REPORT NO. 118027/2

FINAL REPORT - PHASE 2 DRILLING PROGRAM, NFRC REACH, FARO MINE, YT

Prepared for:

Yukon Government

Assessment and Abandoned Mines, YG

Prepared by:

Robertson GeoConsultants Inc.
Consulting Engineers and Scientists for the Mining Industry
www.robertsongeoconsultants.com

January 2015

Report No. 118027/2

FINAL REPORT - PHASE 2 DRILLING PROGRAM, NFRC REACH, FARO MINE, YT

Table of Contents

LIST OF TABLES

LIST OF FIGURES

APPENDICES

REPORT NO. 118027/2

FINAL REPORT - PHASE 2 DRILLING PROGRAM, NFRC REACH, FARO MINE, YT

1 INTRODUCTION

1.1 SCOPE OF REPORT

This report summarizes the results of the hydrogeological investigation completed in July 2014 upstream and downstream of the Haul Road passing over North Fork of Rose Creek (NFRC) at the Faro Mine, Yukon. The work is a continuation of the 2014 winter drilling program completed near the rock drain aimed at reducing contaminant loading via seepage from the Intermediate Dump (Sulphide Cell) towards North Fork Rose Creek (NFRC).

This report provides a detailed summary of the field work completed between July 7th and July 30th, 2014 and subsequent interpretation of field data. This report supercedes an earlier progress report on the Phase 2 drilling program submitted in October 2014 (RGC, 2014c).

1.2 TERMS OF REFERENCES

Zinc concentrations in the NFRC have significantly increased since a reduction in streamflow in November 2013. Detailed synoptic water quality surveys in the NFRC carried out by on-site staff from Tlicho Engineering and Environmental Services Ltd. (TEES) and outside consultants (EDI) along the reach of the Intermediate Dump (between stations R7 and X2) indicated that highly impacted seepage is entering the NFRC under the portion of the NFRC covered by the haul road (referred to as “rock drain”). A detailed evaluation of contaminant loading (Zn and sulphate)[1] and geochemical fingerprinting[2] indicated that highly contaminated seepage from the Intermediate Dump (likely the “Sulphide Cell”) is the most probable source of this contamination.

Based on this analysis, a Phase 1 winter drilling program was designed and subsequently executed between February and March 2014 which comprised drilling of seven (7) boreholes, three (3) of which were completed as pumping wells with stainless steel screens (“PW-14” series) and the

[1] Email from C. Wels (RGC) to A. Turcotte (YG-AAM) dated December 6, 2013

[2] Email from C. Wels (RGC) to A. Turcotte (YG-AAM) dated December 18, 2013

remaining four (4) were completed as PVC monitoring wells ("MW-14" series) (see Figure 1-1 for location).

Initial results of the 2014 Winter Drilling Program indicated that only one pumping well (PW14-6) showed sufficient water quality impact and well yield to operate on a continuous basis for seepage interception (RGC, 2014a). This seepage is, however, inferred from pre-mining topography to drain towards the S-Cluster SIS (i.e. not towards the rock drain and NF2A). No significant seepage was intercepted along the fence of wells drilled along the western toe of the Upper Intermediate Dump (MW14-3 to MW14-5). The overburden soils and shallow bedrock encountered in this area appeared to be of low to very low permeability which is consistent with the relatively low zinc concentrations observed.

In light of the low probability of success in intercepting seepage to NF2A via pumping wells from the toe of the Upper Intermediate Dump and the main haul road (top of rock drain) it was recommended that alternative options for interception of impacted seepage be evaluated, including (RGC, 2014a):

1. Seepage interception at NF2A
2. Seepage interception up-gradient of the rock drain near NF1 pond
3. Seepage interception beneath the rock drain

An assessment of Option 3 will require significantly higher costs (and planning) than Options 1 and 2. RGC therefore recommended to proceed in a phased approach (w/ Phase 1 the 2014 winter drilling program), starting with an assessment of Options 1 and 2 (Phase 2) followed by an assessment of Option 3, if required (Phase 3).

Based on discussion with YG, the Phase 2 work was scoped assuming that seepage interception upgradient of the rock drain has a low probability of success (due to potential lack of significant contamination). It was agreed that if the Phase 2 field work (described hereafter) indicated otherwise the scope of work for Phase 2 initially proposed would likely have to be expanded.

1.3 SCOPE OF WORK

The scope of work for the Phase 2 NFRC seepage studies included the following tasks:

- Task 1: Completion of Phase 1 Work (2014 Winter Drilling Program)
- Task 2: Design, Execution & Supervision of Phase 2 Field Work
- Task 3: Interpretation of Field Work
- Task 4: Reporting & Project Management

Task 1 included well development and sampling of those Phase 1 wells not developed/sampled as part of the Phase 1 Winter Drilling program plus preparation of the Phase 1 Final Report (RGC Report No. 118026/2, RGC, 2014b).

Task 2 included the development of a drilling tender, specific operating procedures for drilling and sampling, well installation and hydraulic testing as well as a health and safety plan (HSP) for the Phase 2 drilling program. Initial discussions with YG's onsite care and maintenance contractor (TEES) indicated that preparation of an access road to the NF1 pond area upgradient of the rock drain would be costly and time consuming. In discussion with YG-AAM it was therefore decided to use existing (very poor) access roads and drill with very light portable drilling equipment supplied by a specialist drilling contractor Rocky Mountain Soil Sampling Inc. (RMSS).

It was acknowledged that use of such light drilling equipment would increase drilling time and limit borehole diameter and drilling depth. However, these limitations were deemed acceptable considering the cost and time savings (by not installing an access road). RGC and YG-AAM agreed that additional drilling (using an access road and more powerful drilling methods) could be used at a later stage should the Phase 2 drilling indicate the potential for significant zinc load in this reach of the NFRC aquifer (upgradient of the rock drain).

The remainder of this report summarizes the findings of the Phase 2 NFRC Drilling Program (Tasks 2, 3 and 4).

1.4 REPORT ORGANIZATION

This report comprises the following technical sections:

- **Section 2 – Field Methods and Results** summarizes the field work completed and presents the results of drilling, well installation, and physical and chemical testing of the wells.
- **Section 3 – Discussion** provides an interpretation of the key findings and discusses the implications for seepage interception in this area.
- **Section 4 – Conclusions and Recommendations** summarizes the conclusions of this study and provides recommendations for future hydrogeological work.

2 FIELD METHODS & RESULTS

2.1 OVERVIEW

Phase 2 of the hydrogeological field investigation at the NFRC (near the rock drain) was conducted from July 6 to 30, 2014. The investigation consisted of shallow test pitting, drilling, installation of monitoring wells, hydraulic testing, water sampling, and water level surveys on the newly installed wells. In addition, groundwater sampling of the wells installed during the winter drilling program was also performed. All related field work tasks, including test pitting, logging of drill cuttings, groundwater sampling, well installation and development, water level monitoring and water quality sampling were supervised by Tilman Roschinski (RGC) with assistance from Mark Storey (RGC). On-site support was provided by TEES who provided operational assistance and analyzed preliminary groundwater samples.

A total of ten boreholes were drilled during the Phase 2 drilling program, eight of which were completed as 2-inch diameter PVC monitoring wells and the remaining two were completed as 1-inch diameter PVC monitoring wells. Figure 1-1 shows the locations of the completed wells. Four monitoring wells (MW14-08 to MW14-11) were installed along the downstream toe of the rock drain ("NF2A area") and six monitoring wells (MW14-12 to MW14-16) were completed in the area immediately upstream of the rock drain ("NF1 pond area"). Due to the limited access on the upstream side of the rock drain (requiring use of portable drilling equipment) the design depth of several monitoring wells could not be reached at several locations.

2.2 BOREHOLE DRILLING

Drilling was performed by RMSS of North Vancouver, BC using a Pionjär 140 handheld drill and a modified and custom-built drill mast mounted to a Bobcat MT52 with 4-inch diameter solid stem auger, 8-inch diameter hollow stem auger and 4-inch diameter ODEX capabilities. An external air compressor with 185 cubic feet per minute (CFM) capacity was used for ODEX drilling. The boreholes were drilled using all four available methods depending on access and ground conditions (see Appendix A). Heaving sands were encountered at depth on the upstream side of the rock drain and water was injected in boreholes at MW14-12D, MW14-13, and MW14-16 to prevent the upward movement of sand into the casing and to wash the ODEX hammer free of sand.

All cuttings were logged by first establishing the relative proportions of clay, silts, sands, gravels and/or cobbles, and then describing color, texture, moisture and composition.

The results of the drill logging are summarized in the borehole logs provided in Appendix B.

2.3 WELL INSTALLATION

The monitoring wells were completed with flush-threaded Schedule 40 PVC pipe using 10-slot screen sections for the 2-inch wells and 20-slot screens for the 1-inch wells, capped at the base with non-perforated end caps. Well diameters used were 1" and 2" nominal diameter. Table 2-1 summarizes the well construction details, including the coordinates, total depth, screening interval, well stickup, screened lithology and depth to water.

After a well string was assembled and lowered into the borehole, washed and bagged 10/20 filter sand was used to backfill the annulus between the well and the borehole. A small amount of sand was placed in the annulus before the casing was pulled up to expose a section of screen and allow the sand to fill the void between the screen and the borehole wall. This continued until the entire screen section was exposed. The filter pack was placed up to about 1 foot (30 cm) above the top of the screen section in all wells. In some boreholes heaving sands were encountered[3]. In the boreholes where heaving sands were encountered (MW14-12D, MW14-13, MW14-16) the upward pressure of the formation prevented the installation of a filter pack as the rising sand covered the well screen before graded filter sand could be placed into the borehole.

Table 2-1. Well Installation Details, Phase 2 Drilling Program

Well ID	UTM Location		Drilled to	Well Diameter	Screen top	Screen bottom	Screened lithology	Top of Casing	Stickup	DTW (July 29/14)
	Easting	Northing	m bgs	mm	m bgs	m bgs		m amsl	m ags	
MW14-08	584698	6913036	3.1	52	0.76	2.29	SILT (w/ peat)	1086.716	0.82	1.75
MW14-09	584690	6913042	6.1	52	4.42	5.94	Silt (?)	1087.466	0.84	2.79
MW14-10	584684	6913048	6.4	52	1.52	4.57	Gravelly SILT/CLAY	1088.16	1.00	3.43
MW14-11	584681	6913030	4.9	52	2.13	3.66	Gravelly CLAY w/ silt	1086.564	0.81	1.98
MW14-12S	584858	6913269	2.9	52	1.37	2.89	Gravelly SILT	1092.279	1.00	2.62
MW14-12D	584859	6913269	7.6	52	3.96	5.49	SAND & GRAVEL w/ cobbles	1092.172	0.93	2.48
MW14-13	584925	6913286	6.1	52	2.44	3.96	SAND & GRAVEL w/ silt	1093.737	0.99	3.91
MW14-14	584823	6913245	3.2	26	1.83	2.74	Gravelly SILT	1091.797	0.87	2.17
MW14-15	584842	6913264	4.9	26	1.68	2.59	Gravelly SILT	1092.319	1.16	2.64
MW14-16	584887	6913286	5.8	52	2.74	5.79	SAND & GRAVEL	1095.278	1.00	5.57
Notes:										
DTW	depth to water									
bgs	below ground surface									
a msl	above mean sea level									
ags	above ground surface									

[3] Heaving sands is a condition where the drill bit encounters a saturated loose sandy formation and the vibration and pressure allow the sand to flow into the borehole during a break in drilling and lock up the drill bit and drill string, which then may become stuck in the borehole.

To prevent any aquifer cross-contamination and/or surface infiltration, a bentonite seal using coated bentonite pellets was placed in the well annulus above the filter pack and up to ground surface. The wells were finished approximately 1 m above ground and a protective steel casing installed around them. The name of each well was written on the inside of each monument and on the PVC stickup.

The well installation details are summarized in the borehole logs provided in Appendix B.

2.4 WELL DEVELOPMENT

Well development was performed using 5/8" diameter Waterra tubing and a foot valve. Monitoring wells with poor recharge were purged dry repeatedly while higher yielding monitoring wells were developed continuously until electrical conductivity (EC) measurements stabilized. The 1-inch diameter wells MW14-14 and MW14-15 were purged dry with a bailer. Table 2-2 summarizes the results of well development and the observed (final) field EC and dissolved zinc concentrations (analyzed by TEES in the on-site lab).

Monitoring wells MW14-12D, MW14-13, and MW14-16 experienced additional development after sampling as part of hydraulic testing. Well development and pumping details are summarized in Table 2-2.

Table 2-2. Results of Phase 2 Well Development

Well ID	Well Diameter	Volume Purged (development)	Well Yield Pumping	Volume Pumped	EC[1] Value after development	Diss. Zn after development	Hydraulic Tests performed	Comments
	mm	L	(L/s)	L	(uS/cm^2)	mg/L		
MW14-08	52	12	-	-	439	0.005	none	developed with Waterra, purged dry repeatedly
MW14-09	52	30	-	-	764	0.167	none	developed with Waterra, purged dry repeatedly
MW14-10	52	63	-	-	1117	0.005	none	developed with Waterra, purged dry repeatedly
MW14-11	52	25	-	-	631	0.018	none	developed with Waterra, purged dry repeatedly
MW14-12S	52	21	-	-	630	1.53	slug test	developed with Waterra, purged dry repeatedly
MW14-12D	52	205	> 0.2	597	1057	1.90	pumping test	developed with Waterra
MW14-13	52	58	> 0.2	323	2021	7.10	pumping test	developed with Waterra
MW14-14	26	4	-	-	1947	0.147	none	purged dry repeatedly with 3/4" bailer
MW14-15	26	7	-	-	1630	13.09	none	purged dry repeatedly with 3/4" bailer
MW14-16	52	178	> 0.2	637	1113	1.68	pumping test	developed with Waterra
1. EC = electrical conductivity								
2. uS/cm = microSiemens per centimeter								

2.5 WATER QUALITY SAMPLING

Groundwater samples were collected from all Phase 2 wells approximately one day after development. Low-yielding wells (MW14-08, -09, -10, -11, -12S, -14, and -15) were purged dry and allowed to recover before collecting a sample with a bailer from the well, while high-yielding wells were sampled with Waterra tubing and foot valve.

Prior to sampling, field readings of pH, electric conductivity, and oxidation reduction potential (ORP) were taken using a calibrated YSI field meter. Next, groundwater samples were filled into pre-washed bottles provided by the laboratory. Samples collected for major anion analysis were filled in 120ml bottles, unfiltered and un-acidified. Samples collected for dissolved metals were field-filtered and field-acidified using the field equipment provided by the laboratory. All sample bottles were labeled and kept cool until delivery to the analytical lab (Maxxam of Burnaby, BC).

In addition, groundwater samples were also taken in all Phase 1 wells during the July field work.

Table 2-3 summarizes the field parameters measured during the July 2014 groundwater quality survey. The laboratory reports with full water quality analyses (and lab QA/QC) are provided in Appendix D. The groundwater quality results are discussed further in section 3.4.

Table 2-3. Field Water Quality Results, July 2014.

Well ID	pH	EC (uS/cm)	Temp. (°C)	Date sampled
Phase 1				
PW14-01	6.02	534	3.65	24-Jul-14
MW14-02S	6.56	179	9.31	25-Jul-14
MW14-02D	5.86	345	7.90	27-Jul-14
MW14-03	7.07	979	8.95	27-Jul-14
MW14-04S	6.69	4,395	11.02	27-Jul-14
MW14-04D	6.74	4,114	--	27-Jul-14
MW14-05	6.45	3,846	9.67	27-Jul-14
PW14-06	4.32	18,940	19.20	28-Jul-14
PW14-07	5.69	824	3.36	11-Jul-14
Phase 2				
MW14-08	7.01	439	6.78	23-Jul-14
MW14-09	6.49	764	2.14	23-Jul-14
MW14-10	7.14	1,087	1.93	23-Jul-14
MW14-11	7.28	631	1.87	23-Jul-14
MW14-12S	6.38	721	5.10	25-Jul-14
MW14-12D	5.90	868	1.61	25-Jul-14
MW14-13	5.75	1,802	2.37	26-Jul-14
MW14-14	6.72	1,947	3.50	24-Jul-14
MW14-15	6.28	1,630	4.40	24-Jul-14
MW14-16	5.98	1,153	1.43	26-Jul-14

2.6 HYDRAULIC TESTING

Following well development and sampling, mini-pumping tests were performed on the wells with sufficient recharge, i.e. MW14-12D, MW14-13, and MW14-16. A constant rate discharge test was conducted to establish the hydraulic properties of the well and surrounding aquifer.

A Honda trash pump was connected to Waterra tubing and the tubing inserted to approximately 0.5 m from the well bottom. A Solinst data-logging pressure transducer was inserted into the well below the pump intake and set to record the water level every 5 seconds. In addition, water levels were monitored with a Solinst TLC 100m water level tape. Water levels were recorded after shut off of the pump until the water level had recovered to within at least 70% of the static water level.

A single rising head slug test was performed on MW14-12S, using a bailer to remove approximately 0.8 L of water from the well and measuring the recovery in the well with a Solinst data-logging pressure transducer.

The hydraulic testing test data and analytical interpretation are summarized in Appendix C. Table 2-4 summarizes the analytical models applied and the inferred hydraulic conductivity values for the different materials tested. The results of these hydraulic tests are discussed further in section 3.2.

Table 2-4. Results of Hydraulic Testing.

Well	Aquifer Material	b (m)	T (m2/s)	K (m/s)	Type of analysis	Type of test
MW14-12S	Gravelly silt (till)	1.2	n/a	3.47E-07	Bouwer Rice	slug
MW14-12D	Sand and gravel	3.0	1.04E-03	3.47E-04	Theis (recovery)	pumping
MW14-13	Sand and gravel	1.1	7.18E-04	6.52E-04	Theis (recovery)	pumping
MW14-16	Sand and gravel	1.2	1.73E-03	1.44E-03	Theis (recovery)	pumping
T = transmissivity						
K = hydraulic conductivity						
b = assumed aquifer thickness						

2.7 WATER LEVEL SURVEY

A site-wide water level survey was conducted in the area of investigation at the end of the drilling program after water levels in the wells had stabilized. The water level elevations were measured within a time period of three hours on July 28, 2014 and represent an instantaneous snapshot of water levels. No significant precipitation occurred in the 2 days prior to the survey. The water levels were measured with a Solinst Model 107 TLC meter that measures water level, temperature and EC. During the survey a significant difference in electrical conductivity with depth was noted in some of the wells suggesting potential variations in groundwater quality with depth in the screening interval. A

separate survey of EC and temperature depth profiles in the completed and developed monitoring wells was therefore conducted on July 30, 2014. The results of these surveys are presented on the borehole logs in Appendix B. EC profiles observed in monitoring wells MW14-13 and MW14-14 showed a significant increase in EC towards the bottom of the well likely indicating higher levels of contamination at greater depth in the partially screened aquifer at those locations.

2.8 SEEP SURVEY

During a site survey of prospective drill sites in the reach upstream of the rock drain, an area of groundwater seeps entering surface water was noted on the northeast side of the NF1 pond. Extensive iron oxide precipitation covered the area of the pond that was exposed by seasonal low water levels. To further understand the hydraulic connections of nearby groundwater seeps to the surface water and to measure the impact on zinc concentrations in the upstream pond and NFRC, RGC staff collected seven surface water samples and six shallow groundwater samples in and around the NF1 pond as well as on the downstream side of the rock drain (on July 17, 2014). The surface water samples were collected from just below the water surface into 120 ml bottles and then field filtered into a separate acid-washed plastic bottle. Shallow groundwater samples were collected by digging a shallow pit of about 30 cm depth (on shore), letting the pit fill with groundwater, then collecting a sample into a 120 ml acid-washed plastic bottle and field filtering it into a second bottle. Due to the limited amount of time available for this ad-hoc survey, no field water quality parameters were measured. The samples were immediately analyzed for dissolved zinc concentrations by TEES at the on-site laboratory using an ICP-OES machine.

Figure 2-1 shows the seep locations and observed zinc concentrations in the groundwater seeps and in the overlying shallow pond water column.

3 DISCUSSION

3.1 TARGET ZONES

The Phase 2 NFRC Drilling Program was designed to evaluate groundwater conditions and the potential for seepage interception both upgradient and immediately downgradient of the rock drain. The drilling program targeted the western side of the NFRC valley where contaminated seepage is observed to discharge preferentially into the NFRC (at sampling location NF2A).

Figure 1-1 shows the final drilling locations in the study area. Two different areas were targeted in the Phase 2 NFRC Drilling Program:

- A fence of wells located along the western and northern shore of the NF1 pond (MW14-12 to MW14-16), i.e. along the eastern toe of the Intermediate Dump, targeting the shallow sediments of the western portion of the original NFRC valley upstream of the rock drain ("NF1 pond area")
- A fence of wells located along the downstream toe of the rock drain (MW14-08 to MW14-11) targeting the shallow sediments of the western portion of the original NFRC valley ("NF2A area")

In summary, the stratigraphy in the NF1 pond area is complex and groundwater quality variable. Along the eastern toe of the Intermediate Dump, a productive sand and gravel unit was encountered at depths greater than approximately 3m (10ft) beneath a confining surficial silt layer. Groundwater in this sand and gravel unit showed moderately elevated zinc concentrations (up to 21 mg/L zinc in BH14-14). Based on these preliminary findings, additional drilling and hydraulic testing of this deeper sand and gravel unit is warranted to evaluate the feasibility of seepage interception in the NF1 pond area (see section 3.2.1 for more details).

Shallow sediments in the NF2A area are comprised predominantly of low permeability silts with some peat and shallow groundwater is not significantly impacted (<0.15 mg/L zinc), indicating that highly impacted seepage discharges further upstream into the western channel of NFRC and discharges as surface water at NF2A (see section 3.2.2 for more details).

The following sections provide more details on the hydrostratigraphy, groundwater levels and groundwater quality observed in the two target areas.

3.2 HYDROSTRATIGRAPHY

Figure 3-1 shows the pre-mining topography and the surficial geology of the study area (mapped prior to construction of the rock drain). This figure also shows the drill locations of the Phase 1 and Phase 2 drilling program. The borehole logs and information about surficial geology and pre-mining

topography was used to develop several hydrostratigraphic sections across the study area (Figure 3-2 to 3-5). The alignment of these sections in plan view is also shown in Figure 3-1.

3.2.1 Upgradient of Rock Drain (NF1 Pond Area)

Figure 3-2 shows the inferred stratigraphy along the western shore of the NF1 Pond (section A-A') and Figure 3-3 shows the inferred stratigraphy across the NFRC valley from the Intermediate Dump towards the NF1 Pond (section B-B').

In the NF1 pond area, the following stratigraphy was observed:

- 0 to 3.0m Gravelly SILT
- 3.0 to 4.4m Medium SAND
- 4.4 to >7.6m SAND & GRAVEL

Note that the maximum depth of the sand and gravel unit is unknown as none of the drill holes penetrated more than 7.6m below ground surface.

A thin layer of organic lacustrine silts was observed in boreholes near the current pond (MW14-14 and MW14-15). The surficial gravelly silt unit was observed in all drill holes along the toe of the Intermediate Dump but appeared to be thinning out towards the center of the NFRC valley (near MW14-13). This silt unit is inferred to represent a glacial till that was mostly eroded by the creek towards the center of the valley. These units are underlain by water-bearing units comprised of medium sand and well-graded sand and gravel that likely represent glacio-fluvial deposits in the valley center.

Hydraulic testing data conducted on four of the newly-drilled wells in the NF1 Pond area found hydraulic conductivity values typically expected for the materials encountered (see Table 2-4). The gravelly silt unit screened in MW14-12S showed a low permeability ($K=3*10^{-7}$ m/s) characteristic of fine-grained glacial till. In contrast, the sand and gravel unit that the other wells near the NF1 Pond are screened showed very high hydraulic conductivities (ranging from $3x*10^{-4}$ to $1x10^{-3}$ m/s) characteristic of coarse-grained glaciofluvial sediments with very low fines content.

3.2.2 Downgradient of Rock Drain (NF2A Area)

In the NF2A area, the following stratigraphy was observed (across the shallow depth of investigation):

- 0 to 2.5m Mixture of silt, sand and peat
- 2.5 to 6.0m Gravelly silt and clay

Initial test pitting in this area suggested that shallow groundwater would preferentially flow through the more porous peat layers (where present).

Figure 3-4 shows the inferred hydrostratigraphy observed across the NFRC valley in the NF2A area immediately downstream of the rock drain. Note that the inferred stratigraphy for the deeper sediments in this area is primarily based on the two geotechnical holes drilled in 2013 by CH2MHill. According to those drill logs the fine-grained, low permeability surficial sediments are underlain by a more permeable well graded sand and gravel unit with +/- 5% silt (similar to the unit observed upgradient of the rock drain). The depth to bedrock in this area ranges from about 10-11m below ground surface on the west side of NFRC to ~7-8m on the east side of NFRC.

3.2.3 Longitudinal Section along Thalweg

Figure 3-4 shows the longitudinal cross-section aligned with the thalweg of the NFRC valley over the entire area of investigation (approximately north-south). The silt unit separating the waste rock from the underlying sand and gravel aquifer may not be continuous over the entire study area and is likely absent in the former creek channel. Therefore the deeper sand & gravel aquifer likely represents a semi-confined aquifer with hydraulic connection to the NFRC.

Depth to bedrock in the NFRC valley was interpreted based on borehole logs and geophysical surveys performed by Aurora Geosciences in July and August 2014. Depth to bedrock is inferred to range from approximately 10m upstream and downstream of the rock drain to at least 20m beneath the rock drain (near MW14-02S/D). These drilling results suggest that the bedrock surface rises along the thalweg (towards the toe of the rock drain) potentially reducing the thickness of the sand & gravel aquifer in the NFRC valley.

3.3 GROUNDWATER LEVELS AND FLOW

The static groundwater levels observed on July 28, 2014 in the various wells and the inferred groundwater level contours are shown in Figure 3-6. Geodetic groundwater levels are also shown on the cross-sections depicted on Figures 3-2 to 3-5.

The following observations can be made:

- In general, groundwater from the Intermediate Dump area flows in a south-westerly direction (following relatively steep pre-mining topography) towards the NFRC valley sediments; note that the groundwater table on the hill side is situated below the natural ground surface, i.e. the waste rock is unsaturated (see RGC, 2014b for more details); in the NFRC valley, groundwater generally flows parallel to the main alignment of the NFRC valley (i.e. north-south); this general flow field is slightly modified by the presence of the NF1 pond and recharge from NFRC (see below)
- Upgradient of the rock drain (near NF1 pond), groundwater levels in the NFRC sediments are relatively uniform and horizontal hydraulic gradients are very low, likely due to the presence of the NF1 pond which is inferred to interact with the local groundwater.

- Groundwater levels observed in the wells located along the northwestern shoreline of the NF1 pond (upgradient of the rock drain) are slightly higher than the geodetic water level observed in NF1 pond (by about 3 to 10cm) suggesting a weak upward gradient; this observation is consistent with the presence of seeps along the northwestern shoreline.
- Groundwater in the NFRC valley sediments generally follows the slope of the NFRC valley (from north to south) under the rock drain. The measured horizontal gradient from the upgradient NF1 pond area to the downstream rock drain toe area is about 0.02 m/m.
- Groundwater levels at PW14-07, screened in glaciofluvial sediments at the valley side are significantly lower than at PW14-01 and MW14-02D, screened in the same unit but located closer to the center of the valley (near the buried NFRC channel); this flow field is inferred to be a result of significant leakage from NFRC to the underlying sediments, resulting in mounding of the groundwater table along the NFRC beneath the rock drain; this observation is consistent with the strong downward hydraulic gradient (0.025 m/m) observed at MW14-02S/D.
- Groundwater levels also suggest a small downward gradient along the downstream toe of the rock drain, likely induced by recharge from the NFRC (w/ MW14-08 located closest to the creek bed showing the highest water level).

Note that according to the inferred flow field, any seepage from the Intermediate waste rock dump (and associated zinc load) would not discharge directly into surface water (NF2A) but instead discharge into and mix with the groundwater flowing on the western side of the NFRC valley. As discussed in section 3-4 below, there is no evidence of significant zinc loading to the NFRC aquifer (beneath or downgradient of the rock drain).

In the Phase 1 report it was postulated that waste rock seepage from the Intermediate Dump may flow along the natural ground surface (perched above the contiguous water table by the low-permeability till) towards the western branch of the now buried NFRC (see Figure 3-2 in RGC, 2014b). The results of this Phase 2 investigation support this hypothesis of perched seepage (see below).

Table 3-1 compares the static groundwater levels observed in the Phase 1 wells in July 2014 to those observed in March 2014 (at the end of the 2014 winter drilling program, RGC, 2014b). Several wells screened in the sediments and/or shallow bedrock on the hill side beneath the Intermediate Dump showed higher water levels in late July than during the March 8 survey (for example, up to 1.6m higher at PW14-06). This behavior would be expected as spring runoff and summer rains provide recharge to the hill side.

Table 3-1. Water Level Comparison March vs July 2014.

Well	DTW (m btoc) March 8 2014	DTW (m btoc) July 28 2014	Difference (m)
PW14-01	59.51	60.10	-0.59
MW14-02S	57.52	58.58	-1.06
MW14-02D	58.50	59.04	-0.54
MW14-03	54.32	54.10	+0.22
MW14-04S	60.82	61.33	-0.51
MW14-04D	69.28	69.35	-0.07
MW14-05	53.63	53.40	+0.23
PW14-06	48.74	47.08	+1.66
PW14-07	66.32	66.53	-0.21

In contrast, the wells screened in the NFRC valley sediments showed significantly lower water levels in late July than in late winter (by as much as 1.1 m in the shallow sediments near NFRC, MW14-02S). These results are surprising considering the fact that flow rates in NFRC were significantly higher in late July (~2,500 L/s) than in early March (~350 L/s). More detailed water level monitoring in both the groundwater wells and stream flow and stage monitoring in the NFRC (and NF1 pond) will be required to better understand the interaction between surface water and groundwater in the reach of the rock drain.

3.4 GROUNDWATER QUALITY

Table 3-2 shows selected water quality results for the July 2014 sampling survey conducted by RGC in the Phase 1 and Phase 2 wells. Figure 3-7 illustrates the observed dissolved zinc concentrations in the various Phase 1 and Phase 2 wells in plan view. These zinc concentrations are also shown next to the respective screening intervals on the cross-sections (Figure 3-2 to 3-5).

The groundwater quality observed in the Phase 1 wells in July 2014 was consistent with earlier sampling in February/March 2014 reported in the Final Report of the Phase 1 Winter Drilling Program (RGC, 2014b) and confirmed that highly contaminated seepage was only observed in PW14-06 (w/ about 2,940 mg/L zinc). All other Phase 1 wells showed zinc concentrations of about 0.5 mg/L or less (Table 3-2).

A comparison of zinc concentrations in the 2014 wells versus electric conductivity (EC) values showed no particular correlation (Figure 3-8). Some wells that were high in EC had non-detect or very low zinc concentrations (MW14-04S, MW14-04D, MW14-05), whereas some wells with high

concentration of zinc exhibited only moderate EC values (MW14-14 deep, MW14-15). This implies that EC is not a good surrogate for moderately impacted groundwater in the NFRC area.

Table 3-2. Selected water quality results (from Maxxam Analytics) for Phase 1 & 2 wells collected between July 23-26, 2014.

Parameter	Conductivity	pH	Sulphate	Zn	Cd	Co	Mn	Ni
Unit	uS/cm	pH	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
Phase 1 Wells								
PW14-01	511	6.88	62.9	393	0.055	6.49	2,710	9.4
MW14-02S	179	7.80	11.1	15.1	0.027	<0.50	12.3	<1.0
MW14-02D	360	6.78	50.9	522	0.191	3.3	677	8.2
MW14-03	914	8.08	123	<5.0	0.056	1.66	1,050	3.7
MW14-04S	4,400	7.62	2,630	29	0.212	1.1	719	11.3
MW14-04D	4,010	7.73	2,370	173	0.412	2.2	775	13.6
MW14-05	3,850	7.98	2,490	<10	<0.020	4.8	1,130	20
PW14-06	19,300	4.32	26,500	2,940,000	2,010	5,990	443,000	9,370
PW14-07	819	6.41	182	1,140	0.12	5.53	1,170	16.3
Phase 2 Wells								
MW14-08	377	7.97	30.9	5.8	<0.010	1.33	1,550	1.1
MW14-09	693	8.08	159	148	0.275	6.64	1,880	18.7
MW14-10	1,050	8.15	252	<5.0	0.138	2.97	541	9.7
MW14-11	611	8.28	26.3	21.6	<0.010	1.9	663	3.3
MW14-12S	730	7.33	300	1,420	0.358	<0.50	385	10.1
MW14-12D	1,010	7.00	295	2,160	1.12	1.39	367	50.3
MW14-13	1,820	7.47	610	7,860	2.85	1.65	490	112
MW14-14	2,130	7.58	1,270	1,270	0.4	4.3	1,360	8.9
MW14-14 deep	776	6.92	348	21,000	6.49	4.36	393	75.7
MW14-15	1,670	7.49	955	13,600	2.19	23.1	2,720	108
MW14-16	1,150	7.77	404	2,270	1.24	2.56	184	51.8

3.4.1 Upgradient of Rock Drain (NF1 Pond Area)

Groundwater in the sediments of the NF1 pond area showed varying degrees of impact of WRD seepage. Depth-discrete sampling during drilling at MW14-14, located at the toe of the Intermediate Dump indicated significant variations in zinc with depth (Figure 3-2). A groundwater sample taken in this borehole at a depth of 10.5 ft (3.2m) using a Waterloo sampler showed a zinc concentration of 21 mg/L (sample labelled “MW14-14 deep” in Table 3-2). Unfortunately, several attempts at installing a deep piezometer at this location failed with the available handheld equipment due to refusal of the Pjonjar in the gravelly silt (this site was not accessible with the Bobcat rig). The monitoring well

installed in this borehole at shallower depth (MW14-14 screened from 1.8 to 2.7 m bgs in low permeability silt) showed significantly lower zinc concentrations (1.27 mg/L).

Monitoring well MW14-15 which is also located along the toe of the Intermediate Dump and screened in the upper confining silt unit also showed moderately elevated zinc concentrations (~13.6 mg/L). Again, no deep piezometer in the underlying more permeable sand and gravel unit could be installed at this location.

The moderately elevated concentrations of zinc (and other trace metals such as Cd, Co and Ni) in those wells located in immediate proximity of the toe of the Intermediate Dump (MW14-14(deep) and MW14-15, see Figure 3-7) suggest that the aquifer in this area receives additional metal loading (in particular zinc) that does not originate from further up the valley. The adjacent Intermediate Dump is thought to carry highly impacted groundwater from the sulphide cell, and is therefore considered a significant source of zinc flux into the aquifer.

Drilling through the waste rock dump (during Phase 1 work) indicated that the waste rock is unsaturated. Hence seepage percolates by gravity through the heterogeneous waste rock material along macropores and distinct preferential flow channels. Such seepage tends to reach the ground surface in localized areas and often flows along the natural ground surface until it reaches the valley floor where it can enter the shallow groundwater system or discharges directly into the nearest creek. The flow of highly impacted seepage through these preferential flow paths and the proximity of the newly drilled wells to the waste rock from the Intermediate Dump may explain the relatively large variation in zinc concentrations observed in the shallow NFRC sediments upgradient of the rock drain.

Shallow groundwater quality measured during the pond survey shows lightly to moderately impacted groundwater seeping into the pond (w/ Zn concentrations ranging from about 0.01 to 0.375 mg/L, Figure 2-1). However, the surface water concentrations of zinc at the inflow and outflow of the pond were essentially identical (0.005 and 0.006 mg/L, respectively) and therefore the flux of this groundwater discharge to the NF1 pond does not appear to be sufficient to impact surface water quality upstream of the rock drain (likely due to low hydraulic gradients and the presence of low permeability lake sediments).

The three piezometers located upgradient of the rock drain but screened in the more central portion of the deeper, high-yielding sand and gravel unit at greater distance from the toe of the Intermediate Dump (MW14-12D, MW14-16 and MW14-13) generally showed lower zinc concentrations (2.2 to 7.9 mg/L Zn, respectively). These (lower) zinc concentrations are within the typical range of zinc concentrations observed in the NFRC aquifer upstream of the Intermediate Dump (e.g. in the Zone 2 outwash area). Note that trace metal concentrations (including Cd, Co, Mn, Ni) observed in these more centrally located wells were also in the same range as observed in the Zone 2 outwash area

(e.g. at monitoring wells BH7S or P05-04). These results suggest that the central portion of the NFRC aquifer is not significantly affected by contaminant loading from the Intermediate Dump.

In summary, the observed water quality is consistent with our earlier conceptual model of zinc loading, which assumes that highly impacted seepage from the Intermediate Dump (with highly elevated zinc) is the main source of zinc loading to the NFRC (RGC, 2014b). Shallow drilling completed to date indicates that some of this seepage is entering the permeable sediments of the NFRC valley immediately upstream of the rock drain. However, additional drilling and hydraulic testing would be required to estimate the proportion of associated zinc loading that could potentially be intercepted along the toe of the Intermediate Dump upstream of the rock drain (see recommendations below).

3.4.2 Downgradient of Rock Drain (NF2A Area)

Groundwater in the shallow sediments of the NF2A area (at the toe of the rock drain) showed very little impact of WRD seepage with zinc concentrations of less than 0.2 mg/L (Table 3-2). These results are consistent with routine monitoring at monitoring well SRK-05-SP2 which is screened in the deeper and more permeable glaciofluvial sediments (installed in 2005 by SRK) which has shown similarly low dissolved zinc concentrations (Zn of ~0.141 mg/L in November 2013).

Note that the highest zinc concentrations in groundwater in this area (immediately downgradient of the rock drain) have been routinely observed in the deep piezometer SRK-05-SP01A (e.g. 2.3 mg/L in November 2013)[4]. This monitoring well is located further west of NF2A and is screened in the deeper sediments of the NFRC aquifer (presumably of glaciofluvial origin). Slightly elevated zinc concentrations at this location/depth are consistent with the inferred flow field and suggest a potential preferred flow channel in the deeper glaciofluvial sediments from MW14-04 towards PW14-07 and then towards SRK-05-SP1A (Figure 3-7).

Although no significant groundwater impacts could be observed near NF2A, a distinct 5 m wide band of iron oxide staining was observed at the downstream toe of the rock drain, to the northwest of the NF2A discharge location. No oxide staining was observed anywhere else in the spring area. Concentrations of dissolved iron are generally low in the sampled wells except in MW14-06 which is known to be highly impacted by ARD. Iron oxidation occurs as a result of oxygenation of groundwater and/or an increase in pH. The kinetics of iron precipitation are generally rapid (0.5 to 10 minutes) and thus the band of iron oxide staining in the surface water on the downstream side of the rock drain

[4] Note: These SRK-05 wells were not sampled during the Phase 2 investigation, hence no zinc values are reported for the July 2014 survey shown on Figure 3-7

indicates a mixing of iron-rich water with the creek flow-through not far from the toe of the rock drain, possibly as a result of a discrete discharge of highly impacted (perched) flow from the Intermediate Dump.

3.4.3 Potential Sources of Zinc Loading to NF2A

It is most likely that the high concentrations of zinc observed at NF2A are a result of one or more distinct inflows of highly impacted seepage from the Intermediate Dump very close to the downstream toe of the rock drain. The following previously stated observations support this claim:

- A distinct band of iron oxide precipitation in the downstream spring area of the rock drain along with the rapid kinetics of iron oxide precipitation and the fact that iron concentrations are low in the valley aquifer and very high in impacted seepage.
- A high variability in zinc concentrations in the upstream area points to multiple distinct influxes of zinc into the aquifer. This pattern presumably continues along the NFRC reach now buried beneath the rock drain.
- A strong permeability contrast between the shallow foundation soils (consisting of low-permeability glacial till) and the high permeability waste rock encountered in the Intermediate Dump and rock drain during the 2014 Winter Drilling program which could potentially result in development of perched zones near the base of the pre-mining natural ground surface
- Low zinc concentrations in the wells located in the center of the rock drain and screened in the NFRC valley sediments (PW14-01, MW14-02S, MW14-02D).

Some uncertainty remains about the exact flow path and discrete discharge location of the inferred highly impacted seepage(s) from the Intermediate Dump (with highly elevated zinc and other trace metals). Moderately elevated zinc concentrations observed in the westernmost portion of the NFRC sand and gravel aquifer (at MW14-14-deep) suggest that some seepage from the Intermediate Dump may enter the NFRC aquifer upgradient of the rock drain. Additional drilling and hydraulic testing in this area will be required to allow an estimation of this potential source to loading at NF2A (see recommendations below).

3.5 CONTAMINANT LOADING TO NFRC FROM GROUNDWATER

Surface water quality in North Fork Rose Creek is monitored routinely in the reach between upstream of the rock drain and the confluence with the South Fork of Rose Creek. Conservative mixing calculations (“loading calculations”) were completed to determine the magnitude of seepage required for different contaminant sources (with different source concentrations) to match the observed increase in contaminant load in the NFRC (between stations NF1 and NF2). These conservative mixing calculations ignore chemical reactions but allow for an order-of-magnitude estimate of potential and likely sources that contribute to contaminant loading in the NFRC.

Loading calculations were completed for a suite of contaminants of concern (sulphate, cadmium, cobalt, manganese, nickel and zinc) to determine the likely source(s) of the contaminant loads in NF2A and ultimately in the NFRC at NF2/X2. The potential contaminant sources considered here are as follows:

- PW14-06 representing highly impacted seepage from the Sulphide Cell
- PW14-01 representing modestly impacted groundwater from the NFRC aquifer (beneath the rock drain)
- P05-04 representing modestly impacted groundwater from the NFRC aquifer (in Zone 2 outwash area)
- Groundwater sample “MW14-14“deep” representing the most impacted groundwater found in the aquifer immediately upgradient of the rock drain (western shore of NF1 pond).

Table 3-3 lists the estimated seepage flows required to explain the incremental contaminant load for the various contaminants of concern entering the NFRC beneath the rock drain. These flows suggest that a very small amount of seepage from the Sulphide cell or a moderate flow from the NF1 area aquifer (MW14-14 deep), or a combination of the two sources, is required to explain the significant increase in contaminant load (in the order of 30 kg/day zinc) between NF1 and NF2.

As described in the Phase 1 report, the geochemical signature of water from PW14-06 best matches the chemical composition of the estimated incremental contaminant load (RGC, 2014b). In contrast, the geochemical signature of groundwater from PW14-01 and P05-04 does not match the observed metal loading in NFRC very well suggesting that neither of these sources is a likely dominant source of loading to NFRC.

The water sampled at MW14-14(deep) has an intermediate chemical composition, with SO4, Ni, Cd and Zn showing similar required seepage rates while flow rates computed for Co and Mn are much higher, implying that concentrations of those trace metals are likely too low to explain the observed contaminant load.

Based on this analysis a discrete seep of highly impacted seepage from the Intermediate Dump (with chemical composition more similar to that of PW14-06) is still considered the most likely source for the observed contaminant load increase in NFRC beneath the rock drain.

Table 3-3. Flow rates of different potential sources required to account for incremental load in NFRC between NF1 (pond) and X2.

Parameter	PW14-06 (Sulphide Cell)	PW14-01 (NFRC aquifer)	P05-04 (Zone 2 Outwash Area)	MW14-14 deep (GW upstream of rock drain)
Flow required to explain SO4 Load	0.25	86	30	14.5
Flow required to explain Cd Load	0.12	6000	60	50
Flow required to explain Co Load	0.13	180	1000	232
Flow required to explain Mn Load	0.10	31	900	150
Flow required to explain Ni Load	0.10	60	50	16
Flow required to explain Zn Load	0.07	240	55	10.5

3.6 IMPLICATIONS FOR SEEPAGE INTERCEPTION DESIGN

The NF2A area is clearly not suitable for interception of groundwater due to the absence of high permeability sediments and absence of high concentrations of zinc. At the same time, these subsurface conditions at NF2A are favorable for collection of impacted surface water (at NF2A) since there is little opportunity for subsurface by-pass.

It is our understanding that YG-AAM has completed initial steps to design and implement a seepage interception system that would intercept impacted surface flow at NF2A. However, the surface flows required to be intercepted at NF2A would be substantial to significantly decrease the zinc load and ultimately zinc concentrations in NFRC. Detailed stream surveys completed on July 7, 2014 by EDI indicated that the total zinc load at NF2 was about 30 kg/day. Similar zinc loads were computed for winter low flow conditions (see Phase 1 Final Report, RGC, 2014b). Assuming an average zinc concentration of 5-10 mg/L at NF2A (typical for low flow conditions during the winter months), a total flow of 35-69 L/s would have to be intercepted to eliminate the zinc load to NF2A. Such a high rate of seepage interception would pose significant operational challenges (pump capacity, power, pipeline

capacity) and would likely overwhelm the storage capacity in the Faro Pit. Clearly, it is more desirable to intercept a less diluted seepage flow with higher source concentrations.

Based on the current information there are two potential options to intercept more impacted (higher strength) seepage:

1) Intercept (perched) seepage beneath the toe of the rock drain
2) Pump moderately impacted seepage immediately upgradient of the rock drain

As discussed earlier, the presence of oxide staining in parts of the toe of the rock drain (immediately west of NF2A) suggests that discrete, potentially highly impacted seep(s) may emerge at natural ground surface in close proximity of the toe of the rock drain. RGC recommends that consideration be given to a trial excavation in which the toe of the rock drain in the area of staining is cut back (with adequate sloping on all three sides to prevent instability and raveling of the freshly cut rock slopes) to expose the natural ground surface immediately upgradient of NF2A. If highly impacted seeps are observed at or just below natural ground surface, these seeps could be intercepted using shallow drains draining to the toe of the rock drain by gravity (see recommendations below).

Alternatively, the NF1 pond area offers some potential for seepage interception using pumping wells and/or deep drains screened in the permeable sand and gravel sediments of the NFRC aquifer. However, it is unclear at this time what proportion of seepage from the Intermediate Dump discharges into the deep sand and gravel unit upstream of the rock drain (versus further downgradient beneath the rock drain) and how much zinc load can be intercepted in this area.

Assuming an average zinc concentration of 15 mg/L in the western portion of the NFRC aquifer, a total flow of 23 L/s would have to be intercepted to eliminate the observed zinc load to NF2A (around 30 kg/day). Note, however, that pumping in the order of 20 L/s of moderately impacted groundwater from a series of pumping wells screened along the toe of the Intermediate Dump may induce flow of cleaner groundwater from the center of the valley (with chemical composition similar to that observed at MW14-13 and MW14-16) and/or unimpacted surface water from the NF1 pond.

Nevertheless, there is some potential for significant reduction in zinc load to NF2A by operating additional recovery wells located immediately upstream of the rock drain and screened in the deeper sand and gravel unit. The highest chance of intercepting moderately to highly impacted groundwater would be from a well located as close as possible to the upstream side of the rock drain. Additional drilling and hydraulic testing in this area is required to assess the performance of such an upgradient seepage interception system.

RGC therefore recommends installing a proper access road along the northern and western shoreline of the NF1 pond area and completing additional drilling and hydraulic testing along this road to better characterize the deep sand and gravel unit in the NF1 pond area before proceeding with more costly options (see recommendations below).

4 CONCLUSIONS & RECOMMENDATIONS

4.1 CONCLUSIONS

Phase 2 of the hydrogeological field investigation at the NFRC (near the rock drain) consisted of shallow test pitting, drilling, installation of monitoring wells, hydraulic testing, water sampling, and water level surveys on the newly installed wells. The conclusions of the Phase 2 NFRC drilling program can be summarized as follows:

- A total of ten boreholes were drilled during the Phase 2 drilling program, with six (6) monitoring wells completed upstream of the rock drain (NF1 pond area) and four (4) monitoring wells completed immediately downgradient of the rock drain (NF2A area).
- The stratigraphy in the NF1 pond area is complex and groundwater quality variable. Along the eastern toe of the Intermediate Dump, a productive sand and gravel unit was encountered at depths greater than approximately 3m (10ft) beneath a confining surficial silt layer. Groundwater in this sand and gravel unit showed moderately elevated zinc concentrations (up to 21 mg/L zinc in BH14-14). Based on these preliminary findings, additional drilling and hydraulic testing of this deeper sand and gravel unit is warranted to evaluate the feasibility of seepage interception in the NF1 pond area.
- Shallow sediments in the NF2A area are comprised predominantly of low permeability silts with some peat and shallow groundwater is not significantly impacted (<0.15 mg/L zinc), indicating that highly impacted seepage discharges further upstream into the western channel of NFRC and discharges as surface water at NF2A. However, a distinct 5 m wide band of iron oxide staining was observed at the downstream toe of the rock drain, to the northwest of the NF2A discharge location, suggesting mixing of iron-rich water with the creek flow-through not far from the toe of the rock drain, possibly as a result of a discrete discharge of highly impacted (perched) flow from the Intermediate Dump.
- The observed flow field and groundwater quality in the study area suggests that one or more distinct inflows of highly impacted seepage from the Intermediate Dump in close proximity to the downstream toe of the rock drain (perched above the groundwater table) is the main source of zinc loading to NF2A. However, moderately impacted groundwater originating from the westernmost reach of the NF1 pond area may also represent a significant secondary source of zinc.

4.2 RECOMMENDATIONS

4.2.1 Additional Drilling in NF1 Pond Area

The Phase 2 drilling program indicated the presence of elevated zinc concentrations at greater depth in permeable sand and gravel in the NF1 pond area. However, additional field work will be required to

delineate the depth of the aquifer and contamination and assess the potential for seepage interception in this reach.

RGC provides the following recommendations for additional field work in the NF1 pond area:

- Extend an access road along the western and northern shore of the NF1 pond (as per original proposal for the Phase 2 work); this access road should be built on fill to above the high water mark of the NF1 pond to prevent flooding of the access road; the existing Phase 2 wells should be protected during this earthwork and their casing raised to about 1m above the road fill level; Note: such an access road could be constructed in conjunction with the earthworks completed for construction of a berm on the upstream side of the rock drain (access via a ramp from the haul road);
- Drill a series of 4-5 exploratory holes (6-inch) to bedrock along the alignment from MW14-14 to MW14-13 using a rig capable of casing advance in loose (heaving) sands (dual-rotary or Symmetrix).
- During drilling, depth-discrete sampling should be performed (using air lifting) to delineate the zinc plume in width and depth; nested piezometers should be completed in those exploratory drill holes for future monitoring (water levels and water quality).
- Drill 2-3 pumping wells (6”- 8” ID) in zones of the NFRC aquifer identified as potential target zones for seepage interception; complete pumping tests in those pumping wells to determine the well yield, water quality of pumped water and the zone of influence.

4.2.2 Additional Water Quality and Water Level Monitoring

We recommend that the following monitoring be implemented in the Phase 1 and 2 wells in the study area:

- Weekly water level monitoring in all Phase 1 & 2 wells
- Quarterly water quality monitoring in all Phase 1 & 2 wells
- Installation of pressure transducers in select monitoring wells (MW14-2S/D, PW14-07, MW14-13, SRK05-SP2) and the NF1 pond for near continuous monitoring of water levels to understand seasonal water level fluctuations. This will aid in correlating flow with zinc load in NFRC.

4.2.3 Additional Seepage Investigation at NF2A

RGC recommends that a slot be cut into the toe of the rock drain (with tentative foot print dimensions of 8m wide and 10m deep) in the area of staining (with appropriate cut back slopes to provide a safe working area) to expose the natural ground surface immediately upgradient of NF2A. Once exposed, the area should be surveyed for potential seeps with highly elevated zinc (and other metals). This initial survey should include a combination of (i) surface water quality survey along the (newly

exposed) west branch of the NFRC, (ii) test pitting and/or (iii) installation of shallow drive points for water quality sampling.

Note that the design of such an excavation and any follow-up investigative work within the newly exposed foot print area would have to be approved by a geotechnical engineer to ensure the rock drain remains stable and working conditions are safe.

If highly impacted seeps (with Zn > 20 mg/L) are observed at or just below natural ground surface, these seeps could be intercepted using shallow drains draining to the current toe of the rock drain by gravity. If no highly impacted seeps are observed during this initial investigation consideration should be given to extending this slot cut and seep surveys further upgradient into the rock drain (again with the approval of a geotechnical engineer).

5 CLOSURE

Robertson GeoConsultants Inc. (RGC) is pleased to submit this report titled Final Report – Phase 2 Drilling Program, NFRC Reach, Faro, YT.

This report was prepared by Robertson GeoConsultants Inc. for the use of the Yukon Government – Assessment and Abandoned Mines.

We trust that the information provided in this report meets your requirements at this time. Should you have any questions or if we can be of further assistance, please do not hesitate to contact the undersigned.

Respectfully Submitted,

ROBERTSON GEOCONSULTANTS INC.

Prepared by:

Tilman Roschinski, M.Sc., P.Geo.
Consulting Hydrogeologist

Christoph Wels, Ph.D., M.Sc., P.Geo.
Principal Hydrogeologist

6 REFERENCES

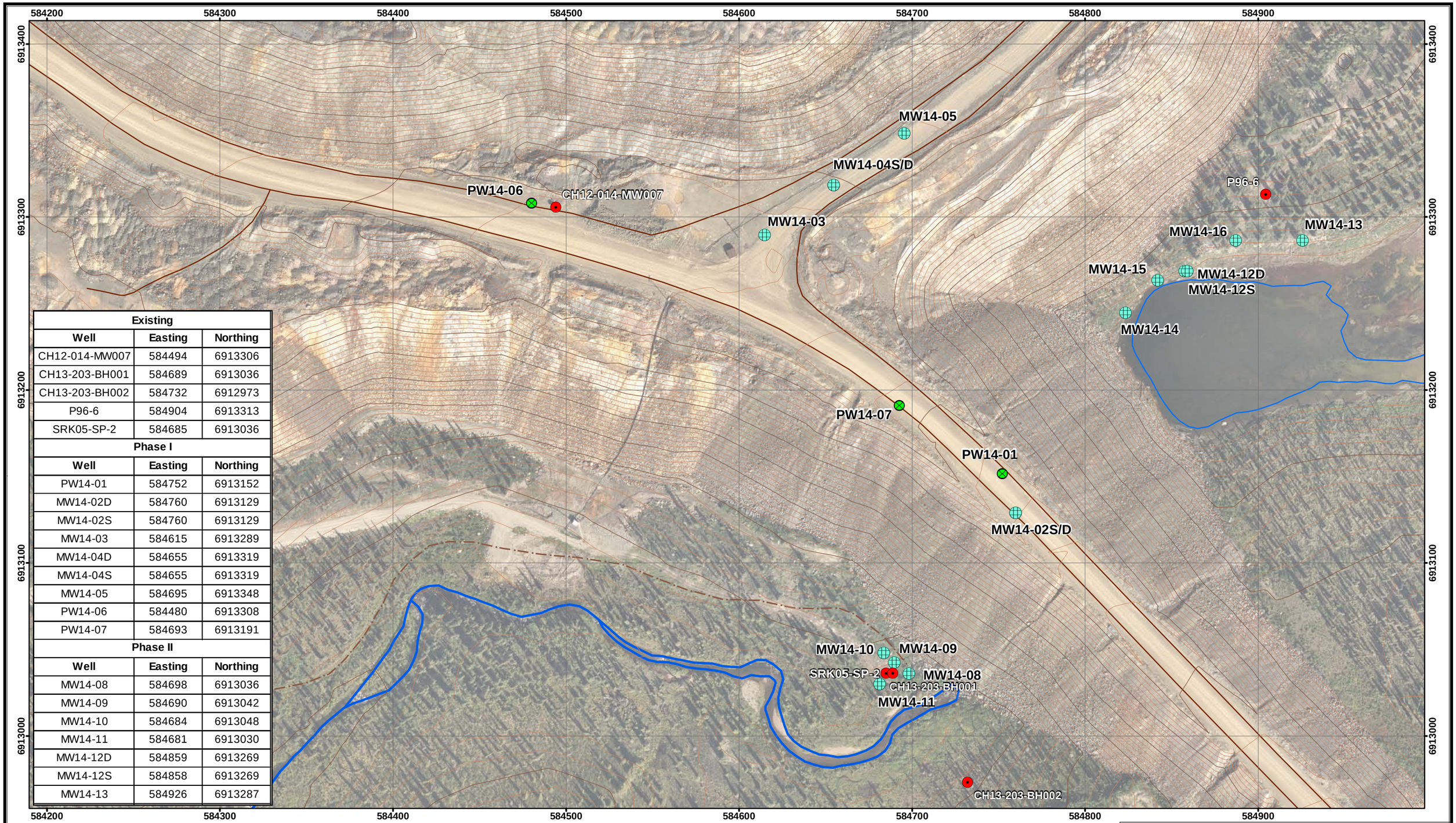
Robertson GeoConsultants Inc., 2014a. "*Progress Report - 2014 Winter Drilling Program, NFRC Reach, Faro Mine, Yukon*", Letter report submitted to YG-AAM on March 31, 2014.

Robertson GeoConsultants Inc., 2014b. "*Final Report – 2014 Winter Drilling Program, NFRC Reach, Faro Mine, Yukon, YT*", RGC Report 118026/2 submitted to YG-AAM, October, 2014.

Robertson GeoConsultants Inc., 2014c. "*Progress Report - Phase 2 NFRC Drilling Program, Faro Mine, Yukon*", Letter report submitted to YG-AAM on October 21, 2014.

END

FIGURES



Existing		
Well	**Easting**	**Northing**
CH12-014-MW007	584494	6913306
CH13-203-BH001	584689	6913036
CH13-203-BH002	584732	6912973
P96-6	584904	6913313
SRK05-SP-2	584685	6913036
Phase I		
Well	**Easting**	**Northing**
PW14-01	584752	6913152
MW14-02D	584760	6913129
MW14-02S	584760	6913129
MW14-03	584615	6913289
MW14-04D	584655	6913319
MW14-04S	584655	6913319
MW14-05	584695	6913348
PW14-06	584480	6913308
PW14-07	584693	6913191
Phase II		
Well	**Easting**	**Northing**
MW14-08	584698	6913036
MW14-09	584690	6913042
MW14-10	584684	6913048
MW14-11	584681	6913030
MW14-12D	584859	6913269
MW14-12S	584858	6913269
MW14-13	584926	6913287

Legend

- 2014 Monitoring Well
- 2014 Pumping Well
- Existing Monitoring Well
- River

Location Plan for NFRC Study Area

Phase 2 NFRC Drilling Program

N W E S

SCALE 1:2,000

0 25 50 100 Metres

NAD 83 CSRS UTM Zone 8N

Figure: 1 - 1

Client: Yukon Government

Robertson GeoConsultants Inc.
Consulting Engineers and Scientists for the Mining Industry
www.robertsongeoconsultants.com

Project: Phase 2 NFRC Drilling Program	Project No:118027
Report: RGC 118027	Last Update: Jan 28, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.

Original File: Figure1-1_Faro_Wells_xSectionLines.mxd

584800 584900 585000

6913300 6913200

FS1
0.003

SW1
0.099

FS2
2.28

FS3
0.375

FS4
0.011

FS5
0.012

SW2
0.008

FS6
0.264

SW3
0.006

SW4
0.005

0 100 200 Meters

Downstream side of rock drain

SW5 (RDS 009)
2.800

NF2A
0.516

NF2
0.489

0 12.5 25 Metres

584800 584900 585000

Legend

Shallow Groundwater Sample

Surface Water Sample

Contour
- Index (10m)
- Intermediate (2m)
- preMine Creek

* Concentrations of dissolved Zinc in mg/L

Foreshore Water Quality Survey (July 17, 2014)

Phase 2 NFRC Drilling Program

N W E S

SCALE 1:750

0 25 50 Metres

NAD 83 CSRS UTM Zone 8N

Figure: 2 - 1

Client: Yukon Government	Robertson GeoConsultants Inc. Consulting Engineers and Scientists for the Mining Industry www.robertsongeoconsultants.com
Project: Phase 2 NFRC Drilling Program	Project No:118027
Report: RGC 118027	Last Update: Jan 28, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.

Original File: Figure2-1_Faro_ForeshoreSurvey.mxd

584100 584200 584300 584400 584500 584600 584700 584800 584900 585000 585100 585200

6913500 6913400 6913300 6913200 6913100 6913000 6912900

MD
Gp
Gd
Tvb
Ax
Cv/Gp
Cv/Gx
Ap
Ca
Tb/Gx
Gx

PW14-06
CH12-014-MW007
MW14-03
MW14-04S/D
MW14-05
B
B'
C
C'
D
D'
P96-6
MW14-16
MW14-13
A'
MW14-15
MW14-12D
MW14-12S
A
MW14-14
PW14-07
PW14-01
MW14-02S/D
MW14-10
MW14-09
MW14-08
SRK05-SP-2
CH13-203-BH001
MW14-11
CH13-203-BH002

Legend

- 2014 Monitoring Well
- 2014 Pumping Well
- Existing Monitoring Well
- Cross Section
- Historic Stream Channel
- Waste Dump
- River

Surficial Geology

- Ap, Alluvial Plain
- Ax, Mixed Alluvial Plain & Alluvial Fan
- Ca, Colluvium Apron
- Cv/Gp, Colluvium Veneer/Glaciofluvial Plain
- Cv/Gx, Colluvium Veneer/Glaciofluvial Complex
- Gd, Glaciofluvial Deposit
- Gp, Glaciofluvial Plain
- Gx, Glaciofluvial Complex
- MD, Mine Disturbance
- Tb/Gx, Till Blanket/Glaciofluvial Complex
- Tvb, Till Veneer Blanket

Surficial Geology Map and Pre-Mining Topography

Phase 2 NFRC Drilling Program

N W E S

SCALE 1:3,000

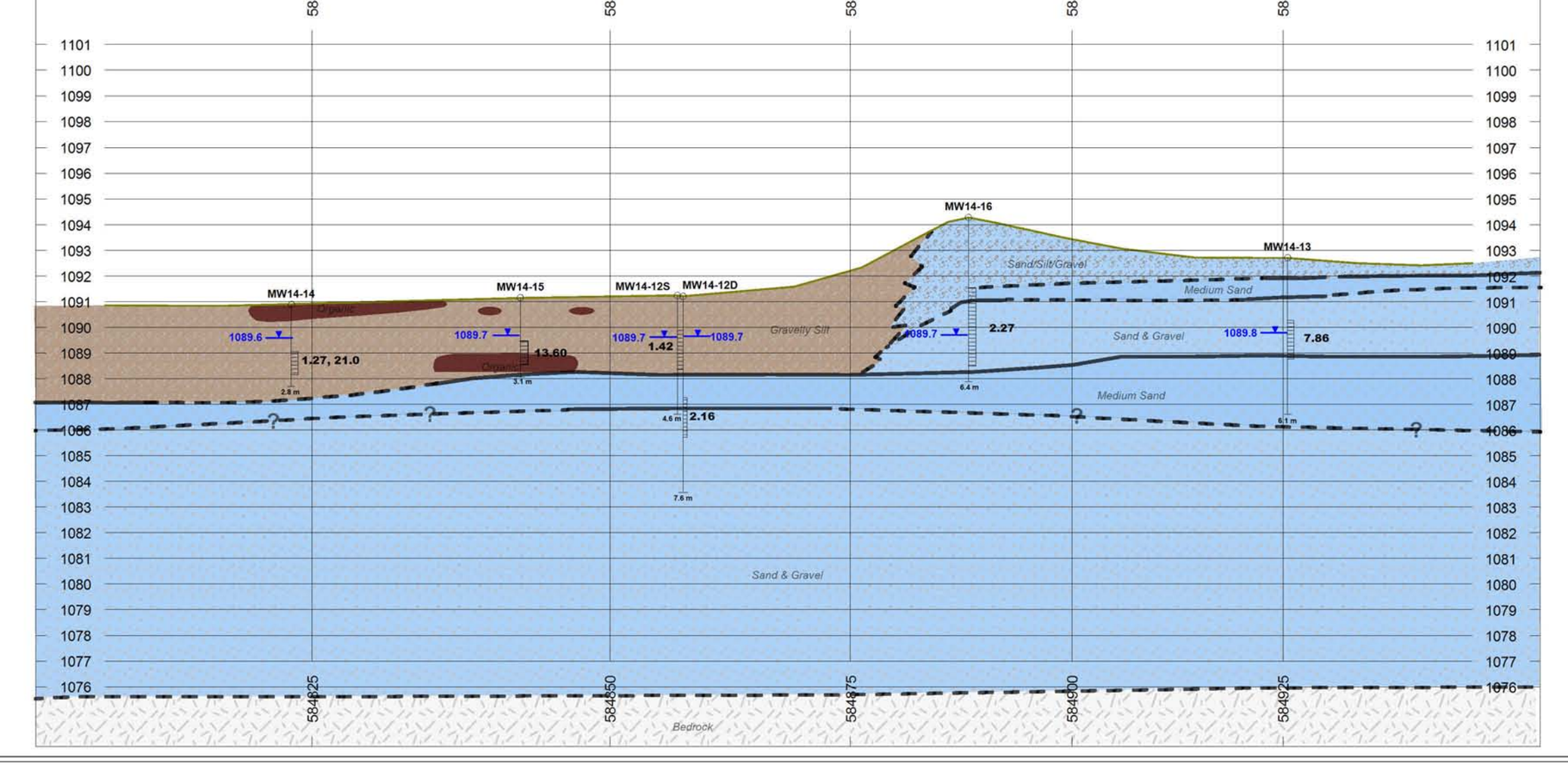
0 25 50 100 150 Metres

NAD 83 CSRS UTM Zone 8N

Figure: 3 - 1

Client: Yukon Government	Robertson GeoConsultants Inc. Consulting Engineers and Scientists for the Mining Industry www.robertsongeoconsultants.com
Project: Phase 2 NFRC Drilling Program	Project No:118027
Report: RGC 118027	Last Update: Jan 29, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.

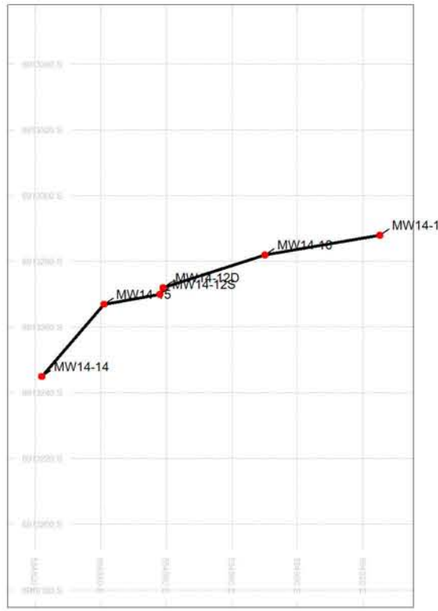
Original File: Figure3-1_Faro_Wells_xSectionLines_Geology.mxd



HOLES PLOTTED

TOTAL 6

MW14-14 MW14-15 MW14-12S MW14-12D
MW14-16 MW14-13



Legend

Topography

ROCK CODES Unit	PAT	LABEL
		Organic Material
		Gravelly Silt
		Sand/Silt/Gravel
		Medium Sand
		Sand & Gravel
		Bedrock

Piezometric Elevation (m amsl)

Screen Interval (m), Zn (mg/L)

SCALE 1 : 600

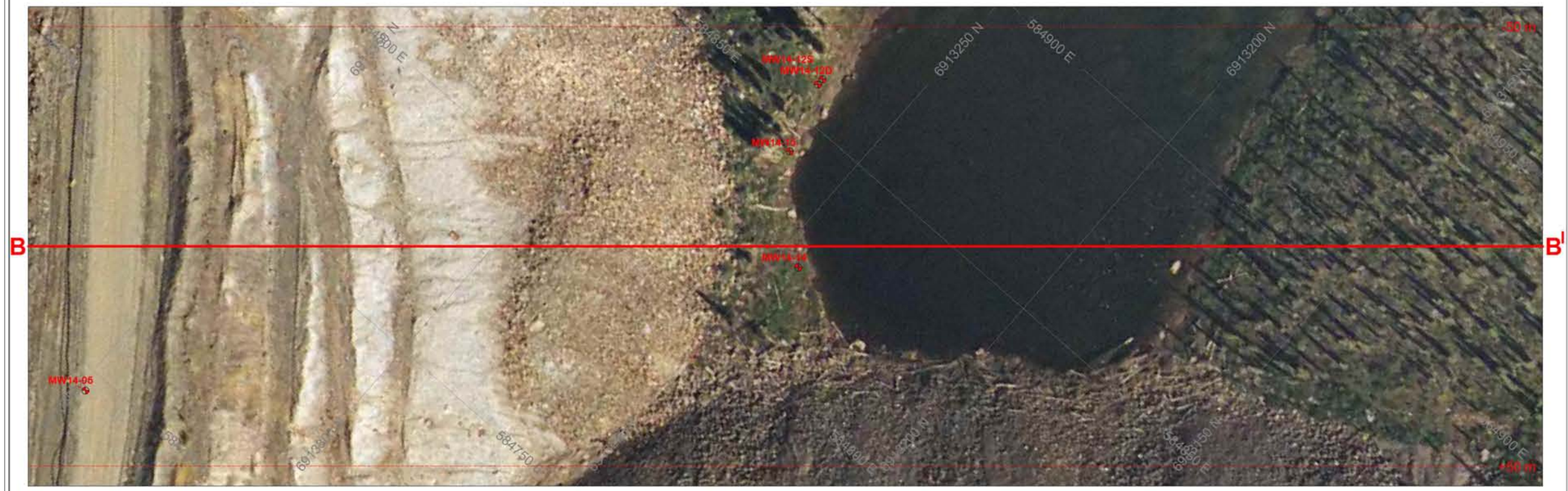
(m)

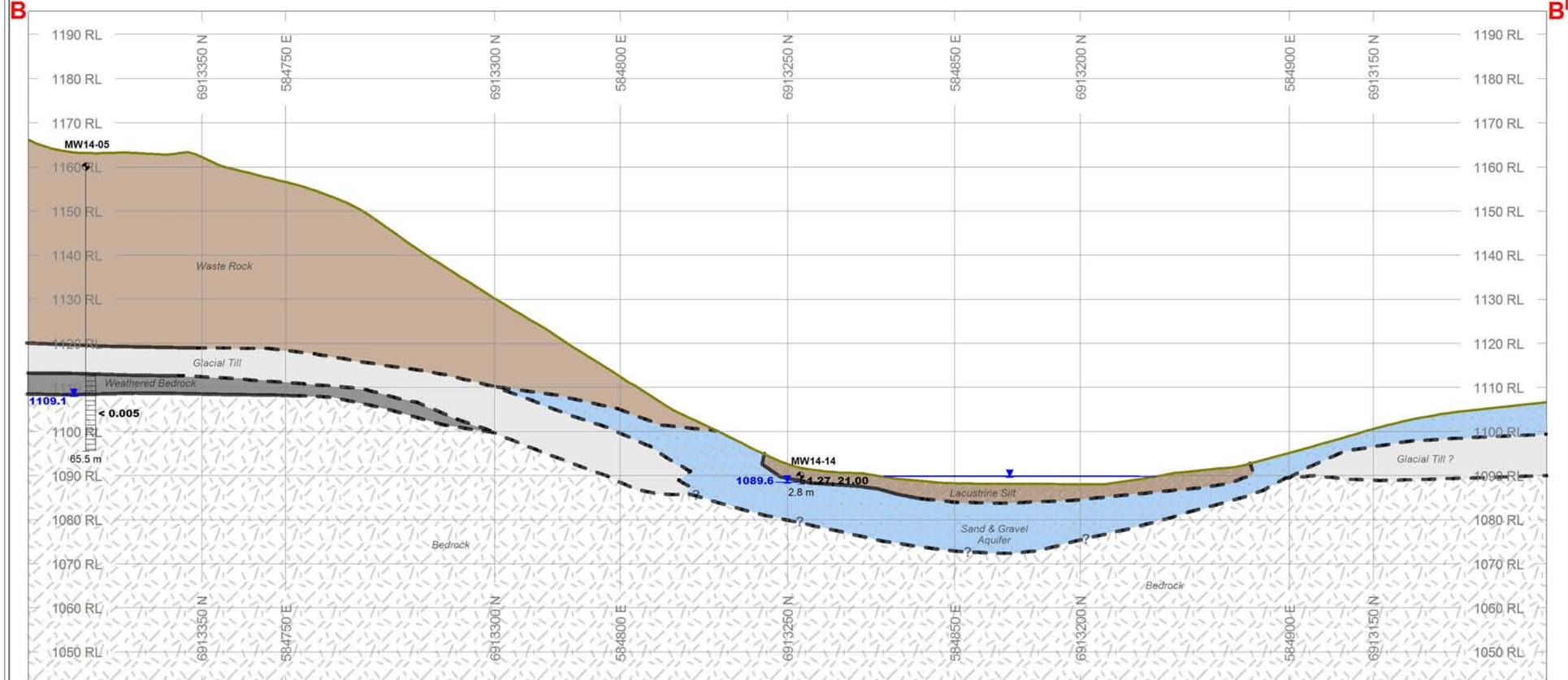
-5 0 5 10 15 20

NAD83(CSRS) / UTM zone 8N

Figure: 3 - 2

Client: Yukon Government	Robertson GeoConsultants Inc.
Project: Phase 2 NFRC Drilling Program	Project No: 118027
Report: 118027	Last Update: January 13, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.
Original File: faromine_sectionsa-d.gpf	





Legend

- Topography
- ROCK CODES / PAT / LABEL
  - Unit
  - Weathered Bedrock
  - Waste Rock
  - Glacial Till
  - Lacustrine Silt
  - Sand & Gravel Aquifer
  - Bedrock
- Piezometric Elevation (m amsl)
- Screen Interval (m), Zn (mg/L)

SECTION SPECS:

REF. PT. E, N	584825 m	6913250 m
EXTENTS	344.5 m	152.7 m
SECTION TOP, BOT	1195 m	1043 m
TOLERANCE +/-	50 m	

SCALE 1 : 1100

(m)

-10 0 10 20 30

NAD83(CSRS) / UTM zone 8N

AZIMUTH = 138.8°

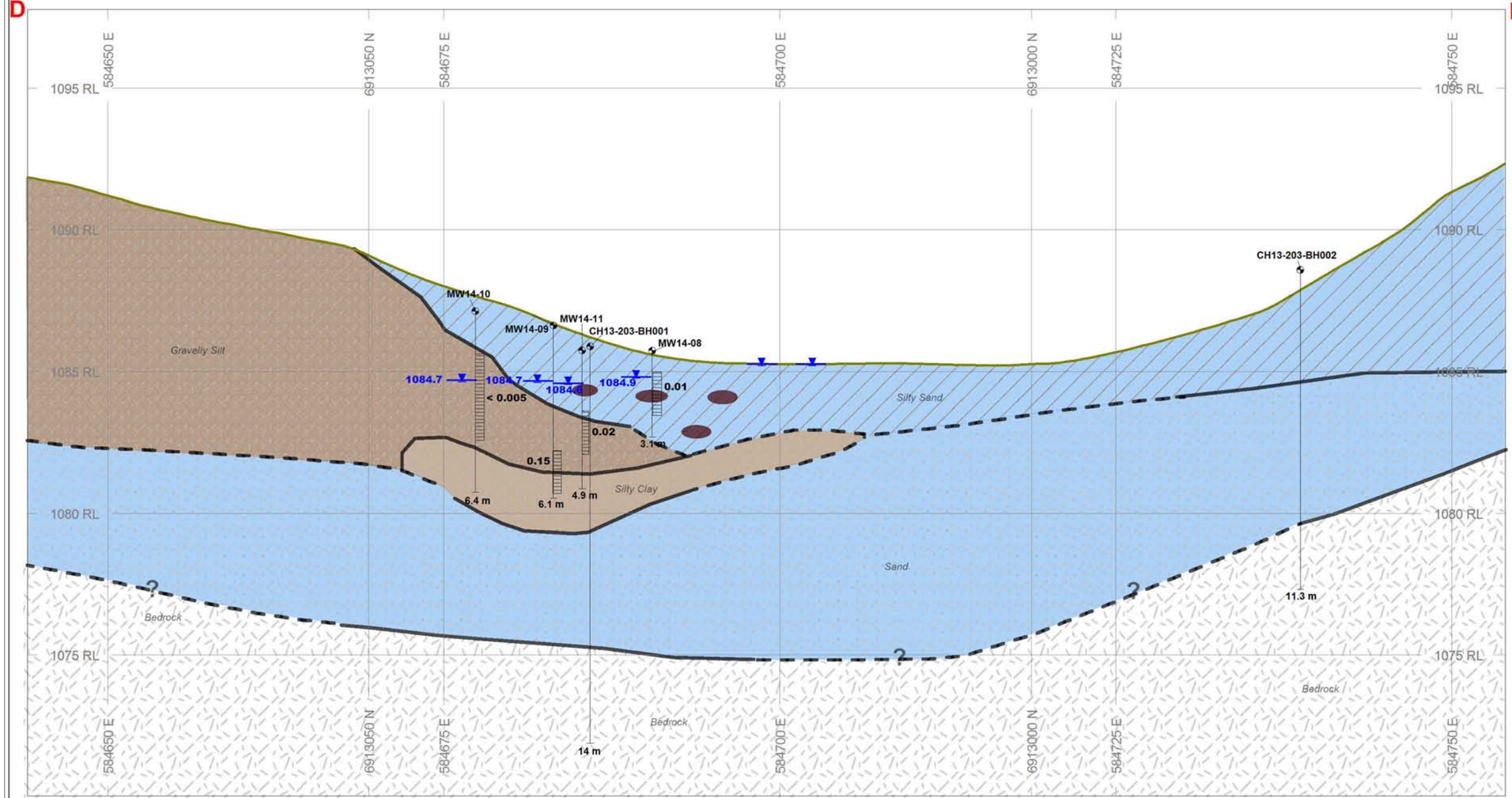
N W E S

Figure: 3 - 3

Client: Yukon Government

Robertson GeoConsultants Inc.

Project: Phase 2 NFRC Drilling Program	Project No: 118027
Report: 118027	Last Update: January 13, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.
Original File: faromine_sectionsa-d.gpf	



Legend

Topography

ROCK CODES Unit	PAT	LABEL
		Organic Silt (Peat Pocket)
		Silty Sand
		Gravelly Silt
		Silty Clay
		Sand
		Bedrock

Piezometric Elevation (m amsl)

Screen Interval (m), Zn (mg/L)

SECTION SPECS:

REF. PT. E, N	584699 m	6913020 m
EXTENTS	156.6 m	27.76 m
SECTION TOP, BOT	1098 m	1070 m
TOLERANCE +/-	15 m	
VERTICAL EXAG.	3	

SCALE 1 : 500

(m)

-4 0 4 8 12

NAD83(CSRS) / UTM zone 8N

AZIMUTH = 135.4°

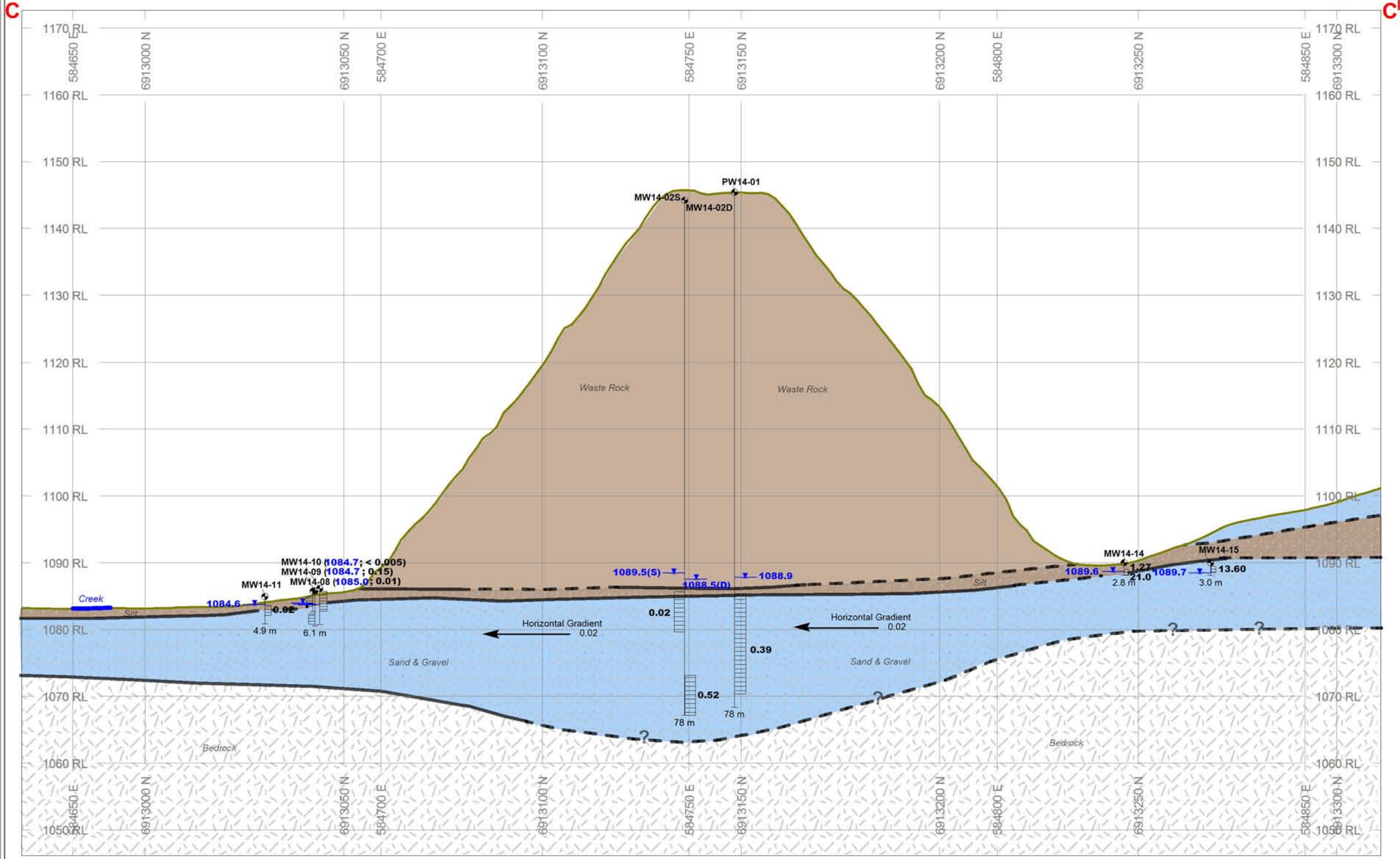
N W E S

Figure: 3 - 4

Client: Yukon Government

Robertson GeoConsultants Inc.

Project: Phase 2 NFRC Drilling Program	Project No: 118027
Report: 118027	Last Update: January 13, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.
Original File: faromine_sectionsa-d.gpf	



Legend

- Topography
- ROCK CODES / PAT / LABEL
- Unit
  - Waste Rock
  - Silt
  - Sand & Gravel
  - Bedrock
- Piezometric Elevation (m amsl)
- Screen Interval (m), Zn (mg/L)
- (S) = Shallow
- (D) = Deep

SECTION SPECS:

REF. PT. E, N	584752 m	6913140 m
EXTENTS	407.2 m	126.5 m
SECTION TOP, BOT	1173 m	1046 m
TOLERANCE +/-	27.5 m	
VERTICAL EXAG.	2	

SCALE 1 : 1300

(m)

-10 0 10 20 30

NAD83(CSRS) / UTM zone 8N

AZIMUTH = 32.8°

N W E S

Figure: 3 - 5

Client: Yukon Government

Robertson GeoConsultants Inc.

Project: Phase 2 NFRC Drilling Program	Project No: 118027
Report: 118027	Last Update: January 13, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.
Original File: faromine_sectionsa-d.gpf	

584200 584300 584400 584500 584600 584700 584800 584900

6913400 6913300 6913200 6913100 6913000

PW14-06
1111.01 m amsl

CH12-014-MW007

MW14-04D
1090.38 m amsl

MW14-05
1108.50 m amsl

MW1404S
1098.41 m amsl

MW14-03
1103.32 m amsl

1110-m 1105-m 1100-m 1095-m 1090-m 1089-m 1088-m 1087-m 1086-m 1085-m

P96-6
1089.90 m amsl

MW14-16
1089.71 m amsl

MW14-13
1089.83 m amsl

MW14-15
1089.68 m amsl

MW14-12D
1089.69 m amsl
MW14-12S
1089.66 m amsl

MW14-14
1089.63 m amsl

1089.60 m amsl
(Water Level in Lake)

PW14-07
1085.44 m amsl

PW14-01
1087.37 m amsl

MW14-02S
1087.52 m amsl
MW14-02D
1087.10 m amsl

SRK05-SP-1A
1084.91 m amsl

MW14-09
1084.68 m amsl

MW14-10
1084.73 m amsl

SRK05-SP-2
1084.59 m amsl

MW14-08
1084.97 m amsl

MW14-11
1084.58 m amsl

584200 584300 584400 584500 584600 584700 584800 584900

Legend

- 2014 Monitoring Well
- 2014 Pumping Well
- Existing Monitoring Well
- **MW14-10**
  1084.73 m amsl

Groundwater Level Contour

- Index
- Interval
- Historic Stream Channel
- Groundwater Direction

Groundwater Level Contour Plan (July 28, 2014)

Phase 2 NFRC Drilling Program

N W E S

SCALE 1:2,000

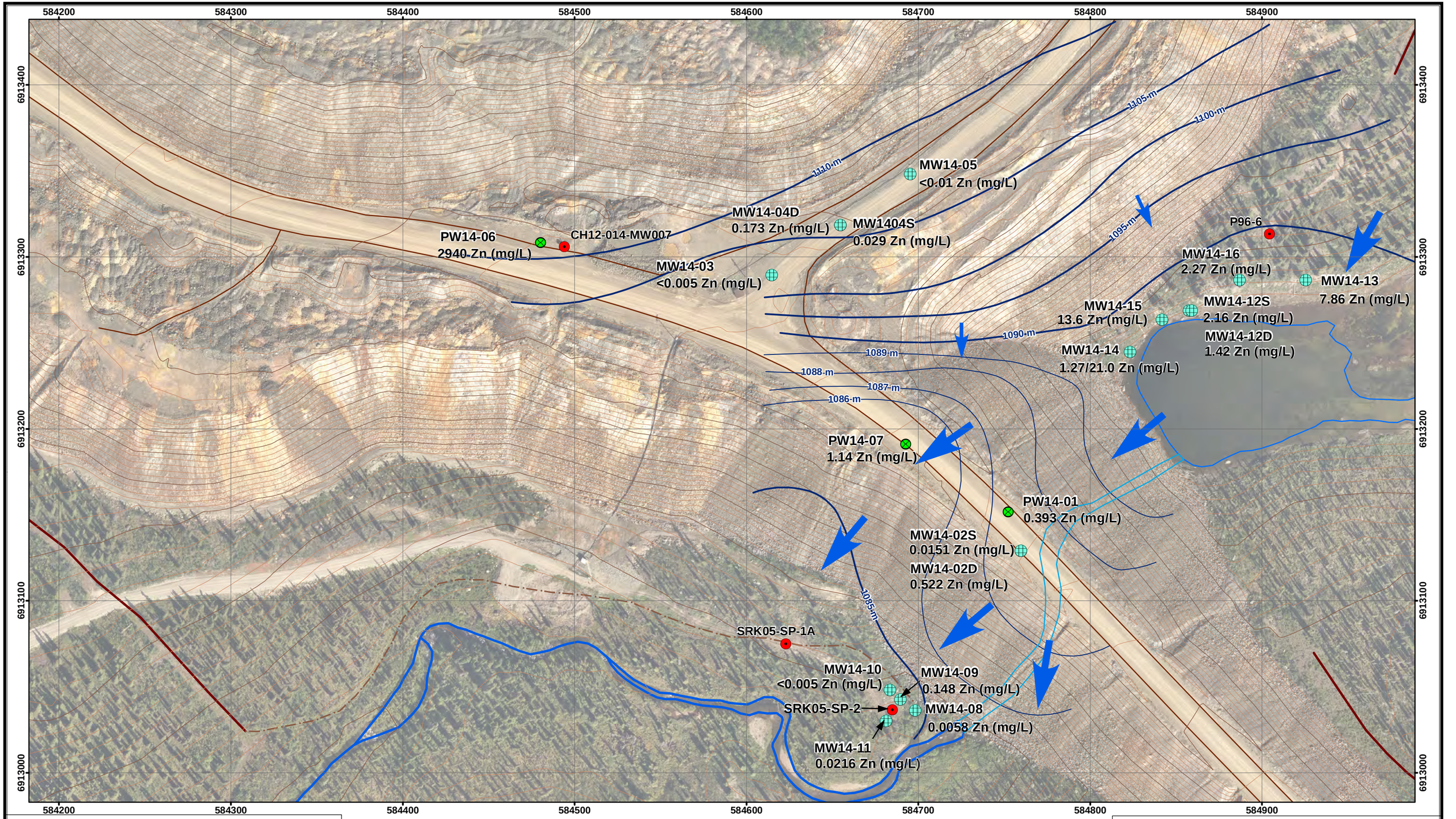
0 25 50 100 Metres

NAD 83 CSRS UTM Zone 8N

Figure: 3 - 6

Client: Yukon Government	Robertson GeoConsultants Inc. Consulting Engineers and Scientists for the Mining Industry www.robertsongeoconsultants.com
Project: Phase 2 NFRC Drilling Program	Project No:118027
Report: RGC 118027	Last Update: Jan 28, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.

Original File: Figure3-6_Faro_Wells_wZn_GWLContours.mxd



Legend

- 2014 Monitoring Well
- 2014 Pumping Well
- Existing Monitoring Well
- MW14-10 <0.005 Zn (mg/L)

Groundwater Level Contour

- Index
- Interval
- Historic Stream Channel
- Groundwater Direction

Groundwater Quality Survey (Zinc), July 2014

Phase 2 NFRC Drilling Program

N W E S

SCALE 1:2,000

0 25 50 100 Metres

NAD 83 CSRS UTM Zone 8N

Figure: 3 - 7

Client: Yukon Government	Robertson GeoConsultants Inc.
Project: Phase 2 NFRC Drilling Program	Project No:118027
Report: RGC 118027	Last Update: Feb 17, 2015
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.

Original File: Figure3-7_Faro_Wells_wZn_GWLContours.mxd

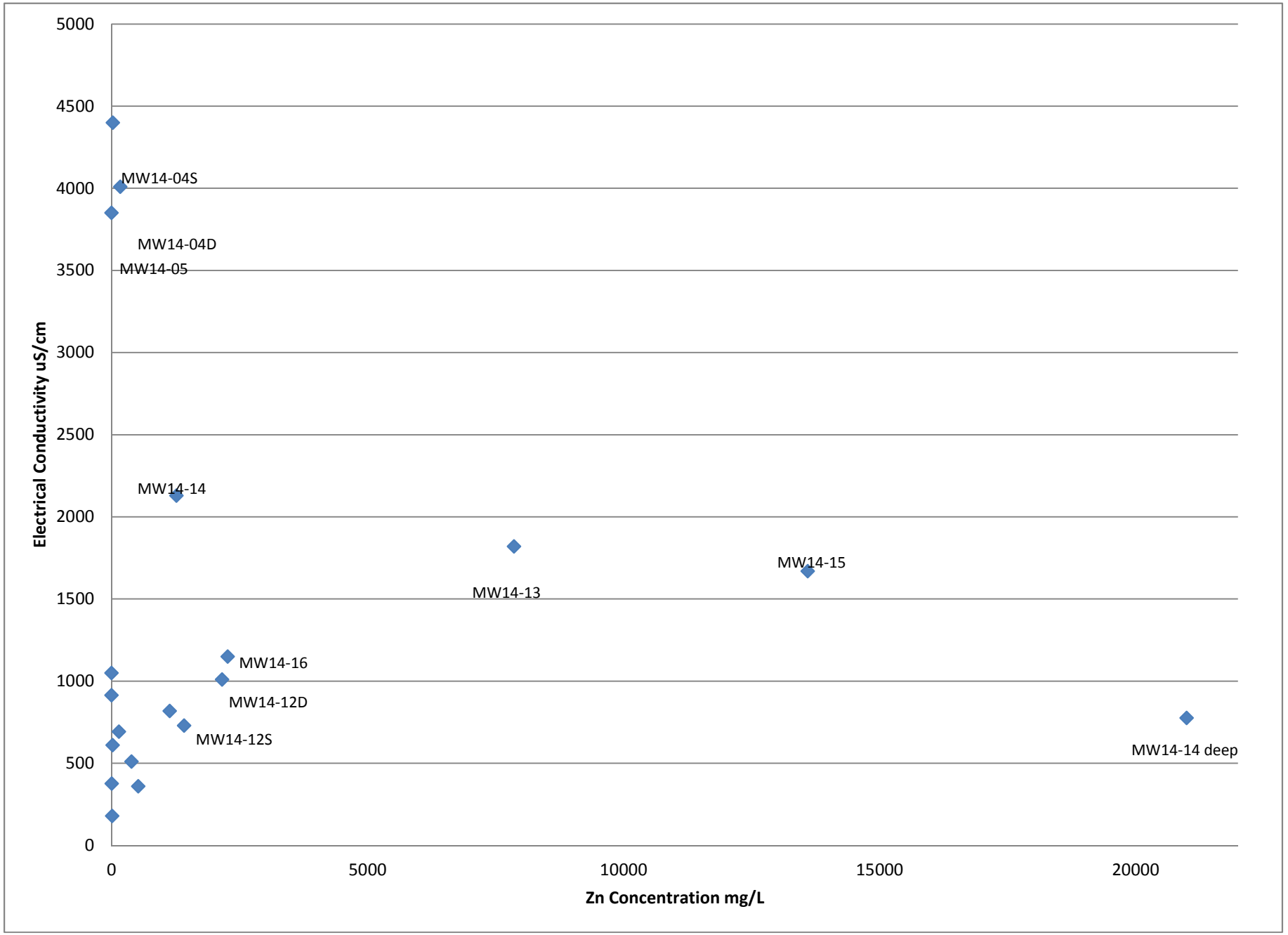


Figure 3-8. EC vs Zn, for NFRC groundwater samples.

APPENDIX A

Photo Log Of Drilling and Well Installation

Photo A1: Drill area on the downstream side of the rock drain. The drill is visible near the bottom center of the picture at MW14-08.

Photo A2: The drill at MW14-08, set up to drill with solid stem auger and preparing to insert the first auger flyte into the ground. The drill is powered with hydraulics from the modified Bobcat.

Photo A3: Sediment retrieved on auger flyte at MW14-08 (5-10 ft depth). The auger is screwed into the ground and then lifted staright out of the borehole, causing the sediment to stay in the grooves. The borehole is left unsupported and thus solild stem augers are only suitable in cohesive soils.

Photo A4: Drilling with ODEX at MW14-12D. Compressed air is fed from an air compressor upslope of the pond area.

Photo A5: The compressed air injected into the formation at MW14-12D bubbles out in four different locations along the pond, thereby proving a strong hydraulic connection between the sand aquifer and the pond.

Photo A6: Drillers at MW14-14, advancing a Waterloo profiler tip into the borehole with a Pionjär 140 hammer drill. The Waterloo profiler allowed the team to obtain a water sample from below the depth of refusal.

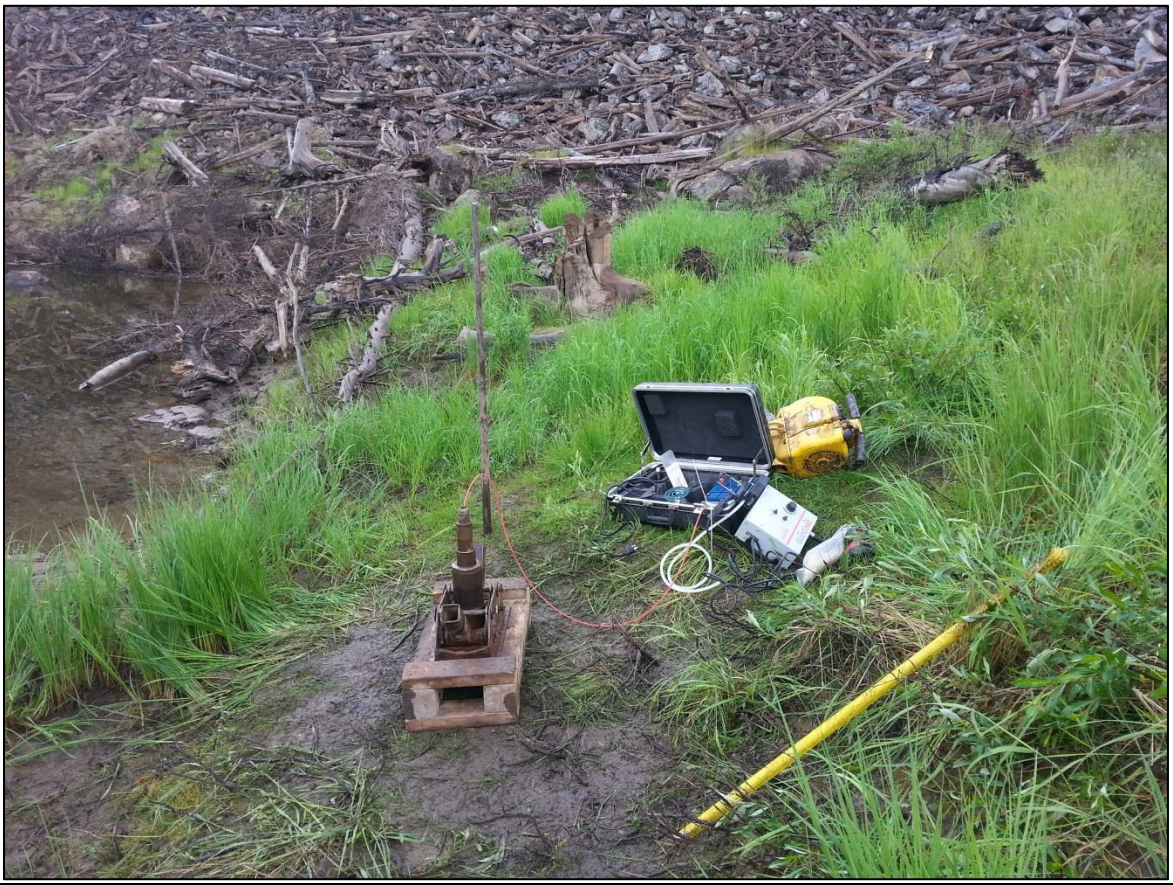


Photo A7: Using a peristaltic pump connected to the Waterloo profiler, a water sample is obtained from the sand aquifer at MW14-14. This was the water sample that contained 21 mg/L dissolved zinc.

APPENDIX B

Borehole Logs

WELL NUMBER MW14-08

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

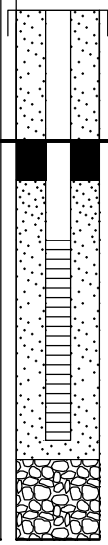
CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/12/14 **COMPLETED**
GROUND ELEVATION 1085.748 m **HOLE SIZE** 4 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584698.208 **EASTING** 6913036.239
DRILLING METHOD SS Auger
TOC ELEVATION (m) 1086.72
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 0.93 m / Elev 1084.82 m

DEPTH (m)	MATERIAL DESCRIPTION	Elevation [m asl]
	Fine sandy silt, trace gravel, trace wood debris, green grey, moist	
0.75		1085.00
0.91	Medium sand, some silt, trace roots, reddish brown, wet	1084.84
	Organic silt (30-50% peat), soft, dark brown, wet	
1.68		1084.07
1.83	Silt (10-15% organics), soft, dark green grey, wet	1083.92
2	Wood debris, soft, lights brown mixed with dark brown patches, wet	
2.29		1083.46
	Silt, trace pockets of peat, soft, brown, wet	
2.74		1083.01
3.05	Silty clay with gravel (angular to subangular), very soft, green grey, wet	1082.70

Bottom of hole at 3.05 m.

Well Water Temperature (°C) 0 2 4 6 8 10

Well Water EC (uS/cm) 0 520 1040 1560 2080



WELL DIAGRAM

0.82 m stickup
Bentonite Pellets
Filter pack (10/20 silica sand)
2" schedule 40 PVC screen (slot 10) from 0.76 to 2.29m
Slough

RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

WELL NUMBER MW14-09

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/12/14 **COMPLETED**
GROUND ELEVATION 1086.638 m **HOLE SIZE** 4 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584689.649 **EASTING** 6913042.483
DRILLING METHOD ODEX
TOC ELEVATION (m) 1087.466
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 1.95 m / Elev 1084.69 m

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Elevation [m asl]
		Silt, grey green, moist	
2		2.13	1084.51
		Organic silt (30-50% peat), grey and dark brown	
		2.44	1084.20
		Silt and gravel (subangular), hard, grey, moist	
		3.35	1083.29
		Silty clay, trace gravel, very soft, greenish grey	
4		4.27	1082.37
		no recovery (presumably soft silt)	
6		6.10	1080.54

Bottom of hole at 6.10 m.

Well Water Temperature (°C) 0 2 4 6 8 10

Well Water EC (uS/cm) 0 520 1040 1560 2080

WELL DIAGRAM

0.84 m stickup

Bentonite Pellets

Filter pack (10/20 silica sand)

2" schedule 40 PVC screen (slot 10) from 4.42 to 5.94m

Slough

RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

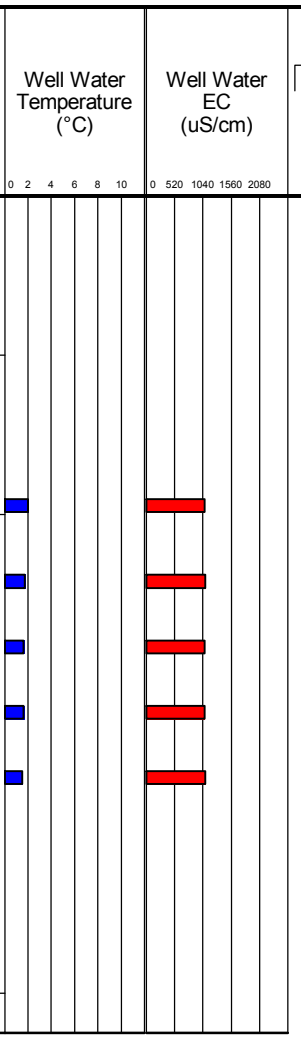
WELL NUMBER MW14-10

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/13/14 **COMPLETED**
GROUND ELEVATION 1087.143 m **HOLE SIZE** 8 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584683.535 **EASTING** 6913048.097
DRILLING METHOD HS Auger
TOC ELEVATION (m) 1088.16
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 2.43 m / Elev 1084.71 m

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Elevation [m asl]
		Gravelly silt (subrounded to subangular), pockets of peat 5%, dense, grey-brown, moist	
1.22			1085.92
		Gravelly silt, as above, no peat	
2			
2.44			1084.70
		Gravelly silty clay	
4			
6			
6.10			1081.04
		no recovery	
6.40			1080.74

Bottom of hole at 6.40 m.



RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

WELL NUMBER MW14-11

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/14/14 **COMPLETED**
GROUND ELEVATION 1085.756 m **HOLE SIZE** 4 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584681.286 **EASTING** 6913029.999
DRILLING METHOD SS Auger/ODEX
TOC ELEVATION (m) 1086.564
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 1.17 m / Elev 1084.59 m

DEPTH (m)	MATERIAL DESCRIPTION	Elevation [m asl]
0.15	Organic silt (30-50% peat), med dense, dark brown, moist	1085.61
	Gravelly silt, some clay, med dense, greenish grey, wet	
1.37		1084.39
	Gravelly clay with silt, med dense, greenish grey, wet	
3.05		1082.71
	Silt, trace coarse gravel, trace wood fragments, trace pockets of peat (5%), H2S odour, med dense, grey	
4.88		1080.88

Bottom of hole at 4.88 m.

Well Water Temperature (°C): 0 2 4 6 8 10
Well Water EC (uS/cm): 0 520 1040 1560 2080

WELL DIAGRAM:
- 0.81 m stickup
- Bentonite
- Filter pack (10/20 silica sand)
- 2" schedule 40 PVC screen (slot 10) from 2.13 to 3.66m
- Slough

RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

WELL NUMBER MW14-12D

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/17/14 **COMPLETED**
GROUND ELEVATION 1091.211 m **HOLE SIZE** 4 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584859.11 **EASTING** 6913268.724
DRILLING METHOD ODEX
TOC ELEVATION (m) 1092.172
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 1.55 m / Elev 1089.66 m

DEPTH (m)	MATERIAL DESCRIPTION	Elevation [m asl]
0	Gravelly silt (rounded to angular), med dense, light grey-brown, moist to wet	
3.05		1088.16
	Medium grained sand, trace silt, trace gravel, brown, wet	
4.42		1086.79
	Sand and gravel (rounded), trace cobble, loose, brown, wet, iron oxide staining	
7.62		1083.59

Bottom of hole at 7.62 m.

Well Water Temperature (°C): 0 2 4 6 8 10
Well Water EC (uS/cm): 0 520 1040 1560 2080

WELL DIAGRAM:
- 0.93 m stickup
- Bentonite
- Filter pack (10/20 silica sand)
- 2" schedule 40 PVC screen (slot 10) from 3.96 to 5.49m
- Slough

RGC_TEMP_EC_PLOT_STATIC_SCALE FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

WELL NUMBER MW14-12S

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/15/14 **COMPLETED**
GROUND ELEVATION 1091.245 m **HOLE SIZE** 4 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584857.559 **EASTING** 6913268.705
DRILLING METHOD ODEX
TOC ELEVATION (m) 1092.279
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 1.62 m / Elev 1089.63 m

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Elevation [m asl]
		Gravelly silt (rounded to angular), med dense, light grey-brown, moist	
		wet and soft from 1.5 m	
2			
		3.05	1088.20
		no recovery	
4			
		4.57	1086.68

Bottom of hole at 4.57 m.

Well Water Temperature (°C): 0 2 4 6 8 10
Well Water EC (uS/cm): 0 520 1040 1560 2080

WELL DIAGRAM
1.00 m stickup
Bentonite Chips
Filter pack (10/20 silica sand)
2" schedule 40 PVC screen (slot 10) from 1.37 to 2.9m
Slough

RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

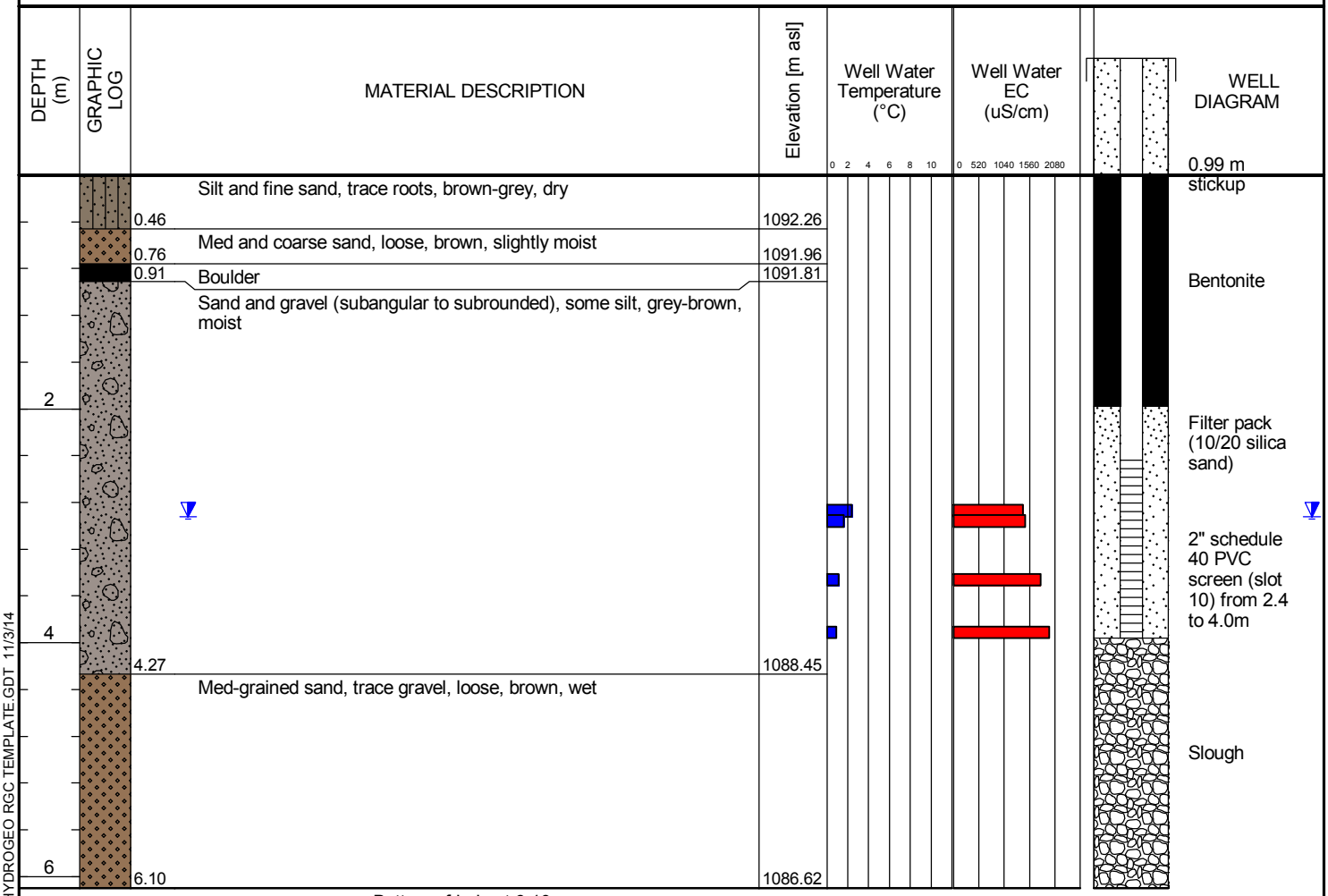
WELL NUMBER MW14-13

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/16/14 **COMPLETED**
GROUND ELEVATION 1092.715 m **HOLE SIZE** 4 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584925.539 **EASTING** 6913286.506
DRILLING METHOD ODEX
TOC ELEVATION (m) 1093.737
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 2.92 m / Elev 1089.80 m

DEPTH (m)	MATERIAL DESCRIPTION	Elevation [m asl]
	Silt and fine sand, trace roots, brown-grey, dry	
0.46		1092.26
	Med and coarse sand, loose, brown, slightly moist	
0.76		1091.96
0.91	Boulder	1091.81
	Sand and gravel (subangular to subrounded), some silt, grey-brown, moist	
4.27		1088.45
	Med-grained sand, trace gravel, loose, brown, wet	
6.10		1086.62

Bottom of hole at 6.10 m.



RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

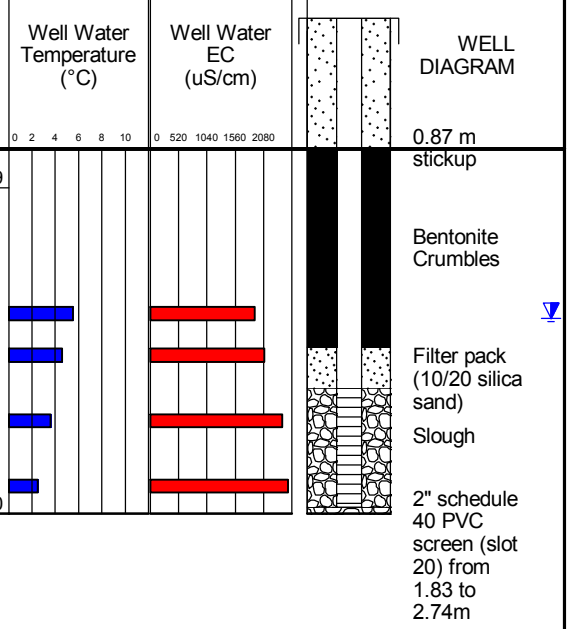
WELL NUMBER MW14-14

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/20/14 **COMPLETED**
GROUND ELEVATION 1090.888 m **HOLE SIZE** 2 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584823.303 **EASTING** 6913244.66
DRILLING METHOD Pionjär
TOC ELEVATION (m) 1091.797
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 1.30 m / Elev 1089.59 m

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Elevation [m asl]
		0.30 Organic silt, brown, moist	1090.59
2		Gravelly silt (subangular), dark brown, moist to wet	
		2.79	1088.10

Bottom of hole at 2.79 m.



Note: Groundwater sample "MW14-14 DEEP" taken with Water Loo Profiler at a depth of 3.2 mbgs.
Flow suggested a highly permeable material.

RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

WELL NUMBER MW14-15

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/20/14 **COMPLETED**
GROUND ELEVATION 1091.157 m **HOLE SIZE** 2 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584841.904 **EASTING** 6913263.537
DRILLING METHOD Pionjär
TOC ELEVATION (m) 1092.319
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 1.48 m / Elev 1089.68 m

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Elevation [m asl]
		Organic silt, 5-10% pockets of peat, grey-brown, moist	
		1.52	1089.64
2		Gravelly silt, grey-brown, wet	
		2.13	1089.03
		Organic silt, trace gravel, black, wet	
		2.74	1088.42
		Coarse sand, brown, wet	
		3.05	1088.11

Bottom of hole at 3.05 m.

Well Water Temperature (°C) — 0 2 4 6 8 10

Well Water EC (uS/cm) — 0 520 1040 1560 2080

WELL DIAGRAM

1.16 m stickup
Bentonite Crumbles
Filter pack (10/20 silica sand)
2" schedule 40 PVC screen (slot 20) from 1.68 to 2.59m
Slough

RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

WELL NUMBER MW14-16

Robertson GeoConsultants
Consulting Engineers and Scientists for the Mining Industry

CLIENT Government of Yukon - AAM
PROJECT NAME Phase 2 NFRC Drilling Program
PROJECT NUMBER 118027
PROJECT LOCATION Faro Mine, Yukon
DATE STARTED 7/19/14 **COMPLETED**
GROUND ELEVATION 1094.286 m **HOLE SIZE** 4 in
DRILLING CONTRACTOR Rocky Mountain Soil Sampling
NORTHING 584887.016 **EASTING** 6913286.408
DRILLING METHOD ODEX
TOC ELEVATION (m) 1095.278
LOGGED BY Tilman Roschinski **CHECKED BY** Christoph Wels
GROUND WATER LEVELS:
NOTES Driller: Nathan Rude; Elevation Surveyed Oct 2014
AFTER DRILLING (m bgs) 4.57 m / Elev 1089.72 m

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Elevation [m asl]
		Sand, some gravel, trace cobble and boulders, trace silt, brown, dry	
2			
		2.44	1091.85
		Medium to coarse sand, trace gravel, loose, moist	
		3.20	1091.09
		Sand and gravel, brown, moist	
4			
		4.88	1089.41
		Gravel (subrounded), some silt and sand, brown, moist to wet	
		5.79	1088.50
6		Med sand, brown, wet	
		6.40	1087.89

Bottom of hole at 6.40 m.

Well Water Temperature (°C) 0 2 4 6 8 10

Well Water EC (uS/cm) 0 520 1040 1560 2080

WELL DIAGRAM

1.00 m stickup

Bentonite Pellets

Filter pack (10/20 silica sand)

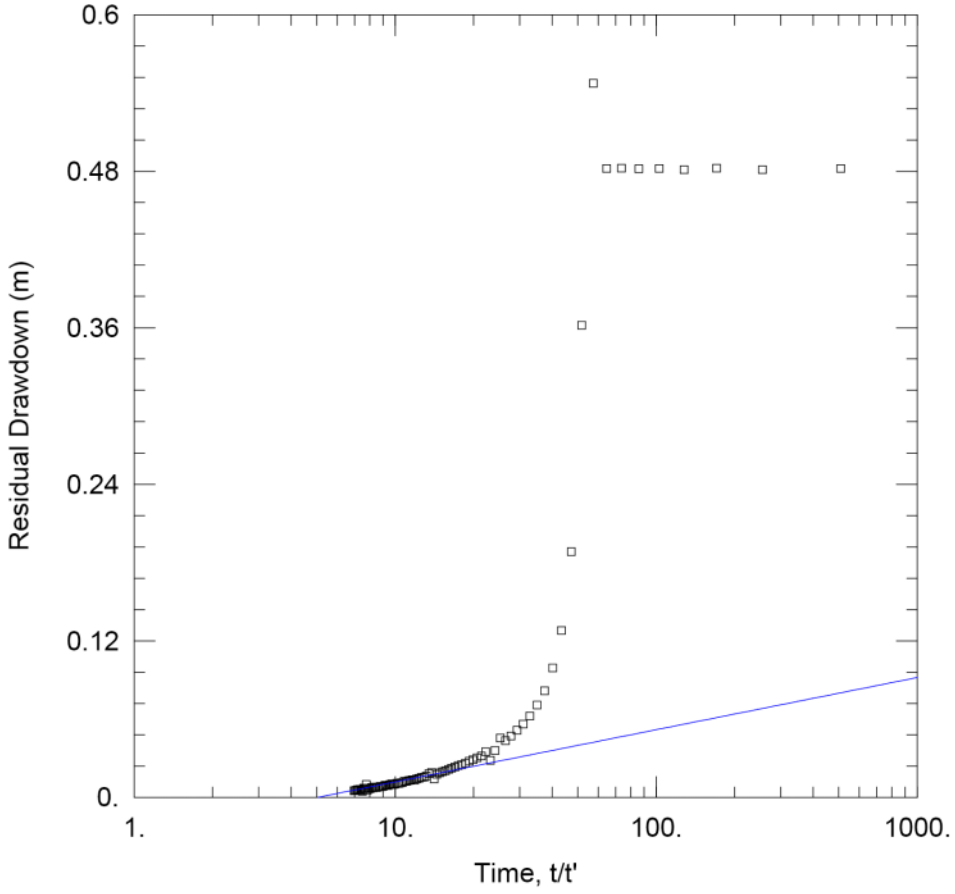
2" schedule 40 PVC screen (slot 10) from 2.74 to 5.79m

Slough

RGC_TEMP_EC_PLOT_STATIC_SCALE_FARO_TEMPLATE.GPJ HYDROGEO RGC TEMPLATE.GDT 11/3/14

APPENDIX C

Analysis of Hydraulic Testing Data



WELL TEST ANALYSIS

Data Set: C:\...\MW14-12D pumping.aqt
Date: 12/15/14 Time: 11:44:24

PROJECT INFORMATION

Company: Faro
Client: YTG
Location: Faro, YT
Test Well: MW14-12D

AQUIFER DATA

Saturated Thickness: 3. m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
MW14-12D	0	0

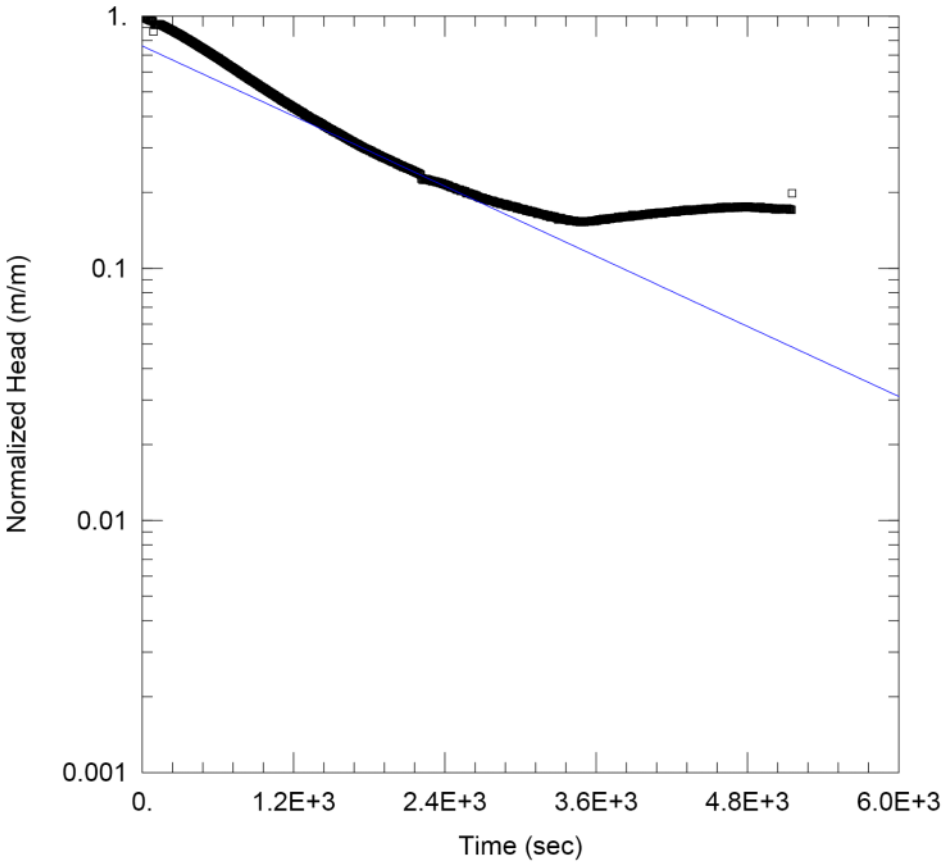
Observation Wells

Well Name	X (m)	Y (m)
▫ MW14-12D	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Theis (Recovery)

T = 0.001041 m^2/sec S/S' = 5.062



WELL TEST ANALYSIS

Data Set: C:\...\MW14-12S slug.aqt
Date: 12/17/14 Time: 07:16:23

PROJECT INFORMATION

Company: Faro
Client: YTG
Project: 118027
Location: Faro, YT
Test Well: MW14-12S
Test Date: July 29, 2014

AQUIFER DATA

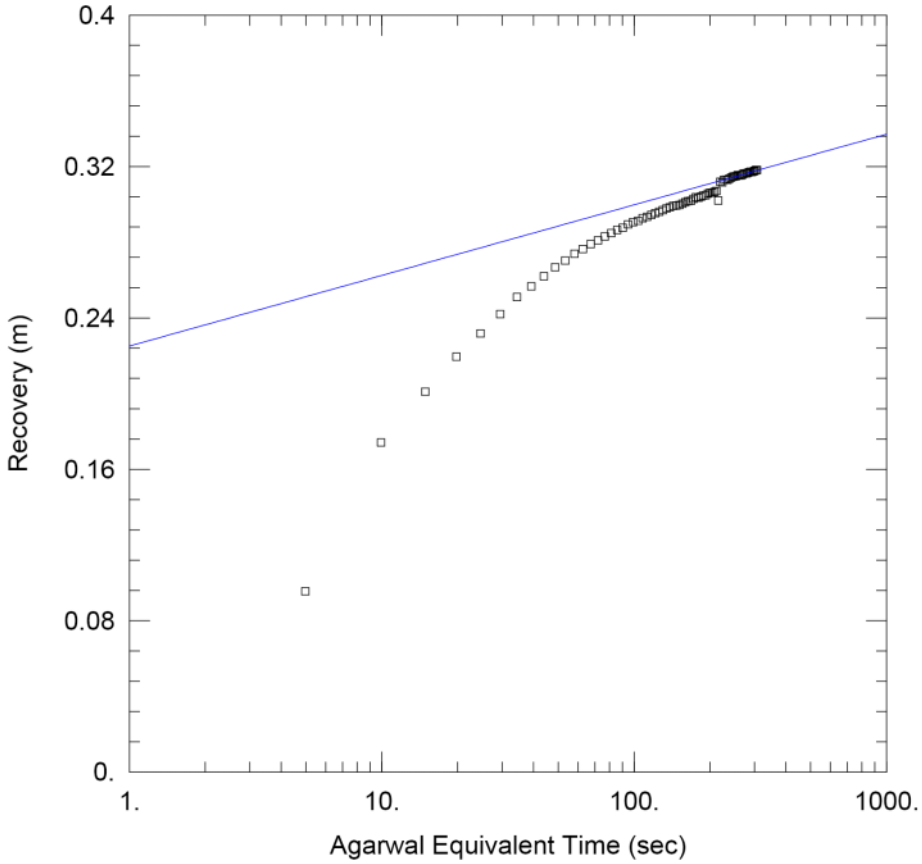
Saturated Thickness: 1.24 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW14-12S)

Initial Displacement: -0.4196 m
Total Well Penetration Depth: 1.23 m
Casing Radius: 0.0254 m
Static Water Column Height: 1.24 m
Screen Length: 1.23 m
Well Radius: 0.051 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice



WELL TEST ANALYSIS

Data Set: C:\...\MW14-13 pumping.aqt
Date: 12/15/14 Time: 14:52:05

PROJECT INFORMATION

Company: Faro
Client: YTG
Project: 118027
Location: Faro, YT
Test Well: MW14-13
Test Date: July 29, 2014

AQUIFER DATA

Saturated Thickness: 1.1 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
MW14-13	0	0

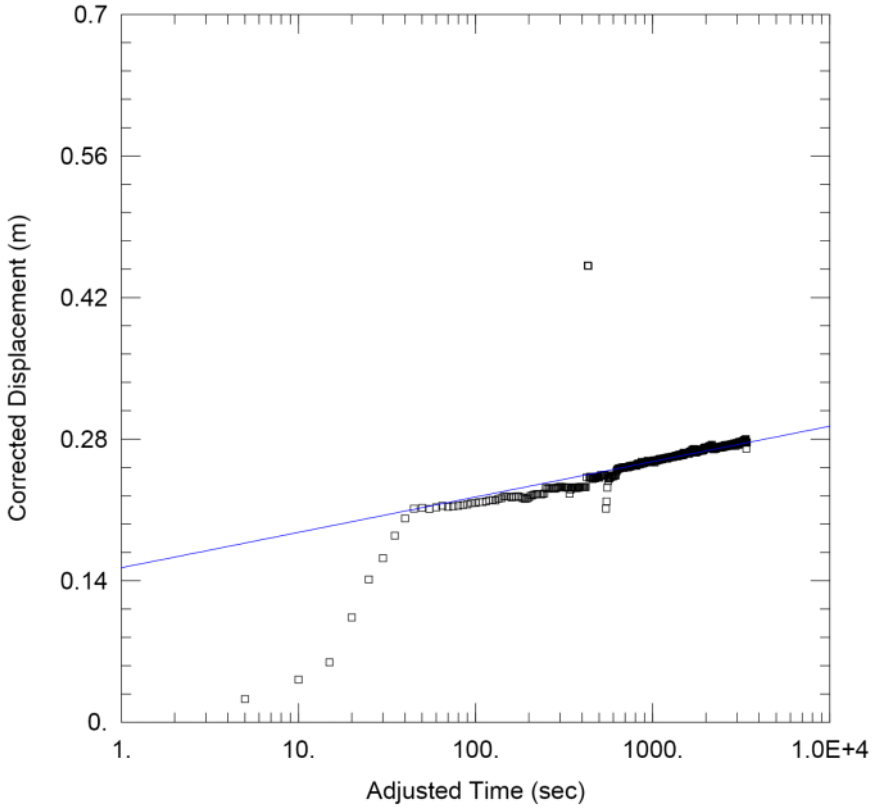
Observation Wells

Well Name	X (m)	Y (m)
MW14-13	0	0

SOLUTION

Aquifer Model: Unconfined Solution Method: Cooper-Jacob

T = 0.0008542 m^2/sec S = 6.871E-7



WELL TEST ANALYSIS

Data Set: C:\...\MW14-16 pumping.aqt
Date: 12/15/14 Time: 12:47:29

PROJECT INFORMATION

Company: Faro
Client: YTG
Project: 118027
Location: Faro, YT
Test Well: MW14-16
Test Date: July 29, 2014

AQUIFER DATA

Saturated Thickness: 1.2 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
MW14-16	0	0

Observation Wells

Well Name	X (m)	Y (m)
MW14-16	0	0

SOLUTION

Aquifer Model: Unconfined Solution Method: Cooper-Jacob

$T = 0.0009425\ m^2/sec$ S = 3.51E-5

APPENDIX D

Laboratory Reports of Groundwater Quality Analyses

Success Through Science®

Your Project #: 118027 FARO PHASE 2
Your C.O.C. #: EB1039114, 08395330

Attention:Christoph Wels

ROBERTSON GEOCONSULTANTS INC
900-580 Hornby Street
Vancouver, BC
CANADA V6C 3B6

Report Date: 2014/08/11
Report #: R1619062
Version: 2

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B465296
Received: 2014/07/30, 14:00

Sample Matrix: Water
Samples Received: 18

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity - Water	18	2014/07/31	2014/08/01	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	16	N/A	2014/07/31	BBY6SOP-00011	SM 22 4500-Cl- G m
Chloride by Automated Colourimetry	2	N/A	2014/08/01	BBY6SOP-00011	SM 22 4500-Cl- G m
Conductance - water	18	N/A	2014/08/01	BBY6SOP-00026	SM 22 2510 B m
Fluoride	18	N/A	2014/08/05	BBY6SOP-00013	SM 22 4500-P E m
Hardness Total (calculated as CaCO3)	6	N/A	2014/08/06	BBY7SOP-00002	EPA 6020A R1 m
Hardness Total (calculated as CaCO3)	11	N/A	2014/08/07	BBY7SOP-00002	EPA 6020A R1 m
Hardness (calculated as CaCO3)	18	N/A	2014/08/08	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	18	N/A	2014/08/08	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (dissolved)	18	N/A	2014/08/07	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	6	2014/07/30	2014/08/06	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	11	2014/07/30	2014/08/07	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	5	2014/08/01	2014/08/05	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	1	2014/08/05	2014/08/05	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	7	2014/08/05	2014/08/06	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total)	4	2014/08/05	2014/08/07	BBY7SOP-00002	EPA 6020A R1 m
Nitrate + Nitrite (N)	18	N/A	2014/07/31	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) by CFA	18	N/A	2014/07/31	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N)	18	N/A	2014/07/31	BBY6SOP-00010	SM 4500NO3-I
Filter and HNO3 Preserve for Metals	18	N/A	2014/08/07	BBY6WI-00001	EPA 200.2
pH Water (1)	18	N/A	2014/08/01	BBY6SOP-00026	SM 22 4500-H+ B m
Sulphate by Automated Colourimetry	11	N/A	2014/07/31	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	7	N/A	2014/08/01	BBY6SOP-00017	SM 22 4500-SO42- E m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your Project #: 118027 FARO PHASE 2
Your C.O.C. #: EB1039114, 08395330

Attention:Christoph Wels

ROBERTSON GEOCONSULTANTS INC
900-580 Hornby Street
Vancouver, BC
CANADA V6C 3B6

Report Date: 2014/08/11
Report #: R1619062
Version: 2

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B465296
Received: 2014/07/30, 14:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Jared Rudek, Project Manager
Email: JRudek@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KF6224	KF6225		KF6226		KF6227		
Sampling Date		2014/07/24 18:25	2014/07/25 14:55		2014/07/27 12:00		2014/07/27 18:10		
COC Number		EB1039114	EB1039114		EB1039114		EB1039114		
	Units	PW14-01	MW14-02S	QC Batch	MW14-02D	QC Batch	MW14-03	RDL	QC Batch
ANIONS									
Nitrite (N)	mg/L	<0.0050 (1)	<0.0050 (1)	7585492	0.0078 (2)	7585492	<0.0050 (2)	0.0050	7585492
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	FIELD	ONSITE	FIELD	ONSITE	FIELD	N/A	ONSITE
Nitrate (N)	mg/L	<0.020	0.044	7583185	0.028	7583185	<0.020	0.020	7583185
Misc. Inorganics									
Fluoride (F)	mg/L	0.230	0.100	7589535	0.290	7589535	0.610	0.010	7589535
Alkalinity (Total as CaCO3)	mg/L	200	77.7	7585554	129	7585554	377	0.50	7585558
Alkalinity (PP as CaCO3)	mg/L	<0.50	<0.50	7585554	<0.50	7585554	<0.50	0.50	7585558
Bicarbonate (HCO3)	mg/L	244	94.8	7585554	157	7585554	460	0.50	7585558
Carbonate (CO3)	mg/L	<0.50	<0.50	7585554	<0.50	7585554	<0.50	0.50	7585558
Hydroxide (OH)	mg/L	<0.50	<0.50	7585554	<0.50	7585554	<0.50	0.50	7585558
Anions									
Dissolved Sulphate (SO4)	mg/L	62.9	11.1	7585465	50.9	7587052	123	0.50	7587052
Dissolved Chloride (Cl)	mg/L	0.90	0.55	7585451	1.8	7585451	8.9	0.50	7585451
Nutrients									
Nitrate plus Nitrite (N)	mg/L	<0.020 (1)	0.044 (1)	7585485	0.036 (2)	7585485	<0.020 (2)	0.020	7585485
Physical Properties									
Conductivity	uS/cm	511	179	7585556	360	7585556	914	1.0	7585561
pH	pH	6.88	7.80	7585555	6.78	7585555	8.08	N/A	7585564

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Sample arrived to laboratory past recommended hold time.

(2) Sample analysed past hold time: sample was received on the hold time expiry date which did not allow sufficient time for preparation and analysis.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KF6228		KF6229	KF6230			KF6231		
Sampling Date		2014/07/27 15:45		2014/07/27 14:40	2014/07/27 17:30			2014/07/28 08:40		
COC Number		EB1039114		EB1039114	EB1039114			EB1039114		
	Units	MW14-04S	QC Batch	MW14-04D	MW14-05	RDL	QC Batch	PW14-06	RDL	QC Batch
ANIONS										
Nitrite (N)	mg/L	0.0077 (1)	7585492	0.0243 (1)	<0.0050 (1)	0.0050	7585492	0.0075	0.0050	7585492
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	FIELD	N/A	ONSITE	FIELD	N/A	ONSITE
Nitrate (N)	mg/L	0.418	7583185	0.049	<0.020	0.020	7583185	<0.020	0.020	7583185
Misc. Inorganics										
Fluoride (F)	mg/L	0.610	7589535	0.580	0.650	0.010	7589535	0.180	0.010	7589535
Alkalinity (Total as CaCO3)	mg/L	871	7585554	757	502	0.50	7585558	<0.50	0.50	7585558
Alkalinity (PP as CaCO3)	mg/L	<0.50	7585554	<0.50	<0.50	0.50	7585558	<0.50	0.50	7585558
Bicarbonate (HCO3)	mg/L	1060	7585554	924	613	0.50	7585558	<0.50	0.50	7585558
Carbonate (CO3)	mg/L	<0.50	7585554	<0.50	<0.50	0.50	7585558	<0.50	0.50	7585558
Hydroxide (OH)	mg/L	<0.50	7585554	<0.50	<0.50	0.50	7585558	<0.50	0.50	7585558
Anions										
Dissolved Sulphate (SO4)	mg/L	2630	7587052	2370	2490	50	7587052	26500	500	7587052
Dissolved Chloride (Cl)	mg/L	10	7585451	10	16	0.50	7585451	4.2	0.50	7587041
Nutrients										
Nitrate plus Nitrite (N)	mg/L	0.426 (1)	7585485	0.073 (1)	<0.020 (1)	0.020	7585485	<0.020	0.020	7585485
Physical Properties										
Conductivity	uS/cm	4400	7585556	4010	3850	1.0	7585561	19300	1.0	7585561
pH	pH	7.62	7585555	7.73	7.98	N/A	7585564	4.32	N/A	7585564

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Sample analysed past hold time: sample was received on the hold time expiry date which did not allow sufficient time for preparation and analysis.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KF6232		KF6233		KF6234			KF6235		
Sampling Date		2014/07/23 08:50		2014/07/23 09:10		2014/07/23 09:30			2014/07/23 08:30		
COC Number		EB1039114		EB1039114		EB1039114			EB1039114		
	Units	**MW14-08**	**QC Batch**	**MW14-09**	**RDL**	**MW14-10**	**RDL**	**QC Batch**	**MW14-11**	**RDL**	**QC Batch**
ANIONS											
Nitrite (N)	mg/L	0.0096 (1)	7585492	<0.0050 (1)	0.0050	0.0169 (1)	0.0050	7585492	<0.0050 (1)	0.0050	7585492
Calculated Parameters											
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	N/A	FIELD	N/A	ONSITE	FIELD	N/A	ONSITE
Nitrate (N)	mg/L	<0.020	7583185	<0.020	0.020	0.249	0.020	7583185	<0.020	0.020	7583185
Misc. Inorganics											
Fluoride (F)	mg/L	0.110	7589535	0.280	0.010	0.480	0.010	7589535	0.510	0.010	7589535
Alkalinity (Total as CaCO3)	mg/L	151	7585554	209	0.50	311	0.50	7585558	318	0.50	7585558
Alkalinity (PP as CaCO3)	mg/L	<0.50	7585554	<0.50	0.50	<0.50	0.50	7585558	<0.50	0.50	7585558
Bicarbonate (HCO3)	mg/L	184	7585554	255	0.50	379	0.50	7585558	388	0.50	7585558
Carbonate (CO3)	mg/L	<0.50	7585554	<0.50	0.50	<0.50	0.50	7585558	<0.50	0.50	7585558
Hydroxide (OH)	mg/L	<0.50	7585554	<0.50	0.50	<0.50	0.50	7585558	<0.50	0.50	7585558
Anions											
Dissolved Sulphate (SO4)	mg/L	30.9	7585465	159	0.50	252	5.0	7585465	26.3	0.50	7587052
Dissolved Chloride (Cl)	mg/L	1.8	7587041	1.4	0.50	1.3	0.50	7585451	2.1	0.50	7585451
Nutrients											
Nitrate plus Nitrite (N)	mg/L	<0.020 (1)	7585485	<0.020 (1)	0.020	0.266 (1)	0.020	7585485	<0.020 (1)	0.020	7585485
Physical Properties											
Conductivity	uS/cm	377	7585556	693	1.0	1050	1.0	7585561	611	1.0	7585561
pH	pH	7.97	7585555	8.08	N/A	8.15	N/A	7585564	8.28	N/A	7585564

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Sample arrived to laboratory past recommended hold time.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KF6241	KF6242		KF6243	KF6244	KF6245	KF6246		
Sampling Date		2014/07/25 17:55	2014/07/25 18:20		2014/07/26 15:45	2014/07/24 09:30	2014/07/24 11:10	2014/07/26 16:25		
COC Number		08395330	08395330		08395330	08395330	08395330	08395330		
	Units	**MW14-12S**	**MW14-12D**	**QC Batch**	**MW14-13**	**MW14-14**	**MW14-15**	**MW14-16**	**RDL**	**QC Batch**
ANIONS										
Nitrite (N)	mg/L	<0.0050 (1)	<0.0050 (1)	7585492	<0.0050 (1)	0.0151 (1)	0.0060 (1)	<0.0050 (1)	0.0050	7585492
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	FIELD	ONSITE	FIELD	FIELD	FIELD	FIELD	N/A	ONSITE
Nitrate (N)	mg/L	0.109	0.186	7583185	0.210	0.246	0.623	0.164	0.020	7583185
Misc. Inorganics										
Fluoride (F)	mg/L	0.048	0.063	7589535	0.099	0.085	0.079	0.077	0.010	7589535
Alkalinity (Total as CaCO3)	mg/L	35.9	245	7585554	505	53.0	44.1	231	0.50	7585558
Alkalinity (PP as CaCO3)	mg/L	<0.50	<0.50	7585554	<0.50	<0.50	<0.50	<0.50	0.50	7585558
Bicarbonate (HCO3)	mg/L	43.8	299	7585554	616	64.7	53.8	281	0.50	7585558
Carbonate (CO3)	mg/L	<0.50	<0.50	7585554	<0.50	<0.50	<0.50	<0.50	0.50	7585558
Hydroxide (OH)	mg/L	<0.50	<0.50	7585554	<0.50	<0.50	<0.50	<0.50	0.50	7585558
Anions										
Dissolved Sulphate (SO4)	mg/L	300	295	7585465	610	1270	955	404	5.0	7585465
Dissolved Chloride (Cl)	mg/L	0.86	1.9	7585451	1.3	1.5	1.7	0.99	0.50	7585451
Nutrients										
Nitrate plus Nitrite (N)	mg/L	0.109 (1)	0.186 (1)	7585485	0.210 (1)	0.261 (1)	0.629 (1)	0.164 (1)	0.020	7585485
Physical Properties										
Conductivity	uS/cm	730	1010	7585556	1820	2130	1670	1150	1.0	7585561
pH	pH	7.33	7.00	7585555	7.47	7.58	7.49	7.77	N/A	7585564

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Sample arrived to laboratory past recommended hold time.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KF6224	KF6225	KF6226	KF6227		KF6228	KF6229		
Sampling Date		2014/07/24 18:25	2014/07/25 14:55	2014/07/27 12:00	2014/07/27 18:10		2014/07/27 15:45	2014/07/27 14:40		
COC Number		EB1039114	EB1039114	EB1039114	EB1039114		EB1039114	EB1039114		
	Units	PW14-01	MW14-02S	MW14-02D	MW14-03	RDL	MW14-04S	MW14-04D	RDL	QC Batch
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	233	85.4	151	478	0.50	3350	3000	0.50	7584004
Dissolved Metals by ICPMS										
Dissolved Aluminum (Al)	ug/L	24.3	7.3	26.8	<3.0	3.0	<6.0	7.6	6.0	7590471
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	0.57	<0.50	0.50	<1.0	<1.0	1.0	7590471
Dissolved Arsenic (As)	ug/L	0.37	0.41	<0.10	0.70	0.10	<0.20	0.48	0.20	7590471
Dissolved Barium (Ba)	ug/L	66.6	44.8	29.5	97.9	1.0	32.1	44.7	2.0	7590471
Dissolved Beryllium (Be)	ug/L	0.24	<0.10	0.31	<0.10	0.10	<0.20	<0.20	0.20	7590471
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<2.0	<2.0	2.0	7590471
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	50	<100	<100	100	7590471
Dissolved Cadmium (Cd)	ug/L	0.055	0.027	0.191	0.056	0.010	0.212	0.412	0.020	7590471
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	<2.0	<2.0	2.0	7590471
Dissolved Cobalt (Co)	ug/L	6.49	<0.50	3.30	1.66	0.50	1.1	2.2	1.0	7590471
Dissolved Copper (Cu)	ug/L	1.22	1.18	1.27	0.31	0.20	2.16	0.95	0.40	7590471
Dissolved Iron (Fe)	ug/L	12300	55.5	124	940	5.0	13	1790	10	7590471
Dissolved Lead (Pb)	ug/L	<0.20	0.46	0.63	<0.20	0.20	<0.40	<0.40	0.40	7590471
Dissolved Lithium (Li)	ug/L	18.2	<5.0	28.4	45.5	5.0	89	86	10	7590471
Dissolved Manganese (Mn)	ug/L	2710	12.3	677	1050	1.0	719	775	2.0	7590471
Dissolved Mercury (Hg)	ug/L	<0.050	<0.050	<0.050	<0.050	0.050	<0.10	<0.10	0.10	7590471
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	1.6	1.0	<2.0	<2.0	2.0	7590471
Dissolved Nickel (Ni)	ug/L	9.4	<1.0	8.2	3.7	1.0	11.3	13.6	2.0	7590471
Dissolved Selenium (Se)	ug/L	<0.10	0.19	<0.10	<0.10	0.10	0.25	0.31	0.20	7590471
Dissolved Silicon (Si)	ug/L	9110	4780	7380	8060	100	11000	10500	200	7590471
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	0.020	<0.040	<0.040	0.040	7590471
Dissolved Strontium (Sr)	ug/L	338	105	236	660	1.0	2470	2230	2.0	7590471
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.050	<0.10	<0.10	0.10	7590471
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	<10	<10	10	7590471
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	<10	<10	10	7590471
Dissolved Uranium (U)	ug/L	1.39	0.89	0.31	13.4	0.10	218	203	0.20	7590471
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	<10	<10	10	7590471
Dissolved Zinc (Zn)	ug/L	393	15.1	522	<5.0	5.0	29	173	10	7590471
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	<1.0	1.2	1.0	7590471
Dissolved Calcium (Ca)	mg/L	65.6	25.1	39.1	128	0.050	598	522	0.10	7583184
Dissolved Magnesium (Mg)	mg/L	16.8	5.54	13.0	38.5	0.050	451	411	0.10	7583184
Dissolved Potassium (K)	mg/L	2.15	0.670	2.30	6.94	0.050	13.9	13.7	0.10	7583184
Dissolved Sodium (Na)	mg/L	5.48	2.33	6.35	7.96	0.050	12.7	16.4	0.10	7583184
RDL = Reportable Detection Limit										

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KF6224	KF6225	KF6226	KF6227		KF6228	KF6229		
Sampling Date		2014/07/24 18:25	2014/07/25 14:55	2014/07/27 12:00	2014/07/27 18:10		2014/07/27 15:45	2014/07/27 14:40		
COC Number		EB1039114	EB1039114	EB1039114	EB1039114		EB1039114	EB1039114		
	Units	**PW14-01**	**MW14-02S**	**MW14-02D**	**MW14-03**	**RDL**	**MW14-04S**	**MW14-04D**	**RDL**	**QC Batch**
Dissolved Sulphur (S)	mg/L	23.4	4.3	17.5	38.5	3.0	870	739	6.0	7583184
RDL = Reportable Detection Limit										

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KF6230		KF6231		KF6232	KF6233	KF6234	KF6235		
Sampling Date		2014/07/27 17:30		2014/07/28 08:40		2014/07/23 08:50	2014/07/23 09:10	2014/07/23 09:30	2014/07/23 08:30		
COC Number		EB1039114		EB1039114		EB1039114	EB1039114	EB1039114	EB1039114		
	Units	MW14-05	RDL	PW14-06	RDL	MW14-08	MW14-09	MW14-10	MW14-11	RDL	QC Batch
Misc. Inorganics											
Dissolved Hardness (CaCO3)	mg/L	2810	0.50	16400	0.50	172	321	405	330	0.50	7584004
Dissolved Metals by ICPMS											
Dissolved Aluminum (Al)	ug/L	10.5	6.0	46700	60	13.9	15.7	6.6	9.1	3.0	7590471
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<10	10	<0.50	<0.50	<0.50	<0.50	0.50	7590471
Dissolved Arsenic (As)	ug/L	1.74	0.20	37.5 (1)	2.0	3.09	0.29	0.26	5.68	0.10	7590471
Dissolved Barium (Ba)	ug/L	52.0	2.0	<20	20	145	49.7	19.0	129	1.0	7590471
Dissolved Beryllium (Be)	ug/L	<0.20	0.20	24.6	2.0	<0.10	<0.10	<0.10	<0.10	0.10	7590471
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<20	20	<1.0	<1.0	<1.0	<1.0	1.0	7590471
Dissolved Boron (B)	ug/L	<100	100	<1000	1000	<50	<50	<50	<50	50	7590471
Dissolved Cadmium (Cd)	ug/L	<0.020	0.020	2010	0.20	<0.010	0.275	0.138	<0.010	0.010	7590471
Dissolved Chromium (Cr)	ug/L	<2.0	2.0	<20	20	<1.0	<1.0	<1.0	<1.0	1.0	7590471
Dissolved Cobalt (Co)	ug/L	4.8	1.0	5990	10	1.33	6.64	2.97	1.90	0.50	7590471
Dissolved Copper (Cu)	ug/L	0.61	0.40	14.0	4.0	0.54	1.77	1.03	0.37	0.20	7590471
Dissolved Iron (Fe)	ug/L	8640	10	817000	100	3260	23.8	<5.0	3440	5.0	7590471
Dissolved Lead (Pb)	ug/L	<0.40	0.40	1410	4.0	<0.20	<0.20	<0.20	<0.20	0.20	7590471
Dissolved Lithium (Li)	ug/L	81	10	701	100	<5.0	17.8	28.0	11.0	5.0	7590471
Dissolved Manganese (Mn)	ug/L	1130	2.0	443000	20	1550	1880	541	663	1.0	7590471
Dissolved Mercury (Hg)	ug/L	<0.10	0.10	<1.0	1.0	<0.050	<0.050	<0.050	<0.050	0.050	7590471
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	<20	20	<1.0	1.0	<1.0	1.8	1.0	7590471
Dissolved Nickel (Ni)	ug/L	20.0	2.0	9370	20	1.1	18.7	9.7	3.3	1.0	7590471
Dissolved Selenium (Se)	ug/L	<0.20	0.20	<2.0	2.0	<0.10	<0.10	6.42	<0.10	0.10	7590471
Dissolved Silicon (Si)	ug/L	8190	200	13100	2000	6970	7050	5120	6180	100	7590471
Dissolved Silver (Ag)	ug/L	<0.040	0.040	2.10	0.40	<0.020	<0.020	<0.020	<0.020	0.020	7590471
Dissolved Strontium (Sr)	ug/L	1380	2.0	2580	20	242	383	504	473	1.0	7590471
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	17.5	1.0	<0.050	<0.050	<0.050	<0.050	0.050	7590471
Dissolved Tin (Sn)	ug/L	<10	10	<100	100	<5.0	<5.0	<5.0	<5.0	5.0	7590471
Dissolved Titanium (Ti)	ug/L	<10	10	<100	100	<5.0	<5.0	<5.0	<5.0	5.0	7590471
Dissolved Uranium (U)	ug/L	144	0.20	271	2.0	0.69	4.21	13.1	2.70	0.10	7590471
Dissolved Vanadium (V)	ug/L	<10	10	<100	100	<5.0	<5.0	<5.0	<5.0	5.0	7590471
Dissolved Zinc (Zn)	ug/L	<10	10	2940000	500	5.8	148	<5.0	21.6	5.0	7590471
Dissolved Zirconium (Zr)	ug/L	<1.0	1.0	<10	10	<0.50	<0.50	<0.50	<0.50	0.50	7590471
Dissolved Calcium (Ca)	mg/L	287	0.10	441	1.0	53.5	85.2	98.2	61.2	0.050	7583184
Dissolved Magnesium (Mg)	mg/L	507	0.10	3720	1.0	9.39	26.3	38.7	43.0	0.050	7583184
Dissolved Potassium (K)	mg/L	8.93	0.10	12.7	1.0	1.28	2.68	4.19	2.62	0.050	7583184
Dissolved Sodium (Na)	mg/L	10.7	0.10	47.9	1.0	9.78	15.9	84.0	3.80	0.050	7583184

RDL = Reportable Detection Limit
(1) Dissolved greater than total. Reanalysis yields similar results.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KF6230		KF6231		KF6232	KF6233	KF6234	KF6235		
Sampling Date		2014/07/27 17:30		2014/07/28 08:40		2014/07/23 08:50	2014/07/23 09:10	2014/07/23 09:30	2014/07/23 08:30		
COC Number		EB1039114		EB1039114		EB1039114	EB1039114	EB1039114	EB1039114		
	Units	**MW14-05**	**RDL**	**PW14-06**	**RDL**	**MW14-08**	**MW14-09**	**MW14-10**	**MW14-11**	**RDL**	**QC Batch**
Dissolved Sulphur (S)	mg/L	782	6.0	7860	60	8.2	57.5	95.7	<3.0	3.0	7583184
RDL = Reportable Detection Limit											

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KF6241	KF6242	KF6243	KF6244	KF6245	KF6246		
Sampling Date		2014/07/25 17:55	2014/07/25 18:20	2014/07/26 15:45	2014/07/24 09:30	2014/07/24 11:10	2014/07/26 16:25		
COC Number		08395330	08395330	08395330	08395330	08395330	08395330		
	Units	**MW14-12S**	**MW14-12D**	**MW14-13**	**MW14-14**	**MW14-15**	**MW14-16**	**RDL**	**QC Batch**
Misc. Inorganics									
Dissolved Hardness (CaCO3)	mg/L	331	488	1050	1280	895	626	0.50	7584004
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	ug/L	11.9	14.7	41.5	15.5	11.7	13.4	3.0	7590471
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7590471
Dissolved Arsenic (As)	ug/L	<0.10	<0.10	<0.10	0.18	0.12	<0.10	0.10	7590471
Dissolved Barium (Ba)	ug/L	110	131	44.1	187	35.7	43.3	1.0	7590471
Dissolved Beryllium (Be)	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	7590471
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7590471
Dissolved Boron (B)	ug/L	<50	<50	<50	<50	<50	<50	50	7590471
Dissolved Cadmium (Cd)	ug/L	0.358	1.12	2.85	0.400	2.19	1.24	0.010	7590471
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7590471
Dissolved Cobalt (Co)	ug/L	<0.50	1.39	1.65	4.30	23.1	2.56	0.50	7590471
Dissolved Copper (Cu)	ug/L	1.37	1.13	2.20	2.78 (1)	1.73	1.85	0.20	7590471
Dissolved Iron (Fe)	ug/L	10.1	28.8	8.9	19.1	26.9	8.9	5.0	7590471
Dissolved Lead (Pb)	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7590471
Dissolved Lithium (Li)	ug/L	7.5	19.5	32.8	<5.0	48.9	20.3	5.0	7590471
Dissolved Manganese (Mn)	ug/L	385	367	490	1360	2720	184	1.0	7590471
Dissolved Mercury (Hg)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7590471
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	2.2	<1.0	<1.0	1.0	7590471
Dissolved Nickel (Ni)	ug/L	10.1	50.3	112	8.9	108	51.8	1.0	7590471
Dissolved Selenium (Se)	ug/L	0.14	0.22	0.55	0.43	0.66	0.52	0.10	7590471
Dissolved Silicon (Si)	ug/L	10500	7910	11400	7730	8460	7730	100	7590471
Dissolved Silver (Ag)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7590471
Dissolved Strontium (Sr)	ug/L	329	433	999	1160	594	601	1.0	7590471
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7590471
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7590471
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7590471
Dissolved Uranium (U)	ug/L	<0.10	1.54	9.89	0.42	0.14	3.52	0.10	7590471
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7590471
Dissolved Zinc (Zn)	ug/L	1420	2160	7860	1270	13600	2270	5.0	7590471
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7590471
Dissolved Calcium (Ca)	mg/L	72.1	129	282	226	134	171	0.050	7583184
Dissolved Magnesium (Mg)	mg/L	36.6	40.2	83.2	174	136	48.4	0.050	7583184
Dissolved Potassium (K)	mg/L	2.39	3.47	4.67	3.05	2.92	3.53	0.050	7583184
Dissolved Sodium (Na)	mg/L	3.65	7.96	10.3	8.01	23.8	5.39	0.050	7583184

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KF6241	KF6242	KF6243	KF6244	KF6245	KF6246		
Sampling Date		2014/07/25 17:55	2014/07/25 18:20	2014/07/26 15:45	2014/07/24 09:30	2014/07/24 11:10	2014/07/26 16:25		
COC Number		08395330	08395330	08395330	08395330	08395330	08395330		
	Units	**MW14-12S**	**MW14-12D**	**MW14-13**	**MW14-14**	**MW14-15**	**MW14-16**	**RDL**	**QC Batch**
Dissolved Sulphur (S)	mg/L	115	105	216	439	340	151	3.0	7583184
RDL = Reportable Detection Limit									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KF6224	KF6225	KF6226	KF6227	KF6228			KF6230		
Sampling Date		2014/07/24 18:25	2014/07/25 14:55	2014/07/27 12:00	2014/07/27 18:10	2014/07/27 15:45			2014/07/27 17:30		
COC Number		EB1039114	EB1039114	EB1039114	EB1039114	EB1039114			EB1039114		
	Units	PW14-01	MW14-02S	MW14-02D	MW14-03	MW14-04S	RDL	QC Batch	MW14-05	RDL	QC Batch
Calculated Parameters											
Total Hardness (CaCO3)	mg/L	270	93.3	162	515	3530	0.50	7584170	3050	0.50	7584170
Total Metals by ICPMS											
Total Aluminum (Al)	ug/L	31.7	1050	2010	370	1500	3.0	7586949	424 (1)	25	7589233
Total Antimony (Sb)	ug/L	<0.50	0.99	2.88	<0.50	<0.50	0.50	7586949	<0.50	0.50	7589233
Total Arsenic (As)	ug/L	0.40	2.88	2.65	1.54	0.91	0.10	7586949	2.70	0.10	7589233
Total Barium (Ba)	ug/L	69.6	78.1	73.5	119	55.7	1.0	7586949	61.2	1.0	7589233
Total Beryllium (Be)	ug/L	0.21	<0.10	0.39	<0.10	<0.10	0.10	7586949	<0.10	0.10	7589233
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7586949	<1.0	1.0	7589233
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	50	7586949	<50	50	7589233
Total Cadmium (Cd)	ug/L	0.055	0.219	0.331	0.092	0.237	0.010	7586949	0.053	0.010	7589233
Total Chromium (Cr)	ug/L	<1.0	4.4	6.1	1.5	4.2	1.0	7586949	2.4	1.0	7589233
Total Cobalt (Co)	ug/L	7.45	1.03	5.90	2.22	2.41	0.50	7586949	5.47	0.50	7589233
Total Copper (Cu)	ug/L	1.39	5.64	11.4	1.72	5.29	0.50	7586949	2.13	0.50	7589233
Total Iron (Fe)	ug/L	14400	2690	7790	3270	4580	10	7586949	10200	10	7589233
Total Lead (Pb)	ug/L	<0.20	26.5	50.9	6.24	6.47	0.20	7586949	30.8	0.20	7589233
Total Lithium (Li)	ug/L	16.8	<5.0	29.2	40.5	81.2	5.0	7586949	73.6	5.0	7589233
Total Manganese (Mn)	ug/L	2880	76.5	780	1170	792	1.0	7586949	1270	1.0	7589233
Total Mercury (Hg)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7586949	<0.050	0.050	7589233
Total Molybdenum (Mo)	ug/L	<1.0	<1.0	<1.0	1.6	1.2	1.0	7586949	<1.0	1.0	7589233
Total Nickel (Ni)	ug/L	11.1	4.8	15.9	4.9	14.6	1.0	7586949	23.8	1.0	7589233
Total Selenium (Se)	ug/L	<0.10	0.30	<0.10	0.23	0.41	0.10	7586949	<0.10	0.10	7589233
Total Silicon (Si)	ug/L	10700	6530	10700	8870	14200	100	7586949	10200	100	7589233
Total Silver (Ag)	ug/L	<0.020	0.379	0.057	<0.020	<0.020	0.020	7586949	<0.020	0.020	7589233
Total Strontium (Sr)	ug/L	355	123	254	697	2650	1.0	7586949	1480	1.0	7589233
Total Thallium (Tl)	ug/L	<0.050	<0.050	0.063	<0.050	0.095	0.050	7586949	<0.050	0.050	7589233
Total Tin (Sn)	ug/L	<5.0	5.1	<5.0	<5.0	<5.0	5.0	7586949	<5.0	5.0	7589233
Total Titanium (Ti)	ug/L	<5.0	45.0	84.3	18.4	107	5.0	7586949	25.6	5.0	7589233
Total Uranium (U)	ug/L	1.51	1.06	0.55	14.0	241	0.10	7586949	166	0.10	7589233
Total Vanadium (V)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7586949	<5.0	5.0	7589233
Total Zinc (Zn)	ug/L	441	62.4	637	17.7	60.1	5.0	7586949	44.0	5.0	7589233
Total Zirconium (Zr)	ug/L	<0.50	<0.50	0.79	0.52	1.84	0.50	7586949	1.52	0.50	7589233
Total Calcium (Ca)	mg/L	77.5	27.7	42.5	143	665	0.050	7583273	336	0.050	7583273
Total Magnesium (Mg)	mg/L	18.7	5.87	13.5	38.5	453	0.050	7583273	536	0.050	7583273
Total Potassium (K)	mg/L	2.44	0.937	3.08	7.18	15.0	0.050	7583273	10.3	0.050	7583273
Total Sodium (Na)	mg/L	5.66	2.21	6.19	7.76	12.8	0.050	7583273	11.0	0.050	7583273

RDL = Reportable Detection Limit
(1) Blank outside acceptance criteria, detection limit adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KF6224	KF6225	KF6226	KF6227	KF6228			KF6230		
Sampling Date		2014/07/24 18:25	2014/07/25 14:55	2014/07/27 12:00	2014/07/27 18:10	2014/07/27 15:45			2014/07/27 17:30		
COC Number		EB1039114	EB1039114	EB1039114	EB1039114	EB1039114			EB1039114		
	Units	**PW14-01**	**MW14-02S**	**MW14-02D**	**MW14-03**	**MW14-04S**	**RDL**	**QC Batch**	**MW14-05**	**RDL**	**QC Batch**
Total Sulphur (S)	mg/L	22.6	<3.0	17.5	37.2	868	3.0	7583273	857	3.0	7583273
RDL = Reportable Detection Limit											

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KF6231		KF6232	KF6233	KF6234	KF6235	KF6241		
Sampling Date		2014/07/28 08:40		2014/07/23 08:50	2014/07/23 09:10	2014/07/23 09:30	2014/07/23 08:30	2014/07/25 17:55		
COC Number		EB1039114		EB1039114	EB1039114	EB1039114	EB1039114	08395330		
	Units	**PW14-06**	**RDL**	**MW14-08**	**MW14-09**	**MW14-10**	**MW14-11**	**MW14-12S**	**RDL**	**QC Batch**
Calculated Parameters										
Total Hardness (CaCO3)	mg/L	16700	0.50	174	346	455	361	373	0.50	7584170
Total Metals by ICPMS										
Total Aluminum (Al)	ug/L	51900	30	1550	3500	2610	5300	2720	3.0	7589506
Total Antimony (Sb)	ug/L	<5.0	5.0	<0.50	<0.50	<0.50	0.52	<0.50	0.50	7589506
Total Arsenic (As)	ug/L	14.0	1.0	4.73	3.81	1.96	10.3	1.99	0.10	7589506
Total Barium (Ba)	ug/L	14	10	187	106	57.4	220	179	1.0	7589506
Total Beryllium (Be)	ug/L	25.6	1.0	<0.10	0.23	0.13	0.29	0.16	0.10	7589506
Total Bismuth (Bi)	ug/L	<10	10	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7589506
Total Boron (B)	ug/L	<500	500	<50	<50	<50	<50	<50	50	7589506
Total Cadmium (Cd)	ug/L	2260	0.10	0.116	0.380	0.210	0.245	0.587	0.010	7589506
Total Chromium (Cr)	ug/L	<10	10	3.4	7.8	6.6	12.3	5.7	1.0	7589506
Total Cobalt (Co)	ug/L	6370	5.0	2.85	10.2	5.16	5.79	2.20	0.50	7589506
Total Copper (Cu)	ug/L	130	5.0	3.68	11.3	7.83	16.1	6.71	0.50	7589506
Total Iron (Fe)	ug/L	831000	100	6320	6780	4540	15000	4270	10	7589506
Total Lead (Pb)	ug/L	1570	2.0	10.5	5.51	2.37	8.63	3.13	0.20	7589506
Total Lithium (Li)	ug/L	667	50	7.6	19.1	29.4	18.1	11.8	5.0	7589506
Total Manganese (Mn)	ug/L	462000	10	1680	2080	581	852	392	1.0	7589506
Total Mercury (Hg)	ug/L	<0.50	0.50	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7589506
Total Molybdenum (Mo)	ug/L	<10	10	<1.0	1.5	1.5	2.9	<1.0	1.0	7589506
Total Nickel (Ni)	ug/L	10000	10	4.3	30.7	18.3	16.5	19.3	1.0	7589506
Total Selenium (Se)	ug/L	<1.0	1.0	0.15	0.40	7.62	0.36	0.30	0.10	7589506
Total Silicon (Si)	ug/L	14000	1000	9030	12400	9630	14000	14600	100	7589506
Total Silver (Ag)	ug/L	1.83	0.20	<0.020	0.042	<0.020	0.049	0.038	0.020	7589506
Total Strontium (Sr)	ug/L	2520	10	262	412	573	514	370	1.0	7589506
Total Thallium (Tl)	ug/L	17.2	0.50	0.099	0.109	0.077	0.113	0.051	0.050	7589506
Total Tin (Sn)	ug/L	<50	50	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7589506
Total Titanium (Ti)	ug/L	<50	50	53.1	119	99.0	191	107	5.0	7589506
Total Uranium (U)	ug/L	277	1.0	0.82	4.87	15.5	3.87	0.34	0.10	7589506
Total Vanadium (V)	ug/L	<50	50	<5.0	9.1	7.1	14.3	6.6	5.0	7589506
Total Zinc (Zn)	ug/L	2890000	50	90.1	254	27.7	157	1690	5.0	7589506
Total Zirconium (Zr)	ug/L	<5.0	5.0	<0.50	1.53	1.05	0.85	<0.50	0.50	7589506
Total Calcium (Ca)	mg/L	465	0.50	53.7	92.2	114	66.7	81.7	0.050	7583273
Total Magnesium (Mg)	mg/L	3780	0.50	9.63	28.2	41.2	47.2	41.1	0.050	7583273
Total Potassium (K)	mg/L	12.4	0.50	1.72	3.66	5.28	3.90	3.33	0.050	7583273
Total Sodium (Na)	mg/L	46.5	0.50	9.68	17.1	97.8	3.87	3.90	0.050	7583273

RDL = Reportable Detection Limit

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KF6231		KF6232	KF6233	KF6234	KF6235	KF6241		
Sampling Date		2014/07/28 08:40		2014/07/23 08:50	2014/07/23 09:10	2014/07/23 09:30	2014/07/23 08:30	2014/07/25 17:55		
COC Number		EB1039114		EB1039114	EB1039114	EB1039114	EB1039114	08395330		
	Units	**PW14-06**	**RDL**	**MW14-08**	**MW14-09**	**MW14-10**	**MW14-11**	**MW14-12S**	**RDL**	**QC Batch**
Total Sulphur (S)	mg/L	7850	30	13.8	56.2	98.6	4.0	117	3.0	7583273
RDL = Reportable Detection Limit										

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KF6242	KF6243	KF6244	KF6245	KF6246		
Sampling Date		2014/07/25 18:20	2014/07/26 15:45	2014/07/24 09:30	2014/07/24 11:10	2014/07/26 16:25		
COC Number		08395330	08395330	08395330	08395330	08395330		
	Units	MW14-12D	MW14-13	MW14-14	MW14-15	MW14-16	RDL	QC Batch
Calculated Parameters								
Total Hardness (CaCO3)	mg/L	597	1200	1500	960	702	0.50	7584170
Total Metals by ICPMS								
Total Aluminum (Al)	ug/L	8640	4040	299	7080	4950	3.0	7589506
Total Antimony (Sb)	ug/L	0.74	<0.50	<0.50	0.63	<0.50	0.50	7589506
Total Arsenic (As)	ug/L	9.94	4.57	0.41	6.33	4.68	0.10	7589506
Total Barium (Ba)	ug/L	363	134	190	185	116	1.0	7589506
Total Beryllium (Be)	ug/L	0.57	0.30	<0.10	0.34	0.27	0.10	7589506
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	7589506
Total Boron (B)	ug/L	<50	<50	<50	<50	<50	50	7589506
Total Cadmium (Cd)	ug/L	1.59	3.35	0.496	2.65	1.46	0.010	7589506
Total Chromium (Cr)	ug/L	17.1	8.1	<1.0	18.3	9.9	1.0	7589506
Total Cobalt (Co)	ug/L	9.89	5.60	4.99	30.5	6.38	0.50	7589506
Total Copper (Cu)	ug/L	21.3	16.9	1.49	19.6	18.4	0.50	7589506
Total Iron (Fe)	ug/L	18700	6980	377	12100	8830	10	7589506
Total Lead (Pb)	ug/L	15.5	8.40	0.32	6.63	5.61	0.20	7589506
Total Lithium (Li)	ug/L	31.5	37.7	<5.0	53.6	23.4	5.0	7589506
Total Manganese (Mn)	ug/L	883	713	1560	3010	323	1.0	7589506
Total Mercury (Hg)	ug/L	0.050	<0.050	<0.050	<0.050	<0.050	0.050	7589506
Total Molybdenum (Mo)	ug/L	1.6	<1.0	2.6	2.3	<1.0	1.0	7589506
Total Nickel (Ni)	ug/L	82.5	146	10.2	139	70.2	1.0	7589506
Total Selenium (Se)	ug/L	0.47	0.73	1.06	0.91	0.61	0.10	7589506
Total Silicon (Si)	ug/L	21100	18500	9110	18700	15900	100	7589506
Total Silver (Ag)	ug/L	0.143	0.075	<0.020	0.100	0.077	0.020	7589506
Total Strontium (Sr)	ug/L	526	1140	1300	658	645	1.0	7589506
Total Thallium (Tl)	ug/L	0.157	0.090	<0.050	0.139	0.102	0.050	7589506
Total Tin (Sn)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7589506
Total Titanium (Ti)	ug/L	282	126	10.0	260	165	5.0	7589506
Total Uranium (U)	ug/L	2.93	11.6	0.45	0.71	4.08	0.10	7589506
Total Vanadium (V)	ug/L	19.7	9.6	<5.0	18.7	11.8	5.0	7589506
Total Zinc (Zn)	ug/L	2600	8900	1390	13300	2450	5.0	7589506
Total Zirconium (Zr)	ug/L	2.17	<0.50	<0.50	1.25	1.63	0.50	7589506
Total Calcium (Ca)	mg/L	161	322	264	146	193	0.050	7583273
Total Magnesium (Mg)	mg/L	47.1	96.6	204	145	53.7	0.050	7583273
Total Potassium (K)	mg/L	5.52	6.10	2.89	4.59	4.94	0.050	7583273
Total Sodium (Na)	mg/L	8.76	11.8	7.53	23.3	5.49	0.050	7583273
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

CSR TOTAL METALS IN WATER (WATER)

Maxxam ID		KF6242	KF6243	KF6244	KF6245	KF6246		
Sampling Date		2014/07/25 18:20	2014/07/26 15:45	2014/07/24 09:30	2014/07/24 11:10	2014/07/26 16:25		
COC Number		08395330	08395330	08395330	08395330	08395330		
	Units	**MW14-12D**	**MW14-13**	**MW14-14**	**MW14-15**	**MW14-16**	**RDL**	**QC Batch**
Total Sulphur (S)	mg/L	106	212	485	321	151	3.0	7583273
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

GENERAL COMMENTS

CSR DISSOLVED METALS IN WATER (WATER) Comments

Sample KF6228-03 Elements by CRC ICPMS (dissolved): RDL raised due to sample matrix interference.
Sample KF6229-02 Elements by CRC ICPMS (dissolved): RDL raised due to sample matrix interference.
Sample KF6230-03 Elements by CRC ICPMS (dissolved): RDL raised due to sample matrix interference.
Sample KF6231-03 Elements by CRC ICPMS (dissolved): RDL raised due to sample matrix interference.

CSR TOTAL METALS IN WATER (WATER) Comments

Sample KF6231-02 Elements by CRC ICPMS (total): Detection limits raised due to matrix interference.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

QUALITY ASSURANCE REPORT

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7585451	Dissolved Chloride (Cl)	2014/07/31	NC	80 - 120	103	80 - 120	<0.50	mg/L	NC	20
7585465	Dissolved Sulphate (SO4)	2014/07/31	NC	80 - 120	97	80 - 120	<0.50	mg/L	0.5	20
7585485	Nitrate plus Nitrite (N)	2014/07/31	NC	80 - 120	103	80 - 120	<0.020	mg/L	NC	25
7585492	Nitrite (N)	2014/07/31	101	80 - 120	99	80 - 120	<0.0050	mg/L	NC	20
7585554	Alkalinity (PP as CaCO3)	2014/08/01					<0.50	mg/L		
7585554	Alkalinity (Total as CaCO3)	2014/08/01	NC	80 - 120	91	80 - 120	<0.50	mg/L		
7585554	Bicarbonate (HCO3)	2014/08/01					<0.50	mg/L		
7585554	Carbonate (CO3)	2014/08/01					<0.50	mg/L		
7585554	Hydroxide (OH)	2014/08/01					<0.50	mg/L		
7585555	pH	2014/08/01			101	97 - 103				
7585556	Conductivity	2014/08/01			100	80 - 120	1.4 ,RDL=1.0	uS/cm		
7585558	Alkalinity (PP as CaCO3)	2014/08/01					<0.50	mg/L	NC	20
7585558	Alkalinity (Total as CaCO3)	2014/08/01	NC	80 - 120	96	80 - 120	<0.50	mg/L	1.4	20
7585558	Bicarbonate (HCO3)	2014/08/01					<0.50	mg/L	1.4	20
7585558	Carbonate (CO3)	2014/08/01					<0.50	mg/L	NC	20
7585558	Hydroxide (OH)	2014/08/01					<0.50	mg/L	NC	20
7585561	Conductivity	2014/08/01			100	80 - 120	1.7 ,RDL=1.0	uS/cm	2.2	20
7585564	pH	2014/08/01			101	97 - 103			0.9	N/A
7586949	Total Aluminum (Al)	2014/08/05	103	80 - 120	103	80 - 120	<3.0	ug/L		
7586949	Total Antimony (Sb)	2014/08/05	NC	80 - 120	100	80 - 120	<0.50	ug/L		
7586949	Total Arsenic (As)	2014/08/05	106	80 - 120	109	80 - 120	<0.10	ug/L		
7586949	Total Barium (Ba)	2014/08/05	NC	80 - 120	100	80 - 120	<1.0	ug/L		
7586949	Total Beryllium (Be)	2014/08/05	96	80 - 120	102	80 - 120	<0.10	ug/L		
7586949	Total Bismuth (Bi)	2014/08/05	96	80 - 120	101	80 - 120	<1.0	ug/L		
7586949	Total Boron (B)	2014/08/05					<50	ug/L		
7586949	Total Cadmium (Cd)	2014/08/05	101	80 - 120	102	80 - 120	<0.010	ug/L		
7586949	Total Chromium (Cr)	2014/08/05	98	80 - 120	101	80 - 120	<1.0	ug/L		
7586949	Total Cobalt (Co)	2014/08/05	99	80 - 120	103	80 - 120	<0.50	ug/L		
7586949	Total Copper (Cu)	2014/08/05	91	80 - 120	104	80 - 120	<0.50	ug/L		
7586949	Total Iron (Fe)	2014/08/05	NC	80 - 120	103	80 - 120	<10	ug/L		
7586949	Total Lead (Pb)	2014/08/05	97	80 - 120	98	80 - 120	<0.20	ug/L		
7586949	Total Lithium (Li)	2014/08/05	NC	80 - 120	98	80 - 120	<5.0	ug/L		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7586949	Total Manganese (Mn)	2014/08/05	NC	80 - 120	98	80 - 120	<1.0	ug/L		
7586949	Total Mercury (Hg)	2014/08/05	102	80 - 120	105	80 - 120	<0.050	ug/L		
7586949	Total Molybdenum (Mo)	2014/08/05	NC	80 - 120	90	80 - 120	<1.0	ug/L		
7586949	Total Nickel (Ni)	2014/08/05	NC	80 - 120	104	80 - 120	<1.0	ug/L		
7586949	Total Selenium (Se)	2014/08/05	98	80 - 120	99	80 - 120	<0.10	ug/L		
7586949	Total Silicon (Si)	2014/08/05					<100	ug/L		
7586949	Total Silver (Ag)	2014/08/05	89	80 - 120	79 (1)	80 - 120	<0.020	ug/L		
7586949	Total Strontium (Sr)	2014/08/05	NC	80 - 120	97	80 - 120	<1.0	ug/L		
7586949	Total Thallium (Tl)	2014/08/05	96	80 - 120	96	80 - 120	<0.050	ug/L		
7586949	Total Tin (Sn)	2014/08/05	100	80 - 120	106	80 - 120	<5.0	ug/L		
7586949	Total Titanium (Ti)	2014/08/05	106	80 - 120	89	80 - 120	<5.0	ug/L		
7586949	Total Uranium (U)	2014/08/05	NC	80 - 120	97	80 - 120	<0.10	ug/L		
7586949	Total Vanadium (V)	2014/08/05	98	80 - 120	106	80 - 120	<5.0	ug/L		
7586949	Total Zinc (Zn)	2014/08/05	NC	80 - 120	104	80 - 120	<5.0	ug/L		
7586949	Total Zirconium (Zr)	2014/08/05					<0.50	ug/L		
7587041	Dissolved Chloride (Cl)	2014/08/01	NC	80 - 120	97	80 - 120	<0.50	mg/L	NC	20
7587052	Dissolved Sulphate (SO4)	2014/08/01	NC	80 - 120	92	80 - 120	0.98 ,RDL=0.50	mg/L	0.2	20
7589233	Total Aluminum (Al)	2014/08/05	NC	80 - 120	120 (2)	80 - 120	<25 (2)	ug/L	6.8 (2)	20
7589233	Total Antimony (Sb)	2014/08/05	106	80 - 120	113	80 - 120	<0.50	ug/L	NC	20
7589233	Total Arsenic (As)	2014/08/05	97	80 - 120	105	80 - 120	<0.10	ug/L	4.6	20
7589233	Total Barium (Ba)	2014/08/05	NC	80 - 120	106	80 - 120	<1.0	ug/L	0.8	20
7589233	Total Beryllium (Be)	2014/08/05	97	80 - 120	101	80 - 120	<0.10	ug/L	NC	20
7589233	Total Bismuth (Bi)	2014/08/05	100	80 - 120	110	80 - 120	<1.0	ug/L	NC	20
7589233	Total Boron (B)	2014/08/05					<50	ug/L	NC	20
7589233	Total Cadmium (Cd)	2014/08/05	96	80 - 120	107	80 - 120	<0.010	ug/L	0.2	20
7589233	Total Chromium (Cr)	2014/08/05	97	80 - 120	106	80 - 120	<1.0	ug/L	NC	20
7589233	Total Cobalt (Co)	2014/08/05	NC	80 - 120	103	80 - 120	<0.50	ug/L	3.3	20
7589233	Total Copper (Cu)	2014/08/05	85	80 - 120	107	80 - 120	<0.50	ug/L	NC	20
7589233	Total Iron (Fe)	2014/08/05	NC	80 - 120	106	80 - 120	<10	ug/L	2.5	20
7589233	Total Lead (Pb)	2014/08/05	NC	80 - 120	107	80 - 120	<0.20	ug/L	0.6	20
7589233	Total Lithium (Li)	2014/08/05	NC	80 - 120	98	80 - 120	<5.0	ug/L	0.4	20
7589233	Total Manganese (Mn)	2014/08/05	NC	80 - 120	106	80 - 120	<1.0	ug/L	0.2	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7589233	Total Mercury (Hg)	2014/08/05	106	80 - 120	116	80 - 120	<0.050	ug/L	NC	20
7589233	Total Molybdenum (Mo)	2014/08/05	NC	80 - 120	97	80 - 120	<1.0	ug/L	NC	20
7589233	Total Nickel (Ni)	2014/08/05	NC	80 - 120	108	80 - 120	<1.0	ug/L	0.2	20
7589233	Total Selenium (Se)	2014/08/05	86	80 - 120	97	80 - 120	<0.10	ug/L	NC	20
7589233	Total Silicon (Si)	2014/08/05					<100	ug/L	2.5	20
7589233	Total Silver (Ag)	2014/08/05	89	80 - 120	89	80 - 120	<0.020	ug/L	NC	20
7589233	Total Strontium (Sr)	2014/08/05	NC	80 - 120	105	80 - 120	<1.0	ug/L	1.4	20
7589233	Total Thallium (Tl)	2014/08/05	98	80 - 120	103	80 - 120	<0.050	ug/L	NC	20
7589233	Total Tin (Sn)	2014/08/05	98	80 - 120	106	80 - 120	<5.0	ug/L	NC	20
7589233	Total Titanium (Ti)	2014/08/05	NC	80 - 120	114	80 - 120	<5.0	ug/L	NC	20
7589233	Total Uranium (U)	2014/08/05	NC	80 - 120	104	80 - 120	<0.10	ug/L	1.8	20
7589233	Total Vanadium (V)	2014/08/05	104	80 - 120	102	80 - 120	<5.0	ug/L	NC	20
7589233	Total Zinc (Zn)	2014/08/05	NC	80 - 120	114	80 - 120	<5.0	ug/L	2.9	20
7589233	Total Zirconium (Zr)	2014/08/05					<0.50	ug/L	NC	20
7589506	Total Aluminum (Al)	2014/08/06	106	80 - 120	101	80 - 120	<3.0	ug/L		
7589506	Total Antimony (Sb)	2014/08/06	108	80 - 120	112	80 - 120	<0.50	ug/L		
7589506	Total Arsenic (As)	2014/08/06	102	80 - 120	105	80 - 120	<0.10	ug/L		
7589506	Total Barium (Ba)	2014/08/06	NC	80 - 120	105	80 - 120	<1.0	ug/L		
7589506	Total Beryllium (Be)	2014/08/06	99	80 - 120	99	80 - 120	<0.10	ug/L		
7589506	Total Bismuth (Bi)	2014/08/06	105	80 - 120	101	80 - 120	<1.0	ug/L		
7589506	Total Boron (B)	2014/08/06					<50	ug/L		
7589506	Total Cadmium (Cd)	2014/08/06	104	80 - 120	106	80 - 120	<0.010	ug/L		
7589506	Total Chromium (Cr)	2014/08/06	99	80 - 120	102	80 - 120	<1.0	ug/L		
7589506	Total Cobalt (Co)	2014/08/06	101	80 - 120	107	80 - 120	<0.50	ug/L		
7589506	Total Copper (Cu)	2014/08/06	NC	80 - 120	105	80 - 120	<0.50	ug/L		
7589506	Total Iron (Fe)	2014/08/06	NC	80 - 120	107	80 - 120	<10	ug/L		
7589506	Total Lead (Pb)	2014/08/06	99	80 - 120	99	80 - 120	<0.20	ug/L		
7589506	Total Lithium (Li)	2014/08/06	97	80 - 120	95	80 - 120	<5.0	ug/L		
7589506	Total Manganese (Mn)	2014/08/06	NC	80 - 120	102	80 - 120	<1.0	ug/L		
7589506	Total Mercury (Hg)	2014/08/06	105	80 - 120	108	80 - 120	<0.050	ug/L		
7589506	Total Molybdenum (Mo)	2014/08/06	101	80 - 120	106	80 - 120	<1.0	ug/L		
7589506	Total Nickel (Ni)	2014/08/06	100	80 - 120	106	80 - 120	<1.0	ug/L		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7589506	Total Selenium (Se)	2014/08/06	98	80 - 120	98	80 - 120	<0.10	ug/L		
7589506	Total Silicon (Si)	2014/08/06					<100	ug/L		
7589506	Total Silver (Ag)	2014/08/06	74 (3)	80 - 120	107	80 - 120	<0.020	ug/L		
7589506	Total Strontium (Sr)	2014/08/06	NC	80 - 120	100	80 - 120	<1.0	ug/L		
7589506	Total Thallium (Tl)	2014/08/06	97	80 - 120	98	80 - 120	<0.050	ug/L		
7589506	Total Tin (Sn)	2014/08/06	110	80 - 120	118	80 - 120	<5.0	ug/L		
7589506	Total Titanium (Ti)	2014/08/06	102	80 - 120	83	80 - 120	<5.0	ug/L		
7589506	Total Uranium (U)	2014/08/06	98	80 - 120	97	80 - 120	<0.10	ug/L		
7589506	Total Vanadium (V)	2014/08/06	100	80 - 120	100	80 - 120	<5.0	ug/L		
7589506	Total Zinc (Zn)	2014/08/06	95	80 - 120	107	80 - 120	<5.0	ug/L		
7589506	Total Zirconium (Zr)	2014/08/06					<0.50	ug/L		
7589535	Fluoride (F)	2014/08/05	NC	80 - 120	100	80 - 120	0.015 ,RDL=0.010	mg/L	1.7	20
7590471	Dissolved Aluminum (Al)	2014/08/07	101	80 - 120	103	80 - 120	<3.0	ug/L	0.2	20
7590471	Dissolved Antimony (Sb)	2014/08/07	100	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7590471	Dissolved Arsenic (As)	2014/08/07	105	80 - 120	102	80 - 120	<0.10	ug/L	NC	20
7590471	Dissolved Barium (Ba)	2014/08/07	NC	80 - 120	98	80 - 120	<1.0	ug/L	1.0	20
7590471	Dissolved Beryllium (Be)	2014/08/07	113	80 - 120	108	80 - 120	<0.10	ug/L	NC	20
7590471	Dissolved Bismuth (Bi)	2014/08/07	96	80 - 120	95	80 - 120	<1.0	ug/L	NC	20
7590471	Dissolved Boron (B)	2014/08/07					<50	ug/L	NC	20
7590471	Dissolved Cadmium (Cd)	2014/08/07	100	80 - 120	98	80 - 120	<0.010	ug/L	5.6	20
7590471	Dissolved Chromium (Cr)	2014/08/07	95	80 - 120	94	80 - 120	<1.0	ug/L	NC	20
7590471	Dissolved Cobalt (Co)	2014/08/07	NC	80 - 120	96	80 - 120	<0.50	ug/L	0.9	20
7590471	Dissolved Copper (Cu)	2014/08/07	91	80 - 120	93	80 - 120	<0.20	ug/L	8.1	20
7590471	Dissolved Iron (Fe)	2014/08/07	NC	80 - 120	105	80 - 120	<5.0	ug/L	0.8	20
7590471	Dissolved Lead (Pb)	2014/08/07	97	80 - 120	97	80 - 120	<0.20	ug/L	NC	20
7590471	Dissolved Lithium (Li)	2014/08/07	NC	80 - 120	110	80 - 120	<5.0	ug/L	NC	20
7590471	Dissolved Manganese (Mn)	2014/08/07	NC	80 - 120	99	80 - 120	<1.0	ug/L	2.3	20
7590471	Dissolved Mercury (Hg)	2014/08/07	101	80 - 120	101	80 - 120	<0.050	ug/L	NC	20
7590471	Dissolved Molybdenum (Mo)	2014/08/07	100	80 - 120	97	80 - 120	<1.0	ug/L	NC	20
7590471	Dissolved Nickel (Ni)	2014/08/07	NC	80 - 120	95	80 - 120	<1.0	ug/L	0.7	20
7590471	Dissolved Selenium (Se)	2014/08/07	103	80 - 120	99	80 - 120	<0.10	ug/L	NC	20
7590471	Dissolved Silicon (Si)	2014/08/07					<100	ug/L	0.3	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7590471	Dissolved Silver (Ag)	2014/08/07	97	80 - 120	90	80 - 120	<0.020	ug/L	NC	20
7590471	Dissolved Strontium (Sr)	2014/08/07	NC	80 - 120	99	80 - 120	<1.0	ug/L	2.3	20
7590471	Dissolved Thallium (Tl)	2014/08/07	96	80 - 120	95	80 - 120	<0.050	ug/L	NC	20
7590471	Dissolved Tin (Sn)	2014/08/07	97	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7590471	Dissolved Titanium (Ti)	2014/08/07	107	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7590471	Dissolved Uranium (U)	2014/08/07	99	80 - 120	95	80 - 120	<0.10	ug/L	0.9	20
7590471	Dissolved Vanadium (V)	2014/08/07	99	80 - 120	92	80 - 120	<5.0	ug/L	NC	20
7590471	Dissolved Zinc (Zn)	2014/08/07	NC	80 - 120	97	80 - 120	<5.0	ug/L	1.7	20
7590471	Dissolved Zirconium (Zr)	2014/08/07					<0.50	ug/L	NC	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Blank Spike outside acceptance criteria (10% of analytes failure allowed).

(2) Blank outside acceptance criteria, detection limit adjusted accordingly.

(3) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B465296
Report Date: 2014/08/11

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027 FARO PHASE 2
Sampler Initials: TR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Success Through Science®

Your Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Your C.O.C. #: EB1035614

Attention:Christoph Wels

ROBERTSON GEOCONSULTANTS INC
900-580 Hornby Street
Vancouver, BC
CANADA V6C 3B6

Report Date: 2014/07/28
Report #: R1610912
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B462770
Received: 2014/07/23, 13:50

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity - Water	2	2014/07/24	2014/07/24	BBY6SOP-00026	SM2320B
Chloride by Automated Colourimetry	2	N/A	2014/07/24	BBY6SOP-00011	SM-4500-Cl-
Conductance - water	2	N/A	2014/07/24	BBY6SOP-00026	SM-2510B
Fluoride	2	N/A	2014/07/24	BBY6SOP-00012	SM - 4500 F C
Hardness (calculated as CaCO3)	2	N/A	2014/07/24	BBY7SOP-00002	EPA 6020A
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	2	N/A	2014/07/24	BBY7SOP-00002	EPA 6020A
Elements by CRC ICPMS (dissolved)	2	N/A	2014/07/24	BBY7SOP-00002	EPA 6020A
Nitrate + Nitrite (N)	2	N/A	2014/07/23	BBY6SOP-00010	SM 4500NO3-I
Nitrite (N) by CFA	2	N/A	2014/07/23	BBY6SOP-00010	EPA 353.2
Nitrogen - Nitrate (as N)	2	N/A	2014/07/24	BBY6SOP-00010	SM 4500NO3-I
Filter and HNO3 Preserve for Metals	2	N/A	2014/07/24	BBY6WI-00001	EPA 200.2
pH Water (1)	2	N/A	2014/07/24	BBY6SOP-00026	SM-4500H+B
Sulphate by Automated Colourimetry	2	N/A	2014/07/24	BBY6SOP-00017	SM4500-SO42- E

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Jared Rudek, Project Manager
Email: JRudek@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B462770
Report Date: 2014/07/28

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Sampler Initials: TR

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KE0103			KE0104		
Sampling Date		2014/07/18 11:30			2014/07/11 10:15		
COC Number		EB1035614			EB1035614		
	Units	BH14-14 10.5'	RDL	QC Batch	PW14-07	RDL	QC Batch
ANIONS							
Nitrite (N)	mg/L	<0.0050 (1)	0.0050	7575427	<0.0050 (1)	0.0050	7575427
Calculated Parameters							
Filter and HNO3 Preservation	N/A	FIELD	N/A	ONSITE	FIELD	N/A	ONSITE
Nitrate (N)	mg/L	<0.020	0.020	7574966	<0.020	0.020	7574966
Misc. Inorganics							
Fluoride (F)	mg/L	0.300	0.010	7576992	0.300	0.010	7577288
Alkalinity (Total as CaCO3)	mg/L	44.4	0.50	7576842	231	0.50	7576842
Alkalinity (PP as CaCO3)	mg/L	<0.50	0.50	7576842	<0.50	0.50	7576842
Bicarbonate (HCO3)	mg/L	54.2	0.50	7576842	282	0.50	7576842
Carbonate (CO3)	mg/L	<0.50	0.50	7576842	<0.50	0.50	7576842
Hydroxide (OH)	mg/L	<0.50	0.50	7576842	<0.50	0.50	7576842
Anions							
Dissolved Sulphate (SO4)	mg/L	348	5.0	7576891	182	0.50	7577336
Dissolved Chloride (Cl)	mg/L	<0.50	0.50	7576888	1.6	0.50	7577325
Nutrients							
Nitrate plus Nitrite (N)	mg/L	<0.020 (1)	0.020	7575407	<0.020 (1)	0.020	7575407
Physical Properties							
Conductivity	uS/cm	776	1.0	7576851	819	1.0	7576851
pH	pH	6.92		7576844	6.41	N/A	7576844

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Sample arrived to laboratory past recommended hold time.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B462770
Report Date: 2014/07/28

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KE0103	KE0104		
Sampling Date		2014/07/18 11:30	2014/07/11 10:15		
COC Number		EB1035614	EB1035614		
	Units	BH14-14 10.5'	PW14-07	RDL	QC Batch
Misc. Inorganics					
Dissolved Hardness (CaCO3)	mg/L	372	389	0.50	7574488
Dissolved Metals by ICPMS					
Dissolved Aluminum (Al)	ug/L	317	85.8	3.0	7576225
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	0.50	7576225
Dissolved Arsenic (As)	ug/L	0.53	2.21	0.10	7576225
Dissolved Barium (Ba)	ug/L	76.6	65.9	1.0	7576225
Dissolved Beryllium (Be)	ug/L	<0.10	0.68	0.10	7576225
Dissolved Bismuth (Bi)	ug/L	<1.0	<1.0	1.0	7576225
Dissolved Boron (B)	ug/L	<50	<50	50	7576225
Dissolved Cadmium (Cd)	ug/L	6.49	0.120	0.010	7576225
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	1.0	7576225
Dissolved Cobalt (Co)	ug/L	4.36	5.53	0.50	7576225
Dissolved Copper (Cu)	ug/L	2.95	0.67	0.20	7576225
Dissolved Iron (Fe)	ug/L	478	22600	5.0	7576225
Dissolved Lead (Pb)	ug/L	0.78	0.24	0.20	7576225
Dissolved Lithium (Li)	ug/L	12.0	44.9	5.0	7576225
Dissolved Manganese (Mn)	ug/L	393	1170	1.0	7576225
Dissolved Mercury (Hg)	ug/L	<0.050	<0.050	0.050	7576225
Dissolved Molybdenum (Mo)	ug/L	<1.0	<1.0	1.0	7576225
Dissolved Nickel (Ni)	ug/L	75.7	16.3	1.0	7576225
Dissolved Selenium (Se)	ug/L	0.13	<0.10	0.10	7576225
Dissolved Silicon (Si)	ug/L	8090	12500	100	7576225
Dissolved Silver (Ag)	ug/L	0.020	<0.020	0.020	7576225
Dissolved Strontium (Sr)	ug/L	264	488	1.0	7576225
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	0.050	7576225
Dissolved Tin (Sn)	ug/L	<5.0	<5.0	5.0	7576225
Dissolved Titanium (Ti)	ug/L	13.3	<5.0	5.0	7576225
Dissolved Uranium (U)	ug/L	0.25	1.55	0.10	7576225
Dissolved Vanadium (V)	ug/L	<5.0	<5.0	5.0	7576225
Dissolved Zinc (Zn)	ug/L	21000	1140	5.0	7576225
Dissolved Zirconium (Zr)	ug/L	<0.50	<0.50	0.50	7576225
Dissolved Calcium (Ca)	mg/L	46.1	93.9	0.050	7574519
Dissolved Magnesium (Mg)	mg/L	62.3	37.4	0.050	7574519
Dissolved Potassium (K)	mg/L	1.19	3.41	0.050	7574519
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B462770
Report Date: 2014/07/28

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Sampler Initials: TR

CSR DISSOLVED METALS IN WATER (WATER)

Maxxam ID		KE0103	KE0104		
Sampling Date		2014/07/18 11:30	2014/07/11 10:15		
COC Number		EB1035614	EB1035614		
	Units	**BH14-14 10.5'**	**PW14-07**	**RDL**	**QC Batch**
Dissolved Sodium (Na)	mg/L	3.58	9.54	0.050	7574519
Dissolved Sulphur (S)	mg/L	118	73.4	3.0	7574519
RDL = Reportable Detection Limit					

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B462770
Report Date: 2014/07/28

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Sampler Initials: TR

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B462770
Report Date: 2014/07/28

QUALITY ASSURANCE REPORT

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Sampler Initials: TR

			Matrix Spike		Spiked Blank		Method Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7575407	Nitrate plus Nitrite (N)	2014/07/23			104	80 - 120	<0.020	mg/L
7575427	Nitrite (N)	2014/07/23			98	80 - 120	<0.0050	mg/L
7576225	Dissolved Aluminum (Al)	2014/07/24	100	80 - 120	98	80 - 120	<3.0	ug/L
7576225	Dissolved Antimony (Sb)	2014/07/24	106	80 - 120	101	80 - 120	<0.50	ug/L
7576225	Dissolved Arsenic (As)	2014/07/24	104	80 - 120	102	80 - 120	<0.10	ug/L
7576225	Dissolved Barium (Ba)	2014/07/24	NC	80 - 120	100	80 - 120	<1.0	ug/L
7576225	Dissolved Beryllium (Be)	2014/07/24	96	80 - 120	95	80 - 120	<0.10	ug/L
7576225	Dissolved Bismuth (Bi)	2014/07/24	95	80 - 120	102	80 - 120	<1.0	ug/L
7576225	Dissolved Boron (B)	2014/07/24					<50	ug/L
7576225	Dissolved Cadmium (Cd)	2014/07/24	99	80 - 120	100	80 - 120	<0.010	ug/L
7576225	Dissolved Chromium (Cr)	2014/07/24	101	80 - 120	103	80 - 120	<1.0	ug/L
7576225	Dissolved Cobalt (Co)	2014/07/24	94	80 - 120	101	80 - 120	<0.50	ug/L
7576225	Dissolved Copper (Cu)	2014/07/24	94	80 - 120	103	80 - 120	<0.20	ug/L
7576225	Dissolved Iron (Fe)	2014/07/24	99	80 - 120	100	80 - 120	<5.0	ug/L
7576225	Dissolved Lead (Pb)	2014/07/24	97	80 - 120	99	80 - 120	<0.20	ug/L
7576225	Dissolved Lithium (Li)	2014/07/24	NC	80 - 120	93	80 - 120	<5.0	ug/L
7576225	Dissolved Manganese (Mn)	2014/07/24	96	80 - 120	103	80 - 120	<1.0	ug/L
7576225	Dissolved Mercury (Hg)	2014/07/24	98	80 - 120	102	80 - 120	<0.050	ug/L
7576225	Dissolved Molybdenum (Mo)	2014/07/24	NC	80 - 120	97	80 - 120	<1.0	ug/L
7576225	Dissolved Nickel (Ni)	2014/07/24	95	80 - 120	106	80 - 120	<1.0	ug/L
7576225	Dissolved Selenium (Se)	2014/07/24	103	80 - 120	100	80 - 120	<0.10	ug/L
7576225	Dissolved Silicon (Si)	2014/07/24					<100	ug/L
7576225	Dissolved Silver (Ag)	2014/07/24	100	80 - 120	99	80 - 120	<0.020	ug/L
7576225	Dissolved Strontium (Sr)	2014/07/24	NC	80 - 120	100	80 - 120	<1.0	ug/L
7576225	Dissolved Thallium (Tl)	2014/07/24	85	80 - 120	100	80 - 120	<0.050	ug/L
7576225	Dissolved Tin (Sn)	2014/07/24	NC	80 - 120	101	80 - 120	<5.0	ug/L
7576225	Dissolved Titanium (Ti)	2014/07/24	108	80 - 120	104	80 - 120	<5.0	ug/L
7576225	Dissolved Uranium (U)	2014/07/24	102	80 - 120	101	80 - 120	<0.10	ug/L
7576225	Dissolved Vanadium (V)	2014/07/24	104	80 - 120	104	80 - 120	<5.0	ug/L
7576225	Dissolved Zinc (Zn)	2014/07/24	NC	80 - 120	105	80 - 120	<5.0	ug/L
7576225	Dissolved Zirconium (Zr)	2014/07/24					<0.50	ug/L
7576842	Alkalinity (PP as CaCO3)	2014/07/24					<0.50	mg/L

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B462770
Report Date: 2014/07/28

QUALITY ASSURANCE REPORT(CONT'D)

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Sampler Initials: TR

			Matrix Spike		Spiked Blank		Method Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units
7576842	Alkalinity (Total as CaCO3)	2014/07/24	NC	80 - 120	96	80 - 120	<0.50	mg/L
7576842	Bicarbonate (HCO3)	2014/07/24					<0.50	mg/L
7576842	Carbonate (CO3)	2014/07/24					<0.50	mg/L
7576842	Hydroxide (OH)	2014/07/24					<0.50	mg/L
7576851	Conductivity	2014/07/24			99	80 - 120	<1.0	uS/cm
7576888	Dissolved Chloride (Cl)	2014/07/24			105	80 - 120	<0.50	mg/L
7576891	Dissolved Sulphate (SO4)	2014/07/24			101	80 - 120	<0.50	mg/L
7576992	Fluoride (F)	2014/07/24	100	80 - 120	100	80 - 120	<0.010	mg/L
7577288	Fluoride (F)	2014/07/24	100	80 - 120	102	80 - 120	<0.010	mg/L
7577325	Dissolved Chloride (Cl)	2014/07/24	94	80 - 120	105	80 - 120	<0.50	mg/L
7577336	Dissolved Sulphate (SO4)	2014/07/24	NC	80 - 120	101	80 - 120	<0.50	mg/L

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

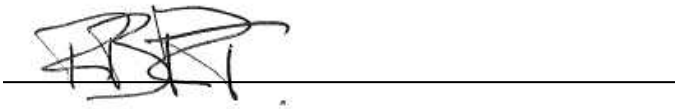
Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B462770
Report Date: 2014/07/28

ROBERTSON GEOCONSULTANTS INC
Client Project #: 118027
Site Location: FARO PHASE 2 DRILLING
Sampler Initials: TR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386