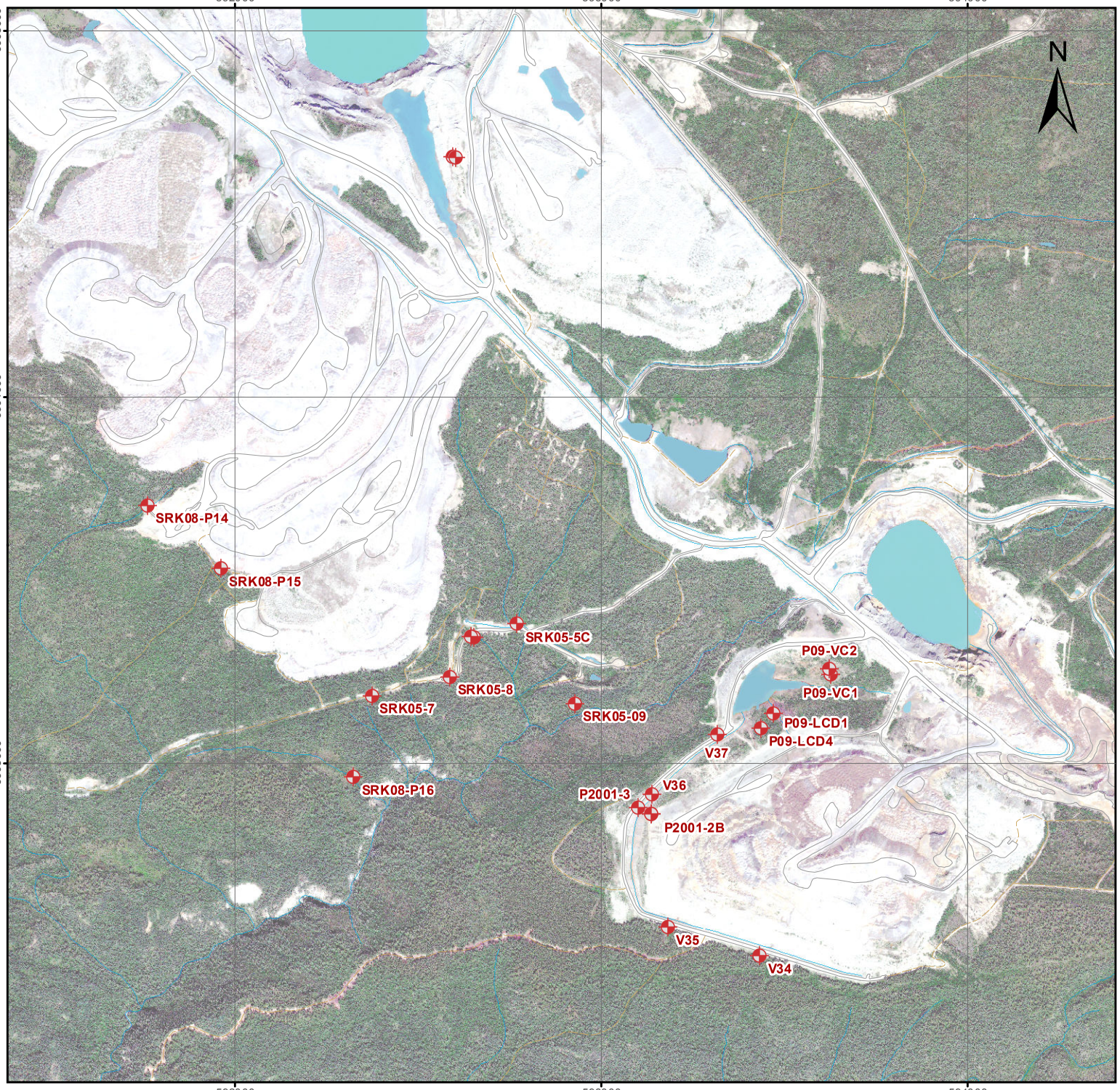

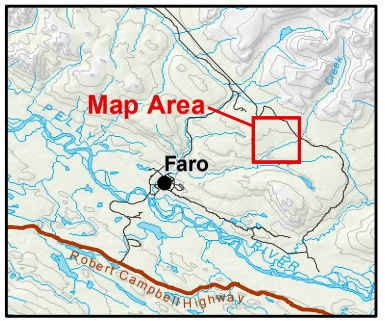

Legend

- Well Sampled
- Access Road
- Trail

0 100 200 300 400 500
metres

Map scale 1:15,000 (printed at 8.5x11)
Map Projection: North American Datum 1983 UTM Zone 8N

Groundwater MonitoringSites at the Grum Mine Complex

Data Sources

Groundwater well sites data and detailed topographic features of the Faro, Grum and Vangorda mine sites were provided by Yukon Government - Energy, Mines and Resources - Assessment and Abandoned Mines Branch (March 2012).

1:50,000 topographic spatial data provided by Geomatics - Yukon Government via online source (Corporate Spatial Warehouse) www.geomaticsyukon.ca.

Background image provided by SRK Consulting.

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MP	CB/MK	Date: 22/10/2013	FIG. 2

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2 METHODOLOGY

2.1 GROUNDWATER SAMPLE COLLECTION

Groundwater sample collection methodology followed the Yukon Government *Contaminated Sites Regulation* Protocol 7. YG-*CSR* Protocol 7 references the ASTM D4448-01 Standard Guide for Sampling Groundwater Monitoring Wells as the specified method for collecting groundwater samples.

At each sampling location, well measurements (depth to bottom and depth to water) were made using an electronic interface meter. Well purge volumes were calculated based on approximately three times the standing water column volume within the well casing. Each groundwater well was purged using dedicated tubing and inertial pumps where in place. A multi-parameter sensor and flow through cell was connected to the discharge line of the tubing and used to monitor in-situ purge water physical parameters. Where an in-line flow through cell was not used, the multi-parameter sensor measured purge water as it was discharged into a calibrated bucket at the surface. Volumetric measurements of purge rates were taken using a calibrated bucket or graduated cylinder and stopwatch. All field data was recorded on a field sheet and entered into a digital database. The following in-situ measurements were made as part of the groundwater monitoring program:

- well depth (from top of well casing)
- depth to water (from top of well casing)
- well casing diameter
- pH
- water temperature
- specific conductivity
- purge volume
- purge rate
- purge time
- sampling time

Groundwater wells were purged and sampled using dedicated Waterra inertial pumps (tubing and footvalves). In some cases, a Hydrolift actuator was used with the pump systems when purge volumes were great enough that manual purging required an exhaustive effort. A peristaltic pump and dedicated tubing was used to purge and sample multi-level wells where well screen depths were sufficiently shallow. In instances where groundwater depths were beyond the limits of the peristaltic pump, a low-flow Waterra inertial pump (tubing and footvalve) was used to purge and sample the well. Well-specific groundwater sampling methods are presented in Table 2.

Groundwater wells were determined to be sufficiently purged following either (1) removal of three well volumes or (2) when discharge water field parameters had stabilized (i.e. three successive readings of specific conductance were recorded within ±2%). In most cases, total purge volumes were greater than three well

volumes. However, the recharge rates of some wells limited the ability to purge three well volumes. In these cases, groundwater samples were collected when discharge water temperature, pH and specific conductivity stabilized. Well development was determined to be not required for the collection of water samples from any monitoring well. Some monitoring wells had slow recharge rates, but it was determined that well development would not provide additional flow to expedite sample collection or improve sample integrity.

Samples were collected using dedicated, powder-free nitrile gloves. Samples collected for routine parameters (anions and suspended solids) were collected into laboratory supplied 1 L bottles and immediately held cold (<6°C) for preservation. Samples collected for total metals analysis were collected into 125 mL laboratory-supplied sample containers and immediately preserved with an aliquot of nitric acid (HNO_3) to reduce the sample pH to <3. Samples collected for dissolved metals analysis were field filtered using 0.45µm syringe filters and immediately preserved with an aliquot of nitric acid (HNO_3). All samples were held cold (<4°C) following collection and during delivery to the analytical laboratory. Samples were delivered to ALS Laboratories in Whitehorse, Yukon under Chain-of-Custody documentation. All laboratory Chain-of-Custody documentation and certificates of analysis are provided in Appendix E.

2.2 QUALITY ASSURANCE & QUALITY CONTROL

Quality Assurance & Quality Control (QA/QC) measures undertaken as part of the sampling program include the following:

- dedicated groundwater well sample tubing
- dedicated, disposable powder-free nitrile gloves
- laboratory supplied, pre-cleaned sample containers and preservatives
- dedicated, disposable syringe and filter apparatus
- sample replicates representing at least 10% of collected samples
- field blank sample
- travel blank sample

Sample replicates were used to calculate the relative percent difference (RPD). RPD values express the precision of a sample and its replicate. Generally, these values provide an indication of sample precision within the data set. RPD values above 20% generally indicate imprecise results and intrinsically high variability between the sample and its replicate, while RPD values less than 20% are considered adequately precise. The RPD of a sample and its replicate is calculated using the following formula:

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

RPD values are often higher for analytical results close to (within 5-times) the sample detection limit. When replicate results are less than 5-times the detection limit, the difference between the sample and the replicate should be no greater than twice the detection limit to be considered precise. If the difference between

sample and replicate results are greater than twice the detection limit, RPD values are reported. For analytical results greater than 5-times the reported detection limit, RPD values less than 20% are considered precise. RPD values greater than 50% indicate problems or errors that affect the precision of the analytical result. A numerical assessment of field replicate results, including all sample and replicate sample RPD values is provided in Appendix B.

2.3 GROUNDWATER QUALITY GUIDELINES

Collected groundwater samples were compared to the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life (CWQG-AL) (CCME, 1999). For those parameters where the CCME guideline is based on other water sample properties, the following formulas were used to calculate the CCME guideline:

- [Cadmium]: $10^{0.86\log(hardness)^{-3.2}}$
- [Copper]: $e^{0.8545\ln(hardness)\cdot 0.2}$
- [Lead]: $e^{1.273\ln(hardness)^{-4.705}}$
- [Nickel]: $e^{0.76\ln(hardness)+1.06}$

Note: all guideline concentrations were calculated in µg/L, and converted to mg/L units for comparison to analytical results.

Remaining water quality guidelines were specified by CCME. All CCME CWQG-AL guidelines are listed in Appendix C, adjacent to groundwater analytical results. Where no guideline is specified by CCME, no value is listed.

3 RESULTS

3.1 SAMPLED WELLS AND FIELD RESULTS

Weather conditions were generally cool with ambient air temperatures ranging from 0 to 15°C. Predominantly overcast conditions with minor precipitation events occurred throughout the sampling event.

EDI field staff visited all groundwater wells identified for the fall sampling event. Of the 100 wells, a total of 95 groundwater samples were collected, with the remaining 5 groundwater wells either dry or had recharge rates insufficient for sample collection.

Groundwater well conditions, dimensions and notable comments are presented in Appendix D. Table 2 presents well dimensions, field sampling information and in-situ groundwater sample parameters for collected samples. Photographs of well sites and locations are provided in Appendix E. A record of groundwater monitoring well conditions, purge volumes and field-based parameters is available on field data sheets found in Appendix F.

Table 2. Groundwater well properties and in-situ physical parameters.

	Well Details			Sample		Purge			Sample In-situ Parameters				
Well Name	**DTW**	**DTB**	**SU**	**Date**	**Time**	**Volume**	**Rate**	**<3x[†]**	**T**	**pH**	**SPC**	**Turbidity**	**Pump Method**
	(m TOC)	*(m TOC)*	*(m)*		*(HH:SS)*	*(L)*	*(L/min)*		*(°C)*		*(µS/cm)*	*(NTU)*	
Cross Valley Dam													
P01-11	1.105	11.068	1.015	12-Sep-13	12:33	60	2.50		5	6.85	0.055	6.45	Hydrolift
P09-C2	0.49	64.400	1.602	12-Sep-13	11:45	220	2.97	Y	4.6	6.42	2299	30.4	Hydrolift
P05-01-3	1.985	17.765		12-Sep-13	17:50	6	0.462	Y	5.1	6.50	3000	22.5	Peristaltic
P05-01-5	1.952	6.550	0.665	12-Sep-13	17:29	6	0.545		5.4	6.49	2575	7.58	Peristaltic
P09-C3	1.402	52.021		12-Sep-13	10:10	300	5.26		4.5	6.80	1039	17.51	Hydrolift
P03-09-6	3.246	19.568		14-Sep-13	9:54	6	0.214		5.4	7.10	1806	5.17	Peristaltic
P03-09-9	4.052	8.349		14-Sep-13	10:22	1.75	0.175		5	6.62	2005	107	Peristaltic
Down Gradient of CVD													
P01-01A	3.82	20.320	0.629	12-Sep-13	8:11	100	2.17		1.7	6.96	1560	0.57	Hydrolift
P01-01B	3.604	35.300	0.576	12-Sep-13	8:36	190	3.11		2.1	7.20	1253	0.29	Hydrolift
ETA Area													
P09-ETA2	9.774	18.493	0.68	14-Sep-13	11:28	40	2.11	Y	5.8	6.04	6507	3.15	Manual
P09-ETA1	6.362	33.370		14-Sep-13	12:53	160			4.6	7.54	434.9	4.73	Hydrolift
SRK04-3A	5.91	12.348		14-Sep-13	11:28	40	2.22		4.9	5.16	8218	3.15	Hydrolift
SRK05-ETA-BR1				14-Sep-13	12:43	36	3		4.8	5.38	7472	379	Hydrolift
SRK05-ETA-BR2				14-Sep-13	12:11	80	2.86		4	6.72	3083	79.6	Hydrolift
Intermediate Dam													
P01-03	2.8	9.720	0.33	12-Sep-13	15:44	40	3.08		4.7	6.38	3354	64.3	Hydrolift
P01-04A	1.218	53.470	0.2	12-Sep-13	14:30	240	14.12	Y	3.8	6.85	921	2.03	Hydrolift
P01-04B	1.862	34.100	0.105	12-Sep-13	14:05	200	3.85		3.7	6.67	2126	4.98	Hydrolift
X24-96D	3.504	28.376	0.858	12-Sep-13	16:40	150	4.29		3.6	6.19	3312	13.16	Hydrolift
X25-96A	3.028	9.500	0.43	12-Sep-13	15:00	38	3.80		4.4	7.26	1414	2.83	Hydrolift
X25-96B	2.91	19.740	0.416	12-Sep-13	15:20	100	3.33		4.3	7.47	1424	1.51	Hydrolift
Intermediate Dump													
P96-8A	2.32	4.823	0.61	13-Sep-13	16:12	15	0.789		10.2	3.34	11536	3.35	Manual
P96-8B	2.23	9.360	0.688	13-Sep-13	16:18	40	1.48		8	5.13	12023	5.36	Hydrolift
P96-6	11.622	18.358		13-Sep-13	8:03	40	1.9		1.2	5.92	3413	0.43	Hydrolift
Main Dump													
SRK08-P9	3.215	5.135	0.78	13-Sep-13	15:18	11	0.611		4.6	7.06	1990	74.6	Manual
Mill Area													
SRK08-p10A	9.275	13.743	0.699	14-Sep-13	17:22	27	2.700		3	6.69	3089	319	Hydrolift

	Well Details			Sample		Purge			Sample In-situ Parameters				
Well Name	**DTW**	**DTB**	**SU**	**Date**	**Time**	**Volume**	**Rate**	**<3x[†]**	**T**	**pH**	**SPC**	**Turbidity**	**Pump Method**
	(m TOC)	*(m TOC)*	*(m)*		*(HH:SS)*	*(L)*	*(L/min)*		*(°C)*		*(µS/cm)*	*(NTU)*	
SRK08-p11A	0.785	12.553	0.68	10-Jan-00	18:09	75	1.92		2.8	6.77	1078	2.02	Hydrolift
SRK08-p11B	1.038	6.739	0.77	10-Sep-13	18:03	33	1.18		5	6.50	1438	2.76	Hydrolift
Northeast Dumps													
BH14A	3.027	6.390	11.7	12-Sep-13	13:50	20	0.47		4.4	6.60	5311	6.01	Manual
BH14B	3.715	10.060	NA	12-Sep-13	16:50	20	0.116	Y	8.4	6.77	4972	9.57	Hydrolift
BH13B	2.592	4.446		12-Sep-13	12:42	11	0.458		2.2	6.61	1361	8.74	Manual
Second Impoundment													
P03-06-1		26.820	0.912	14-Sep-13	14:59	7	0.159	Y	6	5.06	4189	18.8	Manual
P03-06-2		23.772	0.912	14-Sep-13	16:01	7	0.219	Y	5.6	5.09	4304	415	Manual
P03-06-6		13.412	0.912	14-Sep-13	16:21	0.4		Y	6.5	5.96	2899	258	Manual
P03-06-7	11.882			14-Sep-13									DRY
P03-01-2	5.032	39.295		14-Sep-13	14:40	10	0.256	Y	6	7.33	435.2	8.01	Peristaltic
P03-01-8	5.497	10.052		14-Sep-13	15:20	2.5	0.109		6.6	5.00	24371	1.91	Peristaltic
P03-03-2	6.905	34.182		14-Sep-13	16:41	10	0.222		7.8	4.46	2793	9.13	Peristaltic
P03-03-4	7.049	23.349		14-Sep-13	17:12	5	0.417	Y	5.6	5.20	1951	6.72	Peristaltic
P03-03-9	6.748	10.119		14-Sep-13	17:50	1.25	0.038		8.2	4.45	29370	3.53	Peristaltic
P03-05-4				14-Sep-13	18:22	9	0.563		4.8	6.34	1314	76.2	Manual
S-Wells Area													
P09-SIS1	3.567	6.650	0.963	13-Sep-13	15:36	15	0.290	Y	6.3	6.68	7084	284	Manual
P09-SIS2	3.599	6.338	0.987	13-Sep-13	14:30	30	1.300		7.6	6.06	8431	733	Manual
P09-SIS5	3.63	4.610	0.997	13-Sep-13	16:00	3		Y					Manual
P96-7	4.035	9.884	0.68	13-Sep-13	14:40	35	2.059		2.8	6.93	3989	15.47	Manual
S1A	4.711	13.149	0.693	14-Sep-13	9:51	50	2.39		2	6.22	791.7	17.8	Hydrolift
S2A	5.149	12.698	1.299	14-Sep-13	8:15	42	2.1	Y	2.6	5.99	2045	209	Manual
S2B	4.088	7.059	0.578	14-Sep-13	8:29	18	0.474		3.2	6.27	5446	286	Manual
SRK05-SP4A	3.5	22.330	0.574	13-Sep-13	13:25	100	3.33	Y	4.1	6.10	6273	0.6	Hydrolift
SRK05-SP5	10.46	14.870	1.076	13-Sep-13	16:40	28	2.33		5.2	6.26	7106	245	Hydrolift
SRK08-SP7A	2.522	17.732	0.852	14-Sep-13	9:20	90	3.21		2.4	6.51	657.7	11.25	Hydrolift
SRK08-SP7B	2.546	8.637	0.882	13-Sep-13	17:42	36	3.00		3.4	6.73	210.3	33	Manual
P09-SIS3	3.741	4.632	0.97	13-Sep-13	13:54	7	1.4		6.3	6.36	7347	475	Manual
P09-SIS4	3.932	4.448	0.887	13-Sep-13	12:00	7	0.27		8.5	6.64	5924	703	Manual
S1B			1.199	14-Sep-13									DRY
SRK05-SP4B	4.631	4.935	0.86	13-Sep-13	13:35	15	0.231		6.3	6.04	6242	259	Manual
SRK08-SP8A	1.599	11.593	0.89	13-Sep-13	13:54	60	2.07		2.2	5.83	3342	2.04	Hydrolift

	Well Details			Sample		Purge			Sample In-situ Parameters				
Well Name	**DTW**	**DTB**	**SU**	**Date**	**Time**	**Volume**	**Rate**	**<3x[†]**	**T**	**pH**	**SPC**	**Turbidity**	**Pump Method**
	(m TOC)	*(m TOC)*	*(m)*		*(HH:SS)*	*(L)*	*(L/min)*		*(°C)*		*(µS/cm)*	*(NTU)*	
SRK08-SP8B	1.786	7.035	0.996	13-Sep-13	13:45	30	1.76		1.8	5.74	3670	22	Manual
SRK05-SP1A	6.885	19.883		13-Sep-13	9:00	60	3.18	Y	1.1	5.63	1917	5.03	Hydrolift
SRK05-SP1B	7.23	13.281		13-Sep-13	9:22	31	3.1	Y	1.4	6.09	1001	105	Hydrolift
SRK05-SP2	1.917	11.545		13-Sep-13	8:22	60	2.5		1.1	6.01	312.3	8.37	Hydrolift
SRK05-SP3A	4.68	23.795		13-Sep-13	10:54	100	4.35	Y	3.9	5.97	1331	10.07	Hydrolift
SRK05-SP3B	3.869	13.149		13-Sep-13	9:58	50	2.08	Y	2.5	5.87	993	5.18	Hydrolift
SRK05-SP6		11.795		13-Sep-13									DRY
SRK08-SBR1				13-Sep-13									DRY
SRK08-SBR2	6.22	18.720		13-Sep-13	15:32	75	3.57		3.8	6.08	3030	73.3	Hydrolift
SRK08-SBR3	11.542	13.230		13-Sep-13	12:50	10	0.48		1.8	6.39	5090	31.5	Manual
SRK08-SBR4	7.49	21.422		13-Sep-13	17:16	80	4		2.6	6.41	7698	3.12	Hydrolift
Upstream of Tailings													
TH86-2	1.67	11.565		13-Sep-13	17:14	60	3.16		4.7	7.01	347	10	Hydrolift
TH86-5	8.615	27.400		13-Sep-13	18:10	120	3.33		4.7	6.47	1044	9.51	Hydrolift
Vangorda / Grum													
P09-LCD1	3.786	7.342	0.928	12-Sep-13	8:06	20	1.54		2.8	6.96	1095	24.7	Manual
P09-LCD4	5.655	12.229	0.866	12-Sep-13	9:41	12		Y	7.3	7.49	1048	12.97	Manual
P09-LCD6	5.735	7.914	0.745	12-Sep-13	9:15	12	0.600	Y	3.2	6.98	1178	75.3	Manual
P09-VC1	4.054	58.812	0.912	11-Sep-13	16:00	270	4.35	Y	4.7	7.88	309.1	26.4	Hydrolift
P2001-2A	4.124	6.700	0.353	11-Sep-13	13:15	21	0.368		5.4	6.09	2346		Manual
P2001-2B	4.021	27.474	0.433	11-Sep-13	13:24	55	0.797	Y	5.3	7.14	2177	415	Manual
P2001-3	36.971	62.420	0.694	11-Sep-13	11:43	150	2.03		3	7.56	828.2	598	Hydrolift
P96-9A	5.855	9.354	0.841	11-Sep-13	13:44	20	1.25		5.8	6.52	2662	7.68	Hydrolift
SRK05-09	2.936	3.963	-	11-Sep-13	17:12	3.5	0.233		6.1	7.20	1308	18.88	Manual
SRK05-5C	1.66	3.730	1.031	11-Sep-13	12:19	11	0.37		6.9	7.27	788	107	Manual
SRK05-7	5.715	6.515	0.658	11-Sep-13	9:18	6.5	0.21		5.3	6.90	2822	37.8	Hydrolift
SRK05-8	4.847	8.474	0.74	11-Sep-13	10:37	22	0.393		4.4	7.01	2117	0.58	Manual
V34	5.725	12.830	0.536	11-Sep-13	9:05	18	0.346	Y	3.2	6.90	1619	181	Manual
V35	7.193	16.001	0.442	11-Sep-13	10:07	23	0.511	Y	3.1	7.15	2544	7.49	Hydrolift
V36	8.651	11.870	0.65	11-Sep-13	14:19	20	1.18		4.2	6.80	3191	1.4	Hydrolift
V37	8.485	14.505	0.462	11-Sep-13	15:28	15	0.341	Y	5.4	7.82	1034	9.45	Hydrolift
BH05-9B-R	0.757	19.897	0.942	11-Sep-13	13:20	90	3.33	Y	3.8	7.66	517.9	9.8	Hydrolift
P09-GS1A	2.275	7.335	0.878	12-Sep-13	11:13	30	1.58		8.6	6.66	1576	6.04	Manual
P09-GS1B	2.227	30.478	0.908	12-Sep-13	11:30	160	20		4.9	7.06	1801	3.39	Hydrolift

	Well Details			Sample		Purge			Sample In-situ Parameters				
Well Name	**DTW**	**DTB**	**SU**	**Date**	**Time**	**Volume**	**Rate**	**<3x†**	**T**	**pH**	**SPC**	**Turbidity**	**Pump Method**
	(m TOC)	*(m TOC)*	*(m)*		*(HH:SS)*	*(L)*	*(L/min)*		*(°C)*		*(µS/cm)*	*(NTU)*	
P09-VC2	1.695	19.810	0.927	11-Sep-13	14:48	120	4.14		3.7	7.14	335.1	43.2	Hydrolift
SRK08-P14	6.8	9.880		11-Sep-13	16:57	20	2.22		2.3	6.95	1794	178	Manual
SRK08-P15	3.228	8.330		11-Sep-13	17:37	30	3.75		3.1	7.00	1799	998	Manual
SRK08-P16	7.245	7.420		11-Sep-13				Y					DRY
Zone 2 Outwash / Pit													
BH10A				13-Sep-13	10:11	45	1.03		2.9	5.54	997	1.79	Hydrolift
BH10B				13-Sep-13	10:40	70	0.95		3.2	5.28	1368	4.84	Hydrolift
BH5	2.119	7.540		12-Sep-13	17:42	30	2	Y	2.7	6.61	648.7	68.2	Manual
BH6	3.277	6.652		12-Sep-13	15:35	20	1.67		3.7	5.84	928	11.44	Manual
BH8	14.735	20.752		13-Sep-13	9:36	11		Y	3.8	4.33	4206	30.1	Manual
P05-04	3.014	7.028		12-Sep-13	15:13	25	1.92		3	5.71	813.9	4.59	Manual
SRK08-P12A	2.059	12.656		13-Sep-13	11:35	60	1.88		1.6	5.20	1417	23.8	Hydrolift
SRK08-P12B	2.045	8.428		13-Sep-13	11:30	40	2.5		1.8	5.22	998	35.9	Manual

Notes:

†Column positively identifies well purging volumes that are less than three times the calculated well volume.

3.2 ANALYTICAL RESULTS

Complete results from laboratory analysis of groundwater samples are presented in Appendix A. Analytical results for all groundwater samples were compared to the Canadian Council of Ministers of Environment (CCME) guidelines for the protection of aquatic life. It is important to note that many of the parameters tested for have no CCME guideline and therefore were not evaluated against any guideline. Analytical results compared against CCME guidelines are presented in Appendix C.

Groundwater samples were collected and analyzed for parameters belonging to the following four groups:

- physical tests, including conductivity, hardness, pH and total suspended solids;
- anions and nutrients, including acidity and alkalinity, chloride and sulphate anions;
- total metals; and,
- dissolved metals.

Dissolved metals are analyzed using the same method as total metals, but represent the fraction of metals dissolved in the water (i.e. passing through a 0.45 µm membrane filter). Groundwater samples with high total dissolved solids (TDS) concentrations will often accompany dissolved metals concentrations less than their total metals values. Where total metals concentrations were above CCME guidelines, the dissolved metals concentrations were also compared against the guidelines. Elevated TSS, and total metals concentrations, may be attributed to formation particulate matter (sediment) entrained in the sample water. Dissolved metals provide a more reliable indication of formation-water metals concentrations.

Analytical results for groundwater samples are summarized in the following text with respect to the area from which the samples were obtained. The following sections provide a brief summary of the results including notable constituent concentrations above CCME guidelines. This assessment of water quality results is limited to the single-sample representation of the data and is not used to infer the nature, history or condition of groundwater quality.

3.2.1 Zone 2 Outwash/Pit

A total of eight wells from the Zone 2 Outwash / Pit were sampled. Groundwater conductivity values ranged from 535 µS/cm in BH5 to 3390 µS/cm in BH8. Groundwater samples are considered hard to very hard with elevated hardness values. Sample pH values were slightly acidic with a minimum of 4.56 in measured BH8. Analytical results for total metals exceed CCME guidelines for aluminum, lead, and zinc concentrations, while BH10A, BH10B, BH5 and BH8 exceed the CCME guidelines for arsenic.

Total metals concentrations in BH5, BH6, BH8 and P05-04 exceeds the CCME guideline for cadmium, while all but BH10A and BH10B exceed the CCME guideline for copper concentrations. Total silver concentrations exceed the CCME guideline in BH5, and total uranium concentrations in BH8 exceed

the CCME guideline. Dissolved metal concentrations in each well are generally less than the total metal constituents; however, dissolved metal concentrations similarly exceed the CCME guidelines listed above.

3.2.2 Northeast Dumps

Samples were obtained from three wells, BH14A, BH14B, and BH13B in the Northeast Dumps area. In BH13B, concentrations of dissolved copper and selenium were above CCME guidelines. In BH14A and BH14 B, dissolved lead, uranium and zinc were above CCME guidelines. Dissolved cadmium and copper concentrations were also above CCME guidelines in BH14A. Low TSS concentrations (13.4 to 37 mg/L) are consistent with similar dissolved and total metals concentrations.

3.2.3 Mill Area

Three groundwater wells were sampled in the Mill area including SRK08-p10A, SRK08-p11A and SRK08-p11B. TSS concentrations were generally low, with the exception of SRK08-p10A, where TSS concentrations were very high (3100 mg/L). Dissolved concentrations of copper (0.0024 mg/L), uranium (0.0363 mg/L) and zinc (1.43 mg/L) exceed CCME aquatic life guidelines in SRK08-p10A, while only dissolved copper (0.00118 mg/L) exceed the calculated CCME aquatic life guideline of 0.0002 mg/L in SRK08-p11B. Dissolved cadmium (0.00162 mg/L), copper (0.00156 mg/L), and zinc (0.7610 mg/L) exceed the CCME aquatic life guidelines in SRK08-p11B.

The sampled groundwater wells in the Mill Area are considered very hard, moderately conductive and have elevated sulphate concentrations.

3.2.4 Main Dump

A single well (SRK08-P9) was sampled from the Main Dump area. Groundwater quality from this well is slightly alkaline, with a pH of 8.05 and very hard (1540 mg/L $CaCO_3$) with elevated TSS (234 mg/L). Aluminium, arsenic, copper, lead, selenium and zinc total metals exceed CCME, while dissolved copper concentrations of 0.00098 mg/L exceed the calculated CCME guideline of 0.0002 mg/L and dissolved selenium (0.00213 mg/L) exceed CCME guidelines.

3.2.5 Intermediate Dump

A total of nine groundwater wells were sampled in the Intermediate Dump area. Groundwater pH from these wells ranges from 7.98 in well X25-96B to 3.43 in well P96-8A. TSS concentrations range from moderate (120 mg/L in P01-03) to low (1 mg/L in 96.6). Sulphate concentrations also notably range widely, from 32 mg/L in P01-04A to 9500 mg/L in 96-8B. Results from P01-03 exceed CCME guidelines for total cadmium, copper, lead and zinc concentrations, with the dissolved fraction exceeding the CCME guidelines for cadmium and zinc. Concentrations of total (0.000129 mg/L) and dissolved (0.000114 mg/L) silver in P01-04A exceed the CCME guideline of 0.0001 mg/L. Total metals results

from X24-96D exceed CCME guidelines for aluminum, cadmium, lead, and zinc. Dissolved fractions of cadmium and zinc concentrations from X24-96D exceed the CCME guidelines. Total copper concentrations in X25-96A exceed CCME guidelines. Results from well P96-6 exceed guidelines for total and dissolved selenium, uranium, and zinc. Dissolved copper also exceeds the CCME guideline in P96-6. Concentrations of total and dissolved aluminium, cadmium, copper, lead, nickel, uranium and zinc exceed CCME guidelines in P96-8A. Similarly, total and dissolved concentrations of aluminium, cadmium, lead, and zinc exceed CCME guidelines in P96-8B.

3.2.6 ETA Area

Six groundwater samples were obtained from wells within the ETA area. Analytical results from P09-ETA1 exceed CCME guideline for total concentrations of aluminum, copper and lead. Results from P09-ETA2 exceeds CCME guidelines for total arsenic, lead and zinc, while only dissolved arsenic and zinc concentrations exceed the guidelines. Results from SRK04-3A, SRK05-ETA-BR1 and SRK05-ETA-BR2 exceed CCME guidelines for concentrations of total and dissolved aluminum, arsenic, cadmium, copper, lead, nickel, silver and zinc. Some detection limits for analytes required upwards adjustment due to sample dilution. Where detection limits were above the listed CCME guideline, analytical results were interpreted as being above the CCME guideline.

3.2.7 S-Wells Area

A total of 27 wells were sampled in the S-Wells area. Analytical results from the S-Wells area are consistent with the historical mining land use. Generally elevated sulphate concentrations (maximum of 9110 mg/L in P09-SIS2) and generally low pH (minimum of 6.32 in SRK05-SP1A) indicate active acid mine drainage and/or saline mine drainage. Groundwater conductivity is generally high (maximum of 9460 µS/cm in P09-SIS2.

Total metals concentrations generally exceeded CCME guideline for aluminium, arsenic, cadmium, copper, lead, nickel and zinc. High TSS concentrations in most wells in the S-Wells Area may be associated with elevated total metals concentrations above CCME guideline. Dissolved metals concentrations in groundwater samples from the S-Wells area are generally less than the total concentrations. Dissolved metals concentrations are above CCME guideline for:

- aluminum at SRK05-SP1A, SRK05-SP3B, SRK04-SP4B,
- cadmium at P09-SIS1, P09-SIS2, P09-SIS3, P09-SIS4, S2B, SRK05-SP-5, SRK05-SP-4A, SRK05-SP-4B, SRK08-SBR2 and SRK08-SBR4.
- copper at P09-SIS1, P09-SIS3, P09-SIS4, P96-7, S1A, S2A, S2B, SRK05-SP2, SRK05-SP3B, SRK05-SP4A, SRK05-SP4B SRK08-SBR3 and SRK08-SP7B.
- nickel at P09-SIS2, P09-SIS3, SRK05-SP4A, SRK04-SP4B, SRK05-SP5 and SRK08-SBR4.
- uranium at P09-SIS5, 96-7 and SRK08-SBR3.
- zinc at all wells except 96-7.

3.2.8 Upstream of Tailings

Groundwater wells TH86-2 and TH86-5 were sampled from the area upstream of the tailings. Groundwater from each of these wells moderately conductive, had low to moderate TSS concentrations at 5.8 mg/L and 79.3 mg/L respectively. Chloride and sulphate concentrations were generally low to below detectable limits. Total and dissolved concentrations of copper (0.0186 mg/L and 0.00048 mg/L) exceed the calculated CCME guideline of 0.0002 mg/L in TH86-2. Total aluminium, arsenic, cobalt, lead, silver and zinc concentrations exceed CCME guidelines in TH86-5, while only dissolved arsenic concentrations exceeded the CCME guideline in TH86-5.

3.2.9 Second Impoundment

Groundwater quality samples were obtained from 9 wells in the second impoundment. Samples were collected from multi-level wells P03-01, P03-03, P03-05 and P03-06. Analytical results are consistent with water present within and beneath historical mine tailings facilities. Notably, groundwater acidity was elevated to very high (maximum of 28000 mg/L as $CaCO_3$ in P03-03-9).

Results of total metals from multi-level well P03-01 exceed CCME guidelines for copper in P03-01-2, while aluminum, copper, lead and zinc in P03-01-8 exceed the CCME guidelines. Dissolved metal fractions from P03-01 exceed CCME guidelines for aluminum, copper and zinc in P03-01-8.

Total metal concentrations from P03-03 exceed CCME guidelines for aluminum, cadmium, copper, lead, nickel and zinc in P03-03-2 and P03-03-4, while total metals results from P03-03-9 exceed CCME guidelines for aluminum, arsenic, cadmium, copper, lead, silver, thallium, and zinc. Dissolved fractions of aluminum, lead, and zinc concentrations exceed CCME guidelines in P03-03-9.

A single sample was obtained from multilevel well P03-05-4. Total metals results exceed CCME guidelines for aluminum, cadmium, copper, lead, and zinc, while no dissolved metals components exceeds the CCME guidelines.

Analytical results from multilevel well P03-06 generally exceed CCME guidelines for concentrations of total aluminum, arsenic, cadmium, copper, lead, nickel, thallium (P03-06-6 only) and zinc. Dissolved metals concentrations are slightly lower, however exceed CCME guidelines for alumni, arsenic (P03-06-6), cadmium, copper lead, nickel (except P03-06-6), and zinc.

3.2.10 Intermediate Dam

Groundwater samples were obtained from 6 wells in the Intermediate Dam area. Wells P01-4B and X25-96B met all CCME guideline. P01-03 and X24-96D total metals concentrations exceed aluminum, cadmium, copper, lead, and zinc CCME guidelines, while only total silver concentrations at P01-04A exceed CCME guidelines and only total copper concentrations at X25-96A exceed the calculated CCME guidelines.

Dissolved metals concentrations are generally lower, with concentrations of dissolved cadmium and zinc above CCME guidelines in P01-03 and X24-96D and dissolved silver concentrations in P01-04A exceeding CCME guidelines.

3.2.11 Cross Valley Dam

Eight wells were sampled from the Cross Valley Dam. Groundwater from this area is near-neutral to slightly alkaline, is very hard and highly conductive. TSS concentrations were moderate to relatively high, with dissolved metals concentrations notably lower than total constituents. Dissolved metals concentrations met CCME guidelines in all wells, with the exception of dissolved silver concentrations in P09-C2 which were above CCME guidelines.

3.2.12 Downgradient of CVD

Groundwater wells P01-01A and P01-01B were sampled down gradient of the CVD. Groundwater samples from these wells were generally very hard, highly conductive, near-neutral pH and low TSS. Total and dissolved metals concentrations met all CCME guidelines for the protection of aquatic life, with the exception of total cadmium and total & dissolve copper concentrations in P01-01A which were above the hardness-dependent CCME guidelines.

3.2.13 Vangorda/Grum

A total of 24 wells were sampled within the Vangorda / Grum area at the Faro Mine Complex.

Groundwater sample conductivities were moderately conductive, generally very hard and had a pH that was near-neutral to slightly basic. Alkalinity values in the Vangorda / Grum area are generally higher than acidity (as mg/L $CaCO_3$). Maximum alkalinity was measured in well V34 with a value of 928 mg/L $CaCO_3$. Sulphate concentrations are similarly high in those wells with higher alkalinity, with maximum sulfate concentration of 2270 mg/L in V36.

Total metals concentrations generally exceeded CCME guidelines for aluminium, arsenic, cadmium, copper, lead, selenium, uranium and zinc. Dissolved metals concentrations in groundwater samples from P09-VC1 and SRK05-5C met all CCME guidelines. All remaining wells in the Vangorda / Grum area have elevated dissolved concentrations of aluminum, cadmium, copper, and zinc that are often above CCME guidelines. Dissolved metals concentrations were generally lower than total metals constituents, which indicate that total metals were related to elevated TSS concentrations in some samples.

3.3 QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

A total of ten replicate groundwater samples were collected during the spring groundwater monitoring event. A single field blank was prepared in the field, while a travel blank accompanied all samples throughout the monitoring event. Complete QA/QC results including calculated RPD values are found

in Appendix B, while Table 3 briefly summarizes the results of the QA/QC analysis. Sample replicate mean RPD values are calculated to provide a broad indication of sample representativeness and precision.

Generally, sample replicate RPD values less than 20% are considered precise, while values between 20% and 50% are considered suspect. Mean RPD values found in Table 3 are generally less than 20%, with the exception of replicate samples taken from well S2A with an average RPD of 41% for all analytical parameters, and 63% for total metals analyses. These elevated RPD values are likely indicative of the elevated and difference in TSS concentrations of the S2A sample and its replicate. Dissolved metal RPD values for S2A and its replicate are acceptably low at 3%. Generally lower mean RPD values observed in dissolved metals parameters is associated with a reduction in the TSS fraction (<0.45 µm). Variable TSS concentrations present in total metal analyses accounts for a greater magnitude of sample variability and generally higher RPD values.

Table 3. Summary of Quality Assurance and Quality Control Samples

Well Name	Sample ID	Replicate ID	Sample Date	Sample Time	Mean RPD	Total Metals Mean RPD	Dissolved Metals Mean RPD
BH10A	056	033	13-Sep-13	12:00	3%	2%	2%
P01-01A	035	025	12-Sep-13	08:11	3%	4%	3%
P05-01-3	071	067	12-Sep-13	17:57	5%	8%	1%
P09-ETA2	097	102	14-Sep-13	11:28	4%	2%	4%
P09-GS1A	015	050	12-Sep-13	11:13	12%	20%	2%
S2A	075	014	14-Sep-13	08:17	41%	63%	3%
SRK05-SP3B	086	096	13-Sep-13	09:50	2%	2%	1%
SRK08-P14	016	003	11-Sep-13	16:57	8%	7%	8%
SRK08-SBR2	079	084	13-Sep-13	15:32	7%	9%	3%
SRK08-SP8B	045	047	13-Sep-13	13:45	13%	10%	20%
Travel Blank			14-Sep-13		-	-	-
Field Blank			14-Sep-13		-	-	-

From inspection of field and travel blank analytical results in Appendix B, field blank and travel blank analytical results were all below reported detection limits for total and dissolved metal parameters. Given the low RPD values of the collected QA/QC samples and their replicates with the exception of sample S2A, analytical results for the field program are considered to be precise and representative.

4 CONCLUSIONS AND RECOMMENDATIONS

EDI completed field visits to all 100 groundwater wells for the fall groundwater sampling event at the Faro Mine Complex. Only 5 wells were found to be dry or have recharge insufficient for sample collection. Two of these wells (P03-06-7 and S1B) were dry during the spring sampling program. The remaining three wells (SRK05-SP6, SRK08-SBR1 and SRK08-P16) were dry at the time of sampling and were not previously scheduled for sampling during the spring. A total of ten replicate samples were collected as part of the QA/QC program. These samples were used to assess the precision of the analytical results as they pertain to the sampling program. The QA/QC sample results were adequately precise.

Generally, groundwater quality across the site is reflective of the resource extraction history of the FMC. Many of the groundwater samples have elevated concentrations of sulphate, base metals, and low to moderate pH values. The results are consistent with widespread Acid Mine Drainage and Saline Mine Drainage. Elevated concentrations of total and dissolved aluminum, arsenic, cadmium, copper, lead, nickel, silver, and zinc were observed in most wells at the FMC. Total metals concentrations above the dissolved fraction was often consistent with high sample TSS concentrations.

The following recommendations are made as a result of the field activities and analytical results.

1. Exclude and / or decommission groundwater wells that are found to be dry or insufficiently provide water for sample collection.
2. Consider well casing repair or well decommissioning for wells that were found to have compromised well casing at or near the surface. In order to preserve sample integrity, an adequate surface seal, protective casing and well cap must be present. The following wells should be considered for repair:

    - S2A & S2B
    - SRK08-P9
    - TH86-2
    - SRK05-SP-5
    - SRK05-SP-4B
    - BH14A (buried by road material)
    - P-2001-B

3. Ensure geodatabases are updated with the correct geographic coordinates for groundwater wells located at the FMC. Small discrepancies between provided locations (in UTM NAD83 format) and actual well locations are related to coordinate projection errors (i.e. UTM NAD83 and UTM NAD27).

5 REFERENCES

5.1 LITERATURE CITED

Canadian Council of Ministers of the Environment. 1999. Canadian water quality guidelines for the protection of aquatic life: Introduction. In: Canadian environmental quality guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg.

Yukon Government, 2002. Protocol 7. Groundwater Monitoring Well Installation, Sampling and Decommissioning, prepared pursuant to Part 6 – Administration, Section 21, *Contaminated Sites Regulation*, OIC 2002/171.

5.2 SPATIAL DATA

1:50,000 CanVec topographic data from Government of Canada, Natural Resources Canada, Earth Sciences Sector, Centre for Topographic Information. Geogratis website (http://geogratis.cgdi.gc.ca).

1:20,000 TRIM positional files from the Land and Resource Data Warehouse (http://lrdw.ca). Copyright belongs to Her Majesty the Queen in Right of the Province of British Columbia.

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Maps presented in this document are a geographical representation of known features. Although the data collected and presented herein has been obtained with the utmost attention to quality, this document is not an official land survey and should not be considered for spatial calculation. EDI Environmental Dynamics Inc. does not accept any liability for errors, omissions or inaccuracies in the data.

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APPENDIX A LABORATORY CERTIFICATE OF ANALYSIS REPORTS

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ENVIRONMENTAL DYNAMICS INC.
ATTN: Caleb Light
2251 2nd Ave
Whitehorse YT Y1A

Date Received: 13-SEP-13
Report Date: 26-SEP-13 16:29 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1363192

Project P.O. #: NOT SUBMITTED
Job Reference: 13-Y-0215
C of C Numbers: 1, 2, 3, 4, 5, 6, 7
Legal Site Desc:

Can Dang
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-1	L1363192-2	L1363192-3	L1363192-4	L1363192-5
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13
	Sampled Time	16:57	11:43	17:07	17:42	09:18
	Client ID	0215-130911-016	0215-130911-023	0215-130911-005	0215-130911-021	0215-130911-029
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	1940	932	1550	1960	3320
	Hardness (as CaCO3) (mg/L)	1180	479	878	1260	2400
	pH (pH)	7.59	7.93	7.85	7.77	7.53
	Total Suspended Solids (mg/L)	188	706	175	326	41.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	18.1	9.7	10.5	16.2	53.3
	Alkalinity, Total (as CaCO3) (mg/L)	270	453	297	353	643
	Chloride (Cl) (mg/L)	<10 DLA	<5.0 DLA	<5.0 DLA	<10 DLA	<10 DLA
	Sulfate (SO4) (mg/L)	1020	117	716	951	1850
Total Metals	Aluminum (Al)-Total (mg/L)	3.15	16.2	1.89	10.1	0.926
	Antimony (Sb)-Total (mg/L)	0.00038	0.00139	0.00042	0.00087	0.00069
	Arsenic (As)-Total (mg/L)	0.00296	0.0261	0.00893	0.00731	0.0105
	Barium (Ba)-Total (mg/L)	0.129	0.483	0.140	0.127	0.0667
	Beryllium (Be)-Total (mg/L)	<0.00020 DLA	0.00061	<0.00010	0.00025	<0.00020 DLA
	Bismuth (Bi)-Total (mg/L)	<0.0010 DLA	<0.00050	<0.00050	<0.0010 DLA	<0.0010 DLA
	Boron (B)-Total (mg/L)	<0.020 DLA	0.026	<0.010	<0.020 DLA	<0.020 DLA
	Cadmium (Cd)-Total (mg/L)	0.000095	0.00147	0.000264	0.000195	0.000137
	Calcium (Ca)-Total (mg/L)	370	97.0	170	319	487
	Chromium (Cr)-Total (mg/L)	0.0266	0.0550	0.00724	0.252	0.0155
	Cobalt (Co)-Total (mg/L)	0.00431	0.0139	0.00231	0.0140	0.00534
	Copper (Cu)-Total (mg/L)	0.0162	0.0476	0.0124	0.0240	0.0035
	Iron (Fe)-Total (mg/L)	6.06	28.0	3.61	16.5	1.86
	Lead (Pb)-Total (mg/L)	0.0122	0.0197	0.0417	0.0148	0.00590
	Lithium (Li)-Total (mg/L)	0.0110	0.0252	0.00790	0.0176	0.0105
	Magnesium (Mg)-Total (mg/L)	89.9	68.2	127	121	293
	Manganese (Mn)-Total (mg/L)	0.0947	1.26	0.0661	0.156	0.0598
	Molybdenum (Mo)-Total (mg/L)	0.00121	0.0155	0.00128	0.00134	0.00053
	Nickel (Ni)-Total (mg/L)	0.0179	0.0647	0.00785	0.155	0.0452
	Phosphorus (P)-Total (mg/L)	<0.60 DLA	0.69	<0.30	<0.60 DLA	<0.60 DLA
	Potassium (K)-Total (mg/L)	1.49	5.76	3.16	2.24	2.45
	Selenium (Se)-Total (mg/L)	0.00125	0.00081	0.00070	0.00154	0.00025
	Silicon (Si)-Total (mg/L)	11.7	34.5	7.36	26.5	8.44
	Silver (Ag)-Total (mg/L)	0.000063	0.000310	0.000096	0.000081	0.000021
	Sodium (Na)-Total (mg/L)	5.30	31.3	7.51	4.87	15.5
	Strontium (Sr)-Total (mg/L)	1.76	0.685	0.559	1.07	1.50
	Thallium (Tl)-Total (mg/L)	0.000020	0.000192	0.000043	0.000063	<0.000020 DLA
	Tin (Sn)-Total (mg/L)	<0.00020 DLA	0.00077	0.00093	0.00025	<0.00020 DLA
	Titanium (Ti)-Total (mg/L)	0.118	0.435	0.043	0.146	<0.020 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-6	L1363192-7	L1363192-8	L1363192-9	L1363192-10
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13
	Sampled Time	15:31	09:05	09:00	10:10	13:30
	Client ID	0215-130911-019	0215-130911-028	0215-130911-020	0215-130911-024	0215-130911-022
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	1150	2040	3540	2730	2440
	Hardness (as CaCO3) (mg/L)	625	1290	2620	1930	1580
	pH (pH)	8.04	7.66	7.45	7.64	7.68
	Total Suspended Solids (mg/L)	8.2	165	1.4	2.4	622
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	6.8	44.5	49.1	35.7	37.0
	Alkalinity, Total (as CaCO3) (mg/L)	462	928	595	619	648
	Chloride (Cl) (mg/L)	<5.0 DLA	<10 DLA	<10 DLA	<10 DLA	<10 DLA
	Sulfate (SO4) (mg/L)	270	507	2270	1450	1140
Total Metals	Aluminum (Al)-Total (mg/L)	0.155	3.85	0.0136	0.0472	11.2
	Antimony (Sb)-Total (mg/L)	0.00011	0.00031	<0.00020 DLA	0.00034	0.00022
	Arsenic (As)-Total (mg/L)	0.00156	0.00314	0.00200	0.00063	0.0274
	Barium (Ba)-Total (mg/L)	0.0683	0.108	0.00728	0.00780	0.103
	Beryllium (Be)-Total (mg/L)	<0.00010	0.00013	<0.00020 DLA	<0.00020 DLA	0.00085
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.0010 DLA	<0.0010 DLA	<0.0010 DLA
	Boron (B)-Total (mg/L)	0.037	0.024	0.023	<0.020 DLA	0.025
	Cadmium (Cd)-Total (mg/L)	0.000062	0.000147	0.000570	0.000125	0.000129
	Calcium (Ca)-Total (mg/L)	90.2	199	530	381	339
	Chromium (Cr)-Total (mg/L)	0.00088	0.0198	0.00031	0.00099	0.00437
	Cobalt (Co)-Total (mg/L)	0.00074	0.00415	0.00183	<0.00020 DLA	0.00179
	Copper (Cu)-Total (mg/L)	0.00163	0.0227	0.0029	0.0013	0.0081
	Iron (Fe)-Total (mg/L)	1.00	6.94	0.035	0.096	11.9
	Lead (Pb)-Total (mg/L)	0.00171	0.00346	0.00352	0.00020	0.0541
	Lithium (Li)-Total (mg/L)	0.0265	0.0268	0.0435	0.0229	0.0358
	Magnesium (Mg)-Total (mg/L)	105	196	304	217	186
	Manganese (Mn)-Total (mg/L)	0.151	0.127	0.0800	0.0109	0.287
	Molybdenum (Mo)-Total (mg/L)	0.0203	0.00186	0.00080	0.00132	0.00105
	Nickel (Ni)-Total (mg/L)	0.00157	0.0133	0.0150	0.0070	0.0079
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.60 DLA	<0.60 DLA	<0.60 DLA
	Potassium (K)-Total (mg/L)	5.93	4.88	5.53	4.36	5.51
	Selenium (Se)-Total (mg/L)	<0.00010	0.00017	0.00074	0.00132	<0.00020 DLA
	Silicon (Si)-Total (mg/L)	3.58	12.3	7.19	6.04	30.6
	Silver (Ag)-Total (mg/L)	<0.000010	0.000059	<0.000020 DLA	<0.000020 DLA	0.000068
	Sodium (Na)-Total (mg/L)	23.3	8.56	8.61	8.40	9.55
	Strontium (Sr)-Total (mg/L)	0.701	1.59	2.42	1.02	1.80
	Thallium (Tl)-Total (mg/L)	<0.000010	0.000036	0.000084	0.000023	0.000067
	Tin (Sn)-Total (mg/L)	0.00042	0.00049	<0.00020 DLA	<0.00020 DLA	0.00251
	Titanium (Ti)-Total (mg/L)	<0.010	0.092	<0.020 DLA	<0.020 DLA	0.049

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-11	L1363192-12	L1363192-13	L1363192-14	L1363192-15
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	10-SEP-13
	Sampled Time	13:15	12:19	17:54	16:00	18:02
	Client ID	0215-130911-034	0215-130911-006	0215-130911-003	0215-130911-001	0215-130910-031
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	2600	1130	1920	363	1750
	Hardness (as CaCO3) (mg/L)	1660	584	1260	140	1060
	pH (pH)	7.54	7.89	7.62	8.17	7.36
	Total Suspended Solids (mg/L)	16000	5160	96.8	88.4	5.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	49.2	7.1	17.1	1.2	16.4
	Alkalinity, Total (as CaCO3) (mg/L)	645	243	271	127	171
	Chloride (Cl) (mg/L)	<10 DLA	<5.0 DLA	<10 DLA	<0.50	<5.0 DLA
	Sulfate (SO4) (mg/L)	1240	441	1010	65.4	1010
Total Metals	Aluminum (Al)-Total (mg/L)	133	109	3.17	2.44	0.0998
	Antimony (Sb)-Total (mg/L)	0.00345	0.00441	0.00036	0.00020	<0.00010
	Arsenic (As)-Total (mg/L)	0.290	0.303	0.00283	0.00414	0.00023
	Barium (Ba)-Total (mg/L)	3.35	3.55	0.123	0.0438	0.0853
	Beryllium (Be)-Total (mg/L)	0.00493	0.00437	<0.00020 DLA	0.00016	<0.00010
	Bismuth (Bi)-Total (mg/L)	0.0045	0.0027	<0.0010 DLA	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.050 DLA	<0.050 DLA	<0.020 DLA	<0.010	0.011
	Cadmium (Cd)-Total (mg/L)	0.00891	0.00766	0.000091	0.000437	0.00163
	Calcium (Ca)-Total (mg/L)	578	194	363	42.4	304
	Chromium (Cr)-Total (mg/L)	0.457	0.387	0.0301	0.00205	0.00047
	Cobalt (Co)-Total (mg/L)	0.129	0.110	0.00443	0.00103	0.00076
	Copper (Cu)-Total (mg/L)	0.519	0.378	0.0172	0.00424	0.00212
	Iron (Fe)-Total (mg/L)	255	229	6.98	2.46	0.195
	Lead (Pb)-Total (mg/L)	2.54	1.69	0.00952	0.0140	0.000323
	Lithium (Li)-Total (mg/L)	0.241	0.167	0.0117	0.00455	0.0161
	Magnesium (Mg)-Total (mg/L)	283	135	79.9	8.11	83.7
	Manganese (Mn)-Total (mg/L)	4.52	5.75	0.104	0.0452	1.18
	Molybdenum (Mo)-Total (mg/L)	0.0121	0.0320	0.00120	0.000752	0.000214
	Nickel (Ni)-Total (mg/L)	0.456	0.423	0.0197	0.00290	0.0260
	Phosphorus (P)-Total (mg/L)	6.8	5.9	<0.60 DLA	<0.30	<0.30
	Potassium (K)-Total (mg/L)	18.5	11.5	1.44	1.20	4.74
	Selenium (Se)-Total (mg/L)	0.00504	0.00253	0.00117	<0.00010	<0.00010
	Silicon (Si)-Total (mg/L)	134	121	11.1	10.9	8.30
	Silver (Ag)-Total (mg/L)	0.00491	0.00410	0.000052	0.000457	<0.000010
	Sodium (Na)-Total (mg/L)	9.87	16.6	5.19	20.6	13.5
	Strontium (Sr)-Total (mg/L)	2.64	1.59	1.63	0.570	1.16
	Thallium (Tl)-Total (mg/L)	0.00258	0.00222	<0.000020 DLA	0.000027	0.000035
	Tin (Sn)-Total (mg/L)	0.00233	0.00388	<0.00020 DLA	0.00037	<0.00010
	Titanium (Ti)-Total (mg/L)	1.68	2.26	0.131	0.028	<0.010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-16	L1363192-17	L1363192-18	L1363192-19	L1363192-20
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	09:15	11:30	08:06	13:50	16:50
	Client ID	0215-130912-049	0215-130912-051	0215-130912-018	0215-130912-012	0215-130912-058
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	950	1470	889	4280	3980
	Hardness (as CaCO3) (mg/L)	521	837	458	3130	2880
	pH (pH)	7.82	7.65	7.82	7.30	7.52
	Total Suspended Solids (mg/L)	128	23.6	128	26.0	13.4
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	9.2	12.7	9.5	96.2	44.8
	Alkalinity, Total (as CaCO3) (mg/L)	276	250	306	465	463
	Chloride (Cl) (mg/L)	<5.0 DLA	<5.0 DLA	<2.5 DLA	<10 DLA	10
	Sulfate (SO4) (mg/L)	302	691	233	2810	2550
Total Metals	Aluminum (Al)-Total (mg/L)	2.65	0.323	2.69	0.199	0.076
	Antimony (Sb)-Total (mg/L)	0.00047	0.00132	0.00084	<0.00050 DLA	<0.00050 DLA
	Arsenic (As)-Total (mg/L)	0.139	1.19	0.108	0.00073	<0.00050 DLA
	Barium (Ba)-Total (mg/L)	0.117	0.0349	0.292	0.0288	0.0250
	Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00050 DLA	<0.00050 DLA
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.0025 DLA	<0.0025 DLA
	Boron (B)-Total (mg/L)	0.015	0.016	0.013	<0.050 DLA	<0.050 DLA
	Cadmium (Cd)-Total (mg/L)	0.000125	0.000118	0.000173	0.00474	0.000086
	Calcium (Ca)-Total (mg/L)	143	204	122	630	699
	Chromium (Cr)-Total (mg/L)	0.0115	0.00045	0.0117	<0.00050 DLA	<0.00050 DLA
	Cobalt (Co)-Total (mg/L)	0.00325	0.00243	0.00248	<0.00050 DLA	<0.00050 DLA
	Copper (Cu)-Total (mg/L)	0.00824	0.00085	0.00575	0.0062	<0.0025 DLA
	Iron (Fe)-Total (mg/L)	11.3	3.16	8.50	0.400	0.100
	Lead (Pb)-Total (mg/L)	0.0726	0.00220	0.175	0.0543	0.0110
	Lithium (Li)-Total (mg/L)	0.0105	0.0118	0.0127	0.0872	0.0676
	Magnesium (Mg)-Total (mg/L)	39.3	73.4	35.3	386	309
	Manganese (Mn)-Total (mg/L)	0.582	0.456	0.688	0.0193	0.00318
	Molybdenum (Mo)-Total (mg/L)	0.00231	0.00323	0.00525	0.00038	<0.00025 DLA
	Nickel (Ni)-Total (mg/L)	0.00962	0.0106	0.00910	0.317	0.0076
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.30	<1.5 DLA	<1.5 DLA
	Potassium (K)-Total (mg/L)	2.55	2.36	2.99	4.27	4.34
	Selenium (Se)-Total (mg/L)	<0.00010	<0.00010	<0.00010	0.00113	0.00053
	Silicon (Si)-Total (mg/L)	11.5	7.64	11.5	18.1	10.3
	Silver (Ag)-Total (mg/L)	0.000103	0.000065	0.000238	0.000108	<0.000050 DLA
	Sodium (Na)-Total (mg/L)	6.84	18.4	15.2	19.8	17.2
	Strontium (Sr)-Total (mg/L)	0.729	1.74	0.828	3.31	3.46
	Thallium (Tl)-Total (mg/L)	0.000034	0.000085	0.000084	<0.000050 DLA	<0.000050 DLA
	Tin (Sn)-Total (mg/L)	0.00047	0.00010	0.00037	<0.00050 DLA	<0.00050 DLA
	Titanium (Ti)-Total (mg/L)	0.070	<0.010	0.072	<0.050 DLA	<0.050 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-21	L1363192-22	L1363192-23	L1363192-24	L1363192-25
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	11:18	17:42	09:41	11:13	15:13
	Client ID	0215-130912-050	0215-130912-060	0215-130912-017	0215-130912-015	0215-130912-057
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	1310	535	918	1310	674
	Hardness (as CaCO3) (mg/L)	734	233	329	738	337
	pH (pH)	7.52	6.42	8.01	7.54	6.71
	Total Suspended Solids (mg/L)	28.0	202	890	12.6	24.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	22.2	76.3	5.5	22.1	59.7
	Alkalinity, Total (as CaCO3) (mg/L)	281	120	357	286	136
	Chloride (Cl) (mg/L)	<5.0 DLA	<0.50	<5.0 DLA	<5.0 DLA	0.51
	Sulfate (SO4) (mg/L)	541	160	184	522	233
Total Metals	Aluminum (Al)-Total (mg/L)	0.113	6.69	8.73	0.0879	0.769
	Antimony (Sb)-Total (mg/L)	0.0222	0.00080	0.00132	0.0210	0.00015
	Arsenic (As)-Total (mg/L)	0.238	0.00852	0.0170	0.236	0.00088
	Barium (Ba)-Total (mg/L)	0.0204	0.0944	0.280	0.0168	0.0447
	Beryllium (Be)-Total (mg/L)	<0.00010	0.00125	0.00036	<0.00010	0.00016
	Bismuth (Bi)-Total (mg/L)	<0.00050	0.00121	<0.00050	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.010	0.016	<0.010	<0.010
	Cadmium (Cd)-Total (mg/L)	0.00817	0.00137	0.000336	0.00466	0.00632
	Calcium (Ca)-Total (mg/L)	174	60.6	92.2	195	91.8
	Chromium (Cr)-Total (mg/L)	0.00071	0.0202	0.0258	0.00041	0.00193
	Cobalt (Co)-Total (mg/L)	0.0611	0.0170	0.00824	0.0623	0.00232
	Copper (Cu)-Total (mg/L)	0.0138	0.0177	0.0214	0.00582	0.00263
	Iron (Fe)-Total (mg/L)	2.70	34.2	12.6	2.40	1.78
	Lead (Pb)-Total (mg/L)	0.433	0.0438	0.125	0.201	0.00422
	Lithium (Li)-Total (mg/L)	0.00967	0.0330	0.0173	0.0104	0.0211
	Magnesium (Mg)-Total (mg/L)	68.6	21.1	27.1	71.2	23.9
	Manganese (Mn)-Total (mg/L)	1.99	1.62	0.859	2.07	0.0626
	Molybdenum (Mo)-Total (mg/L)	0.00218	0.00207	0.00645	0.00232	0.000195
	Nickel (Ni)-Total (mg/L)	0.161	0.0278	0.0306	0.166	0.0330
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Total (mg/L)	4.44	3.92	2.87	4.47	1.91
	Selenium (Se)-Total (mg/L)	<0.00010	0.00028	0.00036	<0.00010	0.00036
	Silicon (Si)-Total (mg/L)	2.55	19.3	18.9	2.55	6.98
	Silver (Ag)-Total (mg/L)	0.000470	0.000234	0.000222	0.000171	0.000027
	Sodium (Na)-Total (mg/L)	11.9	7.82	81.4	12.1	5.40
	Strontium (Sr)-Total (mg/L)	0.679	0.283	0.475	0.713	0.446
	Thallium (Tl)-Total (mg/L)	0.00510	0.000208	0.000146	0.00521	0.000028
	Tin (Sn)-Total (mg/L)	0.00026	0.00057	0.00101	0.00016	0.00018
	Titanium (Ti)-Total (mg/L)	<0.010	0.245	0.239	<0.010	0.031

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-26	L1363192-27	L1363192-28	L1363192-29	L1363192-30
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	11-SEP-13	11-SEP-13	12-SEP-13
	Sampled Time	15:35	12:42	13:38	10:37	15:44
	Client ID	0215-130912-053	0215-130912-054	0215-130911-002	0215-130911-027	0215-130912-066
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	757	1100	3130	2490	3640
	Hardness (as CaCO3) (mg/L)	365	619	2270	1690	2160
	pH (pH)	6.66	7.44	7.42	7.77	6.67
	Total Suspended Solids (mg/L)	30.8	37.0	5.6	1.8	120
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	61.7	7.4	51.3	27.9	302
	Alkalinity, Total (as CaCO3) (mg/L)	91.7	100	596	568	277
	Chloride (Cl) (mg/L)	<0.50	<5.0 DLA	<10 DLA	<10 DLA	<10 DLA
	Sulfate (SO4) (mg/L)	327	556	1870	1230	2470
Total Metals	Aluminum (Al)-Total (mg/L)	1.33	3.21	0.0429	0.0507	1.58
	Antimony (Sb)-Total (mg/L)	0.00017	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.0010 DLA
	Arsenic (As)-Total (mg/L)	0.00103	0.00035	0.00401	0.00031	0.0028
	Barium (Ba)-Total (mg/L)	0.0495	0.0661	0.0684	0.0129	0.0434
	Beryllium (Be)-Total (mg/L)	0.00020	0.00026	<0.00020 DLA	<0.00020 DLA	<0.0010 DLA
	Bismuth (Bi)-Total (mg/L)	<0.00050	0.00052	<0.0010 DLA	<0.0010 DLA	<0.0050 DLA
	Boron (B)-Total (mg/L)	<0.010	<0.010	<0.020 DLA	<0.020 DLA	<0.10 DLA
	Cadmium (Cd)-Total (mg/L)	0.00322	0.000057	0.000585	0.000033	0.00190
	Calcium (Ca)-Total (mg/L)	104	137	388	376	587
	Chromium (Cr)-Total (mg/L)	0.00268	0.00600	0.00059	0.00058	0.0032
	Cobalt (Co)-Total (mg/L)	0.0726	0.00958	<0.00020 DLA	0.00049	0.196
	Copper (Cu)-Total (mg/L)	0.00383	0.0319	0.0037	0.0030	0.0052
	Iron (Fe)-Total (mg/L)	10.6	6.75	1.71	0.063	147
	Lead (Pb)-Total (mg/L)	0.0190	0.00315	0.00378	0.00038	0.00351
	Lithium (Li)-Total (mg/L)	0.0351	0.0224	0.0143	0.0165	0.0194
	Magnesium (Mg)-Total (mg/L)	27.8	61.6	334	195	160
	Manganese (Mn)-Total (mg/L)	2.58	0.0803	0.0141	0.00100	80.0
	Molybdenum (Mo)-Total (mg/L)	0.000410	0.00486	0.00091	0.00045	0.00081
	Nickel (Ni)-Total (mg/L)	0.0738	0.0128	0.0125	0.0015	0.0668
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.60 DLA	<0.60 DLA	<3.0 DLA
	Potassium (K)-Total (mg/L)	2.89	3.60	6.12	1.95	7.67
	Selenium (Se)-Total (mg/L)	<0.00010	0.00998	0.00038	0.00038	<0.0010 DLA
	Silicon (Si)-Total (mg/L)	10.4	7.61	6.98	6.51	13.9
	Silver (Ag)-Total (mg/L)	0.000062	0.000090	0.000026	<0.000020 DLA	<0.00010 DLA
	Sodium (Na)-Total (mg/L)	5.77	5.77	14.6	10.3	29.8
	Strontium (Sr)-Total (mg/L)	0.515	0.768	1.39	1.43	1.87
	Thallium (Tl)-Total (mg/L)	0.000109	0.000072	<0.000020 DLA	<0.000020 DLA	<0.00010 DLA
	Tin (Sn)-Total (mg/L)	0.00025	0.00041	<0.00020 DLA	<0.00020 DLA	<0.0010 DLA
	Titanium (Ti)-Total (mg/L)	0.071	0.124	<0.020 DLA	<0.020 DLA	<0.10 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-31	L1363192-32	L1363192-33	L1363192-34	L1363192-35
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	08:11	08:11	08:36	11:45	14:30
	Client ID	0215-130912-035	0215-130912-025	0215-130912-063	0215-130912-061	0215-130912-069
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	1730	1730	1390	2600	1050
	Hardness (as CaCO3) (mg/L)	1020	984	768	958	462
	pH (pH)	7.58	7.57	7.86	7.15	7.47
	Total Suspended Solids (mg/L)	1.2	<1.0	1.4	43.4	1.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	21.6	23.1	9.8	201	38.3
	Alkalinity, Total (as CaCO3) (mg/L)	340	339	298	1710	546
	Chloride (Cl) (mg/L)	<5.0 DLA	<5.0 DLA	<5.0 DLA	22	6.9
	Sulfate (SO4) (mg/L)	813	815	588	25	32.0
Total Metals	Aluminum (Al)-Total (mg/L)	0.0069	0.0074	<0.0030	1.15	0.0050
	Antimony (Sb)-Total (mg/L)	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
	Arsenic (As)-Total (mg/L)	<0.00020 DLA	0.00024	0.00223	0.00095	0.00020
	Barium (Ba)-Total (mg/L)	0.0428	0.0445	0.0522	0.695	0.394
	Beryllium (Be)-Total (mg/L)	<0.00020 DLA	<0.00020 DLA	<0.00010	0.00274	0.00023
	Bismuth (Bi)-Total (mg/L)	<0.0010 DLA	<0.0010 DLA	<0.00050	<0.0010 DLA	<0.00050
	Boron (B)-Total (mg/L)	<0.020 DLA	<0.020 DLA	0.010	0.093	0.026
	Cadmium (Cd)-Total (mg/L)	0.00116	0.00113	0.000016	0.000026	<0.000010
	Calcium (Ca)-Total (mg/L)	300	315	227	220	125
	Chromium (Cr)-Total (mg/L)	<0.00020 DLA	<0.00020 DLA	0.00013	0.00201	<0.00010
	Cobalt (Co)-Total (mg/L)	0.00218	0.00217	0.00019	0.00025	0.00012
	Copper (Cu)-Total (mg/L)	0.0010	<0.0010 DLA	<0.00050	<0.0010 DLA	<0.00050
	Iron (Fe)-Total (mg/L)	<0.020 DLA	<0.020 DLA	0.735	4.06	0.452
	Lead (Pb)-Total (mg/L)	<0.00010 DLA	<0.00010 DLA	<0.000050	0.00064	<0.000050
	Lithium (Li)-Total (mg/L)	0.0110	0.0124	0.0104	0.837	0.153
	Magnesium (Mg)-Total (mg/L)	67.4	65.2	48.5	103	41.2
	Manganese (Mn)-Total (mg/L)	7.92	7.70	0.167	0.162	0.247
	Molybdenum (Mo)-Total (mg/L)	0.00079	0.00092	0.000865	0.00021	<0.000050
	Nickel (Ni)-Total (mg/L)	0.0110	0.0109	0.00062	0.0010	<0.00050
	Phosphorus (P)-Total (mg/L)	<0.60 DLA	<0.60 DLA	<0.30	<0.60 DLA	<0.30
	Potassium (K)-Total (mg/L)	6.40	6.22	4.30	11.6	3.18
	Selenium (Se)-Total (mg/L)	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
	Silicon (Si)-Total (mg/L)	7.51	7.65	6.02	12.9	8.62
	Silver (Ag)-Total (mg/L)	<0.000020 DLA	<0.000020 DLA	<0.000010	0.000532	0.000129
	Sodium (Na)-Total (mg/L)	19.7	19.5	24.2	324	64.5
	Strontium (Sr)-Total (mg/L)	0.948	0.990	0.816	4.44	1.66
	Thallium (Tl)-Total (mg/L)	<0.000020 DLA	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00020 DLA	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
	Titanium (Ti)-Total (mg/L)	<0.020 DLA	<0.020 DLA	<0.010	<0.020 DLA	<0.010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID	L1363192-36	L1363192-37	L1363192-38	L1363192-39	L1363192-40
		Description	GW	GW	GW	GW	GW
		Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
		Sampled Time	15:20	14:05	12:33	10:10	15:00
		Client ID	0215-130912-068	0215-130912-064	0215-130912-065	0215-130912-062	0215-130912-030
WATER							
Physical Tests	Conductivity (uS/cm)		1580	2330	3280	1170	1560
	Hardness (as CaCO3) (mg/L)		854	1450	2230	560	859
	pH (pH)		7.98	7.51	7.18	7.59	7.68
	Total Suspended Solids (mg/L)		3.2	21.3	149	36.4	11.6
Anions and Nutrients	Acidity (as CaCO3) (mg/L)		8.1	30.7	89.2	27.4	16.4
	Alkalinity, Total (as CaCO3) (mg/L)		188	366	444	499	297
	Chloride (Cl) (mg/L)		<5.0 DLA	<10 DLA	<10 DLA	<5.0 DLA	<5.0 DLA
	Sulfate (SO4) (mg/L)		721	1260	2080	174	709
Total Metals	Aluminum (Al)-Total (mg/L)		0.0067	0.0111	0.295	0.922	0.0606
	Antimony (Sb)-Total (mg/L)		<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00010	<0.00020 DLA
	Arsenic (As)-Total (mg/L)		0.00069	0.00176	0.0413	0.00155	0.00025
	Barium (Ba)-Total (mg/L)		0.0304	0.0199	0.0322	0.167	0.0592
	Beryllium (Be)-Total (mg/L)		<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	0.00018	<0.00020 DLA
	Bismuth (Bi)-Total (mg/L)		<0.0010 DLA	<0.0010 DLA	<0.0025 DLA	<0.00050	<0.0010 DLA
	Boron (B)-Total (mg/L)		<0.020 DLA	<0.020 DLA	<0.050 DLA	0.017	<0.020 DLA
	Cadmium (Cd)-Total (mg/L)		0.000034	<0.000020 DLA	<0.000050 DLA	0.000010	0.000125
	Calcium (Ca)-Total (mg/L)		285	474	668	126	259
	Chromium (Cr)-Total (mg/L)		<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	0.00217	0.00030
	Cobalt (Co)-Total (mg/L)		0.00023	0.00137	0.0105	0.00044	0.00669
	Copper (Cu)-Total (mg/L)		<0.0010 DLA	<0.0010 DLA	<0.0025 DLA	0.00097	0.0015
	Iron (Fe)-Total (mg/L)		1.24	13.3	73.4	3.44	1.56
	Lead (Pb)-Total (mg/L)		<0.00010 DLA	<0.00010 DLA	0.00170	0.000565	0.00022
	Lithium (Li)-Total (mg/L)		0.0100	0.0223	0.0201	0.0763	0.0043
	Magnesium (Mg)-Total (mg/L)		40.9	76.5	141	55.8	55.9
	Manganese (Mn)-Total (mg/L)		0.304	7.88	41.0	0.290	14.5
	Molybdenum (Mo)-Total (mg/L)		0.00039	0.00049	0.00104	0.000474	0.00156
	Nickel (Ni)-Total (mg/L)		<0.0010 DLA	0.0027 DLA	0.0233 DLA	0.00133	0.0043 DLA
	Phosphorus (P)-Total (mg/L)		<0.60 DLA	<0.60 DLA	<1.5 DLA	<0.30	<0.60 DLA
	Potassium (K)-Total (mg/L)		4.04	5.39	8.49	3.65	4.77
	Selenium (Se)-Total (mg/L)		<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	<0.00010	<0.00020 DLA
	Silicon (Si)-Total (mg/L)		5.69	8.19	13.8	9.20	8.41
	Silver (Ag)-Total (mg/L)		<0.000020 DLA	<0.000020 DLA	<0.000050 DLA	0.000112	<0.000020 DLA
	Sodium (Na)-Total (mg/L)		49.0	41.9	40.0	55.0	20.9
	Strontium (Sr)-Total (mg/L)		0.623	1.24	1.62	1.71	0.714
	Thallium (Tl)-Total (mg/L)		<0.000020 DLA	<0.000020 DLA	<0.000050 DLA	<0.000010	<0.000020 DLA
	Tin (Sn)-Total (mg/L)		<0.00020 DLA	<0.00020 DLA	<0.00050 DLA	0.00011	<0.00020 DLA
	Titanium (Ti)-Total (mg/L)		<0.020 DLA	<0.020 DLA	<0.050 DLA	0.018	<0.020 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-41	L1363192-42	L1363192-43	L1363192-44	L1363192-45
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	11-SEP-13
	Sampled Time	17:30	09:00	17:57	17:51	13:19
	Client ID	0215-130912-070	0215-130912-072	0215-130912-071	0215-130912-067	0215-130912-026
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	2840	3690	3280	3290	607
	Hardness (as CaCO3) (mg/L)	1770	2400	2140	2160	202
	pH (pH)	7.18	6.80	7.14	7.20	8.16
	Total Suspended Solids (mg/L)	21.2	12.4	66.7	50.0	17.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	68.3	121	87.3	75.1	1.6
	Alkalinity, Total (as CaCO3) (mg/L)	373	442	429	432	153
	Chloride (Cl) (mg/L)	<10 DLA	<10 DLA	<10 DLA	<10 DLA	1.25
	Sulfate (SO4) (mg/L)	1720	2460	2040	2020	166
Total Metals	Aluminum (Al)-Total (mg/L)	0.175	0.223	0.854	0.618	0.446
	Antimony (Sb)-Total (mg/L)	<0.00050 DLA	<0.0020 DLA	<0.00050 DLA	<0.00050 DLA	0.00010
	Arsenic (As)-Total (mg/L)	0.00554	0.0021	0.00088	0.00080	0.0208
	Barium (Ba)-Total (mg/L)	0.0218	0.0371	0.0377	0.0317	0.0270
	Beryllium (Be)-Total (mg/L)	<0.00050 DLA	<0.0020 DLA	<0.00050 DLA	<0.00050 DLA	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.0025 DLA	<0.010 DLA	<0.0025 DLA	<0.0025 DLA	<0.00050
	Boron (B)-Total (mg/L)	<0.050 DLA	<0.20 DLA	<0.050 DLA	<0.050 DLA	0.044
	Cadmium (Cd)-Total (mg/L)	0.00333	0.00506	<0.000050 DLA	<0.000050 DLA	0.000059
	Calcium (Ca)-Total (mg/L)	543	701	643	639	47.1
	Chromium (Cr)-Total (mg/L)	<0.00050 DLA	<0.0020 DLA	0.00238	0.00145	0.00127
	Cobalt (Co)-Total (mg/L)	0.0180	0.417	0.00070	0.00052	0.00042
	Copper (Cu)-Total (mg/L)	0.0031	<0.010 DLA	0.0025	<0.0025 DLA	0.00187
	Iron (Fe)-Total (mg/L)	28.1	2.45	35.1	34.5	1.56
	Lead (Pb)-Total (mg/L)	0.00057	0.0011	0.00208	0.00160	0.0151
	Lithium (Li)-Total (mg/L)	0.0245	0.020	0.0313	0.0297	0.0209
	Magnesium (Mg)-Total (mg/L)	119	174	138	135	21.5
	Manganese (Mn)-Total (mg/L)	38.1	110	45.5	45.1	0.114
	Molybdenum (Mo)-Total (mg/L)	0.00082	0.0013	0.00077	0.00071	0.0114
	Nickel (Ni)-Total (mg/L)	0.0181	0.574	<0.0025 DLA	<0.0025 DLA	0.00155
	Phosphorus (P)-Total (mg/L)	<1.5 DLA	<6.0 DLA	<1.5 DLA	<1.5 DLA	<0.30
	Potassium (K)-Total (mg/L)	7.74	7.5	8.01	7.81	1.95
	Selenium (Se)-Total (mg/L)	<0.00050 DLA	<0.0020 DLA	<0.00050 DLA	<0.00050 DLA	<0.00010
	Silicon (Si)-Total (mg/L)	11.2	10.2	13.2	12.7	7.15
	Silver (Ag)-Total (mg/L)	<0.000050 DLA	<0.00020 DLA	<0.000050 DLA	<0.000050 DLA	0.000030
	Sodium (Na)-Total (mg/L)	33.7	38.1	39.1	38.6	48.9
	Strontium (Sr)-Total (mg/L)	1.38	2.26	1.61	1.61	1.15
	Thallium (Tl)-Total (mg/L)	<0.000050 DLA	0.00028 DLA	<0.000050 DLA	<0.000050 DLA	0.000010
	Tin (Sn)-Total (mg/L)	<0.00050 DLA	<0.0020 DLA	<0.00050 DLA	<0.00050 DLA	<0.00010
	Titanium (Ti)-Total (mg/L)	<0.050 DLA	<0.20 DLA	<0.050 DLA	<0.050 DLA	0.013

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-46	L1363192-47			
	Description	GW	GW			
	Sampled Date	11-SEP-13	10-SEP-13			
	Sampled Time	14:48	18:09			
	Client ID	0215-130912-004	0215-130912-0036			
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	391	1270			
	Hardness (as CaCO3) (mg/L)	177	736			
	pH (pH)	7.98	7.85			
	Total Suspended Solids (mg/L)	171	1.4			
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	3.4	6.7			
	Alkalinity, Total (as CaCO3) (mg/L)	180	177			
	Chloride (Cl) (mg/L)	<0.50	<5.0 DLA			
	Sulfate (SO4) (mg/L)	41.5	603			
Total Metals	Aluminum (Al)-Total (mg/L)	4.91	0.0801			
	Antimony (Sb)-Total (mg/L)	0.00250	<0.00010			
	Arsenic (As)-Total (mg/L)	0.131	0.00019			
	Barium (Ba)-Total (mg/L)	0.129	0.139			
	Beryllium (Be)-Total (mg/L)	0.00023	<0.00010			
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050			
	Boron (B)-Total (mg/L)	<0.010	<0.010			
	Cadmium (Cd)-Total (mg/L)	0.000500	0.000016			
	Calcium (Ca)-Total (mg/L)	56.9	221			
	Chromium (Cr)-Total (mg/L)	0.00875	0.00055			
	Cobalt (Co)-Total (mg/L)	0.00248	<0.00010			
	Copper (Cu)-Total (mg/L)	0.0351	0.00143			
	Iron (Fe)-Total (mg/L)	7.55	0.095			
	Lead (Pb)-Total (mg/L)	0.364	0.000269			
	Lithium (Li)-Total (mg/L)	0.0123	0.0136			
	Magnesium (Mg)-Total (mg/L)	11.8	44.3			
	Manganese (Mn)-Total (mg/L)	0.145	0.00297			
	Molybdenum (Mo)-Total (mg/L)	0.0104	0.000222			
	Nickel (Ni)-Total (mg/L)	0.00746	0.00200			
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30			
	Potassium (K)-Total (mg/L)	1.87	3.90			
	Selenium (Se)-Total (mg/L)	<0.00010	0.00019			
	Silicon (Si)-Total (mg/L)	13.7	6.89			
	Silver (Ag)-Total (mg/L)	0.000427	<0.000010			
	Sodium (Na)-Total (mg/L)	6.35	7.76			
	Strontium (Sr)-Total (mg/L)	0.818	0.882			
	Thallium (Tl)-Total (mg/L)	0.000135	<0.000010			
	Tin (Sn)-Total (mg/L)	0.00023	<0.00010			
	Titanium (Ti)-Total (mg/L)	0.167	<0.010			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-1	L1363192-2	L1363192-3	L1363192-4	L1363192-5
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13
	Sampled Time	16:57	11:43	17:07	17:42	09:18
	Client ID	0215-130911-016	0215-130911-023	0215-130911-005	0215-130911-021	0215-130911-029
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00697	0.0140	0.0174	0.0228	0.0314
	Vanadium (V)-Total (mg/L)	0.0130	0.0522	0.0045	0.0342	0.0024
	Zinc (Zn)-Total (mg/L)	0.0282	0.137	0.0538	0.0503	0.0138
	Zirconium (Zr)-Total (mg/L)	<0.0016 DLA	0.00344	<0.00080	0.0022	<0.0016 DLA
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0020 DLA	<0.0010	0.0012	<0.0020	0.0027
	Antimony (Sb)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	0.00019	0.00022	0.00063
	Arsenic (As)-Dissolved (mg/L)	0.00020	0.00239	0.00066	0.00025	0.00411
	Barium (Ba)-Dissolved (mg/L)	0.0775	0.0331	0.0412	0.0383	0.0502
	Beryllium (Be)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 DLA	<0.00050	<0.00050	<0.0010 DLA	<0.0010 DLA
	Boron (B)-Dissolved (mg/L)	<0.020 DLA	0.022	<0.010	<0.020 DLA	<0.020 DLA
	Cadmium (Cd)-Dissolved (mg/L)	0.000062	0.000348	0.000157	0.000088	0.000113
	Calcium (Ca)-Dissolved (mg/L)	330	88.8	157	321	494
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	0.00029	0.00071	0.00047
	Cobalt (Co)-Dissolved (mg/L)	<0.00020 DLA	0.00067	<0.00010	<0.00020 DLA	0.00206
	Copper (Cu)-Dissolved (mg/L)	0.00373	0.00071	0.00111	0.00082	0.00118
	Iron (Fe)-Dissolved (mg/L)	<0.020 DLA	0.052	<0.010	<0.020 DLA	<0.020 DLA
	Lead (Pb)-Dissolved (mg/L)	<0.00010 DLA	<0.000050	0.000223	<0.00010 DLA	<0.00010 DLA
	Lithium (Li)-Dissolved (mg/L)	0.0067	0.00882	0.00611	0.0109	0.0087
	Magnesium (Mg)-Dissolved (mg/L)	85.6	62.5	118	112	284
	Manganese (Mn)-Dissolved (mg/L)	0.00018	0.673	0.000142	0.00057	0.00411
	Molybdenum (Mo)-Dissolved (mg/L)	0.00081	0.0113	0.00107	0.00065	0.00045
	Nickel (Ni)-Dissolved (mg/L)	0.0016	0.00184	0.00081	0.0136	0.0389
	Phosphorus (P)-Dissolved (mg/L)	<0.60 DLA	<0.30	<0.30	<0.60 DLA	<0.60 DLA
	Potassium (K)-Dissolved (mg/L)	1.16	3.17	2.78	1.86	2.36
	Selenium (Se)-Dissolved (mg/L)	0.00121	<0.00010	0.00065	0.00161	0.00023
	Silicon (Si)-Dissolved (mg/L)	5.88	6.78	4.41	5.69	7.13
	Silver (Ag)-Dissolved (mg/L)	<0.000020 DLA	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA
	Sodium (Na)-Dissolved (mg/L)	5.17	34.2	6.54	5.25	15.3
	Strontium (Sr)-Dissolved (mg/L)	1.58	0.619	0.522	1.06	1.56
	Thallium (Tl)-Dissolved (mg/L)	<0.000020 DLA	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA
	Tin (Sn)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.020 DLA	<0.010	<0.010	<0.020 DLA	<0.020 DLA
	Uranium (U)-Dissolved (mg/L)	0.00592	0.0117	0.0171	0.0236	0.0330
	Vanadium (V)-Dissolved (mg/L)	<0.0020 DLA	<0.0010	<0.0010	<0.0020 DLA	<0.0020 DLA
	Zinc (Zn)-Dissolved (mg/L)	0.0060	0.0040	0.0030	0.0038	0.0044

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-6	L1363192-7	L1363192-8	L1363192-9	L1363192-10
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13
	Sampled Time	15:31	09:05	09:00	10:10	13:30
	Client ID	0215-130911-019	0215-130911-028	0215-130911-020	0215-130911-024	0215-130911-022
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00320	0.0188	0.0621	0.0728	0.0556
	Vanadium (V)-Total (mg/L)	<0.0010	0.0071	<0.0020 DLA	<0.0020 DLA	0.0053
	Zinc (Zn)-Total (mg/L)	0.0161	0.0406	0.109	<0.0060 DLA	0.0379
	Zirconium (Zr)-Total (mg/L)	<0.00080	0.00315	<0.0016 DLA	<0.0016 DLA	0.0017
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0010	0.0019	<0.0020 DLA	<0.0020 DLA	<0.0020 DLA
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	0.00036 DLA	<0.00020 DLA
	Arsenic (As)-Dissolved (mg/L)	0.00135	0.00126	0.00129	0.00052	0.00860
	Barium (Ba)-Dissolved (mg/L)	0.0604	0.0452	0.00721	0.00689	0.0133
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.0010 DLA	<0.0010 DLA	<0.0010 DLA
	Boron (B)-Dissolved (mg/L)	0.035	0.020	<0.020 DLA	<0.020 DLA	<0.020 DLA
	Cadmium (Cd)-Dissolved (mg/L)	0.000022	0.000034	0.000570	0.000127	<0.000020 DLA
	Calcium (Ca)-Dissolved (mg/L)	88.3	198	539	396	342
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	0.00042 DLA	<0.00020 DLA
	Cobalt (Co)-Dissolved (mg/L)	0.00057	0.00166	0.00173	<0.00020 DLA	0.00047
	Copper (Cu)-Dissolved (mg/L)	0.00041	0.00206	0.00247	0.00081 DLA	<0.00040 DLA
	Iron (Fe)-Dissolved (mg/L)	0.641	1.20	<0.020 DLA	<0.020 DLA	2.19
	Lead (Pb)-Dissolved (mg/L)	<0.000050	0.000116	0.00288	<0.00010 DLA	0.00040
	Lithium (Li)-Dissolved (mg/L)	0.0256	0.0234	0.0405	0.0227	0.0330
	Magnesium (Mg)-Dissolved (mg/L)	98.2	192	310	228	177
	Manganese (Mn)-Dissolved (mg/L)	0.134	0.0450	0.0778	0.00836	0.153
	Molybdenum (Mo)-Dissolved (mg/L)	0.0190	0.00134	0.00080	0.00137	0.00078
	Nickel (Ni)-Dissolved (mg/L)	0.00105	0.00443	0.0145	0.0068	0.0023
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.60 DLA	<0.60 DLA	<0.60 DLA
	Potassium (K)-Dissolved (mg/L)	5.38	4.36	5.66	4.50	4.55
	Selenium (Se)-Dissolved (mg/L)	<0.00010	<0.00010	0.00073	0.00150	<0.00020 DLA
	Silicon (Si)-Dissolved (mg/L)	3.11	6.64	6.83	6.04	6.65
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.000020 DLA
	Sodium (Na)-Dissolved (mg/L)	21.8	8.22	8.54	8.66	9.31
	Strontium (Sr)-Dissolved (mg/L)	0.656	1.59	2.36	1.09	1.73
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	0.000075	0.000026	<0.000020 DLA
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.00020 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010	<0.020 DLA	<0.020 DLA	<0.020 DLA
	Uranium (U)-Dissolved (mg/L)	0.00309	0.0193	0.0600	0.0800	0.0512
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0020 DLA	<0.0020 DLA	<0.0020 DLA
	Zinc (Zn)-Dissolved (mg/L)	0.0106	0.0068	0.115	0.0040	0.0058

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-11	L1363192-12	L1363192-13	L1363192-14	L1363192-15
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	10-SEP-13
	Sampled Time	13:15	12:19	17:54	16:00	18:02
	Client ID	0215-130911-034	0215-130911-006	0215-130911-003	0215-130911-001	0215-130910-031
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.0789	0.0153	0.00679	0.00601	0.00184
	Vanadium (V)-Total (mg/L)	0.326	0.269	0.0134	0.0045	<0.0010
	Zinc (Zn)-Total (mg/L)	1.83	1.53	0.0337	0.198	0.773
	Zirconium (Zr)-Total (mg/L)	0.0181	0.0107	DLA <0.0016	0.00147	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	DLA <0.0050	DLA <0.0050	0.0020	<0.0010	0.0016
	Antimony (Sb)-Dissolved (mg/L)	0.00145	DLA <0.00050	DLA <0.00020	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.0327	0.00314	0.00022	0.00188	<0.00010
	Barium (Ba)-Dissolved (mg/L)	0.0468	0.145	0.0818	0.0187	0.0828
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.00050	DLA <0.00050	DLA <0.00020	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.0025	DLA <0.0025	DLA <0.0010	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	DLA <0.050	DLA <0.050	DLA <0.020	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	DLA <0.000050	0.000052	0.000060	<0.000010	0.00162
	Calcium (Ca)-Dissolved (mg/L)	374	138	374	43.3	292
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.00050	DLA <0.00050	0.00022	<0.00010	0.00066
	Cobalt (Co)-Dissolved (mg/L)	0.00174	0.00151	DLA <0.00020	<0.00010	0.00022
	Copper (Cu)-Dissolved (mg/L)	DLA <0.0010	DLA <0.0010	0.00379	<0.00020	0.00156
	Iron (Fe)-Dissolved (mg/L)	3.04	0.093	DLA <0.020	0.297	<0.010
	Lead (Pb)-Dissolved (mg/L)	0.00026	0.00029	DLA <0.00010	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0323	0.0070	0.0087	0.00315	0.0149
	Magnesium (Mg)-Dissolved (mg/L)	178	58.2	77.9	7.76	80.4
	Manganese (Mn)-Dissolved (mg/L)	0.178	1.77	0.00022	0.0143	1.01
	Molybdenum (Mo)-Dissolved (mg/L)	0.00267	0.0179	0.00094	0.000333	0.000159
	Nickel (Ni)-Dissolved (mg/L)	0.0156	0.0035	0.0017	<0.00050	0.0245
	Phosphorus (P)-Dissolved (mg/L)	DLA <1.5	DLA <1.5	DLA <0.60	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	5.06	2.06	1.17	1.01	4.57
	Selenium (Se)-Dissolved (mg/L)	DLA <0.00050	DLA <0.00050	0.00126	<0.00010	<0.00010
	Silicon (Si)-Dissolved (mg/L)	6.78	5.76	5.82	5.91	7.63
	Silver (Ag)-Dissolved (mg/L)	DLA <0.000050	DLA <0.000050	DLA <0.000020	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	7.70	15.0	5.22	21.1	13.1
	Strontium (Sr)-Dissolved (mg/L)	1.96	1.18	1.72	0.580	1.13
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.000050	DLA <0.000050	DLA <0.000020	<0.000010	0.000031
	Tin (Sn)-Dissolved (mg/L)	DLA <0.00050	DLA <0.00050	DLA <0.00020	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.050	DLA <0.050	DLA <0.020	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.0605	0.00729	0.00691	0.00509	0.00182
	Vanadium (V)-Dissolved (mg/L)	DLA <0.0050	DLA <0.0050	DLA <0.0020	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0319	DLA <0.0050	0.0112	0.0025	0.761

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1363192-16 GW 12-SEP-13 09:15 0215-130912-049	L1363192-17 GW 12-SEP-13 11:30 0215-130912-051	L1363192-18 GW 12-SEP-13 08:06 0215-130912-018	L1363192-19 GW 12-SEP-13 13:50 0215-130912-012	L1363192-20 GW 12-SEP-13 16:50 0215-130912-058
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00316	0.00235	0.00751	0.125	0.183
	Vanadium (V)-Total (mg/L)	0.0055	<0.0010	0.0063	<0.0050 DLA	<0.0050 DLA
	Zinc (Zn)-Total (mg/L)	0.0357	0.285	0.0374	29.7	0.330
	Zirconium (Zr)-Total (mg/L)	0.00101	<0.00080	0.00098	<0.0040 DLA	<0.0040 DLA
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0010	0.0019	0.0010	0.0082	<0.0050 DLA
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00118	0.00014	<0.00050 DLA	<0.00050 DLA
	Arsenic (As)-Dissolved (mg/L)	0.116	1.27	0.106	<0.00050 DLA	<0.00050 DLA
	Barium (Ba)-Dissolved (mg/L)	0.0428	0.0287	0.0383	0.0175	0.0208
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00050 DLA	<0.00050 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.0025 DLA	<0.0025 DLA
	Boron (B)-Dissolved (mg/L)	0.011	0.013	0.012	<0.050 DLA	<0.050 DLA
	Cadmium (Cd)-Dissolved (mg/L)	0.000025	0.000016	0.000038	0.00477	0.000095
	Calcium (Ca)-Dissolved (mg/L)	143	209	127	616	662
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00050 DLA	<0.00050 DLA
	Cobalt (Co)-Dissolved (mg/L)	0.00129	0.00221	0.00048	<0.00050 DLA	<0.00050 DLA
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	0.0036	<0.0010 DLA
	Iron (Fe)-Dissolved (mg/L)	6.75	2.66	4.08	<0.050 DLA	<0.050 DLA
	Lead (Pb)-Dissolved (mg/L)	0.00403	<0.000050	0.0187	0.0113	0.00613
	Lithium (Li)-Dissolved (mg/L)	0.00747	0.0115	0.00889	0.0821	0.0660
	Magnesium (Mg)-Dissolved (mg/L)	39.8	76.4	34.4	385	297
	Manganese (Mn)-Dissolved (mg/L)	0.546	0.446	0.619	0.0183	0.00172
	Molybdenum (Mo)-Dissolved (mg/L)	0.00225	0.00327	0.00503	0.00042	<0.00025 DLA
	Nickel (Ni)-Dissolved (mg/L)	0.00119	0.0102	0.00070	0.314	0.0077
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<1.5 DLA	<1.5 DLA
	Potassium (K)-Dissolved (mg/L)	2.30	2.37	2.62	4.24	4.20
	Selenium (Se)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	0.00082	0.00054
	Silicon (Si)-Dissolved (mg/L)	7.58	7.09	7.27	10.5	9.78
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000050 DLA	<0.000050 DLA
	Sodium (Na)-Dissolved (mg/L)	6.83	19.1	15.6	19.6	16.3
	Strontium (Sr)-Dissolved (mg/L)	0.759	1.77	0.794	3.30	3.36
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	0.000065	0.000013	<0.000050 DLA	<0.000050 DLA
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00050 DLA	<0.00050 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.050 DLA	<0.050 DLA
	Uranium (U)-Dissolved (mg/L)	0.00326	0.00224	0.00732	0.121	0.175
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0050 DLA	<0.0050 DLA
	Zinc (Zn)-Dissolved (mg/L)	0.0023	0.205	0.0056	29.4	0.336

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-21	L1363192-22	L1363192-23	L1363192-24	L1363192-25
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	11:18	17:42	09:41	11:13	15:13
	Client ID	0215-130912-050	0215-130912-060	0215-130912-017	0215-130912-015	0215-130912-057
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.0182	0.00152	0.00483	0.0193	0.00193
	Vanadium (V)-Total (mg/L)	<0.0010	0.0174	0.0194	<0.0010	0.0015
	Zinc (Zn)-Total (mg/L)	5.37	1.95	0.0626	5.47	4.97
	Zirconium (Zr)-Total (mg/L)	<0.00080	0.00147	0.00331	<0.00080	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0025	0.0397	0.0028	0.0022	0.0894
	Antimony (Sb)-Dissolved (mg/L)	0.0168	<0.00010	0.00070	0.0167	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.225	0.00032	0.00234	0.219	<0.00010
	Barium (Ba)-Dissolved (mg/L)	0.0120	0.0355	0.0923	0.0119	0.0391
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	0.00018	<0.00010	<0.00010	0.00011
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	0.012	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.00214	0.000843	0.000135	0.00217	0.00675
	Calcium (Ca)-Dissolved (mg/L)	178	57.5	92.5	182	94.6
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00022	0.00014	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.0602	0.0158	0.00014	0.0592	0.00201
	Copper (Cu)-Dissolved (mg/L)	<0.00020	0.00037	0.00586	<0.00020	0.00104
	Iron (Fe)-Dissolved (mg/L)	1.88	14.4	<0.010	1.87	<0.010
	Lead (Pb)-Dissolved (mg/L)	0.0402	0.000413	0.00143	0.0408	0.000174
	Lithium (Li)-Dissolved (mg/L)	0.00985	0.0237	0.00619	0.00971	0.0231
	Magnesium (Mg)-Dissolved (mg/L)	70.4	21.8	23.8	68.9	24.4
	Manganese (Mn)-Dissolved (mg/L)	2.01	1.78	0.394	1.95	0.0514
	Molybdenum (Mo)-Dissolved (mg/L)	0.00209	0.000050	0.00584	0.00209	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	0.165	0.0189	0.00634	0.162	0.0330
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	4.38	3.03	1.79	4.30	1.85
	Selenium (Se)-Dissolved (mg/L)	<0.00010	<0.00010	0.00026	<0.00010	0.00041
	Silicon (Si)-Dissolved (mg/L)	2.47	8.87	4.66	2.46	6.55
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	11.9	8.63	84.3	11.6	5.57
	Strontium (Sr)-Dissolved (mg/L)	0.683	0.271	0.466	0.687	0.455
	Thallium (Tl)-Dissolved (mg/L)	0.00475	0.000057	0.000023	0.00486	0.000015
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	0.00011	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.0178	0.000142	0.00451	0.0182	0.00168
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	5.47	2.07	0.0033	5.28	5.34

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-26	L1363192-27	L1363192-28	L1363192-29	L1363192-30
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	11-SEP-13	11-SEP-13	12-SEP-13
	Sampled Time	15:35	12:42	13:38	10:37	15:44
	Client ID	0215-130912-053	0215-130912-054	0215-130911-002	0215-130911-027	0215-130912-066
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00171	0.00161	0.0496	0.0260	0.00460
	Vanadium (V)-Total (mg/L)	0.0029	0.0074	<0.0020 DLA	<0.0020 DLA	<0.010 DLA
	Zinc (Zn)-Total (mg/L)	7.58	0.0148	0.0571	<0.0060 DLA	0.149
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.00080	<0.0016 DLA	<0.0016 DLA	<0.0080 DLA
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0376	0.0036	0.0041	<0.0020 DLA	<0.010 DLA
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.0010 DLA
	Arsenic (As)-Dissolved (mg/L)	0.00010	<0.00010	0.00046	0.00023	<0.0010 DLA
	Barium (Ba)-Dissolved (mg/L)	0.0320	0.0300	0.0559	0.0118	0.0118
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.0010 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.0010 DLA	<0.0010 DLA	<0.0050 DLA
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.020 DLA	<0.020 DLA	<0.10 DLA
	Cadmium (Cd)-Dissolved (mg/L)	0.00289	0.000038	0.000550	0.000030	0.00187
	Calcium (Ca)-Dissolved (mg/L)	103	151	377	365	600
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	0.00023	0.00034	<0.0010 DLA
	Cobalt (Co)-Dissolved (mg/L)	0.0685	0.00166	<0.00020 DLA	0.00045	0.196
	Copper (Cu)-Dissolved (mg/L)	0.00024	0.00432	0.00275	0.00241	<0.0020 DLA
	Iron (Fe)-Dissolved (mg/L)	7.38	<0.010	<0.020 DLA	<0.020 DLA	143
	Lead (Pb)-Dissolved (mg/L)	0.00114	<0.000050	<0.00010 DLA	0.00011	<0.00050 DLA
	Lithium (Li)-Dissolved (mg/L)	0.0314	0.0158	0.0130	0.0162	0.0182
	Magnesium (Mg)-Dissolved (mg/L)	26.2	59.1	323	189	161
	Manganese (Mn)-Dissolved (mg/L)	2.38	0.000823	0.00967	0.00015	80.4
	Molybdenum (Mo)-Dissolved (mg/L)	0.000096	0.00360	0.00075	0.00049	0.00071
	Nickel (Ni)-Dissolved (mg/L)	0.0692	0.00731	0.0122	0.0014	0.0635
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.60 DLA	<0.60 DLA	<3.0 DLA
	Potassium (K)-Dissolved (mg/L)	2.39	2.79	6.01	1.88	7.47
	Selenium (Se)-Dissolved (mg/L)	<0.00010	0.0119	0.00030	0.00036	<0.0010 DLA
	Silicon (Si)-Dissolved (mg/L)	7.96	3.94	6.52	6.45	11.6
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000020 DLA	<0.000020 DLA	<0.00010 DLA
	Sodium (Na)-Dissolved (mg/L)	5.31	6.15	14.2	9.95	30.0
	Strontium (Sr)-Dissolved (mg/L)	0.476	0.784	1.34	1.38	1.92
	Thallium (Tl)-Dissolved (mg/L)	0.000061	0.000010	<0.000020 DLA	<0.000020 DLA	<0.00010 DLA
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	<0.00020 DLA	<0.0010 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010	<0.020 DLA	<0.020 DLA	<0.10 DLA
	Uranium (U)-Dissolved (mg/L)	0.00116	0.00165	0.0493	0.0257	0.00464
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0020 DLA	<0.0020 DLA	<0.010 DLA
	Zinc (Zn)-Dissolved (mg/L)	7.50	0.0018	0.0560	<0.0020 DLA	0.134

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-31	L1363192-32	L1363192-33	L1363192-34	L1363192-35
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	08:11	08:11	08:36	11:45	14:30
	Client ID	0215-130912-035	0215-130912-025	0215-130912-063	0215-130912-061	0215-130912-069
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00858	0.00886	0.00950	0.000629	0.000332
	Vanadium (V)-Total (mg/L)	DLA <0.0020	DLA <0.0020	<0.0010	DLA <0.0020	<0.0010
	Zinc (Zn)-Total (mg/L)	DLA <0.0060	DLA <0.0060	<0.0030	DLA <0.0060	<0.0030
	Zirconium (Zr)-Total (mg/L)	DLA <0.0016	DLA <0.0016	0.00097	0.121	0.0576
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	DLA <0.0020	0.0035	<0.0010	0.0145	0.0021
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	<0.00010	DLA <0.00020	<0.00010
	Arsenic (As)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	0.00213	DLA <0.00020	0.00017
	Barium (Ba)-Dissolved (mg/L)	0.0437	0.0438	0.0522	0.669	0.384
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	<0.00010	0.00253	0.00022
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.0010	DLA <0.0010	<0.00050	DLA <0.0010	<0.00050
	Boron (B)-Dissolved (mg/L)	DLA <0.020	DLA <0.020	<0.010	0.089	0.021
	Cadmium (Cd)-Dissolved (mg/L)	0.00105	0.00105	<0.000010	0.000028	<0.000010
	Calcium (Ca)-Dissolved (mg/L)	303	290	232	216	120
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	<0.00010	DLA <0.00020	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00213	0.00207	0.00018	DLA <0.00020	0.00011
	Copper (Cu)-Dissolved (mg/L)	0.00054	0.00051	<0.00020	DLA <0.00040	<0.00020
	Iron (Fe)-Dissolved (mg/L)	DLA <0.020	DLA <0.020	0.699	3.15	0.429
	Lead (Pb)-Dissolved (mg/L)	DLA <0.00010	DLA <0.00010	<0.000050	DLA <0.00010	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0118	0.0115	0.0106	0.826	0.152
	Magnesium (Mg)-Dissolved (mg/L)	63.6	62.9	45.8	102	39.5
	Manganese (Mn)-Dissolved (mg/L)	7.54	7.48	0.132	0.153	0.235
	Molybdenum (Mo)-Dissolved (mg/L)	0.00093	0.00080	0.000876	DLA <0.00010	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	0.0107	0.0105	0.00060	DLA <0.0010	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	DLA <0.60	DLA <0.60	<0.30	DLA <0.60	<0.30
	Potassium (K)-Dissolved (mg/L)	6.02	5.96	4.22	11.2	3.04
	Selenium (Se)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	<0.00010	DLA <0.00020	0.00030
	Silicon (Si)-Dissolved (mg/L)	7.39	7.58	6.02	10.9	8.47
	Silver (Ag)-Dissolved (mg/L)	DLA <0.000020	DLA <0.000020	<0.000010	0.000313	0.000114
	Sodium (Na)-Dissolved (mg/L)	19.1	18.8	23.6	317	61.6
	Strontium (Sr)-Dissolved (mg/L)	0.952	0.909	0.839	4.21	1.60
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.000020	DLA <0.000020	<0.000010	DLA <0.000020	<0.000010
	Tin (Sn)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	<0.00010	DLA <0.00020	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.020	DLA <0.020	<0.010	DLA <0.020	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00840	0.00786	0.00905	0.000427	0.000319
	Vanadium (V)-Dissolved (mg/L)	DLA <0.0020	DLA <0.0020	<0.0010	DLA <0.0020	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.0033	0.0030	0.0012	DLA <0.0020	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-36	L1363192-37	L1363192-38	L1363192-39	L1363192-40
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	15:20	14:05	12:33	10:10	15:00
	Client ID	0215-130912-068	0215-130912-064	0215-130912-065	0215-130912-062	0215-130912-030
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00951	0.00691	0.0121	0.00120	0.0117
	Vanadium (V)-Total (mg/L)	DLA <0.0020	DLA <0.0020	DLA <0.0050	0.0015	DLA <0.0020
	Zinc (Zn)-Total (mg/L)	DLA <0.0060	DLA <0.0060	DLA <0.015	0.0043	DLA <0.0060
	Zirconium (Zr)-Total (mg/L)	DLA <0.0016	DLA <0.0016	DLA <0.0040	0.0153	DLA <0.0016
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	DLA <0.0020	DLA <0.0020	0.0311	0.0013	DLA <0.0020
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	DLA <0.00050	<0.00010	DLA <0.00020
	Arsenic (As)-Dissolved (mg/L)	0.00062	0.00180	0.0422	0.00145	DLA <0.00020
	Barium (Ba)-Dissolved (mg/L)	0.0298	0.0194	0.0276	0.160	0.0581
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	DLA <0.00050	0.00014	DLA <0.00020
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.0010	DLA <0.0010	DLA <0.0025	<0.00050	DLA <0.0010
	Boron (B)-Dissolved (mg/L)	DLA <0.020	DLA <0.020	DLA <0.050	0.016	DLA <0.020
	Cadmium (Cd)-Dissolved (mg/L)	0.000031	DLA <0.000020	DLA <0.000050	<0.000010	0.000107
	Calcium (Ca)-Dissolved (mg/L)	276	459	661	136	253
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	DLA <0.00050	<0.00010	DLA <0.00020
	Cobalt (Co)-Dissolved (mg/L)	0.00022	0.00131	0.0102	<0.00010	0.00642
	Copper (Cu)-Dissolved (mg/L)	DLA <0.00040	DLA <0.00040	DLA <0.0010	<0.00020	DLA <0.00040
	Iron (Fe)-Dissolved (mg/L)	1.21	12.8	71.7	2.31	1.35
	Lead (Pb)-Dissolved (mg/L)	DLA <0.00010	DLA <0.00010	DLA <0.00025	<0.000050	DLA <0.00010
	Lithium (Li)-Dissolved (mg/L)	0.0093	0.0213	0.0228	0.0826	0.0039
	Magnesium (Mg)-Dissolved (mg/L)	40.1	74.2	140	53.7	55.1
	Manganese (Mn)-Dissolved (mg/L)	0.297	7.63	39.2	0.268	14.2
	Molybdenum (Mo)-Dissolved (mg/L)	0.00038	0.00045	0.00108	0.000321	0.00138
	Nickel (Ni)-Dissolved (mg/L)	DLA <0.0010	0.0026	0.0223	<0.00050	0.0039
	Phosphorus (P)-Dissolved (mg/L)	DLA <0.60	DLA <0.60	DLA <1.5	<0.30	DLA <0.60
	Potassium (K)-Dissolved (mg/L)	3.96	5.21	8.20	3.42	4.77
	Selenium (Se)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	DLA <0.00050	0.00014	DLA <0.00020
	Silicon (Si)-Dissolved (mg/L)	5.56	7.87	12.8	7.82	8.11
	Silver (Ag)-Dissolved (mg/L)	DLA <0.000020	DLA <0.000020	DLA <0.000050	0.000045	DLA <0.000020
	Sodium (Na)-Dissolved (mg/L)	47.8	40.5	40.2	53.0	20.6
	Strontium (Sr)-Dissolved (mg/L)	0.604	1.21	1.53	1.82	0.701
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.000020	DLA <0.000020	DLA <0.000050	<0.000010	DLA <0.000020
	Tin (Sn)-Dissolved (mg/L)	DLA <0.00020	DLA <0.00020	DLA <0.00050	<0.00010	DLA <0.00020
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.020	DLA <0.020	DLA <0.050	<0.010	DLA <0.020
	Uranium (U)-Dissolved (mg/L)	0.00926	0.00664	0.0119	0.00126	0.0117
	Vanadium (V)-Dissolved (mg/L)	DLA <0.0020	DLA <0.0020	DLA <0.0050	<0.0010	DLA <0.0020
	Zinc (Zn)-Dissolved (mg/L)	DLA <0.0020	DLA <0.0020	0.0081	<0.0010	0.0021

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-41	L1363192-42	L1363192-43	L1363192-44	L1363192-45
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	11-SEP-13
	Sampled Time	17:30	09:00	17:57	17:51	13:19
	Client ID	0215-130912-070	0215-130912-072	0215-130912-071	0215-130912-067	0215-130912-026
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00549	0.00371	0.00137	0.00130	0.000876
	Vanadium (V)-Total (mg/L)	DLA <0.0050	DLA <0.020	DLA <0.0050	DLA <0.0050	0.0016
	Zinc (Zn)-Total (mg/L)	DLA <0.015	0.186	DLA <0.015	DLA <0.015	0.0131
	Zirconium (Zr)-Total (mg/L)	DLA <0.0040	DLA <0.016	DLA <0.0040	DLA <0.0040	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	DLA <0.0050	DLA <0.020	DLA <0.0050	DLA <0.0050	<0.0010
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.00050	DLA <0.0020	DLA <0.00050	DLA <0.00050	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00489	DLA <0.0020	0.00061	0.00060	0.0191
	Barium (Ba)-Dissolved (mg/L)	0.0167	0.0264	0.0239	0.0236	0.0155
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.00050	DLA <0.0020	DLA <0.00050	DLA <0.00050	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.0025	DLA <0.010	DLA <0.0025	DLA <0.0025	<0.00050
	Boron (B)-Dissolved (mg/L)	DLA <0.050	DLA <0.20	DLA <0.050	DLA <0.050	0.038
	Cadmium (Cd)-Dissolved (mg/L)	0.000311	0.00474	DLA <0.000050	DLA <0.000050	<0.000010
	Calcium (Ca)-Dissolved (mg/L)	526	684	636	642	46.3
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.00050	DLA <0.0020	DLA <0.00050	DLA <0.00050	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.0169	0.404	DLA <0.00050	DLA <0.00050	<0.00010
	Copper (Cu)-Dissolved (mg/L)	DLA <0.0010	DLA <0.0040	DLA <0.0010	DLA <0.0010	<0.00020
	Iron (Fe)-Dissolved (mg/L)	26.4	1.59	33.3	33.7	0.774
	Lead (Pb)-Dissolved (mg/L)	DLA <0.00025	DLA <0.0010	DLA <0.00025	DLA <0.00025	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0224	0.019	0.0292	0.0286	0.0207
	Magnesium (Mg)-Dissolved (mg/L)	112	168	133	134	21.0
	Manganese (Mn)-Dissolved (mg/L)	36.1	106	44.5	45.0	0.0987
	Molybdenum (Mo)-Dissolved (mg/L)	0.00079	0.0011	0.00066	0.00070	0.0113
	Nickel (Ni)-Dissolved (mg/L)	0.0162	0.556	DLA <0.0025	DLA <0.0025	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	DLA <1.5	DLA <6.0	DLA <1.5	DLA <1.5	<0.30
	Potassium (K)-Dissolved (mg/L)	7.31	7.3	7.57	7.64	1.82
	Selenium (Se)-Dissolved (mg/L)	DLA <0.00050	DLA <0.0020	DLA <0.00050	DLA <0.00050	<0.00010
	Silicon (Si)-Dissolved (mg/L)	10.4	9.4	11.6	11.6	6.22
	Silver (Ag)-Dissolved (mg/L)	DLA <0.000050	DLA <0.00020	DLA <0.000050	DLA <0.000050	<0.000010
	Sodium (Na)-Dissolved (mg/L)	31.6	36.9	37.9	38.3	48.1
	Strontium (Sr)-Dissolved (mg/L)	1.35	2.18	1.59	1.61	1.12
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.000050	0.00026	DLA <0.000050	DLA <0.000050	<0.000010
	Tin (Sn)-Dissolved (mg/L)	DLA <0.00050	DLA <0.0020	DLA <0.00050	DLA <0.00050	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.050	DLA <0.20	DLA <0.050	DLA <0.050	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00536	0.00359	0.00121	0.00119	0.000743
	Vanadium (V)-Dissolved (mg/L)	DLA <0.0050	DLA <0.020	DLA <0.0050	DLA <0.0050	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	DLA <0.0050	0.179	DLA <0.0050	DLA <0.0050	<0.0010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-46	L1363192-47			
	Description	GW	GW			
	Sampled Date	11-SEP-13	10-SEP-13			
	Sampled Time	14:48	18:09			
	Client ID	0215-130912-004	0215-130912-0036			
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00713	0.00277			
	Vanadium (V)-Total (mg/L)	0.0125	<0.0010			
	Zinc (Zn)-Total (mg/L)	0.578	0.0040			
	Zirconium (Zr)-Total (mg/L)	0.00233	<0.00080			
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD			
	Aluminum (Al)-Dissolved (mg/L)	<0.0010	<0.0010			
	Antimony (Sb)-Dissolved (mg/L)	0.00036	<0.00010			
	Arsenic (As)-Dissolved (mg/L)	0.126	0.00013			
	Barium (Ba)-Dissolved (mg/L)	0.0460	0.136			
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010			
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050			
	Boron (B)-Dissolved (mg/L)	<0.010	<0.010			
	Cadmium (Cd)-Dissolved (mg/L)	<0.000010	0.000018			
	Calcium (Ca)-Dissolved (mg/L)	52.9	222			
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010			
	Cobalt (Co)-Dissolved (mg/L)	0.00026	<0.00010			
	Copper (Cu)-Dissolved (mg/L)	<0.00020	0.00118			
	Iron (Fe)-Dissolved (mg/L)	1.84	<0.010			
	Lead (Pb)-Dissolved (mg/L)	0.000170	<0.000050			
	Lithium (Li)-Dissolved (mg/L)	0.00603	0.0138			
	Magnesium (Mg)-Dissolved (mg/L)	10.8	43.9			
	Manganese (Mn)-Dissolved (mg/L)	0.0916	0.000267			
	Molybdenum (Mo)-Dissolved (mg/L)	0.00891	0.000198			
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	0.00181			
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30			
	Potassium (K)-Dissolved (mg/L)	1.16	3.79			
	Selenium (Se)-Dissolved (mg/L)	<0.00010	0.00020			
	Silicon (Si)-Dissolved (mg/L)	6.65	6.72			
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010			
	Sodium (Na)-Dissolved (mg/L)	6.30	7.58			
	Strontium (Sr)-Dissolved (mg/L)	0.746	0.879			
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010			
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010			
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010			
	Uranium (U)-Dissolved (mg/L)	0.00329	0.00274			
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010			
	Zinc (Zn)-Dissolved (mg/L)	0.0757	0.0026			

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-1	L1363192-2	L1363192-3	L1363192-4	L1363192-5
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13
	Sampled Time	16:57	11:43	17:07	17:42	09:18
	Client ID	0215-130911-016	0215-130911-023	0215-130911-005	0215-130911-021	0215-130911-029
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0016 DLA	<0.00080	<0.00080	<0.0016 DLA	<0.0016 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-6	L1363192-7	L1363192-8	L1363192-9	L1363192-10
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13
	Sampled Time	15:31	09:05	09:00	10:10	13:30
	Client ID	0215-130911-019	0215-130911-028	0215-130911-020	0215-130911-024	0215-130911-022
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	0.00171	<0.0016 DLA	<0.0016 DLA	<0.0016 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-11	L1363192-12	L1363192-13	L1363192-14	L1363192-15
	Description	GW	GW	GW	GW	GW
	Sampled Date	11-SEP-13	11-SEP-13	11-SEP-13	11-SEP-13	10-SEP-13
	Sampled Time	13:15	12:19	17:54	16:00	18:02
	Client ID	0215-130911-034	0215-130911-006	0215-130911-003	0215-130911-001	0215-130910-031
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0040 DLA	<0.0040 DLA	<0.0016 DLA	<0.00080	<0.00080

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-16	L1363192-17	L1363192-18	L1363192-19	L1363192-20
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	09:15	11:30	08:06	13:50	16:50
	Client ID	0215-130912-049	0215-130912-051	0215-130912-018	0215-130912-012	0215-130912-058
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.00080	<0.0040 DLA	<0.0040 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID	Description	Sampled Date	Sampled Time	Client ID
		L1363192-21	GW	12-SEP-13	11:18	0215-130912-050
		L1363192-22	GW	12-SEP-13	17:42	0215-130912-060
		L1363192-23	GW	12-SEP-13	09:41	0215-130912-017
		L1363192-24	GW	12-SEP-13	11:13	0215-130912-015
		L1363192-25	GW	12-SEP-13	15:13	0215-130912-057
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.00080				
		<0.00080				
		<0.00080				
		<0.00080				
		<0.00080				

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-26	L1363192-27	L1363192-28	L1363192-29	L1363192-30
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	11-SEP-13	11-SEP-13	12-SEP-13
	Sampled Time	15:35	12:42	13:38	10:37	15:44
	Client ID	0215-130912-053	0215-130912-054	0215-130911-002	0215-130911-027	0215-130912-066
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080	<0.0016 DLA	<0.0016 DLA	<0.0080 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID Description Sampled Date Sampled Time Client ID	Sample ID Description Sampled Date Sampled Time Client ID	Sample ID Description Sampled Date Sampled Time Client ID	Sample ID Description Sampled Date Sampled Time Client ID	Sample ID Description Sampled Date Sampled Time Client ID
		L1363192-31 GW 12-SEP-13 08:11 0215-130912-035	L1363192-32 GW 12-SEP-13 08:11 0215-130912-025	L1363192-33 GW 12-SEP-13 08:36 0215-130912-063	L1363192-34 GW 12-SEP-13 11:45 0215-130912-061	L1363192-35 GW 12-SEP-13 14:30 0215-130912-069
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0016 DLA	<0.0016 DLA	0.00096	0.144	0.0541

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-36	L1363192-37	L1363192-38	L1363192-39	L1363192-40
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13
	Sampled Time	15:20	14:05	12:33	10:10	15:00
	Client ID	0215-130912-068	0215-130912-064	0215-130912-065	0215-130912-062	0215-130912-030
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0016 DLA	<0.0016 DLA	<0.0040 DLA	0.0223 DTC	<0.0016 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-41	L1363192-42	L1363192-43	L1363192-44	L1363192-45
	Description	GW	GW	GW	GW	GW
	Sampled Date	12-SEP-13	12-SEP-13	12-SEP-13	12-SEP-13	11-SEP-13
	Sampled Time	17:30	09:00	17:57	17:51	13:19
	Client ID	0215-130912-070	0215-130912-072	0215-130912-071	0215-130912-067	0215-130912-026
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0040 DLA	<0.016 DLA	<0.0040 DLA	<0.0040 DLA	<0.00080

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363192-46	L1363192-47			
	Description	GW	GW			
	Sampled Date	11-SEP-13	10-SEP-13			
	Sampled Time	14:48	18:09			
	Client ID	0215-130912-004	0215-130912-0036			
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.00080			

* 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)
Matrix Spike	Cadmium (Cd)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Zinc (Zn)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1363192-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1363192-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Total	MS-B	L1363192-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Total	MS-B	L1363192-1, -10, -11, -12, -13, -14, -15, -2, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Total	MS-B	L1363192-16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27
Matrix Spike	Calcium (Ca)-Total	MS-B	L1363192-16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1363192-16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27
Matrix Spike	Sodium (Na)-Total	MS-B	L1363192-16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27
Matrix Spike	Strontium (Sr)-Total	MS-B	L1363192-16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27
Matrix Spike	Calcium (Ca)-Total	MS-B	L1363192-43, -44, -45, -46, -47
Matrix Spike	Sodium (Na)-Total	MS-B	L1363192-43, -44, -45, -46, -47
Matrix Spike	Strontium (Sr)-Total	MS-B	L1363192-43, -44, -45, -46, -47
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Aluminum (Al)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42
Matrix Spike	Barium (Ba)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42
Matrix Spike	Calcium (Ca)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Manganese (Mn)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42
Matrix Spike	Potassium (K)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42
Matrix Spike	Sodium (Na)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42
Matrix Spike	Strontium (Sr)-Total	MS-B	L1363192-28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40, -41, -42
Matrix Spike	Sulfate (SO4)	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1363192-1, -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, -34, -35, -36, -37, -38, -39, -4, -40, -41, -42, -43, -44, -45, -46, -47, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit Adjusted For required dilution
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
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.

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.

ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	EPA 310.2

This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.

ANIONS-CL-IC-WR	Water	Chloride by Ion Chromatography	EPA 300.1

This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.

ANIONS-SO4-IC-WR	Water	Sulphate by Ion Chromatography	EPA 300.1

This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.

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 3030 B&E / EPA SW-846 6020A

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 hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Reference Information

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

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

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

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.

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.

ZR-D-MS-VA	Water	Dissolved Zr in Water by ICPMS	EPA SW-846 3005A/6020A

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 - mass spectrometry (EPA Method 6020A).

ZR-T-MS-VA	Water	Total Zr in Water by ICPMS	EPA SW-846 3005A/6020A

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 - mass spectrometry (EPA Method 6020A).

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

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

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

Chain of Custody Numbers:

1	2	3	4	5
6	7			

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

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Page 1 of 2

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Report To		Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	EDI	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Caleb Light	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	2251 2nd Ave	Email 1: clight@edynamics.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT	Email 2: bsnow@edynamics.com	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882 Fax: 8673938443	Email 3:	
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information	Analysis Request
Hardcopy of Invoice with Report?	☑ Yes ☐ No	Job #: 13-Y-0215	Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:		PO / AFE:	
Contact:		LSD:	
Address:			
Phone:	Fax:	Quote #: 38544	
Lab Work Order # (lab use only)	L1363192	ALS Contact:	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals	Total Metals	F/P	P	Number of Containers
	0215-130911-016	11/SEP/13	16:57	GW	X	X	X	X			3
	0215-130911-023	11/SEP/13	11:43		X	X	X	X			3
	0215-130911-005		17:07		X	X	X	X			3
	0215-130911-021		17:42		X	X	X	X			3
	0215-130911-029		9:18		X	X	X	X			3
	0215-130911-019		15:31		X	X	X	X			3
	0215-130911-028		9:05		X	X	X	X			3
	0215-130911-020				X	X	X	X			3
	0215-130911-024		10:10		X	X	X	X			3
	0215-130911-022		13:30		X	X	X	X			3
	0215-130911-034		13:15		X	X	X	X			3
	0215-130911-006		12:19		X	X	X	X			3

L1363192-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	13/SEP/13	0600		13-Sep-13	11:10 pm	2.6, 3.4 °C				

2.1, 3.6
5.8, 7.0

ALS Environmental

Chain of Custody / Analytical Request Form

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Page 2 of 2

Report To				Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)
Company:	EDI			☑ Standard ☐ Other				◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Caleb Light			☑ PDF ☑ Excel ☐ Digital ☐ Fax				○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	2251 2nd Ave			Email 1: clight@edynamics.com				○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT			Email 2: bsnow@edynamics.com				○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882	Fax: 8673938443		Email 3:				
Invoice To	Same as Report ? ☑ Yes	☐ No		Client / Project Information				Analysis Request
Hardcopy of Invoice with Report?	☑ Yes	☐ No		Job #: 13-Y-0215				Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #: 38544				

Lab Work Order # (lab use only)		ALS Contact:	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals (F/P)	Total Metals (P)	Number of Containers
	0215 - 130911 - 003	11-SEP-13	17:54	GW	X	X	X	X	3
	0215 - 130911 - 001	11-SEP-13	16:00	GW	X	X	X	X	3
	0215 - 130910 - 031	10-SEP-13	18:02	GW	X	X	X	X	3

L1363192-COFC

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	13-SEP-13	0600				°C				

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Report To			
Company:	EDI		
Contact:	Caleb Light		
Address:	2251 2nd Ave		
	Whitehorse, YT		
Phone:	8673934882	Fax: 8673938443	
Invoice To	Same as Report ?	☑ Yes	☐ No
Hardcopy of Invoice with Report?		☑ Yes	☐ No
Company:			
Contact:			
Address:			
Phone:		Fax:	

Report Format / Distribution

☑ Standard ☐ Other

☑ PDF ☑ Excel ☐ Digital ☐ Fax

Email 1: clight@edynamics.com

Email 2: bsnow@edynamics.com

Email 3:

Client / Project Information

Job #: 13-Y-0215

PO / AFE:

LSD:

Quote #: 38544

Service Requested (Rush for routine analysis subject to availability)

◉ Regular (Standard Turnaround Times - Business Days)

○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT

○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT

○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Lab Work Order # (lab use only):

ALS Contact:

Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals (F/P)	Total Metals (P)	Number of Containers
	0215-130912-049	12-SEP-13	9:15	GW	X	X	X	X	3
	0215-130912-051		11:30		X	X	X	X	3
	0215-130912-018		08:06		X	X	X	X	3
	0215-130912-012		13:50		X	X	X	X	3
	0215-130912-058		16:50		X	X	X	X	3
	0215-130912-050		11:18		X	X	X	X	3
	0215-130912-060		17:42		X	X	X	X	3
	0215-130912-017		09:41		X	X	X	X	3
	0215-130912-015		11:13		X	X	X	X	3
	0215-130912-057		15:13		X	X	X	X	3
	0215-130912-053		15:35		X	X	X	X	3
	0215-130912-054		12:42		X	X	X	X	3

L1363192-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc)

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	13-SEP-13	0600		13-Sep-13	11:10 pm	2.6, 3.4 °C				

2.1, 3.6

5181 7.0

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Address:	2251 2nd Ave			Email 1: clight@edynamics.com				○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT			Email 2: bsnow@edynamics.com				○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882	Fax:	8673938443	Email 3:				
Invoice To	Same as Report ?	☑ Yes	☐ No	Client / Project Information				Analysis Request
Hardcopy of Invoice with Report?		☑ Yes	☐ No	Job #: 13-Y-0215				Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #: 38544				
Lab Work Order # (lab use only)				ALS Contact:		Sampler:		

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals	Total Metals	F/P	P	Number of Containers
	0215-130911-002	11-SEP-13	13:38	GW	X	X	X	X			3
	0215-130911-027	11-SEP-13	10:37	GW	X	X	X	X			3

L1363192-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	13-SEP-13	0600				°C				

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Hardcopy of Invoice with Report?		☑ Yes	☐ No
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Contact:			
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Phone:		Fax:	

Report Format / Distribution

☑ Standard ☐ Other

☑ PDF ☑ Excel ☐ Digital ☐ Fax

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Client / Project Information

Job #: 13-Y-0215

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ALS Contact:

Sampler:

Lab Work Order # (lab use only):

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○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT

○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT

Analysis Request

Please indicate below Filtered, Preserved or both (F, P, F/P)

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals (F/P)	Total Metals (P)	Number of Containers
	0215 - 130912 - 066	12-SEP-13	15:44	GW	X	X	X	X	3
	0215 - 130912 - 035		8:11		X	X	X	X	3
	0215 - 130912 - 025		8:11		X	X	X	X	3
	0215 - 130912 - 063		8:36		X	X	X	X	3
	0215 - 130912 - 061		11:45		X	X	X	X	3
	0215 - 130912 - 069		14:30		X	X	X	X	3
	0215 - 130912 - 068		15:20		X	X	X	X	3
	0215 - 130912 - 064		14:05		X	X	X	X	3
	0215 - 130912 - 065		12:33		X	X	X	X	3
	0215 - 130912 - 062		10:10		X	X	X	X	3
	0215 - 130912 - 030		15:00		X	X	X	X	3
	0215 - 130912 - 070		17:30		X	X	X	X	3

L1363192-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	0600 13/SEP/13	0600				°C				

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Page 2 of 2

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Company:	EDI	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Caleb Light	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	2251 2nd Ave	Email 1: clight@edynamics.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT	Email 2: bsnow@edynamics.com	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882 Fax: 8673938443	Email 3:	
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information	Analysis Request
Hardcopy of Invoice with Report?	☑ Yes ☐ No	Job #: 13-Y-0215	Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:		PO / AFE:	
Contact:		LSD:	
Address:			
Phone:	Fax:	Quote #: 38544	
Lab Work Order # (lab use only):		ALS Contact:	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals (F/P)	Total Metals (P)	Number of Containers
	0215-130912-072	12-SEP-13		GW	X	X	X	X	3
	0215-130912-071	"	17:57	GW	X	X	X	X	3
	0215-130912-067	"	17:51	GW	X	X	X	X	3

L1363192-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, e...

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	13/SEP/13	0600				°C				

ALS Environmental

Chain of Custody / Analytical Request Form

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

COC # _____

Page 1 of 1

Report To		Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company:	EDI	☑ Standard ☐ Other	◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Caleb Light	☑ PDF ☑ Excel ☐ Digital ☐ Fax	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	2251 2nd Ave	Email 1: clight@edynamics.com	○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT	Email 2: bsnow@edynamics.com	○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882 Fax: 8673938443	Email 3:	
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information	Analysis Request
Hardcopy of Invoice with Report?	☑ Yes ☐ No	Job #: 13-Y-0215	Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:		PO / AFE:	
Contact:		LSD:	
Address:			
Phone:	Fax:	Quote #: 38544	
Lab Work Order # (lab use only)		ALS Contact:	Sampler:

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals	Total Metals	F/P	P	Number of Containers
	0215 - 130911 - 026	11-SEP-13	13:19	GW	X	X	X	X			3
	0215 - 130911 - 004	11-SEP-13	14:48	GW	X	X	X	X			3
	0215 - 130910 - 026	10-SEP-13	12:09	GW	X	X	X	X			3

L1363192-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natura

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	13-SEP-13	600				°C				

ENVIRONMENTAL DYNAMICS INC.
ATTN: CALEB LIGHT
2251 2nd Ave
Whitehorse YT Y1A

Date Received: 16-SEP-13
Report Date: 01-OCT-13 10:52 (MT)
Version: FINAL

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1363493

Project P.O. #: NOT SUBMITTED
Job Reference: 13-Y-0215
C of C Numbers: 1, 2, 3, 4, 5
Legal Site Desc:

Can Dang
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-1	L1363493-2	L1363493-3	L1363493-4	L1363493-5
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	09:50	08:03	09:50	13:54	17:14
	Client ID	0215-130913-086	0215-130913-055	0215-130913-096	0215-130913-043	0215-130913-011
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	1120	2700	1110	2560	279
	Hardness (as CaCO3) (mg/L)	573	1820	572	1550	133
	pH (pH)	6.47	7.15	6.62	6.65	7.76
	Total Suspended Solids (mg/L)	4.0	1.0	4.4	10.6	5.8
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	194	47.4	155	173	4.0
	Alkalinity, Total (as CaCO3) (mg/L)	284	300	282	293	124
	Chloride (Cl) (mg/L)	<5.0 DLA	<10 DLA	<5.0 DLA	<10 DLA	0.85
	Sulfate (SO4) (mg/L)	397	1740	395	1530	27.1
Total Metals	Aluminum (Al)-Total (mg/L)	0.148	0.0108	0.143	0.168	0.0142
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	0.00030
	Arsenic (As)-Total (mg/L)	0.00033	0.00023	0.00031	0.00661	0.00162
	Barium (Ba)-Total (mg/L)	0.0160	0.0298	0.0158	0.0165	0.0739
	Beryllium (Be)-Total (mg/L)	0.00048	<0.00020 DLA	0.00048	0.00032	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.0010 DLA	<0.00050	<0.0010 DLA	<0.00050
	Boron (B)-Total (mg/L)	<0.010	<0.020 DLA	<0.010	<0.020 DLA	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000069	0.000422	0.000067	0.000037	0.000027
	Calcium (Ca)-Total (mg/L)	148	466	143	354	41.5
	Chromium (Cr)-Total (mg/L)	0.00032	<0.00020 DLA	0.00033	0.00092	0.00550
	Cobalt (Co)-Total (mg/L)	0.00579	<0.00020 DLA	0.00581	0.00912	0.00043
	Copper (Cu)-Total (mg/L)	0.00151	<0.0010 DLA	0.00143	<0.0010 DLA	0.0186
	Iron (Fe)-Total (mg/L)	16.1	0.026	16.1	37.3	2.93
	Lead (Pb)-Total (mg/L)	0.000374	0.00021	0.000355	0.00040	0.000144
	Lithium (Li)-Total (mg/L)	0.0545	0.0358	0.0530	0.0842	0.00261
	Magnesium (Mg)-Total (mg/L)	50.1	169	50.2	162	7.17
	Manganese (Mn)-Total (mg/L)	1.27	0.00153	1.27	3.29	0.0117
	Molybdenum (Mo)-Total (mg/L)	0.000165	<0.00010 DLA	0.000159	0.00017	0.00298
	Nickel (Ni)-Total (mg/L)	0.0164	0.0175	0.0162	0.0239	0.00612
	Phosphorus (P)-Total (mg/L)	<0.30	<0.60 DLA	<0.30	<0.60 DLA	<0.30
	Potassium (K)-Total (mg/L)	4.73	5.00	4.69	5.30	1.28
	Selenium (Se)-Total (mg/L)	<0.00010	0.00429	<0.00010	<0.00020 DLA	0.00040
	Silicon (Si)-Total (mg/L)	11.9	9.08	11.9	13.8	4.72
	Silver (Ag)-Total (mg/L)	<0.000010	<0.000020 DLA	<0.000010	<0.000020 DLA	0.000032
	Sodium (Na)-Total (mg/L)	8.74	6.62	8.44	20.7	2.43
	Strontium (Sr)-Total (mg/L)	0.622	1.18	0.623	1.64	0.202
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	0.00096
	Titanium (Ti)-Total (mg/L)	<0.010	<0.020 DLA	<0.010	<0.020 DLA	<0.010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-6	L1363493-7	L1363493-8	L1363493-9	L1363493-10
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	14:50	13:30	13:30	14:32	10:55
	Client ID	0215-130913-092	0215-130913-095	0215-130913-088	0215-130913-094	0215-130913-093
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	8270	7040	7130	9460	1510
	Hardness (as CaCO3) (mg/L)	6580	5430	5720	7500	801
	pH (pH)	6.73	6.88	6.98	7.02	6.79
	Total Suspended Solids (mg/L)	804	1.6	464	1530	16.4
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	626	549	666	865	189
	Alkalinity, Total (as CaCO3) (mg/L)	145	190	47.5	152	274
	Chloride (Cl) (mg/L)	<25 DLA	<25 DLA	<25 DLA	<25 DLA	<5.0 DLA
	Sulfate (SO4) (mg/L)	7790	6290	6490	9110	638
Total Metals	Aluminum (Al)-Total (mg/L)	21.1	<0.15 DLA	12.0	32.5	0.451
	Antimony (Sb)-Total (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.00010
	Arsenic (As)-Total (mg/L)	0.0189	<0.0050 DLA	0.0078	0.0469	0.00238
	Barium (Ba)-Total (mg/L)	0.296	0.0134	0.167	0.378	0.0173
	Beryllium (Be)-Total (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	0.00090
	Bismuth (Bi)-Total (mg/L)	<0.025 DLA	<0.025 DLA	<0.025 DLA	<0.025 DLA	<0.00050
	Boron (B)-Total (mg/L)	<0.50 DLA	<0.50 DLA	<0.50 DLA	<0.50 DLA	0.012
	Cadmium (Cd)-Total (mg/L)	0.201	0.0849	0.0885	0.266	0.000057
	Calcium (Ca)-Total (mg/L)	483	421	368	455	208
	Chromium (Cr)-Total (mg/L)	0.0533	<0.0050 DLA	0.0293	0.0733	0.00160
	Cobalt (Co)-Total (mg/L)	0.264	0.725	0.0131	1.55	0.00628
	Copper (Cu)-Total (mg/L)	0.105	0.042	0.046	0.113	0.00133
	Iron (Fe)-Total (mg/L)	42.0	<0.50 DLA	19.4	64.4	30.6
	Lead (Pb)-Total (mg/L)	0.0543	<0.0025 DLA	0.0121	0.0693	0.000566
	Lithium (Li)-Total (mg/L)	0.200	0.195	0.159	0.273	0.0602
	Magnesium (Mg)-Total (mg/L)	1180	1060	1030	1470	75.4
	Manganese (Mn)-Total (mg/L)	59.4	84.0	14.8	116	1.41
	Molybdenum (Mo)-Total (mg/L)	<0.0025 DLA	<0.0025 DLA	<0.0025 DLA	0.0029	0.000179
	Nickel (Ni)-Total (mg/L)	2.23	1.87	2.24	2.95	0.0198
	Phosphorus (P)-Total (mg/L)	<15 DLA	<15 DLA	<15 DLA	<15 DLA	<0.30
	Potassium (K)-Total (mg/L)	16.9	12.2	14.0	20.4	5.01
	Selenium (Se)-Total (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.00010
	Silicon (Si)-Total (mg/L)	41.7	11.6	30.8	58.7	13.5
	Silver (Ag)-Total (mg/L)	0.00210	<0.00050 DLA	<0.00050 DLA	0.00069	0.000011
	Sodium (Na)-Total (mg/L)	38.7	45.1	35.8	64.0	11.0
	Strontium (Sr)-Total (mg/L)	2.14	1.96	1.64	2.11	0.887
	Thallium (Tl)-Total (mg/L)	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA	0.00058	<0.000010
	Tin (Sn)-Total (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.00010
	Titanium (Ti)-Total (mg/L)	0.78	<0.50 DLA	<0.50 DLA	1.20	0.052

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-11	L1363493-12	L1363493-13	L1363493-14	L1363493-15
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	09:00	08:22	12:05	09:22	10:17
	Client ID	0215-130913-089	0215-130913-090	0215-130913-085	0215-130913-091	0215-130913-033
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	2100	357	6510	1110	797
	Hardness (as CaCO3) (mg/L)	1130	160	5180	593	330
	pH (pH)	6.32	6.93	7.13	6.95	6.41
	Total Suspended Solids (mg/L)	5.4	4.2	632	103	3.2
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	357	35.9	266	70.9	233
	Alkalinity, Total (as CaCO3) (mg/L)	231	154	404	367	216
	Chloride (Cl) (mg/L)	<10 DLA	<0.50	<25 DLA	<5.0 DLA	0.52
	Sulfate (SO4) (mg/L)	1220	46.8	5460	308	214
Total Metals	Aluminum (Al)-Total (mg/L)	0.138	0.0907	13.3	3.54	0.0409
	Antimony (Sb)-Total (mg/L)	<0.00020 DLA	<0.00010	<0.0020 DLA	0.00024	<0.00010
	Arsenic (As)-Total (mg/L)	0.00487	0.00016	0.0093	0.0561	0.00535
	Barium (Ba)-Total (mg/L)	0.0150	0.0535	0.239	0.0983	0.0121
	Beryllium (Be)-Total (mg/L)	0.00230	<0.00010	<0.0020 DLA	0.00091	0.00072
	Bismuth (Bi)-Total (mg/L)	<0.0010 DLA	<0.00050	<0.010 DLA	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<0.020 DLA	<0.010	<0.20 DLA	0.012	<0.010
	Cadmium (Cd)-Total (mg/L)	0.000058	0.000140	0.0299	0.000840	0.000044
	Calcium (Ca)-Total (mg/L)	284	47.4	395	149	84.4
	Chromium (Cr)-Total (mg/L)	0.00029	0.00036	0.0323	0.00941	0.00018
	Cobalt (Co)-Total (mg/L)	0.00805	0.00482	0.0103	0.00644	0.0200
	Copper (Cu)-Total (mg/L)	<0.0010 DLA	0.00119	0.048	0.0116	<0.00050
	Iron (Fe)-Total (mg/L)	77.2	0.195	24.4	19.2	35.0
	Lead (Pb)-Total (mg/L)	0.00030	0.000360	0.0179	0.00508	0.00114
	Lithium (Li)-Total (mg/L)	0.0754	0.0115	0.134	0.0429	0.0626
	Magnesium (Mg)-Total (mg/L)	113	10.6	927	52.2	28.8
	Manganese (Mn)-Total (mg/L)	2.50	1.08	55.2	0.963	1.01
	Molybdenum (Mo)-Total (mg/L)	0.00015	0.000270	0.0016	0.00107	0.000054
	Nickel (Ni)-Total (mg/L)	0.0292	0.00445	1.07	0.0192	0.0259
	Phosphorus (P)-Total (mg/L)	<0.60 DLA	<0.30	<6.0 DLA	0.63	<0.30
	Potassium (K)-Total (mg/L)	5.55	1.55	12.3	5.43	4.22
	Selenium (Se)-Total (mg/L)	<0.00020 DLA	<0.00010	<0.0020 DLA	0.00134	<0.00010
	Silicon (Si)-Total (mg/L)	14.0	6.99	33.0	18.2	14.0
	Silver (Ag)-Total (mg/L)	<0.000020 DLA	<0.000010	0.00032	0.000055	0.000013
	Sodium (Na)-Total (mg/L)	17.3	6.29	31.9	9.14	11.3
	Strontium (Sr)-Total (mg/L)	1.44	0.235	2.06	0.709	0.495
	Thallium (Tl)-Total (mg/L)	<0.000020 DLA	<0.000010	0.00021	0.000050	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00020 DLA	<0.00010	<0.0020 DLA	0.00022	0.00039
	Titanium (Ti)-Total (mg/L)	<0.020 DLA	<0.010	0.45	0.127	<0.010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1363493-16 GW 13-SEP-13 11:30 0215-130913-059	L1363493-17 GW 13-SEP-13 15:32 0215-130913-084	L1363493-18 GW 13-SEP-13 17:42 0215-130913-078	L1363493-19 GW 13-SEP-13 17:16 0215-130913-076	L1363493-20 GW 13-SEP-13 15:32 0215-130913-079
WATER						
Physical Tests	Conductivity (uS/cm)	780	3260	247	8490	3230
	Hardness (as CaCO3) (mg/L)	366	2250	101	6670	2240
	pH (pH)	6.50	6.68	7.67	6.88	6.77
	Total Suspended Solids (mg/L)	59.8	172	24.7	3.6	131
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	186	213	8.5	676	261
	Alkalinity, Total (as CaCO3) (mg/L)	376	282	86.3	163	284
	Chloride (Cl) (mg/L)	<0.50	<10 DLA	<0.50	<25 DLA	<10 DLA
	Sulfate (SO4) (mg/L)	99.2	2190	43.1	8020	2160
Total Metals	Aluminum (Al)-Total (mg/L)	1.00	3.53	0.623	<0.15 DLA	2.94
	Antimony (Sb)-Total (mg/L)	0.00012	0.0013	0.00014	<0.0050 DLA	0.0011
	Arsenic (As)-Total (mg/L)	0.00137	0.0116	0.00750	<0.0050 DLA	0.0101
	Barium (Ba)-Total (mg/L)	0.108	0.0720	0.0613	0.0182	0.0690
	Beryllium (Be)-Total (mg/L)	0.00057	0.0012	0.00023	<0.0050 DLA	<0.0010 DLA
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.0050 DLA	<0.00050	<0.025 DLA	<0.0050 DLA
	Boron (B)-Total (mg/L)	<0.010	<0.10 DLA	<0.010	<0.50 DLA	<0.10 DLA
	Cadmium (Cd)-Total (mg/L)	0.000076	0.0279	0.000024	0.0809	0.0235
	Calcium (Ca)-Total (mg/L)	107	342	12.5	508	355
	Chromium (Cr)-Total (mg/L)	0.00317	0.0135	0.00193	<0.0050 DLA	0.0113
	Cobalt (Co)-Total (mg/L)	0.00348	0.155	0.00118	0.948	0.139
	Copper (Cu)-Total (mg/L)	0.00284	0.0240	0.00222	<0.025 DLA	0.0194
	Iron (Fe)-Total (mg/L)	8.37	35.0	6.12	1.20	38.9
	Lead (Pb)-Total (mg/L)	0.00862	0.151	0.00153	<0.0025 DLA	0.115
	Lithium (Li)-Total (mg/L)	0.0840	0.0796	0.0204	0.229	0.0814
	Magnesium (Mg)-Total (mg/L)	25.3	326	17.8	1410	307
	Manganese (Mn)-Total (mg/L)	0.530	20.3	1.39	104	18.3
	Molybdenum (Mo)-Total (mg/L)	0.000204	0.00115	0.000523	<0.0025 DLA	0.00116
	Nickel (Ni)-Total (mg/L)	0.00819	0.408	0.00721	2.66	0.354
	Phosphorus (P)-Total (mg/L)	<0.30	<3.0 DLA	<0.30	<15 DLA	<3.0 DLA
	Potassium (K)-Total (mg/L)	3.35	7.77	1.99	14.7	7.69
	Selenium (Se)-Total (mg/L)	<0.00010	<0.0010 DLA	0.00011	<0.0050 DLA	<0.0010 DLA
	Silicon (Si)-Total (mg/L)	10.8	20.1	8.50	11.1	19.5
	Silver (Ag)-Total (mg/L)	0.000043	0.00097	0.000016	<0.00050 DLA	0.00105
	Sodium (Na)-Total (mg/L)	13.8	18.7	2.78	57.0	18.4
	Strontium (Sr)-Total (mg/L)	0.779	1.44	0.111	2.47	1.49
	Thallium (Tl)-Total (mg/L)	0.000070	<0.00010 DLA	0.000014	<0.00050 DLA	<0.00010 DLA
	Tin (Sn)-Total (mg/L)	0.00020	0.0012	0.00017	<0.0050 DLA	<0.0010 DLA
	Titanium (Ti)-Total (mg/L)	0.044	0.13	0.032	<0.50 DLA	0.10

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-21	L1363493-22	L1363493-23	L1363493-24	L1363493-25
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	16:40	15:45	15:00	10:13	08:17
	Client ID	0215-130913-083	0215-130913-087	0215-130913-112	0215-130913-109	0215-130914-075
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	8080	8000	4590	5340	2240
	Hardness (as CaCO3) (mg/L)	6430	6990	2010	4220	1410
	pH (pH)	6.60	7.25	5.47	7.57	6.67
	Total Suspended Solids (mg/L)	150	274	43.6	2000	162
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	719	194	1320	68.6	155
	Alkalinity, Total (as CaCO3) (mg/L)	174	399	16.1	395	287
	Chloride (Cl) (mg/L)	<25 DLA	<25 DLA	<10 DLA	<10 DLA	<10 DLA
	Sulfate (SO4) (mg/L)	7520	7140	3910	4150	1310
Total Metals	Aluminum (Al)-Total (mg/L)	3.96	1.89	2.65	28.4	19.2
	Antimony (Sb)-Total (mg/L)	<0.0050 DLA	<0.0010 DLA	<0.0050 DLA	0.0012	0.00066
	Arsenic (As)-Total (mg/L)	<0.0050 DLA	0.0116	<0.0050 DLA	0.0172	0.0379
	Barium (Ba)-Total (mg/L)	0.0725	0.0598	0.0231	0.371	0.204
	Beryllium (Be)-Total (mg/L)	<0.0050 DLA	<0.0010 DLA	<0.0050 DLA	0.0016	0.00115
	Bismuth (Bi)-Total (mg/L)	<0.025 DLA	<0.0050 DLA	<0.025 DLA	<0.0050 DLA	<0.0010 DLA
	Boron (B)-Total (mg/L)	<0.50 DLA	<0.10 DLA	<0.50 DLA	<0.10 DLA	<0.020 DLA
	Cadmium (Cd)-Total (mg/L)	0.210	0.0182	0.0698	0.00485	0.00132
	Calcium (Ca)-Total (mg/L)	425	572	488	457	282
	Chromium (Cr)-Total (mg/L)	0.0083	0.0054	<0.0050 DLA	0.0664	0.126
	Cobalt (Co)-Total (mg/L)	1.06	0.153	3.51	0.0707	0.0435
	Copper (Cu)-Total (mg/L)	0.028	0.0132	<0.025 DLA	0.0910	0.0409
	Iron (Fe)-Total (mg/L)	9.70	40.1	617	52.8	58.1
	Lead (Pb)-Total (mg/L)	0.0169	0.00545	0.0195	0.0430	0.0207
	Lithium (Li)-Total (mg/L)	0.164	0.0781	0.138	0.112	0.0877
	Magnesium (Mg)-Total (mg/L)	1270	1200	186	706	164
	Manganese (Mn)-Total (mg/L)	102	32.4	262	52.6	8.60
	Molybdenum (Mo)-Total (mg/L)	<0.0025 DLA	0.00135	0.0034	0.00390	0.00210
	Nickel (Ni)-Total (mg/L)	2.56	0.438	4.01	0.390	0.146
	Phosphorus (P)-Total (mg/L)	<15 DLA	<3.0 DLA	<15 DLA	<3.0 DLA	<0.60 DLA
	Potassium (K)-Total (mg/L)	14.0	9.07	6.7	13.7	9.19
	Selenium (Se)-Total (mg/L)	<0.0050 DLA	<0.0010 DLA	<0.0050 DLA	<0.0010 DLA	0.00040
	Silicon (Si)-Total (mg/L)	17.2	12.1	34.9	50.7	40.5
	Silver (Ag)-Total (mg/L)	<0.00050 DLA	0.00012	<0.00050 DLA	0.00048	0.000231
	Sodium (Na)-Total (mg/L)	56.6	37.6	27.0	67.2	13.6
	Strontium (Sr)-Total (mg/L)	1.90	2.22	2.26	2.18	1.09
	Thallium (Tl)-Total (mg/L)	<0.00050 DLA	<0.00010 DLA	<0.00050 DLA	0.00059	0.000281
	Tin (Sn)-Total (mg/L)	<0.0050 DLA	<0.0010 DLA	<0.0050 DLA	0.0036	0.00094
	Titanium (Ti)-Total (mg/L)	<0.50 DLA	<0.10 DLA	<0.50 DLA	1.09	0.904

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-26	L1363493-27	L1363493-28	L1363493-29	L1363493-30
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	08:32	08:17	09:51	09:20	00:43
	Client ID	0215-130914-073	0215-130914-014	0215-130914-077	0215-130914-074	0215-130914-111
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	6370	2240	850	743	8620
	Hardness (as CaCO3) (mg/L)	5200	1440	421	328	4380
	pH (pH)	6.82	6.75	6.88	6.97	5.44
	Total Suspended Solids (mg/L)	139	1850	13.2	24.8	592
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	380	213	77.3	38.8	3430
	Alkalinity, Total (as CaCO3) (mg/L)	224	276	183	107	44.8
	Chloride (Cl) (mg/L)	<25 DLA	<10 DLA	<2.5 DLA	<0.50	<25 DLA
	Sulfate (SO4) (mg/L)	5510	1300	313	300	8480
Total Metals	Aluminum (Al)-Total (mg/L)	1.94	48.9	0.565	0.239	8.61
	Antimony (Sb)-Total (mg/L)	<0.0020 DLA	0.00127	<0.00010	0.00011	<0.010 DLA
	Arsenic (As)-Total (mg/L)	0.0068	0.104	0.00060	0.00503	0.020
	Barium (Ba)-Total (mg/L)	0.149	0.536	0.0549	0.0138	0.114
	Beryllium (Be)-Total (mg/L)	<0.0020 DLA	0.00285	0.00012	0.00026	<0.010 DLA
	Bismuth (Bi)-Total (mg/L)	<0.010 DLA	0.0011	<0.00050	<0.00050	<0.050 DLA
	Boron (B)-Total (mg/L)	<0.20 DLA	<0.020 DLA	<0.010	<0.010	<1.0 DLA
	Cadmium (Cd)-Total (mg/L)	0.0346	0.00201	0.000964	0.000032	0.0817
	Calcium (Ca)-Total (mg/L)	551	289	64.0	91.1	404
	Chromium (Cr)-Total (mg/L)	0.0071	0.325	0.00137	0.00093	<0.010 DLA
	Cobalt (Co)-Total (mg/L)	0.465	0.0671	0.00656	0.00471	1.64
	Copper (Cu)-Total (mg/L)	0.011	0.110	0.00181	0.00071	0.066
	Iron (Fe)-Total (mg/L)	12.7	122	4.34	12.1	1380
	Lead (Pb)-Total (mg/L)	0.0046	0.0544	0.000968	0.000287	0.185
	Lithium (Li)-Total (mg/L)	0.098	0.129	0.0427	0.0394	0.114
	Magnesium (Mg)-Total (mg/L)	851	189	56.0	30.7	765
	Manganese (Mn)-Total (mg/L)	61.9	10.3	6.29	0.948	111
	Molybdenum (Mo)-Total (mg/L)	0.0011	0.00529	0.000167	0.000130	<0.0050 DLA
	Nickel (Ni)-Total (mg/L)	1.02	0.279	0.0209	0.0121	1.40
	Phosphorus (P)-Total (mg/L)	<6.0 DLA	1.05	<0.30	<0.30	<30 DLA
	Potassium (K)-Total (mg/L)	9.3	13.9	3.43	3.94	12.1
	Selenium (Se)-Total (mg/L)	<0.0020 DLA	0.00116	<0.00010	<0.00010	<0.010 DLA
	Silicon (Si)-Total (mg/L)	12.8	76.4	11.4	12.3	29.9
	Silver (Ag)-Total (mg/L)	0.00025	0.000686	0.000023	<0.000010	0.0011
	Sodium (Na)-Total (mg/L)	34.5	14.5	5.09	7.36	46.7
	Strontium (Sr)-Total (mg/L)	2.33	1.17	0.385	0.373	4.45
	Thallium (Tl)-Total (mg/L)	<0.00020 DLA	0.000683	0.000015	<0.000010	<0.0010 DLA
	Tin (Sn)-Total (mg/L)	<0.0020 DLA	0.00233	<0.00010	<0.00010	<0.010 DLA
	Titanium (Ti)-Total (mg/L)	<0.20 DLA	2.21	0.025	<0.010	<1.0 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-31	L1363493-32	L1363493-33	L1363493-34	L1363493-35
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	16:26	11:28	12:11	16:01	12:00
	Client ID	0215-130914-010	0215-130914-080	0215-130914-081	0215-130914-082	TRAVEL BLANK
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	3470	9210	3400	4720	<2.0
	Hardness (as CaCO3) (mg/L)	1610	5070	2220	2120	<0.50
	pH (pH)	6.00	5.40	6.39	5.53	5.54
	Total Suspended Solids (mg/L)	1950	218	43.2	388	<1.0
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	1010	3630	309	1570	2.5
	Alkalinity, Total (as CaCO3) (mg/L)	25.4	28.3	135	21.6	<2.0
	Chloride (Cl) (mg/L)	<10 DLA	<25 DLA	<10 DLA	<10 DLA	<0.50
	Sulfate (SO4) (mg/L)	2620	9320	2490	4070	<0.50
Total Metals	Aluminum (Al)-Total (mg/L)	4.23	9.72	5.59	15.2	<0.0030
	Antimony (Sb)-Total (mg/L)	0.0292	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	<0.00010
	Arsenic (As)-Total (mg/L)	0.290	0.078	0.0011	0.0118	<0.00010
	Barium (Ba)-Total (mg/L)	1.30	0.0179	0.0708	0.186	<0.000050
	Beryllium (Be)-Total (mg/L)	<0.0020 DLA	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.010 DLA	<0.050 DLA	<0.0050 DLA	<0.025 DLA	<0.00050
	Boron (B)-Total (mg/L)	<0.20 DLA	<1.0 DLA	<0.10 DLA	<0.50 DLA	<0.010
	Cadmium (Cd)-Total (mg/L)	0.0326	0.119	0.00369	0.0435	<0.000010
	Calcium (Ca)-Total (mg/L)	162	382	507	499	<0.020
	Chromium (Cr)-Total (mg/L)	0.0250	<0.010 DLA	0.0011	0.0386	0.00015 RRV
	Cobalt (Co)-Total (mg/L)	0.154	1.98	0.169	2.98	<0.00010
	Copper (Cu)-Total (mg/L)	0.732	<0.050 DLA	<0.0050 DLA	0.040	<0.00050
	Iron (Fe)-Total (mg/L)	630	1270	136	761	<0.010
	Lead (Pb)-Total (mg/L)	9.88	0.0266	0.0215	0.0590	<0.000050
	Lithium (Li)-Total (mg/L)	0.044	0.162	0.0273	0.132	<0.00050
	Magnesium (Mg)-Total (mg/L)	188	992	189	189	<0.0050
	Manganese (Mn)-Total (mg/L)	40.0	121	15.5	235	<0.000050
	Molybdenum (Mo)-Total (mg/L)	0.0043	<0.0050 DLA	<0.00050 DLA	0.0042	<0.000050
	Nickel (Ni)-Total (mg/L)	0.115	1.65	0.150	3.66	<0.00050
	Phosphorus (P)-Total (mg/L)	<6.0 DLA	<30 DLA	<3.0 DLA	<15 DLA	<0.30
	Potassium (K)-Total (mg/L)	6.6	14.8	4.63	8.0	<0.050
	Selenium (Se)-Total (mg/L)	<0.0020 DLA	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	<0.00010
	Silicon (Si)-Total (mg/L)	11.7	19.8	23.8	51.9	<0.050
	Silver (Ag)-Total (mg/L)	0.00800	<0.0010 DLA	0.00014	<0.00050 DLA	<0.000010
	Sodium (Na)-Total (mg/L)	32.9	50.1	31.0	27.9	<0.050
	Strontium (Sr)-Total (mg/L)	0.381	3.91	7.01	2.09	<0.00020
	Thallium (Tl)-Total (mg/L)	0.00234	<0.0010 DLA	<0.00010 DLA	<0.00050 DLA	<0.000010
	Tin (Sn)-Total (mg/L)	0.0042	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	<0.00010
	Titanium (Ti)-Total (mg/L)	<0.20 DLA	<1.0 DLA	<0.10 DLA	0.51	<0.010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-36	L1363493-37	L1363493-38	L1363493-39	L1363493-40
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	12:00	10:40	11:35	12:00	09:36
	Client ID	FIELD BLANK	0215-130913-007	0215-130913-013	0215-130913-056	0215-130913-008
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	<2.0	1080	1150	775	3390
	Hardness (as CaCO3) (mg/L)	<0.50	524	552	334	1270
	pH (pH)	5.55	6.23	6.41	6.25	4.56
	Total Suspended Solids (mg/L)	<1.0	3.6	61.6	3.4	52.7
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2.3	510	407	261	1380
	Alkalinity, Total (as CaCO3) (mg/L)	<2.0	413	444	241	8.3
	Chloride (Cl) (mg/L)	<0.50	<5.0 DLA	<5.0 DLA	<2.5 DLA	<10 DLA
	Sulfate (SO4) (mg/L)	<0.50	224	146	217	2730
Total Metals	Aluminum (Al)-Total (mg/L)	<0.0030	0.0799	0.942	0.0385	19.6
	Antimony (Sb)-Total (mg/L)	<0.00010	<0.00010	0.00057	<0.00010	<0.0020 DLA
	Arsenic (As)-Total (mg/L)	<0.00010	0.0317	0.00431	0.00540	0.0052
	Barium (Ba)-Total (mg/L)	<0.000050	0.0115	0.0502	0.0125	0.0237
	Beryllium (Be)-Total (mg/L)	<0.00010	0.00148	0.00072	0.00073	0.0144
	Bismuth (Bi)-Total (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.010 DLA
	Boron (B)-Total (mg/L)	<0.010	0.012	<0.010	<0.010	<0.20 DLA
	Cadmium (Cd)-Total (mg/L)	<0.000010	0.000018	0.000090	0.000035	0.541
	Calcium (Ca)-Total (mg/L)	<0.020	135	159	87.5	235
	Chromium (Cr)-Total (mg/L)	<0.00010	0.00024	0.00330	0.00016	0.0103
	Cobalt (Co)-Total (mg/L)	<0.00010	0.00910	0.00904	0.0199	0.509
	Copper (Cu)-Total (mg/L)	<0.00050	<0.00050	0.00312	<0.00050	4.27
	Iron (Fe)-Total (mg/L)	<0.010	37.0	14.0	36.3	526
	Lead (Pb)-Total (mg/L)	<0.000050	0.00125	0.00971	0.00109	0.969
	Lithium (Li)-Total (mg/L)	<0.00050	0.113	0.0878	0.0610	0.103
	Magnesium (Mg)-Total (mg/L)	<0.0050	40.8	41.0	30.2	168
	Manganese (Mn)-Total (mg/L)	<0.000050	0.805	0.791	1.03	10.7
	Molybdenum (Mo)-Total (mg/L)	<0.000050	<0.000050	0.000215	0.000052	<0.0010 DLA
	Nickel (Ni)-Total (mg/L)	<0.00050	0.0219	0.0178	0.0259	0.444
	Phosphorus (P)-Total (mg/L)	<0.30	<0.30	<0.30	<0.30	<6.0 DLA
	Potassium (K)-Total (mg/L)	<0.050	6.27	3.14	4.25	5.8
	Selenium (Se)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.0020 DLA
	Silicon (Si)-Total (mg/L)	<0.050	16.8	11.2	13.8	8.2
	Silver (Ag)-Total (mg/L)	<0.000010	0.000042	0.000031	0.000014	<0.00020 DLA
	Sodium (Na)-Total (mg/L)	<0.050	18.6	21.2	11.6	22.4
	Strontium (Sr)-Total (mg/L)	<0.00020	0.852	1.01	0.522	1.07
	Thallium (Tl)-Total (mg/L)	<0.000010	<0.000010	0.000110	<0.000010	0.00587
	Tin (Sn)-Total (mg/L)	<0.00010	0.00029	0.00011	0.00038	<0.0020 DLA
	Titanium (Ti)-Total (mg/L)	<0.010	<0.010	0.042	<0.010	<0.20 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-41	L1363493-42	L1363493-43	L1363493-44	L1363493-45
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	16:12	14:40	13:47	15:18	18:10
	Client ID	0215-130913-032	0215-130913-046	0215-130913-047	0215-130913-044	0215-130913-048
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	9320	3090	2930	1540	811
	Hardness (as CaCO3) (mg/L)	5120	2190	2000	892	413
	pH (pH)	3.43	7.57	6.69	7.97	7.52
	Total Suspended Solids (mg/L)	45.2	42.0	151	234	79.3
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	2550	11.7	153	13.3	38.6
	Alkalinity, Total (as CaCO3) (mg/L)	<2.0	216	272	300	469
	Chloride (Cl) (mg/L)	<25 DLA	<10 DLA	<10 DLA	<5.0 DLA	<2.5 DLA
	Sulfate (SO4) (mg/L)	9230	2130	1970	683	24.9
Total Metals	Aluminum (Al)-Total (mg/L)	23.7	0.650	4.20	7.90	0.356
	Antimony (Sb)-Total (mg/L)	<0.020 DLA	<0.00020 DLA	0.00024	0.00036	0.00528
	Arsenic (As)-Total (mg/L)	<0.020 DLA	0.00041	0.00988	0.00806	0.0751
	Barium (Ba)-Total (mg/L)	0.022	0.0210	0.0845	0.0973	0.182
	Beryllium (Be)-Total (mg/L)	<0.020 DLA	<0.00020 DLA	0.00058	0.00032	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.10 DLA	<0.0010 DLA	<0.0010 DLA	<0.00050	<0.00050
	Boron (B)-Total (mg/L)	<2.0 DLA	<0.020 DLA	<0.020 DLA	0.016	<0.010
	Cadmium (Cd)-Total (mg/L)	0.667	0.000044	0.000236	0.000112	0.000109
	Calcium (Ca)-Total (mg/L)	435	538	369	272	118
	Chromium (Cr)-Total (mg/L)	<0.020 DLA	0.00202	0.0135	0.0532	0.145
	Cobalt (Co)-Total (mg/L)	2.63	0.00093	0.0131	0.0114	0.0110
	Copper (Cu)-Total (mg/L)	0.27	0.0027	0.0073	0.0304	0.356
	Iron (Fe)-Total (mg/L)	289	1.76	48.1	14.0	32.8
	Lead (Pb)-Total (mg/L)	0.138	0.00100	0.00498	0.00699	0.00211
	Lithium (Li)-Total (mg/L)	0.15	0.0309	0.0821	0.0242	0.0510
	Magnesium (Mg)-Total (mg/L)	1170	203	243	56.3	21.8
	Manganese (Mn)-Total (mg/L)	154	0.0232	6.81	0.218	0.589
	Molybdenum (Mo)-Total (mg/L)	<0.010 DLA	0.00086	0.00091	0.00497	0.0574
	Nickel (Ni)-Total (mg/L)	2.81	0.0030	0.0302	0.0680	0.119
	Phosphorus (P)-Total (mg/L)	<60 DLA	<0.60 DLA	<0.60 DLA	<0.30	<0.30
	Potassium (K)-Total (mg/L)	19	5.62	6.49	6.36	2.52
	Selenium (Se)-Total (mg/L)	<0.020 DLA	0.00050	<0.00020 DLA	0.00208	<0.00010
	Silicon (Si)-Total (mg/L)	33	6.74	20.2	21.2	10.1
	Silver (Ag)-Total (mg/L)	<0.0020 DLA	<0.000020 DLA	0.000075	0.000064	0.000175
	Sodium (Na)-Total (mg/L)	75	19.7	21.9	38.5	20.8
	Strontium (Sr)-Total (mg/L)	3.78	0.673	1.44	3.74	0.890
	Thallium (Tl)-Total (mg/L)	<0.0020 DLA	<0.000020 DLA	0.000060	0.000083	0.000015
	Tin (Sn)-Total (mg/L)	<0.020 DLA	<0.00020 DLA	<0.00020 DLA	0.00064	0.0198
	Titanium (Ti)-Total (mg/L)	<2.0 DLA	0.045	0.101	0.263	0.029

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-46	L1363493-47	L1363493-48	L1363493-49	L1363493-50
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	13:45	16:18	12:50	18:20	10:22
	Client ID	0215-130913-045	0215-130913-052	0215-130913-041	0215-130914-042	0215-130914-037
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	2720	9450	3940	1460	1880
	Hardness (as CaCO3) (mg/L)	1520	6700	2980	792	1080
	pH (pH)	6.66	5.96	7.77	7.48	7.92
	Total Suspended Solids (mg/L)	187	22.4	57.6	70.0	753
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	155	2020	35.0	30.7	20.0
	Alkalinity, Total (as CaCO3) (mg/L)	292	116	584	104	338
	Chloride (Cl) (mg/L)	<10 DLA	<25 DLA	<10 DLA	<5.0 DLA	<5.0 DLA
	Sulfate (SO4) (mg/L)	1730	9500	2640	830	925
Total Metals	Aluminum (Al)-Total (mg/L)	3.23	1.47	0.979	2.04	8.39
	Antimony (Sb)-Total (mg/L)	0.00021	<0.010 DLA	<0.00020 DLA	<0.00050 DLA	0.00081
	Arsenic (As)-Total (mg/L)	0.00942	<0.010 DLA	0.00144	0.00217	0.00297
	Barium (Ba)-Total (mg/L)	0.0832	0.0214	0.0406	0.500	0.180
	Beryllium (Be)-Total (mg/L)	0.00044	<0.010 DLA	<0.00020 DLA	<0.00050 DLA	0.00039
	Bismuth (Bi)-Total (mg/L)	<0.0010 DLA	<0.050 DLA	<0.0010 DLA	<0.0025 DLA	<0.0010 DLA
	Boron (B)-Total (mg/L)	<0.020 DLA	<1.0 DLA	<0.020 DLA	<0.050 DLA	<0.020 DLA
	Cadmium (Cd)-Total (mg/L)	0.000222	0.281	<0.000020 DLA	0.0123	0.00929
	Calcium (Ca)-Total (mg/L)	348	459	548	244	335
	Chromium (Cr)-Total (mg/L)	0.0121	<0.010 DLA	0.00380	0.00425	0.0173
	Cobalt (Co)-Total (mg/L)	0.0129	1.83	0.00352	0.0272	0.0129
	Copper (Cu)-Total (mg/L)	0.0067	<0.050 DLA	0.0033	0.0091	0.0252
	Iron (Fe)-Total (mg/L)	47.0	330	2.55	8.39	12.5
	Lead (Pb)-Total (mg/L)	0.00472	0.0620	0.00202	0.00761	0.0165
	Lithium (Li)-Total (mg/L)	0.0647	0.259	0.0737	0.0193	0.0248
	Magnesium (Mg)-Total (mg/L)	207	1460	387	43.6	66.6
	Manganese (Mn)-Total (mg/L)	6.17	137	0.0426	31.7	16.5
	Molybdenum (Mo)-Total (mg/L)	0.00096	<0.0050 DLA	0.00027	0.00085	0.00147
	Nickel (Ni)-Total (mg/L)	0.0302	1.89	0.0324	0.0151	0.0499
	Phosphorus (P)-Total (mg/L)	<0.60 DLA	<30 DLA	<0.60 DLA	<1.5 DLA	<0.60 DLA
	Potassium (K)-Total (mg/L)	5.69	20.1	8.24	3.39	6.02
	Selenium (Se)-Total (mg/L)	<0.00020 DLA	<0.010 DLA	0.00085	<0.00050 DLA	0.00050
	Silicon (Si)-Total (mg/L)	16.2	15.3	7.53	11.9	20.0
	Silver (Ag)-Total (mg/L)	0.000064	<0.0010 DLA	0.000606	0.000057	0.000150
	Sodium (Na)-Total (mg/L)	19.9	61.6	61.8	13.5	28.7
	Strontium (Sr)-Total (mg/L)	1.52	4.31	1.44	0.697	0.842
	Thallium (Tl)-Total (mg/L)	0.000048	<0.0010 DLA	0.000060	0.000051	0.000184
	Tin (Sn)-Total (mg/L)	<0.00020 DLA	<0.010 DLA	0.00038	<0.00050 DLA	0.00045
	Titanium (Ti)-Total (mg/L)	0.074	<1.0 DLA	0.029	0.086	0.426

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-51	L1363493-52	L1363493-53	L1363493-54	L1363493-55
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	09:54	11:40	12:54	11:28	14:40
	Client ID	0215-130914-038	0215-130914-102	0215-130914-098	0215-130914-097	0215-130914-100
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	1690	6200	413	6230	406
	Hardness (as CaCO3) (mg/L)	920	4200	180	4040	201
	pH (pH)	8.09	6.27	7.95	6.23	7.47
	Total Suspended Solids (mg/L)	53.8	101	23.2	67.3	14.8
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	11.5	1160	10.4	1180	2.4
	Alkalinity, Total (as CaCO3) (mg/L)	336	145	203	133	196
	Chloride (Cl) (mg/L)	<5.0 DLA	<25 DLA	<0.50	<25 DLA	<0.50
	Sulfate (SO4) (mg/L)	785	5580	31.6	5630	41.4
Total Metals	Aluminum (Al)-Total (mg/L)	0.324	<0.15 DLA	0.509	<0.15 DLA	0.0890
	Antimony (Sb)-Total (mg/L)	<0.00020 DLA	<0.0050 DLA	0.00018	<0.0050 DLA	<0.00010
	Arsenic (As)-Total (mg/L)	0.00034	0.132	0.00050	0.130	0.00094
	Barium (Ba)-Total (mg/L)	0.0406	0.0266	0.0250	0.0230	0.121
	Beryllium (Be)-Total (mg/L)	<0.00020 DLA	<0.0050 DLA	<0.00010	<0.0050 DLA	<0.00010
	Bismuth (Bi)-Total (mg/L)	<0.0010 DLA	<0.025 DLA	<0.00050	<0.025 DLA	<0.00050
	Boron (B)-Total (mg/L)	<0.020 DLA	<0.50 DLA	0.014	<0.50 DLA	<0.010
	Cadmium (Cd)-Total (mg/L)	0.00419	<0.00050 DLA	0.000012	0.00059	0.000034
	Calcium (Ca)-Total (mg/L)	280	476	56.6	480	63.0
	Chromium (Cr)-Total (mg/L)	0.00095	<0.0050 DLA	0.00029	<0.0050 DLA	0.00032
	Cobalt (Co)-Total (mg/L)	0.00195	0.824	<0.00010	0.816	0.00250
	Copper (Cu)-Total (mg/L)	0.0028	<0.025 DLA	0.00145	<0.025 DLA	0.00065
	Iron (Fe)-Total (mg/L)	0.540	379	0.466	378	0.709
	Lead (Pb)-Total (mg/L)	0.00058	0.0178	0.0375	0.0173	0.000678
	Lithium (Li)-Total (mg/L)	0.0146	0.124	0.00061	0.125	0.00524
	Magnesium (Mg)-Total (mg/L)	59.2	729	9.59	721	10.6
	Manganese (Mn)-Total (mg/L)	12.1	78.3	0.00832	76.4	0.521
	Molybdenum (Mo)-Total (mg/L)	0.00154	<0.0025 DLA	0.000117	<0.0025 DLA	0.00360
	Nickel (Ni)-Total (mg/L)	0.0195	0.745	<0.00050	0.735	0.00122
	Phosphorus (P)-Total (mg/L)	<0.60 DLA	<15 DLA	<0.30	<15 DLA	<0.30
	Potassium (K)-Total (mg/L)	4.54	9.2	0.259	9.1	2.41
	Selenium (Se)-Total (mg/L)	<0.00020 DLA	<0.0050 DLA	<0.00010	<0.0050 DLA	0.00013
	Silicon (Si)-Total (mg/L)	7.87	13.3	9.97	13.7	5.10
	Silver (Ag)-Total (mg/L)	<0.000020 DLA	<0.00050 DLA	0.000073	<0.00050 DLA	<0.000010
	Sodium (Na)-Total (mg/L)	29.4	47.9	16.0	47.2	4.79
	Strontium (Sr)-Total (mg/L)	0.790	3.48	0.503	3.50	0.299
	Thallium (Tl)-Total (mg/L)	0.000030	<0.00050 DLA	0.000020	<0.00050 DLA	<0.000010
	Tin (Sn)-Total (mg/L)	<0.00020 DLA	<0.0050 DLA	0.00021	<0.0050 DLA	<0.00010
	Titanium (Ti)-Total (mg/L)	<0.020 DLA	<0.50 DLA	<0.010	<0.50 DLA	<0.010

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-56	L1363493-57	L1363493-58	L1363493-59	L1363493-60
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	15:20	17:21	17:50	16:41	17:12
	Client ID	0215-130914-101	0215-130914-039	0215-130914-110	0215-130914-105	0215-130914-103
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	23100	3530	27200	2660	1830
	Hardness (as CaCO3) (mg/L)	4200	2160	3090	359	520
	pH (pH)	3.28	7.31	3.30	4.70	5.53
	Total Suspended Solids (mg/L)	170	3100	885	18.0	12.8
Anions and Nutrients	Acidity (as CaCO3) (mg/L)	19100	59.8	28000	1470	604
	Alkalinity, Total (as CaCO3) (mg/L)	<2.0	623	<1.0	7.4	14.8
	Chloride (Cl) (mg/L)	<50 DLA	164	<50 DLA	<10 DLA	<5.0 DLA
	Sulfate (SO4) (mg/L)	32700	1930	43000	2080	1210
Total Metals	Aluminum (Al)-Total (mg/L)	<0.30 DLA	97.9	1.40	2.48	0.057
	Antimony (Sb)-Total (mg/L)	<0.010 DLA	<0.00050 DLA	0.062	<0.0020 DLA	<0.00050 DLA
	Arsenic (As)-Total (mg/L)	<0.010 DLA	0.0199	0.078	<0.0020 DLA	0.00402
	Barium (Ba)-Total (mg/L)	0.0115	0.552	0.285	0.0157	0.0404
	Beryllium (Be)-Total (mg/L)	<0.010 DLA	0.00315 DLA	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Bismuth (Bi)-Total (mg/L)	<0.050 DLA	<0.0025 DLA	<0.10 DLA	<0.010 DLA	<0.0025 DLA
	Boron (B)-Total (mg/L)	<1.0 DLA	<0.050 DLA	<2.0 DLA	<0.20 DLA	<0.050 DLA
	Cadmium (Cd)-Total (mg/L)	<0.0010 DLA	0.00135	0.0096	0.00780	0.00851
	Calcium (Ca)-Total (mg/L)	409	1060	421	107	156
	Chromium (Cr)-Total (mg/L)	<0.010 DLA	0.155	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Cobalt (Co)-Total (mg/L)	<0.010 DLA	0.0313	<0.020 DLA	0.0801	0.266
	Copper (Cu)-Total (mg/L)	<0.050 DLA	0.0565	0.71	0.030	<0.0025 DLA
	Iron (Fe)-Total (mg/L)	14200	88.2	21300	818	309
	Lead (Pb)-Total (mg/L)	0.0087	0.154	11.8	0.0032	0.00096
	Lithium (Li)-Total (mg/L)	0.287	0.113	0.16	0.018	0.0514
	Magnesium (Mg)-Total (mg/L)	778	136	552	36.5	37.2
	Manganese (Mn)-Total (mg/L)	122	1.87	161	11.2	45.4
	Molybdenum (Mo)-Total (mg/L)	0.0361	0.00395	<0.010 DLA	<0.0010 DLA	0.00045
	Nickel (Ni)-Total (mg/L)	<0.050 DLA	0.0837	<0.10 DLA	0.134	0.278
	Phosphorus (P)-Total (mg/L)	<30 DLA	<1.5 DLA	<60 DLA	<6.0 DLA	<1.5 DLA
	Potassium (K)-Total (mg/L)	133	26.1	62	5.0	4.77
	Selenium (Se)-Total (mg/L)	<0.010 DLA	<0.00050 DLA	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Silicon (Si)-Total (mg/L)	<5.0 DLA	113	11	20.6	17.6
	Silver (Ag)-Total (mg/L)	<0.0010 DLA	0.000295	0.0047	<0.00020 DLA	<0.000050 DLA
	Sodium (Na)-Total (mg/L)	475	152	318	8.2	18.5
	Strontium (Sr)-Total (mg/L)	1.51	2.67	0.827	0.457	0.545
	Thallium (Tl)-Total (mg/L)	<0.0010 DLA	0.000639	0.0066	<0.00020 DLA	0.000071
	Tin (Sn)-Total (mg/L)	<0.010 DLA	0.00314	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Titanium (Ti)-Total (mg/L)	<1.0 DLA	3.21	<2.0 DLA	<0.20 DLA	<0.050 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-1	L1363493-2	L1363493-3	L1363493-4	L1363493-5
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	09:50	08:03	09:50	13:54	17:14
	Client ID	0215-130913-086	0215-130913-055	0215-130913-096	0215-130913-043	0215-130913-011
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00218	0.106	0.00218	0.00251	0.00359
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0020 DLA	<0.0010	<0.0020 DLA	<0.0010
	Zinc (Zn)-Total (mg/L)	0.860	0.563	0.845	0.560	0.0045
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.0016 DLA	<0.00080	<0.0016 DLA	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0347	<0.0020 DLA	0.0336	0.0072	0.0011
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00021	<0.00020 DLA	0.00022	0.00657	0.00028
	Barium (Ba)-Dissolved (mg/L)	0.0146	0.0288	0.0146	0.0147	0.0724
	Beryllium (Be)-Dissolved (mg/L)	0.00047	<0.00020 DLA	0.00048	0.00032	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.0010 DLA	<0.00050	<0.0010 DLA	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.010	<0.020 DLA	<0.010	<0.020 DLA	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000069	0.000413	0.000066	0.000033	0.000012
	Calcium (Ca)-Dissolved (mg/L)	148	450	148	348	41.4
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00571	<0.00020 DLA	0.00571	0.00890	<0.00010
	Copper (Cu)-Dissolved (mg/L)	0.00022	0.00051	<0.00020	<0.00040 DLA	0.00048
	Iron (Fe)-Dissolved (mg/L)	15.9	<0.020 DLA	15.3	36.4	0.076
	Lead (Pb)-Dissolved (mg/L)	0.000161	<0.00010 DLA	0.000164	<0.00010 DLA	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0526	0.0321	0.0531	0.0853	0.00260
	Magnesium (Mg)-Dissolved (mg/L)	49.6	168	49.5	166	7.16
	Manganese (Mn)-Dissolved (mg/L)	1.26	0.00115	1.28	3.30	0.00188
	Molybdenum (Mo)-Dissolved (mg/L)	0.000130	<0.00010 DLA	0.000142	0.00014	0.000933
	Nickel (Ni)-Dissolved (mg/L)	0.0159	0.0173	0.0159	0.0232	0.00164
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.60 DLA	<0.30	<0.60 DLA	<0.30
	Potassium (K)-Dissolved (mg/L)	4.72	4.88	4.73	5.29	1.28
	Selenium (Se)-Dissolved (mg/L)	<0.00010	0.00447	<0.00010	<0.00020 DLA	0.00043
	Silicon (Si)-Dissolved (mg/L)	11.8	8.71	11.9	13.4	4.58
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010
	Sodium (Na)-Dissolved (mg/L)	8.31	6.43	8.63	21.0	2.46
	Strontium (Sr)-Dissolved (mg/L)	0.602	1.16	0.611	1.58	0.199
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000020 DLA	0.000014	<0.000020 DLA	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00020 DLA	<0.00010	<0.00020 DLA	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.020 DLA	<0.010	<0.020 DLA	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00201	0.101	0.00214	0.00241	0.00312
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0020 DLA	<0.0010	<0.0020 DLA	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	0.869	0.562	0.868	0.564	0.0017

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-6	L1363493-7	L1363493-8	L1363493-9	L1363493-10
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	14:50	13:30	13:30	14:32	10:55
	Client ID	0215-130913-092	0215-130913-095	0215-130913-088	0215-130913-094	0215-130913-093
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00460	0.00394	0.00328	0.00551	0.00221
	Vanadium (V)-Total (mg/L)	0.051	<0.050 DLA	<0.050 DLA	0.086	0.0011
	Zinc (Zn)-Total (mg/L)	343	333	403	484	1.22
	Zirconium (Zr)-Total (mg/L)	<0.040 DLA	<0.040 DLA	<0.040 DLA	<0.040 DLA	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.050 DLA	<0.050 DLA	0.501	0.072	0.0358
	Antimony (Sb)-Dissolved (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.00010
	Arsenic (As)-Dissolved (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	0.00266
	Barium (Ba)-Dissolved (mg/L)	0.0175	0.0127	0.0222	0.0208	0.0139
	Beryllium (Be)-Dissolved (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	0.00083
	Bismuth (Bi)-Dissolved (mg/L)	<0.025 DLA	<0.025 DLA	<0.025 DLA	<0.025 DLA	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.50 DLA	<0.50 DLA	<0.50 DLA	<0.50 DLA	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.221	0.0854	0.0946	0.262	0.000047
	Calcium (Ca)-Dissolved (mg/L)	536	411	453 DTC	475	199
	Chromium (Cr)-Dissolved (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.301	0.726	<0.0050 DLA	1.60	0.00591
	Copper (Cu)-Dissolved (mg/L)	0.015	0.039	0.018	<0.010 DLA	<0.00020
	Iron (Fe)-Dissolved (mg/L)	<0.50 DLA	<0.50 DLA	0.67	0.65	29.4
	Lead (Pb)-Dissolved (mg/L)	<0.0025 DLA	<0.0025 DLA	<0.0025 DLA	<0.0025 DLA	0.000222
	Lithium (Li)-Dissolved (mg/L)	0.177	0.198	0.185	0.210	0.0557
	Magnesium (Mg)-Dissolved (mg/L)	1270	1070	1110	1530	73.9
	Manganese (Mn)-Dissolved (mg/L)	67.5	86.3	16.3	124	1.37
	Molybdenum (Mo)-Dissolved (mg/L)	<0.0025 DLA	<0.0025 DLA	<0.0025 DLA	<0.0025 DLA	0.000320 DTC
	Nickel (Ni)-Dissolved (mg/L)	2.36	1.88	2.40	2.96	0.0192
	Phosphorus (P)-Dissolved (mg/L)	<15 DLA	<15 DLA	<15 DLA	<15 DLA	<0.30
	Potassium (K)-Dissolved (mg/L)	14.8	12.0	13.3	15.9	4.84
	Selenium (Se)-Dissolved (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.00010
	Silicon (Si)-Dissolved (mg/L)	11.9	11.6	15.6	12.0	12.3
	Silver (Ag)-Dissolved (mg/L)	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA	<0.000010
	Sodium (Na)-Dissolved (mg/L)	41.8	46.6	39.1	67.0	10.1
	Strontium (Sr)-Dissolved (mg/L)	2.35	1.93	2.13 DTC	2.22	0.850
	Thallium (Tl)-Dissolved (mg/L)	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA	<0.00050 DLA	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.0050 DLA	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.50 DLA	<0.50 DLA	<0.50 DLA	<0.50 DLA	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00197	0.00369	0.00070	0.00266	0.00210
	Vanadium (V)-Dissolved (mg/L)	<0.050 DLA	<0.050 DLA	<0.050 DLA	<0.050 DLA	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	365	330	427	515	1.24

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-11	L1363493-12	L1363493-13	L1363493-14	L1363493-15
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	09:00	08:22	12:05	09:22	10:17
	Client ID	0215-130913-089	0215-130913-090	0215-130913-085	0215-130913-091	0215-130913-033
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.000513	0.00109	0.0128	0.00221	0.000064
	Vanadium (V)-Total (mg/L)	<0.0020 DLA	<0.0010	0.032	0.0091	<0.0010
	Zinc (Zn)-Total (mg/L)	2.36	0.135	123	0.285	4.75
	Zirconium (Zr)-Total (mg/L)	<0.0016 DLA	<0.00080	<0.016 DLA	0.00118	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0998	0.0074	<0.020 DLA	0.0106	0.0309
	Antimony (Sb)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	<0.0020 DLA	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	0.00487	<0.00010	<0.0020 DLA	0.0117	0.00634
	Barium (Ba)-Dissolved (mg/L)	0.0138	0.0520	0.0132	0.0360	0.0114
	Beryllium (Be)-Dissolved (mg/L)	0.00223	<0.00010	<0.0020 DLA	0.00016	0.00069
	Bismuth (Bi)-Dissolved (mg/L)	<0.0010 DLA	<0.00050	<0.010 DLA	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	<0.020 DLA	<0.010	<0.20 DLA	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000057	0.000134	0.0302	0.000190	0.000013
	Calcium (Ca)-Dissolved (mg/L)	273	46.6	415	150	83.9
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	<0.0020 DLA	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00770	0.00465	<0.0020 DLA	0.00498	0.0199
	Copper (Cu)-Dissolved (mg/L)	<0.00040 DLA	0.00067	0.0073	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)	76.0	0.020	<0.20 DLA	8.81	35.0
	Lead (Pb)-Dissolved (mg/L)	0.00016	<0.000050	<0.0010 DLA	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0703	0.0113	0.136	0.0394	0.0588
	Magnesium (Mg)-Dissolved (mg/L)	109	10.6	1010	53.3	29.2
	Manganese (Mn)-Dissolved (mg/L)	2.45	1.08	61.8	1.02	1.03
	Molybdenum (Mo)-Dissolved (mg/L)	0.00011	0.000230	0.0012	0.000349	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	0.0282	0.00429	1.11	0.0130	0.0258
	Phosphorus (P)-Dissolved (mg/L)	<0.60 DLA	<0.30	<6.0 DLA	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	5.42	1.58	10.9	4.95	4.29
	Selenium (Se)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	<0.0020 DLA	0.00023	<0.00010
	Silicon (Si)-Dissolved (mg/L)	13.6	6.84	11.5	12.9	13.5
	Silver (Ag)-Dissolved (mg/L)	<0.000020 DLA	<0.000010	<0.00020 DLA	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	16.5	6.41	35.6	9.72	11.4
	Strontium (Sr)-Dissolved (mg/L)	1.40	0.223	2.25	0.702	0.480
	Thallium (Tl)-Dissolved (mg/L)	<0.000020 DLA	<0.000010	<0.00020 DLA	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00020 DLA	<0.00010	<0.0020 DLA	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.020 DLA	<0.010	<0.20 DLA	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.000490	0.00102	0.0128	0.00200	0.000061
	Vanadium (V)-Dissolved (mg/L)	<0.0020 DLA	<0.0010	<0.020 DLA	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	2.30	0.133	143	0.263	4.93

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-16	L1363493-17	L1363493-18	L1363493-19	L1363493-20
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	11:30	15:32	17:42	17:16	15:32
	Client ID	0215-130913-059	0215-130913-084	0215-130913-078	0215-130913-076	0215-130913-079
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00137	0.00291	0.000269	0.00362	0.00287
	Vanadium (V)-Total (mg/L)	0.0032	<0.010 DLA	0.0018	<0.050 DLA	<0.010 DLA
	Zinc (Zn)-Total (mg/L)	0.194	64.6	1.51	416	55.5
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.0080 DLA	<0.00080	<0.040 DLA	<0.0080 DLA
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0419	0.035	0.0136	<0.050 DLA	0.032
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.0010 DLA	<0.00010	<0.0050 DLA	<0.0010 DLA
	Arsenic (As)-Dissolved (mg/L)	<0.00010	0.0011	0.00213	<0.0050 DLA	0.0011
	Barium (Ba)-Dissolved (mg/L)	0.0975	0.0262	0.0540	0.0174	0.0266
	Beryllium (Be)-Dissolved (mg/L)	0.00046	<0.0010 DLA	<0.00010	<0.0050 DLA	<0.0010 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.0050 DLA	<0.00050	<0.025 DLA	<0.0050 DLA
	Boron (B)-Dissolved (mg/L)	<0.010	<0.10 DLA	<0.010	<0.50 DLA	<0.10 DLA
	Cadmium (Cd)-Dissolved (mg/L)	0.000057	0.0252	0.000011	0.0752	0.0238
	Calcium (Ca)-Dissolved (mg/L)	105	364	10.9	495	366
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.0010 DLA	<0.00010	<0.0050 DLA	<0.0010 DLA
	Cobalt (Co)-Dissolved (mg/L)	0.00261	0.152	0.00081	0.878	0.147
	Copper (Cu)-Dissolved (mg/L)	0.00026	<0.0020 DLA	0.00030	<0.010 DLA	<0.0020 DLA
	Iron (Fe)-Dissolved (mg/L)	3.64	27.1	2.66	0.78	29.0
	Lead (Pb)-Dissolved (mg/L)	0.000089	0.00498	<0.000050	<0.0025 DLA	0.00431
	Lithium (Li)-Dissolved (mg/L)	0.0870	0.0803	0.0165	0.223	0.0813
	Magnesium (Mg)-Dissolved (mg/L)	24.9	326	17.9	1320	322
	Manganese (Mn)-Dissolved (mg/L)	0.476	19.7	1.31	96.8	19.4
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	0.00069	0.000237	<0.0025 DLA	0.00060
	Nickel (Ni)-Dissolved (mg/L)	0.00501	0.388	0.00575	2.46	0.375
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<3.0 DLA	<0.30	<15 DLA	<3.0 DLA
	Potassium (K)-Dissolved (mg/L)	3.20	7.57	1.85	13.7	7.69
	Selenium (Se)-Dissolved (mg/L)	<0.00010	<0.0010 DLA	<0.00010	<0.0050 DLA	<0.0010 DLA
	Silicon (Si)-Dissolved (mg/L)	9.51	14.9	7.49	10.6	15.1
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.00010 DLA	<0.000010	<0.00050 DLA	<0.00010 DLA
	Sodium (Na)-Dissolved (mg/L)	13.7	19.4	2.72	51.5	19.4
	Strontium (Sr)-Dissolved (mg/L)	0.715	1.52	0.0916	2.34	1.53
	Thallium (Tl)-Dissolved (mg/L)	0.000044	<0.00010 DLA	<0.000010	<0.00050 DLA	<0.00010 DLA
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.0010 DLA	<0.00010	<0.0050 DLA	<0.0010 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.10 DLA	<0.010	<0.50 DLA	<0.10 DLA
	Uranium (U)-Dissolved (mg/L)	0.00100	0.00241	0.000107	0.00323	0.00247
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.010 DLA	<0.0010	<0.050 DLA	<0.010 DLA
	Zinc (Zn)-Dissolved (mg/L)	0.170	63.8	1.47	381	60.0

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-21	L1363493-22	L1363493-23	L1363493-24	L1363493-25
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	16:40	15:45	15:00	10:13	08:17
	Client ID	0215-130913-083	0215-130913-087	0215-130913-112	0215-130913-109	0215-130914-075
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00342	0.0108	0.00281	0.0211	0.00516
	Vanadium (V)-Total (mg/L)	DLA <0.050	DLA <0.010	DLA <0.050	0.066	0.0527
	Zinc (Zn)-Total (mg/L)	419	72.5	22.4	33.4	12.8
	Zirconium (Zr)-Total (mg/L)	DLA <0.040	DLA <0.0080	DLA <0.040	DLA <0.0080	0.0026
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	DLA <0.050	0.014	2.45	0.021	0.0201
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.0050	DLA <0.0010	DLA <0.0050	DLA <0.0010	DLA <0.00020
	Arsenic (As)-Dissolved (mg/L)	DLA <0.0050	0.0041	DLA <0.0050	DLA <0.0010	0.00024
	Barium (Ba)-Dissolved (mg/L)	0.0217	0.0392	0.0145	0.0217	0.0210
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.0050	DLA <0.0010	DLA <0.0050	DLA <0.0010	DLA <0.00020
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.025	DLA <0.0050	DLA <0.025	DLA <0.0050	DLA <0.0010
	Boron (B)-Dissolved (mg/L)	DLA <0.50	DLA <0.10	DLA <0.50	DLA <0.10	DLA <0.020
	Cadmium (Cd)-Dissolved (mg/L)	0.207	0.0179	0.0677	0.00099	0.000922
	Calcium (Ca)-Dissolved (mg/L)	423	684	494	474	297
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.0050	DLA <0.0010	DLA <0.0050	DLA <0.0010	DLA <0.00020
	Cobalt (Co)-Dissolved (mg/L)	1.06	0.162	3.53	0.0551	0.0329
	Copper (Cu)-Dissolved (mg/L)	DLA <0.010	0.0035	0.018	DLA <0.0020	0.00044
	Iron (Fe)-Dissolved (mg/L)	DLA <0.50	29.7	641	2.81	24.5
	Lead (Pb)-Dissolved (mg/L)	DLA <0.0025	DLA <0.00050	0.0126	DLA <0.00050	0.00011
	Lithium (Li)-Dissolved (mg/L)	0.169	0.0881	0.134	0.0698	0.0662
	Magnesium (Mg)-Dissolved (mg/L)	1310	1280	189	737	162
	Manganese (Mn)-Dissolved (mg/L)	100	34.8	267	54.3	9.26
	Molybdenum (Mo)-Dissolved (mg/L)	DLA <0.0025	0.00100	0.0032	0.00210	DLA <0.00010
	Nickel (Ni)-Dissolved (mg/L)	2.53	0.468	4.07	0.317	0.0757
	Phosphorus (P)-Dissolved (mg/L)	DLA <15	DLA <3.0	DLA <15	DLA <3.0	DLA <0.60
	Potassium (K)-Dissolved (mg/L)	13.5	9.61	6.7	9.75	6.16
	Selenium (Se)-Dissolved (mg/L)	DLA <0.0050	DLA <0.0010	DLA <0.0050	DLA <0.0010	DLA <0.00020
	Silicon (Si)-Dissolved (mg/L)	11.3	9.14	35.0	11.1	14.0
	Silver (Ag)-Dissolved (mg/L)	DLA <0.00050	DLA <0.00010	DLA <0.00050	DLA <0.00010	DLA <0.000020
	Sodium (Na)-Dissolved (mg/L)	57.5	41.0	27.3	69.3	13.1
	Strontium (Sr)-Dissolved (mg/L)	1.89	2.71	2.29	2.20	1.13
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.00050	DLA <0.00010	DLA <0.00050	DLA <0.00010	DLA <0.000020
	Tin (Sn)-Dissolved (mg/L)	DLA <0.0050	DLA <0.0010	DLA <0.0050	DLA <0.0010	DLA <0.00020
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.50	DLA <0.10	DLA <0.50	DLA <0.10	DLA <0.020
	Uranium (U)-Dissolved (mg/L)	0.00286	0.0124	0.00267	0.0186	0.00384
	Vanadium (V)-Dissolved (mg/L)	DLA <0.050	DLA <0.010	DLA <0.050	DLA <0.010	DLA <0.0020
	Zinc (Zn)-Dissolved (mg/L)	419	78.3	22.9	29.9	12.8

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-26	L1363493-27	L1363493-28	L1363493-29	L1363493-30
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	08:32	08:17	09:51	09:20	00:43
	Client ID	0215-130914-073	0215-130914-014	0215-130914-077	0215-130914-074	0215-130914-111
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00330	0.0114	0.000797	0.000218	0.0107
	Vanadium (V)-Total (mg/L)	DLA <0.020	0.135	0.0015	<0.0010	DLA <0.10
	Zinc (Zn)-Total (mg/L)	203	17.4	4.74	0.325	645
	Zirconium (Zr)-Total (mg/L)	DLA <0.016	0.0061	<0.00080	<0.00080	DLA <0.080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.038	0.0226	0.0078	0.0042	1.41
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.0020	DLA <0.00020	<0.00010	<0.00010	DLA <0.010
	Arsenic (As)-Dissolved (mg/L)	DLA <0.0020	0.00023	<0.00010	0.00413	DLA <0.010
	Barium (Ba)-Dissolved (mg/L)	0.127	0.0217	0.0502	0.0116	0.0111
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.0020	DLA <0.00020	<0.00010	0.00021	DLA <0.010
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.010	DLA <0.0010	<0.00050	<0.00050	DLA <0.050
	Boron (B)-Dissolved (mg/L)	DLA <0.20	DLA <0.020	<0.010	<0.010	DLA <1.0
	Cadmium (Cd)-Dissolved (mg/L)	0.0337	0.000914	0.00104	0.000023	0.0656
	Calcium (Ca)-Dissolved (mg/L)	596	298	70.5	83.4	401
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.0020	DLA <0.00020	<0.00010	<0.00010	DLA <0.010
	Cobalt (Co)-Dissolved (mg/L)	0.465	0.0341	0.00678	0.00418	1.71
	Copper (Cu)-Dissolved (mg/L)	0.0066	DLA <0.00040	0.00038	<0.00020	DLA <0.020
	Iron (Fe)-Dissolved (mg/L)	1.57	24.7	3.12	10.8	1350
	Lead (Pb)-Dissolved (mg/L)	DLA <0.0010	0.00012	<0.000050	<0.000050	0.0476
	Lithium (Li)-Dissolved (mg/L)	0.096	0.0651	0.0436	0.0357	0.109
	Magnesium (Mg)-Dissolved (mg/L)	902	168	59.5	29.1	821
	Manganese (Mn)-Dissolved (mg/L)	62.5	9.59	6.71	0.884	118
	Molybdenum (Mo)-Dissolved (mg/L)	DLA <0.0010	0.00010	0.000079	0.000096	DLA <0.0050
	Nickel (Ni)-Dissolved (mg/L)	1.02	0.0774	0.0216	0.0104	1.46
	Phosphorus (P)-Dissolved (mg/L)	DLA <6.0	DLA <0.60	<0.30	<0.30	DLA <30
	Potassium (K)-Dissolved (mg/L)	9.5	6.19	3.45	3.73	11.8
	Selenium (Se)-Dissolved (mg/L)	DLA <0.0020	DLA <0.00020	<0.00010	<0.00010	DLA <0.010
	Silicon (Si)-Dissolved (mg/L)	10.4	14.1	10.8	11.7	17.3
	Silver (Ag)-Dissolved (mg/L)	DLA <0.00020	DLA <0.000020	<0.000010	<0.000010	DLA <0.0010
	Sodium (Na)-Dissolved (mg/L)	36.1	13.4	5.26	7.25	48.8
	Strontium (Sr)-Dissolved (mg/L)	2.49	1.10	0.404	0.349	4.63
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.00020	DLA <0.000020	<0.000010	<0.000010	DLA <0.0010
	Tin (Sn)-Dissolved (mg/L)	DLA <0.0020	DLA <0.00020	<0.00010	<0.00010	DLA <0.010
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.20	DLA <0.020	<0.010	<0.010	DLA <1.0
	Uranium (U)-Dissolved (mg/L)	0.00357	0.00373	0.000792	0.000175	0.0070
	Vanadium (V)-Dissolved (mg/L)	DLA <0.020	DLA <0.0020	<0.0010	<0.0010	DLA <0.10
	Zinc (Zn)-Dissolved (mg/L)	201	13.8	5.36	0.305	662

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-31	L1363493-32	L1363493-33	L1363493-34	L1363493-35
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	16:26	11:28	12:11	16:01	12:00
	Client ID	0215-130914-010	0215-130914-080	0215-130914-081	0215-130914-082	TRAVEL BLANK
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.0119	0.0119	0.00165	0.00245	<0.000010
	Vanadium (V)-Total (mg/L)	<0.020 DLA	<0.10 DLA	<0.010 DLA	<0.050 DLA	<0.0010
	Zinc (Zn)-Total (mg/L)	127	700	63.2	23.6	<0.0030
	Zirconium (Zr)-Total (mg/L)	<0.016 DLA	<0.080 DLA	0.0097	<0.040 DLA	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	
	Aluminum (Al)-Dissolved (mg/L)	0.033	9.67	0.016	1.37	
	Antimony (Sb)-Dissolved (mg/L)	0.0023	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	
	Arsenic (As)-Dissolved (mg/L)	0.0279	0.078	<0.0010 DLA	<0.0050 DLA	
	Barium (Ba)-Dissolved (mg/L)	0.0052	0.0148	0.0425	0.0137	
	Beryllium (Be)-Dissolved (mg/L)	<0.0020 DLA	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	
	Bismuth (Bi)-Dissolved (mg/L)	<0.010 DLA	<0.050 DLA	<0.0050 DLA	<0.025 DLA	
	Boron (B)-Dissolved (mg/L)	<0.20 DLA	<1.0 DLA	<0.10 DLA	<0.50 DLA	
	Cadmium (Cd)-Dissolved (mg/L)	0.00226	0.118	0.00181	0.0413	
	Calcium (Ca)-Dissolved (mg/L)	168	396	584	532	
	Chromium (Cr)-Dissolved (mg/L)	<0.0020 DLA	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	
	Cobalt (Co)-Dissolved (mg/L)	0.0774	1.98	0.160	3.12	
	Copper (Cu)-Dissolved (mg/L)	<0.0040 DLA	<0.020 DLA	<0.0020 DLA	<0.010 DLA	
	Iron (Fe)-Dissolved (mg/L)	538	1310	124	766	
	Lead (Pb)-Dissolved (mg/L)	0.0303	0.0195	<0.00050 DLA	0.0114	
	Lithium (Li)-Dissolved (mg/L)	0.057	0.171	0.0266	0.120	
	Magnesium (Mg)-Dissolved (mg/L)	289 DTC	990	184	192	
	Manganese (Mn)-Dissolved (mg/L)	48.8	121	15.0	245	
	Molybdenum (Mo)-Dissolved (mg/L)	0.0012	<0.0050 DLA	<0.00050 DLA	0.0029	
	Nickel (Ni)-Dissolved (mg/L)	0.102	1.64	0.138	3.80	
	Phosphorus (P)-Dissolved (mg/L)	<6.0 DLA	<30 DLA	<3.0 DLA	<15 DLA	
	Potassium (K)-Dissolved (mg/L)	7.4	14.9	4.33	6.8	
	Selenium (Se)-Dissolved (mg/L)	<0.0020 DLA	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	
	Silicon (Si)-Dissolved (mg/L)	6.6	20.1	9.75	32.9	
	Silver (Ag)-Dissolved (mg/L)	<0.00020 DLA	<0.0010 DLA	<0.00010 DLA	<0.00050 DLA	
	Sodium (Na)-Dissolved (mg/L)	36.2	50.2	31.3	27.6	
	Strontium (Sr)-Dissolved (mg/L)	0.352	4.05	7.97	2.22	
	Thallium (Tl)-Dissolved (mg/L)	<0.00020 DLA	<0.0010 DLA	<0.00010 DLA	<0.00050 DLA	
	Tin (Sn)-Dissolved (mg/L)	<0.0020 DLA	<0.010 DLA	<0.0010 DLA	<0.0050 DLA	
	Titanium (Ti)-Dissolved (mg/L)	<0.20 DLA	<1.0 DLA	<0.10 DLA	<0.50 DLA	
	Uranium (U)-Dissolved (mg/L)	0.00871	0.0118	0.00091	0.00137	
	Vanadium (V)-Dissolved (mg/L)	<0.020 DLA	<0.10 DLA	<0.010 DLA	<0.050 DLA	
	Zinc (Zn)-Dissolved (mg/L)	174 D	683	59.3	24.4	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1363493-36 GW 14-SEP-13 12:00 FIELD BLANK	L1363493-37 GW 13-SEP-13 10:40 0215-130913-007	L1363493-38 GW 13-SEP-13 11:35 0215-130913-013	L1363493-39 GW 13-SEP-13 12:00 0215-130913-056	L1363493-40 GW 13-SEP-13 09:36 0215-130913-008
WATER						
Total Metals	Uranium (U)-Total (mg/L)	<0.000010	0.000010	0.00623	0.000064	0.0448
	Vanadium (V)-Total (mg/L)	<0.0010	<0.0010	0.0033	<0.0010	<0.020 DLA
	Zinc (Zn)-Total (mg/L)	<0.0030	3.14	1.07	4.75	181
	Zirconium (Zr)-Total (mg/L)	<0.00080	<0.00080	0.00119	<0.00080	<0.016 DLA
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0010	0.0498	0.0314	0.0310	18.8
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	<0.00010	0.00042	<0.00010	<0.0020 DLA
	Arsenic (As)-Dissolved (mg/L)	<0.00010	0.0475 DTC	0.00431	0.00616	0.0044
	Barium (Ba)-Dissolved (mg/L)	<0.000050	0.00946	0.0401	0.0114	0.0182
	Beryllium (Be)-Dissolved (mg/L)	<0.00010	0.00153	0.00062	0.00071	0.0154
	Bismuth (Bi)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.010 DLA
	Boron (B)-Dissolved (mg/L)	<0.010	0.011	<0.010	<0.010	<0.20 DLA
	Cadmium (Cd)-Dissolved (mg/L)	<0.000010	<0.000010	0.000044	0.000012	0.540
	Calcium (Ca)-Dissolved (mg/L)	<0.020	135	150	83.7	236
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	0.0059
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	0.00903	0.00866	0.0196	0.502
	Copper (Cu)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	4.12
	Iron (Fe)-Dissolved (mg/L)	<0.010	33.9	12.6	35.4	519
	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	0.000838	<0.000050	0.904
	Lithium (Li)-Dissolved (mg/L)	<0.00050	0.111	0.0889	0.0566	0.103
	Magnesium (Mg)-Dissolved (mg/L)	<0.0050	45.2	43.1	30.4	165
	Manganese (Mn)-Dissolved (mg/L)	<0.000050	0.842	0.803	1.01	10.5
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.0010 DLA
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	0.0218	0.0149	0.0254	0.433
	Phosphorus (P)-Dissolved (mg/L)	<0.30	<0.30	<0.30	<0.30	<6.0 DLA
	Potassium (K)-Dissolved (mg/L)	<0.050	6.73	3.11	4.27	5.7
	Selenium (Se)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.0020 DLA
	Silicon (Si)-Dissolved (mg/L)	<0.050	16.5	10.5	13.8	7.9
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	<0.00020 DLA
	Sodium (Na)-Dissolved (mg/L)	<0.050	20.0	21.1	11.4	22.0
	Strontium (Sr)-Dissolved (mg/L)	<0.00020	0.794	0.929	0.488	1.07
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	0.000078	<0.000010	0.00598
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	<0.0020 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.20 DLA
	Uranium (U)-Dissolved (mg/L)	<0.000010	<0.000010	0.00565	0.000061	0.0436
	Vanadium (V)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.020 DLA
	Zinc (Zn)-Dissolved (mg/L)	<0.0010	3.46	1.15	4.89	175

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-41	L1363493-42	L1363493-43	L1363493-44	L1363493-45
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	16:12	14:40	13:47	15:18	18:10
	Client ID	0215-130913-032	0215-130913-046	0215-130913-047	0215-130913-044	0215-130913-048
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.0247	0.0307	0.00379	0.0124	0.00603
	Vanadium (V)-Total (mg/L)	DLA <0.20	DLA <0.0020	0.0123	0.0272	0.0026
	Zinc (Zn)-Total (mg/L)	1170	0.0129	0.694	0.0543	0.0375
	Zirconium (Zr)-Total (mg/L)	DLA <0.16	DLA <0.0016	0.0020	0.00158	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	21.1	DLA <0.0020	0.0133	0.0030	0.0014
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.020	DLA <0.00020	DLA <0.00020	0.00011	<0.00010
	Arsenic (As)-Dissolved (mg/L)	DLA <0.020	DLA <0.00020	0.00460	0.00032	0.0162
	Barium (Ba)-Dissolved (mg/L)	0.020	0.0112	0.0158	0.0272	0.180
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.020	DLA <0.00020	0.00020	<0.00010	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.10	DLA <0.0010	DLA <0.0010	<0.00050	<0.00050
	Boron (B)-Dissolved (mg/L)	DLA <2.0	DLA <0.020	DLA <0.020	0.011	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.593	0.000041	0.000067	0.000036	<0.000010
	Calcium (Ca)-Dissolved (mg/L)	366	540	388	272	127
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.020	0.00038	DLA <0.00020	0.00052	0.00054
	Cobalt (Co)-Dissolved (mg/L)	2.31	DLA <0.00020	0.00946	0.00037	0.00010
	Copper (Cu)-Dissolved (mg/L)	0.240	0.00061	DLA <0.00040	0.00098	<0.00020
	Iron (Fe)-Dissolved (mg/L)	245	DLA <0.020	35.9	<0.010	6.36
	Lead (Pb)-Dissolved (mg/L)	0.122	DLA <0.00010	DLA <0.00010	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.14	0.0295	0.0807	0.0145	0.0569
	Magnesium (Mg)-Dissolved (mg/L)	1020	204	251	51.9	23.3
	Manganese (Mn)-Dissolved (mg/L)	136	0.00012	7.11	0.0188	0.475
	Molybdenum (Mo)-Dissolved (mg/L)	DLA <0.010	0.00087	0.00020	0.00395	0.00321
	Nickel (Ni)-Dissolved (mg/L)	2.44	DLA <0.0010	0.0205	0.0179	0.00136
	Phosphorus (P)-Dissolved (mg/L)	DLA <60	DLA <0.60	DLA <0.60	<0.30	<0.30
	Potassium (K)-Dissolved (mg/L)	16	5.49	5.71	5.40	2.55
	Selenium (Se)-Dissolved (mg/L)	DLA <0.020	0.00049	DLA <0.00020	0.00213	<0.00010
	Silicon (Si)-Dissolved (mg/L)	29	5.88	13.4	6.36	10.4
	Silver (Ag)-Dissolved (mg/L)	DLA <0.0020	DLA <0.000020	DLA <0.000020	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	69	18.6	22.8	37.9	21.6
	Strontium (Sr)-Dissolved (mg/L)	3.30	0.692	1.57	3.67	0.852
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.0020	DLA <0.000020	DLA <0.000020	0.000013	<0.000010
	Tin (Sn)-Dissolved (mg/L)	DLA <0.020	DLA <0.00020	DLA <0.00020	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	DLA <2.0	DLA <0.020	DLA <0.020	<0.010	<0.010
	Uranium (U)-Dissolved (mg/L)	0.0222	0.0289	0.00372	0.0122	0.00260
	Vanadium (V)-Dissolved (mg/L)	DLA <0.20	DLA <0.0020	DLA <0.0020	<0.0010	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	1020	DLA <0.0020	0.667	0.0048	0.0017

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-46	L1363493-47	L1363493-48	L1363493-49	L1363493-50
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	13:45	16:18	12:50	18:20	10:22
	Client ID	0215-130913-045	0215-130913-052	0215-130913-041	0215-130914-042	0215-130914-037
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00397	0.0026	0.0339	0.00173	0.00958
	Vanadium (V)-Total (mg/L)	0.0107	DLA <0.10	0.0033	0.0053	0.0238
	Zinc (Zn)-Total (mg/L)	0.662	887	0.0663	0.042	0.0953
	Zirconium (Zr)-Total (mg/L)	0.0018	DLA <0.080	DLA <0.0016	DLA <0.0040	0.0017
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0113	1.36	0.0026	0.0072	0.0025
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.00020	DLA <0.010	DLA <0.00020	DLA <0.00050	DLA <0.00020
	Arsenic (As)-Dissolved (mg/L)	0.00340	DLA <0.010	DLA <0.00020	DLA <0.00050	DLA <0.00020
	Barium (Ba)-Dissolved (mg/L)	0.0147	0.0192	0.0192	0.0408	0.0281
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.00020	DLA <0.010	DLA <0.00020	DLA <0.00050	DLA <0.00020
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.0010	DLA <0.050	DLA <0.0010	DLA <0.0025	DLA <0.0010
	Boron (B)-Dissolved (mg/L)	DLA <0.020	DLA <1.0	DLA <0.020	DLA <0.050	DLA <0.020
	Cadmium (Cd)-Dissolved (mg/L)	0.000078	0.265	DLA <0.000020	0.000381	0.000124
	Calcium (Ca)-Dissolved (mg/L)	309	428	551	247	325
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.00020	DLA <0.010	DLA <0.00020	DLA <0.00050	DLA <0.00020
	Cobalt (Co)-Dissolved (mg/L)	0.00861	1.72	0.00120	0.0257	0.00448
	Copper (Cu)-Dissolved (mg/L)	DLA <0.00040	DLA <0.020	0.00050	DLA <0.0010	DLA <0.00040
	Iron (Fe)-Dissolved (mg/L)	30.7	312	DLA <0.020	5.55	0.113
	Lead (Pb)-Dissolved (mg/L)	DLA <0.00010	0.0561	DLA <0.00010	DLA <0.00025	DLA <0.00010
	Lithium (Li)-Dissolved (mg/L)	0.0522	0.232	0.0748	0.0163	0.0114
	Magnesium (Mg)-Dissolved (mg/L)	181	1370	390	42.8	63.8
	Manganese (Mn)-Dissolved (mg/L)	5.38	127	0.0100	31.7	16.4
	Molybdenum (Mo)-Dissolved (mg/L)	0.00020	DLA <0.0050	DLA <0.00010	0.00053	0.00111
	Nickel (Ni)-Dissolved (mg/L)	0.0178	1.79	0.0292	0.0105	0.0241
	Phosphorus (P)-Dissolved (mg/L)	DLA <0.60	DLA <30	DLA <0.60	DLA <1.5	DLA <0.60
	Potassium (K)-Dissolved (mg/L)	4.89	18.6	8.24	2.93	4.66
	Selenium (Se)-Dissolved (mg/L)	DLA <0.00020	DLA <0.010	0.00085	DLA <0.00050	DLA <0.00020
	Silicon (Si)-Dissolved (mg/L)	12.1	14.5	5.87	8.72	7.68
	Silver (Ag)-Dissolved (mg/L)	DLA <0.000020	DLA <0.0010	DLA <0.000020	DLA <0.000050	DLA <0.000020
	Sodium (Na)-Dissolved (mg/L)	18.4	58.2	61.8	13.4	28.6
	Strontium (Sr)-Dissolved (mg/L)	1.35	4.01	1.44	0.682	0.827
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.000020	DLA <0.0010	0.000047	DLA <0.000050	DLA <0.000020
	Tin (Sn)-Dissolved (mg/L)	DLA <0.00020	DLA <0.010	DLA <0.00020	DLA <0.00050	DLA <0.00020
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.020	DLA <1.0	DLA <0.020	DLA <0.050	DLA <0.020
	Uranium (U)-Dissolved (mg/L)	0.00325	0.0024	0.0343	0.00159	0.00942
	Vanadium (V)-Dissolved (mg/L)	DLA <0.0020	DLA <0.10	DLA <0.0020	DLA <0.0050	DLA <0.0020
	Zinc (Zn)-Dissolved (mg/L)	0.567	820	0.0472	0.0219	0.0027

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-51	L1363493-52	L1363493-53	L1363493-54	L1363493-55
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	09:54	11:40	12:54	11:28	14:40
	Client ID	0215-130914-038	0215-130914-102	0215-130914-098	0215-130914-097	0215-130914-100
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	0.00836	0.00422	0.000228	0.00408	0.00277
	Vanadium (V)-Total (mg/L)	DLA <0.0020	DLA <0.050	<0.0010	DLA <0.050	<0.0010
	Zinc (Zn)-Total (mg/L)	0.0096	330	0.0089	323	0.0248
	Zirconium (Zr)-Total (mg/L)	DLA <0.0016	DLA <0.040	<0.00080	DLA <0.040	<0.00080
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	DLA <0.0020	DLA <0.050	<0.0010	DLA <0.050	<0.0010
	Antimony (Sb)-Dissolved (mg/L)	DLA <0.00020	DLA <0.0050	<0.00010	DLA <0.0050	<0.00010
	Arsenic (As)-Dissolved (mg/L)	DLA <0.00020	0.122	<0.00010	0.109	0.00081
	Barium (Ba)-Dissolved (mg/L)	0.0339	0.0088	0.00412	0.0081	0.117
	Beryllium (Be)-Dissolved (mg/L)	DLA <0.00020	DLA <0.0050	<0.00010	DLA <0.0050	<0.00010
	Bismuth (Bi)-Dissolved (mg/L)	DLA <0.0010	DLA <0.025	<0.00050	DLA <0.025	<0.00050
	Boron (B)-Dissolved (mg/L)	DLA <0.020	DLA <0.50	0.011	DLA <0.50	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.000077	DLA <0.00050	<0.000010	DLA <0.00050	0.000021
	Calcium (Ca)-Dissolved (mg/L)	274	470	56.8	468	63.0
	Chromium (Cr)-Dissolved (mg/L)	DLA <0.00020	DLA <0.0050	<0.00010	DLA <0.0050	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00163	0.820	<0.00010	0.753	0.00232
	Copper (Cu)-Dissolved (mg/L)	DLA <0.00040	DLA <0.010	<0.00020	DLA <0.010	<0.00020
	Iron (Fe)-Dissolved (mg/L)	DLA <0.020	376	0.156	373	0.500
	Lead (Pb)-Dissolved (mg/L)	DLA <0.00010	DLA <0.0025	0.000519	DLA <0.0025	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0148	0.128	<0.00050	0.123	0.00521
	Magnesium (Mg)-Dissolved (mg/L)	57.3	735	9.35	697	10.6
	Manganese (Mn)-Dissolved (mg/L)	11.6	77.3	0.00674	73.9	0.502
	Molybdenum (Mo)-Dissolved (mg/L)	0.00130	DLA <0.0025	0.000086	DLA <0.0025	0.00331
	Nickel (Ni)-Dissolved (mg/L)	0.0174	0.740	<0.00050	0.681	0.00097
	Phosphorus (P)-Dissolved (mg/L)	DLA <0.60	DLA <15	<0.30	DLA <15	<0.30
	Potassium (K)-Dissolved (mg/L)	4.36	9.1	0.232	9.0	2.36
	Selenium (Se)-Dissolved (mg/L)	DLA <0.00020	DLA <0.0050	<0.00010	DLA <0.0050	0.00016
	Silicon (Si)-Dissolved (mg/L)	7.48	13.1	8.79	12.9	4.97
	Silver (Ag)-Dissolved (mg/L)	DLA <0.000020	DLA <0.00050	<0.000010	DLA <0.00050	<0.000010
	Sodium (Na)-Dissolved (mg/L)	28.5	48.1	16.1	47.3	4.80
	Strontium (Sr)-Dissolved (mg/L)	0.767	3.46	0.470	3.46	0.293
	Thallium (Tl)-Dissolved (mg/L)	DLA <0.000020	DLA <0.00050	<0.000010	DLA <0.00050	<0.000010
	Tin (Sn)-Dissolved (mg/L)	DLA <0.00020	DLA <0.0050	<0.00010	DLA <0.0050	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	DLA <0.020	DLA <0.50	<0.010	DLA <0.50	<0.010
	Uranium (U)-Dissolved (mg/L)	0.00831	0.00429	0.000078	0.00443	0.00265
	Vanadium (V)-Dissolved (mg/L)	DLA <0.0020	DLA <0.050	<0.0010	DLA <0.050	<0.0010
	Zinc (Zn)-Dissolved (mg/L)	DLA <0.0020	328	<0.0010	306	0.0206

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-56	L1363493-57	L1363493-58	L1363493-59	L1363493-60
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	15:20	17:21	17:50	16:41	17:12
	Client ID	0215-130914-101	0215-130914-039	0215-130914-110	0215-130914-105	0215-130914-103
Grouping	**Analyte**					
WATER						
Total Metals	Uranium (U)-Total (mg/L)	<0.0010 DLA	0.0387	0.0031	0.00146	0.000164
	Vanadium (V)-Total (mg/L)	<0.10 DLA	0.120	<0.20 DLA	<0.020 DLA	<0.0050 DLA
	Zinc (Zn)-Total (mg/L)	455	1.72	892	107	14.0
	Zirconium (Zr)-Total (mg/L)	<0.080 DLA	0.0120	<0.16 DLA	<0.016 DLA	<0.0040 DLA
Dissolved Metals	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.25	0.0058	0.54	1.80	0.0494
	Antimony (Sb)-Dissolved (mg/L)	<0.010 DLA	<0.00050 DLA	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Arsenic (As)-Dissolved (mg/L)	<0.010 DLA	<0.00050 DLA	<0.020 DLA	<0.0020 DLA	0.00379
	Barium (Ba)-Dissolved (mg/L)	<0.0050 DLA	0.0252	<0.010 DLA	0.0075	0.0384
	Beryllium (Be)-Dissolved (mg/L)	<0.010 DLA	<0.00050 DLA	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.050 DLA	<0.0025 DLA	<0.10 DLA	<0.010 DLA	<0.0025 DLA
	Boron (B)-Dissolved (mg/L)	<1.0 DLA	<0.050 DLA	<2.0 DLA	<0.20 DLA	<0.050 DLA
	Cadmium (Cd)-Dissolved (mg/L)	<0.0010 DLA	0.000937	<0.0020 DLA	0.00688	0.00808
	Calcium (Ca)-Dissolved (mg/L)	425	707	387	91.8	149
	Chromium (Cr)-Dissolved (mg/L)	<0.010 DLA	<0.00050 DLA	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Cobalt (Co)-Dissolved (mg/L)	<0.010 DLA	0.00240	<0.020 DLA	0.0699	0.258
	Copper (Cu)-Dissolved (mg/L)	0.028	0.0024	<0.040 DLA	0.0152	<0.0010 DLA
	Iron (Fe)-Dissolved (mg/L)	14000	<0.050 DLA	20000	730	303
	Lead (Pb)-Dissolved (mg/L)	<0.0050 DLA	0.00030	0.034	0.0013	0.00042
	Lithium (Li)-Dissolved (mg/L)	0.310	0.0185	0.13	0.014	0.0467
	Magnesium (Mg)-Dissolved (mg/L)	763	97.1	517	31.5	35.8
	Manganese (Mn)-Dissolved (mg/L)	124	0.0641	145	9.83	43.0
	Molybdenum (Mo)-Dissolved (mg/L)	0.0399	0.00083	<0.010 DLA	<0.0010 DLA	0.00049
	Nickel (Ni)-Dissolved (mg/L)	<0.050 DLA	0.0240	<0.10 DLA	0.117	0.271
	Phosphorus (P)-Dissolved (mg/L)	<30 DLA	<1.5 DLA	<60 DLA	<6.0 DLA	<1.5 DLA
	Potassium (K)-Dissolved (mg/L)	127	14.3	60	3.8	4.62
	Selenium (Se)-Dissolved (mg/L)	<0.010 DLA	<0.00050 DLA	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Silicon (Si)-Dissolved (mg/L)	<5.0 DLA	9.81	<10 DLA	17.0	16.9
	Silver (Ag)-Dissolved (mg/L)	<0.0010 DLA	<0.000050 DLA	<0.0020 DLA	<0.00020 DLA	<0.000050 DLA
	Sodium (Na)-Dissolved (mg/L)	466	153	320	7.0	17.8
	Strontium (Sr)-Dissolved (mg/L)	1.60	1.78	0.812	0.380	0.523
	Thallium (Tl)-Dissolved (mg/L)	<0.0010 DLA	<0.000050 DLA	<0.0020 DLA	<0.00020 DLA	0.000071
	Tin (Sn)-Dissolved (mg/L)	<0.010 DLA	<0.00050 DLA	<0.020 DLA	<0.0020 DLA	<0.00050 DLA
	Titanium (Ti)-Dissolved (mg/L)	<1.0 DLA	<0.050 DLA	<2.0 DLA	<0.20 DLA	<0.050 DLA
	Uranium (U)-Dissolved (mg/L)	<0.0010 DLA	0.0363	<0.0020 DLA	0.00107	0.000158
	Vanadium (V)-Dissolved (mg/L)	<0.10 DLA	<0.0050 DLA	<0.20 DLA	<0.020 DLA	<0.0050 DLA
	Zinc (Zn)-Dissolved (mg/L)	443	1.43	831	92.4	13.6

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-1	L1363493-2	L1363493-3	L1363493-4	L1363493-5
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	09:50	08:03	09:50	13:54	17:14
	Client ID	0215-130913-086	0215-130913-055	0215-130913-096	0215-130913-043	0215-130913-011
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.0016 DLA	<0.00080	<0.0016 DLA	<0.00080

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID Description Sampled Date Sampled Time Client ID				
		L1363493-6 GW 13-SEP-13 14:50 0215-130913-092	L1363493-7 GW 13-SEP-13 13:30 0215-130913-095	L1363493-8 GW 13-SEP-13 13:30 0215-130913-088	L1363493-9 GW 13-SEP-13 14:32 0215-130913-094	L1363493-10 GW 13-SEP-13 10:55 0215-130913-093
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.040 DLA	<0.040 DLA	<0.040 DLA	<0.040 DLA	<0.00080

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID Description Sampled Date Sampled Time Client ID	L1363493-11 GW 13-SEP-13 09:00 0215-130913-089	L1363493-12 GW 13-SEP-13 08:22 0215-130913-090	L1363493-13 GW 13-SEP-13 12:05 0215-130913-085	L1363493-14 GW 13-SEP-13 09:22 0215-130913-091	L1363493-15 GW 13-SEP-13 10:17 0215-130913-033
WATER							
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)		<0.0016 DLA	<0.00080	<0.016 DLA	<0.00080	<0.00080

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-16	L1363493-17	L1363493-18	L1363493-19	L1363493-20
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	11:30	15:32	17:42	17:16	15:32
	Client ID	0215-130913-059	0215-130913-084	0215-130913-078	0215-130913-076	0215-130913-079
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.00080	<0.0080 DLA	<0.00080	<0.040 DLA	<0.0080 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID	Description	Sampled Date	Sampled Time	Client ID
		L1363493-21	GW	13-SEP-13	16:40	0215-130913-083
		L1363493-22	GW	13-SEP-13	15:45	0215-130913-087
		L1363493-23	GW	14-SEP-13	15:00	0215-130913-112
		L1363493-24	GW	14-SEP-13	10:13	0215-130913-109
		L1363493-25	GW	14-SEP-13	08:17	0215-130914-075
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	DLA <0.040		DLA <0.0080		DLA <0.040		DLA <0.0080		DLA <0.0016

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-26	L1363493-27	L1363493-28	L1363493-29	L1363493-30
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	08:32	08:17	09:51	09:20	00:43
	Client ID	0215-130914-073	0215-130914-014	0215-130914-077	0215-130914-074	0215-130914-111
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.016 DLA	<0.0016 DLA	<0.00080	<0.00080	<0.080 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-31	L1363493-32	L1363493-33	L1363493-34	L1363493-35
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	16:26	11:28	12:11	16:01	12:00
	Client ID	0215-130914-010	0215-130914-080	0215-130914-081	0215-130914-082	TRAVEL BLANK
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.016 DLA	<0.080 DLA	<0.0080 DLA	<0.040 DLA	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID Description Sampled Date Sampled Time Client ID	L1363493-36 GW 14-SEP-13 12:00 FIELD BLANK	L1363493-37 GW 13-SEP-13 10:40 0215-130913-007	L1363493-38 GW 13-SEP-13 11:35 0215-130913-013	L1363493-39 GW 13-SEP-13 12:00 0215-130913-056	L1363493-40 GW 13-SEP-13 09:36 0215-130913-008
WATER							
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)		<0.00080	<0.00080	0.00090	<0.00080	<0.016 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-41	L1363493-42	L1363493-43	L1363493-44	L1363493-45
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13	13-SEP-13
	Sampled Time	16:12	14:40	13:47	15:18	18:10
	Client ID	0215-130913-032	0215-130913-046	0215-130913-047	0215-130913-044	0215-130913-048
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.16 DLA	<0.0016 DLA	<0.0016 DLA	<0.00080	<0.00080

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-46	L1363493-47	L1363493-48	L1363493-49	L1363493-50
	Description	GW	GW	GW	GW	GW
	Sampled Date	13-SEP-13	13-SEP-13	13-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	13:45	16:18	12:50	18:20	10:22
	Client ID	0215-130913-045	0215-130913-052	0215-130913-041	0215-130914-042	0215-130914-037
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0016 DLA	<0.080 DLA	<0.0016 DLA	<0.0040 DLA	<0.0016 DLA

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-51	L1363493-52	L1363493-53	L1363493-54	L1363493-55
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	09:54	11:40	12:54	11:28	14:40
	Client ID	0215-130914-038	0215-130914-102	0215-130914-098	0215-130914-097	0215-130914-100
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.0016 DLA	<0.040 DLA	<0.00080	<0.040 DLA	<0.00080

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1363493-56	L1363493-57	L1363493-58	L1363493-59	L1363493-60
	Description	GW	GW	GW	GW	GW
	Sampled Date	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13	14-SEP-13
	Sampled Time	15:20	17:21	17:50	16:41	17:12
	Client ID	0215-130914-101	0215-130914-039	0215-130914-110	0215-130914-105	0215-130914-103
Grouping	**Analyte**					
WATER						
Dissolved Metals	Zirconium (Zr)-Dissolved (mg/L)	<0.080 DLA	<0.0040 DLA	<0.16 DLA	<0.016 DLA	<0.0040 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)
Duplicate	Beryllium (Be)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Bismuth (Bi)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Chromium (Cr)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Lead (Pb)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Phosphorus (P)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Silver (Ag)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Thallium (Tl)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Tin (Sn)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Titanium (Ti)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Duplicate	Vanadium (V)-Total	DLA	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Method Blank	Zinc (Zn)-Total	MB-LOR	L1363493-11, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28
Matrix Spike	Cadmium (Cd)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Zinc (Zn)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Calcium (Ca)-Total	MS-B	L1363493-29, -30, -38, -39
Matrix Spike	Sodium (Na)-Total	MS-B	L1363493-29, -30, -38, -39
Matrix Spike	Strontium (Sr)-Total	MS-B	L1363493-29, -30, -38, -39
Matrix Spike	Antimony (Sb)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Arsenic (As)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Calcium (Ca)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Manganese (Mn)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60

Reference Information

	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Potassium (K)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Sodium (Na)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Strontium (Sr)-Total	MS-B	L1363493-50, -51, -52, -53, -54, -55, -56, -57, -58, -59, -60
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1363493-1, -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, -34, -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, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1363493-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfate (SO4)	MS-B	L1363493-26, -27, -28, -29, -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	Barium (Ba)-Total	MS-B	L1363493-31, -32, -33, -34, -37, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49
Matrix Spike	Calcium (Ca)-Total	MS-B	L1363493-31, -32, -33, -34, -37, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49
Matrix Spike	Magnesium (Mg)-Total	MS-B	L1363493-31, -32, -33, -34, -37, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49
Matrix Spike	Manganese (Mn)-Total	MS-B	L1363493-31, -32, -33, -34, -37, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49
Matrix Spike	Strontium (Sr)-Total	MS-B	L1363493-31, -32, -33, -34, -37, -40, -41, -42, -43, -44, -45, -46, -47, -48, -49

Qualifiers for Individual Parameters Listed:

Qualifier	Description
D	The analyte has been reported from a dilution of the original extract.
DLA	Detection Limit Adjusted For required dilution
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACY-MAN-VA	Water	Acidity by Manual Titration	APHA - ACIDITY (2310)

This analysis is carried out using procedures adapted from APHA Method 2310 "Acidity". Acidity is determined by potentiometric titration to a specified endpoint.

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.

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.

ALK-COL-VA	Water	Alkalinity by Colourimetric (Automated)	EPA 310.2

This analysis is carried out using procedures adapted from EPA Method 310.2 "Alkalinity". Total Alkalinity is determined using the methyl orange colourimetric method.

Reference Information

ALK-PCT-VA	Water	Alkalinity by Auto. 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.

ALK-PCT-VA	Water	Alkalinity by Auto. 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.

ANIONS-CL-IC-WR	Water	Chloride by Ion Chromatography	EPA 300.1

This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.

ANIONS-SO4-IC-WR	Water	Sulphate by Ion Chromatography	EPA 300.1

This analysis is carried out using procedures adapted from EPA Method 300.1, "Determination of Inorganic Anions by Ion Chromatography", Revision 1.0, April 1999 and from "Determination of Inorganic Anions in Environmental Waters Using a Hydroxide-Selective Column", Application Note 154 v.19, Dionex 2003.

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 3030 B&E / EPA SW-846 6020A

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 hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	APHA 3030 B&E / EPA SW-846 6020A

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 hotblock, or filtration (APHA 3030B&E). Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

PH-MAN-VA	Water	pH by Manual Meter	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-MAN-VA	Water	pH by Manual Meter	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.

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.

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.

ZR-D-MS-VA	Water	Dissolved Zr in Water by ICPMS	EPA SW-846 3005A/6020A

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 - mass spectrometry (EPA Method 6020A).

Reference Information

ZR-T-MS-VA	Water	Total Zr in Water by ICPMS	EPA SW-846 3005A/6020A

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 - mass spectrometry (EPA Method 6020A).

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

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

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

Chain of Custody Numbers:

1 2 3 4 5

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

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Company:	EDI			☑ Standard ☐ Other				◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Caleb Light			☑ PDF ☑ Excel ☐ Digital ☐ Fax				○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	2251 2nd Ave			Email 1: clight@edynamics.com				○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT			Email 2: bsnow@edynamics.com				○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882	Fax:	8673938443	Email 3:				
Invoice To	Same as Report ? ☑ Yes ☐ No			Client / Project Information				Analysis Request
Hardcopy of Invoice with Report?	☑ Yes ☐ No			Job #: 13-Y-0215				Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #: 38544				
Lab Work Order # (lab use only)	L1363493			ALS Contact:		Sampler:		

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals	Total Metals										Number of Containers
							F/P	P										
1	0215-130913-086	13-SEP-13	9:50	GW	X	X	X	X										3
	0215-130913-055		8:03															3
	0215-130913-096		9:50															3
	0215-130913-043		13:54															3
	0215-130913-011		17:14															3
	0215-130913-092		14:50															3
	0215-130913-095		13:30															3
	0215-130913-088		13:30															3
	0215-130913-094		14:32															3
	0215-130913-093		10:55															3
	0215-130913-089		9:00															3
12	0215-130913-090		8:22															3

L1363493-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc.) / Hazardous Details

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	14-SEP-13	24:00		16-SEP-13	9:45	9.8, 7.0 °C				

5.2

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Report To				Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)
Company:	EDI			☑ Standard ☐ Other				◉ Regular (Standard Turnaround Times - Business Days)
Contact:	Caleb Light			☑ PDF ☑ Excel ☐ Digital ☐ Fax				○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	2251 2nd Ave			Email 1: clight@edynamics.com				○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT			Email 2: bsnow@edynamics.com				○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882	Fax: 8673938443		Email 3:				
Invoice To	Same as Report ? ☑ Yes	☐ No		Client / Project Information				Analysis Request
Hardcopy of Invoice with Report?	☑ Yes	☐ No		Job #: 13-Y-0215				Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #: 38544				
Lab Work Order # (lab use only)				ALS Contact:		Sampler:		

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals (F/P)	Total Metals (P)	Number of Containers
13	0215-130913-085	13-SEP-13	12:05	GW	X	X	X	X	3
	0215-130913-091		9:22						3
	0215-130913-033		10:17						3
	0215-130913-059		11:30						3
	0215-130913-084		15:32						3
	0215-130913-078		17:42						3
	0215-130913-076		17:16						3
	0215-130913-079		15:32						3
	0215-130913-083		16:40						3
	0215-130913-087	13-SEP-13	15:45						3
	0215-130914-112	14-SEP-13	15:00	GW					3
24	0215-130914-109	14-SEP-13	10:13	GW					3

L1363493-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

0215-130914-109 may not have enough for TSS. Please confirm b/f analysis.

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature: °C	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF

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Contact:	Caleb Light			☑ PDF ☑ Excel ☐ Digital ☐ Fax				○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	2251 2nd Ave			Email 1: clight@edynamics.com				○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Whitehorse, YT			Email 2: bsnow@edynamics.com				○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	8673934882	Fax: 8673938443		Email 3:				
Invoice To	Same as Report ? ☑ Yes	☐ No		Client / Project Information				Analysis Request
Hardcopy of Invoice with Report?	☑ Yes	☐ No		Job #: 13-Y-0215				Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #:				
Lab Work Order # (lab use only)				ALS Contact:		Sampler:		

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals	Total Metals	F/P	P	Number of Containers
29	0215-1309 14 - 075	14-SEP-13	8:17	Groundwater	x	x	x	x			3
	0215-1309 14 - 073		8:52	Groundwater	x	x	x	x			3
	0215-1309 14 - 014		8:17	Groundwater	x	x	x	x			3
	0215-1309 14 - 077		9:51	Groundwater	x	x	x	x			3
	0215-1309 14 - 074		9:20	Groundwater	x	x	x	x			3
	0215-1309 14 - 111		12:43	Groundwater	x	x	x	x			3
	0215-1309 14 - 010		16:26	Groundwater	x	x	x	x			3
	0215-1309 14 - 080		11:28	Groundwater	x	x	x	x			3
	0215-1309 14 - 081		12:11	Groundwater	x	x	x	x			3
	0215-1309 14 - 082		16:01	Groundwater	x	x	x	x			3
	~~0215-1309~~ - TRAVEL BLANK		12:00	Groundwater	x	x	x	x			3
36	0215-1309 - FIELD BLANK		12:00	Groundwater	x	x	x	x			3

L1363493-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	16-SEP-13	8:00				°C				

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Phone:	8673934882	Fax:	8673938443	Email 3:				Analysis Request
Invoice To	Same as Report ?	☑ Yes	☐ No	Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)
Hardcopy of Invoice with Report?		☑ Yes	☐ No	Job #: 13-Y-0215				F/P P
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #: 38544				
Lab Work Order # (lab use only)				ALS Contact:		Sampler:		

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals	Total Metals	Number of Containers
37	0215-130913-607	13-SEP-13	1040	GW	X	X	X	X	3
	0215-130913-013		11 35						3
	0215-130913-056								3
	0215-130913-008		9:36						3
	0215-130913-032		16:12						3
	0215-130913-046		14:40						3
	0215-130913-047		1347						3
	0215-130913-044		15:18						3
	0215-130913-048		18:10						3
	0215-130913-045		17:45						3
	0215-130913-052		16:18						3
48	0215-130913-041		12:50						3

L1363493-COFC

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Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	14-SEP-13	1100		16-Sept-13	9:45	9.8, 7.0 °C				

6.2

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Phone:	8673934882	Fax: 8673938443		Email 3:				
Invoice To	Same as Report ? ☑ Yes	☐ No		Client / Project Information				Analysis Request
Hardcopy of Invoice with Report?	☑ Yes	☐ No		Job #: 13-Y-0215				Please indicate below Filtered, Preserved or both (F, P, F/P)
Company:				PO / AFE:				
Contact:				LSD:				
Address:								
Phone:		Fax:		Quote #:				
Lab Work Order # (lab use only)				ALS Contact:		Sampler:		

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	TSS	Dissolved Metals	Total Metals	F/P	P	Number of Containers
1	0215-1309 14 - 042	14-SEP-13	18:20	Groundwater	x	x	x	x			3
2	0215-1309 14 - 037		10:22	Groundwater	x	x	x	x			3
3	0215-1309 14 - 038		9:54	Groundwater	x	x	x	x			3
4	0215-1309 14 - 102		11:46	Groundwater	x	x	x	x			3
5	0215-1309 14 - 098		17:54	Groundwater	x	x	x	x			3
6	0215-1309 14 - 097		11:28	Groundwater	x	x	x	x			3
7	0215-1309 14 - 100		14:40	Groundwater	x	x	x	x			3
8	0215-1309 14 - 101		15:20	Groundwater	x	x	x	x			3
9	0215-1309 14 - 039		17:21	Groundwater	x	x	x	x			3
10	0215-1309 14 - 110		17:50	Groundwater	x	x	x	x			3
11	0215-1309 14 - 105		16:41	Groundwater	x	x	x	x			3
60	0215-1309 14 - 103		17:12	Groundwater	x	x	x	x			3

L1363493-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

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 provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
	16-Sep-13	8:00		16Sep'13	9:45	9.8, 7.0 °C				

6.2

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APPENDIX B QA/QC SAMPLE SUMMARY

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EDI Environmental Dynamics Inc.
2195 2nd Avenue, Whitehorse, YT
Y1A 3T8

Well Name		BH10A	BH10A REP		P01-01A	P01-01A REP		P05-01-3	P05-01-3 REP		P09-ETA2 REP	P09-ETA2	
Sample ID	Units	0215-130913-056	0215-130913-033	**QA/QC[1]**	0215-130912-035	0215-130912-025	**QA/QC[1]**	0215-130912-071	0215-130912-067	**QA/QC[1]**	0215-130914-097	0215-130914-102	**QA/QC[1]**
Date Sampled		13-SEP-13	13-SEP-13		12-SEP-13	12-SEP-13		12-SEP-13	12-SEP-13		14-SEP-13	14-SEP-13	
Time Sampled		12:00	10:17		08:11	08:11		17:57	17:51		11:28	11:40	
Average Sample RPD				*3%*			*3%*			*5%*			*4%*
Average Total Metals RPD				2%			4%			8%			2%
Average Dissolved Metals RPD				2%			3%			1%			4%
Physical Tests													
Conductivity	µS/cm	0775	0797	**3%**	1730	1730	**0%**	3280	3290	**0%**	6230	6200	**0%**
Hardness (as CaCO3)		0334	0330	**1%**	1020	0984	**4%**	2140	2160	**1%**	4040	4200	**4%**
pH		6.25	6.41	**3%**	7.58	7.57	**0%**	7.14	7.20	**1%**	6.23	6.27	**1%**
Total Suspended Solids	mg/L	003	003	**< 2xDL**	001	<1.0	**<DL**	067	050	**29%**	067	101	**40%**
Anions and Nutrients													
Acidity (as CaCO3)		261.0	233.0	**11%**	21.6	23.1	**7%**	87.3	75.1	**15%**	1180.0	1160.0	**2%**
Alkalinity, Total (as CaCO3)	mg/L	241	216	**11%**	340	339	**0%**	429	432	**1%**	133	145	**9%**
Chloride (Cl)	mg/L	<2.5	0.52	**<DL**	<5.0	<5.0	**<DL**	<10	<10	**<DL**	<25	<25	**<DL**
Sulfate (SO4)	mg/L	0217	0214	**1%**	0813	0815	**0%**	2040	2020	**1%**	5630	5580	**1%**
Total Metals													
Aluminum (Al)-Total	mg/L	0.04	0.04	**6%**	0.01	0.01	**< 2xDL**	0.85	0.62	**32%**	<0.15	<0.15	**<DL**
Antimony (Sb)-Total	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Arsenic (As)-Total	mg/L	0.0054	0.0054	**1%**	<0.00020	0.0002	**<DL**	0.0009	0.0008	**< 2xDL**	0.1300	0.1320	**2%**
Barium (Ba)-Total	mg/L	0.0125	0.0121	**3%**	0.0428	0.0445	**4%**	0.0377	0.0317	**17%**	0.0230	0.0266	**15%**
Beryllium (Be)-Total	mg/L	0.00073	0.00072	**1%**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Bismuth (Bi)-Total	mg/L	<0.00050	<0.00050	**<DL**	<0.0010	<0.0010	**<DL**	<0.0025	<0.0025	**<DL**	<0.025	<0.025	**<DL**
Boron (B)-Total	mg/L	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**	<0.050	<0.050	**<DL**	<0.50	<0.50	**<DL**
Cadmium (Cd)-Total	mg/L	0.000035	0.000044	**< 2xDL**	0.00116	0.00113	**3%**	<0.000050	<0.000050	**<DL**	0.00059	<0.00050	**<DL**
Calcium (Ca)-Total	mg/L	088	084	**4%**	300	315	**5%**	643	639	**1%**	480	476	**1%**
Chromium (Cr)-Total	mg/L	0.00016	0.00018	**< 2xDL**	<0.00020	<0.00020	**<DL**	0.00238	0.00145	**< 2xDL**	<0.0050	<0.0050	**<DL**
Cobalt (Co)-Total	mg/L	0.0199	0.0200	**1%**	0.0022	0.0022	**0%**	0.0007	0.0005	**< 2xDL**	0.8160	0.8240	**1%**
Copper (Cu)-Total	mg/L	<0.00050	<0.00050	**<DL**	0.0010	<0.0010	**<DL**	0.0025	<0.0025	**<DL**	<0.025	<0.025	**<DL**
Iron (Fe)-Total	mg/L	36.3	35.0	**4%**	<0.020	<0.020	**<DL**	35.1	34.5	**2%**	378.0	379.0	**0%**
Lead (Pb)-Total	mg/L	0.00109	0.00114	**4%**	<0.00010	<0.00010	**<DL**	0.00208	0.00160	**26%**	0.01730	0.01780	**3%**
Lithium (Li)-Total	mg/L	0.0610	0.0626	**3%**	0.0110	0.0124	**12%**	0.0313	0.0297	**5%**	0.1250	0.1240	**1%**
Magnesium (Mg)-Total	mg/L	030	029	**5%**	067	065	**3%**	138	135	**2%**	721	729	**1%**
Manganese (Mn)-Total	mg/L	01.0	01.0	**2%**	07.9	07.7	**3%**	45.5	45.1	**1%**	76.4	78.3	**2%**
Molybdenum (Mo)-Total	mg/L	0.00005	0.00005	**< 2xDL**	0.00079	0.00092	**15%**	0.00077	0.00071	**< 2xDL**	<0.0025	<0.0025	**<DL**
Nickel (Ni)-Total	mg/L	0.0259	0.0259	**0%**	0.0110	0.0109	**1%**	<0.0025	<0.0025	**<DL**	0.7350	0.7450	**1%**
Phosphorus (P)-Total	mg/L	<0.30	<0.30	**<DL**	<0.60	<0.60	**<DL**	<1.5	<1.5	**<DL**	<15	<15	**<DL**
Potassium (K)-Total	mg/L	4.25	4.22	**1%**	6.40	6.22	**3%**	8.01	7.81	**3%**	9.10	9.20	**< 2xDL**
Selenium (Se)-Total	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Silicon (Si)-Total	mg/L	13.8	14.0	**1%**	07.5	07.7	**2%**	13.2	12.7	**4%**	13.7	13.3	**3%**
Silver (Ag)-Total	mg/L	0.000014	0.000013	**< 2xDL**	<0.000020	<0.000020	**<DL**	<0.000050	<0.000050	**<DL**	<0.00050	<0.00050	**<DL**
Sodium (Na)-Total	mg/L	11.6	11.3	**3%**	19.7	19.5	**1%**	39.1	38.6	**1%**	47.2	47.9	**1%**
Strontium (Sr)-Total	mg/L	0.52	0.50	**5%**	0.95	0.99	**4%**	1.61	1.61	**0%**	3.50	3.48	**1%**
Thallium (Tl)-Total	mg/L	<0.000010	<0.000010	**<DL**	<0.000020	<0.000020	**<DL**	<0.000050	<0.000050	**<DL**	<0.00050	<0.00050	**<DL**
Tin (Sn)-Total	mg/L	0.00038	0.00039	**< 2xDL**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Titanium (Ti)-Total	mg/L	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**	<0.050	<0.050	**<DL**	<0.50	<0.50	**<DL**
Uranium (U)-Total	mg/L	0.0001	0.0001	**0%**	0.0086	0.0089	**3%**	0.0014	0.0013	**5%**	0.0041	0.0042	**3%**
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	**<DL**	<0.0020	<0.0020	**<DL**	<0.0050	<0.0050	**<DL**	<0.050	<0.050	**<DL**
Zinc (Zn)-Total	mg/L	4.750	4.750	**0%**	<0.0060	<0.0060	**<DL**	<0.015	<0.015	**<DL**	323.000	330.000	**2%**
Zirconium (Zr)-Total	mg/L	<0.00080	<0.00080	**<DL**	<0.0016	<0.0016	**<DL**	<0.0040	<0.0040	**<DL**	<0.040	<0.040	**<DL**

EDI Environmental Dynamics Inc.
2195 2nd Avenue, Whitehorse, YT
Y1A 3T8

Well Name		BH10A	BH10A REP		P01-01A	P01-01A REP		P05-01-3	P05-01-3 REP		P09-ETA2 REP	P09-ETA2	
Sample ID	Units	0215-130913-056	0215-130913-033	**QA/QC[1]**	0215-130912-035	0215-130912-025	**QA/QC[1]**	0215-130912-071	0215-130912-067	**QA/QC[1]**	0215-130914-097	0215-130914-102	**QA/QC[1]**
Date Sampled		13-SEP-13	13-SEP-13		12-SEP-13	12-SEP-13		12-SEP-13	12-SEP-13		14-SEP-13	14-SEP-13	
Time Sampled		12:00	10:17		08:11	08:11		17:57	17:51		11:28	11:40	
Dissolved Metals													
Aluminum (Al)-Dissolved	mg/L	0.031	0.0309	**0%**	<0.0020	0.0035	**<DL**	<0.0050	<0.0050	**<DL**	<0.050	<0.050	**<DL**
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Arsenic (As)-Dissolved	mg/L	0.0062	0.0063	**3%**	<0.00020	<0.00020	**<DL**	0.0006	0.0006	**< 2xDL**	0.1090	0.1220	**11%**
Barium (Ba)-Dissolved	mg/L	0.0114	0.0114	**0%**	0.0437	0.0438	**0%**	0.0239	0.0236	**1%**	0.0081	0.0088	**< 2xDL**
Beryllium (Be)-Dissolved	mg/L	0.00071	0.00069	**3%**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Bismuth (Bi)-Dissolved	mg/L	<0.00050	<0.00050	**<DL**	<0.0010	<0.0010	**<DL**	<0.0025	<0.0025	**<DL**	<0.025	<0.025	**<DL**
Boron (B)-Dissolved	mg/L	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**	<0.050	<0.050	**<DL**	<0.50	<0.50	**<DL**
Cadmium (Cd)-Dissolved	mg/L	0.000012	0.000013	**< 2xDL**	0.00105	0.00105	**0%**	<0.000050	<0.000050	**<DL**	<0.00050	<0.00050	**<DL**
Calcium (Ca)-Dissolved	mg/L	084	084	**0%**	303	290	**4%**	636	642	**1%**	468	470	**0%**
Chromium (Cr)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Cobalt (Co)-Dissolved	mg/L	0.01960	0.01990	**2%**	0.00213	0.00207	**3%**	<0.00050	<0.00050	**<DL**	0.75300	0.82000	**9%**
Copper (Cu)-Dissolved	mg/L	<0.00020	<0.00020	**<DL**	0.00054	0.00051	**< 2xDL**	<0.0010	<0.0010	**<DL**	<0.010	<0.010	**<DL**
Iron (Fe)-Dissolved	mg/L	35.4	35.0	**1%**	<0.020	<0.020	**<DL**	33.3	33.7	**1%**	373.0	376.0	**1%**
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	**<DL**	<0.00010	<0.00010	**<DL**	<0.00025	<0.00025	**<DL**	<0.0025	<0.0025	**<DL**
Lithium (Li)-Dissolved	mg/L	0.0566	0.0588	**4%**	0.0118	0.0115	**3%**	0.0292	0.0286	**2%**	0.1230	0.1280	**4%**
Magnesium (Mg)-Dissolved	mg/L	030	029	**4%**	064	063	**1%**	133	134	**1%**	697	735	**5%**
Manganese (Mn)-Dissolved	mg/L	01.0	01.0	**2%**	07.5	07.5	**1%**	44.5	45.0	**1%**	73.9	77.3	**4%**
Molybdenum (Mo)-Dissolved	mg/L	<0.000050	<0.000050	**<DL**	0.00093	0.00080	**15%**	0.00066	0.00070	**< 2xDL**	<0.0025	<0.0025	**<DL**
Nickel (Ni)-Dissolved	mg/L	0.0254	0.0258	**2%**	0.0107	0.0105	**2%**	<0.0025	<0.0025	**<DL**	0.6810	0.7400	**8%**
Phosphorus (P)-Dissolved	mg/L	<0.30	<0.30	**<DL**	<0.60	<0.60	**<DL**	<1.5	<1.5	**<DL**	<15	<15	**<DL**
Potassium (K)-Dissolved	mg/L	4.27	4.29	**0%**	6.02	5.96	**1%**	7.57	7.64	**1%**	9.00	9.10	**< 2xDL**
Selenium (Se)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Silicon (Si)-Dissolved	mg/L	13.8	13.5	**2%**	07.4	07.6	**3%**	11.6	11.6	**0%**	12.9	13.1	**2%**
Silver (Ag)-Dissolved	mg/L	<0.000010	<0.000010	**<DL**	<0.000020	<0.000020	**<DL**	<0.000050	<0.000050	**<DL**	<0.00050	<0.00050	**<DL**
Sodium (Na)-Dissolved	mg/L	11.4	11.4	**0%**	19.1	18.8	**2%**	37.9	38.3	**1%**	47.3	48.1	**2%**
Strontium (Sr)-Dissolved	mg/L	0.49	0.48	**2%**	0.95	0.91	**5%**	1.59	1.61	**1%**	3.46	3.46	**0%**
Thallium (Tl)-Dissolved	mg/L	<0.000010	<0.000010	**<DL**	<0.000020	<0.000020	**<DL**	<0.000050	<0.000050	**<DL**	<0.00050	<0.00050	**<DL**
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00050	<0.00050	**<DL**	<0.0050	<0.0050	**<DL**
Titanium (Ti)-Dissolved	mg/L	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**	<0.050	<0.050	**<DL**	<0.50	<0.50	**<DL**
Uranium (U)-Dissolved	mg/L	0.0001	0.0001	**0%**	0.0084	0.0079	**7%**	0.0012	0.0012	**2%**	0.0044	0.0043	**3%**
Vanadium (V)-Dissolved	mg/L	<0.0010	<0.0010	**<DL**	<0.0020	<0.0020	**<DL**	<0.0050	<0.0050	**<DL**	<0.050	<0.050	**<DL**
Zinc (Zn)-Dissolved	mg/L	4.8900	4.9300	**1%**	0.0033	0.0030	**< 2xDL**	<0.0050	<0.0050	**<DL**	306.0000	328.0000	**7%**
Zirconium (Zr)-Dissolved	mg/L	<0.00080	<0.00080	**<DL**	<0.0016	<0.0016	**<DL**	<0.0040	<0.0040	**<DL**	<0.040	<0.040	**<DL**

EDI Environmental Dynamics Inc.
2195 2nd Avenue, Whitehorse, YT
Y1A 3T8

Well Name		P09-GS1A	P09-GS1A REP		S2A	S2A REP		SRK05-SP3B	SRK05-SP3B REP		SRK08-P14	SRK08-P14 REP	
Sample ID	Units	0215-130912-015	0215-130912-050	**QA/QC[1]**	0215-130914-075	0215-130914-014	**QA/QC[1]**	0215-130913-086	0215-130913-096	**QA/QC[1]**	0215-130911-016	0215-130911-003	**QA/QC[1]**
Date Sampled		12-SEP-13	12-SEP-13		14-SEP-13	14-SEP-13		13-SEP-13	13-SEP-13		11-SEP-13	11-SEP-13	
Time Sampled		11:13	11:18		08:17	08:17		09:50	09:50		16:57	17:54	
Average Sample RPD				*12%*			*41%*			*2%*			*8%*
Average Total Metals RPD				20%			63%			2%			7%
Average Dissolved Metals RPD				2%			3%			1%			8%
Physical Tests													
Conductivity	µS/cm	1310	1310	**0%**	2240	2240	**0%**	1120	1110	**1%**	1940	1920	**1%**
Hardness (as CaCO3)		0738	0734	**1%**	1410	1440	**2%**	0573	0572	**0%**	1180	1260	**7%**
pH		7.54	7.52	**0%**	6.67	6.75	**1%**	6.47	6.62	**2%**	7.59	7.62	**0%**
Total Suspended Solids	mg/L	013	028	**76%**	162	1850	**168%**	004	004	**< 2xDL**	188	097	**64%**
Anions and Nutrients													
Acidity (as CaCO3)		22.1	22.2	**0%**	155.0	213.0	**32%**	194.0	155.0	**22%**	18.1	17.1	**6%**
Alkalinity, Total (as CaCO3)	mg/L	286	281	**2%**	287	276	**4%**	284	282	**1%**	270	271	**0%**
Chloride (Cl)	mg/L	<5.0	<5.0	**<DL**	<10	<10	**<DL**	<5.0	<5.0	**<DL**	<10	<10	**<DL**
Sulfate (SO4)	mg/L	0522	0541	**4%**	1310	1300	**1%**	0397	0395	**1%**	1020	1010	**1%**
Total Metals													
Aluminum (Al)-Total	mg/L	0.09	0.11	**25%**	19.20	48.90	**87%**	0.15	0.14	**3%**	3.15	3.17	**1%**
Antimony (Sb)-Total	mg/L	0.021	0.0222	**6%**	0.00066	0.00127	**63%**	<0.00010	<0.00010	**<DL**	0.00038	0.00036	**< 2xDL**
Arsenic (As)-Total	mg/L	0.2360	0.2380	**1%**	0.0379	0.1040	**93%**	0.0003	0.0003	**< 2xDL**	0.0030	0.0028	**4%**
Barium (Ba)-Total	mg/L	0.0168	0.0204	**19%**	0.2040	0.5360	**90%**	0.0160	0.0158	**1%**	0.1290	0.1230	**5%**
Beryllium (Be)-Total	mg/L	<0.00010	<0.00010	**<DL**	0.00115	0.00285	**85%**	0.00048	0.00048	**< 2xDL**	<0.00020	<0.00020	**<DL**
Bismuth (Bi)-Total	mg/L	<0.00050	<0.00050	**<DL**	<0.0010	0.0011	**<DL**	<0.00050	<0.00050	**<DL**	<0.0010	<0.0010	**<DL**
Boron (B)-Total	mg/L	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**
Cadmium (Cd)-Total	mg/L	0.00466	0.00817	**55%**	0.00132	0.00201	**41%**	0.000069	0.000067	**3%**	0.000095	0.000091	**< 2xDL**
Calcium (Ca)-Total	mg/L	195	174	**11%**	282	289	**2%**	148	143	**3%**	370	363	**2%**
Chromium (Cr)-Total	mg/L	0.00041	0.00071	**54%**	0.12600	0.32500	**88%**	0.00032	0.00033	**< 2xDL**	0.02660	0.03010	**12%**
Cobalt (Co)-Total	mg/L	0.0623	0.0611	**2%**	0.0435	0.0671	**43%**	0.0058	0.0058	**0%**	0.0043	0.0044	**3%**
Copper (Cu)-Total	mg/L	0.0058	0.0138	**81%**	0.0409	0.1100	**92%**	0.0015	0.0014	**< 2xDL**	0.0162	0.0172	**6%**
Iron (Fe)-Total	mg/L	02.4	02.7	**12%**	58.1	122.0	**71%**	16.1	16.1	**0%**	06.1	07.0	**14%**
Lead (Pb)-Total	mg/L	0.20100	0.43300	**73%**	0.02070	0.05440	**90%**	0.00037	0.00036	**5%**	0.01220	0.00952	**25%**
Lithium (Li)-Total	mg/L	0.0104	0.0097	**7%**	0.0877	0.1290	**38%**	0.0545	0.0530	**3%**	0.0110	0.0117	**6%**
Magnesium (Mg)-Total	mg/L	071	069	**4%**	164	189	**14%**	050	050	**0%**	090	080	**12%**
Manganese (Mn)-Total	mg/L	02.1	02.0	**4%**	08.6	10.3	**18%**	01.3	01.3	**0%**	00.1	00.1	**9%**
Molybdenum (Mo)-Total	mg/L	0.00232	0.00218	**6%**	0.00210	0.00529	**86%**	0.00017	0.00016	**< 2xDL**	0.00121	0.00120	**1%**
Nickel (Ni)-Total	mg/L	0.1660	0.1610	**3%**	0.1460	0.2790	**63%**	0.0164	0.0162	**1%**	0.0179	0.0197	**10%**
Phosphorus (P)-Total	mg/L	<0.30	<0.30	**<DL**	<0.60	1.05	**<DL**	<0.30	<0.30	**<DL**	<0.60	<0.60	**<DL**
Potassium (K)-Total	mg/L	4.47	4.44	**1%**	9.19	13.90	**41%**	4.73	4.69	**1%**	1.49	1.44	**3%**
Selenium (Se)-Total	mg/L	<0.00010	<0.00010	**<DL**	0.0004	0.00116	**97%**	<0.00010	<0.00010	**<DL**	0.00125	0.00117	**7%**
Silicon (Si)-Total	mg/L	02.6	02.6	**0%**	40.5	76.4	**61%**	11.9	11.9	**0%**	11.7	11.1	**5%**
Silver (Ag)-Total	mg/L	0.000171	0.00047	**93%**	0.000231	0.000686	**99%**	<0.000010	<0.000010	**<DL**	0.000063	0.000052	**< 2xDL**
Sodium (Na)-Total	mg/L	12.1	11.9	**2%**	13.6	14.5	**6%**	08.7	08.4	**3%**	05.3	05.2	**2%**
Strontium (Sr)-Total	mg/L	0.71	0.68	**5%**	1.09	1.17	**7%**	0.62	0.62	**0%**	1.76	1.63	**8%**
Thallium (Tl)-Total	mg/L	0.00521	0.0051	**2%**	0.000281	0.000683	**83%**	<0.000010	<0.000010	**<DL**	0.00002	<0.000020	**<DL**
Tin (Sn)-Total	mg/L	0.00016	0.00026	**< 2xDL**	0.00094	0.00233	**85%**	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**
Titanium (Ti)-Total	mg/L	<0.010	<0.010	**<DL**	0.904	2.21	**84%**	<0.010	<0.010	**<DL**	0.118	0.131	**10%**
Uranium (U)-Total	mg/L	0.0193	0.0182	**6%**	0.0052	0.0114	**75%**	0.0022	0.0022	**0%**	0.0070	0.0068	**3%**
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	**<DL**	0.0527	0.135	**88%**	<0.0010	<0.0010	**<DL**	0.013	0.0134	**3%**
Zinc (Zn)-Total	mg/L	5.470	5.370	**2%**	12.800	17.400	**30%**	0.860	0.845	**2%**	0.028	0.034	**18%**
Zirconium (Zr)-Total	mg/L	<0.00080	<0.00080	**<DL**	0.0026	0.0061	**80%**	<0.00080	<0.00080	**<DL**	<0.0016	<0.0016	**<DL**

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Well Name		P09-GS1A	P09-GS1A REP		S2A	S2A REP		SRK05-SP3B	SRK05-SP3B REP		SRK08-P14	SRK08-P14 REP	
Sample ID	Units	0215-130912-015	0215-130912-050	**QA/QC[1]**	0215-130914-075	0215-130914-014	**QA/QC[1]**	0215-130913-086	0215-130913-096	**QA/QC[1]**	0215-130911-016	0215-130911-003	**QA/QC[1]**
Date Sampled		12-SEP-13	12-SEP-13		14-SEP-13	14-SEP-13		13-SEP-13	13-SEP-13		11-SEP-13	11-SEP-13	
Time Sampled		11:13	11:18		08:17	08:17		09:50	09:50		16:57	17:54	
Dissolved Metals													
Aluminum (Al)-Dissolved	mg/L	0.0022	0.0025	**< 2xDL**	0.0201	0.0226	**12%**	0.0347	0.0336	**3%**	<0.0020	0.002	**<DL**
Antimony (Sb)-Dissolved	mg/L	0.0167	0.0168	**1%**	<0.00020	<0.00020	**<DL**	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**
Arsenic (As)-Dissolved	mg/L	0.2190	0.2250	**3%**	0.0002	0.0002	**< 2xDL**	0.0002	0.0002	**< 2xDL**	0.0002	0.0002	**< 2xDL**
Barium (Ba)-Dissolved	mg/L	0.0119	0.0120	**1%**	0.0210	0.0217	**3%**	0.0146	0.0146	**0%**	0.0775	0.0818	**5%**
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	0.00047	0.00048	**< 2xDL**	<0.00020	<0.00020	**<DL**
Bismuth (Bi)-Dissolved	mg/L	<0.00050	<0.00050	**<DL**	<0.0010	<0.0010	**<DL**	<0.00050	<0.00050	**<DL**	<0.0010	<0.0010	**<DL**
Boron (B)-Dissolved	mg/L	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**
Cadmium (Cd)-Dissolved	mg/L	0.00217	0.00214	**1%**	0.000922	0.000914	**1%**	0.000069	0.000066	**4%**	0.000062	0.00006	**< 2xDL**
Calcium (Ca)-Dissolved	mg/L	182	178	**2%**	297	298	**0%**	148	148	**0%**	330	374	**13%**
Chromium (Cr)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00010	<0.00010	**<DL**	<0.00020	0.00022	**<DL**
Cobalt (Co)-Dissolved	mg/L	0.05920	0.06020	**2%**	0.03290	0.03410	**4%**	0.00571	0.00571	**0%**	<0.00020	<0.00020	**<DL**
Copper (Cu)-Dissolved	mg/L	<0.00020	<0.00020	**<DL**	0.00044	<0.00040	**<DL**	0.00022	<0.00020	**<DL**	0.00373	0.00379	**2%**
Iron (Fe)-Dissolved	mg/L	01.9	01.9	**1%**	24.5	24.7	**1%**	15.9	15.3	**4%**	<0.020	<0.020	**<DL**
Lead (Pb)-Dissolved	mg/L	0.0408	0.0402	**1%**	0.00011	0.00012	**< 2xDL**	0.000161	0.000164	**< 2xDL**	<0.00010	<0.00010	**<DL**
Lithium (Li)-Dissolved	mg/L	0.0097	0.0099	**1%**	0.0662	0.0651	**2%**	0.0526	0.0531	**1%**	0.0067	0.0087	**26%**
Magnesium (Mg)-Dissolved	mg/L	069	070	**2%**	162	168	**4%**	050	050	**0%**	086	078	**9%**
Manganese (Mn)-Dissolved	mg/L	02.0	02.0	**3%**	09.3	09.6	**4%**	01.3	01.3	**2%**	00.0	00.0	**< 2xDL**
Molybdenum (Mo)-Dissolved	mg/L	0.00209	0.00209	**0%**	<0.00010	0.00010	**<DL**	0.00013	0.00014	**< 2xDL**	0.00081	0.00094	**15%**
Nickel (Ni)-Dissolved	mg/L	0.1620	0.1650	**2%**	0.0757	0.0774	**2%**	0.0159	0.0159	**0%**	0.0016	0.0017	**< 2xDL**
Phosphorus (P)-Dissolved	mg/L	<0.30	<0.30	**<DL**	<0.60	<0.60	**<DL**	<0.30	<0.30	**<DL**	<0.60	<0.60	**<DL**
Potassium (K)-Dissolved	mg/L	4.30	4.38	**2%**	6.16	6.19	**0%**	4.72	4.73	**0%**	1.16	1.17	**1%**
Selenium (Se)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00010	<0.00010	**<DL**	0.00121	0.00126	**4%**
Silicon (Si)-Dissolved	mg/L	02.5	02.5	**0%**	14.0	14.1	**1%**	11.8	11.9	**1%**	05.9	05.8	**1%**
Silver (Ag)-Dissolved	mg/L	<0.000010	<0.000010	**<DL**	<0.000020	<0.000020	**<DL**	<0.000010	<0.000010	**<DL**	<0.000020	<0.000020	**<DL**
Sodium (Na)-Dissolved	mg/L	11.6	11.9	**3%**	13.1	13.4	**2%**	08.3	08.6	**4%**	05.2	05.2	**1%**
Strontium (Sr)-Dissolved	mg/L	0.69	0.68	**1%**	1.13	1.10	**3%**	0.60	0.61	**1%**	1.58	1.72	**8%**
Thallium (Tl)-Dissolved	mg/L	0.00486	0.00475	**2%**	<0.000020	<0.000020	**<DL**	<0.000010	0.000014	**<DL**	<0.000020	<0.000020	**<DL**
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00010	<0.00010	**<DL**	<0.00020	<0.00020	**<DL**
Titanium (Ti)-Dissolved	mg/L	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**	<0.010	<0.010	**<DL**	<0.020	<0.020	**<DL**
Uranium (U)-Dissolved	mg/L	0.0182	0.0178	**2%**	0.0038	0.0037	**3%**	0.0020	0.0021	**6%**	0.0059	0.0069	**15%**
Vanadium (V)-Dissolved	mg/L	<0.0010	<0.0010	**<DL**	<0.0020	<0.0020	**<DL**	<0.0010	<0.0010	**<DL**	<0.0020	<0.0020	**<DL**
Zinc (Zn)-Dissolved	mg/L	5.2800	5.4700	**4%**	12.8000	13.8000	**8%**	0.8690	0.8680	**0%**	0.0060	0.0112	**60%**
Zirconium (Zr)-Dissolved	mg/L	<0.00080	<0.00080	**<DL**	<0.0016	<0.0016	**<DL**	<0.00080	<0.00080	**<DL**	<0.0016	<0.0016	**<DL**

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Well Name		SRK08-SBR2	SRK08-SBR2 REP		SRK08-SP8B	SRK08-SP8B REP			
Sample ID	Units	0215-130913-079	0215-130913-084	**QA/QC[1]**	0215-130913-045	0215-130913-047	**QA/QC[1]**	TRAVEL BLANK	FIELD BLANK
Date Sampled		13-SEP-13	13-SEP-13		13-SEP-13	13-SEP-13		14-SEP-13	14-SEP-13
Time Sampled		15:32	15:32		13:45	13:47		12:00	12:00
Average Sample RPD				*7%*			*13%*		
Average Total Metals RPD				9%			10%		
Average Dissolved Metals RPD				3%			20%		
Physical Tests									
Conductivity	µS/cm	3230	3260	**1%**	2720	2930	**7%**	<2.0	<2.0
Hardness (as CaCO3)		2240	2250	**0%**	1520	2000	**27%**	<0.50	<0.50
pH		6.77	6.68	**1%**	6.66	6.69	**0%**	5.54	5.55
Total Suspended Solids	mg/L	131	172	**27%**	187	151	**21%**	<1.0	<1.0
Anions and Nutrients									
Acidity (as CaCO3)		261.0	213.0	**20%**	155.0	153.0	**1%**	02.5	02.3
Alkalinity, Total (as CaCO3)	mg/L	284	282	**1%**	292	272	**7%**	<2.0	<2.0
Chloride (Cl)	mg/L	<10	<10	**<DL**	<10	<10	**<DL**	<0.50	<0.50
Sulfate (SO4)	mg/L	2160	2190	**1%**	1730	1970	**13%**	<0.50	<0.50
Total Metals									
Aluminum (Al)-Total	mg/L	2.94	3.53	**18%**	3.23	4.20	**26%**	<0.0030	<0.0030
Antimony (Sb)-Total	mg/L	0.0011	0.0013	**< 2xDL**	0.00021	0.00024	**< 2xDL**	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	0.0101	0.0116	**14%**	0.0094	0.0099	**5%**	<0.00010	<0.00010
Barium (Ba)-Total	mg/L	0.0690	0.0720	**4%**	0.0832	0.0845	**2%**	<0.000050	<0.000050
Beryllium (Be)-Total	mg/L	<0.0010	0.0012	**<DL**	0.00044	0.00058	**< 2xDL**	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	<0.0050	<0.0050	**<DL**	<0.0010	<0.0010	**<DL**	<0.00050	<0.00050
Boron (B)-Total	mg/L	<0.10	<0.10	**<DL**	<0.020	<0.020	**<DL**	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	0.0235	0.0279	**17%**	0.000222	0.000236	**6%**	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	355	342	**4%**	348	369	**6%**	<0.020	<0.020
Chromium (Cr)-Total	mg/L	0.01130	0.01350	**18%**	0.01210	0.01350	**11%**	0.00015	<0.00010
Cobalt (Co)-Total	mg/L	0.1390	0.1550	**11%**	0.0129	0.0131	**2%**	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	0.0194	0.0240	**< 2xDL**	0.0067	0.0073	**9%**	<0.00050	<0.00050
Iron (Fe)-Total	mg/L	38.9	35.0	**11%**	47.0	48.1	**2%**	<0.010	<0.010
Lead (Pb)-Total	mg/L	0.11500	0.15100	**27%**	0.00472	0.00498	**5%**	<0.000050	<0.000050
Lithium (Li)-Total	mg/L	0.0814	0.0796	**2%**	0.0647	0.0821	**24%**	<0.00050	<0.00050
Magnesium (Mg)-Total	mg/L	307	326	**6%**	207	243	**16%**	<0.0050	<0.0050
Manganese (Mn)-Total	mg/L	18.3	20.3	**10%**	06.2	06.8	**10%**	<0.000050	<0.000050
Molybdenum (Mo)-Total	mg/L	0.00116	0.00115	**< 2xDL**	0.00096	0.00091	**5%**	<0.000050	<0.000050
Nickel (Ni)-Total	mg/L	0.3540	0.4080	**14%**	0.0302	0.0302	**0%**	<0.00050	<0.00050
Phosphorus (P)-Total	mg/L	<3.0	<3.0	**<DL**	<0.60	<0.60	**<DL**	<0.30	<0.30
Potassium (K)-Total	mg/L	7.69	7.77	**1%**	5.69	6.49	**13%**	<0.050	<0.050
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	**<DL**	<0.00020	<0.00020	**<DL**	<0.00010	<0.00010
Silicon (Si)-Total	mg/L	19.5	20.1	**3%**	16.2	20.2	**22%**	<0.050	<0.050
Silver (Ag)-Total	mg/L	0.00105	0.00097	**8%**	0.000064	0.000075	**< 2xDL**	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	18.4	18.7	**2%**	19.9	21.9	**10%**	<0.050	<0.050
Strontium (Sr)-Total	mg/L	1.49	1.44	**3%**	1.52	1.44	**5%**	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	**<DL**	0.000048	0.00006	**< 2xDL**	<0.000010	<0.000010
Tin (Sn)-Total	mg/L	<0.0010	0.0012	**<DL**	<0.00020	<0.00020	**<DL**	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	0.1	0.13	**< 2xDL**	0.074	0.101	**31%**	<0.010	<0.010
Uranium (U)-Total	mg/L	0.0029	0.0029	**1%**	0.0040	0.0038	**5%**	<0.000010	<0.000010
Vanadium (V)-Total	mg/L	<0.010	<0.010	**<DL**	0.0107	0.0123	**14%**	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	55.500	64.600	**15%**	0.662	0.694	**5%**	<0.0030	<0.0030
Zirconium (Zr)-Total	mg/L	<0.0080	<0.0080	**<DL**	0.0018	0.0020	**< 2xDL**	<0.00080	<0.00080

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Well Name		SRK08-SBR2	SRK08-SBR2 REP		SRK08-SP8B	SRK08-SP8B REP			
Sample ID	Units	0215-130913-079	0215-130913-084	**QA/QC[1]**	0215-130913-045	0215-130913-047	**QA/QC[1]**	TRAVEL BLANK	FIELD BLANK
Date Sampled		13-SEP-13	13-SEP-13		13-SEP-13	13-SEP-13		14-SEP-13	14-SEP-13
Time Sampled		15:32	15:32		13:45	13:47		12:00	12:00
Dissolved Metals									
Aluminum (Al)-Dissolved	mg/L	0.032	0.035	**< 2xDL**	0.0113	0.0133	**16%**	-	<0.0010
Antimony (Sb)-Dissolved	mg/L	<0.0010	<0.0010	**<DL**	<0.00020	<0.00020	**<DL**	-	<0.00010
Arsenic (As)-Dissolved	mg/L	0.0011	0.0011	**< 2xDL**	0.0034	0.0046	**30%**	-	<0.00010
Barium (Ba)-Dissolved	mg/L	0.0266	0.0262	**2%**	0.0147	0.0158	**7%**	-	<0.000050
Beryllium (Be)-Dissolved	mg/L	<0.0010	<0.0010	**<DL**	<0.00020	0.0002	**<DL**	-	<0.00010
Bismuth (Bi)-Dissolved	mg/L	<0.0050	<0.0050	**<DL**	<0.0010	<0.0010	**<DL**	-	<0.00050
Boron (B)-Dissolved	mg/L	<0.10	<0.10	**<DL**	<0.020	<0.020	**<DL**	-	<0.010
Cadmium (Cd)-Dissolved	mg/L	0.0238	0.0252	**6%**	0.000078	0.000067	**< 2xDL**	-	<0.000010
Calcium (Ca)-Dissolved	mg/L	366	364	**1%**	309	388	**23%**	-	<0.020
Chromium (Cr)-Dissolved	mg/L	<0.0010	<0.0010	**<DL**	<0.00020	<0.00020	**<DL**	-	<0.00010
Cobalt (Co)-Dissolved	mg/L	0.14700	0.15200	**3%**	0.00861	0.00946	**9%**	-	<0.00010
Copper (Cu)-Dissolved	mg/L	<0.0020	<0.0020	**<DL**	<0.00040	<0.00040	**<DL**	-	<0.00020
Iron (Fe)-Dissolved	mg/L	29.0	27.1	**7%**	30.7	35.9	**16%**	-	<0.010
Lead (Pb)-Dissolved	mg/L	0.00431	0.00498	**14%**	<0.00010	<0.00010	**<DL**	-	<0.000050
Lithium (Li)-Dissolved	mg/L	0.0813	0.0803	**1%**	0.0522	0.0807	**43%**	-	<0.00050
Magnesium (Mg)-Dissolved	mg/L	322	326	**1%**	181	251	**32%**	-	<0.0050
Manganese (Mn)-Dissolved	mg/L	19.4	19.7	**2%**	05.4	07.1	**28%**	-	<0.000050
Molybdenum (Mo)-Dissolved	mg/L	0.00060	0.00069	**< 2xDL**	0.00020	0.00020	**< 2xDL**	-	<0.000050
Nickel (Ni)-Dissolved	mg/L	0.3750	0.3880	**3%**	0.0178	0.0205	**14%**	-	<0.00050
Phosphorus (P)-Dissolved	mg/L	<3.0	<3.0	**<DL**	<0.60	<0.60	**<DL**	-	<0.30
Potassium (K)-Dissolved	mg/L	7.69	7.57	**2%**	4.89	5.71	**15%**	-	<0.050
Selenium (Se)-Dissolved	mg/L	<0.0010	<0.0010	**<DL**	<0.00020	<0.00020	**<DL**	-	<0.00010
Silicon (Si)-Dissolved	mg/L	15.1	14.9	**1%**	12.1	13.4	**10%**	-	<0.050
Silver (Ag)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.000020	<0.000020	**<DL**	-	<0.000010
Sodium (Na)-Dissolved	mg/L	19.4	19.4	**0%**	18.4	22.8	**21%**	-	<0.050
Strontium (Sr)-Dissolved	mg/L	1.53	1.52	**1%**	1.35	1.57	**15%**	-	<0.00020
Thallium (Tl)-Dissolved	mg/L	<0.00010	<0.00010	**<DL**	<0.000020	<0.000020	**<DL**	-	<0.000010
Tin (Sn)-Dissolved	mg/L	<0.0010	<0.0010	**<DL**	<0.00020	<0.00020	**<DL**	-	<0.00010
Titanium (Ti)-Dissolved	mg/L	<0.10	<0.10	**<DL**	<0.020	<0.020	**<DL**	-	<0.010
Uranium (U)-Dissolved	mg/L	0.0025	0.0024	**2%**	0.0033	0.0037	**13%**	-	<0.000010
Vanadium (V)-Dissolved	mg/L	<0.010	<0.010	**<DL**	<0.0020	<0.0020	**<DL**	-	<0.0010
Zinc (Zn)-Dissolved	mg/L	60.0000	63.8000	**6%**	0.5670	0.6670	**16%**	-	<0.0010
Zirconium (Zr)-Dissolved	mg/L	<0.0080	<0.0080	**<DL**	<0.0016	<0.0016	**<DL**	-	<0.00080

APPENDIX C ANALYTICAL RESULTS COMPARED AGAINST CCME GUIDELINES

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EDI Environmental Dynamics Inc.
2195 2nd Avenue, Whitehorse, YT
Y1A 3T8

Well Name			P01-11	P03-09-6	P03-09-9	P05-01-3	P05-01-5	P09-C2	P09-C3	P01-01A	P01-01B
Sample ID	CCME CWQG-FA		0215-130912-065	0215-130914-038	0215-130914-037	0215-130912-071	0215-130912-070	0215-130912-061	0215-130912-062	0215-130912-035	0215-130912-063
Date Sampled			12/09/2013	14/09/2013	14/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013
Time Sampled			12:33	09:54	10:22	17:57	17:30	11:45	10:10	08:11	08:36
Mine Area		*Units*	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Down Gradient of CVD	Down Gradient of CVD
Physical Tests											
Conductivity		*µS/cm*	3280	1690	1880	3280	2840	2600	1170	1730	1390
Hardness (as CaCO3)			2230	920	1080	2140	1770	958	560	1020	768
pH			7.18	8.09	7.92	7.14	7.18	7.15	7.59	7.58	7.86
Total Suspended Solids		*mg/L*	149.0	53.8	753.0	66.7	21.2	43.4	36.4	1.2	1.4
Anions and Nutrients											
Acidity (as CaCO3)			89.2	11.5	20.0	87.3	68.3	201.0	27.4	21.6	9.8
Alkalinity, Total (as CaCO3)		*mg/L*	444	336	338	429	373	1710	499	340	298
Chloride (Cl)	64	*mg/L*	<10	<5.0	<5.0	<10	<10	22	<5.0	<5.0	<5.0
Sulfate (SO4)		*mg/L*	2080	785	925	2040	1720	25	174	813	588
Total Metals											
Aluminum (Al)-Total	*formula*	*mg/L*	**0.30**	**0.32**	**8.39**	**0.85**	**0.18**	**1.15**	**0.92**	0.01	<0.0030
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	<0.00050	<0.00020	0.00081	<0.00050	<0.00050	<0.00020	<0.00010	<0.00020	<0.00010
Arsenic (As)-Total	0.005	*mg/L*	**0.0413**	0.0003	0.0030	0.0009	**0.0055**	0.0010	0.0016	<0.00020	0.0022
Barium (Ba)-Total		*mg/L*	0.0322	0.0406	0.1800	0.0377	0.0218	0.6950	0.1670	0.0428	0.0522
Beryllium (Be)-Total		*mg/L*	<0.00050	<0.00020	0.00039	<0.00050	<0.00050	0.00274	0.00018	<0.00020	<0.00010
Bismuth (Bi)-Total		*mg/L*	<0.0025	<0.0010	<0.0010	<0.0025	<0.0025	<0.0010	<0.00050	<0.0010	<0.00050
Boron (B)-Total	29	*mg/L*	<0.050	<0.020	<0.020	<0.050	<0.050	0.093	0.017	<0.020	0.01
Cadmium (Cd)-Total	*formula*	*mg/L*	<0.000050	**0.00419**	**0.00929**	<0.000050	**0.00333**	0.000026	0.00001	**0.00116**	0.000016
Cadmium Guideline			*0.001042*	*0.001063*	*0.001058*	*0.001043*	*0.001047*	*0.001062*	*0.001081*	*0.001060*	*0.001069*
Calcium (Ca)-Total		*mg/L*	668	280	335	643	543	220	126	300	227
Chromium (Cr)-Total		*mg/L*	<0.00050	0.00095	0.01730	0.00238	<0.00050	0.00201	0.00217	<0.00020	0.00013
Cobalt (Co)-Total		*mg/L*	0.0105	0.0020	0.0129	0.0007	0.0180	0.0003	0.0004	0.0022	0.0002
Copper (Cu)-Total	*formula*	*mg/L*	<0.0025	**0.0028**	**0.0252**	**0.0025**	**0.0031**	<0.0010	**0.0010**	**0.0010**	<0.00050
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	73.4	00.5	12.5	35.1	28.1	04.1	03.4	<0.020	00.7
Lead (Pb)-Total	*formula*	*mg/L*	**0.00170**	0.00058	**0.01650**	**0.00208**	0.00057	0.00064	0.00057	<0.00010	<0.000050
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0201	0.0146	0.0248	0.0313	0.0245	0.8370	0.0763	0.0110	0.0104
Magnesium (Mg)-Total		*mg/L*	141	059	067	138	119	103	056	067	049
Manganese (Mn)-Total		*mg/L*	41.0	12.1	16.5	45.5	38.1	00.2	00.3	07.9	00.2
Molybdenum (Mo)-Total		*mg/L*	0.00104	0.00154	0.00147	0.00077	0.00082	0.00021	0.00047	0.00079	0.00087
Nickel (Ni)-Total	*formula*	*mg/L*	0.0233	0.0195	0.0499	<0.0025	0.0181	0.0010	0.0013	0.0110	0.0006
Nickel Guideline			*0.78*	*0.40*	*0.45*	*0.76*	*0.66*	*0.41*	*0.27*	*0.43*	*0.35*
Phosphorus (P)-Total		*mg/L*	<1.5	<0.60	<0.60	<1.5	<1.5	<0.60	<0.30	<0.60	<0.30
Potassium (K)-Total		*mg/L*	8.49	4.54	6.02	8.01	7.74	11.60	3.65	6.40	4.30
Selenium (Se)-Total	0.001	*mg/L*	<0.00050	<0.00020	0.0005	<0.00050	<0.00050	<0.00020	<0.00010	<0.00020	<0.00010
Silicon (Si)-Total		*mg/L*	13.8	07.9	20.0	13.2	11.2	12.9	09.2	07.5	06.0
Silver (Ag)-Total	0.0001	*mg/L*	<0.000050	<0.000020	**0.00015**	<0.000050	<0.000050	**0.000532**	**0.000112**	<0.000020	<0.000010
Sodium (Na)-Total		*mg/L*	40.0	29.4	28.7	39.1	33.7	324.0	55.0	19.7	24.2
Strontium (Sr)-Total		*mg/L*	1.62	0.79	0.84	1.61	1.38	4.44	1.71	0.95	0.82
Thallium (Tl)-Total	0.0008	*mg/L*	<0.000050	0.00003	0.000184	<0.000050	<0.000050	<0.000020	<0.000010	<0.000020	<0.000010
Tin (Sn)-Total		*mg/L*	<0.00050	<0.00020	0.00045	<0.00050	<0.00050	<0.00020	0.00011	<0.00020	<0.00010
Titanium (Ti)-Total		*mg/L*	<0.050	<0.020	0.426	<0.050	<0.050	<0.020	0.018	<0.020	<0.010
Uranium (U)-Total	0.015	*mg/L*	0.0121	0.0084	0.0096	0.0014	0.0055	0.0006	0.0012	0.0086	0.0095
Vanadium (V)-Total		*mg/L*	<0.0050	<0.0020	0.0238	<0.0050	<0.0050	<0.0020	0.0015	<0.0020	<0.0010
Zinc (Zn)-Total	0.03	*mg/L*	<0.015	0.010	**0.095**	<0.015	<0.015	<0.0060	0.004	<0.0060	<0.0030
Zirconium (Zr)-Total		*mg/L*	<0.0040	<0.0016	0.0017	<0.0040	<0.0040	0.1210	0.0153	<0.0016	0.0010

EDI Environmental Dynamics Inc.
2195 2nd Avenue, Whitehorse, YT
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Well Name			P01-11	P03-09-6	P03-09-9	P05-01-3	P05-01-5	P09-C2	P09-C3	P01-01A	P01-01B
Sample ID	CCME CWQG-FA		0215-130912-065	0215-130914-038	0215-130914-037	0215-130912-071	0215-130912-070	0215-130912-061	0215-130912-062	0215-130912-035	0215-130912-063
Date Sampled			12/09/2013	14/09/2013	14/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013
Time Sampled			12:33	09:54	10:22	17:57	17:30	11:45	10:10	08:11	08:36
Mine Area		*Units*	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Cross Valley Dam (CVD)	Down Gradient of CVD	Down Gradient of CVD
Dissolved Metals											
Aluminum (Al)-Dissolved	*formula*	*mg/L*	0.0311	<0.0020	0.0025	<0.0050	<0.0050	0.0145	0.0013	<0.0020	<0.0010
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.00050	<0.00020	<0.00020	<0.00050	<0.00050	<0.00020	<0.00010	<0.00020	<0.00010
Arsenic (As)-Dissolved	0.005	*mg/L*	**0.0422**	<0.00020	<0.00020	0.0006	0.0049	<0.00020	0.0015	<0.00020	0.0021
Barium (Ba)-Dissolved		*mg/L*	0.0276	0.0339	0.0281	0.0239	0.0167	0.6690	0.1600	0.0437	0.0522
Beryllium (Be)-Dissolved		*mg/L*	<0.00050	<0.00020	<0.00020	<0.00050	<0.00050	0.00253	0.00014	<0.00020	<0.00010
Bismuth (Bi)-Dissolved		*mg/L*	<0.0025	<0.0010	<0.0010	<0.0025	<0.0025	<0.0010	<0.00050	<0.0010	<0.00050
Boron (B)-Dissolved	29	*mg/L*	<0.050	<0.020	<0.020	<0.050	<0.050	0.089	0.016	<0.020	<0.010
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	<0.000050	0.000077	0.000124	<0.000050	0.000311	0.000028	<0.000010	0.00105	<0.000010
Cadmium Guideline			*0.001042*	*0.001063*	*0.001058*	*0.001043*	*0.001047*	*0.001062*	*0.001081*	*0.001060*	*0.001069*
Calcium (Ca)-Dissolved		*mg/L*	661	274	325	636	526	216	136	303	232
Chromium (Cr)-Dissolved		*mg/L*	<0.00050	<0.00020	<0.00020	<0.00050	<0.00050	<0.00020	<0.00010	<0.00020	<0.00010
Cobalt (Co)-Dissolved		*mg/L*	0.01020	0.00163	0.00448	<0.00050	0.01690	<0.00020	<0.00010	0.00213	0.00018
Copper (Cu)-Dissolved	*formula*	*mg/L*	<0.0010	<0.00040	<0.00040	<0.0010	<0.0010	<0.00040	<0.00020	**0.00054**	<0.00020
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	71.7	<0.020	00.1	33.3	26.4	03.2	02.3	<0.020	00.7
Lead (Pb)-Dissolved	*formula*	*mg/L*	<0.00025	<0.00010	<0.00010	<0.00025	<0.00025	<0.00010	<0.000050	<0.00010	<0.000050
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0228	0.0148	0.0114	0.0292	0.0224	0.8260	0.0826	0.0118	0.0106
Magnesium (Mg)-Dissolved		*mg/L*	140	057	064	133	112	102	054	064	046
Manganese (Mn)-Dissolved		*mg/L*	39.2	11.6	16.4	44.5	36.1	00.2	00.3	07.5	00.1
Molybdenum (Mo)-Dissolved		*mg/L*	0.00108	0.00130	0.00111	0.00066	0.00079	<0.00010	0.00032	0.00093	0.00088
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.0223	0.0174	0.0241	<0.0025	0.0162	<0.0010	<0.00050	0.0107	0.0006
Nickel Guideline			*0.78448*	*0.40026*	*0.45214*	*0.76029*	*0.65815*	*0.41277*	*0.27447*	*0.43292*	*0.34893*
Phosphorus (P)-Dissolved		*mg/L*	<1.5	<0.60	<0.60	<1.5	<1.5	<0.60	<0.30	<0.60	<0.30
Potassium (K)-Dissolved		*mg/L*	8.20	4.36	4.66	7.57	7.31	11.20	3.42	6.02	4.22
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.00050	<0.00020	<0.00020	<0.00050	<0.00050	<0.00020	0.00014	<0.00020	<0.00010
Silicon (Si)-Dissolved		*mg/L*	12.8	07.5	07.7	11.6	10.4	10.9	07.8	07.4	06.0
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000050	<0.000020	<0.000020	<0.000050	<0.000050	**0.000313**	0.000045	<0.000020	<0.000010
Sodium (Na)-Dissolved		*mg/L*	40.2	28.5	28.6	37.9	31.6	317.0	53.0	19.1	23.6
Strontium (Sr)-Dissolved		*mg/L*	1.53	0.77	0.83	1.59	1.35	4.21	1.82	0.95	0.84
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000050	<0.000020	<0.000020	<0.000050	<0.000050	<0.000020	<0.000010	<0.000020	<0.000010
Tin (Sn)-Dissolved		*mg/L*	<0.00050	<0.00020	<0.00020	<0.00050	<0.00050	<0.00020	<0.00010	<0.00020	<0.00010
Titanium (Ti)-Dissolved		*mg/L*	<0.050	<0.020	<0.020	<0.050	<0.050	<0.020	<0.010	<0.020	<0.010
Uranium (U)-Dissolved	0.015	*mg/L*	0.0119	0.0083	0.0094	0.0012	0.0054	0.0004	0.0013	0.0084	0.0091
Vanadium (V)-Dissolved		*mg/L*	<0.0050	<0.0020	<0.0020	<0.0050	<0.0050	<0.0020	<0.0010	<0.0020	<0.0010
Zinc (Zn)-Dissolved	0.03	*mg/L*	0.0081	<0.0020	0.0027	<0.0050	<0.0050	<0.0020	<0.0010	0.0033	0.0012
Zirconium (Zr)-Dissolved		*mg/L*	<0.0040	<0.0016	<0.0016	<0.0040	<0.0040	0.144	0.0223	<0.0016	0.00096

EDI Environmental Dynamics Inc.
2195 2nd Avenue, Whitehorse, YT
Y1A 3T8

Well Name			P09-ETA1	P09-ETA2	SRK04-3A	SRK05-ETA-BR1	SRK05-ETA-BR2	P01-03	P01-04A	P01-04B	X24-96D
Sample ID	CCME CWQG-FA		0215-130914-098	0215-130914-097	0215-130914-080	0215-130914-111	0215-130914-081	0215-130912-066	0215-130912-069	0215-130912-064	0215-130912-072
Date Sampled			14/09/2013	14/09/2013	14/09/2013	14/09/2013	14/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013
Time Sampled			12:54	11:28	11:28	00:43	12:11	15:44	14:30	14:05	09:00
Mine Area		*Units*	ETA Area	ETA Area	ETA Area	ETA Area	ETA Area	Intermediate Dam	Intermediate Dam	Intermediate Dam	Intermediate Dam
Physical Tests											
Conductivity		*µS/cm*	413	6230	9210	8620	3400	3640	1050	2330	3690
Hardness (as CaCO3)			180	4040	5070	4380	2220	2160	462	1450	2400
pH			7.95	6.23	5.40	5.44	6.39	6.67	7.47	7.51	6.80
Total Suspended Solids		*mg/L*	23.2	67.3	218.0	592.0	43.2	120.0	1.0	21.3	12.4
Anions and Nutrients											
Acidity (as CaCO3)			10.4	1180.0	3630.0	3430.0	309.0	302.0	38.3	30.7	121.0
Alkalinity, Total (as CaCO3)		*mg/L*	203	133	028	045	135	277	546	366	442
Chloride (Cl)	64	*mg/L*	<0.50	<25	<25	<25	<10	<10	6.9	<10	<10
Sulfate (SO4)		*mg/L*	32	5630	9320	8480	2490	2470	32	1260	2460
Total Metals											
Aluminum (Al)-Total	*formula*	*mg/L*	**0.51**	<0.15	**9.72**	**8.61**	**5.59**	**1.58**	0.01	0.01	**0.22**
Aluminum Guideline			*0.10*	*0.01*	*0.01*	*0.01*	*0.01*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	0.00018	<0.0050	<0.010	<0.010	<0.0010	<0.0010	<0.00010	<0.00020	<0.0020
Arsenic (As)-Total	0.005	*mg/L*	0.0005	**0.1300**	**0.0780**	**0.0200**	0.0011	0.0028	0.0002	0.0018	0.0021
Barium (Ba)-Total		*mg/L*	0.0250	0.0230	0.0179	0.1140	0.0708	0.0434	0.3940	0.0199	0.0371
Beryllium (Be)-Total		*mg/L*	<0.00010	<0.0050	<0.010	<0.010	<0.0010	<0.0010	0.00023	<0.00020	<0.0020
Bismuth (Bi)-Total		*mg/L*	<0.00050	<0.025	<0.050	<0.050	<0.0050	<0.0050	<0.00050	<0.0010	<0.010
Boron (B)-Total	29	*mg/L*	0.014	<0.50	<1.0	<1.0	<0.10	<0.10	0.026	<0.020	<0.20
Cadmium (Cd)-Total	*formula*	*mg/L*	0.000012	0.00059	**0.119**	**0.0817**	**0.00369**	**0.0019**	<0.000010	<0.000020	**0.00506**
Cadmium Guideline			*0.001158*	*0.001033*	*0.001030*	*0.001032*	*0.001042*	*0.001043*	*0.001090*	*0.001051*	*0.001041*
Calcium (Ca)-Total		*mg/L*	057	480	382	404	507	587	125	474	701
Chromium (Cr)-Total		*mg/L*	0.00029	<0.0050	<0.010	<0.010	0.00110	0.00320	<0.00010	<0.00020	<0.0020
Cobalt (Co)-Total		*mg/L*	<0.00010	0.8160	1.9800	1.6400	0.1690	0.1960	0.0001	0.0014	0.4170
Copper (Cu)-Total	*formula*	*mg/L*	**0.0015**	<0.025	<0.050	**0.0660**	<0.0050	**0.0052**	<0.00050	<0.0010	<0.010
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	00.5	378.0	1270.0	1380.0	136.0	147.0	00.5	13.3	02.5
Lead (Pb)-Total	*formula*	*mg/L*	**0.03750**	**0.01730**	**0.02660**	**0.18500**	**0.02150**	**0.00351**	<0.000050	<0.00010	**0.00110**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0006	0.1250	0.1620	0.1140	0.0273	0.0194	0.1530	0.0223	0.0200
Magnesium (Mg)-Total		*mg/L*	010	721	992	765	189	160	041	077	174
Manganese (Mn)-Total		*mg/L*	00.0	76.4	121.0	111.0	15.5	80.0	00.2	07.9	110.0
Molybdenum (Mo)-Total		*mg/L*	0.00012	<0.0025	<0.0050	<0.0050	<0.00050	0.00081	<0.000050	0.00049	0.00130
Nickel (Ni)-Total	*formula*	*mg/L*	<0.00050	0.7350	**1.6500**	**1.4000**	0.1500	0.0668	<0.00050	0.0027	0.5740
Nickel Guideline			*0.12*	*1.23*	*1.46*	*1.31*	*0.78*	*0.77*	*0.24*	*0.57*	*0.83*
Phosphorus (P)-Total		*mg/L*	<0.30	<15	<30	<30	<3.0	<3.0	<0.30	<0.60	<6.0
Potassium (K)-Total		*mg/L*	0.26	9.10	14.80	12.10	4.63	7.67	3.18	5.39	7.50
Selenium (Se)-Total	0.001	*mg/L*	<0.00010	<0.0050	<0.010	<0.010	<0.0010	<0.0010	<0.00010	<0.00020	<0.0020
Silicon (Si)-Total		*mg/L*	10.0	13.7	19.8	29.9	23.8	13.9	08.6	08.2	10.2
Silver (Ag)-Total	0.0001	*mg/L*	0.000073	<0.00050	<0.0010	**0.0011**	**0.00014**	<0.00010	**0.000129**	<0.000020	<0.00020
Sodium (Na)-Total		*mg/L*	16.0	47.2	50.1	46.7	31.0	29.8	64.5	41.9	38.1
Strontium (Sr)-Total		*mg/L*	0.50	3.50	3.91	4.45	7.01	1.87	1.66	1.24	2.26
Thallium (Tl)-Total	0.0008	*mg/L*	0.00002	<0.00050	<0.0010	<0.0010	<0.00010	<0.00010	<0.000010	<0.000020	0.00028
Tin (Sn)-Total		*mg/L*	0.00021	<0.0050	<0.010	<0.010	<0.0010	<0.0010	<0.00010	<0.00020	<0.0020
Titanium (Ti)-Total		*mg/L*	<0.010	<0.50	<1.0	<1.0	<0.10	<0.10	<0.010	<0.020	<0.20
Uranium (U)-Total	0.015	*mg/L*	0.0002	0.0041	0.0119	0.0107	0.0017	0.0046	0.0003	0.0069	0.0037
Vanadium (V)-Total		*mg/L*	<0.0010	<0.050	<0.10	<0.10	<0.010	<0.010	<0.0010	<0.0020	<0.020
Zinc (Zn)-Total	0.03	*mg/L*	0.009	**323**	**700**	**645**	**63.200**	**0.149**	<0.0030	<0.0060	**0.186**
Zirconium (Zr)-Total		*mg/L*	<0.00080	<0.040	<0.080	<0.080	0.0097	<0.0080	0.0576	<0.0016	<0.016

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Well Name			P09-ETA1	P09-ETA2	SRK04-3A	SRK05-ETA-BR1	SRK05-ETA-BR2	P01-03	P01-04A	P01-04B	X24-96D
Sample ID	CCME CWQG-FA		0215-130914-098	0215-130914-097	0215-130914-080	0215-130914-111	0215-130914-081	0215-130912-066	0215-130912-069	0215-130912-064	0215-130912-072
Date Sampled			14/09/2013	14/09/2013	14/09/2013	14/09/2013	14/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013
Time Sampled			12:54	11:28	11:28	00:43	12:11	15:44	14:30	14:05	09:00
Mine Area		*Units*	ETA Area	ETA Area	ETA Area	ETA Area	ETA Area	Intermediate Dam	Intermediate Dam	Intermediate Dam	Intermediate Dam
Dissolved Metals											
Aluminum (Al)-Dissolved	*formula*	*mg/L*	<0.0010	<0.050	**9.67**	**1.41**	**0.016**	<0.010	0.0021	<0.0020	<0.020
Aluminum Guideline			*0.10*	*0.01*	*0.01*	*0.01*	*0.01*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.00010	<0.0050	<0.010	<0.010	<0.0010	<0.0010	<0.00010	<0.00020	<0.0020
Arsenic (As)-Dissolved	0.005	*mg/L*	<0.00010	**0.1090**	**0.0780**	<0.010	<0.0010	<0.0010	0.0002	0.0018	<0.0020
Barium (Ba)-Dissolved		*mg/L*	0.0041	0.0081	0.0148	0.0111	0.0425	0.0118	0.3840	0.0194	0.0264
Beryllium (Be)-Dissolved		*mg/L*	<0.00010	<0.0050	<0.010	<0.010	<0.0010	<0.0010	0.00022	<0.00020	<0.0020
Bismuth (Bi)-Dissolved		*mg/L*	<0.00050	<0.025	<0.050	<0.050	<0.0050	<0.0050	<0.00050	<0.0010	<0.010
Boron (B)-Dissolved	29	*mg/L*	0.011	<0.50	<1.0	<1.0	<0.10	<0.10	0.021	<0.020	<0.20
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	<0.000010	<0.00050	**0.118**	**0.0656**	**0.00181**	**0.00187**	<0.000010	<0.000020	**0.00474**
Cadmium Guideline			*0.001158*	*0.001033*	*0.001030*	*0.001032*	*0.001042*	*0.001043*	*0.001090*	*0.001051*	*0.001041*
Calcium (Ca)-Dissolved		*mg/L*	057	468	396	401	584	600	120	459	684
Chromium (Cr)-Dissolved		*mg/L*	<0.00010	<0.0050	<0.010	<0.010	<0.0010	<0.0010	<0.00010	<0.00020	<0.0020
Cobalt (Co)-Dissolved		*mg/L*	<0.00010	0.75300	1.98000	1.71000	0.16000	0.19600	0.00011	0.00131	0.40400
Copper (Cu)-Dissolved	*formula*	*mg/L*	<0.00020	<0.010	<0.020	<0.020	<0.0020	<0.0020	<0.00020	<0.00040	<0.0040
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	00.2	373.0	1310.0	1350.0	124.0	143.0	00.4	12.8	01.6
Lead (Pb)-Dissolved	*formula*	*mg/L*	0.000519	<0.0025	**0.0195**	**0.0476**	<0.00050	<0.00050	<0.000050	<0.00010	<0.0010
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	<0.00050	0.1230	0.1710	0.1090	0.0266	0.0182	0.1520	0.0213	0.0190
Magnesium (Mg)-Dissolved		*mg/L*	009	697	990	821	184	161	040	074	168
Manganese (Mn)-Dissolved		*mg/L*	00.0	73.9	121.0	118.0	15.0	80.4	00.2	07.6	106.0
Molybdenum (Mo)-Dissolved		*mg/L*	0.00009	<0.0025	<0.0050	<0.0050	<0.00050	0.00071	<0.000050	0.00045	0.00110
Nickel (Ni)-Dissolved	*formula*	*mg/L*	<0.00050	0.6810	**1.6400**	**1.4600**	0.1380	0.0635	<0.00050	0.0026	0.5560
Nickel Guideline			*0.11584*	*1.23230*	*1.46445*	*1.31035*	*0.78180*	*0.76569*	*0.23713*	*0.56560*	*0.82952*
Phosphorus (P)-Dissolved		*mg/L*	<0.30	<15	<30	<30	<3.0	<3.0	<0.30	<0.60	<6.0
Potassium (K)-Dissolved		*mg/L*	0.23	9.00	14.90	11.80	4.33	7.47	3.04	5.21	7.30
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.00010	<0.0050	<0.010	<0.010	<0.0010	<0.0010	0.0003	<0.00020	<0.0020
Silicon (Si)-Dissolved		*mg/L*	08.8	12.9	20.1	17.3	09.8	11.6	08.5	07.9	09.4
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000010	<0.00050	<0.0010	<0.0010	<0.00010	<0.00010	**0.000114**	<0.000020	<0.00020
Sodium (Na)-Dissolved		*mg/L*	16.1	47.3	50.2	48.8	31.3	30.0	61.6	40.5	36.9
Strontium (Sr)-Dissolved		*mg/L*	0.47	3.46	4.05	4.63	7.97	1.92	1.60	1.21	2.18
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000010	<0.00050	<0.0010	<0.0010	<0.00010	<0.00010	<0.000010	<0.000020	0.00026
Tin (Sn)-Dissolved		*mg/L*	<0.00010	<0.0050	<0.010	<0.010	<0.0010	<0.0010	<0.00010	<0.00020	<0.0020
Titanium (Ti)-Dissolved		*mg/L*	<0.010	<0.50	<1.0	<1.0	<0.10	<0.10	<0.010	<0.020	<0.20
Uranium (U)-Dissolved	0.015	*mg/L*	0.0001	0.0044	0.0118	0.0070	0.0009	0.0046	0.0003	0.0066	0.0036
Vanadium (V)-Dissolved		*mg/L*	<0.0010	<0.050	<0.10	<0.10	<0.010	<0.010	<0.0010	<0.0020	<0.020
Zinc (Zn)-Dissolved	0.03	*mg/L*	<0.0010	**306**	**683**	**662**	**59.3**	**0.134**	<0.0010	<0.0020	**0.1790**
Zirconium (Zr)-Dissolved		*mg/L*	<0.00080	<0.040	<0.080	<0.080	<0.0080	<0.0080	0.0541	<0.0016	<0.016

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Well Name			X25-96A	X25-96B	P96-6	P96-8A	P96-8B	SRK08-P9	SRK08-p10A
Sample ID	CCME CWQG-FA		0215-130912-030	0215-130912-068	0215-130913-055	0215-130913-032	0215-130913-052	0215-130913-044	0215-130914-039
Date Sampled			12/09/2013	12/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	14/09/2013
Time Sampled			15:00	15:20	08:03	16:12	16:18	15:18	17:21
Mine Area		*Units*	Intermediate Dam	Intermediate Dam	Intermediate Dump	Intermediate Dump	Intermediate Dump	Main Dump	Mill Area
Physical Tests									
Conductivity		*µS/cm*	1560	1580	2700	9320	9450	1540	3530
Hardness (as CaCO3)			859	854	1820	5120	6700	892	2160
pH			7.68	7.98	7.15	3.43	5.96	7.97	7.31
Total Suspended Solids		*mg/L*	11.6	3.2	1.0	45.2	22.4	234.0	3100.0
Anions and Nutrients									
Acidity (as CaCO3)			16.4	8.1	47.4	2550.0	2020.0	13.3	59.8
Alkalinity, Total (as CaCO3)		*mg/L*	297	188	300	<2.0	116	300	623
Chloride (Cl)	64	*mg/L*	<5.0	<5.0	<10	<25	<25	<5.0	**164**
Sulfate (SO4)		*mg/L*	709	721	1740	9230	9500	683	1930
Total Metals									
Aluminum (Al)-Total	*formula*	*mg/L*	0.06	0.01	0.01	**23.70**	**1.47**	**7.90**	**97.90**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.01*	*0.01*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	<0.00020	<0.00020	<0.00020	<0.020	<0.010	0.00036	<0.00050
Arsenic (As)-Total	0.005	*mg/L*	0.0003	0.0007	0.0002	<0.020	<0.010	**0.0081**	**0.0199**
Barium (Ba)-Total		*mg/L*	0.0592	0.0304	0.0298	0.0220	0.0214	0.0973	0.5520
Beryllium (Be)-Total		*mg/L*	<0.00020	<0.00020	<0.00020	<0.020	<0.010	0.00032	0.00315
Bismuth (Bi)-Total		*mg/L*	<0.0010	<0.0010	<0.0010	<0.10	<0.050	<0.00050	<0.0025
Boron (B)-Total	29	*mg/L*	<0.020	<0.020	<0.020	<2.0	<1.0	0.016	<0.050
Cadmium (Cd)-Total	*formula*	*mg/L*	0.000125	0.000034	0.000422	**0.667**	**0.281**	0.000112	**0.00135**
Cadmium Guideline			*0.001065*	*0.001065*	*0.001046*	*0.001030*	*0.001027*	*0.001064*	*0.001043*
Calcium (Ca)-Total		*mg/L*	259	285	466	435	459	272	1060
Chromium (Cr)-Total		*mg/L*	0.00030	<0.00020	<0.00020	<0.020	<0.010	0.05320	0.15500
Cobalt (Co)-Total		*mg/L*	0.0067	0.0002	<0.00020	2.6300	1.8300	0.0114	0.0313
Copper (Cu)-Total	*formula*	*mg/L*	**0.0015**	<0.0010	<0.0010	**0.27**	<0.050	**0.0304**	**0.0565**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	01.6	01.2	00.0	289.0	330.0	14.0	88.2
Lead (Pb)-Total	*formula*	*mg/L*	0.00022	<0.00010	0.00021	**0.138**	**0.06200**	**0.00699**	**0.15400**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0043	0.0100	0.0358	0.1500	0.2590	0.0242	0.1130
Magnesium (Mg)-Total		*mg/L*	056	041	169	1170	1460	056	136
Manganese (Mn)-Total		*mg/L*	14.5	00.3	00.0	154.0	137.0	00.2	01.9
Molybdenum (Mo)-Total		*mg/L*	0.00156	0.00039	<0.00010	<0.010	<0.0050	0.00497	0.00395
Nickel (Ni)-Total	*formula*	*mg/L*	0.0043	<0.0010	0.0175	**2.81**	**1.89**	0.0680	0.0837
Nickel Guideline			*0.38*	*0.38*	*0.67*	*1.48*	*1.81*	*0.39*	*0.77*
Phosphorus (P)-Total		*mg/L*	<0.60	<0.60	<0.60	<60	<30	<0.30	<1.5
Potassium (K)-Total		*mg/L*	4.77	4.04	5.00	19.00	20.10	6.36	26.10
Selenium (Se)-Total	0.001	*mg/L*	<0.00020	<0.00020	**0.00429**	<0.020	<0.010	**0.00208**	<0.00050
Silicon (Si)-Total		*mg/L*	08.4	05.7	09.1	33.0	15.3	21.2	113.0
Silver (Ag)-Total	0.0001	*mg/L*	<0.000020	<0.000020	<0.000020	<0.0020	<0.0010	0.000064	**0.000295**
Sodium (Na)-Total		*mg/L*	20.9	49.0	06.6	75.0	61.6	38.5	152.0
Strontium (Sr)-Total		*mg/L*	0.71	0.62	1.18	3.78	4.31	3.74	2.67
Thallium (Tl)-Total	0.0008	*mg/L*	<0.000020	<0.000020	<0.000020	<0.0020	<0.0010	0.000083	0.000639
Tin (Sn)-Total		*mg/L*	<0.00020	<0.00020	<0.00020	<0.020	<0.010	0.00064	0.00314
Titanium (Ti)-Total		*mg/L*	<0.020	<0.020	<0.020	<2.0	<1.0	0.263	3.21
Uranium (U)-Total	0.015	*mg/L*	0.0117	0.0095	**0.1060**	**0.0247**	0.0026	0.0124	**0.0387**
Vanadium (V)-Total		*mg/L*	<0.0020	<0.0020	<0.0020	<0.20	<0.10	0.0272	0.12
Zinc (Zn)-Total	0.03	*mg/L*	<0.0060	<0.0060	**0.563**	**1170**	**887**	**0.054**	**1.720**
Zirconium (Zr)-Total		*mg/L*	<0.0016	<0.0016	<0.0016	<0.16	<0.080	0.0016	0.0120

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Well Name			X25-96A	X25-96B	P96-6	P96-8A	P96-8B	SRK08-P9	SRK08-p10A
Sample ID	CCME CWQG-FA		0215-130912-030	0215-130912-068	0215-130913-055	0215-130913-032	0215-130913-052	0215-130913-044	0215-130914-039
Date Sampled			12/09/2013	12/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	14/09/2013
Time Sampled			15:00	15:20	08:03	16:12	16:18	15:18	17:21
Mine Area		*Units*	Intermediate Dam	Intermediate Dam	Intermediate Dump	Intermediate Dump	Intermediate Dump	Main Dump	Mill Area
Dissolved Metals									
Aluminum (Al)-Dissolved	*formula*	*mg/L*	<0.0020	<0.0020	<0.0020	**21.1**	**1.36**	0.003	0.0058
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.01*	*0.01*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.00020	<0.00020	<0.00020	<0.020	<0.010	0.00011	<0.00050
Arsenic (As)-Dissolved	0.005	*mg/L*	<0.00020	0.0006	<0.00020	<0.020	<0.010	0.0003	<0.00050
Barium (Ba)-Dissolved		*mg/L*	0.0581	0.0298	0.0288	0.0200	0.0192	0.0272	0.0252
Beryllium (Be)-Dissolved		*mg/L*	<0.00020	<0.00020	<0.00020	<0.020	<0.010	<0.00010	<0.00050
Bismuth (Bi)-Dissolved		*mg/L*	<0.0010	<0.0010	<0.0010	<0.10	<0.050	<0.00050	<0.0025
Boron (B)-Dissolved	29	*mg/L*	<0.020	<0.020	<0.020	<2.0	<1.0	0.011	<0.050
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	0.000107	0.000031	0.000413	**0.593**	**0.265**	0.000036	0.000937
Cadmium Guideline			*0.001065*	*0.001065*	*0.001046*	*0.001030*	*0.001027*	*0.001064*	*0.001043*
Calcium (Ca)-Dissolved		*mg/L*	253	276	450	366	428	272	707
Chromium (Cr)-Dissolved		*mg/L*	<0.00020	<0.00020	<0.00020	<0.020	<0.010	0.00052	<0.00050
Cobalt (Co)-Dissolved		*mg/L*	0.00642	0.00022	<0.00020	2.31000	1.72000	0.00037	0.00240
Copper (Cu)-Dissolved	*formula*	*mg/L*	<0.00040	<0.00040	**0.00051**	**0.24**	<0.020	**0.00098**	**0.0024**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	01.4	01.2	<0.020	245.0	312.0	<0.010	<0.050
Lead (Pb)-Dissolved	*formula*	*mg/L*	<0.00010	<0.00010	<0.00010	**0.122**	**0.0561**	<0.000050	0.0003
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0039	0.0093	0.0321	0.1400	0.2320	0.0145	0.0185
Magnesium (Mg)-Dissolved		*mg/L*	055	040	168	1020	1370	052	097
Manganese (Mn)-Dissolved		*mg/L*	14.2	00.3	00.0	136.0	127.0	00.0	00.1
Molybdenum (Mo)-Dissolved		*mg/L*	0.00138	0.00038	<0.00010	<0.010	<0.0050	0.00395	0.00083
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.0039	<0.0010	0.0173	**2.4400**	1.7900	0.0179	0.0240
Nickel Guideline			*0.37993*	*0.37825*	*0.67224*	*1.47541*	*1.81002*	*0.39097*	*0.76569*
Phosphorus (P)-Dissolved		*mg/L*	<0.60	<0.60	<0.60	<60	<30	<0.30	<1.5
Potassium (K)-Dissolved		*mg/L*	4.77	3.96	4.88	16.00	18.60	5.40	14.30
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.00020	<0.00020	**0.00447**	<0.020	<0.010	**0.00213**	<0.00050
Silicon (Si)-Dissolved		*mg/L*	08.1	05.6	08.7	29.0	14.5	06.4	09.8
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000020	<0.000020	<0.000020	<0.0020	<0.0010	<0.000010	<0.000050
Sodium (Na)-Dissolved		*mg/L*	20.6	47.8	06.4	69.0	58.2	37.9	153.0
Strontium (Sr)-Dissolved		*mg/L*	0.70	0.60	1.16	3.30	4.01	3.67	1.78
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000020	<0.000020	<0.000020	<0.0020	<0.0010	0.000013	<0.000050
Tin (Sn)-Dissolved		*mg/L*	<0.00020	<0.00020	<0.00020	<0.020	<0.010	<0.00010	<0.00050
Titanium (Ti)-Dissolved		*mg/L*	<0.020	<0.020	<0.020	<2.0	<1.0	<0.010	<0.050
Uranium (U)-Dissolved	0.015	*mg/L*	0.0117	0.0093	**0.1010**	**0.0222**	0.0024	0.0122	**0.0363**
Vanadium (V)-Dissolved		*mg/L*	<0.0020	<0.0020	<0.0020	<0.20	<0.10	<0.0010	<0.0050
Zinc (Zn)-Dissolved	0.03	*mg/L*	0.0021	<0.0020	**0.5620**	**1020**	**820**	0.0048	**1.4300**
Zirconium (Zr)-Dissolved		*mg/L*	<0.0016	<0.0016	<0.0016	<0.16	<0.080	<0.00080	<0.0040

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Well Name			SRK08-p11A	SRK08-p11B	BH13B	BH14A	BH14B	P03-01-2	P03-01-8	P03-03-2	P03-03-4
Sample ID	CCME CWQG-FA		0215-130912-0036	0215-130910-031	0215-130912-054	0215-130912-012	0215-130912-058	0215-130914-100	0215-130914-101	0215-130914-105	0215-130914-103
Date Sampled			10/09/2013	10/09/2013	12/09/2013	12/09/2013	12/09/2013	14/09/2013	14/09/2013	14/09/2013	14/09/2013
Time Sampled			18:09	18:02	12:42	13:50	16:50	14:40	15:20	16:41	17:12
Mine Area		*Units*	Mill Area	Mill Area	Northeast Dumps	Northeast Dumps	Northeast Dumps	Second Impoundment	Second Impoundment	Second Impoundment	Second Impoundment
Physical Tests											
Conductivity		*µS/cm*	1270	1750	1100	4280	3980	406	23100	2660	1830
Hardness (as CaCO3)			736	1060	619	3130	2880	201	4200	359	520
pH			7.85	7.36	7.44	7.30	7.52	7.47	3.28	4.70	5.53
Total Suspended Solids		*mg/L*	1.4	5.2	37.0	26.0	13.4	14.8	170.0	18.0	12.8
Anions and Nutrients											
Acidity (as CaCO3)			6.7	16.4	7.4	96.2	44.8	2.4	19100	1470.0	604.0
Alkalinity, Total (as CaCO3)		*mg/L*	177	171	100	465	463	196	<2.0	007	015
Chloride (Cl)	64	*mg/L*	<5.0	<5.0	<5.0	<10	10	<0.50	<50	<10	<5.0
Sulfate (SO4)		*mg/L*	603	1010	556	2810	2550	41	32700	2080	1210
Total Metals											
Aluminum (Al)-Total	*formula*	*mg/L*	0.08	0.10	**3.21**	**0.20**	0.08	0.09	<0.30	**2.48**	**0.06**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.01*	*0.01*	*0.01*
Antimony (Sb)-Total		*mg/L*	<0.00010	<0.00010	<0.00010	<0.00050	<0.00050	<0.00010	<0.010	<0.0020	<0.00050
Arsenic (As)-Total	0.005	*mg/L*	0.0002	0.0002	0.0004	0.0007	<0.00050	0.0009	<0.010	<0.0020	0.0040
Barium (Ba)-Total		*mg/L*	0.1390	0.0853	0.0661	0.0288	0.0250	0.1210	0.0115	0.0157	0.0404
Beryllium (Be)-Total		*mg/L*	<0.00010	<0.00010	0.00026	<0.00050	<0.00050	<0.00010	<0.010	<0.0020	<0.00050
Bismuth (Bi)-Total		*mg/L*	<0.00050	<0.00050	0.00052	<0.0025	<0.0025	<0.00050	<0.050	<0.010	<0.0025
Boron (B)-Total	29	*mg/L*	<0.010	0.011	<0.010	<0.050	<0.050	<0.010	<1.0	<0.20	<0.050
Cadmium (Cd)-Total	*formula*	*mg/L*	0.000016	**0.00163**	0.000057	**0.00474**	0.000086	0.000034	<0.0010	**0.0078**	**0.00851**
Cadmium Guideline			*0.001070*	*0.001059*	*0.001077*	*0.001037*	*0.001038*	*0.001147*	*0.001033*	*0.001103*	*0.001084*
Calcium (Ca)-Total		*mg/L*	221	304	137	630	699	063	409	107	156
Chromium (Cr)-Total		*mg/L*	0.00055	0.00047	0.00600	<0.00050	<0.00050	0.00032	<0.010	<0.0020	<0.00050
Cobalt (Co)-Total		*mg/L*	<0.00010	0.0008	0.0096	<0.00050	<0.00050	0.0025	<0.010	0.0801	0.2660
Copper (Cu)-Total	*formula*	*mg/L*	**0.0014**	**0.0021**	**0.0319**	**0.0062**	<0.0025	**0.0007**	<0.050	**0.0300**	<0.0025
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	00.1	00.2	06.8	00.4	00.1	00.7	14200.0	818.0	309.0
Lead (Pb)-Total	*formula*	*mg/L*	0.00027	0.00032	**0.00315**	**0.05430**	**0.01100**	0.00068	**0.00870**	**0.00320**	0.00096
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0136	0.0161	0.0224	0.0872	0.0676	0.0052	0.2870	0.0180	0.0514
Magnesium (Mg)-Total		*mg/L*	044	084	062	386	309	011	778	037	037
Manganese (Mn)-Total		*mg/L*	00.0	01.2	00.1	00.0	00.0	00.5	122.0	11.2	45.4
Molybdenum (Mo)-Total		*mg/L*	0.00022	0.00021	0.00486	0.00038	<0.00025	0.00360	0.03610	<0.0010	0.00045
Nickel (Ni)-Total	*formula*	*mg/L*	0.0020	0.0260	0.0128	0.3170	0.0076	0.0012	<0.050	0.1340	**0.2780**
Nickel Guideline			*0.34*	*0.45*	*0.30*	*1.02*	*0.95*	*0.13*	*1.27*	*0.20*	*0.26*
Phosphorus (P)-Total		*mg/L*	<0.30	<0.30	<0.30	<1.5	<1.5	<0.30	<30	<6.0	<1.5
Potassium (K)-Total		*mg/L*	3.90	4.74	3.60	4.27	4.34	2.41	133.00	5.00	4.77
Selenium (Se)-Total	0.001	*mg/L*	0.00019	<0.00010	**0.00998**	**0.00113**	0.00053	0.00013	<0.010	<0.0020	<0.00050
Silicon (Si)-Total		*mg/L*	06.9	08.3	07.6	18.1	10.3	05.1	<5.0	20.6	17.6
Silver (Ag)-Total	0.0001	*mg/L*	<0.000010	<0.000010	0.00009	**0.000108**	<0.000050	<0.000010	<0.0010	<0.00020	<0.000050
Sodium (Na)-Total		*mg/L*	07.8	13.5	05.8	19.8	17.2	04.8	475.0	08.2	18.5
Strontium (Sr)-Total		*mg/L*	0.88	1.16	0.77	3.31	3.46	0.30	1.51	0.46	0.55
Thallium (Tl)-Total	0.0008	*mg/L*	<0.000010	0.000035	0.000072	<0.000050	<0.000050	<0.000010	<0.0010	<0.00020	0.000071
Tin (Sn)-Total		*mg/L*	<0.00010	<0.00010	0.00041	<0.00050	<0.00050	<0.00010	<0.010	<0.0020	<0.00050
Titanium (Ti)-Total		*mg/L*	<0.010	<0.010	0.124	<0.050	<0.050	<0.010	<1.0	<0.20	<0.050
Uranium (U)-Total	0.015	*mg/L*	0.0028	0.0018	0.0016	**0.1250**	**0.1830**	0.0028	<0.0010	0.0015	0.0002
Vanadium (V)-Total		*mg/L*	<0.0010	<0.0010	0.0074	<0.0050	<0.0050	<0.0010	<0.10	<0.020	<0.0050
Zinc (Zn)-Total	0.03	*mg/L*	0.004	**0.773**	0.015	**29.700**	**0.330**	0.025	**455**	**107**	**14**
Zirconium (Zr)-Total		*mg/L*	<0.00080	<0.00080	<0.00080	<0.0040	<0.0040	<0.00080	<0.080	<0.016	<0.0040

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Well Name			SRK08-p11A	SRK08-p11B	BH13B	BH14A	BH14B	P03-01-2	P03-01-8	P03-03-2	P03-03-4
Sample ID	CCME CWQG-FA		0215-130912-0036	0215-130910-031	0215-130912-054	0215-130912-012	0215-130912-058	0215-130914-100	0215-130914-101	0215-130914-105	0215-130914-103
Date Sampled			10/09/2013	10/09/2013	12/09/2013	12/09/2013	12/09/2013	14/09/2013	14/09/2013	14/09/2013	14/09/2013
Time Sampled			18:09	18:02	12:42	13:50	16:50	14:40	15:20	16:41	17:12
Mine Area		*Units*	Mill Area	Mill Area	Northeast Dumps	Northeast Dumps	Northeast Dumps	Second Impoundment	Second Impoundment	Second Impoundment	Second Impoundment
Dissolved Metals											
Aluminum (Al)-Dissolved	*formula*	*mg/L*	<0.0010	0.0016	0.0036	0.0082	<0.0050	<0.0010	**0.25**	**1.8**	**0.0494**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.01*	*0.01*	*0.01*
Antimony (Sb)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00010	<0.00050	<0.00050	<0.00010	<0.010	<0.0020	<0.00050
Arsenic (As)-Dissolved	0.005	*mg/L*	0.0001	<0.00010	<0.00010	<0.00050	<0.00050	0.0008	<0.010	<0.0020	0.0038
Barium (Ba)-Dissolved		*mg/L*	0.1360	0.0828	0.0300	0.0175	0.0208	0.1170	<0.0050	0.0075	0.0384
Beryllium (Be)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00010	<0.00050	<0.00050	<0.00010	<0.010	<0.0020	<0.00050
Bismuth (Bi)-Dissolved		*mg/L*	<0.00050	<0.00050	<0.00050	<0.0025	<0.0025	<0.00050	<0.050	<0.010	<0.0025
Boron (B)-Dissolved	29	*mg/L*	<0.010	<0.010	<0.010	<0.050	<0.050	<0.010	<1.0	<0.20	<0.050
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	0.000018	**0.00162**	0.000038	**0.00477**	0.000095	0.000021	<0.0010	**0.00688**	**0.00808**
Cadmium Guideline			*0.001070*	*0.001059*	*0.001077*	*0.001037*	*0.001038*	*0.001147*	*0.001033*	*0.001103*	*0.001084*
Calcium (Ca)-Dissolved		*mg/L*	222	292	151	616	662	063	425	092	149
Chromium (Cr)-Dissolved		*mg/L*	<0.00010	0.00066	<0.00010	<0.00050	<0.00050	<0.00010	<0.010	<0.0020	<0.00050
Cobalt (Co)-Dissolved		*mg/L*	<0.00010	0.00022	0.00166	<0.00050	<0.00050	0.00232	<0.010	0.06990	0.25800
Copper (Cu)-Dissolved	*formula*	*mg/L*	**0.00118**	**0.00156**	**0.00432**	**0.0036**	<0.0010	<0.00020	**0.028**	**0.0152**	<0.0010
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	<0.010	<0.010	<0.010	<0.050	<0.050	00.5	14000.0	730.0	303.0
Lead (Pb)-Dissolved	*formula*	*mg/L*	<0.000050	<0.000050	<0.000050	**0.0113**	**0.00613**	<0.000050	<0.0050	**0.0013**	0.00042
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0138	0.0149	0.0158	0.0821	0.0660	0.0052	0.3100	0.0140	0.0467
Magnesium (Mg)-Dissolved		*mg/L*	044	080	059	385	297	011	763	032	036
Manganese (Mn)-Dissolved		*mg/L*	00.0	01.0	00.0	00.0	00.0	00.5	124.0	09.8	43.0
Molybdenum (Mo)-Dissolved		*mg/L*	0.00020	0.00016	0.00360	0.00042	<0.00025	0.00331	0.03990	<0.0010	0.00049
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.0018	0.0245	0.0073	0.3140	0.0077	0.0010	<0.050	0.1170	**0.2710**
Nickel Guideline			*0.33783*	*0.44576*	*0.29618*	*1.01504*	*0.95281*	*0.12598*	*1.26922*	*0.19577*	*0.25944*
Phosphorus (P)-Dissolved		*mg/L*	<0.30	<0.30	<0.30	<1.5	<1.5	<0.30	<30	<6.0	<1.5
Potassium (K)-Dissolved		*mg/L*	3.79	4.57	2.79	4.24	4.20	2.36	127.00	3.80	4.62
Selenium (Se)-Dissolved	0.001	*mg/L*	0.0002	<0.00010	**0.0119**	0.00082	0.00054	0.00016	<0.010	<0.0020	<0.00050
Silicon (Si)-Dissolved		*mg/L*	06.7	07.6	03.9	10.5	09.8	05.0	<5.0	17.0	16.9
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000010	<0.000010	<0.000010	<0.000050	<0.000050	<0.000010	<0.0010	<0.00020	<0.000050
Sodium (Na)-Dissolved		*mg/L*	07.6	13.1	06.2	19.6	16.3	04.8	466.0	07.0	17.8
Strontium (Sr)-Dissolved		*mg/L*	0.88	1.13	0.78	3.30	3.36	0.29	1.60	0.38	0.52
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000010	0.000031	0.00001	<0.000050	<0.000050	<0.000010	<0.0010	<0.00020	0.000071
Tin (Sn)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00010	<0.00050	<0.00050	<0.00010	<0.010	<0.0020	<0.00050
Titanium (Ti)-Dissolved		*mg/L*	<0.010	<0.010	<0.010	<0.050	<0.050	<0.010	<1.0	<0.20	<0.050
Uranium (U)-Dissolved	0.015	*mg/L*	0.0027	0.0018	0.0017	**0.1210**	**0.1750**	0.0027	<0.0010	0.0011	0.0002
Vanadium (V)-Dissolved		*mg/L*	<0.0010	<0.0010	<0.0010	<0.0050	<0.0050	<0.0010	<0.10	<0.020	<0.0050
Zinc (Zn)-Dissolved	0.03	*mg/L*	0.0026	**0.7610**	0.0018	**29.4000**	**0.3360**	0.0206	**443**	**92.4**	**13.6**
Zirconium (Zr)-Dissolved		*mg/L*	<0.00080	<0.00080	<0.00080	<0.0040	<0.0040	<0.00080	<0.080	<0.016	<0.0040

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Well Name			P03-03-9	P03-05-4	P03-06-1	P03-06-2	P03-06-6	P09-SIS1	P09-SIS2	P09-SIS3	P09-SIS4
Sample ID	CCME CWQG-FA		0215-130914-110	0215-130914-042	0215-130913-112	0215-130914-082	0215-130914-010	0215-130913-087	0215-130913-094	0215-130913-092	0215-130913-085
Date Sampled			14/09/2013	14/09/2013	14/09/2013	14/09/2013	14/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013
Time Sampled			17:50	18:20	15:00	16:01	16:26	15:45	14:32	14:50	12:05
Mine Area		*Units*	Second Impoundment	Second Impoundment	Second Impoundment	Second Impoundment	Second Impoundment	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area
Physical Tests											
Conductivity		*µS/cm*	27200	1460	4590	4720	3470	8000	9460	8270	6510
Hardness (as CaCO3)			3090	792	2010	2120	1610	6990	7500	6580	5180
pH			3.30	7.48	5.47	5.53	6.00	7.25	7.02	6.73	7.13
Total Suspended Solids		*mg/L*	885.0	70.0	43.6	388.0	1950.0	274.0	1530.0	804.0	632.0
Anions and Nutrients											
Acidity (as CaCO3)			28000.0	30.7	1320.0	1570.0	1010.0	194.0	865.0	626.0	266.0
Alkalinity, Total (as CaCO3)		*mg/L*	<1.0	104	016	022	025	399	152	145	404
Chloride (Cl)	64	*mg/L*	<50	<5.0	<10	<10	<10	<25	<25	<25	<25
Sulfate (SO4)		*mg/L*	43000	830	3910	4070	2620	7140	9110	7790	5460
Total Metals											
Aluminum (Al)-Total	*formula*	*mg/L*	**1.40**	**2.04**	**2.65**	**15.20**	**4.23**	**1.89**	**32.50**	**21.10**	**13.30**
Aluminum Guideline			*0.01*	*0.10*	*0.01*	*0.01*	*0.01*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	0.062	<0.00050	<0.0050	<0.0050	0.0292	<0.0010	<0.0050	<0.0050	<0.0020
Arsenic (As)-Total	0.005	*mg/L*	**0.0780**	0.0022	<0.0050	**0.0118**	**0.2900**	**0.0116**	**0.0469**	**0.0189**	**0.0093**
Barium (Ba)-Total		*mg/L*	0.2850	0.5000	0.0231	0.1860	1.3000	0.0598	0.3780	0.2960	0.2390
Beryllium (Be)-Total		*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	<0.0020	<0.0010	<0.0050	<0.0050	<0.0020
Bismuth (Bi)-Total		*mg/L*	<0.10	<0.0025	<0.025	<0.025	<0.010	<0.0050	<0.025	<0.025	<0.010
Boron (B)-Total	29	*mg/L*	<2.0	<0.050	<0.50	<0.50	<0.20	<0.10	<0.50	<0.50	<0.20
Cadmium (Cd)-Total	*formula*	*mg/L*	**0.0096**	**0.0123**	**0.0698**	**0.0435**	**0.0326**	**0.0182**	**0.266**	**0.201**	**0.0299**
Cadmium Guideline			*0.001037*	*0.001068*	*0.001044*	*0.001043*	*0.001049*	*0.001027*	*0.001026*	*0.001028*	*0.001030*
Calcium (Ca)-Total		*mg/L*	421	244	488	499	162	572	455	483	395
Chromium (Cr)-Total		*mg/L*	<0.020	0.00425	<0.0050	0.03860	0.02500	0.00540	0.07330	0.05330	0.03230
Cobalt (Co)-Total		*mg/L*	<0.020	0.0272	3.5100	2.9800	0.1540	0.1530	1.5500	0.2640	0.0103
Copper (Cu)-Total	*formula*	*mg/L*	**0.7100**	**0.0091**	<0.025	**0.0400**	**0.7320**	**0.0132**	**0.1130**	**0.1050**	**0.0480**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	21300.0	08.4	617.0	761.0	630.0	40.1	64.4	42.0	24.4
Lead (Pb)-Total	*formula*	*mg/L*	**11.8**	**0.00761**	**0.01950**	**0.05900**	**9.88000**	**0.00545**	**0.06930**	**0.05430**	**0.01790**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.1600	0.0193	0.1380	0.1320	0.0440	0.0781	0.2730	0.2000	0.1340
Magnesium (Mg)-Total		*mg/L*	552	044	186	189	188	1200	1470	1180	927
Manganese (Mn)-Total		*mg/L*	161.0	31.7	262.0	235.0	40.0	32.4	116.0	59.4	55.2
Molybdenum (Mo)-Total		*mg/L*	<0.010	0.00085	0.00340	0.00420	0.00430	0.00135	0.00290	<0.0025	0.00160
Nickel (Ni)-Total	*formula*	*mg/L*	<0.10	0.0151	**4.0100**	**3.6600**	0.1150	0.4380	**2.9500**	**2.2300**	1.0700
Nickel Guideline			*1.01*	*0.36*	*0.72*	*0.75*	*0.61*	*1.87*	*1.97*	*1.79*	*1.49*
Phosphorus (P)-Total		*mg/L*	<60	<1.5	<15	<15	<6.0	<3.0	<15	<15	<6.0
Potassium (K)-Total		*mg/L*	62.00	3.39	6.70	8.00	6.60	9.07	20.40	16.90	12.30
Selenium (Se)-Total	0.001	*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	<0.0020	<0.0010	<0.0050	<0.0050	<0.0020
Silicon (Si)-Total		*mg/L*	11.0	11.9	34.9	51.9	11.7	12.1	58.7	41.7	33.0
Silver (Ag)-Total	0.0001	*mg/L*	**0.0047**	0.000057	<0.00050	<0.00050	**0.008**	**0.00012**	**0.00069**	**0.0021**	**0.00032**
Sodium (Na)-Total		*mg/L*	318.0	13.5	27.0	27.9	32.9	37.6	64.0	38.7	31.9
Strontium (Sr)-Total		*mg/L*	0.83	0.70	2.26	2.09	0.38	2.22	2.11	2.14	2.06
Thallium (Tl)-Total	0.0008	*mg/L*	**0.0066**	0.000051	<0.00050	<0.00050	**0.00234**	<0.00010	0.00058	<0.00050	0.00021
Tin (Sn)-Total		*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	0.0042	<0.0010	<0.0050	<0.0050	<0.0020
Titanium (Ti)-Total		*mg/L*	<2.0	0.086	<0.50	0.51	<0.20	<0.10	1.2	0.78	0.45
Uranium (U)-Total	0.015	*mg/L*	0.0031	0.0017	0.0028	0.0025	0.0119	0.0108	0.0055	0.0046	0.0128
Vanadium (V)-Total		*mg/L*	<0.20	0.0053	<0.050	<0.050	<0.020	<0.010	0.086	0.051	0.032
Zinc (Zn)-Total	0.03	*mg/L*	**892**	**0.042**	**22.400**	**23.600**	**127.000**	**72.500**	**484.000**	**343.000**	**123.000**
Zirconium (Zr)-Total		*mg/L*	<0.16	<0.0040	<0.040	<0.040	<0.016	<0.0080	<0.040	<0.040	<0.016

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Well Name			P03-03-9	P03-05-4	P03-06-1	P03-06-2	P03-06-6	P09-SIS1	P09-SIS2	P09-SIS3	P09-SIS4
Sample ID	CCME CWQG-FA		0215-130914-110	0215-130914-042	0215-130913-112	0215-130914-082	0215-130914-010	0215-130913-087	0215-130913-094	0215-130913-092	0215-130913-085
Date Sampled			14/09/2013	14/09/2013	14/09/2013	14/09/2013	14/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013
Time Sampled			17:50	18:20	15:00	16:01	16:26	15:45	14:32	14:50	12:05
Mine Area		*Units*	Second Impoundment	Second Impoundment	Second Impoundment	Second Impoundment	Second Impoundment	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area
Dissolved Metals											
Aluminum (Al)-Dissolved	*formula*	*mg/L*	**0.54**	0.0072	**2.45**	**1.37**	**0.033**	0.014	0.072	<0.050	<0.020
Aluminum Guideline			*0.01*	*0.10*	*0.01*	*0.01*	*0.01*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	0.0023	<0.0010	<0.0050	<0.0050	<0.0020
Arsenic (As)-Dissolved	0.005	*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	**0.0279**	0.0041	<0.0050	<0.0050	<0.0020
Barium (Ba)-Dissolved		*mg/L*	<0.010	0.0408	0.0145	0.0137	0.0052	0.0392	0.0208	0.0175	0.0132
Beryllium (Be)-Dissolved		*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	<0.0020	<0.0010	<0.0050	<0.0050	<0.0020
Bismuth (Bi)-Dissolved		*mg/L*	<0.10	<0.0025	<0.025	<0.025	<0.010	<0.0050	<0.025	<0.025	<0.010
Boron (B)-Dissolved	29	*mg/L*	<2.0	<0.050	<0.50	<0.50	<0.20	<0.10	<0.50	<0.50	<0.20
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	<0.0020	0.000381	**0.0677**	**0.0413**	**0.00226**	**0.0179**	**0.262**	**0.221**	**0.0302**
Cadmium Guideline			*0.001037*	*0.001068*	*0.001044*	*0.001043*	*0.001049*	*0.001027*	*0.001026*	*0.001028*	*0.001030*
Calcium (Ca)-Dissolved		*mg/L*	387	247	494	532	168	684	475	536	415
Chromium (Cr)-Dissolved		*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	<0.0020	<0.0010	<0.0050	<0.0050	<0.0020
Cobalt (Co)-Dissolved		*mg/L*	<0.020	0.02570	3.53000	3.12000	0.07740	0.16200	1.60000	0.30100	<0.0020
Copper (Cu)-Dissolved	*formula*	*mg/L*	<0.040	<0.0010	**0.018**	<0.010	<0.0040	**0.0035**	<0.010	**0.015**	**0.0073**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	20000.0	05.6	641.0	766.0	538.0	29.7	00.7	<0.50	<0.20
Lead (Pb)-Dissolved	*formula*	*mg/L*	**0.034**	<0.00025	**0.0126**	**0.0114**	**0.0303**	<0.00050	<0.0025	<0.0025	<0.0010
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.1300	0.0163	0.1340	0.1200	0.0570	0.0881	0.2100	0.1770	0.1360
Magnesium (Mg)-Dissolved		*mg/L*	517	043	189	192	289	1280	1530	1270	1010
Manganese (Mn)-Dissolved		*mg/L*	145.0	31.7	267.0	245.0	48.8	34.8	124.0	67.5	61.8
Molybdenum (Mo)-Dissolved		*mg/L*	<0.010	0.00053	0.00320	0.00290	0.00120	0.00100	<0.0025	<0.0025	0.00120
Nickel (Ni)-Dissolved	*formula*	*mg/L*	<0.10	0.0105	**4.0700**	**3.8000**	0.1020	0.4680	**2.9600**	**2.3600**	1.1100
Nickel Guideline			*1.00516*	*0.35719*	*0.72493*	*0.75489*	*0.61243*	*1.86926*	*1.97203*	*1.78533*	*1.48853*
Phosphorus (P)-Dissolved		*mg/L*	<60	<1.5	<15	<15	<6.0	<3.0	<15	<15	<6.0
Potassium (K)-Dissolved		*mg/L*	60.00	2.93	6.70	6.80	7.40	9.61	15.90	14.80	10.90
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	<0.0020	<0.0010	<0.0050	<0.0050	<0.0020
Silicon (Si)-Dissolved		*mg/L*	<10	08.7	35.0	32.9	06.6	09.1	12.0	11.9	11.5
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.0020	<0.000050	<0.00050	<0.00050	<0.00020	<0.00010	<0.00050	<0.00050	<0.00020
Sodium (Na)-Dissolved		*mg/L*	320.0	13.4	27.3	27.6	36.2	41.0	67.0	41.8	35.6
Strontium (Sr)-Dissolved		*mg/L*	0.81	0.68	2.29	2.22	0.35	2.71	2.22	2.35	2.25
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.0020	<0.000050	<0.00050	<0.00050	<0.00020	<0.00010	<0.00050	<0.00050	<0.00020
Tin (Sn)-Dissolved		*mg/L*	<0.020	<0.00050	<0.0050	<0.0050	<0.0020	<0.0010	<0.0050	<0.0050	<0.0020
Titanium (Ti)-Dissolved		*mg/L*	<2.0	<0.050	<0.50	<0.50	<0.20	<0.10	<0.50	<0.50	<0.20
Uranium (U)-Dissolved	0.015	*mg/L*	<0.0020	0.0016	0.0027	0.0014	0.0087	0.0124	0.0027	0.0020	0.0128
Vanadium (V)-Dissolved		*mg/L*	<0.20	<0.0050	<0.050	<0.050	<0.020	<0.010	<0.050	<0.050	<0.020
Zinc (Zn)-Dissolved	0.03	*mg/L*	**831**	0.0219	**22.9**	**24.4**	**174.0**	**78.3**	**515.0000**	**365.0000**	**143.0000**
Zirconium (Zr)-Dissolved		*mg/L*	<0.16	<0.0040	<0.040	<0.040	<0.016	<0.0080	<0.040	<0.040	<0.016

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Well Name			P09-SIS5	P96-7	S1A	S2A	S2B	SRK05-SP1A	SRK05-SP1B	SRK05-SP2	SRK05-SP3A
Sample ID	CCME CWQG-FA		0215-130913-109	0215-130913-046	0215-130914-077	0215-130914-075	0215-130914-073	0215-130913-089	0215-130913-091	0215-130913-090	0215-130913-093
Date Sampled			14/09/2013	13/09/2013	14/09/2013	14/09/2013	14/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013
Time Sampled			10:13	14:40	09:51	08:17	08:32	09:00	09:22	08:22	10:55
Mine Area		*Units*	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area
Physical Tests											
Conductivity		*µS/cm*	5340	3090	850	2240	6370	2100	1110	357	1510
Hardness (as CaCO3)			4220	2190	421	1410	5200	1130	593	160	801
pH			7.57	7.57	6.88	6.67	6.82	6.32	6.95	6.93	6.79
Total Suspended Solids		*mg/L*	2000.0	42.0	13.2	162.0	139.0	5.4	103.0	4.2	16.4
Anions and Nutrients											
Acidity (as CaCO3)			68.6	11.7	77.3	155.0	380.0	357.0	70.9	35.9	189.0
Alkalinity, Total (as CaCO3)		*mg/L*	395	216	183	287	224	231	367	154	274
Chloride (Cl)	64	*mg/L*	<10	<10	<2.5	<10	<25	<10	<5.0	<0.50	<5.0
Sulfate (SO4)		*mg/L*	4150	2130	313	1310	5510	1220	308	47	638
Total Metals											
Aluminum (Al)-Total	*formula*	*mg/L*	**28.40**	**0.65**	**0.57**	**19.20**	**1.94**	**0.14**	**3.54**	0.09	**0.45**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.01*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	0.0012	<0.00020	<0.00010	0.00066	<0.0020	<0.00020	0.00024	<0.00010	<0.00010
Arsenic (As)-Total	0.005	*mg/L*	**0.0172**	0.0004	0.0006	**0.0379**	**0.0068**	0.0049	**0.0561**	0.0002	0.0024
Barium (Ba)-Total		*mg/L*	0.3710	0.0210	0.0549	0.2040	0.1490	0.0150	0.0983	0.0535	0.0173
Beryllium (Be)-Total		*mg/L*	0.0016	<0.00020	0.00012	0.00115	<0.0020	0.0023	0.00091	<0.00010	0.0009
Bismuth (Bi)-Total		*mg/L*	<0.0050	<0.0010	<0.00050	<0.0010	<0.010	<0.0010	<0.00050	<0.00050	<0.00050
Boron (B)-Total	29	*mg/L*	<0.10	<0.020	<0.010	<0.020	<0.20	<0.020	0.012	<0.010	0.012
Cadmium (Cd)-Total	*formula*	*mg/L*	**0.00485**	0.000044	0.000964	**0.00132**	**0.0346**	0.000058	0.00084	0.00014	0.000057
Cadmium Guideline			*0.001033*	*0.001043*	*0.001095*	*0.001052*	*0.001030*	*0.001057*	*0.001079*	*0.001171*	*0.001068*
Calcium (Ca)-Total		*mg/L*	457	538	064	282	551	284	149	047	208
Chromium (Cr)-Total		*mg/L*	0.06640	0.00202	0.00137	0.12600	0.00710	0.00029	0.00941	0.00036	0.00160
Cobalt (Co)-Total		*mg/L*	0.0707	0.0009	0.0066	0.0435	0.4650	0.0081	0.0064	0.0048	0.0063
Copper (Cu)-Total	*formula*	*mg/L*	**0.0910**	**0.0027**	**0.0018**	**0.0409**	**0.0110**	<0.0010	**0.0116**	**0.0012**	**0.0013**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	52.8	01.8	04.3	58.1	12.7	77.2	19.2	00.2	30.6
Lead (Pb)-Total	*formula*	*mg/L*	**0.04300**	0.00100	0.00097	**0.02070**	**0.00460**	0.00030	**0.00508**	0.00036	0.00057
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.1120	0.0309	0.0427	0.0877	0.0980	0.0754	0.0429	0.0115	0.0602
Magnesium (Mg)-Total		*mg/L*	706	203	056	164	851	113	052	011	075
Manganese (Mn)-Total		*mg/L*	52.6	00.0	06.3	08.6	61.9	02.5	01.0	01.1	01.4
Molybdenum (Mo)-Total		*mg/L*	0.00390	0.00086	0.00017	0.00210	0.00110	0.00015	0.00107	0.00027	0.00018
Nickel (Ni)-Total	*formula*	*mg/L*	0.3900	0.0030	0.0209	0.1460	1.0200	0.0292	0.0192	0.0045	0.0198
Nickel Guideline			*1.27*	*0.77*	*0.22*	*0.55*	*1.49*	*0.47*	*0.29*	*0.11*	*0.36*
Phosphorus (P)-Total		*mg/L*	<3.0	<0.60	<0.30	<0.60	<6.0	<0.60	0.63	<0.30	<0.30
Potassium (K)-Total		*mg/L*	13.70	5.62	3.43	9.19	9.30	5.55	5.43	1.55	5.01
Selenium (Se)-Total	0.001	*mg/L*	<0.0010	0.0005	<0.00010	0.0004	<0.0020	<0.00020	**0.00134**	<0.00010	<0.00010
Silicon (Si)-Total		*mg/L*	50.7	06.7	11.4	40.5	12.8	14.0	18.2	07.0	13.5
Silver (Ag)-Total	0.0001	*mg/L*	**0.00048**	<0.000020	0.000023	**0.000231**	**0.00025**	<0.000020	0.000055	<0.000010	0.000011
Sodium (Na)-Total		*mg/L*	67.2	19.7	05.1	13.6	34.5	17.3	09.1	06.3	11.0
Strontium (Sr)-Total		*mg/L*	2.18	0.67	0.39	1.09	2.33	1.44	0.71	0.24	0.89
Thallium (Tl)-Total	0.0008	*mg/L*	0.00059	<0.000020	0.000015	0.000281	<0.00020	<0.000020	0.00005	<0.000010	<0.000010
Tin (Sn)-Total		*mg/L*	0.0036	<0.00020	<0.00010	0.00094	<0.0020	<0.00020	0.00022	<0.00010	<0.00010
Titanium (Ti)-Total		*mg/L*	1.09	0.045	0.025	0.904	<0.20	<0.020	0.127	<0.010	0.052
Uranium (U)-Total	0.015	*mg/L*	**0.0211**	**0.0307**	0.0008	0.0052	0.0033	0.0005	0.0022	0.0011	0.0022
Vanadium (V)-Total		*mg/L*	0.066	<0.0020	0.0015	0.0527	<0.020	<0.0020	0.0091	<0.0010	0.0011
Zinc (Zn)-Total	0.03	*mg/L*	**33.400**	0.013	**4.740**	**12.800**	**203.000**	**2.360**	**0.285**	**0.135**	**1.220**
Zirconium (Zr)-Total		*mg/L*	<0.0080	<0.0016	<0.00080	0.0026	<0.016	<0.0016	0.0012	<0.00080	<0.00080

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Well Name			P09-SIS5	P96-7	S1A	S2A	S2B	SRK05-SP1A	SRK05-SP1B	SRK05-SP2	SRK05-SP3A
Sample ID	CCME CWQG-FA		0215-130913-109	0215-130913-046	0215-130914-077	0215-130914-075	0215-130914-073	0215-130913-089	0215-130913-091	0215-130913-090	0215-130913-093
Date Sampled			14/09/2013	13/09/2013	14/09/2013	14/09/2013	14/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013
Time Sampled			10:13	14:40	09:51	08:17	08:32	09:00	09:22	08:22	10:55
Mine Area		*Units*	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area
Dissolved Metals											
Aluminum (Al)-Dissolved	*formula*	*mg/L*	0.021	<0.0020	0.0078	0.0201	0.038	**0.0998**	0.0106	0.0074	0.0358
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.01*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.0010	<0.00020	<0.00010	<0.00020	<0.0020	<0.00020	<0.00010	<0.00010	<0.00010
Arsenic (As)-Dissolved	0.005	*mg/L*	<0.0010	<0.00020	<0.00010	0.0002	<0.0020	0.0049	**0.0117**	<0.00010	0.0027
Barium (Ba)-Dissolved		*mg/L*	0.0217	0.0112	0.0502	0.0210	0.1270	0.0138	0.0360	0.0520	0.0139
Beryllium (Be)-Dissolved		*mg/L*	<0.0010	<0.00020	<0.00010	<0.00020	<0.0020	0.00223	0.00016	<0.00010	0.00083
Bismuth (Bi)-Dissolved		*mg/L*	<0.0050	<0.0010	<0.00050	<0.0010	<0.010	<0.0010	<0.00050	<0.00050	<0.00050
Boron (B)-Dissolved	29	*mg/L*	<0.10	<0.020	<0.010	<0.020	<0.20	<0.020	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	0.00099	0.000041	0.00104	0.000922	**0.0337**	0.000057	0.00019	0.000134	0.000047
Cadmium Guideline			*0.001033*	*0.001043*	*0.001095*	*0.001052*	*0.001030*	*0.001057*	*0.001079*	*0.001171*	*0.001068*
Calcium (Ca)-Dissolved		*mg/L*	474	540	071	297	596	273	150	047	199
Chromium (Cr)-Dissolved		*mg/L*	<0.0010	0.00038	<0.00010	<0.00020	<0.0020	<0.00020	<0.00010	<0.00010	<0.00010
Cobalt (Co)-Dissolved		*mg/L*	0.05510	<0.00020	0.00678	0.03290	0.46500	0.00770	0.00498	0.00465	0.00591
Copper (Cu)-Dissolved	*formula*	*mg/L*	<0.0020	**0.00061**	**0.00038**	**0.00044**	**0.0066**	<0.00040	<0.00020	**0.00067**	<0.00020
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	02.8	<0.020	03.1	24.5	01.6	76.0	08.8	00.0	29.4
Lead (Pb)-Dissolved	*formula*	*mg/L*	<0.00050	<0.00010	<0.000050	0.00011	<0.0010	0.00016	<0.000050	<0.000050	0.000222
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0698	0.0295	0.0436	0.0662	0.0960	0.0703	0.0394	0.0113	0.0557
Magnesium (Mg)-Dissolved		*mg/L*	737	204	060	162	902	109	053	011	074
Manganese (Mn)-Dissolved		*mg/L*	54.3	00.0	06.7	09.3	62.5	02.5	01.0	01.1	01.4
Molybdenum (Mo)-Dissolved		*mg/L*	0.00210	0.00087	0.00008	<0.00010	<0.0010	0.00011	0.00035	0.00023	0.00032
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.3170	<0.0010	0.0216	0.0757	1.0200	0.0282	0.0130	0.0043	0.0192
Nickel Guideline			*1.27381*	*0.77376*	*0.22096*	*0.55370*	*1.49290*	*0.46796*	*0.28667*	*0.10593*	*0.36027*
Phosphorus (P)-Dissolved		*mg/L*	<3.0	<0.60	<0.30	<0.60	<6.0	<0.60	<0.30	<0.30	<0.30
Potassium (K)-Dissolved		*mg/L*	9.75	5.49	3.45	6.16	9.50	5.42	4.95	1.58	4.84
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.0010	0.00049	<0.00010	<0.00020	<0.0020	<0.00020	0.00023	<0.00010	<0.00010
Silicon (Si)-Dissolved		*mg/L*	11.1	05.9	10.8	14.0	10.4	13.6	12.9	06.8	12.3
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.00010	<0.000020	<0.000010	<0.000020	<0.00020	<0.000020	<0.000010	<0.000010	<0.000010
Sodium (Na)-Dissolved		*mg/L*	69.3	18.6	05.3	13.1	36.1	16.5	09.7	06.4	10.1
Strontium (Sr)-Dissolved		*mg/L*	2.20	0.69	0.40	1.13	2.49	1.40	0.70	0.22	0.85
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.00010	<0.000020	<0.000010	<0.000020	<0.00020	<0.000020	<0.000010	<0.000010	<0.000010
Tin (Sn)-Dissolved		*mg/L*	<0.0010	<0.00020	<0.00010	<0.00020	<0.0020	<0.00020	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved		*mg/L*	<0.10	<0.020	<0.010	<0.020	<0.20	<0.020	<0.010	<0.010	<0.010
Uranium (U)-Dissolved	0.015	*mg/L*	**0.0186**	**0.0289**	0.0008	0.0038	0.0036	0.0005	0.0020	0.0010	0.0021
Vanadium (V)-Dissolved		*mg/L*	<0.010	<0.0020	<0.0010	<0.0020	<0.020	<0.0020	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Dissolved	0.03	*mg/L*	**29.9000**	<0.0020	**5.3600**	**12.8000**	**201.0000**	**2.3000**	**0.2630**	**0.1330**	**1.2400**
Zirconium (Zr)-Dissolved		*mg/L*	<0.0080	<0.0016	<0.00080	<0.0016	<0.016	<0.0016	<0.00080	<0.00080	<0.00080

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Well Name			SRK05-SP3B	SRK05-SP4A	SRK05-SP4B	SRK05-SP5	SRK08-SBR2	SRK08-SBR3	SRK08-SBR4	SRK08-SP7A	SRK08-SP7B
Sample ID	CCME CWQG-FA		0215-130913-086	0215-130913-095	0215-130913-088	0215-130913-083	0215-130913-079	0215-130913-041	0215-130913-076	0215-130914-074	0215-130913-078
Date Sampled			13/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	14/09/2013	13/09/2013
Time Sampled			09:50	13:30	13:30	16:40	15:32	12:50	17:16	09:20	17:42
Mine Area		*Units*	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area
Physical Tests											
Conductivity		*µS/cm*	1120	7040	7130	8080	3230	3940	8490	743	247
Hardness (as CaCO3)			573	5430	5720	6430	2240	2980	6670	328	101
pH			6.47	6.88	6.98	6.60	6.77	7.77	6.88	6.97	7.67
Total Suspended Solids		*mg/L*	4.0	1.6	464.0	150.0	131.0	57.6	3.6	24.8	24.7
Anions and Nutrients											
Acidity (as CaCO3)			194.0	549.0	666.0	719.0	261.0	35.0	676.0	38.8	8.5
Alkalinity, Total (as CaCO3)		*mg/L*	284	190	048	174	284	584	163	107	086
Chloride (Cl)	64	*mg/L*	<5.0	<25	<25	<25	<10	<10	<25	<0.50	<0.50
Sulfate (SO4)		*mg/L*	397	6290	6490	7520	2160	2640	8020	300	43
Total Metals											
Aluminum (Al)-Total	*formula*	*mg/L*	**0.15**	<0.15	**12.00**	**3.96**	**2.94**	**0.98**	<0.15	**0.24**	**0.62**
Aluminum Guideline			*0.01*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	<0.00010	<0.0050	<0.0050	<0.0050	0.0011	<0.00020	<0.0050	0.00011	0.00014
Arsenic (As)-Total	0.005	*mg/L*	0.0003	<0.0050	**0.0078**	<0.0050	**0.0101**	0.0014	<0.0050	**0.0050**	**0.0075**
Barium (Ba)-Total		*mg/L*	0.0160	0.0134	0.1670	0.0725	0.0690	0.0406	0.0182	0.0138	0.0613
Beryllium (Be)-Total		*mg/L*	0.00048	<0.0050	<0.0050	<0.0050	<0.0010	<0.00020	<0.0050	0.00026	0.00023
Bismuth (Bi)-Total		*mg/L*	<0.00050	<0.025	<0.025	<0.025	<0.0050	<0.0010	<0.025	<0.00050	<0.00050
Boron (B)-Total	29	*mg/L*	<0.010	<0.50	<0.50	<0.50	<0.10	<0.020	<0.50	<0.010	<0.010
Cadmium (Cd)-Total	*formula*	*mg/L*	0.000069	**0.0849**	**0.0885**	**0.21**	**0.0235**	<0.000020	**0.0809**	0.000032	0.000024
Cadmium Guideline			*0.001080*	*0.001030*	*0.001029*	*0.001028*	*0.001042*	*0.001037*	*0.001027*	*0.001109*	*0.001239*
Calcium (Ca)-Total		*mg/L*	148	421	368	425	355	548	508	091	013
Chromium (Cr)-Total		*mg/L*	0.00032	<0.0050	0.02930	0.00830	0.01130	0.00380	<0.0050	0.00093	0.00193
Cobalt (Co)-Total		*mg/L*	0.0058	0.7250	0.0131	1.0600	0.1390	0.0035	0.9480	0.0047	0.0012
Copper (Cu)-Total	*formula*	*mg/L*	**0.0015**	**0.0420**	**0.0460**	**0.0280**	**0.0194**	**0.0033**	<0.025	**0.0007**	**0.0022**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	16.1	<0.50	19.4	09.7	38.9	02.6	01.2	12.1	06.1
Lead (Pb)-Total	*formula*	*mg/L*	0.00037	<0.0025	**0.01210**	**0.01690**	**0.11500**	**0.00202**	<0.0025	0.00029	**0.00153**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0545	0.1950	0.1590	0.1640	0.0814	0.0737	0.2290	0.0394	0.0204
Magnesium (Mg)-Total		*mg/L*	050	1060	1030	1270	307	387	1410	031	018
Manganese (Mn)-Total		*mg/L*	01.3	84.0	14.8	102.0	18.3	00.0	104.0	00.9	01.4
Molybdenum (Mo)-Total		*mg/L*	0.00017	<0.0025	<0.0025	<0.0025	0.00116	0.00027	<0.0025	0.00013	0.00052
Nickel (Ni)-Total	*formula*	*mg/L*	0.0164	**1.8700**	**2.2400**	**2.5600**	0.3540	0.0324	**2.6600**	0.0121	0.0072
Nickel Guideline			*0.28*	*1.54*	*1.61*	*1.75*	*0.79*	*0.98*	*1.80*	*0.18*	*0.07*
Phosphorus (P)-Total		*mg/L*	<0.30	<15	<15	<15	<3.0	<0.60	<15	<0.30	<0.30
Potassium (K)-Total		*mg/L*	4.73	12.20	14.00	14.00	7.69	8.24	14.70	3.94	1.99
Selenium (Se)-Total	0.001	*mg/L*	<0.00010	<0.0050	<0.0050	<0.0050	<0.0010	0.00085	<0.0050	<0.00010	0.00011
Silicon (Si)-Total		*mg/L*	11.9	11.6	30.8	17.2	19.5	07.5	11.1	12.3	08.5
Silver (Ag)-Total	0.0001	*mg/L*	<0.000010	<0.00050	<0.00050	<0.00050	**0.00105**	**0.000606**	<0.00050	<0.000010	0.000016
Sodium (Na)-Total		*mg/L*	08.7	45.1	35.8	56.6	18.4	61.8	57.0	07.4	02.8
Strontium (Sr)-Total		*mg/L*	0.62	1.96	1.64	1.90	1.49	1.44	2.47	0.37	0.11
Thallium (Tl)-Total	0.0008	*mg/L*	<0.000010	<0.00050	<0.00050	<0.00050	<0.00010	0.00006	<0.00050	<0.000010	0.000014
Tin (Sn)-Total		*mg/L*	<0.00010	<0.0050	<0.0050	<0.0050	<0.0010	0.00038	<0.0050	<0.00010	0.00017
Titanium (Ti)-Total		*mg/L*	<0.010	<0.50	<0.50	<0.50	0.1	0.029	<0.50	<0.010	0.032
Uranium (U)-Total	0.015	*mg/L*	0.0022	0.0039	0.0033	0.0034	0.0029	**0.0339**	0.0036	0.0002	0.0003
Vanadium (V)-Total		*mg/L*	<0.0010	<0.050	<0.050	<0.050	<0.010	0.0033	<0.050	<0.0010	0.0018
Zinc (Zn)-Total	0.03	*mg/L*	**0.860**	**333.000**	**403.000**	**419.000**	**55.500**	**0.066**	**416.000**	**0.325**	**1.510**
Zirconium (Zr)-Total		*mg/L*	<0.00080	<0.040	<0.040	<0.040	<0.0080	<0.0016	<0.040	<0.00080	<0.00080

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Well Name			SRK05-SP3B	SRK05-SP4A	SRK05-SP4B	SRK05-SP5	SRK08-SBR2	SRK08-SBR3	SRK08-SBR4	SRK08-SP7A	SRK08-SP7B
Sample ID	CCME CWQG-FA		0215-130913-086	0215-130913-095	0215-130913-088	0215-130913-083	0215-130913-079	0215-130913-041	0215-130913-076	0215-130914-074	0215-130913-078
Date Sampled			13/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	13/09/2013	14/09/2013	13/09/2013
Time Sampled			09:50	13:30	13:30	16:40	15:32	12:50	17:16	09:20	17:42
Mine Area		*Units*	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area	S-Wells Area
Dissolved Metals											
Aluminum (Al)-Dissolved	*formula*	*mg/L*	**0.0347**	<0.050	**0.501**	<0.050	0.032	0.0026	<0.050	0.0042	0.0136
Aluminum Guideline			*0.01*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.00010	<0.0050	<0.0050	<0.0050	<0.0010	<0.00020	<0.0050	<0.00010	<0.00010
Arsenic (As)-Dissolved	0.005	*mg/L*	0.0002	<0.0050	<0.0050	<0.0050	0.0011	<0.00020	<0.0050	0.0041	0.0021
Barium (Ba)-Dissolved		*mg/L*	0.0146	0.0127	0.0222	0.0217	0.0266	0.0192	0.0174	0.0116	0.0540
Beryllium (Be)-Dissolved		*mg/L*	0.00047	<0.0050	<0.0050	<0.0050	<0.0010	<0.00020	<0.0050	0.00021	<0.00010
Bismuth (Bi)-Dissolved		*mg/L*	<0.00050	<0.025	<0.025	<0.025	<0.0050	<0.0010	<0.025	<0.00050	<0.00050
Boron (B)-Dissolved	29	*mg/L*	<0.010	<0.50	<0.50	<0.50	<0.10	<0.020	<0.50	<0.010	<0.010
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	0.000069	**0.0854**	**0.0946**	**0.207**	**0.0238**	<0.000020	**0.0752**	0.000023	0.000011
Cadmium Guideline			*0.001080*	*0.001030*	*0.001029*	*0.001028*	*0.001042*	*0.001037*	*0.001027*	*0.001109*	*0.001239*
Calcium (Ca)-Dissolved		*mg/L*	148	411	453	423	366	551	495	083	011
Chromium (Cr)-Dissolved		*mg/L*	<0.00010	<0.0050	<0.0050	<0.0050	<0.0010	<0.00020	<0.0050	<0.00010	<0.00010
Cobalt (Co)-Dissolved		*mg/L*	0.00571	0.72600	<0.0050	1.06000	0.14700	0.00120	0.87800	0.00418	0.00081
Copper (Cu)-Dissolved	*formula*	*mg/L*	**0.00022**	**0.039**	**0.018**	<0.010	<0.0020	**0.0005**	<0.010	<0.00020	**0.0003**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	15.9	<0.50	00.7	<0.50	29.0	<0.020	00.8	10.8	02.7
Lead (Pb)-Dissolved	*formula*	*mg/L*	0.000161	<0.0025	<0.0025	<0.0025	**0.00431**	<0.00010	<0.0025	<0.000050	<0.000050
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0526	0.1980	0.1850	0.1690	0.0813	0.0748	0.2230	0.0357	0.0165
Magnesium (Mg)-Dissolved		*mg/L*	050	1070	1110	1310	322	390	1320	029	018
Manganese (Mn)-Dissolved		*mg/L*	01.3	86.3	16.3	100.0	19.4	00.0	96.8	00.9	01.3
Molybdenum (Mo)-Dissolved		*mg/L*	0.00013	<0.0025	<0.0025	<0.0025	0.00060	<0.00010	<0.0025	0.00010	0.00024
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.0159	**1.8800**	**2.4000**	**2.5300**	0.3750	0.0292	**2.4600**	0.0104	0.0058
Nickel Guideline			*0.27930*	*1.54282*	*1.60505*	*1.75432*	*0.78715*	*0.97785*	*1.80386*	*0.18278*	*0.07467*
Phosphorus (P)-Dissolved		*mg/L*	<0.30	<15	<15	<15	<3.0	<0.60	<15	<0.30	<0.30
Potassium (K)-Dissolved		*mg/L*	4.72	12.00	13.30	13.50	7.69	8.24	13.70	3.73	1.85
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.00010	<0.0050	<0.0050	<0.0050	<0.0010	0.00085	<0.0050	<0.00010	<0.00010
Silicon (Si)-Dissolved		*mg/L*	11.8	11.6	15.6	11.3	15.1	05.9	10.6	11.7	07.5
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000010	<0.00050	<0.00050	<0.00050	<0.00010	<0.000020	<0.00050	<0.000010	<0.000010
Sodium (Na)-Dissolved		*mg/L*	08.3	46.6	39.1	57.5	19.4	61.8	51.5	07.3	02.7
Strontium (Sr)-Dissolved		*mg/L*	0.60	1.93	2.13	1.89	1.53	1.44	2.34	0.35	0.09
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000010	<0.00050	<0.00050	<0.00050	<0.00010	0.000047	<0.00050	<0.000010	<0.000010
Tin (Sn)-Dissolved		*mg/L*	<0.00010	<0.0050	<0.0050	<0.0050	<0.0010	<0.00020	<0.0050	<0.00010	<0.00010
Titanium (Ti)-Dissolved		*mg/L*	<0.010	<0.50	<0.50	<0.50	<0.10	<0.020	<0.50	<0.010	<0.010
Uranium (U)-Dissolved	0.015	*mg/L*	0.0020	0.0037	0.0007	0.0029	0.0025	**0.0343**	0.0032	0.0002	0.0001
Vanadium (V)-Dissolved		*mg/L*	<0.0010	<0.050	<0.050	<0.050	<0.010	<0.0020	<0.050	<0.0010	<0.0010
Zinc (Zn)-Dissolved	0.03	*mg/L*	**0.8690**	**330.0000**	**427.0000**	**419.0000**	**60.0000**	**0.0472**	**381.0000**	**0.3050**	**1.4700**
Zirconium (Zr)-Dissolved		*mg/L*	<0.00080	<0.040	<0.040	<0.040	<0.0080	<0.0016	<0.040	<0.00080	<0.00080

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Well Name			SRK08-SP8A	SRK08-SP8B	TH86-2	TH86-5	BH05-9B-R	P09-GS1A	P09-GS1B	P09-LCD1	P09-LCD4	P09-LCD6
Sample ID	CCME CWQG-FA		0215-130913-043	0215-130913-045	0215-130913-011	0215-130913-048	0215-130912-026	0215-130912-015	0215-130912-051	0215-130912-018	0215-130912-017	0215-130912-049
Date Sampled			13/09/2013	13/09/2013	13/09/2013	13/09/2013	#######	12/09/2013	12/09/2013	12/09/2013	12/09/2013	#######
Time Sampled			13:54	13:45	17:14	18:10	13:19	11:13	11:30	08:06	09:41	09:15
Mine Area		*Units*	S-Wells Area	S-Wells Area	Upstream of Tailings	Upstream of Tailings	Vangorda/ Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/ Grum
Physical Tests												
Conductivity		*µS/cm*	2560	2720	279	811	607	1310	1470	889	918	950
Hardness (as CaCO3)			1550	1520	133	413	202	738	837	458	329	521
pH			6.65	6.66	7.76	7.52	8.16	7.54	7.65	7.82	8.01	7.82
Total Suspended Solids		*mg/L*	10.6	187.0	5.8	79.3	17.0	12.6	23.6	128.0	890.0	128.0
Anions and Nutrients												
Acidity (as CaCO3)			173.0	155.0	4.0	38.6	1.6	22.1	12.7	9.5	5.5	9.2
Alkalinity, Total (as CaCO3)		*mg/L*	293	292	124	469	153	286	250	306	357	276
Chloride (Cl)	64	*mg/L*	<10	<10	0.85	<2.5	1.25	<5.0	<5.0	<2.5	<5.0	<5.0
Sulfate (SO4)		*mg/L*	1530	1730	27	25	166	522	691	233	184	302
Total Metals												
Aluminum (Al)-Total	*formula*	*mg/L*	**0.17**	**3.23**	0.01	**0.36**	**0.45**	0.09	**0.32**	**2.69**	**8.73**	**2.65**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	<0.00020	0.00021	0.0003	0.00528	0.0001	0.021	0.00132	0.00084	0.00132	0.00047
Arsenic (As)-Total	0.005	*mg/L*	**0.0066**	**0.0094**	0.0016	**0.0751**	**0.0208**	**0.2360**	**1.1900**	**0.1080**	**0.0170**	**0.1390**
Barium (Ba)-Total		*mg/L*	0.0165	0.0832	0.0739	0.1820	0.0270	0.0168	0.0349	0.2920	0.2800	0.1170
Beryllium (Be)-Total		*mg/L*	0.00032	0.00044	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00036	<0.00010
Bismuth (Bi)-Total		*mg/L*	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Total	29	*mg/L*	<0.020	<0.020	<0.010	<0.010	0.044	<0.010	0.016	0.013	0.016	0.015
Cadmium (Cd)-Total	*formula*	*mg/L*	0.000037	0.000222	0.000027	0.000109	0.000059	**0.00466**	0.000118	0.000173	0.000336	0.000125
Cadmium Guideline			*0.001050*	*0.001050*	*0.001195*	*0.001096*	*0.001147*	*0.001070*	*0.001066*	*0.001090*	*0.001109*	*0.001084*
Calcium (Ca)-Total		*mg/L*	354	348	042	118	047	195	204	122	092	143
Chromium (Cr)-Total		*mg/L*	0.00092	0.01210	0.00550	0.14500	0.00127	0.00041	0.00045	0.01170	0.02580	0.01150
Cobalt (Co)-Total		*mg/L*	0.0091	0.0129	0.0004	0.0110	0.0004	0.0623	0.0024	0.0025	0.0082	0.0033
Copper (Cu)-Total	*formula*	*mg/L*	<0.0010	**0.0067**	**0.0186**	**0.3560**	**0.0019**	**0.0058**	**0.0009**	**0.0058**	**0.0214**	**0.0082**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	37.3	47.0	02.9	32.8	01.6	02.4	03.2	08.5	12.6	11.3
Lead (Pb)-Total	*formula*	*mg/L*	0.00040	**0.00472**	0.00014	**0.00211**	**0.01510**	**0.20100**	**0.00220**	**0.17500**	**0.12500**	**0.07260**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0842	0.0647	0.0026	0.0510	0.0209	0.0104	0.0118	0.0127	0.0173	0.0105
Magnesium (Mg)-Total		*mg/L*	162	207	007	022	022	071	073	035	027	039
Manganese (Mn)-Total		*mg/L*	03.3	06.2	00.0	00.6	00.1	02.1	00.5	00.7	00.9	00.6
Molybdenum (Mo)-Total		*mg/L*	0.00017	0.00096	0.00298	0.05740	0.01140	0.00232	0.00323	0.00525	0.00645	0.00231
Nickel (Ni)-Total	*formula*	*mg/L*	0.0239	0.0302	0.0061	0.1190	0.0016	0.1660	0.0106	0.0091	0.0306	0.0096
Nickel Guideline			*0.60*	*0.59*	*0.09*	*0.22*	*0.13*	*0.34*	*0.37*	*0.24*	*0.18*	*0.26*
Phosphorus (P)-Total		*mg/L*	<0.60	<0.60	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Potassium (K)-Total		*mg/L*	5.30	5.69	1.28	2.52	1.95	4.47	2.36	2.99	2.87	2.55
Selenium (Se)-Total	0.001	*mg/L*	<0.00020	<0.00020	0.0004	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00036	<0.00010
Silicon (Si)-Total		*mg/L*	13.8	16.2	04.7	10.1	07.2	02.6	07.6	11.5	18.9	11.5
Silver (Ag)-Total	0.0001	*mg/L*	<0.000020	0.000064	0.000032	**0.000175**	0.00003	**0.000171**	0.000065	**0.000238**	**0.000222**	**0.000103**
Sodium (Na)-Total		*mg/L*	20.7	19.9	02.4	20.8	48.9	12.1	18.4	15.2	81.4	06.8
Strontium (Sr)-Total		*mg/L*	1.64	1.52	0.20	0.89	1.15	0.71	1.74	0.83	0.48	0.73
Thallium (Tl)-Total	0.0008	*mg/L*	<0.000020	0.000048	<0.000010	0.000015	0.00001	**0.00521**	0.000085	0.000084	0.000146	0.000034
Tin (Sn)-Total		*mg/L*	<0.00020	<0.00020	0.00096	0.0198	<0.00010	0.00016	0.0001	0.00037	0.00101	0.00047
Titanium (Ti)-Total		*mg/L*	<0.020	0.074	<0.010	0.029	0.013	<0.010	<0.010	0.072	0.239	0.07
Uranium (U)-Total	0.015	*mg/L*	0.0025	0.0040	0.0036	0.0060	0.0009	**0.0193**	0.0024	0.0075	0.0048	0.0032
Vanadium (V)-Total		*mg/L*	<0.0020	0.0107	<0.0010	0.0026	0.0016	<0.0010	<0.0010	0.0063	0.0194	0.0055
Zinc (Zn)-Total	0.03	*mg/L*	**0.560**	**0.662**	0.005	**0.038**	0.013	**5.470**	**0.285**	**0.037**	**0.063**	**0.036**
Zirconium (Zr)-Total		*mg/L*	<0.0016	0.0018	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	0.0010	0.0033	0.0010

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Well Name			SRK08-SP8A	SRK08-SP8B	TH86-2	TH86-5	BH05-9B-R	P09-GS1A	P09-GS1B	P09-LCD1	P09-LCD4	P09-LCD6
Sample ID	CCME CWQG-FA		0215-130913-043	0215-130913-045	0215-130913-011	0215-130913-048	0215-130912-026	0215-130912-015	0215-130912-051	0215-130912-018	0215-130912-017	0215-130912-049
Date Sampled			13/09/2013	13/09/2013	13/09/2013	13/09/2013	#######	12/09/2013	12/09/2013	12/09/2013	12/09/2013	#######
Time Sampled			13:54	13:45	17:14	18:10	13:19	11:13	11:30	08:06	09:41	09:15
Mine Area		*Units*	S-Wells Area	S-Wells Area	Upstream of Tailings	Upstream of Tailings	Vangorda/ Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/ Grum
Dissolved Metals												
Aluminum (Al)-Dissolved	*formula*	*mg/L*	0.0072	0.0113	0.0011	0.0014	<0.0010	0.0022	0.0019	0.001	0.0028	<0.0010
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.00020	<0.00020	<0.00010	<0.00010	<0.00010	0.0167	0.00118	0.00014	0.0007	<0.00010
Arsenic (As)-Dissolved	0.005	*mg/L*	**0.0066**	0.0034	0.0003	**0.0162**	**0.0191**	**0.2190**	**1.2700**	**0.1060**	0.0023	**0.1160**
Barium (Ba)-Dissolved		*mg/L*	0.0147	0.0147	0.0724	0.1800	0.0155	0.0119	0.0287	0.0383	0.0923	0.0428
Beryllium (Be)-Dissolved		*mg/L*	0.00032	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved		*mg/L*	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Dissolved	29	*mg/L*	<0.020	<0.020	<0.010	<0.010	0.038	<0.010	0.013	0.012	0.012	0.011
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	0.000033	0.000078	0.000012	<0.000010	<0.000010	**0.00217**	0.000016	0.000038	0.000135	0.000025
Cadmium Guideline			*0.001050*	*0.001050*	*0.001195*	*0.001096*	*0.001147*	*0.001070*	*0.001066*	*0.001090*	*0.001109*	*0.001084*
Calcium (Ca)-Dissolved		*mg/L*	348	309	041	127	046	182	209	127	093	143
Chromium (Cr)-Dissolved		*mg/L*	<0.00020	<0.00020	<0.00010	0.00054	<0.00010	<0.00010	<0.00010	<0.00010	0.00014	<0.00010
Cobalt (Co)-Dissolved		*mg/L*	0.00890	0.00861	<0.00010	0.00010	<0.00010	0.05920	0.00221	0.00048	0.00014	0.00129
Copper (Cu)-Dissolved	*formula*	*mg/L*	<0.00040	<0.00040	**0.00048**	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	**0.00586**	<0.00020
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	36.4	30.7	00.1	06.4	00.8	01.9	02.7	04.1	<0.010	06.8
Lead (Pb)-Dissolved	*formula*	*mg/L*	<0.00010	<0.00010	<0.000050	<0.000050	<0.000050	**0.0408**	<0.000050	**0.0187**	**0.00143**	**0.00403**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0853	0.0522	0.0026	0.0569	0.0207	0.0097	0.0115	0.0089	0.0062	0.0075
Magnesium (Mg)-Dissolved		*mg/L*	166	181	007	023	021	069	076	034	024	040
Manganese (Mn)-Dissolved		*mg/L*	03.3	05.4	00.0	00.5	00.1	02.0	00.4	00.6	00.4	00.5
Molybdenum (Mo)-Dissolved		*mg/L*	0.00014	0.00020	0.00093	0.00321	0.01130	0.00209	0.00327	0.00503	0.00584	0.00225
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.0232	0.0178	0.0016	0.0014	<0.00050	0.1620	0.0102	0.0007	0.0063	0.0012
Nickel Guideline			*0.59500*	*0.58623*	*0.09204*	*0.21777*	*0.12645*	*0.33852*	*0.37251*	*0.23557*	*0.18320*	*0.25982*
Phosphorus (P)-Dissolved		*mg/L*	<0.60	<0.60	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Potassium (K)-Dissolved		*mg/L*	5.29	4.89	1.28	2.55	1.82	4.30	2.37	2.62	1.79	2.30
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.00020	<0.00020	0.00043	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00026	<0.00010
Silicon (Si)-Dissolved		*mg/L*	13.4	12.1	04.6	10.4	06.2	02.5	07.1	07.3	04.7	07.6
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Na)-Dissolved		*mg/L*	21.0	18.4	02.5	21.6	48.1	11.6	19.1	15.6	84.3	06.8
Strontium (Sr)-Dissolved		*mg/L*	1.58	1.35	0.20	0.85	1.12	0.69	1.77	0.79	0.47	0.76
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	**0.00486**	0.000065	0.000013	0.000023	<0.000010
Tin (Sn)-Dissolved		*mg/L*	<0.00020	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00011	<0.00010
Titanium (Ti)-Dissolved		*mg/L*	<0.020	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Dissolved	0.015	*mg/L*	0.0024	0.0033	0.0031	0.0026	0.0007	**0.0182**	0.0022	0.0073	0.0045	0.0033
Vanadium (V)-Dissolved		*mg/L*	<0.0020	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Dissolved	0.03	*mg/L*	**0.5640**	**0.5670**	0.0017	0.0017	<0.0010	**5.2800**	**0.2050**	0.0056	0.0033	0.0023
Zirconium (Zr)-Dissolved		*mg/L*	<0.0016	<0.0016	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080

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Well Name			P09-VC1	P09-VC2	P2001-2A	P2001-2B	P2001-3	P96-9A	SRK05-09	SRK05-5C	SRK05-7	SRK05-8	SRK08-P14
Sample ID	CCME CWQG-FA		0215-130911-001	0215-130912-004	0215-130911-034	0215-130911-022	0215-130911-023	0215-130911-002	0215-130911-005	0215-130911-006	0215-130911-029	0215-130911-027	0215-130911-016
Date Sampled			11/09/2013	11/09/2013	11/09/2013	11/09/2013	#######	11/09/2013	11/09/2013	#######	11/09/2013	11/09/2013	#######
Time Sampled			16:00	14:48	13:15	13:30	11:43	13:38	17:07	12:19	09:18	10:37	16:57
Mine Area		*Units*	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum
Physical Tests													
Conductivity		*µS/cm*	363	391	2600	2440	932	3130	1550	1130	3320	2490	1940
Hardness (as CaCO3)			140	177	1660	1580	479	2270	878	584	2400	1690	1180
pH			8.17	7.98	7.54	7.68	7.93	7.42	7.85	7.89	7.53	7.77	7.59
Total Suspended Solids		*mg/L*	88.4	171.0	16000.0	622.0	706.0	5.6	175.0	5160.0	41.2	1.8	188.0
Anions and Nutrients													
Acidity (as CaCO3)			1.2	3.4	49.2	37.0	9.7	51.3	10.5	7.1	53.3	27.9	18.1
Alkalinity, Total (as CaCO3)		*mg/L*	127	180	645	648	453	596	297	243	643	568	270
Chloride (Cl)	64	*mg/L*	<0.50	<0.50	<10	<10	<5.0	<10	<5.0	<5.0	<10	<10	<10
Sulfate (SO4)		*mg/L*	65	42	1240	1140	117	1870	716	441	1850	1230	1020
Total Metals													
Aluminum (Al)-Total	*formula*	*mg/L*	**2.44**	**4.91**	**133.00**	**11.20**	**16.20**	0.04	**1.89**	**109.00**	**0.93**	0.05	**3.15**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Total		*mg/L*	0.0002	0.0025	0.00345	0.00022	0.00139	<0.00020	0.00042	0.00441	0.00069	<0.00020	0.00038
Arsenic (As)-Total	0.005	*mg/L*	0.0041	**0.1310**	**0.2900**	**0.0274**	**0.0261**	0.0040	**0.0089**	**0.3030**	**0.0105**	0.0003	0.0030
Barium (Ba)-Total		*mg/L*	0.0438	0.1290	3.3500	0.1030	0.4830	0.0684	0.1400	3.5500	0.0667	0.0129	0.1290
Beryllium (Be)-Total		*mg/L*	0.00016	0.00023	0.00493	0.00085	0.00061	<0.00020	<0.00010	0.00437	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total		*mg/L*	<0.00050	<0.00050	0.0045	<0.0010	<0.00050	<0.0010	<0.00050	0.0027	<0.0010	<0.0010	<0.0010
Boron (B)-Total	29	*mg/L*	<0.010	<0.010	<0.050	0.025	0.026	<0.020	<0.010	<0.050	<0.020	<0.020	<0.020
Cadmium (Cd)-Total	*formula*	*mg/L*	0.000437	0.0005	**0.00891**	0.000129	**0.00147**	0.000585	0.000264	**0.00766**	0.000137	0.000033	0.000095
Cadmium Guideline			*0.001188*	*0.001160*	*0.001048*	*0.001049*	*0.001088*	*0.001042*	*0.001065*	*0.001079*	*0.001041*	*0.001048*	*0.001056*
Calcium (Ca)-Total		*mg/L*	042	057	578	339	097	388	170	194	487	376	370
Chromium (Cr)-Total		*mg/L*	0.00205	0.00875	0.45700	0.00437	0.05500	0.00059	0.00724	0.38700	0.01550	0.00058	0.02660
Cobalt (Co)-Total		*mg/L*	0.0010	0.0025	0.1290	0.0018	0.0139	<0.00020	0.0023	0.1100	0.0053	0.0005	0.0043
Copper (Cu)-Total	*formula*	*mg/L*	**0.0042**	**0.0351**	**0.5190**	**0.0081**	**0.0476**	**0.0037**	**0.0124**	**0.3780**	**0.0035**	**0.0030**	**0.0162**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	02.5	07.6	255.0	11.9	28.0	01.7	03.6	229.0	01.9	00.1	06.1
Lead (Pb)-Total	*formula*	*mg/L*	**0.01400**	**0.36400**	**2.54000**	**0.05410**	**0.01970**	**0.00378**	**0.04170**	**1.69000**	**0.00590**	0.00038	**0.01220**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0046	0.0123	0.2410	0.0358	0.0252	0.0143	0.0079	0.1670	0.0105	0.0165	0.0110
Magnesium (Mg)-Total		*mg/L*	008	012	283	186	068	334	127	135	293	195	090
Manganese (Mn)-Total		*mg/L*	00.0	00.1	04.5	00.3	01.3	00.0	00.1	05.8	00.1	00.0	00.1
Molybdenum (Mo)-Total		*mg/L*	0.00075	0.01040	0.01210	0.00105	0.01550	0.00091	0.00128	0.03200	0.00053	0.00045	0.00121
Nickel (Ni)-Total	*formula*	*mg/L*	0.0029	0.0075	0.4560	0.0079	0.0647	0.0125	0.0079	**0.4230**	0.0452	0.0015	0.0179
Nickel Guideline			*0.10*	*0.11*	*0.63*	*0.60*	*0.24*	*0.80*	*0.39*	*0.28*	*0.83*	*0.64*	*0.48*
Phosphorus (P)-Total		*mg/L*	<0.30	<0.30	6.8	<0.60	0.69	<0.60	<0.30	5.9	<0.60	<0.60	<0.60
Potassium (K)-Total		*mg/L*	1.20	1.87	18.50	5.51	5.76	6.12	3.16	11.50	2.45	1.95	1.49
Selenium (Se)-Total	0.001	*mg/L*	<0.00010	<0.00010	**0.00504**	<0.00020	0.00081	0.00038	0.0007	**0.00253**	0.00025	0.00038	**0.00125**
Silicon (Si)-Total		*mg/L*	10.9	13.7	134.0	30.6	34.5	07.0	07.4	121.0	08.4	06.5	11.7
Silver (Ag)-Total	0.0001	*mg/L*	**0.000457**	**0.000427**	**0.00491**	0.000068	**0.00031**	0.000026	0.000096	**0.0041**	0.000021	<0.000020	0.000063
Sodium (Na)-Total		*mg/L*	20.6	06.4	09.9	09.6	31.3	14.6	07.5	16.6	15.5	10.3	05.3
Strontium (Sr)-Total		*mg/L*	0.57	0.82	2.64	1.80	0.69	1.39	0.56	1.59	1.50	1.43	1.76
Thallium (Tl)-Total	0.0008	*mg/L*	0.000027	0.000135	**0.00258**	0.000067	0.000192	<0.000020	0.000043	**0.00222**	<0.000020	<0.000020	0.00002
Tin (Sn)-Total		*mg/L*	0.00037	0.00023	0.00233	0.00251	0.00077	<0.00020	0.00093	0.00388	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total		*mg/L*	0.028	0.167	1.68	0.049	0.435	<0.020	0.043	2.26	<0.020	<0.020	0.118
Uranium (U)-Total	0.015	*mg/L*	0.0060	0.0071	**0.0789**	**0.0556**	0.0140	**0.0496**	**0.0174**	**0.0153**	**0.0314**	**0.0260**	0.0070
Vanadium (V)-Total		*mg/L*	0.0045	0.0125	0.326	0.0053	0.0522	<0.0020	0.0045	0.269	0.0024	<0.0020	0.013
Zinc (Zn)-Total	0.03	*mg/L*	**0.198**	**0.578**	**1.830**	**0.038**	**0.137**	**0.057**	**0.054**	**1.530**	0.014	<0.0060	0.028
Zirconium (Zr)-Total		*mg/L*	0.0015	0.0023	0.0181	0.0017	0.0034	<0.0016	<0.00080	0.0107	<0.0016	<0.0016	<0.0016

EDI Environmental Dynamics Inc.
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Well Name			P09-VC1	P09-VC2	P2001-2A	P2001-2B	P2001-3	P96-9A	SRK05-09	SRK05-5C	SRK05-7	SRK05-8	SRK08-P14
Sample ID	CCME CWQG-FA		0215-130911-001	0215-130912-004	0215-130911-034	0215-130911-022	0215-130911-023	0215-130911-002	0215-130911-005	0215-130911-006	0215-130911-029	0215-130911-027	0215-130911-016
Date Sampled			11/09/2013	11/09/2013	11/09/2013	11/09/2013	#######	11/09/2013	11/09/2013	#######	11/09/2013	11/09/2013	#######
Time Sampled			16:00	14:48	13:15	13:30	11:43	13:38	17:07	12:19	09:18	10:37	16:57
Mine Area		*Units*	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum
Dissolved Metals													
Aluminum (Al)-Dissolved	*formula*	*mg/L*	<0.0010	<0.0010	<0.0050	<0.0020	<0.0010	0.0041	0.0012	<0.0050	0.0027	<0.0020	<0.0020
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.00010	0.00036	0.00145	<0.00020	<0.00010	<0.00020	0.00019	<0.00050	0.00063	<0.00020	<0.00020
Arsenic (As)-Dissolved	0.005	*mg/L*	0.0019	**0.1260**	**0.0327**	**0.0086**	0.0024	0.0005	0.0007	0.0031	0.0041	0.0002	0.0002
Barium (Ba)-Dissolved		*mg/L*	0.0187	0.0460	0.0468	0.0133	0.0331	0.0559	0.0412	0.1450	0.0502	0.0118	0.0775
Beryllium (Be)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00050	<0.00020	<0.00010	<0.00020	<0.00010	<0.00050	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Dissolved		*mg/L*	<0.00050	<0.00050	<0.0025	<0.0010	<0.00050	<0.0010	<0.00050	<0.0025	<0.0010	<0.0010	<0.0010
Boron (B)-Dissolved	29	*mg/L*	<0.010	<0.010	<0.050	<0.020	0.022	<0.020	<0.010	<0.050	<0.020	<0.020	<0.020
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	<0.000010	<0.000010	<0.000050	<0.000020	0.000348	0.00055	0.000157	0.000052	0.000113	0.00003	0.000062
Cadmium Guideline			*0.001188*	*0.001160*	*0.001048*	*0.001049*	*0.001088*	*0.001042*	*0.001065*	*0.001079*	*0.001041*	*0.001048*	*0.001056*
Calcium (Ca)-Dissolved		*mg/L*	043	053	374	342	089	377	157	138	494	365	330
Chromium (Cr)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00050	<0.00020	<0.00010	0.00023	0.00029	<0.00050	0.00047	0.00034	<0.00020
Cobalt (Co)-Dissolved		*mg/L*	<0.00010	0.00026	0.00174	0.00047	0.00067	<0.00020	<0.00010	0.00151	0.00206	0.00045	<0.00020
Copper (Cu)-Dissolved	*formula*	*mg/L*	<0.00020	<0.00020	<0.0010	<0.00040	**0.00071**	**0.00275**	**0.00111**	<0.0010	**0.00118**	**0.00241**	**0.00373**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	00.3	01.8	03.0	02.2	00.1	<0.020	<0.010	00.1	<0.020	<0.020	<0.020
Lead (Pb)-Dissolved	*formula*	*mg/L*	<0.000050	0.00017	0.00026	0.0004	<0.000050	<0.00010	0.000223	0.00029	<0.00010	0.00011	<0.00010
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0032	0.0060	0.0323	0.0330	0.0088	0.0130	0.0061	0.0070	0.0087	0.0162	0.0067
Magnesium (Mg)-Dissolved		*mg/L*	008	011	178	177	063	323	118	058	284	189	086
Manganese (Mn)-Dissolved		*mg/L*	00.0	00.1	00.2	00.2	00.7	00.0	00.0	01.8	00.0	00.0	00.0
Molybdenum (Mo)-Dissolved		*mg/L*	0.00033	0.00891	0.00267	0.00078	0.01130	0.00075	0.00107	0.01790	0.00045	0.00049	0.00081
Nickel (Ni)-Dissolved	*formula*	*mg/L*	<0.00050	<0.00050	0.0156	0.0023	0.0018	0.0122	0.0008	0.0035	0.0389	0.0014	0.0016
Nickel Guideline			*0.09570*	*0.11437*	*0.62683*	*0.60374*	*0.24374*	*0.79515*	*0.38630*	*0.28336*	*0.82952*	*0.63542*	*0.48361*
Phosphorus (P)-Dissolved		*mg/L*	<0.30	<0.30	<1.5	<0.60	<0.30	<0.60	<0.30	<1.5	<0.60	<0.60	<0.60
Potassium (K)-Dissolved		*mg/L*	1.01	1.16	5.06	4.55	3.17	6.01	2.78	2.06	2.36	1.88	1.16
Selenium (Se)-Dissolved	0.001	*mg/L*	<0.00010	<0.00010	<0.00050	<0.00020	<0.00010	0.0003	0.00065	<0.00050	0.00023	0.00036	**0.00121**
Silicon (Si)-Dissolved		*mg/L*	05.9	06.7	06.8	06.7	06.8	06.5	04.4	05.8	07.1	06.5	05.9
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000010	<0.000010	<0.000050	<0.000020	<0.000010	<0.000020	<0.000010	<0.000050	<0.000020	<0.000020	<0.000020
Sodium (Na)-Dissolved		*mg/L*	21.1	06.3	07.7	09.3	34.2	14.2	06.5	15.0	15.3	10.0	05.2
Strontium (Sr)-Dissolved		*mg/L*	0.58	0.75	1.96	1.73	0.62	1.34	0.52	1.18	1.56	1.38	1.58
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000010	<0.000010	<0.000050	<0.000020	<0.000010	<0.000020	<0.000010	<0.000050	<0.000020	<0.000020	<0.000020
Tin (Sn)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00050	<0.00020	<0.00010	<0.00020	<0.00010	<0.00050	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Dissolved		*mg/L*	<0.010	<0.010	<0.050	<0.020	<0.010	<0.020	<0.010	<0.050	<0.020	<0.020	<0.020
Uranium (U)-Dissolved	0.015	*mg/L*	0.0051	0.0033	**0.0605**	**0.0512**	0.0117	**0.0493**	**0.0171**	0.0073	**0.0330**	**0.0257**	0.0059
Vanadium (V)-Dissolved		*mg/L*	<0.0010	<0.0010	<0.0050	<0.0020	<0.0010	<0.0020	<0.0010	<0.0050	<0.0020	<0.0020	<0.0020
Zinc (Zn)-Dissolved	0.03	*mg/L*	0.0025	**0.0757**	**0.0319**	0.0058	0.0040	**0.0560**	0.0030	<0.0050	0.0044	<0.0020	0.0060
Zirconium (Zr)-Dissolved		*mg/L*	<0.00080	<0.00080	<0.0040	<0.0016	<0.00080	<0.0016	<0.00080	<0.0040	<0.0016	<0.0016	<0.0016

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Well Name			SRK08-P15	V34	V35	V36	V37	BH10A	BH10B	BH5	BH6	BH8
Sample ID	CCME CWQG-FA		0215-130911-021	0215-130911-028	0215-130911-024	0215-130911-020	0215-130911-019	0215-130913-056	0215-130913-007	0215-130912-060	0215-130912-053	0215-130913-008
Date Sampled			11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013	13/09/2013	13/09/2013	12/09/2013	12/09/2013	13/09/2013
Time Sampled			17:42	09:05	10:10	09:00	15:31	12:00	10:40	17:42	15:35	09:36
Mine Area		*Units*	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit
Physical Tests												
Conductivity		*µS/cm*	1960	2040	2730	3540	1150	775	1080	535	757	3390
Hardness (as CaCO3)			1260	1290	1930	2620	625	334	524	233	365	1270
pH			7.77	7.66	7.64	7.45	8.04	6.25	6.23	6.42	6.66	4.56
Total Suspended Solids		*mg/L*	326.0	165.0	2.4	1.4	8.2	3.4	3.6	202.0	30.8	52.7
Anions and Nutrients												
Acidity (as CaCO3)			16.2	44.5	35.7	49.1	6.8	261.0	510.0	76.3	61.7	1380.0
Alkalinity, Total (as CaCO3)		*mg/L*	353	928	619	595	462	241	413	120	092	008
Chloride (Cl)	64	*mg/L*	<10	<10	<10	<10	<5.0	<2.5	<5.0	<0.50	<0.50	<10
Sulfate (SO4)		*mg/L*	951	507	1450	2270	270	217	224	160	327	2730
Total Metals												
Aluminum (Al)-Total	*formula*	*mg/L*	**10.10**	**3.85**	0.05	0.01	**0.16**	**0.04**	**0.08**	**6.69**	**1.33**	**19.60**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.01*	*0.01*	*0.01*	*0.10*	*0.01*
Antimony (Sb)-Total		*mg/L*	0.00087	0.00031	0.00034	<0.00020	0.00011	<0.00010	<0.00010	0.0008	0.00017	<0.0020
Arsenic (As)-Total	0.005	*mg/L*	**0.0073**	0.0031	0.0006	0.0020	0.0016	**0.0054**	**0.0317**	**0.0085**	0.0010	**0.0052**
Barium (Ba)-Total		*mg/L*	0.1270	0.1080	0.0078	0.0073	0.0683	0.0125	0.0115	0.0944	0.0495	0.0237
Beryllium (Be)-Total		*mg/L*	0.00025	0.00013	<0.00020	<0.00020	<0.00010	0.00073	0.00148	0.00125	0.0002	0.0144
Bismuth (Bi)-Total		*mg/L*	<0.0010	<0.00050	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	0.00121	<0.00050	<0.010
Boron (B)-Total	29	*mg/L*	<0.020	0.024	<0.020	0.023	0.037	<0.010	0.012	<0.010	<0.010	<0.20
Cadmium (Cd)-Total	*formula*	*mg/L*	0.000195	0.000147	0.000125	0.00057	0.000062	0.000035	0.000018	**0.00137**	**0.00322**	**0.541**
Cadmium Guideline			*0.001054*	*0.001054*	*0.001045*	*0.001040*	*0.001077*	*0.001108*	*0.001084*	*0.001134*	*0.001102*	*0.001054*
Calcium (Ca)-Total		*mg/L*	319	199	381	530	090	088	135	061	104	235
Chromium (Cr)-Total		*mg/L*	0.25200	0.01980	0.00099	0.00031	0.00088	0.00016	0.00024	0.02020	0.00268	0.01030
Cobalt (Co)-Total		*mg/L*	0.0140	0.0042	<0.00020	0.0018	0.0007	0.0199	0.0091	0.0170	0.0726	0.5090
Copper (Cu)-Total	*formula*	*mg/L*	**0.0240**	**0.0227**	**0.0013**	**0.0029**	**0.0016**	<0.00050	<0.00050	**0.0177**	**0.0038**	**4.2700**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	16.5	06.9	00.1	00.0	01.0	36.3	37.0	34.2	10.6	526.0
Lead (Pb)-Total	*formula*	*mg/L*	**0.01480**	**0.00346**	0.00020	**0.00352**	**0.00171**	**0.00109**	**0.00125**	**0.04380**	**0.01900**	**0.96900**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0176	0.0268	0.0229	0.0435	0.0265	0.0610	0.1130	0.0330	0.0351	0.1030
Magnesium (Mg)-Total		*mg/L*	121	196	217	304	105	030	041	021	028	168
Manganese (Mn)-Total		*mg/L*	00.2	00.1	00.0	00.1	00.2	01.0	00.8	01.6	02.6	10.7
Molybdenum (Mo)-Total		*mg/L*	0.00134	0.00186	0.00132	0.00080	0.02030	0.00005	<0.000050	0.00207	0.00041	<0.0010
Nickel (Ni)-Total	*formula*	*mg/L*	0.1550	0.0133	0.0070	0.0150	0.0016	0.0259	0.0219	0.0278	0.0738	0.4440
Nickel Guideline			*0.51*	*0.52*	*0.70*	*0.89*	*0.30*	*0.19*	*0.26*	*0.14*	*0.20*	*0.51*
Phosphorus (P)-Total		*mg/L*	<0.60	<0.30	<0.60	<0.60	<0.30	<0.30	<0.30	<0.30	<0.30	<6.0
Potassium (K)-Total		*mg/L*	2.24	4.88	4.36	5.53	5.93	4.25	6.27	3.92	2.89	5.80
Selenium (Se)-Total	0.001	*mg/L*	**0.00154**	0.00017	**0.00132**	0.00074	<0.00010	<0.00010	<0.00010	0.00028	<0.00010	<0.0020
Silicon (Si)-Total		*mg/L*	26.5	12.3	06.0	07.2	03.6	13.8	16.8	19.3	10.4	08.2
Silver (Ag)-Total	0.0001	*mg/L*	0.000081	0.000059	<0.000020	<0.000020	<0.000010	0.000014	0.000042	**0.000234**	0.000062	<0.00020
Sodium (Na)-Total		*mg/L*	04.9	08.6	08.4	08.6	23.3	11.6	18.6	07.8	05.8	22.4
Strontium (Sr)-Total		*mg/L*	1.07	1.59	1.02	2.42	0.70	0.52	0.85	0.28	0.52	1.07
Thallium (Tl)-Total	0.0008	*mg/L*	0.000063	0.000036	0.000023	0.000084	<0.000010	<0.000010	<0.000010	0.000208	0.000109	**0.00587**
Tin (Sn)-Total		*mg/L*	0.00025	0.00049	<0.00020	<0.00020	0.00042	0.00038	0.00029	0.00057	0.00025	<0.0020
Titanium (Ti)-Total		*mg/L*	0.146	0.092	<0.020	<0.020	<0.010	<0.010	<0.010	0.245	0.071	<0.20
Uranium (U)-Total	0.015	*mg/L*	**0.0228**	**0.0188**	**0.0728**	**0.0621**	0.0032	0.0001	0.0000	0.0015	0.0017	**0.0448**
Vanadium (V)-Total		*mg/L*	0.0342	0.0071	<0.0020	<0.0020	<0.0010	<0.0010	<0.0010	0.0174	0.0029	<0.020
Zinc (Zn)-Total	0.03	*mg/L*	**0.050**	**0.041**	<0.0060	**0.109**	0.016	**4.750**	**3.140**	**1.950**	**7.580**	**181.000**
Zirconium (Zr)-Total		*mg/L*	0.0022	0.0032	<0.0016	<0.0016	<0.00080	<0.00080	<0.00080	0.0015	<0.00080	<0.016

EDI Environmental Dynamics Inc.
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Y1A 3T8

Well Name			SRK08-P15	V34	V35	V36	V37	BH10A	BH10B	BH5	BH6	BH8
Sample ID	CCME CWQG-FA		0215-130911-021	0215-130911-028	0215-130911-024	0215-130911-020	0215-130911-019	0215-130913-056	0215-130913-007	0215-130912-060	0215-130912-053	0215-130913-008
Date Sampled			11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013	13/09/2013	13/09/2013	12/09/2013	12/09/2013	13/09/2013
Time Sampled			17:42	09:05	10:10	09:00	15:31	12:00	10:40	17:42	15:35	09:36
Mine Area		*Units*	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Vangorda/Grum	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit
Dissolved Metals												
Aluminum (Al)-Dissolved	*formula*	*mg/L*	<0.0020	0.0019	<0.0020	<0.0020	<0.0010	**0.031**	**0.0498**	**0.0397**	0.0376	**18.8**
Aluminum Guideline			*0.10*	*0.10*	*0.10*	*0.10*	*0.10*	*0.01*	*0.01*	*0.01*	*0.10*	*0.01*
Antimony (Sb)-Dissolved		*mg/L*	0.00022	<0.00010	0.00036	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0020
Arsenic (As)-Dissolved	0.005	*mg/L*	0.0003	0.0013	0.0005	0.0013	0.0014	**0.0062**	**0.0475**	0.0003	0.0001	0.0044
Barium (Ba)-Dissolved		*mg/L*	0.0383	0.0452	0.0069	0.0072	0.0604	0.0114	0.0095	0.0355	0.0320	0.0182
Beryllium (Be)-Dissolved		*mg/L*	<0.00020	<0.00010	<0.00020	<0.00020	<0.00010	0.00071	0.00153	0.00018	<0.00010	0.0154
Bismuth (Bi)-Dissolved		*mg/L*	<0.0010	<0.00050	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.010
Boron (B)-Dissolved	29	*mg/L*	<0.020	0.02	<0.020	<0.020	0.035	<0.010	0.011	<0.010	<0.010	<0.20
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	0.000088	0.000034	0.000127	0.00057	0.000022	0.000012	<0.000010	0.000843	**0.00289**	**0.54**
Cadmium Guideline			*0.001054*	*0.001054*	*0.001045*	*0.001040*	*0.001077*	*0.001108*	*0.001084*	*0.001134*	*0.001102*	*0.001054*
Calcium (Ca)-Dissolved		*mg/L*	321	198	396	539	088	084	135	058	103	236
Chromium (Cr)-Dissolved		*mg/L*	0.00071	<0.00010	0.00042	<0.00020	<0.00010	<0.00010	<0.00010	0.00022	<0.00010	0.0059
Cobalt (Co)-Dissolved		*mg/L*	<0.00020	0.00166	<0.00020	0.00173	0.00057	0.01960	0.00903	0.01580	0.06850	0.50200
Copper (Cu)-Dissolved	*formula*	*mg/L*	**0.00082**	**0.00206**	**0.00081**	**0.00247**	**0.00041**	<0.00020	<0.00020	**0.00037**	**0.00024**	**4.12**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	<0.020	01.2	<0.020	<0.020	00.6	35.4	33.9	14.4	07.4	519.0
Lead (Pb)-Dissolved	*formula*	*mg/L*	<0.00010	0.000116	<0.00010	**0.00288**	<0.000050	<0.000050	<0.000050	0.000413	**0.00114**	**0.904**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0109	0.0234	0.0227	0.0405	0.0256	0.0566	0.1110	0.0237	0.0314	0.1030
Magnesium (Mg)-Dissolved		*mg/L*	112	192	228	310	098	030	045	022	026	165
Manganese (Mn)-Dissolved		*mg/L*	00.0	00.0	00.0	00.1	00.1	01.0	00.8	01.8	02.4	10.5
Molybdenum (Mo)-Dissolved		*mg/L*	0.00065	0.00134	0.00137	0.00080	0.01900	<0.000050	<0.000050	0.00005	0.00010	<0.0010
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.0136	0.0044	0.0068	0.0145	0.0011	0.0254	0.0218	0.0189	0.0692	0.4330
Nickel Guideline			*0.50833*	*0.51751*	*0.70290*	*0.88670*	*0.29836*	*0.18532*	*0.26095*	*0.14095*	*0.19825*	*0.51140*
Phosphorus (P)-Dissolved		*mg/L*	<0.60	<0.30	<0.60	<0.60	<0.30	<0.30	<0.30	<0.30	<0.30	<6.0
Potassium (K)-Dissolved		*mg/L*	1.86	4.36	4.50	5.66	5.38	4.27	6.73	3.03	2.39	5.70
Selenium (Se)-Dissolved	0.001	*mg/L*	**0.00161**	<0.00010	**0.0015**	0.00073	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0020
Silicon (Si)-Dissolved		*mg/L*	05.7	06.6	06.0	06.8	03.1	13.8	16.5	08.9	08.0	07.9
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000020	<0.000010	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.00020
Sodium (Na)-Dissolved		*mg/L*	05.3	08.2	08.7	08.5	21.8	11.4	20.0	08.6	05.3	22.0
Strontium (Sr)-Dissolved		*mg/L*	1.06	1.59	1.09	2.36	0.66	0.49	0.79	0.27	0.48	1.07
Thallium (Tl)-Dissolved	0.0008	*mg/L*	<0.000020	<0.000010	0.000026	0.000075	<0.000010	<0.000010	<0.000010	0.000057	0.000061	**0.00598**
Tin (Sn)-Dissolved		*mg/L*	<0.00020	<0.00010	<0.00020	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0020
Titanium (Ti)-Dissolved		*mg/L*	<0.020	<0.010	<0.020	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.20
Uranium (U)-Dissolved	0.015	*mg/L*	**0.0236**	**0.0193**	**0.0800**	**0.0600**	0.0031	0.0001	<0.000010	0.0001	0.0012	**0.0436**
Vanadium (V)-Dissolved		*mg/L*	<0.0020	<0.0010	<0.0020	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.020
Zinc (Zn)-Dissolved	0.03	*mg/L*	0.0038	0.0068	0.0040	**0.1150**	0.0106	**4.8900**	**3.4600**	**2.0700**	**7.5000**	**175.0000**
Zirconium (Zr)-Dissolved		*mg/L*	<0.0016	0.00171	<0.0016	<0.0016	<0.00080	<0.00080	<0.00080	<0.00080	<0.00080	<0.016

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Well Name			P05-04	SRK08-P12A	SRK08-P12B
Sample ID	CCME CWQG-FA		0215-130912-057	0215-130913-013	0215-130913-059
Date Sampled			12/09/2013	13/09/2013	13/09/2013
Time Sampled			15:13	11:35	11:30
Mine Area		*Units*	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit
Physical Tests					
Conductivity		*µS/cm*	674	1150	780
Hardness (as CaCO3)			337	552	366
pH			6.71	6.41	6.50
Total Suspended Solids		*mg/L*	24.0	61.6	59.8
Anions and Nutrients					
Acidity (as CaCO3)			59.7	407.0	186.0
Alkalinity, Total (as CaCO3)		*mg/L*	136	444	376
Chloride (Cl)	64	*mg/L*	0.51	<5.0	<0.50
Sulfate (SO4)		*mg/L*	233	146	99
Total Metals					
Aluminum (Al)-Total	*formula*	*mg/L*	**0.77**	**0.94**	**1.00**
Aluminum Guideline			*0.10*	*0.01*	*0.10*
Antimony (Sb)-Total		*mg/L*	0.00015	0.00057	0.00012
Arsenic (As)-Total	0.005	*mg/L*	0.0009	0.0043	0.0014
Barium (Ba)-Total		*mg/L*	0.0447	0.0502	0.1080
Beryllium (Be)-Total		*mg/L*	0.00016	0.00072	0.00057
Bismuth (Bi)-Total		*mg/L*	<0.00050	<0.00050	<0.00050
Boron (B)-Total	29	*mg/L*	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	*formula*	*mg/L*	**0.00632**	0.00009	0.000076
Cadmium Guideline			*0.001107*	*0.001082*	*0.001102*
Calcium (Ca)-Total		*mg/L*	092	159	107
Chromium (Cr)-Total		*mg/L*	0.00193	0.00330	0.00317
Cobalt (Co)-Total		*mg/L*	0.0023	0.0090	0.0035
Copper (Cu)-Total	*formula*	*mg/L*	**0.0026**	**0.0031**	**0.0028**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Total		*mg/L*	01.8	14.0	08.4
Lead (Pb)-Total	*formula*	*mg/L*	**0.00422**	**0.00971**	**0.00862**
Lead Guideline			*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Total		*mg/L*	0.0211	0.0878	0.0840
Magnesium (Mg)-Total		*mg/L*	024	041	025
Manganese (Mn)-Total		*mg/L*	00.1	00.8	00.5
Molybdenum (Mo)-Total		*mg/L*	0.00020	0.00022	0.00020
Nickel (Ni)-Total	*formula*	*mg/L*	0.0330	0.0178	0.0082
Nickel Guideline			*0.19*	*0.27*	*0.20*
Phosphorus (P)-Total		*mg/L*	<0.30	<0.30	<0.30
Potassium (K)-Total		*mg/L*	1.91	3.14	3.35
Selenium (Se)-Total	0.001	*mg/L*	0.00036	<0.00010	<0.00010
Silicon (Si)-Total		*mg/L*	07.0	11.2	10.8
Silver (Ag)-Total	0.0001	*mg/L*	0.000027	0.000031	0.000043
Sodium (Na)-Total		*mg/L*	05.4	21.2	13.8
Strontium (Sr)-Total		*mg/L*	0.45	1.01	0.78
Thallium (Tl)-Total	0.0008	*mg/L*	0.000028	0.00011	0.00007
Tin (Sn)-Total		*mg/L*	0.00018	0.00011	0.0002
Titanium (Ti)-Total		*mg/L*	0.031	0.042	0.044
Uranium (U)-Total	0.015	*mg/L*	0.0019	0.0062	0.0014
Vanadium (V)-Total		*mg/L*	0.0015	0.0033	0.0032
Zinc (Zn)-Total	0.03	*mg/L*	**4.970**	**1.070**	**0.194**
Zirconium (Zr)-Total		*mg/L*	<0.00080	0.0012	<0.00080

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Well Name			P05-04	SRK08-P12A	SRK08-P12B
Sample ID	CCME CWQG-FA		0215-130912-057	0215-130913-013	0215-130913-059
Date Sampled			12/09/2013	13/09/2013	13/09/2013
Time Sampled			15:13	11:35	11:30
Mine Area		*Units*	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit	Zone 2 Outwash/Pit
Dissolved Metals					
Aluminum (Al)-Dissolved	*formula*	*mg/L*	0.0894	**0.0314**	0.0419
Aluminum Guideline			*0.10*	*0.01*	*0.10*
Antimony (Sb)-Dissolved		*mg/L*	<0.00010	0.00042	<0.00010
Arsenic (As)-Dissolved	0.005	*mg/L*	<0.00010	0.0043	<0.00010
Barium (Ba)-Dissolved		*mg/L*	0.0391	0.0401	0.0975
Beryllium (Be)-Dissolved		*mg/L*	0.00011	0.00062	0.00046
Bismuth (Bi)-Dissolved		*mg/L*	<0.00050	<0.00050	<0.00050
Boron (B)-Dissolved	29	*mg/L*	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved	*formula*	*mg/L*	**0.00675**	0.000044	0.000057
Cadmium Guideline			*0.001107*	*0.001082*	*0.001102*
Calcium (Ca)-Dissolved		*mg/L*	095	150	105
Chromium (Cr)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00010
Cobalt (Co)-Dissolved		*mg/L*	0.00201	0.00866	0.00261
Copper (Cu)-Dissolved	*formula*	*mg/L*	**0.00104**	<0.00020	**0.00026**
Copper Guideline			*0.000200*	*0.000200*	*0.000200*
Iron (Fe)-Dissolved		*mg/L*	<0.010	12.6	03.6
Lead (Pb)-Dissolved	*formula*	*mg/L*	0.000174	0.000838	0.000089
Lead Guideline			*0.0010*	*0.0010*	*0.0010*
Lithium (Li)-Dissolved		*mg/L*	0.0231	0.0889	0.0870
Magnesium (Mg)-Dissolved		*mg/L*	024	043	025
Manganese (Mn)-Dissolved		*mg/L*	00.1	00.8	00.5
Molybdenum (Mo)-Dissolved		*mg/L*	<0.000050	<0.000050	<0.000050
Nickel (Ni)-Dissolved	*formula*	*mg/L*	0.0330	0.0149	0.0050
Nickel Guideline			*0.18658*	*0.27148*	*0.19866*
Phosphorus (P)-Dissolved		*mg/L*	<0.30	<0.30	<0.30
Potassium (K)-Dissolved		*mg/L*	1.85	3.11	3.20
Selenium (Se)-Dissolved	0.001	*mg/L*	0.00041	<0.00010	<0.00010
Silicon (Si)-Dissolved		*mg/L*	06.6	10.5	09.5
Silver (Ag)-Dissolved	0.0001	*mg/L*	<0.000010	<0.000010	<0.000010
Sodium (Na)-Dissolved		*mg/L*	05.6	21.1	13.7
Strontium (Sr)-Dissolved		*mg/L*	0.46	0.93	0.72
Thallium (Tl)-Dissolved	0.0008	*mg/L*	0.000015	0.000078	0.000044
Tin (Sn)-Dissolved		*mg/L*	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved		*mg/L*	<0.010	<0.010	<0.010
Uranium (U)-Dissolved	0.015	*mg/L*	0.0017	0.0057	0.0010
Vanadium (V)-Dissolved		*mg/L*	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Dissolved	0.03	*mg/L*	**5.3400**	**1.1500**	**0.1700**
Zirconium (Zr)-Dissolved		*mg/L*	<0.00080	0.0009	<0.00080

APPENDIX D WELL INFORMATION & FIELD RESULTS

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EDI Environmental Dynamics Inc.
2195 2nd Avenue, Whitehorse, YT
Y1A 3T8

Well Name	Well Details			Sample		Purge		Sample In-situ Parameters				Pump Method	QA/QC Rep. ID	Well Notes
	DTW	DTB	SU	Date	Time	Volume	Rate	T	pH	SPC	Turbidity			
	(m TOC)	(m TOC)	(m)	(dd/mmm/yyyy)	(HH:SS)	(L)	(L/min)	(°C)		(µS/cm)	(NTU)			
Cross Valley Dam														
P01-11	1.105	11.068	1.015	12-Sep-13	12:33	60	2.50	5	6.85	0.055	6.45			
P09-C2	0.49	64.400	1.602	12-Sep-13	11:45	220	2.97	4.6	6.42	2299	30.4	Hydrolift		
P05-01-3	1.985	17.765		12-Sep-13	17:50	6	0.462	5.1	6.50	3000	22.5		67	
P05-01-5	1.952	6.550	0.665	12-Sep-13	17:29	6	0.545	5.4	6.49	2575	7.58	peristaltic		
P09-C3	1.402	52.021		12-Sep-13	10:10	300	5.26	4.5	6.80	1039	17.51			
P03-09-6	3.246	19.568		14-Sep-13	9:54	6	0.214	5.4	7.10	1806	5.17	peristaltic		
P03-09-9	4.052	8.349		14-Sep-13	10:22	1.75	0.175	5	6.62	2005	107	peristaltic		
Down Gradient of CVD														
P01-01A	3.82	20.320	0.629	12-Sep-13	8:11	100	2.17	1.7	6.96	1560	0.57	Hydrolift	25	
P01-01B	3.604	35.300	0.576	12-Sep-13	8:36	190	3.11	2.1	7.20	1253	0.29	Hydrolift		
ETA Area														
P09-ETA2	9.774	18.493	0.68	14-Sep-13	11:28	40	2.11	5.8	6.04	6507	3.15	manual	102	
P09-ETA1	6.362	33.370		14-Sep-13	12:53	160		4.6	7.54	434.9	4.73	Hydrolift		Waterra pulled to replace foot valve.
SRK04-3A	5.91	12.348		14-Sep-13	11:28	40	2.22	4.9	5.16	8218	3.15			
SRK05-ETA-BR1				14-Sep-13	12:43	36	3	4.8	5.38	7472	379			Not able to dip at time of sampling; purge volume based on historical purge data.
SRK05-ETA-BR2				14-Sep-13	12:11	80	2.86	4	6.72	3083	79.6			Purged 80 L before sampling as per historical purge data.
Intermediate Dam														
P01-03	2.8	9.720	0.33	12-Sep-13	15:44	40	3.08	4.7	6.38	3354	64.3	Hydrolift		
P01-04A	1.218	53.470	0.2	12-Sep-13	14:30	240	14.12	3.8	6.85	921	2.03	Hydrolift		
P01-04B	1.862	34.100	0.105	12-Sep-13	14:05	200	3.85	3.7	6.67	2126	4.98			
X24-96D	3.504	28.376	0.858	12-Sep-13	16:40	150	4.29	3.6	6.19	3312	13.16			
X25-96A	3.028	9.500	0.43	12-Sep-13	15:00	38	3.80	4.4	7.26	1414	2.83	Hydrolift		
X25-96B	2.91	19.740	0.416	12-Sep-13	15:20	100	3.33	4.3	7.47	1424	1.51	Hydrolift		
Intermediate Dump														
P96-8A	2.32	4.823	0.61	13-Sep-13	16:12	15	0.789	10.2	3.34	11536	3.35	Manual		
P96-8B	2.23	9.360	0.688	13-Sep-13	16:18	40	1.48	8	5.13	12023	5.36	Hydrolift		
P96-6	11.622	18.358		13-Sep-13	8:03	40	1.9	1.2	5.92	3413	0.43			
Main Dump														
SRK08-P9	3.215	5.135	0.78	13-Sep-13	15:18	11	0.611	4.6	7.06	1990	74.6	manual		Stand up broken, top is an additional 70 cm.
Mill Area														
SRK08-p10A	9.275	13.743	0.699	14-Sep-13	17:22	27	2.700	3	6.69	3089	319	Hydrolift		
SRK08-p11A	0.785	12.553	0.68	10-Jan-00	18:09	75	1.92	2.8	6.77	1078	2.02	Hydrolift		
SRK08-p11B	1.038	6.739	0.77	10-Sep-13	18:03	33	1.18	5	6.50	1438	2.76	Hydrolift		
Northeast Dumps														
BH14A	3.027	6.390	11.7	12-Sep-13	13:50	20	0.47	4.4	6.60	5311	6.01	Manual		Very slow recharge; well almost burried by road material
BH14B	3.715	10.060	NA	12-Sep-13	16:50	20	0.116	8.4	6.77	4972	9.57	Hydrolift		Very slow recharge
BH13B	2.592	4.446		12-Sep-13	12:42	11	0.458	2.2	6.61	1361	8.74	Manual		
Second Impoundment														
P03-06-1		26.820	0.912	14-Sep-13	14:59	7	0.159	6	5.06	4189	18.8	Manual		Not able to dip at time of sampling; purge volume based on historical purge data
P03-06-2		23.772	0.912	14-Sep-13	16:01	7	0.219	5.6	5.09	4304	415	Manual		White coloured floating particulates on discharge water.
P03-06-6		13.412	0.912	14-Sep-13	16:21	0.4		6.5	5.96	2899	258	Manual		Purged 800 ml before sampling, slow recahrge.
P03-06-7	11.882			14-Sep-13										Dry well, no data.
P03-01-2	5.032	39.295		14-Sep-13	14:40	10	0.256	6	7.33	435.2	8.01	peristaltic		
P03-01-8	5.497	10.052		14-Sep-13	15:20	2.5	0.109	6.6	5.00	24371	1.91	peristaltic		Slight green colour to discharge water.
P03-03-2	6.905	34.182		14-Sep-13	16:41	10	0.222	7.8	4.46	2793	9.13	peristaltic		
P03-03-4	7.049	23.349		14-Sep-13	17:12	5	0.417	5.6	5.20	1951	6.72	peristaltic		
P03-03-9	6.748	10.119		14-Sep-13	17:50	1.25	0.038	8.2	4.45	29370	3.53	peristaltic		Many large particulates, clogged foot valve.
S-Wells Area														
P09-SIS1	3.567	6.650	0.963	13-Sep-13	15:36	15	0.290	6.3	6.68	7084	284			
P09-SIS2	3.599	6.338	0.987	13-Sep-13	14:30	30	1.300	7.6	6.06	8431	733			
P09-SIS5	3.63	4.610	0.997	13-Sep-13	16:00	3						Manuial		Well went dry after 3L; returned for sample following recharge 24 hours later.
P96-7	4.035	9.884	0.68	13-Sep-13	14:40	35	2.059	2.8	6.93	3989	15.47	Manual		
S1A	4.711	13.149	0.693	14-Sep-13	9:51	50	2.39	2	6.22	791.7	17.8			
S2A	5.149	12.698	1.299	14-Sep-13	8:15	42	2.1	2.6	5.99	2045	209	Manual	14	Discharge water became more turbid while filling sample bottles.
S2B	4.088	7.059	0.578	14-Sep-13	8:29	18	0.474	3.2	6.27	5446	286	Manual		
SRK05-SP4A	3.5	22.330	0.574	13-Sep-13	13:25	100	3.33	4.1	6.10	6273	0.6	Hydrolift		
SRK05-SP5	10.46	14.870	1.076	13-Sep-13	16:40	28	2.33	5.2	6.26	7106	245			Well casing compromized. Not surface casing present, requiers repair.
SRK08-SP7A	2.522	17.732	0.852	14-Sep-13	9:20	90	3.21	2.4	6.51	657.7	11.25			
SRK08-SP7B	2.546	8.637	0.882	13-Sep-13	17:42	36	3.00	3.4	6.73	210.3	33	Manual		
P09-SIS3	3.741	4.632	0.97	13-Sep-13	13:54	7	1.4	6.3	6.36	7347	475			
P09-SIS4	3.932	4.448	0.887	13-Sep-13	12:00	7	0.27	8.5	6.64	5924	703			
S1B			1.199	14-Sep-13										Very slow recharge; not enough water to sample. Stopped pumping at 9:59.
SRK05-SP4B	4.631	4.935	0.86	13-Sep-13	13:35	15	0.231	6.3	6.04	6242	259			
SRK08-SP8A	1.599	11.593	0.89	13-Sep-13	13:54	60	2.07	2.2	5.83	3342	2.04	Hydrolift		Replaced waterra and footvalve.
SRK08-SP8B	1.786	7.035	0.996	13-Sep-13	13:45	30	1.76	1.8	5.74	3670	22	Manual	47	

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2195 2nd Avenue, Whitehorse, YT
Y1A 3T8

	Well Details			Sample		Purge		Sample In-situ Parameters						
Well Name	**DTW**	**DTB**	**SU**	**Date**	**Time**	**Volume**	**Rate**	**T**	**pH**	**SPC**	**Turbidity**	**Pump Method**	**QA/QC Rep. ID**	**Well Notes**
	(m TOC)	(m TOC)	(m)	(dd/mmm/yyyy)	(HH:SS)	(L)	(L/min)	(°C)		(µS/cm)	(NTU)			
SRK05-SP1A	6.885	19.883		13-Sep-13	9:00	60	3.18	1.1	5.63	1917	5.03			
SRK05-SP1B	7.23	13.281		13-Sep-13	9:22	31	3.1	1.4	6.09	1001	105	hydrolift		
SRK05-SP2	1.917	11.545		13-Sep-13	8:22	60	2.5	1.1	6.01	312.3	8.37			
SRK05-SP3A	4.68	23.795		13-Sep-13	10:54	100	4.35	3.9	5.97	1331	10.07			
SRK05-SP3B	3.869	13.149		13-Sep-13	9:58	50	2.08	2.5	5.87	993	5.18	hydrolift	96	
SRK05-SP6		11.795		13-Sep-13										Well is dry
SRK08-SBR1				13-Sep-13										Well Not accessible
SRK08-SBR2	6.22	18.720		13-Sep-13	15:32	75	3.57	3.8	6.08	3030	73.3		84	Slight orange colour to discharge water.
SRK08-SBR3	11.542	13.230		13-Sep-13	12:50	10	0.48	1.8	6.39	5090	31.5	Manual		Slow recharge, stoped pumping to allow recharge twice.
SRK08-SBR4	7.49	21.422		13-Sep-13	17:16	80	4	2.6	6.41	7698	3.12	Hydrolift		
Upstream of Tailings														
TH86-2	1.67	11.565		13-Sep-13	17:14	60	3.16	4.7	7.01	347	10	hydrolift		
TH86-5	8.615	27.400		13-Sep-13	18:10	120	3.33	4.7	6.47	1044	9.51	hydrolift		Discahrge water has lots of large black particulates, metallic odour.
Vangorda / Grum														
P09-LCD1	3.786	7.342	0.928	12-Sep-13	8:06	20	1.54	2.8	6.96	1095	24.7			
P09-LCD4	5.655	12.229	0.866	12-Sep-13	9:41	12		7.3	7.49	1048	12.97			Very slow recharge, requires reduced pumping rated.
P09-LCD6	5.735	7.914	0.745	12-Sep-13	9:15	12	0.600	3.2	6.98	1178	75.3			
P09-VC1	4.054	58.812	0.912	11-Sep-13	16:00	270	4.35	4.7	7.88	309.1	26.4	Hydrolift		
P2001-2A	4.124	6.700	0.353	11-Sep-13	13:15	21	0.368	5.4	6.09	2346		manual		Very turbid and very slow recharge.
P2001-2B	4.021	27.474	0.433	11-Sep-13	13:24	55	0.797	5.3	7.14	2177	415	manual		
P2001-3	36.971	62.420	0.694	11-Sep-13	11:43	150	2.03	3	7.56	828.2	598	Hydrolift		Very low well volume available for pumping.
P96-9A	5.855	9.354	0.841	11-Sep-13	13:44	20	1.25	5.8	6.52	2662	7.68	Hydrolift		
SRK05-09	2.936	3.963	-	11-Sep-13	17:12	3.5	0.233	6.1	7.20	1308	18.88	manual		
SRK05-5C	1.66	3.730	1.031	11-Sep-13	12:19	11	0.37	6.9	7.27	788	107	Manual		Large suspended particulates present in discharge water.
SRK05-7	5.715	6.515	0.658	11-Sep-13	9:18	6.5	0.21	5.3	6.90	2822	37.8	Hydrolift		
SRK05-8	4.847	8.474	0.74	11-Sep-13	10:37	22	0.393	4.4	7.01	2117	0.58			
V34	5.725	12.830	0.536	11-Sep-13	9:05	18	0.346	3.2	6.90	1619	181			
V35	7.193	16.001	0.442	11-Sep-13	10:07	23	0.511	3.1	7.15	2544	7.49	Hydrolift		
V36	8.651	11.870	0.65	11-Sep-13	14:19	20	1.18	4.2	6.80	3191	1.4	Hydrolift		
V37	8.485	14.505	0.462	11-Sep-13	15:28	15	0.341	5.4	7.82	1034	9.45	Hydrolift		Well purged completely until dry, recharge rate very slow.
BH05-9B-R	0.757	19.897	0.942	11-Sep-13	13:20	90	3.33	3.8	7.66	517.9	9.8	Hydrolift		
P09-GS1A	2.275	7.335	0.878	12-Sep-13	11:13	30	1.58	8.6	6.66	1576	6.04	manual	50	
P09-GS1B	2.227	30.478	0.908	12-Sep-13	11:30	160	20	4.9	7.06	1801	3.39	Hydrolift		
P09-VC2	1.695	19.810	0.927	11-Sep-13	14:48	120	4.14	3.7	7.14	335.1	43.2			

APPENDIX E SITE PHOTOGRAPHS

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Photo 3. V35

Photo 4. P2001-3

Photo 5. P2001-2B

Photo 6. P2001-2A

Photo 7. V36

Photo 8. V37

Photo 9. SRK05-P14

Photo 10. P01-01A and P01-01B

Photo 11. P09-C3

Photo 12. P09-C2

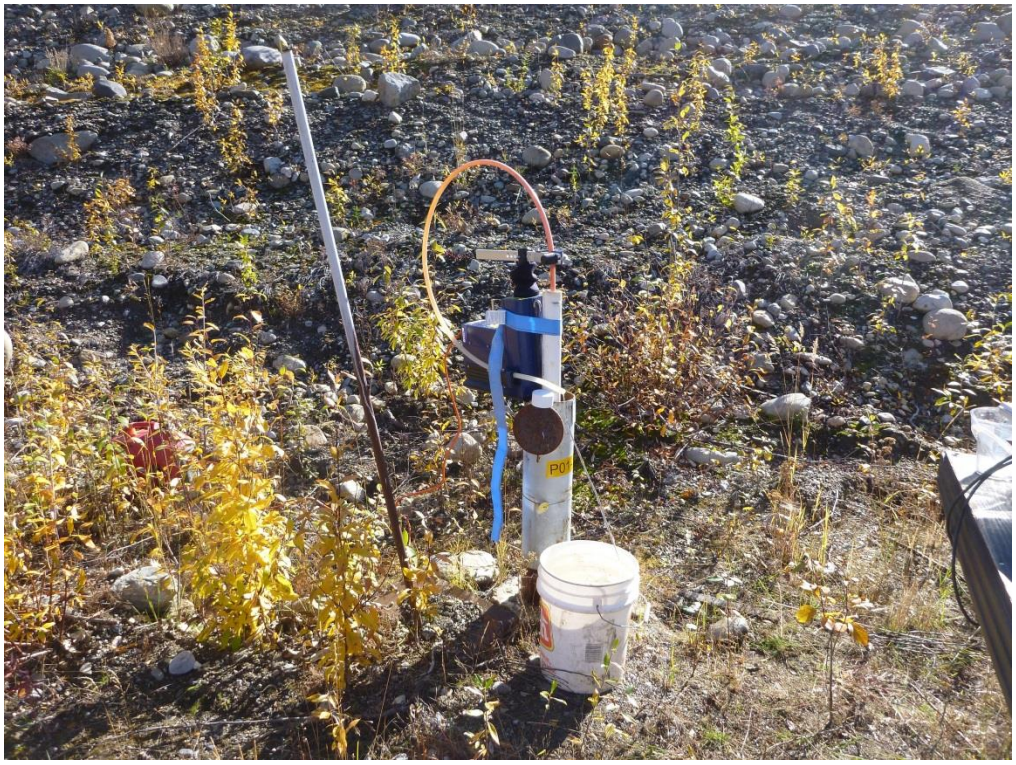

Photo 13. P01-11

Photo 14. P01-04A and P01-04B

Photo 15. P01-03

Photo 16. X24-96D

Photo 17. P05-01

Photo 18. SRK05-SP2

Photo 19. SRK05-SP-1A

Photo 20. SRK05-SP-1B

Photo 21. SRK05-SP-3B

Photo 22. SRK05-SP-3A

Photo 23. P09-SIS4

Photo 24. P09-SIS5

Photo 25. SRK08-SP-4B

Photo 26. SRK05-SP-4A

Photo 27. P09-SIS3

Photo 28. P09-SIS2

Photo 29. SRK08-SBR1

Photo 30. SRK08-SBR2

Photo 31. P09-SIS1

Photo 32. SRK08-SBR4

Photo 33. SRK08-SP7A

Photo 34. SRK08-SP7B

Photo 35. S1A and S1B

Photo 36. S2A and S2B

Photo 37. SRK04-3A

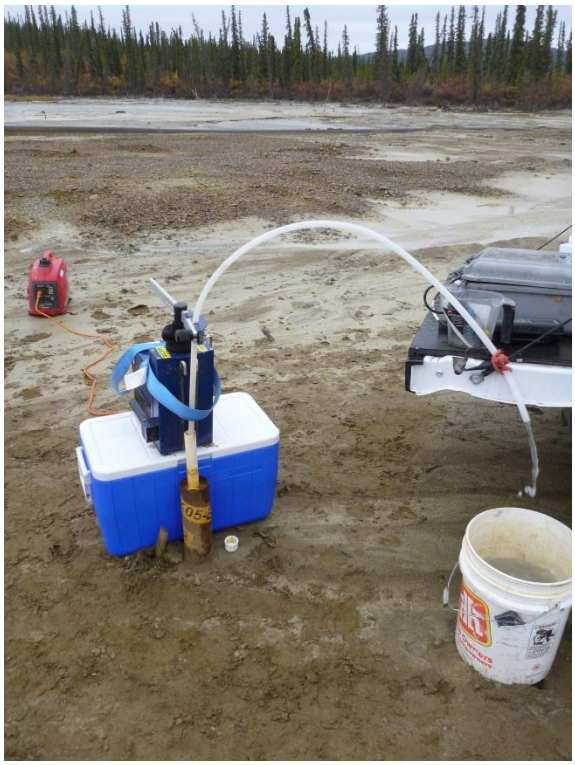

Photo 38. SRK05-ETA-BR2

Photo 39. SRK05-ETA-BR1

Photo 40. P03-06

Photo 41. SRK08-10A

Photo 42. P03-05

Photo 43. SRK05-07

Photo 44. SRK05-8

Photo 45. SRK05-5C

Photo 46. BH05-9B

Photo 47. P96-9A

Photo 48. P09-VC2

Photo 49. P09-VC1

Photo 50. SRK05-P16

Photo 51. SRK05-9

Photo 52. SRK08-P14

Photo 53. P09-LCD1

Photo 54. P09-LCD4

Photo 55. P09-LCD6

Photo 56. GS1 B

Photo 57. GS1 A

Photo 58. BH13B

Photo 59. BH14 A

Photo 60. P05-04

Photo 61. BH6

Photo 62. BH5

Photo 63. P96-6

Photo 64. BH10-A and BH10-B

Photo 65. SRK08-P12-A

Photo 66. SRK08-P12-B

Photo 67. SRK05-SP-6

Photo 68. SRK08-SBR3

Photo 69. SRK08-SP8A

Photo 70. SRK08-SP8B

Photo 71. P96-7

Photo 72. SRK08-P9

Photo 73. P96-8A and P96-8B

Photo 74. TH86-2

Photo 75. TH86-5

Photo 76. P03-09

Photo 77. P09-ETA-1

Photo 78. P09-ETA-2

Photo 79. P03-01

Photo 80. P03-03

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APPENDIX F FIELD NOTES

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Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P03-05-4
Location: Faro Mine Complex, YT
Weather: Overcast ~10°C

Project No. 13-Y-0215
Completed By: CL / LW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A ________ metres
Depth to Bottom of Well Below Top of Casing: B ________ metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = ________ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________
Measured Value (prior to calibration): ________
Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Calibration Solution: ________

Conductivity Meter: Model ________ Serial No. ________
Measured Value (prior to calibration): ________

Dissolved Oxygen Meter: Model ________ Serial No. ________
☐ D.O. Chemet Ampoule

Pump: ☐ None ☐ Peristaltic ☐ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve

Sample Intake Depth: 1/2" ☐ foot valve (steel). use of hydrolift possible

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X ________ = 9 ← as per historical purge data litres
Flow Rate: ________ L/min.
Start Time: 18:04
Finish Time: 18:22

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O₂ (mg/L) or %	Turbidity (NTU)	Remarks
18:06	1	6.7	6.12	1600		7.69	459	cloudy grey
18:08	2	5.0	6.41	1289		2.62	316	"
18:10	3	5.1	6.36	1286		1.79	154	"
18:11	4	4.7	6.34	1303		2.09↓	152	clearing slightly
18:13	5	4.9	6.33	1298		2.13↓	123	"
18:15	6	4.7	6.36	1310		1.57	131	
18:16	7	4.8	6.35	1305		1.88	88.8	" clearing, good recharge
18:19	8	4.6	6.32	1310		1.82	83.4	
18:22	9	4.8	6.34	1314		2.14	76.2	

Bottle Set: 0215 - 130914 - 042

Final Sample Parameters – Date (2013/Sept/14)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
18:22	9	4.8	6.34	1314		2.14	76.2	

Comments:

Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | | | (|) | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☒ Waterra Tubing 24 m 1/2" ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

☐ Development
☒ Purging/Sampling

Groundwater Development and Purging/Sampling Data Sheet

Well No.: SRK08-10A
Location: Faro Mine Complex, YT
Weather:

Project No.: 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 9.275 metres
Depth to Bottom of Well Below Top of Casing: B 13.743 metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = 8.936 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Calibration Buffers: ☐ 4 ☐ 7 ☐ 10

pH Meter: Model ________ Serial No. ________ Measured Value (prior to calibration): ________

Calibration Solution: ________

Conductivity Meter: Model ________ Serial No. ________ Measured Value (prior to calibration): ________

☐ D.O. Chemet Ampoule

Dissolved Oxygen Meter: Model ________ Serial No. ________

Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve

Pump: ☐ None ☐ Peristaltic ☐ Hydrolift

Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~27 litres
Flow Rate: ________ L/min.
Start Time: 17:11
Finish Time: 17:22

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O₂ (mg/L) or %	Turbidity (NTU)	Remarks
17:12	1	4.3	6.42	3174		5.81	140	
17:13	5	3.0	6.53	2954		6.19	343	
17:16	10	3.2	6.54	2935		5.92	365	
17:17	15	3.0	6.50	2977		6.14	304	
17:19	20	3.1	6.48	3030		6.29	276	
17:22	27	3.0	6.69	3089		7.22	319	

0215130914-039

Final Sample Parameters – Date (2013/Sept/14)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
17:22	27	3.0	6.69	3089		7.22	319	Light brown

Comments:

Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | (|) | | | | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. PO3-06-06
Location: Faro Mine Complex, YT
Weather: Cloudy ~ 8°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A _____ metres
Depth to Bottom of Well Below Top of Casing: B 13.412 metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____ Calibration Solution: _____
Conductivity Meter: Model _____ Serial No. _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X _____ = 0.7 litres as per historical purge data
Flow Rate: _____ L/min.
Start Time: 16:20 Finish Time: 16:26

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
16:21	0.4	6.5	5.96	2899		3.04	258	dark brown / black slow recharge - clearing between 400 & 800 ml

Final Sample Parameters – Date (2013/Sept/14) Bottle Set: 0215-130914-010

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
16:21	0.4	6.5	5.96	2899		3.04	258	purged 800 ml before sampling

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||(1)||||||||||||||| Very Silty
Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. PG3-06-07 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** CL/CW
Weather: Cloudy ~8°C **Date:** 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 11.982 metres
Depth to Bottom of Well Below Top of Casing: B _____ metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____ Calibration Solution: _____
Conductivity Meter: Model _____ Serial No. _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X _____ = 7 litres Start Time: _____ Finish Time: _____
Flow Rate: _____ L/min.

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
								dry well, no data

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☐ No If yes: _____
Sheen: ☐ Yes ☐ No If yes: _____
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | Very Silty
Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. PO3-06-01
Location: Faro Mine Complex, YT
Weather: Cloudy ~8°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A _____ metres
Depth to Bottom of Well Below Top of Casing: B 26.82 metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____ Calibration Solution: _____
Conductivity Meter: Model _____ Serial No. _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X _____ = 10 litres (as per historical purge data)
Flow Rate: _____ L/min.
Start Time: 14:15 Finish Time: 14:59

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
14:15	1	6.5	5.05	3715		1.49	95	clear/grey
14:23	2	5.9	5.06	4212		2.11	29.1	↓ turb.
14:28	3	5.6	5.03	4202		1.74	29.3	good recharge
14:36	4	5.9	5.07	4186		2.60	28.6	
14:42	5	6.1	5.04	4166		2.24	17.75	↓ turb
14:52	6	6.7	5.05	4186		2.43	10.32	"
14:59	7	6.0	5.06	4189		2.69	18.80	

Final Sample Parameters – Date (2013/Sept/14) Bottle set: 0215-130914-112

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
14:59	7	6.0	5.06	4189		2.69	18.80	

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear (1) | | | | | | | | | | | | | | | | | | | | Very Silty
Other: _____

Consumables: ☒ Waterra Tubing 2.7m (4") ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

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Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.	P03-06-02	Project No.	13-Y-0215
Location:	Faro Mine Complex, YT	Completed By:	CL/LW
Weather:	Cloudy ~8°C	Date:	2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A ________ metres
Depth to Bottom of Well Below Top of Casing: B 23.772 metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = ________ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X ________ = 7 litres ✗ as per historical purge data
Flow Rate: ________ L/min.
Start Time: 15:15 Finish Time: 16:01

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O₂ (mg/L) or %	Turbidity (NTU)	Remarks
								brown/grey with white floating particles
						2.19	897	delay - trouble re-priming hose
15:29	1	5.6	5.05	4224		2.31	542	↓ turb
15:34	2	5.8	5.07	4271		2.30	468	↓ turb
15:39	3	5.3	5.06	4315		2.51	406	↓ turb
15:42	4	5.3	5.09	4266		2.96	422	
15:46	5	5.3	5.12	4262		1.80	398	
15:56	6	6.1	5.06	4264		2.60	415	
16:01	7	5.6	5.09	4304				

Final Sample Parameters – Date (2013/Sept/14) Bottle Set: 0215-130914-082

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
16:01	7	5.6	5.09	4304		2.60	415	white floaty things on top

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | (|) | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK05 - ETA - BR1
Location: Faro Mine Complex, YT
Weather: light rain ~8°C

Project No. 13-Y-0215
Completed By: CC/CW
Date: 2013 / SEPT /

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A _____ metres
Depth to Bottom of Well Below Top of Casing: B _____ metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____ Calibration Solution: _____
Conductivity Meter: Model _____ Serial No. _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X _____ = ~36 litres - as per historical purge data
Flow Rate: _____ L/min. Start Time: 12:26 Finish Time: 12:43

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
12:31	10	5.0	5.37	7600		2.07	595	light grey w/sheen
12:36	20	4.9	6.39	7560		2.00	467	↓ turb
12:39	30	4.2	5.42	7628		2.12	398	↓ turb
12:43	36	4.8	5.38	7472		1.72	379	

Final Sample Parameters – Date (2013/Sept/14) Bottle Set: 0215-130914-111

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
12:43	36	4.8	5.38	7472		1.72	379	

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | Very Silty
Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: SRK-05-ETA-BR2
Location: Faro Mine Complex, YT
Weather: Overcast Light Rain ~ 7.6 °C
Project No.: 13-Y-0215
Completed By: CC/CW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION (see below)

Depth to water Below Top of Casing: A ________ metres
Depth to Bottom of Well Below Top of Casing: B ________ metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = ________ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Measured Value (prior to calibration): ________
Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Conductivity Meter: Model ________ Serial No. ________ Measured Value (prior to calibration): ________
Calibration Solution: ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

purged 80L before sampling as per historical purge data
* could not access standpipe to proof water level without removing waterra tube

Purge Volume: Well. Vol. X ________ = ________ litres
Flow Rate: ________ L/min.
Start Time: 11:40
Finish Time: 12:11

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
								1" stand pipe
						2.48	405	milky white/grey
11:43	1	6.6	6.62	2727		1.32	192	↓ turb
11:50	20	4.5	6.86	2440		2.21	224	good recharge
11:58	40	3.9	6.77	2810		1.30	136	↓ turb
12:05	60	4.0	6.74	2973		1.63	79.6	↓ turb
12:11	80	4.0	6.72	3083				

Final Sample Parameters – Date (2013/Sept/ 14) Batch 0215-130914-081

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
12:11	80	4.0	6.72	3083		1.63	79.6	

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | | | | | (|) | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK08 - SBR2
Location: Faro Mine Complex, YT
Weather: Drizzle, 5°C
Project No. 13-Y-0215
Completed By: CL / CW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 6.22 metres
Depth to Bottom of Well Below Top of Casing: B 18.72 metres
Diameter Standpipe: C ______ mm

One well volume:
(A-B)*2.0 = ______ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 75 litres
Flow Rate: ______ L/min. Start Time: 15:10 Finish Time: 15:32

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:11	2	5.5	6.6	6665		7.96	199	orange colour
15:18	20	4.3	6.35	3999		3.66	244	
15:21	40	3.8	6.23	3331		2.92	128	
15:28	60	3.9	6.24	3109		2.62	74.1	
15:32	75	3.8	6.08	3030		2.25	73.3	remains slightly orange colour.

Final Sample Parameters – Date (2013/Sept/13) Bottle Set # 0215-130913-079, REP # 084

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
15:32	75	3.8	6.08	3030		2.25	73.3	Sample replicate taken

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | | | (circled) | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK04-3A
Location: Faro Mine Complex, YT
Weather: Overc. 5°C, 5mm Rain

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.910 metres
Depth to Bottom of Well Below Top of Casing: B 8.340 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 12 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____ Calibration Solution: _____
Conductivity Meter: Model _____ Serial No. _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 40 litres
Flow Rate: _____ L/min.
Start Time: 11:10 Finish Time: 11:28

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
11:10	1	5.8	5.55	7712		2.15	311	greyish in colour (greenish/grey) + turb/clear
11:17	10	5.1	5.25	8214		2.05	5.92	
11:21	20	4.9	5.19	8219		2.04	5.57	good recharge
11:24	30	4.9	5.17	8184		2.19	3.79	
11:28	40	4.9	5.16	8218		1.90	3.15	greenish hue/clear

Final Sample Parameters – Date (2013/Sept/14)

Bottle Set: 0215-130914-080

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
11:28	40	4.9	5.16	8218		1.90	3.15	greenish hue/clear

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear (1) | | | | | | | | | | | | | | | | | | | | Very Silty
Other: Mod. silty bottom

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: S28
Location: Faro Mine Complex, YT
Weather: overcast ~3°C

Project No.: 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.088 metres
Depth to Bottom of Well Below Top of Casing: B 7.059 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 5.942 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Measured Value (prior to calibration): ________ Serial No. ________
Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Conductivity Meter: Model ________ Measured Value (prior to calibration): ________ Serial No. ________
Calibration Solution: ________
Dissolved Oxygen Meter: Model ________ Serial No. ________
☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~18 litres
Flow Rate: ________ L/min.
Start Time: 7:50
Finish Time: ________

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
7:51	1	3.5	6.35	2739		2.72	448	Orange in colour
8:00	6	3.1	6.25	2917		7.33	876	Slow recharge (moderate)
8:11	10	3.1	6.23	4536		4.52	186	↓ turb
8:29	18	3.2	6.72	5446		7.58	22	[illegible]

Final Sample Parameters – Date (2013/Sept/ 14) Bottle Set # 0215-130914-073

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
								* hand pump

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | | | | | | | | ⓟ | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: Orange colouration, mixed to light brown

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. S2A
Location: Faro Mine Complex, YT
Weather: Overc, 3°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 14

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.149 metres
Depth to Bottom of Well Below Top of Casing: B 12.698 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = ~15 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~45 litres
Flow Rate: _____ L/min.
Start Time: 7:50 Finish Time: 8:17

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
7:55	5	2.5	5.99	1969		2.36	822	Brown in colour
8:01	22	2.6	5.93	2005		2.71	889	↑ turb.
8:05	30	2.5	5.99	1970		2.35	604	good recharge ↓ turb
8:15	42	2.6	5.99	2045		2.22	209	↓ turb

Final Sample Parameters – Date (2013/Sept/14) 0215-130914-075 (Rep. = 014)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
8:15	42	2.6	5.99	2045		2.22	209	* hydrolift + (water becoming more turbid while filling bottles)

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear | | | | | (1) | | | | | | | | | | | | | | | | Very Silty
Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P03-03-9
Location: Faro Mine Complex, YT
Weather: overcast, mod. wind, 4°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 14

bottle set #0215-130914-110 @ 17:50

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 6.748 metres
Depth to Bottom of Well Below Top of Casing: B 10.119 metres 3.371
Diameter Standpipe: C ______ mm ÷ 2 = 1.685

One well volume:
(A-B)*2.0 = ______ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☑ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 5.055 litres
Flow Rate: ______ L/min. Start Time: 17:18 Finish Time: 17:56

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
17:23	0.25	8.7	3.60	28082		3.35	7.42	
17:26	0.50	6.5	2.59	25262		3.31	9.77	many large particulates
17:29	0.75	9.2	3.40	29507		2.66	12.13	→ clogging foot valve
17:34	1.00	8.6	4.16	29203		3.56	0.32	pumped dry ~0.50 L
17:56	1.25	9.2	4.45	29370		6.28	3.53	
	1.50							cleared up,
	1.75							advised to take sample
	2.00							by CL
	2.50							

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☑ Yes ☐ No If yes: metallic, organic
Sheen: ☐ Yes ☑ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ☒ Very Silty
Other: photos (JD) # 1468 - 71

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. PO3-03-4
Location: Faro Mine Complex, YT
Weather: overcast, mod. wind, 4°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 14

bottle set # 0215-130914-103 @ 17:12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 7.049 metres
Depth to Bottom of Well Below Top of Casing: B 23.349 metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 16.300 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well
÷ = 8.150

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☒ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 24.450 litres
Flow Rate: _____ L/min. Start Time: 16:56 Finish Time: 17:16

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
16:59	0.5	6.3	4.85	1643		2.25	24.9	
17:00	1.0	6.0	5.05	1826		2.51	11.01	
17:01	1.5	5.9	5.13	1905		2.51	10.01	
17:03	2.0	5.8	5.18	1940		2.20	6.91	
17:04	2.5	5.6	5.18	1942		2.21	5.03	
17:05	3.0	5.5	5.18	1945		1.49	7.21	
17:07	3.5	5.5	5.19	1942		1.87	9.53	
17:08	4.0	5.6	5.17	1950		1.78	8.16	
17:09	4.5	5.5	5.18	1950		2.18	5.47	
17:11	5.0	5.6	5.20	1951		2.39	6.72	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) #168-70

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development

☐ Purging/Sampling

Well No. P03-03-2
Location: Faro Mine Complex, YT
Weather: overcast, mod. wind, 5°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 14

bottle set # 0215-130914-105 @ 16:41

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 6.905 metres
Depth to Bottom of Well Below Top of Casing: B 34.182 metres 27.277
Diameter Standpipe: C ______ mm ÷ 2 = 13.687

One well volume:
(A-B)*2.0 = ______ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☑ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 41.051 litres
Flow Rate: ______ L/min. Start Time: 15:42 Finish Time: 16:47

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:55	1.0	8.4	4.51	2625		1.49	20.5	
16:03	2.0	8.6	4.41	2445		2.02	84.9	
16:11	3.0	7.7	4.32	2670		1.81	33.1	
16:14	4.0	6.8	4.39	2647		1.53	18.15	added head pumping.
16:20	5.0	7.8	4.38	2717		1.81	26.1	
16:24	6.0	7.6	4.35	2745		1.91	15.24	
16:28	7.0	7.7	4.35	2782		2.10	11.34	
16:32	8.0	7.7	4.34	2784		2.02	9.45	
16:36	9.0	7.7	4.81	2790		0.73	10.06	
16:40	10.0	7.8	4.46	2793		2.03	9.13	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☑ No If yes: ______
Sheen: ☐ Yes ☑ No If yes: ______
Turbidity: Clear | | M | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) #1468-70

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. POZ-01-8
Location: Faro Mine Complex, YT
Weather: overcast, light wind, 8°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 14

bottle set # 0215-130914-101 @ 15:20

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.497 metres
Depth to Bottom of Well Below Top of Casing: B 10.052 metres 4.555
Diameter Standpipe: C _____ mm ÷ 2 = 2.277 x 3

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☑ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 6.681 litres
Flow Rate: _____ L/min.
Start Time: 14:52 Finish Time: 15:29

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
14:55	0.25	7.3	5.71	24835		3.12	17.02	
14:57	0.50	7.0	5.36	29668		2.98	8.40	
14:59	0.75	7.6	5.21	29300		2.63	6.46	
15:02	1.00	6.8	5.10	28816		4.33	4.81	water has green tinge.
15:04	1.25	6.7	5.17	28333		3.72	3.96	
15:07	1.50	6.9	5.08	27557		3.18	7.88	
15:10	1.75	6.7	5.08	26959		4.11	1.86	
15:13	2.00	6.6	5.05	26618		4.24	2.53	
15:16	2.25	6.5	5.07	26142		3.28	7.00	
15:18	2.50	6.5	5.08	25641		3.53	2.82	
15:28	4.00	6.6	5.00	24371		5.38	1.91	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☑ No If yes: _____
Sheen: ☐ Yes ☑ No If yes: _____
Turbidity: Clear |||||||||||||||||||||||||| Very Silty
Other: photos (3D) 1452-53

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. DO3-01-2 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** BSm, JD
Weather: overcast, light drizzle, 8°C, light wind **Date:** 2013 / SEPT / 14
bottle set #0215-130914-100 @ 14:40

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.032 metres
Depth to Bottom of Well Below Top of Casing: B 39.295 metres 34.263
Diameter Standpipe: C _____ mm ÷ 2 = 17.132 well volume

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☒ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: with assist

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 51.396 litres
Flow Rate: _____ L/min. Start Time: 13:54 Finish Time: 14:46

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
13:59	1.0	6.3	7.42	424.6		3.38	125	
14:03	2.0	6.2	7.24	426.6		3.60	131	
14:07	3.0	6.1	7.38	432.4		4.92	74.6	
14:12	4.0	6.1	7.32	432.8		5.24	30.9	
14:16	5.0	6.1	7.35	431.3		5.75	18.62	
14:20	6.0	6.0	7.35	432.9		5.82	11.99	
14:25	7.0	6.1	7.32	431.9		5.05	9.45	
14:29	8.0	6.1	7.39	434.3		5.39	8.05	
14:34	9.0	6.3	7.40	434.6		5.32	7.51	
14:38	10.0	6.0	7.33	435.2		4.81	8.01	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) #1452-55

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No.: P09-ETA-1
Location: Faro Mine Complex, YT
Weather: overcast, some drizzle, 5°C, light rain

Project No.: 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 14

bottle set #0215-130914-098

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 6.362 metres
Depth to Bottom of Well Below Top of Casing: B 33.370 metres 27.008
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 54.016 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 162.048 litres
Flow Rate: ________ L/min.
Start Time: 11:01
Finish Time: ________

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
11:05	16.0	4.8	7.77	473.0		1.52	19.47	not a pump...
11:10	32.0	4.5	6.68	876		1.68	22.5	
11:14	48.0	4.4	6.69	849		2.18	51.8	
11:17	64.0	4.4	6.82	757.0		2.22	36.9	
11:24	80.0	3.9	6.67	966		2.43	20.8	
11:30	96.0	3.8	6.65	988		3.10	42.7	recharge
11:45	112.0	[illegible]	7.11	499.4		1.46	12.60	recharge — had to pull
12:11	128.0	3.9	7.46	453.5		1.12	7.87	tube - may
[illegible]	144.0	6.5	7.55	439.1		1.80	7.56	recharge — have some
12:[illegible]	160.0	4.6	7.34	434.9		1.14	4.78	outside tubing
								UTM 0585400
								6912808

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: ________
Sheen: ☐ Yes ☐ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) #1448-49

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. PO9-ETA-2 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** BSm, JD
Weather: overcast, some drizzle **Date:** 2013 / SEPT / 4

bottle set 0215-130914-097 @11:28
replicate # 0215-130914-102 @11:40

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 9.774 metres
Depth to Bottom of Well Below Top of Casing: B 18.493 metres 8.719
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 7.438 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☒ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 42.314 litres
Flow Rate: _____ L/min. Start Time: 11:05 Finish Time: 11:41

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
11:07	4.0	6.8	6.01	6463		1.37	16.93	
11:09	8.0	6.5	5.98	6709		1.57	10.31	
11:11	12.0	6.3	5.99	6471		1.76	4.65	
11:13	16.0	6.1	5.89	6759		0.99	3.26	
11:15	20.0	6.0	5.94	6545		1.37	2.48	
11:18	24.0	6.0	6.00	6498		1.31	1.96	
11:20	28.0	5.9	5.96	6757		1.29	1.97	
11:21	32.0	5.9	5.96	6791		1.34	2.18	
11:23	36.0	6.0	5.98	6784		1.60	1.50	
11:26	40.0	5.8	6.04	6507		1.61	3.15	
								UTM 0582700 6913808

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) #1450-51

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.	P96-6 (UNMARKED)	Project No.	13-Y-0215
Location:	Faro Mine Complex, YT	Completed By:	BSm, SD
Weather:	clear, no wind, -3°C	Date:	2013 / SEPT / 13

bottle set # 0215-130913-0SS @ 8:03

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 11.622 metres
Depth to Bottom of Well Below Top of Casing: B 18.358 metres 6.736
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 13.472 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 40.5 litres Start Time: 7:38 Finish Time: 8:05
Flow Rate: ________ L/min.

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
7:41	4.0	1.4	7.10	2963		7.21	17.46	
7:44	8.0	1.3	6.28	3350		7.51	5.67	
7:48	12.0	1.2	5.96	3394		7.31	1.77	
7:52	16.0	1.2	5.59	3405		7.07	1.59	
7:51	20.0	1.2	5.89	3419		7.37	0.57	
7:55	24.0	1.2	5.88	3430		7.63	0.26	
7:57	28.0	1.2	5.91	3423		7.93	0.46	
7:59	32.0	1.2	5.93	3419		7.75	0.50	
8:00	36.0	1.2	5.95	3418		7.84	0.58	
8:02	40.0	1.2	5.92	3413		7.88	0.43	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear ☒ | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (SD) #1397-400
GPS waypoint ok ✓

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. BH8
Location: Faro Mine Complex, YT
Weather: sunny, few clouds, 15°C, mod wind

Project No. 13-Y-0215
Completed By: BSm, SD
Date: 2013 / SEPT / 12

bottle set #0215-130913-008

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 14.735 metres
Depth to Bottom of Well Below Top of Casing: B 20.752 metres 6.017
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 12 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☒ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 36 litres
Flow Rate: _____ L/min.
Start Time: 15:54 Finish Time: SEPT. 13 09:36

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:59	3.5	6.1	4.86	4052		3.48	13.83	
16:02	7.0	4.7	4.82	4167		3.15	25.7	
—	10.5	—	—	—		—	—	- pulled 1.0L @ 17:12
	14.0							- will let recharge over night
	17.5							
	21.0							
	24.5							
	28.0							15.045 m DEPTH TO WATER
	31.5							AFTER 17+ HOURS.
	35.0							TOOK SAMPLE @ 11.0L PURGED

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
09:36	11.0	3.8	4.33	4206		3.24	36.1	

Comments:
Odour: ☐ Yes ☐ No If yes: _____
Sheen: ☐ Yes ☐ No If yes: _____
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (SD) #

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK08-P12B
Location: Faro Mine Complex, YT
Weather: sunny, clear skies, 10°C

Project No. 13-Y-0215
Completed By: BSm + JD
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.645 metres
Depth to Bottom of Well Below Top of Casing: B 8.423 metres
Diameter Standpipe: C 51 mm

6.583

One well volume:
(A-B)*2.0 = 12.766 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

#0845-130913-059 @ 11:30

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 38.298 litres
Flow Rate: _____ L/min.
Start Time: 11:11 Finish Time: 11:29

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
11:13	4.0	1.3	5.29	1138		3.45	82.9	
11:16	8.0	1.5	5.25	1140		4.08	45.0	
11:17	12.0	1.3	5.29	1091		4.90	28.9	
11:19	16.0	1.4	5.26	1044		4.87	25.1	
11:20	20.0	1.3	5.23	1038		3.92	31.4	
11:22	24.0	1.8	5.24	1042		4.43	50.0	
11:23	28.0	1.4	5.26	1002		5.25	32.7	
11:25	32.0	1.6	5.20	1007		4.36	34.8	
11:26	36.0	1.2	5.22	998		4.95	40.3	
11:29	40.0	1.8	5.22	998		4.35	359	
								UTM 0585 227
								6918691

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||X|||||||||||||||||| Very Silty
Other: photos (JD) #1410-11
suspect flooding in spring
Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

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Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK08-D12-A
Location: Faro Mine Complex, YT
Weather: sunny, clear skies, 10°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 13

bottle set #0215-130913-013 @ 11:35

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.059 metres
Depth to Bottom of Well Below Top of Casing: B 12.656 metres
Diameter Standpipe: C 51 mm

10.597

One well volume:
(A-B)*2.0 = 21.194 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 63.582 litres
Flow Rate: _____ L/min.
Start Time: 10:59 Finish Time: 11:37

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
11:01	6.0	1.9	5.35	1520		3.58	102	
11:05	12.0	1.7	5.29	1507		2.02	75.5	
11:09	18.0	1.6	5.29	1486		2.35	127	
11:12	24.0	1.7	5.38	1484		2.66	63.9	
11:15	30.0	1.5	5.23	1448		3.09	31.8	
11:18	36.0	1.4	5.18	1444		3.64	23.4	
11:21	42.0	1.5	5.21	1434		4.44	20.8	
11:24	48.0	1.4	5.17	1423		4.32	19.99	
11:28	54.0	1.4	5.20	1419		4.62	20.3	
11:31	60.0	1.6	5.20	1417		5.25	23.8	
								UTM 0585227
								6916888

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |X| Very Silty
Other: photos (SD) # 1405-09
suspect flooding in spring
Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. BH1073
Location: Faro Mine Complex, YT
Weather: clear skies, 1°C

Project No. 13-Y-0215
Completed By: BSm, SD
Date: 2013 / SEPT / 13

bottle set # 0215-130913-007 @ 15:16

MONITORING WELL INFORMATION

see notes below

Depth to water Below Top of Casing: A _____ metres
Depth to Bottom of Well Below Top of Casing: B _____ metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____
NO "SKINNY DIPPER" TYPE, USED PURGE Volumes From STATS/DATA SHEETS

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X _____ = 73.3 litres
Flow Rate: _____ L/min.
Start Time: 08:24 Finish Time: 10:40

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
8:34	7.0	2.3	4.93	1377		9.57	7.60	
8:48	14.0	2.3	5.17	1306		4.07	2.74	- well too small to fit dipper in with waterra
9:02	21.0	2.6	4.99	1326		4.42	3.38	so used parameters from list to determine well Vol.
9:16	28.0	2.6	5.10	1318		3.45	4.94	- used dipper afterwards
9:30	35.0	2.7	5.04	1332		2.57	9.09	- good purging
9:44	42.0	2.8	5.14	1321		3.74	4.12	
9:58	49.0	3.0	5.17	1341		2.88	1.60	
10:12	56.0	3.0	5.11	1332		3.34	2.37	
10:26	63.0	3.3	5.12	1374		2.75	3.66	
10:40	70.0	3.2	5.28	1368		3.57	4.84	- pulled waterra @ 10:40
								- dipped well @ 11:45
								7.355 depth to water below top of casing

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |X| Very Silty
Other: 2.0m/l purge rate 7.0l/14m. PHOTOS (JD) 1401–1404

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development

☐ Purging/Sampling

Well No. BH10A

Location: Faro Mine Complex, YT

Weather: clear skies, 1°C

Project No. 13-Y-0215

Completed By: BSm, JD

Date: 2013 / SEPT / 13

bottle set #0215-130913-056 @ 10:11

replicate #0215-130913-033 @ 10:17

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A see notes below metres

Depth to Bottom of Well Below Top of Casing: B ________ metres

Diameter Standpipe: C ________ mm

One well volume:

(A-B)*2.0 = ________ litres - for a 51 mm (2.0 inch) diameter well

(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10

Measured Value (prior to calibration): ________

Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________

Measured Value (prior to calibration): ________

Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule

Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve

Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X ________ = 45.5 litres

Flow Rate: ________ L/min. Start Time: 08:24 Finish Time: 10:18

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
8:39	4.5	2.2	5.32	950		7.04	5.20	
8:49	9.0	2.2	5.34	970		3.28	8.09	- well too small to fit dipper
9:01	13.5	2.2	5.27	955		4.29	4.02	+ waterra so used
9:13	18.0	2.3	5.50	985		2.70	4.30	parameters from list to
9:21	22.5	2.4	5.40	994		2.38	6.09	determine well volume
9:29	27.0	2.4	5.47	976		2.80	8.57	- used dipper afterwards
9:41	31.5	2.7	5.47	1014		3.16	4.51	
9:51	36.0	2.7	5.47	1004		2.30	3.54	- good purging
10:01	40.5	2.9	5.43	1022		2.63	3.03	
10:10	45.0	2.9	5.54	997		3.14	1.79	- pull waterra @ 10:40
								- dipped well @ 11:45
								7.345 depth to water below top of casing

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: ________

Sheen: ☐ Yes ☒ No If yes: ________

Turbidity: Clear ☒ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty

Other: ________

3.0 m / l. 4.5 l / 13.5 m. Photos (JD) 1401 – 1404

Consumables: ☐ Waterra Tubing ________ ☒ HDPE Tubing ________ ☐ Groundwater Filter ________

☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK08-SBR3
Location: Faro Mine Complex, YT
Weather: sunny, clear skies, 16°C, light wind
Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 13

bottle set #0215-130913-011 @ 12:50

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 11.542 metres
Depth to Bottom of Well Below Top of Casing: B 13.230 metres 1.687
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 3.374 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☒ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 10.122 litres
Flow Rate: ________ L/min. Start Time: 12:28 Finish Time: 13:01

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
12:30	1.0L	4.2	6.26	5066		5.60	31.8	
12:32	2.0	2.9	6.48	5089		6.77	93.9	
12:33	3.0	1.8	6.39	5092		4.35	80.9	
12:34	4.0	1.7	6.41	5075		5.56	55.8	
12:35	5.0	2.2	6.39	5038		6.72	44.6	
12:37	6.0	3.4	6.60	5059		6.44	39.2	recharge.
12:45	7.0	5.3	6.70	5196		11.24	49.0	
12:46	8.0	2.4	6.63	5296		6.47	36.7	
12:48	9.0	2.2	6.49	5121		6.40	34.6	
12:49	10.0	1.8	6.39	5090		5.19	31.5	recharge for sample

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | ☒ | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photo (JD) # 1414-15

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development

☐ Purging/Sampling

Well No. SRK05-SP-6 **Project No.** 13-Y-0215

Location: Faro Mine Complex, YT **Completed By:** BSm, SD

Weather: Sunny, clear skies, 16°C light wind **Date:** 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A N/A metres

Depth to Bottom of Well Below Top of Casing: B 11.795 metres

Diameter Standpipe: C _____ mm

One well volume:

(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well

(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10

Measured Value (prior to calibration): _____

Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____

Measured Value (prior to calibration): _____

Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule

Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve

Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X _____ = _____ litres

Flow Rate: _____ L/min. Start Time: _____ Finish Time: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
								Well is dry

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: _____

Sheen: ☐ Yes ☐ No If yes: _____

Turbidity: Clear |---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---| Very Silty

Other: Photos (SD) #2412-13

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____

☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK08-SP8B
Location: Faro Mine Complex, YT
Weather: sunny, clear, light wind 18°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 13

bottle set #0215-130913-045@13:45
replicate set #0215-130913-047@13:47

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.786 metres
Depth to Bottom of Well Below Top of Casing: B 7.035 metres 5.249
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 10.498 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☒ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 31.5 litres
Flow Rate: _____ L/min. Start Time: 13:25 Finish Time: 13:49

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
13:26	3.0	2.6	6.30	4257		2.93	52.6	
13:29	6.0	2.8	5.80	3854		1.38	35.9	
13:30	9.0	1.7	5.90	3853		3.07	28.2	
13:32	12.0	2.0	5.72	3741		3.03	21.0	
13:33	15.0	1.8	5.78	3823		3.37	19.15	
13:35	18.0	2.0	5.73	3701		2.91	20.6	
13:36	21.0	1.8	5.74	3702		2.61	20.0	
13:38	24.0	2.1	5.67	3625		2.49	31.7	
13:40	27.0	2.2	5.68	3520		3.17	21.4	pumps + recharges well
13:42	30.0	1.8	5.74	3670		2.74	22.0	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) #1418-19

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK08-P9 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** BSm, JD
Weather: sunny, clear, light wind, 20°C **Date:** 2013 / SEPT / 13
bottle set #0215-130913-044 @ 15:18

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.215 metres
Depth to Bottom of Well Below Top of Casing: B 5.135 metres 1.920
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 3.840 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 11.520 litres
Flow Rate: _____ L/min. Start Time: 14:59 Finish Time: 15:23

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:03	1.0	5.0	7.04	2743		3.14	34.9	
15:05	2.0	6.0	7.00	2689		5.61	31.6	
15:07	3.0	4.6	6.99	2468		7.11	40.4	
15:08	4.0	4.8	7.02	2321		7.76	49.5	
15:09	5.0	4.6	7.03	2245		7.66	49.6	-stand-up is broken ∴ top is additional 7.0 cm.
15:10	6.0	4.7	7.02	2184		7.72	47.2	
15:12	7.0	4.9	7.03	2158		8.81	38.4	
15:13	8.0	4.4	7.05	2146		8.40	30.0	
15:14	9.0	4.6	7.06	2125		8.83	30.7	
15:16	10.0	4.9	7.02	2054		8.61	42.8	
15:17	11.0	4.6	7.06	1990		8.50	74.6	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||X|||||||||||||||||||| Very Silty
Other: photos (JD) #1423-25

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.	P96-8B	**Project No.**	13-Y-0215
Location:	Faro Mine Complex, YT	**Completed By:**	BSn / DD
Weather:	Sun.	**Date:**	2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.236 metres
Depth to Bottom of Well Below Top of Casing: B 9.360 metres
Diameter Standpipe: C ____ mm

One well volume:
(A-B)*2.0 = 14.320 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ____ Serial No. ____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ____
Conductivity Meter: Model ____ Serial No. ____ Calibration Solution: ____
Measured Value (prior to calibration): ____
Dissolved Oxygen Meter: Model ____ Serial No. ____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 42.96 litres
Flow Rate: ____ L/min. Start Time: 1550 Finish Time: 1621

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1553	4.0	8.8	5.20	11854		1.14	1.16	
1556	8	8.3	4.75	11871			1.77	
1558	12	8.3	4.71	11898			3.07	
1600	16	8.2	4.79	11903			1.89	
1604	20	8.3	4.75	11908			3.44	
1607	24	8.0	4.74	11994			2.75	
1609	28	8.1	4.77	11950			3.45	
1612	32	8.0	4.78	11997			3.43	
1614	36	8.1	5.08	11989			6.00	
1617	40	8.0	5.13	12023		1.77	5.36	

Final Sample Parameters – Date (2013/Sept/13) Bottle Set # 0215-130913-052

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1612	40	8.0	5.13	12023		1.77	5.36	

Comments:
Odour: ☐ Yes ☒ No If yes: ____
Sheen: ☐ Yes ☒ No If yes: ____
Turbidity: Clear (circled) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ____

Consumables: ☐ Waterra Tubing ____ ☐ HDPE Tubing ____ ☐ Groundwater Filter ____
☐ Silicon Tubing ____ ☐ D.O. Ampoules ____ ☐ Other: ____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P96-9A
Location: Faro Mine Complex, YT
Weather:
Project No. 13-Y-0215 13
Completed By: JD / BS
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.320 metres
Depth to Bottom of Well Below Top of Casing: B 4.823 metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 5.006 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 15 litres
Flow Rate: _____ L/min. Start Time: 1552 Finish Time: 1617

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1554	1.5	10.4	3.54	11121		1.59	6.45	
1557	3	10.9	3.42	11288			3.99	
1559	4.5	10.6	3.52	11296			2.54	
1601	6	10.4	3.48	11347			2.86	
1603	7.5	10.4	3.35	11418			3.68	
1605	9	10.3	3.63	11393			3.63	
1606	10.5	10.2	3.33	11463			5.14	
1608	12	10.4	3.53	11440			3.26	
1610	13.5	10.5	3.51	11389			3.06	
1611	15	10.2	3.34	11536		2.59	3.35	

Final Sample Parameters – Date (2013/Sept/13) Bottle Set # 0215-130913-032

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1612	15	10.2	3.34	11536		2.59	3.35	V. cardic

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear ☒ | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. TH86-2 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** JD/BSm
Weather: Sm **Date:** 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.670 metres
Depth to Bottom of Well Below Top of Casing: B 11.565 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 9.895 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 59 litres
Flow Rate: _____ L/min. Start Time: 1655 Finish Time: 16:17

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1652	6	5.8	6.36	782		557	78.5	
1659	12	5.1	6.81	390.5			23.5	
1700	18	4.9	6.90	357.5			16.23	
1702	24	5.2	6.95	349.6			15.55	
1704	30	5.0	7.01	350.3			13.89	
1706	36	5.0	7.03	352.7			12.88	
1708	42	4.9	7.08	349.7			11.93	
1710	48	4.8	7.07	348.7			12.64	
1712	54	4.7	7.03	346.2			12.09	
1714	60	4.7	7.01	347.0		5.73	10.00	

Final Sample Parameters – Date (2013/Sept/13) BOTTLE SET # 0215-130913-011

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1714	60	4.7	7.01	347.0		5.73	10.00	

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear (6) Very Silty
Other: Well casing is metal - rusting - adding rust debris to well water. ☐ No well cap.

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. TH86-5 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** JD / BSm
Weather: Sun **Date:** 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 8.615 metres
Depth to Bottom of Well Below Top of Casing: B 24.400 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 39.57 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 118.710 litres
Flow Rate: _____ L/min. Start Time: 17:32 Finish Time: 18:12

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1737	12	5.2	6.52	1057		1.64	24	black particulates
1746	24	4.8	6.51	1056			13.71	
1743	36	4.7	6.64	1051			15.39	
1747	48	4.8	6.71	1043			14.86	
1750	60	4.6	6.43	1052			12.83	
1755	72	5.4	6.47	1042			11.49	
1759	84	4.7	6.42	1050			10.21	
1802	96	4.5	6.48	1045			16.45	
1805	108	4.5	6.47	1046			10.77	
1808	120	4.7	6.47	1044		1.98	9.51	

Final Sample Parameters – Date (2013/Sept/13) Bottle Set # 0125-130913-048

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1810	120	4.7	6.47	1044		1.98	9.51	

Comments:
Odour: ☒ Yes ☐ No If yes: Metallic odour, rusty metal casing
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |○| Very Silty
Other: Black coloured particulates for duration of pumping

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

~~X !!! no well # on the sheet!~~

Groundwater Development and Purging/Sampling Data Sheet

☐ Development

☐ Purging/Sampling

Well No.: BH13B ~~[illegible]~~

Location: Faro Mine Complex, YT

Weather: sunny, few clouds, 12°C, light wind

Project No.: 13-Y-0215

Completed By: BSm, JD

Date: 2013 / SEPT / 12

bottle set #0215-130912-064 @ 12:42

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.592 metres

Depth to Bottom of Well Below Top of Casing: B 4.446 metres

Diameter Standpipe: C 51 mm

One well volume:

(A-B)*2.0 = 3.768 litres - for a 51 mm (2.0 inch) diameter well

(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10

Measured Value (prior to calibration): ______

Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______

Measured Value (prior to calibration): ______

Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule

Pump: ☒ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve

Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 11.304 l litres

Flow Rate: ______ L/min.

Start Time: 12:17 Finish Time: 12:44

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
12:19	1.0	3.0	7.47	1318		10.77	81.3	
12:21	2.0	2.9	7.15	1297		10.54	65.2	
12:23	3.0	2.5	6.95	1324		10.42	41.4	
12.25	4.0	3.0	6.79	1283		9.48	46.8	
12:27	5.0	3.6	6.77	1347		10.15	36.5	
12:31	6.0	4.5	6.86	1348		10.22	43.8	
12:33	7.0	4.2	6.74	1348		10.25	23.8	
12:36	8.0	2.1	6.88	1366		11.12	22.1	
12:38	9.0	2.8	6.68	1331		10.73	19.5	
12:39	10	2.2	6.78	1356		10.91	10.35	
12:41	11	2.2	6.61	1361		10.41	8.74	Good Purged, Good Recovery

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: ______

Sheen: ☐ Yes ☐ No If yes: ______

Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty

Other: ______

photos (SD) 1381, 82, 83

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______

☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No.: SRK08 - SP7B
Location: Faro Mine Complex, YT
Weather: Sun, 15°C
Project No.: 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT /

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.516 metres
Depth to Bottom of Well Below Top of Casing: B 8.637 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 12 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: HAND PUMP to W. Stream

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 36.5 litres
Flow Rate: ______ L/min. Start Time: 17:30 Finish Time: ______

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1736	1	5.5	7.34	385		2.63	49.5	cold, light brown.
1737	10	3.8	7.07	210.5		1.80	31.5	" Excellent flow, good recharge.
1739	20	3.8	6.83	212.3		1.88	31.1	"
1742	36	3.4	6.73	210.3		2.59	33.0	" SAMPLE.

Final Sample Parameters – Date (2013/Sept/ 13) Bottle Set # 0215 – 130913 – 078

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1742	36	3.4	6.73	210.3		2.59	33	Good Sample

Comments:
Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | | ⊠ | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: light orange brown color

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK08 -SBR4
Location: Faro Mine Complex, YT
Weather: Sunny ~ 18°C

Project No. 13-Y-0215
Completed By: CL / LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 7.490 metres
Depth to Bottom of Well Below Top of Casing: B 21.422 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 27.864 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~83.6 litres
Flow Rate: ________ L/min.
Start Time: 16:56 Finish Time: 17:16

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O2 (mg/L) or %	Turbidity (NTU)	Remarks
16:57	1	4.4	6.79	5658		3.53	19.49	clear
17:01	20	2.9	6.54	7570		2.18	8.54	↓ turb /clear
17:06	40	3.2	6.38	7599		2.14	3.61	v. clear good recharge
17:12	60	2.8	6.18	7537		1.75	1.95	as above.
17:16	80	2.8	6.41	7698		5.11	3.12	SAMPLE

Final Sample Parameters – Date (2013/Sept/13) Btl6 Set # 0215-130913-076

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
17:16	80	2.8	6.41	7698		5.11	3.12	Good Sample - v. clear

Comments:

Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear (circled) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☒ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No.: P96-7
Location: Faro Mine Complex, YT
Weather: sunny, clear, 20°C, light wind

Project No.: 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 13

bottle set # 0215-130913-046 @ 14:40

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.035 metres
Depth to Bottom of Well Below Top of Casing: B 9.884 metres 5.849
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 11.698 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 35.094 litres
Flow Rate: ______ L/min.
Start Time: 14:22 Finish Time: 14:44

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
14:24	3.5	3.5	6.64	4032		16.72	21.6	
14:26	7.0	2.9	6.88	4019		15.38	30.3	
14:29	10.5	3.2	6.88	3992		14.39	24.8	
14:31	14.0	2.8	6.95	3981		14.19	16.50	
14:32	17.5	2.6	6.88	3947		14.41	19.13	
14:33	21.0	3.5	6.88	3708		12.96	16.61	
14:35	24.5	2.7	7.02	4016		14.58	14.89	
14:36	28.0	2.6	6.93	3965		13.75	21.0	
14:38	31.5	2.5	6.93	4004		14.07	15.92	
14:39	35.0	2.8	6.93	3989		15.51	15.47	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) # 1420-22

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SPRK08 - SP8A
Location: Faro Mine Complex, YT
Weather: sunny, clear, light wind 18°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 13
bottle set #0215-130913-043 @ 13:54

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.599 metres
Depth to Bottom of Well Below Top of Casing: B 11.593 metres 9.994
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 19.988 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 60 litres
Flow Rate: _____ L/min.
Start Time: 13:24 Finish Time: 13:58

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
13:27	6.0	2.4	5.91	3531		2.28	30.7	
13:31	12.0	1.9	5.72	3388		2.81	14.16	
13:34	18.0	1.8	5.74	3361		2.73	9.11	
13:37	24.0	1.7	5.69	3338		3.16	7.16	
13:39	30.0	1.9	5.66	3324		2.73	5.41	
13:42	36.0	1.8	5.68	3310		3.11	3.60	
13:45	42.0	2.4	5.67	3332		2.41	2.68	
13:47	48.0	2.10	5.89	3329		2.95	3.00	
13:51	54.0	2.3	5.66	3378		1.80	2.47	pumps & recharges well
13:53	60.0	2.2	5.83	3342		2.60	2.04	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) # 1416-17
replaced waterra

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK05-SP-5
Location: Faro Mine Complex, YT
Weather: Sunny ~ 18°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 10.460 metres
Depth to Bottom of Well Below Top of Casing: B 14.870 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 8.82 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~ 26.5 litres
Flow Rate: ______ L/min.
Start Time: 16:28 Finish Time: 16:40

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O₂ (mg/L) or %	Turbidity (NTU)	Remarks
16:32	20	4.3	6.46	7146		2.60	619	dark brown / good recharge
16:36	27	5.2	6.26	7106		2.61	245	↓ turb.
								Well casing compromized. No
								surface casing present. Needs repair

Final Sample Parameters – Date (2013/Sept/13) Bottle # 0125-130913-083

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1640	28	5.2	6.26	7106		2.61	245	Good Sample

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | (|) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: Slightly orange-brown colour

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☒ Groundwater Filter Waterra
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P09-SIS1
Location: Faro Mine Complex, YT
Weather: Sunny ~18°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.576 metres
Depth to Bottom of Well Below Top of Casing: B 6.650 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 6.148 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~18.5 litres
Flow Rate: _____ L/min.
Start Time: 14:45 Finish Time: 15:36

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
14:45	2	8.1	7.00	5192		3.02	807	Orange in colour/slow recharge
15:15	10	6.6	6.68	7068		4.40	556	" , no odour
15:36	15	6.3	6.68	7084		5.63	284	↓ turb.

Final Sample Parameters – Date (2013/Sept/13) Bottle Set #: 0215-130913-87

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
15:36	15	6.3	6.68	7084		5.63	284	

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||(1)||||||||||||||| Very Silty
Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☑ Purging/Sampling

Well No. P09-S152 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** CL/LW
Weather: Sunny ~15°C **Date:** 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.599 metres
Depth to Bottom of Well Below Top of Casing: B 6.338 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = ~5.5 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~16.5 litres
Flow Rate: _____ L/min. Start Time: 1417 Finish Time: 1430

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1417	1	9.7	6.24	8050		1.97	691	Orang brown colour -
1420	5	8.2	6.16	8144		1.70	652	producing sand @ start
1423	10	7.8	6.10	8253		2.29	652	
1430	30	7.6	6.06	8431		1.98	733	

Final Sample Parameters – Date (2013/Sept/13) ~~0215~~ Bottle Sol # 0215-130913-094

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1430	30	7.6	6.06	8431		1.98	733	

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| (1) Very Silty
Other: _____

Consumables: ☒ Waterra Tubing 7m ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☒ Other: foot valve

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P09-SIS3
Location: Faro Mine Complex, YT
Weather: Sunny ~15°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT /

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.741 metres
Depth to Bottom of Well Below Top of Casing: B 4.632 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 1.782 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~5.5 litres
Flow Rate: ______ L/min. Start Time: 13:49 Finish Time: 13:54

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
13:51	2	6.8 ?	6.53	7754		4.39	552	Orangy / brown
13:54	7	6.3	6.36	7347		2.14	475	" / good recharge.

Final Sample Parameters – Date (2013/Sept/13) Bottle Set: 0215-130913-092

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
13:54	7	6.3	6.36	7347		2.14	475	

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | (|) | | | Very Silty
Other: ______

Consumables: ☒ Waterra Tubing 6m ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☒ Other: foot valve

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK05-SP-4A
Location: Faro Mine Complex, YT
Weather: Sunny ~15°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.500 metres
Depth to Bottom of Well Below Top of Casing: B 22.339 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 37.66 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~113 litres
Flow Rate: ______ L/min.
Start Time: 12:55
Finish Time: 13:30

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
12:56	2	4.5	5.92	4921		4.33	44.8	~~slightly turbid~~
13:03	20	4.0	6.02	6264		4.56	2.83	– clear
13:09	40	4.3	6.27	6218		4.08	0.95	– v. clear / good recharge
13:15	60	5.0?	6.08	6115		3.36	0.81	
13:20	80	4.0	6.00	6165		3.27	0.82	– v. clear
13:25	100	4.1	6.10	6273		3.85	0.60	

Final Sample Parameters – Date (2013/Sept/13) Bottle Set: 0215-130913-095

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
13:25	100	4.1	6.10	6273		3.85	0.60	

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: (Clear) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.	SRK05 - SP- 4B	**Project No.**	13-Y-0215
Location:	Faro Mine Complex, YT	**Completed By:**	CL/LW
Weather:	Sunny ~ 15°C	**Date:**	2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.631 metres
Depth to Bottom of Well Below Top of Casing: B 4.935 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = ~2 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~6 litres
Flow Rate: ________ L/min. Start Time: 12:30 Finish Time: 13:50

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
								start: brownish/orange - clearing later / slow recharge
12:31	2	6.2	6.18	5732		6.92	743	Well surface casing comes apart.
13:35	15	6.3	6.04	6242		6.87	259	DATA LOGER NOT IN WELL
								WILL ATTEMPT SAMPLE; added longer tube
								@ ~14 L - well water cleared up

Final Sample Parameters – Date (2013/Sept/13) Bottle Set: 0215-130913-088

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
13:35	15	6.3	6.04	6242		6.87	259	

Comments:

Odour: ☐ Yes ☐ No If yes: ________
Sheen: ☐ Yes ☐ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | (|) | | | | | | | | | Very Silty
Other: ________

Consumables: ☒ Waterra Tubing 6 m ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☒ Other: foot valve

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P09 - SIS5
Location: Faro Mine Complex, YT
Weather: Sun, 15°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.630 metres
Depth to Bottom of Well Below Top of Casing: B 4.610 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 1.96 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 5.88 litres
Flow Rate: ______ L/min. Start Time: 11.19 Finish Time: ______

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
11:19	1	7.7	6.30	5256		1.55	802	v. turbid/dark brown/sand.
11:20	2	7.5	6.32	4861		1.67	791	v. slow recharge
11:45	3	11.1	6.71	5090		8.51	604	"
	4							WELL WENT DRY. V. SLOW RECHARGE
	5							-WILL RETURN TO SAMPLE
	6							
								Returned on Sept 14

Final Sample Parameters – Date (2013/Sept/ 13) Bottle Set # 0215-130913-109

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☐ No If yes: ______
Sheen: ☐ Yes ☐ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: V. slow recharge, sample taken day following purge

Consumables: ☑ Waterra Tubing 2M ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☑ Silicon Tubing 8" ☐ D.O. Ampoules ______ ☒ Other: foot valve

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: P09 - S154
Location: Faro Mine Complex, YT
Weather: Sun, ~15°C
Project No.: 13-Y-0215
Completed By: CL / LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.932 metres
Depth to Bottom of Well Below Top of Casing: B 4.448 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 1.032 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~3 litres
Flow Rate: ______ L/min. Start Time: 11:34 Finish Time: 12:00

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
11:36	0.5	8.6	6.62	6119		7.59	781	orange colour / good recharge
11:51	5	~~6.7~~	~~6.77~~	~~6013~~		~~10.75~~	902	can't read meter (condensation)
12:00	7	8.5	6.64	5924		7.02	703	light orange (cleared a bit)

Final Sample Parameters – Date (2013/Sept/13) Bottle set #: 0215-130913-085

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
12:00	7	8.5	6.64	5924		7.02	703	

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty (circled)
Other: orange colour

Consumables: ☒ Waterra Tubing 2m ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☒ Other: foot valve

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK05-SP-3A
Location: Faro Mine Complex, YT
Weather: clear, sunny 9.9 °C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.680 metres
Depth to Bottom of Well Below Top of Casing: B 23.795 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 38.23 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~115 litres
Flow Rate: ______ L/min.
Start Time: 10:31
Finish Time: 10:54

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
10:32	2	3.3	6.01	1361		2.64	13.70	clear
10:37	20	2.9	6.07	1340		2.52	9.51	↓ turb.
10:41	40	3.5	5.92	1325		1.78	10.13	v. good recharge
10:45	60	2.8	6.04	1353		3.03	74.5	cloudy / rapid pumping
10:49	80	3.1	5.98	1335		2.26	37.0	↓ turb ↓ pumping rate
10:54	100	3.9	5.97	1331		2.86	10.07	↓ turb ↓ pumping rate

Final Sample Parameters – Date (2013/Sept/13) Bottle #: 0215-130913+093

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
10:54	100	3.9	5.97	1331		2.86	10.07	

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear (marked at Clear) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☑ Purging/Sampling

Well No. SRK 05= SP-3B
Location: Faro Mine Complex, YT
Weather: Sun, 10°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.809 metres
Depth to Bottom of Well Below Top of Casing: B 13.149 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 18.6 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 56.0 litres
Flow Rate: _____ L/min. Start Time: 9:43 Finish Time: 9:58

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
9:44	1	3.3	5.93	1021		2.91	32.3	greyish/brown (cleared up quickly)
9:48	10	2.6	5.96	991		2.92	10.39	↓turb / clear.
9:50	20	2.2	5.94	989		2.39	9.57	
9:53	30	2.3	5.83	982		2.04	7.86	clear
9:55	40	2.1	5.83	990		1.93	5.73	
9:58	50	2.5	5.87	993		2.47	5.18	

Final Sample Parameters – Date (2013/Sept/13) Bottle # 0215-1309 13-086 (replicate = 096)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
9:58	50	2.5	5.87	993		2.47	5.18	

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear (1) | | | | | | | | | | | | | | | | | | | | Very Silty
Other: took replicate sample 096

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. ~~SP05~~ SRK05-SP-1B
Location: Faro Mine Complex, YT
Weather: Sun, 7°C

Project No. 13-Y-0215
Completed By: CL / LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 7.234 metres
Depth to Bottom of Well Below Top of Casing: B 13.284 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 12.102 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: *handpump

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 36 litres
Flow Rate: ________ L/min. Start Time: 9:12 Finish Time: 9:24

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
9:13	1	1.8	6.48	982		3.82	32.5	light orange colour/good recharge
9:19	20	1.5	6.14	1000		2.33	89.6	↑ turb / darker orange
9:22	31	1.4	6.09	1001		2.16	105	

Final Sample Parameters – Date (2013/Sept/) 0215-1309-13-091

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☐ No If yes: ________
Sheen: ☐ Yes ☐ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK05-SP1A
Location: Faro Mine Complex, YT
Weather: Sun, 5°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 6.885 metres
Depth to Bottom of Well Below Top of Casing: B 19.883 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = ~26 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = ~78 litres
Flow Rate: ________ L/min. Start Time: 08:41 Finish Time: 0900

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
8:43	1	1.3	5.72	1834		5.77	4.27	clear
8:49	20	1.1	5.68	1914		6.04	3.60	" / good recharge
8:53	40	1.1	5.64	1912		2.38	5.07	" "
8:57	60	1.1	5.63	1917		2.50	5.03	" "

Final Sample Parameters – Date (2013/Sept/ 13) Bottle # 0215-130913-089

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
0900	60	1.1	5.63	1917		2.50	5.03	Good Sample

Comments:

Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear (1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development

☒ Purging/Sampling

Well No. SRK05-GP-2 **Project No.** 13-Y-0215

Location: Faro Mine Complex, YT **Completed By:** CL/LW

Weather: Clear, 2.3°C **Date:** 2013 / SEPT / 13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.917 metres

Depth to Bottom of Well Below Top of Casing: B 11.545 metres

Diameter Standpipe: C 52 mm

One well volume:

(A-B)*2.0 = ~20 litres - for a 51 mm (2.0 inch) diameter well

(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10

Measured Value (prior to calibration): _____

Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____

Measured Value (prior to calibration): _____

Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule

Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve

Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 60 litres

Flow Rate: _____ L/min. Start Time: 07:58 Finish Time: 8:30

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
8:01	1	1.6	6.77	313.8		4.82	87.9	
8:08	20	1.3	6.05	310.5		2.94	24.1	↓turb / good recharge
8:14	40	1.1	6.15	313.1		2.66	10.76	↓turb
8:22	60	1.1	6.01	312.3		2.04	8.37	/ good recharge / sample

Final Sample Parameters – Date (2013/Sept/13) Bottle set # 0215-130913-090

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
8:22	60	1.1	6.01	312.3		2.04		Good Sample

Comments:

Odour: ☐ Yes ☑ No If yes: _____

Sheen: ☐ Yes ☒ No If yes: _____

Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty

Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____

☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. BH5
Location: Faro Mine Complex, YT
Weather: sunny, few clouds, med. wind, 14°C
Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 12
bottle set #0215-130912-060 @ 17:42

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 7.119 metres
Depth to Bottom of Well Below Top of Casing: B 7.940 metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 16 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☒ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 30 litres
Flow Rate: _____ L/min. Start Time: 17:25 Finish Time: 17:46

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
17:29	3.0	3.9	6.21	804.0		1.78	181	
17:30	6.0	3.3	6.94	650.1		1.79	180	
17:31	9.0	3.0	6.82	639.8		2.09	266	
17:33	12.0	2.8	6.79	651.6		2.28	242	
17:34	15.0	3.0	6.73	644.9		2.04	257	
17:35	18.0	2.8	6.66	648.1		2.07	159	
17:36	21.0	2.6	6.63	648.2		2.08	111	
17:38	24.0	2.8	6.59	647.3		1.78	89.4	
17:39	27.0	2.8	6.61	647.6		2.12	74.8	
17:40	30.0	2.7	6.61	648.7		2.15	68.2	

Δ bottom previously measured @ 8.281 ... bottom filled with silt ?
(high sediment content in water)
- bottom of well very soft
- well flooded in Spring

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) #1395-96

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. BH14B
Location: Faro Mine Complex, YT
Weather: sunny, some clouds, mod. wind 14°C

Project No. 13-Y-0215
Completed By: BSm, SD
Date: 2013 / SEPT / 12
bottle set # 0215-130912-058 @ 16:50

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.715 metres 6.345
Depth to Bottom of Well Below Top of Casing: B 10.060 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 12.8 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 40 litres
Flow Rate: _____ L/min. Start Time: 13:57 Finish Time: 16:59

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
14:00	4.0	4.2	6.67	4584		4.81	25.1	
14:03	8.0	4.9	6.52	4502		6.60	32.3	recharge
14:40	12.0	4.1	6.91	4667		9.50	23.7	recharge
16:20	16.0	4.5	6.11	4858		4.53	14.40	depth to water below casing: @ 5.35m, 16:15
16:57	20.0	8.4	6.77	4972		10.25	9.57	recharged
	24.0							
	28.0							
	32.0							
	36.0							
	40.0							
								recharge rate ~ 1.0 L/min

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||X|||||||||||||||||| Very Silty
Other: photos (JD) # 1388

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

8.235

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. BH6
Location: Faro Mine Complex, YT
Weather: sunny, few clouds, mod. wind 15°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 12
bottle set # 0215-130912-053 @ 15:35

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.277 metres
Depth to Bottom of Well Below Top of Casing: B 6.652 metres 6.652
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 6.750 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 20.25 litres
Flow Rate: _____ L/min. Start Time: 15:21 Finish Time: 15:36

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:23	2.0	4.3	6.10	900		2.59	27.2	
15:24	4.0	4.6	6.13	884		3.69	20.6	
15:26	6.0	4.6	5.98	901		3.14	15.77	
15:27	8.0	3.9	5.91	927		2.34	15.96	
15:28	10.0	3.9	5.93	925		2.41	15.39	
15:29	12.0	3.6	5.90	933		2.83	14.71	
15:30	14.0	3.3	5.85	924		1.87	13.05	
15:31	16.0	3.7	5.90	929		3.01	11.43	
15:32	18.0	3.7	5.85	931		2.53	11.59	
15:33	20.0	3.7	5.84	928		2.29	11.44	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) # 1392-94, water had amber tinge @ start

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. POS-04 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** BSm, JD
Weather: sunny, few clouds, mod. wind, 15°C **Date:** 2013 / SEPT / 12
bottle set # 0215-130912-057 @ 15:13

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.014 metres
Depth to Bottom of Well Below Top of Casing: B 7.028 metres 4.014
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 8 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 24 litres
Flow Rate: _____ L/min. Start Time: 14:58 Finish Time: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:00	2.5	3.8	6.44	957		2.53	38.8	
15:01	5.0	3.6	5.97	859.5		2.26	19.40	
15:02	7.5	3.6	5.85	823.6		2.25	11.30	
15:04	10.0	3.7	5.86	814.1		2.84	8.33	
15:05	12.5	2.9	5.82	824.6		2.99	6.72	
15:06	15.0	3.2	5.76	813.4		3.07	5.23	
15:07	17.5	3.2	5.77	812.7		3.02	5.09	
15:09	20.0	3.8	5.77	812.5		2.26	5.68	
15:10	22.5	2.9	5.81	811.6		2.98	3.94	
15:11	25.0	3.0	5.71	813.9		2.49	4.59	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: _____
Sheen: ☐ Yes ☐ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) 1389-91

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. BH14A
Location: Faro Mine Complex, YT
Weather: sunny, some clouds, mod. wind 14 °C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 12
bottle set # 0215-130912-012 @13:50

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.027 metres 3.363
Depth to Bottom of Well Below Top of Casing: B 6.390 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 6.8 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☒ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 20.4 litres
Flow Rate: _____ L/min. Start Time: 13:06 Finish Time: 13:52

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
13:10	2.0	6.0	6.45	4551		6.51	19.46	
13:12	4.0	5.2	6.58	4684		5.42	22.1	
13:13	6.0	4.2	6.50	4917		3.88	9.89	recharge
13:22	8.0	4.7	6.59	5075		3.17	4.85	
13:23	10.0	4.7	6.47	5010		3.76	9.25	
13:25	12.0	4.4	6.53	5097		6.11	10.38	recharge.
13:36	14.0	4.7	6.51	5300		4.10	6.49	
13:38	16.0	5.2	6.54	5221		4.68	13.30	
13:39	18.0	4.8	6.52	5252		5.42	9.38	recharge
13:49	20.0	4.4	6.60	5311		4.84	6.01	
								- recharge ok.
								well almost buried by road material

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||||||||| Very Silty
Other: photos (JD) 1384-88

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P09-GS1B
Location: Faro Mine Complex, YT
Weather: clear skies, 8°C, mod. wind

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 12

bottle set # 0215-130912-051 @ 11:30

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.227 metres
Depth to Bottom of Well Below Top of Casing: B 30.478 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 56 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☑ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 168 litres
Flow Rate: _____ L/min. Start Time: 10:38 Finish Time: 11:32

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
10:44	20	5.4	6.71	1897		1.29	17.79	
10:50	40	4.8	6.87	1897		3.08	18.29	
10:57	60	5.0	6.87	1858		3.50	16.57	
11:04	80	5.0	6.80	1823		4.89	12.41	
11:10	100	5.1	6.87	1831		6.61	31.4	
11:17	120	4.9	7.08	1811		6.82	18.82	
11:23	140	5.0	7.05	1804		7.20	6.72	
11:30	160	4.9	7.06	1801		7.43	3.39	
								UTM 0592484
								6904835

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) # 1377-78
Purge 101 / 2:54, 160 (16x3m) 48 mins

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

* parameters on list of wells have been switched between P09-GS1B + P09-GS1A

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. MW09-GS1A
Location: Faro Mine Complex, YT
Weather: clear skies, mod. wind, 10°C
Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 12

BOTTLE SET # 0215-130912-015 @ 11:13
DUPLICATE BOTTLE SET # 0215-130912-050 @ 11:18

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.275 metres 5.060
Depth to Bottom of Well Below Top of Casing: B 7.335 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 10 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☑ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 30 litres
Flow Rate: _____ L/min. Start Time: 10:50 Finish Time: 11:20

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
10:52	3.0	8.2	6.65	1589		1.46	15.33	
10:53	6.0	8.5	6.66	1585		1.91	20.0	
10:55	9.0	8.4	6.62	1588		1.21	16.57	
10:59	12.0	8.7	6.65	1580		1.51	11.29	
11:00	15.0	8.3	6.61	1585		1.70	7.92	
11:02	18.0	8.3	6.63	1583		1.66	12.60	
11:03	21.0	8.2	6.62	1584		1.45	16.43	
11:05	24.0	8.6	6.60	1578		1.36	8.17	
11:08	27.0	8.6	6.64	1575		1.24	4.51	
11:09	30.0	8.6	6.66	1576		1.59	6.04	
								UTM 0529495 6904834

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||X|||||||||||||||||| Very Silty
Other: photos (JD) # 1379, 80

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No.	P09 - LCD4	**Project No.**	13-Y-0215
Location:	Faro Mine Complex, YT	**Completed By:**	BSm, SD
Weather:	clear skies, 5°C	**Date:**	2013 / SEPT / 12

MONITORING WELL INFORMATION

BOTTLE SET # 0215-130912 - 017 @ 09:41

Depth to water Below Top of Casing: A 5.655 metres
Depth to Bottom of Well Below Top of Casing: B 12.22 metres 6.574
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 13 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 40 litres
Flow Rate: ______ L/min. Start Time: 8:26 Finish Time: 9:50

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
8:27	4.0	2.9	7.16	1079		2.25	42.1	
8:30	8.0	3.1	7.35	1069		9.81	12.97	changed pump rate, too high
9:45	12.0	7.3	7.49	1048		10.40		wait for recharge
	16.0							9:29, water lvl 11.455
	20.0							no recharge, sample
	24.0							taken @ 12.06
	28.0							
	32.0							
	36.0							
	40.0							

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: ______
Sheen: ☐ Yes ☐ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (SD) # 1373-74

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No.	P09 - LCD6	**Project No.**	13-Y-0215
Location:	Faro Mine Complex, YT	**Completed By:**	BSm, JD
Weather:	clear skies, 5°C	**Date:**	2013 / SEPT / 12

bottle set #0215-130912-049 @ 9:15

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.735 metres
Depth to Bottom of Well Below Top of Casing: B 7.914 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 4.35 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 13.0 litres
Flow Rate: ________ L/min. Start Time: 8:53 Finish Time: 9:16

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
8:55	1.0	3.5	7.44	1157		3.86	222	
8:58	2.0	3.3	7.08	1163		2.14	130	
8:59	3.0	3.3	7.02	1166		2.33	69.0	
9:01	4.0	3.3	6.99	1164		1.67	59.1	
9:02	5.0	3.3	6.98	1174		1.42	45.2	
9:04	6.0	3.4	6.97	1198		1.60	46.7	
9:05	7.0	3.3	6.97	1191		2.02	62.3	
9:07	8.0	3.2	6.97	1185		1.80	37.3	
9:08	9.0	3.2	6.96	1187		1.80	28.6	
9:09	10.0	3.3	6.97	1177		2.09	76.5	
9:11	11.0	3.2	6.99	1203		2.51	67.9	UTM 0593314
9:13	12.0	3.2	6.98	1178		2.43	75.2	6903248

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ☒ | | | Very Silty
Other: photos (JD) 1375-76

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P09-LCD1 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** BSm, JD
Weather: clear, 5°C **Date:** 2013 / SEPT / 12

bottle set # 0215-130912-018 @ 8:06

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.786 metres 3.556
Depth to Bottom of Well Below Top of Casing: B 7.342 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 7 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 21 litres
Flow Rate: _____ L/min. Start Time: 7:52 Finish Time: 8:07

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
7:53	2.0	3.4	7.04	1050		2.12	143	
7:55	4.0	3.1	6.99	1073		2.07	105	
7:56	6.0	2.9	6.97	1074		2.28	90.3	
7:57	8.0	2.9	6.96	1074		1.83	75.6	- pump + recharge wire good.
7:58	10.0	2.8	6.95	1092		2.21	70.8	
8:00	12.0	2.8	6.93	1093		1.66	44.7	
8:01	14.0	2.9	6.94	1086		1.94	50.8	
8:02	16.0	2.9	6.95	1089		2.33	48.9	
8:04	18.0	3.0	6.98	1085		2.17	28.4	
8:05	20.0	2.8	6.96	1095		1.96	24.7	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||||X||||| Very Silty
Other: photos (D) 1371-72

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

SRK08-P16?

☐ Development

☐ Purging/Sampling

Well No.	SRK05-P16	**Project No.**	13-Y-0215
Location:	Faro Mine Complex, YT	**Completed By:**	BSm, JD
Weather:	overcast, mod wind, 15°C	**Date:**	2013 / SEPT / 11

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 7.245 metres
Depth to Bottom of Well Below Top of Casing: B 7.420 metres 0.215
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 0.430 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____

Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____

Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule

Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve

Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = _____ litres
Flow Rate: _____ L/min. Start Time: _____ Finish Time: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
								- wpt off (projection?)
								- only 0.215 m of "water,"
								mostly, very sticky,
								viscus mud.
								- no sample taken

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: _____

Sheen: ☐ Yes ☐ No If yes: _____

Turbidity: Clear |||||||||||||||||||||||||| X Very Silty

Other: photos (JD) # 1361-65

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____

☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development

☐ Purging/Sampling

Well No.: SRK 05-9
Location: Faro Mine Complex, YT
Weather: mostly cloudy, 16°C, mod. wind
Project No.: 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 11

bottle set # 0215-130911-005

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.936 metres 1.027
Depth to Bottom of Well Below Top of Casing: B 3.963 metres
Diameter Standpipe: C 38 mm

One well volume:
(A-B)*2.0 = ________ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = 1.1297 litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 3.5 litres
Flow Rate: ________ L/min. Start Time: 16:57 Finish Time: 17:13

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
16:58	0.5	7.3	7.28	1427		8.62	452	UTM 592947
17:01	1.0	6.1	7.38	1362		8.55	85.3	6905161
17:02	1.5	5.7	7.39	1336		7.91	51.9	
17:04	2.0	5.7	7.59	1276		8.58	31.5	
17:06	2.5	6.4	7.31	1314		62.7	68.2	
17:12	3.5	6.1	7.20	1308		6.91	18.88	recharge was ok

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: ________
Sheen: ☐ Yes ☐ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) #1367-68

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK 08-11B
Location: Faro Mine Complex, YT
Weather: partly cloudy, ~15°C

Project No. 13-Y-0215
Completed By: JD, BS, CL
Date: 2013 / SEPT / 10

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.038 metres
Depth to Bottom of Well Below Top of Casing: B 6.739 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 11.402 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model YSI Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model YSI Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model YSI Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☑ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ~2m ABOVE BOTTOM.

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 34.2 litres
Flow Rate: GOOD FLOW L/min. Start Time: 17:34 Finish Time: ______

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
17:37	3.0	5.8	6.45	1470		1.68	14.94	
17:40	6.0	4.9	6.44	1459		8.90%	6.32	
17:43	9.0	5.0	6.42	1447		7.20%	4.32	
17:46	12.0	4.6	6.41	1442		1.14	3.63	
17:49	15.0	4.7	6.45	1437		1.90	3.76	
17:51	18.0	4.5	6.49	1423		2.60	3.03	ADJUST FLOW RATE UPWARDS.
17:54	21.0	4.7	6.49	1435		1.92	3.62	
17:56	24.0	4.6	6.48	1437		1.70	3.12	
17:58	27.0	4.6	6.52	1430		1.88	3.48	
18:00	30.0	4.6	6.53	1460		1.24	7.56	
18:02	33.0	5.0	6.56	1438		1.29	2.76.	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
18:05	33.0	4.9	6.50	1447		1.46	2.80	

Comments:

Odour: ☐ Yes ☐ No If yes: ______
Sheen: ☐ Yes ☐ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

SAMPLE ID 0215-130910-031

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development

☐ Purging/Sampling

Well No.: SRK05-08
Location: Faro Mine Complex, YT
Weather: overcast, 10°C, mod. wind
BOTTLE SET 0215-130911-027 bottle set # 0215-130911-027 @10:37

Project No.: 13-Y-0215
Completed By: JD, BSm
Date: 2013 / SEPT / 11

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.817 metres
Depth to Bottom of Well Below Top of Casing: B 3.494 metres 3.627
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 7.254 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 22 litres
Flow Rate: ________ L/min. Start Time: 9:47 Finish Time: 10:43

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
9:51	2.0	4.3	6.88	2052		6.72	20.6	
9:55	4.0	4.2	6.86	2018		6.56	14.03	
9:58	6.0	4.3	6.77	2039		5.92	15.19	
10:01	8.0	4.1	6.84	2051		6.57	9.39	
10:05	10.0	4.3	6.77	2080		6.09	8.86	
10:09	12.0	4.3	6.97	2104		9.94	5.87	
10:17	14.0	4.3	7.01	2107		9.95	2.85	
10:25	16.0	4.5	6.97	2118		9.72	1.94	
10:30	18.0	4.4	7.05	2123		10.36	1.15	
10:35	20.0	4.4	7.00	2124		10.08	1.05	
10:43	22.0	4.4	7.01	2117		10.19	0.58	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: ________
Sheen: ☐ Yes ☐ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: Good Recharge, Slow Purging
PHOTOS (JD) 1345, 46.

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No.: SRK05-07
Location: Faro Mine Complex, YT
Weather: SLIGHT RAIN, CLOUDY, WINDY
Project No.: 13-Y-0215
Completed By: JD, BSm
Date: 2013 / SEPT / 11 9:18

★ BOTTLE SET 0215-130911-029

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.715 metres
Depth to Bottom of Well Below Top of Casing: B 6.515 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 1.6 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☑ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ~6.0 m.

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 4.8 L litres
Flow Rate: ______ L/min. Start Time: 8:50 Finish Time: 9:18.

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
8:54	1.0	6.1	6.97	2786		7.42	219	
8:56	1.5	4.9	6.96	2847		7.90	246.	STOPPED
9:06	2.0	6.3	7.00	2814		7.53	144	
9:10	2.5	5.3	6.90	2825		7.03	81.9	
9:12	3.5	5.3	6.74	2820		6.90	62.5	
9:14	4.0	5.0	6.88	2824		6.81	46.4	
9:16	5.0	5.0	6.79	2824		6.43	27.2	
9:21	6.5	5.3	6.90	2822		8.44	37.8	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☐ No If yes: ______
Sheen: ☐ Yes ☐ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: GOOD RECHARGE, POOR PUMPING w/ 5/8 WATERRA.
PHOTOS (50) 134344 WATERRA TUBING TOO SHORT TO PUMP, CUT NEW PIECE

Consumables: ☑ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

(!) NEED WATERRA EXTENSION PIECE 7/8 O.D. TUBING

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK05-SC
Location: Faro Mine Complex, YT
Weather: overcast, mod. wind, ~12°C

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 11

bottle set # 0215-130911-006 @ 12:19

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.655 metres 2.075
Depth to Bottom of Well Below Top of Casing: B 3.730 metres
Diameter Standpipe: C 38 mm

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = 2.2825 litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 6.9 litres
Flow Rate: _____ L/min. Start Time: 12:03 Finish Time: 12:33

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
12:05	1.0	7.1	7.49	584.5		0.66	197	
12:06	2.0	6.6	7.40	629.5		0.99	99.2	
12:08	3.0	6.6	7.38	730.9		1.33	155	
12:10	4.0	6.8	7.27	836		1.27	85.7	
12:11	5.0	6.7	7.27	905		1.45	95.5	
12:13	6.0	6.3	7.35	650.2		1.29	49.1	
12:15	7.0	6.4	7.30	830		1.51	155	
12:18	8.0	6.5	7.32	927		1.88	43.4	
12:33	11.0	6.9	7.27	788		0.87	107	-recharge is good -large sediments

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||||||||| ☒ Very Silty like chocolate milk
Other: no cap on well
photos (JD) #1347-48, 49

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. BH05-9B-R
Location: Faro Mine Complex, YT
Weather: overcast, ~15°C, mod. wind.
Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 11
bottle set # 0215-130911-026 @

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 0.757 metres 19.140
Depth to Bottom of Well Below Top of Casing: B 19.897 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 38.280 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model YSI Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model YSI Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model YSI Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☑ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ~16 m.

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 120 litres
Flow Rate: ________ L/min. Start Time: 12:53 Finish Time: ________

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
12:54	10	4.2	7.71	510.4		1.83	29.7	
12:59	20	4.5	7.65	509.6		2.33	16.45	
13:01	30	4.2	7.64	510.2		1.65	7.17	
13:04	40	3.9	7.65	510.0		1.62	6.46	
13:06	50	3.8	7.66	509.6		2.47	6.29	
13:09	60	3.8	7.66	512.8		1.81	7.05	
13:12	70	3.8	7.67	508.7		2.16	8.52	
13:15	80	3.9	7.68	516.0		2.65	11.34	
13:20	90	3.8	7.66	517.9		1.83	9.80	
	100							

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☐ No If yes: ________
Sheen: ☐ Yes ☐ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) 1350-53
Good Recovery, Good Pumping

Consumables: ☐ Waterra Tubing ____ ☐ HDPE Tubing ____ ☐ Groundwater Filter ____
☐ Silicon Tubing ____ ☐ D.O. Ampoules ____ ☐ Other: ____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P96-9A
Location: Faro Mine Complex, YT
Weather: partly cloudy, mod. wind 15°C
Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 11
BOTTLE SET # 0215-130911-002

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.855 metres
Depth to Bottom of Well Below Top of Casing: B 9.354 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 7.0 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 21.0 litres
Flow Rate: _____ L/min. Start Time: 13:27 Finish Time: 13:44

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
13:28	2.0	5.9	6.57	2579		1.54	12.31	
13:29	4.0	6.1	6.57	2602		2.51	11.16	
13:30	6.0	5.9	6.56	2641		2.41	9.14	
13:32	8.0	5.8	6.55	2644		2.33	5.58	
13:33	10.0	5.7	6.56	2648		2.64	4.60	
13:34	12.0	5.8	6.56	2664		2.58	3.94	
13:36	14.0	6.0	6.54	2671		2.61	2.80	
13:37	16.0	5.8	6.58	2674		2.82	2.96	
13:43	20.0	5.8	6.52	2662		2.18	7.68	pump + recharge good.

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||X||||||||||||||||||||| Very Silty
Other: PHOTOS (JD) 1354-55

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. PO9-VCZ
Location: Faro Mine Complex, YT
Weather: partly cloudy, 15°C, mod. wind

Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 11

bottle set # 0215-130911-004 @ 14:48

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.695 metres 8.115
Depth to Bottom of Well Below Top of Casing: B 19.810 metres
Diameter Standpipe: C _____ mm

One well volume:
(A-B)*2.0 = 36.230 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 110 litres
Flow Rate: _____ L/min. Start Time: 14:22 Finish Time: 14:52

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
14:25	10	4.5	7.68	431.2		1.84	276	
14:28	20	4.0	7.36	348.3		1.79	374	
14:30	30	4.0	7.29	342.6		2.49	191	
14:33	40	4.0	7.25	339.3		2.59	96.3	
14:35	50	4.0	7.23	336.8		2.20	74.7	
14:37	60	4.0	7.23	338.5		2.15	65.4	
14:40	70	3.8	7.18	340.4		2.15	89.4	
14:42	80	4.1	7.22	337.4		2.14	92.0	- recharge is good
14:45	90	3.8	7.18	335.9		1.60	67.3	- wpts. off
14:47	100	3.7	7.15	335.2		1.94	56.7	
14:51	120	3.7	7.14	335.1		1.63	43.2	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☐ No If yes: _____
Sheen: ☐ Yes ☐ No If yes: _____
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) # 1356-57

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P09 - VC1
Location: Faro Mine Complex, YT
Weather: overcast, mod. wind, ~13°C
Project No. 13-Y-0215
Completed By: BSm, JD
Date: 2013 / SEPT / 11
bottle set #0215-130911-001 @ 16:30

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.054 metres 54.758
Depth to Bottom of Well Below Top of Casing: B 58.812 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 109.516 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 330 litres
Flow Rate: ________ L/min. Start Time: 15:03 Finish Time: ________

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:13	30	4.9	7.76	162.2		1.70	6.79	
15:19	60	4.6	7.84	297.4		2.12	4.34	
15:26	90	4.4	7.89	303.3		2.20	17.81	
15:32	120	4.6	7.91	300.4		2.11	22.8	
15:38	150	4.6	7.84	304.9		2.86	26.7	
15:45	180	4.7	7.88	306.8		2.25	28.2	← pump + recharge are good!
15:52	210	4.4	7.85	305.8		2.37	26.4	
15:58	240	4.7	7.86	308.3		1.82	26.3	
16:05	270	4.7	7.88	309.1		1.94	26.4	
	300							

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | Very Silty
Other: photos (JD) #1358-59, 60

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. POS-01-03 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** CL/LW
Weather: Sunny ~15°C **Date:** 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.985 metres
Depth to Bottom of Well Below Top of Casing: B 17.765 metres
Diameter Standpipe: C 5/8" ~~mm~~

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X ~ _____ = _____ litres
Flow Rate: _____ L/min. Start Time: 17:37 Finish Time: 17:51

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
17:39	1	6.1	5.8?	2848		1.95	656	grey/silty
17:41	2	5.3	6.44	2992		0.95	240	↓ turb.
17:44	3	5.2	6.50	2986		2.62	76.3	↓ turb
17:46	4	5.2	6.50	2995		2.58	35.1	↓ turb.
17:48	5	5.2	6.50	2988		2.30	25.2	↓ turb.
17:50	6	5.1	6.50	3000		2.01	22.5	
								note: replicate taken

Final Sample Parameters – Date (2013/Sept/12) Bottle # 0215-130912-071 (REP = 067)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
17:50	6	5.1	6.50	3000		2.01	22.5	

Comments:
Odour: ☐ Yes ☑ No If yes: _____
Sheen: ☐ Yes ☑ No If yes: _____
Turbidity: Clear | | | (10) | | | | | | | | | | | | | | | | | | | | Very Silty
Other: _____

Consumables: ☑ Waterra Tubing 18m ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. PO5-01-05 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** CL/LW
Weather: Sun, 15°C **Date:** 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.952 metres
Depth to Bottom of Well Below Top of Casing: B 6.550 metres
Diameter Standpipe: C 5/8" ~~mm~~

One well volume:
(A-B)*2.0 = _____ litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☑ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X _____ = _____ litres
Flow Rate: 0.3 L/min. Start Time: 17:18 Finish Time: 17:30

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
17:20	1	6.6	6.52	2581		2.42	22.1	clear / good flow
17:23	2	5.6	6.49	2576		1.10	20.5	" "
17:26	4	5.5	6.47	2578		0.59	13.04	" "
17:29	6	5.4	6.49	2575		0.58	7.58	" "
17:32								

Final Sample Parameters – Date (2013/Sept/12) BOTTLE # 0215-130912-070

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
17:29	6	5.4	6.49	2575		0.58	7.58	peristaltic pump

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |(1)| Very Silty
Other: _____

Consumables: ☑ Waterra Tubing 6.5m ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☑ Silicon Tubing 6" ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: X24-96D
Location: Faro Mine Complex, YT
Weather: Sun, 15°C
Project No.: 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.504 metres
Depth to Bottom of Well Below Top of Casing: B 28.376 metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = 49.744 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 149.232 litres
Flow Rate: ________ L/min. Start Time: 16:05 Finish Time: 16380

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
16:07	5	4.1	6.15	2933		2.59	6.73	light orange brown Q.
16 09	20	3.4	6.11	3308		2.43	96.5	" , clearing in colour.
16 15	40	3.8	6.291	3323		2.47	34.8	" clearing slightly, good recharge
16 20	60	4.1	6.32	3306		3.00	26.6	" clear. ↓ turb visually
16 25	80	3.6	6.34	3310		2.83	28.9	clear sample water.
16 29	100	3.4	6.31	3320		3.11	24.6	"
16 34	120	3.5	6.31	3323		3.13	19.17	"
16 38	140	3.6	6.19	3312		2.55	13.16	" SAMPLE

Final Sample Parameters – Date (2013/Sept/12) Bottle Set # 0215-130912-072

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1640	150	3.6	6.19	3312		2.55	13.16	Clear Sample. Good!

Comments:

Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear (circled) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ________
GOOD SAMPLE.

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P01-03
Location: Faro Mine Complex, YT
Weather: Clear ~15°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.80 metres
Depth to Bottom of Well Below Top of Casing: B 9.720 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 13.84 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: Hand PUMPED

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 41.52 litres
Flow Rate: ______ L/min. Start Time: 15:31 Finish Time: 1545

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
15:31	17	5.8	6.39	3094		7.30	280	v. turbid / light brown
1544	40	4.7	6.37	3354		2.88	64.3	↓ turb.

Final Sample Parameters – Date (2013/Sept/12) Bottle Set # 0215-130912-066

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
15~~44~~	40	4.7	6.37	3354		2.88	64.3	Clear Sample, good recharge

Comments:

Odour: ☐ Yes ☒ No If yes: Mild sulfur odour
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: ~~Clear~~ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: X25-96B
Location: Faro Mine Complex, YT
Weather: Sun, 15°C
Project No.: 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 2.910 metres
Depth to Bottom of Well Below Top of Casing: B 19.740 metres
Diameter Standpipe: C ____ mm

One well volume:
(A-B)*2.0 = 33.66 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ____ Serial No. ____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ____
Conductivity Meter: Model ____ Serial No. ____ Calibration Solution: ____
Measured Value (prior to calibration): ____
Dissolved Oxygen Meter: Model ____ Serial No. ____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 100.98 litres
Flow Rate: ____ L/min. Start Time: 1450 Finish Time: ____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1456	20	4.9	7.34	1431		2.28		Recharge good, clear.
1500	40	4.5	7.31	1404		2.18	1.19	"
1507	60	3.7	7.28	1418		1.64	0.97	"
1512	80	3.9	7.45	1419		3.05	0.77	"
1517	100	4.3	7.47	1424		2.37	1.51	" SAMPLED

Final Sample Parameters – Date (2013/Sept/12) Bottle Set # 0215-130912-068

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1520	100	4.3	7.47	1424		2.37	1.51	Good sample

Comments:

Odour: ☐ Yes ☒ No If yes: Mild Sulfur
Sheen: ☐ Yes ☒ No If yes: ____
Turbidity: (Clear) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ____

Consumables: ☐ Waterra Tubing ____ ☐ HDPE Tubing ____ ☐ Groundwater Filter ____
☐ Silicon Tubing ____ ☐ D.O. Ampoules ____ ☐ Other: ____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. X25-96A
Location: Faro Mine Complex, YT
Weather: Sun, 15°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.028 metres
Depth to Bottom of Well Below Top of Casing: B 9.500 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 12.944 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 38.832 litres
Flow Rate: ________ L/min.
Start Time: 1450
Finish Time: ________

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1459	38	4.4	7.26	1414		4.16	2.83	Recharge good, hard pumped
								SAMPLED

Final Sample Parameters – Date (2013/Sept/12) Bottle # 0215-130912-030

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1500	38	4.4	7.26	1414		4.16	2.83	Good Sample

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear (circled) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ________

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: P01-04A
Location: Faro Mine Complex, YT
Weather: Sun, 20°C
Project No.: 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT /12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.218 metres
Depth to Bottom of Well Below Top of Casing: B 53.470 metres
Diameter Standpipe: C ______ mm

One well volume:
(A-B)*2.0 = 104.504 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 313.512 litres
Flow Rate: ______ L/min.
Start Time: 13:12
Finish Time: 14:30

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O2 (mg/L) or %	Turbidity (NTU)	Remarks
13:13	1	4.8	6.63	942		1.11 ~~1.37~~	~~7.37~~ 1.37	
1324	40	4.3	6.94	~~842~~		2.35	7.79	clear, ~~odour~~ sulfursme
1340	20 ~~80~~	4.1	6.88	930		1.91	2.08	clear, odour remains
1353	20 120	4.1	6.89	931		2.20	2.12	clear
1404	20 160	4.6	6.82	937		2.16	1.17	clear, good sample, odour remains
1420	20 200	4.6	6.89	926		2.31	1.96	clear, unchanged
1429	20 240	3.8	6.85	921		1.85	2.03	clear, odour of sulfur

Final Sample Parameters – Date (2013/Sept//12) Bottle # 0215-130912-069

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1430	240	3.8	6.85	921		1.85	2.03	GOOD SAMPLE

Comments:

Odour: ☒ Yes ☒ No If yes: Sulfur/Rotten Egg
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: (Clear) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P01 - 04B
Location: Faro Mine Complex, YT
Weather: Sun 20'C
Project No. 13-Y-0215
Completed By: CL / LW
Date: 2013 / SEPT 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.862 metres
Depth to Bottom of Well Below Top of Casing: B 34.200 metres
Diameter Standpipe: C ______ mm

One well volume:
(A-B)*2.0 = 64.476 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 193.428 litres
Flow Rate: ______ L/min. Start Time: 13:12 Finish Time: 1405

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
13:13	1	5.0	6.82	2209		1.59	1.56	clear.
13:29	20 40	4.1	6.67	947		1.68	1.03	clear, ~~[illegible]~~
13 34	20 80	3.6	6.79	2121		3.73	3.82	v. clear
1346	20 120	3.7	6.96	2118		2.95	8.46	v. clear, turb ↑ slightly
1355	20 160	3.5	6.87	2080		3.62↓	5.49	"
1404	20 200	3.7	6.67	2126		3.7	4.98	v. clear, Sample

Final Sample Parameters – Date (2013/Sept/ 12) Bottle Set # 0215-130912-064

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1405	200	3.7	6.67	2126		3.7	4.98	good sample

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear (marked) | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: Good Sample

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P01-11-5
Location: Faro Mine Complex, YT
Weather: Sun, 20°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.105 metres
Depth to Bottom of Well Below Top of Casing: B 11.068 metres
Diameter Standpipe: C ____ mm

One well volume:
(A-B)*2.0 = 19.926 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ____ Serial No. ____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ____
Conductivity Meter: Model ____ Serial No. ____ Calibration Solution: ____
Measured Value (prior to calibration): ____
Dissolved Oxygen Meter: Model ____ Serial No. ____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 59.778 litres
Flow Rate: ____ L/min. Start Time: 12:09 Finish Time: 12:33

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
12:10	0.5	7.1	6.94	3000		4.51	13.22	clear
12:15	10	5.2	6.70	3039		2.83	31.6	clear
12:17	15	5.1	6.71	3051		3.09	18.23	↓ turb
12:19	20	5.0	6.71	3040		2.32	15.79	"
12:23	30	5.3	6.74	3048		2.33	10.05	"
12:27	40	5.1	6.84	3052		3.82	9.30	"
12:31	50	5.1	6.86	3033		2.66	7.60	"
12:33	60	5.0	6.85	3055		2.53	6.45	SAMPLED

Final Sample Parameters – Date (2013/Sept/12) Bottle Set # 0215-130912-065

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
12:33	60	5.0	6.85	3055		2.53		Good Sample

Comments:

Odour: ☐ Yes ☑ No If yes: ____
Sheen: ☐ Yes ☑ No If yes: ____
Turbidity: Clear ☒ | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ____

Consumables: ☐ Waterra Tubing ____ ☐ HDPE Tubing ____ ☐ Groundwater Filter ____
☐ Silicon Tubing ____ ☐ D.O. Ampoules ____ ☐ Other: ____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: P09 - C2
Location: Faro Mine Complex, YT
Weather: Sun, 20°C

Project No.: 13-Y-0215
Completed By: CL / LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 0.490 metres
Depth to Bottom of Well Below Top of Casing: B 64.400 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 127.82 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: Bottom of well

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 383.46 litres
Flow Rate: ______ L/min. Start Time: 10:31 Finish Time: 11:45

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
10:32	1	5.2	6.25	2301		2.03	10.30	Clear, good flow.
10:43	20 41	4.7	6.70	2355		2.44	12.80	
10:50	20 80	4.8	6.50	2320		3.70	26.6	↑ turb.
11:00	20 120	4.9	6.47	2308		2.62	37.0	clear, slowing slightly
11:18	20 160	4.8	6.39	2307		2.33	36.4	slow recharge, lots of air present
11:26	180	4.5	6.29	2291		1.92	42.6	clear, lots of off gassing
11:35	200	4.4	6.36	2290		2.45	32.6	AS ABOVE
11:39	210	4.4	6.37	2297		2.71	33.4	"
11:45	220	4.6	6.42	2299		2.90	30.4	

Final Sample Parameters – Date (2013/Sept/12) Bottle Set # 0215-130912-061

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
11:45	220	4.6	6.42	2299		2.90	30.4	V. clear.

Comments:
Odour: ☒ Yes ☐ No If yes: Sulfur (mild) smell
Sheen: ☐ Yes ☐ No If yes: ______
Turbidity: Clear |①| | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: lots of dissolved air offgassing

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: P09-C3
Location: Faro Mine Complex, YT
Weather: Sun, 12°C
Project No.: 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 1.402 metres
Depth to Bottom of Well Below Top of Casing: B 52.021 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 101.238 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 303.714 litres
Flow Rate: ______ L/min. Start Time: 907 Finish Time: 10:10

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O2 (mg/L) or %	Turbidity (NTU)	Remarks
907	1	5.1	6.87	1210		2.36	1.42	Mild sulfur smell. clear.
918	40	4.3	6.87	1058		2.84	20.8	Sulfur smell - Rotten egg. visible suspended
928	80	4.4	7.02	1059		2.54	65.0	clear, odour remains.
9:35	100	4.3	6.79	1040		3.56	129	Becoming cloudy, good recharge
9:44	140	4.4	6.83	1053		3.05	41.0	As above, mod. turb. ↓ turb
952	180	4.4	6.84	1046		2.44	84.7	Mod. clear, sulfur smell.
959	226	4.4	6.88	1044		2.68	50.8	AS ABOVE.
1006	260	4.5	6.90	1040		2.77	22.6	" ↓ turb.
10:16	300	4.5	6.80	1039		2.65	17.51	clear, good sample

Final Sample Parameters – Date (2013/Sept/12) BOTTLE SET # 0215-130912-062

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
10:10	300	4.5	6.80	1039		2.65	17.51	Good sample

Comments:
Odour: ☒ Yes ☐ No If yes: Sulfur/rotten egg.
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear (1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P01-01B
Location: Faro Mine Complex, YT
Weather: Sun 5°C

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.604 metres
Depth to Bottom of Well Below Top of Casing: B 35.300 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 63.392 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 191.76 (190.176) litres
Flow Rate: ______ L/min. Start Time: 07:35 Finish Time: 0841

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
0735	1	1.8	6.93	1260		1.40	1.06	V. clear.
0741	20	2.0	6.92	1265		1.32	1.47	V. clear, good recharge
0749	41	2.0	6.94	1269		2.31	0.66	V. clear.
0754	60	2.1	7.11	1257		4.09↓	0.35	V. clear, good recharge
0801	80	2.0	7.07	1262		3.25↓	0.85	V. clear, recharge
807	100	2.1	7.01	1256		3.01↓	0.52	V. clear
817	123	2.1	7.01	1255		1.06	0.42	V. clear
822	140	2.1	7.06	1252		1.79	0.52	AS ABOVE
830	160	2.1	7.17	1262		3.17	0.38	
836	180	2.1	7.20	1253		5.52	0.29	

Final Sample Parameters – Date (2013/Sept/12) Bottle Set # 0215-130912-063

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
836	190	2.1	7.20	1253		5.52	0.29	V. clear, good sample

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: (Clear) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: ______

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.	P01 – 01A	**Project No.**	13-Y-0215
Location:	Faro Mine Complex, YT	**Completed By:**	CL/LW
Weather:	Sun, 5°C	**Date:**	2013 / SEPT / 12

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.820 metres
Depth to Bottom of Well Below Top of Casing: B 20.320 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 33.0 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☒ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 99.0 litres
Flow Rate: ______ L/min. Start Time: 07:25 Finish Time: 8:11

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
726	1	2.0	7.4	1476		5.64	4.29	V. clear / good flow
737	20	1.7	6.75	1551		3.62	1.41	
748	40	1.7	6.80	1556		3.33	0.54	v. clear, good flow
758	60	1.7	6.93	1562		4.84↓	0.53	
807	100	1.7	6.96	1560		5.79↓	0.57	v. good, clear, sample

Final Sample Parameters – Date (2013/Sept/12) 0215-130912-035 + REP (0215-130912-025)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
8:11	100	1.7	6.96	1560		5.79	0.59	V. clear sample, good recharge, took duplicate.

Comments:

Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear ☒ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: took REP

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK 08-P15
Location: Faro Mine Complex, YT
Weather: Sun, 15°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 11

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 3.228 metres
Depth to Bottom of Well Below Top of Casing: B 8.330 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 10.2 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 30 litres
Flow Rate: ______ L/min. Start Time: 1709 Finish Time: 1756

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1729	0	4.5	7.09	1057		7.27	963	Light brown, no odour, clear
1731	10	2.9	7.01	1701		7.00	711	light brown, no odour, high turb, cold
1734	20	2.7	7.07	1757		8.31	816	as above, no change
1737	30	3.1	7.00	1799		6.52	998	As above

Final Sample Parameters – Date (2013/Sept/ 11) Bottle Set # 0215-130911-021

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1737	30	3.1	7.00	1799		6.52	998	V. turbid, purged well.

Comments:
Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ◯ | | Very Silty
Other: light brown color no odour.

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK08-P14 (replicate)
Location: Faro Mine Complex, YT
Weather: partly cloudy, mod wind, 15°C

Project No. 13-Y-0215
Completed By: BM, JD
Date: 2013 / SEPT / 11
bottle set # 0215-130911-003 @ 17:34

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 6.828 metres
Depth to Bottom of Well Below Top of Casing: B 9.870 metres
Diameter Standpipe: C 51 mm

One well volume:
(A-B)*2.0 = 6 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 18 litres
Flow Rate: _____ L/min. Start Time: 17:45 Finish Time: 17:59

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
17:46	2.0	3.5	7.33	1710		4.43	19.1	
17:47	4.0	2.5	7.10	1680		4.12	40.1	
17:49	6.0	2.3	7.02	1680		4.54	34.5	
17:50	8.0	2.3	6.99	1660		31.3	23.3	
17:51	10.0	2.2	6.93	1662		31.6	27.2	
17:52	12.0	2.1	6.94	1659		33.2	31.3	
17:53	14.0	1.8	6.90	1656		30.8	26.3	
17:54	16.0	2.3	6.90	1648		30.9	19.14	
17:59	18.0	2.5	6.87	1658		26.4	26.2	

Final Sample Parameters – Date (2013/Sept/)

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| Very Silty
Other: photos (JD) # 1369-70

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. SRK 08 - P14
Location: Faro Mine Complex, YT
Weather:

Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 11

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 6.80 metres
Depth to Bottom of Well Below Top of Casing: B 9.88 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 6.16 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 18.48 litres
Flow Rate: ______ L/min. Start Time: 16:48 Finish Time: ______

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1650	5	3.3	7.2	1851		5.27	300	Light Brown colour, mod. turb
1652	10	2.2	6.99	1795		4.36	190	clearing, mod. turbidity
1654	15	2.4	6.96	1792		4.93	188	"
1657	20	2.3	6.95	1794		4.06	178	" SAMPLED

Final Sample Parameters – Date (2013/Sept/ 11) Bottle Set # 0125-130911-016

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1657	20	2.3	6.95	1794		4.06	178	Clean sample. Good flow. hand pump

Comments:

Odour: ☐ Yes ☐ No If yes: ______
Sheen: ☐ Yes ☐ No If yes: ______
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: HAND PUMPED

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. V-37
Location: Faro Mine Complex, YT
Weather: Over, 15°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT /11/

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 8.485 metres
Depth to Bottom of Well Below Top of Casing: B 14.505 metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = 12.04 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model YSI Pro Plus Serial No. ________ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model YSI Pro Plus Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 36.12 litres
Flow Rate: ________ L/min. Start Time: 14:42 Finish Time: ________

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1443	1	4.2	7.32	936		5.71	5.24	V. clear
1446	5	3.0	6.99	921		6.69	5.91	V. clear
1454	10	4.1	7.21	986		4.40	9.07	Recharge rate slowed, but clear, ↑ turb
1513	14	5.4	7.82	1034		6.87	9.45	
1528	15	WELL	DRY					Recharge rate slow.

Final Sample Parameters – Date (2013/Sept/ 11) Bottle Set # 0215-130911-019

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1531	15	5.4	7.82	1034		6.87	9.45	Well purged completely, went dry x 2, Very clear. low turb.

Comments:

Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear |⊘|||||||||||||||||||||||||||||| Very Silty
Other: Very clear sample

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. J-36
Location: Faro Mine Complex, YT
Weather: P. Cloud, 15°C
Project No. 13-Y-0215
Completed By: CL/LW
Date: 2013 / SEPT / 11

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 8.651 metres
Depth to Bottom of Well Below Top of Casing: B 11.870 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 6.438 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model Professional Plus YSI Serial No. ______ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model Professional Plus YSI Serial No. ______ Calibration Solution: ______
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: Bottom of well

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 19.314 litres
Flow Rate: ______ L/min. Start Time: 14:02 Finish Time: 1419

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O2 (mg/L) or %	Turbidity (NTU)	Remarks
1404	1	6.4	6.90	2505		3.65	9.79	V. clear, good pump rate - recharge
1410	5	4.0	6.78	2999		2.59	3.22	V. clear, unchanged.
1413	10	4.0	6.77	3139		2.45	2.25	V. clear, unchanged.
1416	15	4.2	6.78	3215		2.35	1.91	As above. remains clear.
1419	20	4.2	6.80	3191		3.41 ?	1.40	"

Final Sample Parameters – Date (2013/Sept/ 11) Bottle Set # 0215-130911-020

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1419	20	4.2	6.8	3191		3.41		Good sample

Comments:
Odour: ☐ Yes ☒ No If yes: ______
Sheen: ☐ Yes ☒ No If yes: ______
Turbidity: Clear | | Ø | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: Good Well, Well casing is jacking & pushing against PVC inner casing

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P-2001-B
Location: Faro Mine Complex, YT
Weather: Overcast / windy
Project No. 13-Y-0215
Completed By: CL / LW
Date: 2013 / SEPT /

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.021 metres
Depth to Bottom of Well Below Top of Casing: B 27.474 metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = 46.91 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 140.73 litres
Flow Rate: ________ L/min. Start Time: 12:15 Finish Time: 13:42

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1222	9	3.5	6.88	2186		2.73	22.7	moderate flow
1232	20	3.8	6.86	2260		2.35	16.11	water decreasing in turb / mod. flow
1242	30	3.9	6.94	2236		2.91	92.4	mod flow / incr. turb
1247	40	3.6	7.02	2159		3.30	336	decreased flow / ↑ turb
1304	45	4.8	7.04	2134		4.53	485	decreased flow / ↑ turb
1309	48	4.6	7.00	2117		4.76	468	"
1316	50	5.1	7.03	2127		4.53	427	" flow / ↓ turb
1324	55	5.3	7.14	2177		6.50	415	↓ turb

Final Sample Parameters – Date (2013/Sept/ 11) Bottle Set # 0215-130911-022

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1324	55	5.3	7.14	2177		6.50	415	low pump volume, last sample @ 55L

Comments:
Odour: ☐ Yes ☐ No If yes: ________
Sheen: ☐ Yes ☐ No If yes: ________
Turbidity: Clear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: Well protective casing jacking + cement seal compromized

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☐ Purging/Sampling

Well No. P2001-A
Location: Faro Mine Complex, YT
Weather:
Project No. 13-Y-0215
Completed By: CL/CW
Date: 2013 / SEPT /

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 4.124 metres
Depth to Bottom of Well Below Top of Casing: B 6.700 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 5.2 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: HAND PUMP WATTERA

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 15.4 litres
Flow Rate: _____ L/min. Start Time: 1218 Finish Time: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1224	10							Hand pump, low recharge
1257	20 L							v. turbid.
	21 L							↓ slow recharge, remains turbid

Final Sample Parameters – Date (2013/Sept/11) BOTTLE SET # 0215-130911-034

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
13:15	21	5.4	6.09	2346		2.79		V silty, difficulty getting P. metals sample

Comments:

Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||||||||||||| ① ||| Very Silty
Other: 4m of Wattera tubing & foot valve used

Consumables: ☑ Waterra Tubing 6m ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____
+ foot valve

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. P2001 - 3 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** CL LW
Weather: OVER, 12 °C **Date:** 2013 / SEPT / 11

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 36.971 metres
Depth to Bottom of Well Below Top of Casing: B 62.420 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 50 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model _____ Serial No. _____ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: 1" WATTERA TUBE

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 152 litres
Flow Rate: Good flows. L/min. Start Time: 1029 Finish Time: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1039	5	2.7	7.51	928		3.22	86.2?	V. silty, dark brown colour, fine sand
1042	20	2.7	7.49	907		2.79	584	
1049	40	2.6	7.38	855.7		2.67	701	
1059	60	2.8	7.36	841.8		2.70	650	silty, clearing to mod. turbid
1109	80	2.9	7.37	839.0		3.55	643	mod. turbidity, light grey colour, no odour
1119	100	2.9	7.60	842.2		6.12	659	
1128	120	2.9	7.39	829.1		4.15	647	mod. clear, good flow
1138	140	3.0	7.56	831.9		6.31	582	mod. clear, good flow
1143	150	3.0	7.56	828.2		6.94	598	mod. clear, good flow.

Final Sample Parameters – Date (2013/Sept/11) Bottle Set # 0215-1309-023

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1143	150	3.0	7.56	828.2		6.94		Good sample.

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear |||||||||@||||||||||||||||| Very Silty
Other: Vehicle access.
minimum 2 vials taken, used 3 filters for 90 mL of 2 not taken.

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. V35
Location: Faro Mine Complex, YT
Weather: Over, 12°C
Project No. 13-Y-0215
Completed By: CL CW
Date: 2013 / SEPT /

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 7.193 metres
Depth to Bottom of Well Below Top of Casing: B 16.001 metres
Diameter Standpipe: C ________ mm

One well volume:
(A-B)*2.0 = 8.808 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ________ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ________ Serial No. ________ Calibration Buffers: ☐ 4 ☐ 7 ☐ 10
Measured Value (prior to calibration): ________
Conductivity Meter: Model ________ Serial No. ________ Calibration Solution: ________
Measured Value (prior to calibration): ________
Dissolved Oxygen Meter: Model ________ Serial No. ________ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift
Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ________

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 26.4 litres
Flow Rate: ~ moderate L/min. Start Time: 09:25 Finish Time: ________

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
9:26	1	4.3	7.12	3504		9.80	3.61	clear, moderate recharge
9:33	5	3.3	6.94	3267		6.62	1.93	v. clear, moderate recharge
9:41	8	3.1	6.96	3244		6.42	2.42	v. clear, moderate recharge
9:47	13	2.9	6.96	3084		5.44	5.36	v. clear, good flow
9:52	18	3.0	6.99	3080		5.62	8.31	
9:57	21	3.0	7.02	2884		7.05	10.32	v. clear, recharge slowing, reducing flow
10:00	21.5	— WENT DRY						DRY, TURNED PUMP OFF - WAIT FOR RECHARGE
10:07	22	4.7	7.15	2544		7.49	7.87	clear, slower recharge, sample time

Final Sample Parameters – Date (2013/Sept/ 11) Bottle # 0215-130911-024

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
10:10	23	3.10	7.15	2544		7.49	7.87	clear sample, taken after well went dry

Comments:
Odour: ☐ Yes ☒ No If yes: ________
Sheen: ☐ Yes ☒ No If yes: ________
Turbidity: Clear |①||||||||||||||||||||||||||||| Very Silty
Other: vehicle access; very clear sample

Consumables: ☐ Waterra Tubing ________ ☐ HDPE Tubing ________ ☐ Groundwater Filter ________
☐ Silicon Tubing ________ ☐ D.O. Ampoules ________ ☐ Other: ________

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No.: V 34
Location: Faro Mine Complex, YT
Weather: Rain, 10° C
Project No.: 13-Y-0215
Completed By: CL LW
Date: 2013 / SEPT / 11

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 5.725 metres
Depth to Bottom of Well Below Top of Casing: B 12.830 metres
Diameter Standpipe: C 2" ~~mm~~

One well volume:
(A-B)*2.0 = 7.105 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = ______ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model ______ Serial No. ______ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): ______
Conductivity Meter: Model ______ Serial No. ______ Calibration Solution: 1710 ?
Measured Value (prior to calibration): ______
Dissolved Oxygen Meter: Model ______ Serial No. ______ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☐ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ______

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 21.3 litres
Flow Rate: ______ L/min. Start Time: 8:13 Finish Time: ______

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
818	2	3.4	6.77	1798		6.38		clean good recharge
820	4	3.1	6.74	1801		4.60	22.6	clear, good recharge
826	7	2.9	6.77	1785		3.54	26.1	clear, as above, no odour
830	10	3.0	6.80	1797		3.84	33.6	slightly silty, but good recharge
836	13 L — WENT DRY - PUMPED TOO FAST							check valve stuck closed - fixed
852	15 L	3.4	6.88	1814		6.31	273	mod. turbidity
857	17 L	3.2	6.90	1619		4.79	181?	slow recharge now

Final Sample Parameters – Date (2013/Sept/11) Bottle # 0215-130911-028

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
905	18 L	3.2	6.9	1619		4.79	181?	suspect Turb, well went dry x 2 - good sample

Comments:
Odour: ☐ Yes ☐ No If yes: ______
Sheen: ☐ Yes ☐ No If yes: ______
Turbidity: Clear | | (|) | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: well waterra cut too short, had to fish tied off tubing for next sample

Consumables: ☐ Waterra Tubing ______ ☐ HDPE Tubing ______ ☐ Groundwater Filter ______
☐ Silicon Tubing ______ ☐ D.O. Ampoules ______ ☐ Other: ______

Groundwater Development and Purging/Sampling Data Sheet

☐ Development
☒ Purging/Sampling

Well No. SRK 08-114 **Project No.** 13-Y-0215
Location: Faro Mine Complex, YT **Completed By:** CL
Weather: Sun, 14°C **Date:** 2013 / SEPT / 10

MONITORING WELL INFORMATION

Depth to water Below Top of Casing: A 0.785 metres
Depth to Bottom of Well Below Top of Casing: B 12.553 metres
Diameter Standpipe: C 52 mm

One well volume:
(A-B)*2.0 = 23.54 litres - for a 51 mm (2.0 inch) diameter well
(A-B)*1.1 = _____ litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

pH Meter: Model YSI PRO PLUS Serial No. _____ Calibration Buffers: ☒ 4 ☒ 7 ☐ 10
Measured Value (prior to calibration): _____
Conductivity Meter: Model _____ Serial No. _____ Calibration Solution: _____
Measured Value (prior to calibration): _____
Dissolved Oxygen Meter: Model _____ Serial No. _____ ☐ D.O. Chemet Ampoule
Pump: ☐ None ☐ Peristaltic ☒ Hydrolift Bailer: ☐ None ☐ Stainless Steel ☐ Teflon ☐ PVC ☐ Hydrasleeve
Sample Intake Depth: ~12 m.

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 70.62 litres
Flow Rate: Good L/min. Start Time: 1732 Finish Time: 1809

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	Diss. O_2 (mg/L) or %	Turbidity (NTU)	Remarks
1732	3	4.8	7.11	944		4.12		V. clear, good flow.
1740	10	2.9	6.83	1055		1.99		
1745	20	2.9	6.74	1071		2.14		
1749	35	2.5	6.66	1074		2.22		v. clear, excellent flow
1754	50	2.5	6.80	1078		1.97		
1758	65	2.8	6.77	1078		2.06		v. clear
1802	70	3.0	6.79	1083		1.79		v. clear.
1804	75	2.8	6.77	1078		2.02		Sampled!

Final Sample Parameters – Date (2013/Sept/10) Bottle Set 0215-1309 10-036

Time	Purge Vol. (L)	Temp (°C)	pH (Units)	Cond. (uS/cm)	Redox (mV)	DO (mg/L) or %	Turb (NTU)	Remarks
1809	75	2.8	6.77	1078		2.02		v. clear, good sample

Comments:
Odour: ☐ Yes ☒ No If yes: _____
Sheen: ☐ Yes ☒ No If yes: _____
Turbidity: Clear (1) | | | | | | | | | | | | | | | | | | | | | | | | | Very Silty
Other: _____

Consumables: ☐ Waterra Tubing _____ ☐ HDPE Tubing _____ ☐ Groundwater Filter _____
None ☐ Silicon Tubing _____ ☐ D.O. Ampoules _____ ☐ Other: _____