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October 21, 2014
RGC Project No: 118027

Yukon Government
Faro Project Management Team
Assessment and Abandoned Mines

Att: Erik Pit

RE: Progress Report - Phase 2 NFRC Drilling Program, Faro Mine, Yukon

Erik:

This letter report provides a brief summary of the preliminary findings of the Phase 2 Drilling Program completed upstream and downstream of the rock drain in the North Fork of Rose Creek (NFRC). The Phase 2 program 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 (Sulpide Cell) towards the (NFRC) (RGC, 2014)[1].

1 Introduction & Study Objectives

Zinc concentrations in the NFRC have significantly increased since 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)[2] and geochemical fingerprinting[3] indicated that highly contaminated seepage from the

[1] RGC Report 118027/2 entitled "Final Report - 2014 Winter Drilling Program, NFRC Reach, Faro Mine, Yukon" submitted to YG-AAM in October 2014

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

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

Intermediate Dump (likely the "Sulphide Cell") is the most probable source of this contamination.

Based on this analysis, a Phase 1 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 remaining four (4) were completed as PVC monitoring wells ("MW-14" series) (see Figure 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. 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:

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 will not be feasible (due to potential lack of significant contamination). It was agreed that if the Phase 2 field work indicated otherwise the scope of work for Phase 2 initially proposed (and described in this progress report) would likely have to be expanded.

2 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 Nr. 118027/2).

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 progress report summarizes the preliminary findings of the Phase 2 NFRC Drilling Program (Task 2). It should be emphasized that field surveying and interpretation of all field work has not yet been completed. A more comprehensive data interpretation (Task 3) will be provided in the Phase 2 final report (Task 4) at a later date.

3 Field Methods & Results

3.1 Overview

Phase 2 of the hydrogeological field investigation at the NFRC (near the rock drain) was conducted from July 6 to July 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, 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 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 the locations of the monitoring wells and their depth had to be altered from the initial plan.

3.2 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 a 185 cubic feet per minute capacity was used for ODEX drilling. The boreholes were drilled using all four available methods depending on access and ground conditions. 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.

3.3 Monitoring Well Installation

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

After a well string was assembled and lowered into the borehole, standard 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 1 foot (30 cm) above the top of the screen section in all wells. In some boreholes heaving sands were encountered. 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 become stuck in the borehole. In the boreholes where heaving sands were encountered 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 (MW14-12D, MW14-13, MW14-16).

Table 1. Well Installation Details, Phase 2 NFRC Drilling Program, July 2014

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									

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 casing installed around them. The name of each well was written on the inside of each monument and on the PVC stickup.

3.4 Well Development

Well development was performed with 5/8” diameter Waterra tubing and a foot valve. Low flow wells were purged dry repeatedly while higher flow wells were developed continuously until electric conductivity measurements stabilized. The 1-inch diameter wells MW14-14 and MW14-15 were purged dry with a bailer. Table 2 summarizes the

results of well development and the observed (final) field EC and dissolved zinc concentrations (analysed in 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.

Table 2. Results of Well Development, Phase 2 NFRC Drilling program.

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	(mS/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
Notes								
1. EC = electrical conductivity								
2. mS/cm = milliSiemens per centimeter								

3.5 Water Quality Sampling

Groundwater samples were collected from all Phase 2 wells approximately one day after development. Low flow 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 flow wells were sampled with Waterra tubing and foot valve.

Prior to sampling, field readings of pH, electric conductivity, and oxidation reduction potential 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.

3.6 Hydraulic Testing

Following well development and sampling, 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 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 recoded after shut off of the pump until the water level had recovered to within at least 70% of the static water level.

Interpretation of the hydraulic tests is currently in progress and will be presented in the final report. Preliminary analysis of the hydraulic testing indicated aquifer permeabilities in the range of $3x10^{-4}$ m/s.

4 Preliminary Results and Discussion

4.1 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 NF2A).

Figure 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 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)
- A fence of wells located along the western and northern shore of the NF1 pond (MW14-12 to MW14-16), i.e. at the eastern toe of the Intermediate Dump, targeting the shallow sediments of the western portion of the original NFRC valley (NF1 pond area)

In summary, 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), suggesting that highly impacted seepage discharges further upstream into the western channel of NFRC and discharges as surface water at NF2A.

The stratigraphy in the NF1 pond area is complex and groundwater quality more variable. Along the eastern toe of the Intermediate Dump, a productive sand and gravel unit was encountered at depth beneath a confining surficial silt layer. Groundwater in this sand and gravel unit showed moderately elevated zinc concentrations (up to ~20 mg/L zinc). 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.

The following sections 4.2 to 4.4 provide more details on the hydrostratigraphy, groundwater levels and groundwater quality observed in the two target areas.

Section 4.5 provides a preliminary discussion of the implications for seepage interception in the study area.

4.2 Hydrostratigraphy

In the NF2A area, the following hydrostratigraphy was observed:

- 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).

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

- 0 to 3.0m Gravelly silt
- 3.0 to 4.4m Medium grained sand
- 4.4 to 7.6m Sand and gravel

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). Heaving sands were encountered at depth at most drill locations in this area (resulting in difficulties drilling to the target depth and installing deep piezometers).

Hydraulic testing data has not been fully analysed and interpreted yet (to be completed). However, field observations of grain size and well response during development indicate that the fine-grained glacial till sediments in the NF2A area and at the NF1 pond area have a low permeability. In contrast, the glaciofluvial sediments (sand, and sand and gravel units) encountered beneath the confining till unit in the NF1 pond area have a high permeability, likely in the order of K=1..5x10-4 m/s.

4.3 Groundwater Levels

RGC completed a comprehensive groundwater level survey in all Phase 1 and Phase 2 wells on July 29, 2014. Table 1 lists the depth-to-water readings taken in the Phase 2 wells at the end of the field work (on July 28, 2014). Note that groundwater levels in the NFRC aquifer (at P96-6 and PW14-01) decreased by about 0.5m between July 9 and July 28, 2014. During this same time period, the NF1 pond elevation decreased by about 1m.

Geodetic groundwater levels and a contour map of the groundwater table indicating the groundwater flow field in the NFRC reach will be completed once the TOC elevations are available (to be included in the final draft report).

The following initial observations can be made:

- In the NF2A area, the groundwater levels were approximately 1.0 m below ground surface near the creek and up to 2.5m below ground surface at greater distance from the creek
- In the NF1 pond area, the groundwater levels ranged from about 1.5m to 4.5 m below ground surface, depending on the elevation of the drill site

It is anticipated that hydraulic gradients in the NFRC valley near the NF1 pond are relatively small with groundwater levels close to the elevation of the NF1 pond stage. Geodetic surveys of the TOC of the wells will be required to determine the detailed flow field and compute hydraulic gradients in this area, including the interaction of groundwater with the NF1 pond.

Note that groundwater levels can be expected to show seasonal variations in response to precipitation and NF1 pond stage. Additional longer-term water level monitoring will be required to determine the seasonal variations in groundwater levels in these newly completed wells.

4.4 Groundwater Quality

Tables 3 and 4 show selected water quality results for the July 2014 sampling survey conducted by RGC in the Phase 1 and Phase 2 wells. Figure 2 illustrates the observed dissolved zinc concentrations in the various Phase 1 and Phase 2 wells in plan view for the NFRC study area. Figure 3 shows the observed dissolved zinc concentrations for the NF1 pond area.

The groundwater quality observed in the Phase 1 wells in July 2014 was consistent with earlier sampling in February/March 2014 (reported in the Phase 1 report) 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).

Groundwater in the shallow sediments of the NF2A area (at toe of rock drain) showed very little impact of WRD seepage with zinc concentrations of less 0.2 mg/L (Table 4). Note that monitoring well SRK-05-SP2 which is screened in the deeper and more permeable glaciofluvial sediments (screened by SRK) shows similarly low dissolved zinc concentrations (Zn ~0.135 mg/l).

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 (Figure 3) indicated significant variations in zinc with depth. 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 (confirmed by laboratory analysis). Unfortunately, several attempts at installing a deep piezometer at this location failed with the available portable equipment due to refusal in the gravelly silt. The shallow monitoring well installed in this borehole (MW14-14 screened in low K silt) showed significantly lower zinc concentrations (1.27 mg/L).

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

Parameter	Unit	PW14-01	MW14-02S	MW14-02D	MW14-03	MW14-04S	MW14-04D	MW14-05	PW14-06	PW14-07
Conductivity	uS/cm	511	179	360	914	4400	4010	3850	19300	n.a.
pH	pH	6.88	7.8	6.78	8.08	7.62	7.73	7.98	4.32	n.a.
Diss. Sulphate (SO4)	mg/L	62.9	11.1	50.9	123	2630	2370	2490	26500	n.a.
Dissolved Metals										
Cadmium (Cd)	ug/L	0.055	0.027	0.191	0.056	0.212	0.412	<0.020	2010	n.a.
Cobalt (Co)	ug/L	6.49	<0.50	3.3	1.66	1.1	2.2	4.8	5990	n.a.
Manganese (Mn)	ug/L	2710	12.3	677	1050	719	775	1130	443000	n.a.
Nickel (Ni)	ug/L	9.4	<1.0	8.2	3.7	11.3	13.6	20	9370	n.a.
Zinc (Zn)	ug/L	393	15.1	522	<5.0	29	173	<10	2940000	n.a.

Table 4. Selected water quality results (from Maxxam Analytics) for Phase 2 wells collected between July 23-26, 2014.

Parameter	Unit	MW14-08	MW14-09	MW14-10	MW14-11	MW14-12S	MW14-12D	MW14-13	MW14-14	BH14-14 (3.2m)	MW14-15	MW14-16
Conductivity	uS/cm	377	693	1050	611	730	1010	1820	2130	776	1670	1150
pH	pH	7.97	8.08	8.15	8.28	7.33	7	7.47	7.58	6.92	7.49	7.77
Diss. Sulphate (SO4)	mg/L	30.9	159	252	26.3	300	295	610	1270	348	955	404
Dissolved Metals												
Cadmium (Cd)	ug/L	<0.010	0.275	0.138	<0.010	0.358	1.12	2.85	0.4	6.49	2.19	1.24
Cobalt (Co)	ug/L	1.33	6.64	2.97	1.9	<0.50	1.39	1.65	4.3	4.36	23.1	2.56
Manganese (Mn)	ug/L	1550	1880	541	663	385	367	490	1360	393	2720	184
Nickel (Ni)	ug/L	1.1	18.7	9.7	3.3	10.1	50.3	112	8.9	75.7	108	51.8
Zinc (Zn)	ug/L	5.8	148	<5.0	21.6	1420	2160	7860	1270	21000	13600	2270

Monitoring well MW14-15 which is also located along the toe of the Intermediate Dump and screened in the upper confining silt unit showed moderately elevated zinc

concentrations (~13.6 mg/L). Again, no deep piezometer in the more permeable sand and gravel unit could be installed at this location.

The two piezometers screened in the deeper sand and gravel unit, MW14-12D and MW14-13, showed slightly elevated zinc concentrations (2.16 and 7.86 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, however, that concentrations of other trace metals such as cadmium, cobalt, manganese and nickel were elevated in those wells screened in the deeper sand and gravel unit.

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. 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.

4.5 Implications for Seepage Interception Design

The NF2A area is clearly not suitable for interception of groundwater due to the absence of high K 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.

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 beneath the rock drain) and how much zinc load can be intercepted in this area.

Detailed stream surveys completed on July 7, 2014 by EDI indicated that the total zinc load at NF2 was about 30 kg/day. Assuming an average zinc concentration of say 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 zinc load to NF2A. However, it cannot be ruled out that zinc concentrations at greater depth near the Intermediate Dump show significantly higher zinc concentrations than 20 mg/L (observed at a depth of only 3.2m).

In our opinion, it is doubtful whether a series of pumping wells screened along the toe of the Intermediate Dump could extract 20 L/s of moderately impacted groundwater without drawing in cleaner groundwater from the center of the valley and/or from the NF1 pond.

Nevertheless, there exists a potential for higher zinc concentrations at greater depth and 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.

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 (see recommendations below).

5 Recommendations

5.1 Completion of Field Work

We recommend that the following field work be completed as soon as practical, preferably before start of winter freeze-up:

- Survey of Phase 1 and Phase 2 wells
- Confirmatory sampling of Phase 1 and Phase 2 wells

5.1.1 Survey of Phase 1 and Phase 2 Wells

RGC recommends that all Phase 1 wells (installed in February/March 2014) and Phase 2 wells (installed in July 2014) be surveyed by a professional surveying contractor. For quality control purposes, the survey should also include the nearby well CH12-014-MW007 (on haul road), P96-6 (upstream of Haul Road) and SRK05-SP2 (downstream of rock drain).

The survey should include the well location (x,y coordinates) plus the top-of-casing (TOC) elevations of all wells/piezometers. In the case of monitoring wells (labelled with the suffix “MW”) the TOC of the 2” or 4” PVC standpipe piezometer (inside protective steel casing) should be surveyed. In case of pumping wells (labelled with the suffix “PW”) the TOC of the 6” steel casing (inside the 10” protective steel casing) should be surveyed.

5.1.2 Confirmatory Sampling of Phase 1 and Phase 2 Wells

All MW-14 and PW-14 series of wells should be sampled again as part of the routine fall groundwater quality sampling conducted by ELR in September 2014. Groundwater samples should be collected using standard operating procedures and submitted to an

accredited laboratory for analysis of a full suite of water quality parameters (major ion chemistry, dissolved metals).

5.2 Completion of Data Analysis & Interpretation

We recommend that the following data analysis and interpretation of the Phase 2 NFRC Drilling Program be completed (as per Task 3 of the original scope of work):

- Interpretation of Drilling/Well Installation (Drill Logs, Well Completions, Flow Field)
- Additional Interpretation of Water Quality Analysis (geochemical finger printing)
- Interpretation of Hydraulic Testing

The results of this data analysis, together with final reporting of all field work, will be summarized in a final report (as per Task 4 of the original scope of work).

5.3 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 preliminary recommendations for additional field work in the NF1 pond area:

- Build 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 planned 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 perform depth-discrete sampling (using air lifting) to delineate the zinc plume in width and depth; complete nested piezometers 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 and the zone of influence.

The above preliminary recommendations for additional field work will be finalized after completion of the remaining Phase 2 field work and data analysis (see above) and will be presented in the draft of the Final Report of the Phase 2 NFRC Drilling Program (Task 4).

6 Closure

We trust that the information provided in this progress report meets your requirements.

Please contact the undersigned if you have any questions regarding the content of this progress report or require further information.

Best Regards,

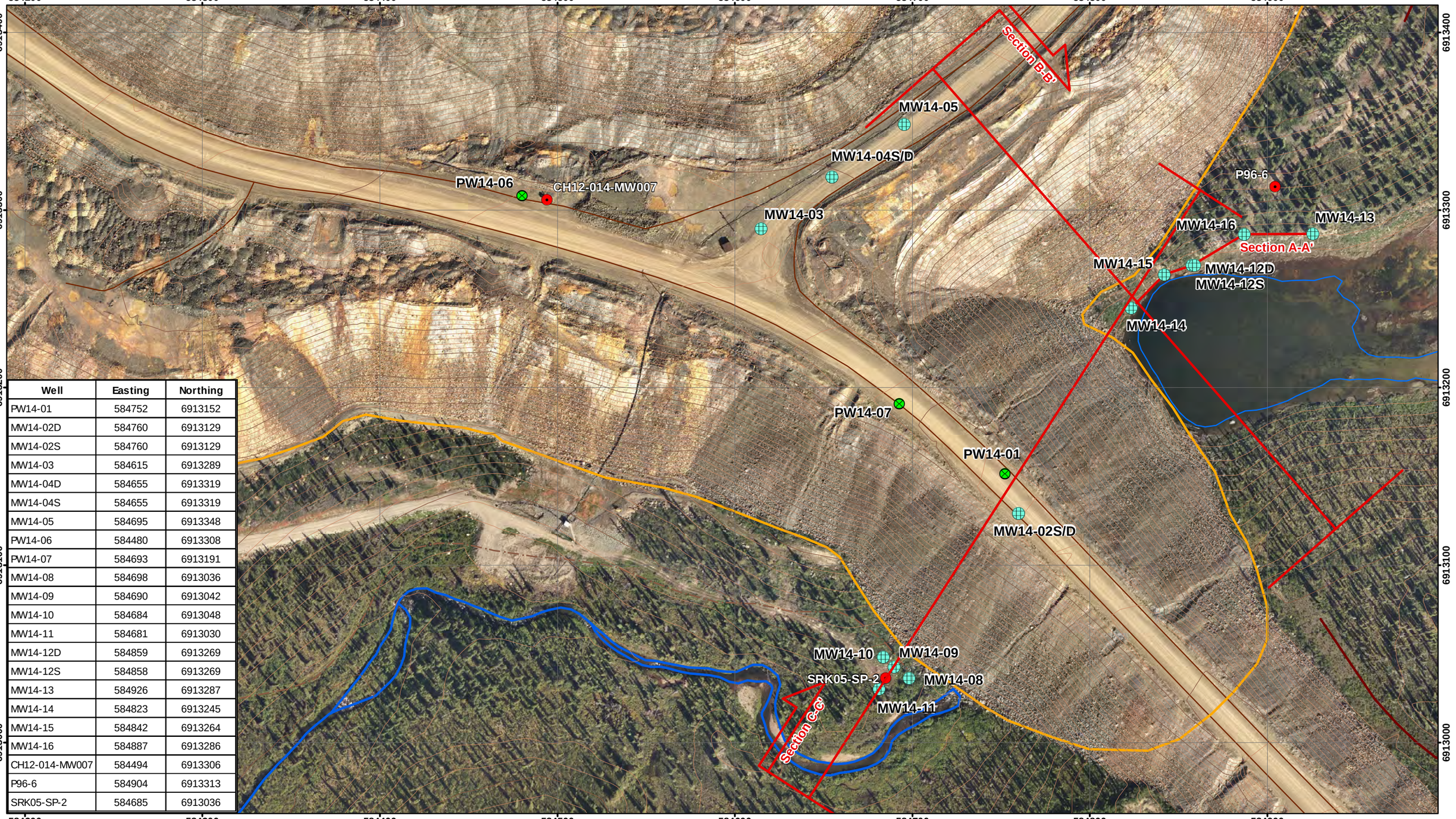
ROBERTSON GEOCONSULTANTS INC.

Prepared by:

Dr. Christoph Wels, M.Sc., P.Geo.
Principal

END

FIGURES



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
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
MW14-14	584823	6913245
MW14-15	584842	6913264
MW14-16	584887	6913286
CH12-014-MW007	584494	6913306
P96-6	584904	6913313
SRK05-SP-2	584685	6913036

Legend

- 2014 Monitoring Well
- 2014 Pumping Well
- Existing Monitoring Well
- Cross Section
- Zone II Pit Outline

Phase 2 NFRC Cross Section Plan Map

Intermediate Dump, NFRC

N
W
E
S

SCALE 1:2,000

0 25 50 100 Metres

NAD 83 CSRS UTM Zone 8N

Figure: 1

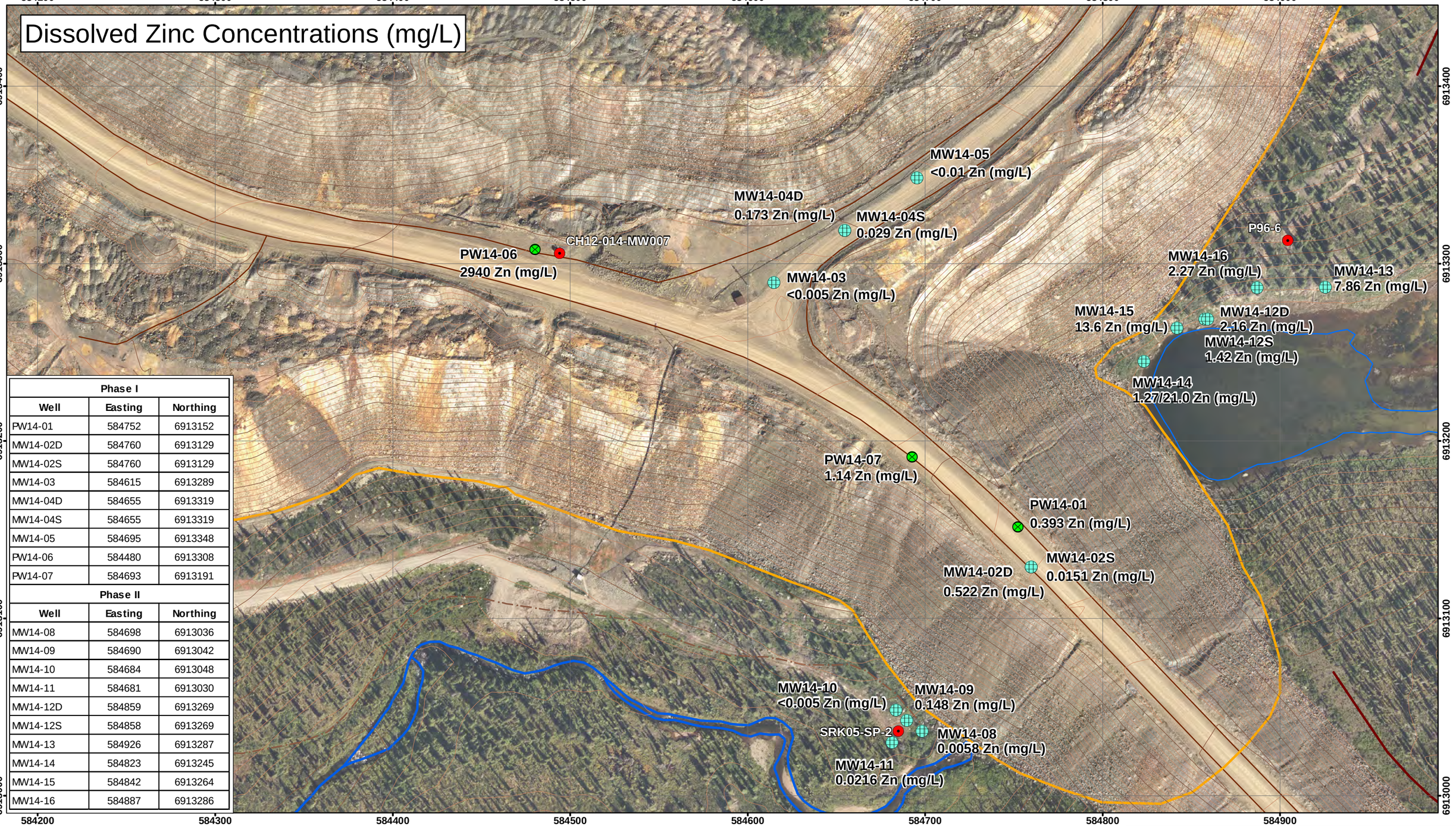
Client: Yukon Government

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

Project: NFRC Drilling Program	Project No:118026
Report: RGC 118026	Last Update: Oct 06, 2014
Anvil Range Mining Complex, YT, Canada	Drawn: L.R.

Original File: Faro_UpdatedWells_XSectionPlan_26aug2014.mxd

Dissolved Zinc Concentrations (mg/L)



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
MW14-14	584823	6913245
MW14-15	584842	6913264
MW14-16	584887	6913286

Legend

- 2014 Monitoring Well
- 2014 Pumping Well
- Existing Monitoring Well
- Zone II Pit Outline

Observed Zinc Concentrations in Phase I & II Wells (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: 2

Client: Yukon Government

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

Project: NFRC Drilling Program	Project No:118026
Report: RGC 118026	Last Update: Oct 06, 2014
Anvil Range Mining Complex, YT, Canada	Drawn: L.R.

Original File: Faro_UpdatedWells_wZn_26aug2014.mxd

Dissolved Zinc Concentrations (mg/L)

584800 584900 585000

6913300 6913200

P96-6

MW14-16
2.27 Zn (mg/L)

MW14-13
7.86 Zn (mg/L)

MW14-12D
2.16 Zn (mg/L)

MW14-15
13.6 Zn (mg/L)

MW14-12S
1.42 Zn (mg/L)

MW14-14
1.27/21.0 Zn (mg/L)

Well	Easting	Northing
MW14-12D	584859	6913269
MW14-12S	584858	6913269
MW14-13	584926	6913287
MW14-14	584823	6913245
MW14-15	584842	6913264
MW14-16	584887	6913286

Legend

- 2014 Monitoring Well
- 2014 Pumping Well
- Existing Monitoring Well
- Zone II Pit Outline

July 2014 Phase 2 Drilling at NFRC Pond

Upstream of Rock Drain

N W E S

SCALE 1:750

0 5 10 20 30 Metres

NAD 83 CSRS UTM Zone 8N

Figure: 3

Client: Yukon Government	Robertson GeoConsultants Inc.
Project: NFRC Drilling Program	Project No:118026
Report: RGC 118026	Last Update: Oct 06, 2014
Anvil Range Mining Complex, YT, Canada	Drawn: K.H.
Original File: Faro_UpdatedWells_wZn_1K_26aug2014.mxd	