Klohn Crippen Berger

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Resolution Copper Mining
P.O. Box 1944
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Mr. Sergio Gonzalez

Dear Mr. Gonzalez:

Resolution Project
Tailings Characterization: Static Geochemistry

1. INTRODUCTION

This letter report describes the static geochemical testing carried out on cleaner and scavenger tailing slurries. The static testing program is designed to provide data on the short term geochemical behavior of the tailings solid phase as well as an indication of the quality of associated process waters. Completed testing to date includes the following:

Tailings Solids

- *Aqua regia* digestion followed by a 35 element suite Inductively Coupled Plasma-Optical Emission (ICP-OES) and ICP-Mass Spectrometry (MS) scan;
- Low level Hg determined by Cold Vapor Atomic Absorption (CVAA);
- Acid Base Accounting (ABA);
- X-Ray Diffraction (XRD) with Rietveld refinement; and
- Shake Flask Extraction (SFE).

Tailings Slurry Waters

- General parameters, anions, intermediates, total and dissolved metals; and
- Low level Hg determined by CVAA.

The laboratory testing reports are appended to this letter.

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1.1 Tailings Samples Description

Tailings and supernatant process waters submitted for testing are listed in Table 1.1. The samples were provided by Dawson Metallurgical Laboratories (DML, 2007) and are understood to have been produced drill hole 7/7A and 7C. Commentary on the sample conditions are as follows:

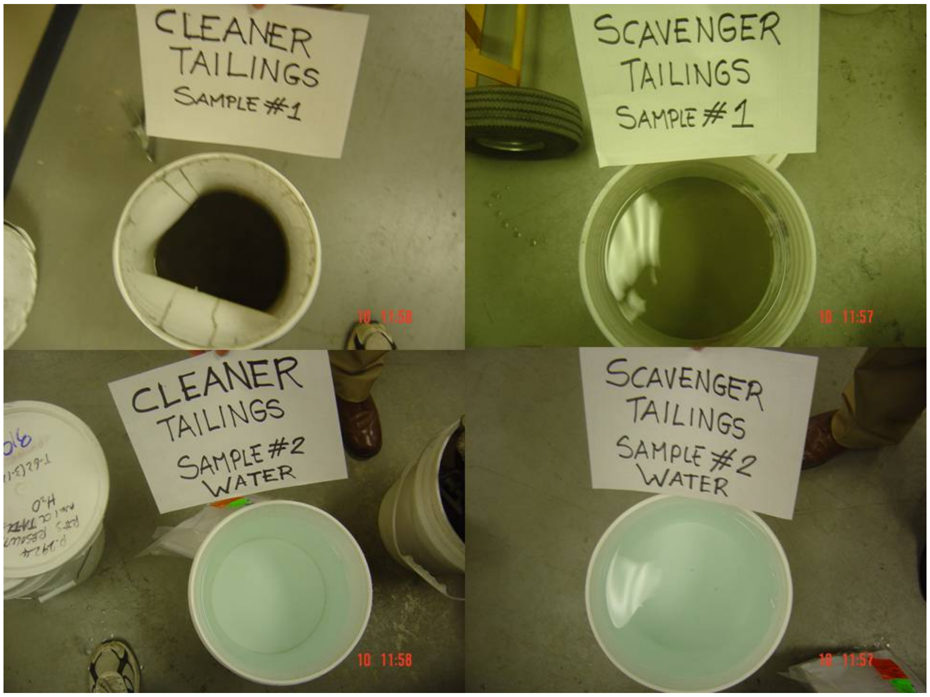
- Samples CL-1 and SC-1 were received as slurries and subsequently allowed to settle before supernatant decantation. These tailings samples were kept as slurries; and therefore, the tailings solids are assumed to have been saturated and avoided surface oxidation reactions;
- Sample CL-2, an early scoping test used to optimize the Cu and Mo separation that was filtered, oven dried overnight at 100°C and stored for approximately 12 months prior to testing by KCBL; and
- Process waters CL-1-Super and SC-1-Super were in contact with tailings solids for approximately 12 months and can be thought of as "aged" samples instead of "fresh" process waters.

Table 1.1 Resolution Overall Master Composite Samples Submitted for Geochemical Testing

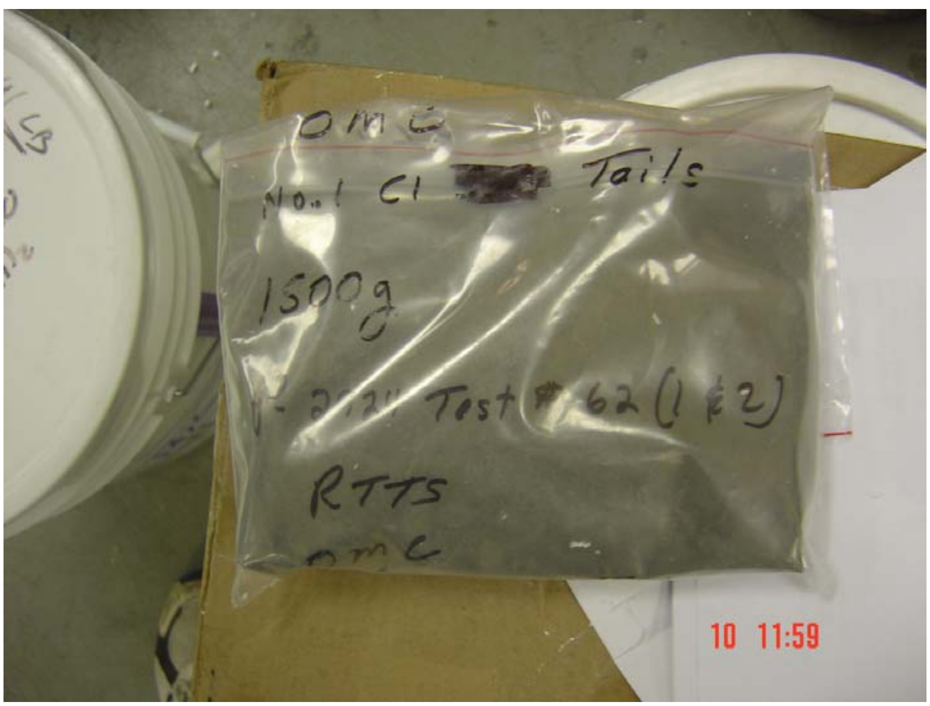
SAMPLE DESCRIPTION	SAMPLE CODE	TEST (CYCLE)	ASSAY (%)[1,2]			CONDITIONS AS RECEIVED
			Cu	Mo	Fe	
Settled Cleaner Scavenger Tails stored in 20 litre bucket	CL-1	T-62 (3-12)	0.51	0.022	35	Saturated, visible sulfides, no visible weathering products.
Settled Scavenger Tails stored in 20 litre bucket	SC-1	T-62 (3-11)	0.073	0.006	1.2	Saturated, no visible weathering products.
Cleaner Scavenger Tails stored in plastic bag	CL-2	T-62 (1-2)	0.52	0.014	34	Cycle 1 and 2 samples were filtered and oven dried overnight at 100°C., received as dry loosely unconsolidated material, visible sulfides.
Cleaner Scavenger Tails supernatant	CL-1-Super	T-62 (3-12)	NA	NA	Na	Clear non-turbid solution.
Scavenger Tails supernatant	SC-1-Super	T-62 (3-11)	NA	NA	NA	Clear non-turbid solution.

[1] Source: Dawson Metallurgical Laboratories
[2] Assays determined by atomic absorption

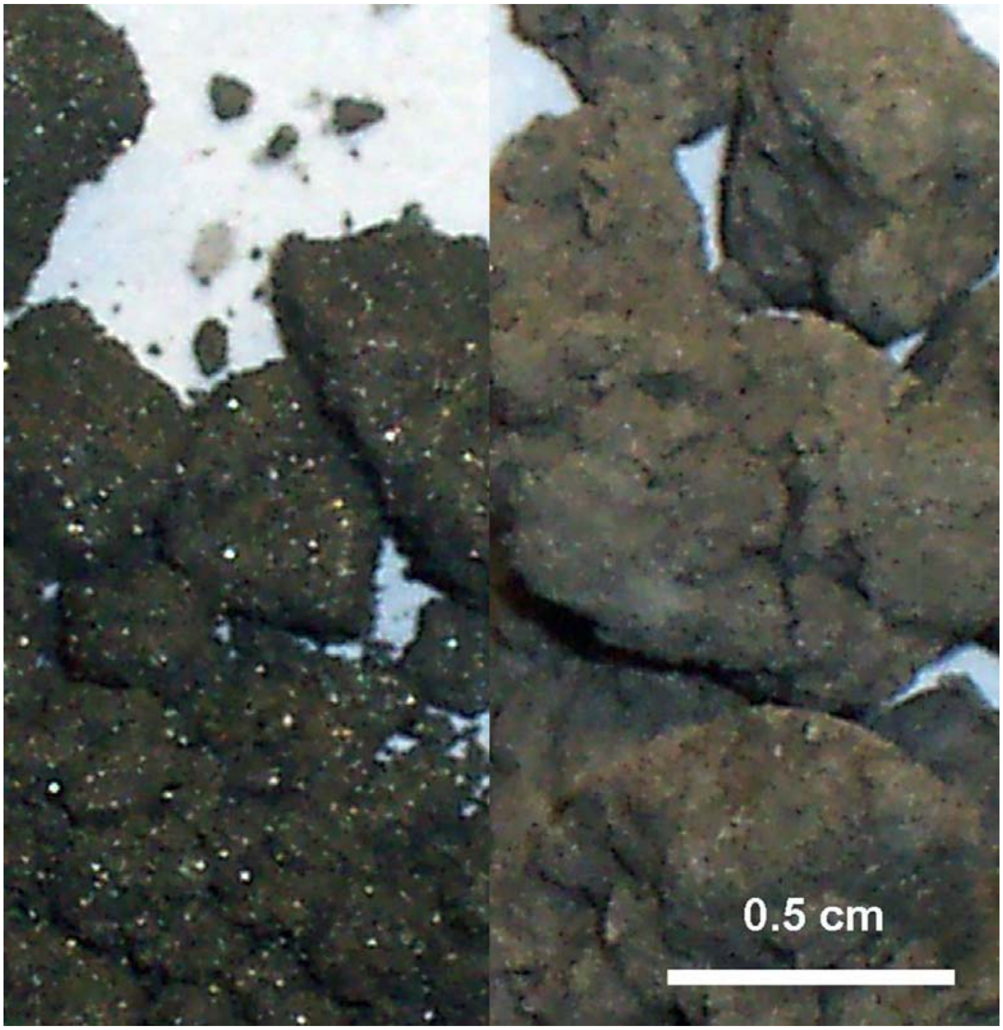
Photograph 1.1and Photograph 1.2 show the tailings samples as received. Photograph 1.3 compares the moist CL-1 (pyrite-rich) sample on the left with the moist SC-1 (pyrite-poor) tailings sample on the right.



Photograph 1.1 **Tailings Samples as Received (above two panels) and Supernatant after Decanting (bottom two panels).**



Photograph 1.2 **Cleaner Tailings Sample (CL-2) as Received.**



Photograph 1.3 Moist Sample CL-1 (left panel) and SC-1 (right panel). Note the multiple reflections off the pyrite mineral surfaces in sample CL-1.

2. STATIC GEOCHEMICAL TESTING

2.1 Elemental Abundance

Solid-phase elemental analyses by ICP-MS provide a means of quantifying the elements available in a sample that may potentially become liberated as the materials are exposed to atmospheric conditions. It can be determined which elements may be of environmental concern under neutral or acidic drainage conditions by comparing measured sample concentrations to known crustal abundances. Anomalous elemental concentrations are defined here as greater than five times normal whole crustal abundance as listed by Price (1997).

Table 2.1 lists the measured elemental concentrations in samples. Results are consistent with head assays (Table 1.1) in as much as the ICP-MS analyses (i.e., partial mineral dissolution via aqua regia digestion) are similar but less than the near total measurements in the head assays (i.e., sample vaporization and atomic adsorption). Table 2.1 shows 9 parameters that are present at greater than 5 times crustal abundance and include Ag, As, Bi, Co, Cu, Fe, Mo, Hg and S. According to head assay results (Table 1.1 and ABA results Section 2.3.6 and Table 2.5), Fe and S are also present at greater than 5 times crustal abundance due to the pyrite content. Table 2.2 shows the degree to which the 9 previously indicated parameters exceed crustal abundance. The concentrations of Bi in the cleaner tailings should be confirmed in future testing.

Table 2.1 Elemental Concentrations for Resolution Copper Tailings Samples (values in ppm)

ELEMENT	CRUSTAL ABUNDANCE[1]	CL-1	CL-2	SC-1
Ag	0.080	6.0	5.9	0.60
Al	83,600	1,900	1,200	8,400
As	1.8	28	31	1.9
Ba	390	6.0	5.0	81
Be	2.0	<1.0	<1.0	1.0
Bi	0.0082	11	10	1.5
Ca	46,600	2,000	1,700	3,700
Cd	0.16	0.60	0.60	0.20
Co	29	197	188	6.8
Cr	122	79	79	50
Cu	68	4,041	3,848	421
Fe	62,200	>100,000	>100,000	8,400
Hg	0.086	0.20	0.10	0.10
K	18,400	1,100	800	5,400
La	35	1.0	1.0	2.0
Mg	27,640	1,000	800	6,600
Mn	1,060	56	66	91
Mo	1.2	57	57	29
Na	22,700	50	50	100
Ni	99	131	120	41
P	1,120	0.018	0.015	0.041
Pb	13	26	25	12
S	340	>100,000	>100,000	7,000
Sb	0.20	0.60	0.70	0.10
Sc	25	0.80	0.50	3.6
Sr	384	19	12	50
Th	1.2	0.30	0.20	0.60
Ti	6,320	130	110	480
Tl	0.72	0.20	0.20	0.20
U	2.3	0.50	0.40	0.70
V	136	5.0	3.0	37
W	1.2	4.9	4.2	3.3
Zn	76	52	49	27
Zr	162	0.50	0.30	0.40

[1] Source: Price (1997)
> < text indicates elements above or below method detection limits.
Grey indicates measured values in exceedances of 5 times crustal abundance.

Table 2.2 Anomalous Elemental Concentrations in Resolution Copper Tailings Samples

ELEMENT	CRUSTAL ABUNDANCE (ppm)	5X CRUSTAL	50X CRUSTAL	500X CRUSTAL	1000X CRUSTAL
Ag	0.080	CL-1 CL-2 SC-1	CL-1 CL-2		
As	1.8	CL-1 CL-2			
Bi	0.0082	CL-1 CL-2 SC-1	CL-1 CL-2 SC-1	CL-1 CL-2	CL-1 CL-2
Co	29	CL-1 CL-2			
Cu	68	CL-1 CL-2 SC-1	CL-1 CL-2		
Hg	0.086	CL-1 CL-2 SC-1			
Fe	62,200	CL-1 CL-2			
Mo	1.2	CL-1 CL-2 SC-1			
S	340	CL-1 CL-2 SC-1	CL-1 CL-2		

2.2 Mineralogy

The results of XRD analysis by Rietveld refinement represent the relative amounts of crystalline phases normalized to 100%. Note that amorphous or nanocrystalline phases are not accounted for in these analyses due to underdeveloped crystal planes in the mineral structure or crystal planes too small for conventional XRD to "see", respectively. Mineralogical information also provides information on the type of carbonate and aluminosilicates and sulfides that dictate the suite of ABA results. Note the method detection limit for XRD with Rietveld refinement is 0.5 %.

Table 2.3 lists the identifiable minerals in the tailings samples. Notable minerals include the following:

- Minor to high aluminosilicate content in all three samples in the form of muscovite, biotite, potassium-feldspar and kaolinite. These minerals are correlated with the bulk neutralizing potential (NP) of the tailings (see Section 2.3.4);

- Low carbonate content in the form of calcite, which is correlated with the fast acting reactive NP of the tailings (see Section 2.3.4);
- High pyrite content in the CL-1 and CL-2 samples, which are correlated with the acid potential (AP, see Section 2.3.4); and
- Minor gypsum content, which is soluble and may release Ca and sulfate to solution.

Table 2.3 Results of X-ray Diffraction Analyses of Resolution Tailings Samples

MINERAL	IDEAL FORMULA	CL-1	CL-2	SC-1
Quartz	SiO_2	12.3	11.5	47.5
Muscovite	$KAl_2AlSi_3O_{10}(OH)_2$	8.9	8.8	36.8
Biotite	$K(Mg,Fe^{2+})_3AlSi_3O_{10}(OH)_2$	<0.5	<0.5	5.8
K-feldspar	$KAlSi_3O_8$	3.2	1.6	4.3
Kaolinite	$Al_2Si_2O_5(OH)_4$	2.7	1.8	5.2
Gypsum	$CaSO_4 \cdot 2H_2O$	1.2	1.4	0.5
Calcite	$CaCO_3$	0.80	0.50	<0.5
Pyrite	FeS_2	70.9	74.5	<0.5

> < text indicates elements above or below method detection limits.

2.3 Acid Base Accounting

Acid Base Accounting provides a guide to determining the acid producing and acid consuming components of mine waste materials. Brief descriptions of the ABA parameters tested are included in the following sections after Sobek (1978) and Price (1997).

2.3.1 Paste pH

Alone, paste pH does not provide an indication of the ARD potential of a sample. It is, however, a principal determinant of both mineral reaction rates and mineral solubility. It can therefore provide insight into drainage chemistry. For example, acidic paste pH can be indicative of the onset of sulphide oxidation and acid rock drainage, whereas near neutral to higher paste pH values suggest that available Neutralizing Potential (NP) exists in a sample.

2.3.2 Sulfur Species

Minerals containing sulfide-sulfur are the main source of acid and trace metal contaminants in mine waste. Therefore, the determination of all sulfur species is a fundamental component in the prediction of mine drainage chemistry. The sulfur species measured in this assessment include:

- Total sulfur;
- Acid-leachable sulfate sulfur; and
- Sulfide sulfur by difference between the above (includes organic and insoluble sulfates).

2.3.3 Acid Potential Determination

Sulfide Acid Potential (AP) is calculated from the sulfide determination. The sulfide-sulfur (%S) is multiplied by the conversion factor of 31.25 to express the acid potential in kg of $CaCO_3$ equivalent per tonne of material. This assumes sulfide oxidizes completely to sulfate, sulfide only occurs in pyrite and all iron precipitates as iron hydroxide. These are reasonable assumptions for the Resolution Copper tailings.

2.3.4 Neutralization Potential

Sobek NP

The bulk neutralization of material is measured by acid neutralization and base titration to determine the potential Sobek-NP contribution from long lasting aluminosilicate and reactive carbonate minerals. Sobek-NP is expressed as kg of $CaCO_3$ equivalent per tonne of material.

Carbon Content

Inorganic carbon analyses were performed to determine the amount of NP in the form of reactive carbonate minerals and are expressed as kg of $CaCO_3$ equivalent per tonne of material by a simple molar conversion. This value is the maximum, fast acting neutralization capacity that could be achieved if all the carbonate in the sample reacted like calcite. The following carbon species were reported:

- Total inorganic carbon (TIC); and
- Carbonate carbon content by calculation.

In the weathering of mine waste, ARD will only be produced if:

1. There is insufficient release of neutralizing alkalinity;
2. The neutralizing potential (NP) is not being released fast enough to keep up with sulfide oxidation; or
3. The NP is negligible.

Greater Sobek-NP than Carb-NP in a sample indicates there may be significant neutralization from non-carbonate minerals. If the Carb-NP is greater than the Sobek-NP, a measurable portion of the inorganic carbon is not generating alkalinity or is unreactive. This may suggest the presence of iron and/or manganese carbonates, which are net neutral reactions in solution or are kinetically slower reactions. Therefore, Carb-NP calculations may be over-estimations of reactive carbonates and an assessment of mineralogy through XRD or micro-probe techniques is recommended.

2.3.5 Neutralization Potential Ratio Calculations

The acid potential (AP) is derived from the sulfide sulfur value, as explained previously. The neutralization potential (NP), derived from either of the above procedures, is then used to determine the Neutralization Potential Ratio (NPR), the ratio of the NP:AP. The ABA test work, in particular the (NPR), serves as a guide in identifying the likelihood of ARD conditions and classifying tailings samples as Potentially Acid Generating (PAG) from Non-potentially Acid Generating (Non-PAG). Price (1997) provides some criteria for guiding geochemical test work and evaluating the potential for ARD shown in Table 2.4.

Table 2.4 ABA Screening Criteria

POTENTIAL FOR ARD	INITIAL SCREENING CRITERIA
Likely	$NPR \leq 1$
Possible	$1 < NPR \leq 2$
Low	$NPR > 2$

2.3.6 Results

Table 2.5 lists the ABA results for the cleaner and scavenger tailings samples. The low paste pH of 3.8 from sample CL-2 is due to the sample oxidation and depletion of both Carb-NP and Sobek-NP. It is difficult to tell how much oxidation and subsequent NP depletion was due to “flash” oxidation (i.e., overnight sample oven drying at 100^{o}C) or subsequent storage at ambient conditions for approximately 12 months. The negative

Sobek-NP in sample CL-2 is a result of no buffering capacity available upon the addition of the acid during the Sobek-NP experimental procedure.

Table 2.5 Acid Base Accounting Results for Resolution Copper Tailings Samples

ANALYSES	SAMPLE		
	CL-1	**CL-2**	**SC-1**
Paste pH	5.7	3.8	7.5
Total Sulfur (%)	38	39	0.53
Sulfate Sulfur (%)	0.15	0.29	0.24
Sulfide Sulfur (%)	38	38	0.29
Acid Potential (kg CaCO3/tonne)	1,192	1,200	9.1
Total Inorganic Carbon (%)	0.020	<0.010	0.020
Sobek Neutralizing Potential (kg CaCO3/tonne)	1.9	-1.1	5.5
Carb Neutralizing Potential (kg CaCO3/tonne)	1.7	NA	1.7
Sobek Neutralizing Potential Ratio (NP/AP)	0.0016	NA	0.61
Carb Neutralizing Potential Ratio (Carb NP/AP)	0.0014	NA	0.18

> < text indicates elements above or below method detection limits.

The slightly acidic paste pH and small amounts of both types of the NP in the unoxidized sample, CL-1, indicates some NP was originally available in the CL-2 sample before oxidation. The majority of the NP was likely in the form of calcite according to total inorganic carbon and XRD results for CL-2. High sulfide sulfur content in both CL-1 and CL-2 samples agree well with the pyrite content measured by XRD. Results show the AP of the CL-1 and CL-2 samples are three orders of magnitude higher than either type of NP. Resulting NPR calculations classify the CL-1 and CL-2 tailings samples as likely to generate ARD if left exposed to atmospheric conditions. Very little available NP and the fine grained nature of the pyrite in these tailings suggest lag times to ARD will be relatively short. Quantification of this lag time requires kinetic testing.

The SC-1 tailings sample has a low sulfide content (0.29%) and it is currently not generating acid (i.e., paste pH 7.5). However, the low Carb-NP and Sobek NP and resulting NPR indicate these tailings will also likely generate ARD if left exposed to atmospheric conditions.

2.4 Supernatant Water Quality

After the tailings slurry solid settling for samples CL-1 and SC-1, the tailings supernatant water was tested for a variety of parameters. Results for the supernatant analyses are listed in Table 2.6. The supernatant from the CL-1-Super sample, in general, has the poorest water quality among the two supernatant samples. The potential Contaminants of Concern (COCs) for the supernatant include alkalinity, sulfate, Al, Cd, Mn and Se. Note that aging of the waters in contact with the solid tailings materials has occurred by as much as 12 months. Therefore, it is likely solublization of metals has occurred during this period and supernatant water can not be considered as truly representative of fresh process waters. Further discussion on possible downstream water quality and Environmental Protection Agency (EPA) guideline exceedances can be found in Section 2.5.

2.5 Tailings Leachate Extraction

The SFE testing was used to determine the composition of the leachate that may flush from the tailings solids when exposed to rain or groundwater flow. This procedure, a modification of the Special Waste Extraction Procedure outlined in the *British Columbia Waste Management Act,* is used to determine the presence of easily soluble mineral components. The test was conducted by adding nanopure deionised water to a 250 g dry tailings sample and agitated (end over end) for 18hrs. The SFE supernatant is subsequently analyzed for a variety of parameters.

Note that the aggressive nature of the SFE test does not mimic typical field conditions. Instead, the test is designed to expose a sample to as much extraction fluid as possible for maximum particle surface coverage and reactivity. The test also decreases solubility limits by using a 3:1 liquid to solid extraction ratio. Generally, the test results are considered to represent maximum possible leachate concentrations at the measured pH. The SFE test is therefore more appropriately used as a screening tool to determine which parameters may be of potential concern and which solid samples should undergo further testing.

Table 2.6 lists the results for the SFE testing. The EPA aquatic life and drinking water standards are listed as well, since these are the two receptor communities tailings effluent will potentially encounter (i.e., groundwaters that eventually may surface or reach downstream drinking water wells and surface seepages). Comparison of results to EPA guidelines should be viewed as a first approximation of extraction (and supernatant) water quality only. Downstream water quality predictions require additional information before reasonable predictions can be made. This additional information includes the following:

- Mass balance modeling of all input and output loadings;
- Detailed water balance (including characterization of groundwater and all input and output flows);

- Consideration of solubility constraints for natural attenuation; and
- Location of compliance points.

Table 2.6 indicates the extraction fluid from the oxidized CL-2 sample has the poorest water quality among the three SFE tests. Potential COCs, according to EPA guidelines, for the SFE results include pH, alkalinity, F, sulfate, Al, Cd, Cu, Fe, Pb, Mn, Ni, Se and Zn. Discussions of the magnitude of exceedances in both the SFE testing (and supernatant) analyses are not appropriate at this time as many factors determine the downstream water quality, as listed above.

As described in Section 1.1, one of the tailings samples (CL-2) underwent oxidation before analysis. This can be seen by the CL-2 extraction fluid low pH of 4.5 and high concentrations of sulfate and soluble trace metals. During sulfide oxidation, the CL-2 sample likely produced secondary mineral precipitates on solid surfaces that became soluble during the 3:1 liquid to solid extraction procedure. It should be noted that the sulfate in solution is due to both pyrite oxidation and gypsum dissolution, minerals identified by XRD in both oxidized and unoxidized cleaner samples.

Table 2.6 Results for Shake Flask Extraction and Tailings Supernatant Solution Testing

PARAMETER	UNITS	EPA		LEACHATE EXTRACTION			SUPERNATANT	
		Aquatic Life CCC[1]	Drinking Water MCL[2]	CL-1	CL-2	SC-1	CL-1-Super	SC-1-Super
Extraction Fluid	mL			750	750	750	NA	NA
Sample Weight	g			250	250	250	NA	NA
pH		6.5-9.0	6.5-8.5	7.3	**4.5**	7.5	7.9	7.7
Conductivity	µS/cm			1,577	2,470	1,789	1,360	1,910
TDS	mg/L		500	NA	NA	NA	1,100	1,680
Acidity (to pH 4.5)	mg CaCO3/L			NA	2.5	NA	NA	NA
Total Acidity (to pH 8.3)	mg CaCO3/L			11	260	10	3.5	7.6
Alkalinity	mg CaCO3/L	20		**72**	NA	**42**	15	**48**
Chloride	mg/L	230	250	65	1.1	6.4	43	48
Fluoride	mg/L		4.0	1.4	**33**	2.1	1.9	2.7
Sulfate	mg/L		250	**674**	**1,768**	**845**	**608**	**963**
Dissolved Metals								
Hardness (CaCO3)	mg/L			764	1,310	801	712	1060
Aluminum Al	mg/L		0.05-0.20	0.016	**19**	0.031	**0.76**	0.045
Antimony Sb	mg/L		0.0060	0.00030	<0.00030	0.00042	0.00069	<0.00050
Arsenic As	mg/L	0.15	0.010	0.00050	0.0015	0.00060	0.0011	0.00095
Barium Ba	mg/L		2.0	0.015	0.014	0.013	0.016	0.030
Beryllium Be	mg/L		0.0040	<0.000050	0.0089	<0.000050	<0.0025	<0.0025
Bismuth Bi	mg/L			<0.000050	<0.00030	<0.000050	<0.0025	<0.0025
Boron B	mg/L			0.013	0.013	0.0090	<0.050	<0.050
Cadmium Cd	mg/L	0.00025	0.0050	0.000090	**0.037**	0.00012	<0.00025	**0.00026**
Calcium Ca	mg/L			283	464	314	286	401
Chromium Cr	mg/L	0.011[3]	0.10	<0.00020	<0.0010	<0.00020	<0.0025	<0.0025
Cobalt Co	mg/L			0.0094	1.2	0.00027	<0.00050	0.00071
Copper Cu	mg/L	0.0090	1.3*	**0.017**	**73**	0.0040	0.0045	0.0057
Iron Fe	mg/L	1.0	0.30	<0.0050	**3.3**	<0.0050	<0.030	<0.030
Lead Pb	mg/L	0.0025	0.015*	0.00042	**0.0031**	0.00035	<0.00025	0.00045
Lithium Li	mg/L			0.011	0.029	0.0039	<0.025	<0.025
Magnesium Mg	mg/L			14	37	4.4	1.8	18
Manganese Mn	mg/L		0.050	**0.18**	**9.3**	**0.11**	0.00045	**0.15**
Mercury Hg	mg/L	0.00077	0.0020	<0.000050	<0.000050	<0.000050	<0.000010	<0.000010
Molybdenum Mo	mg/L			0.021	<0.00010	0.039	0.11	0.071
Nickel Ni	mg/L	0.052		0.0018	**0.88**	0.0014	<0.0025	<0.0025
Phosphorus P	mg/L			<0.10	<0.10	<0.10	<0.30	<0.30
Potassium K	mg/L			6.9	4.6	15	13	41
Selenium Se	mg/L	0.0050	0.050	0.0042	**0.0070**	0.0040	**0.011**	<0.0050
Silicon Si	mg/L			1.6	5.9	1.8	1.4	1.9
Silver Ag	mg/L		0.10	0.000010	<0.000050	<0.000010	<0.000050	<0.000050
Sodium Na	mg/L			1.9	1.1	2.9	23	27
Strontium Sr	mg/L			0.70	1.0	1.2	0.81	1.7
Sulfur (S)	mg/L			266	527	246	293	335
Thallium Tl	mg/L		0.0020	0.00013	0.00070	0.000060	<0.00050	<0.00050
Tin Sn	mg/L			0.00014	<0.00030	0.00017	<0.00050	<0.00050
Titanium Ti	mg/L			0.0010	<0.0030	0.0011	0.011	0.011
Uranium U	mg/L			0.00033	0.0046	0.0013	<0.000050	0.0011
Vanadium V	mg/L			<0.000050	<0.00030	<0.00005	<0.0050	<0.0050
Zinc Zn	mg/L	0.12	5.0	0.0038	**1.9**	0.0023	<0.0050	0.012
Total Metals								
Aluminum Al	mg/L			0.53	20	0.090	0.55	0.037
Antimony Sb	mg/L			0.00035	<0.00030	0.00043	0.00064	<0.00050
Arsenic As	mg/L			0.0021	0.0017	0.00070	0.00094	0.00088
Barium Ba	mg/L			0.024	0.018	0.017	0.016	0.026
Beryllium Be	mg/L			<0.000050	0.011	<0.000050	<0.0025	<0.0025
Bismuth Bi	mg/L			0.00069	0.00040	<0.000050	<0.0025	<0.0025
Boron B	mg/L			0.011	0.0090	0.012	<0.050	<0.050
Cadmium Cd	mg/L			0.00017	0.037	0.00015	<0.00025	<0.00025
Calcium Ca	mg/L			324	516	384	282	397
Chromium Cr	mg/L			0.0050	0.0030	<0.00020	<0.0025	<0.0025
Cobalt Co	mg/L			0.016	1.2	0.00056	<0.00050	0.00064
Copper Cu	mg/L			0.46	71	0.014	0.0040	0.0049
Iron Fe	mg/L			3.2	5.9	0.090	<0.030	<0.030
Lead Pb	mg/L			0.0045	0.0036	0.00036	<0.00025	0.00036
Lithium Li	mg/L			0.014	0.038	0.0051	<0.025	<0.025
Magnesium Mg	mg/L			15	38	4.8	1.8	18
Manganese Mn	mg/L			0.24	10	0.14	0.00042	0.14
Mercury Hg	ug/L			<0.050	<0.050	<0.05	<0.000010	<0.000010
Molybdenum Mo	mg/L			0.039	0.0023	0.042	0.11	0.063
Nickel Ni	mg/L			0.013	0.88	0.0015	<0.0025	0.0031
Phosphorus P	mg/L			<0.10	<0.10	<0.10	<0.30	<0.30
Potassium K	mg/L			11	6.9	19	13	41
Selenium Se	mg/L			0.0064	0.011	0.0046	0.0089	<0.0050
Silicon Si	mg/L			3.9	7.9	2.3	1.3	1.9
Silver Ag	mg/L			0.00049	0.00020	<0.000010	0.00033	<0.000050
Sodium Na	mg/L			1.9	1.2	3.0	23	28
Strontium Sr	mg/L			0.80	1.0	1.3	0.79	1.5
Sulfur (S)	mg/L			312	517	312	290	337
Thallium Tl	mg/L			0.00018	0.00070	0.000070	<0.00050	<0.00050
Tin Sn	mg/L			0.00079	0.00050	0.00019	<0.00050	<0.00050
Titanium Ti	mg/L			0.021	0.0080	0.0041	<0.010	0.011
Uranium U	mg/L			0.00054	0.0050	0.0016	<0.000050	0.0010
Vanadium V	mg/L			0.0016	0.00090	0.00037	<0.0050	<0.0050
Zinc Zn	mg/L			0.012	1.7	0.0027	<0.0050	0.011

[1] The Criterion Continuous Concentration (CCC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect. The CCC is just one of the six parts of an aquatic life criterion; the other five parts of the criteria are maximum concentration, acute averaging period, chronic averaging period, acute frequency of allowed exceedance, and chronic frequency of allowed exceedance.

[2] Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards. Source:http://www.azdeq.gov/environ/water/dw/download/mcls.pdf

[3] Cr(VI).

> < text indicates elements above or below method detection limits.

Bold text indicates measured values in exceedance of one or more guidelines.

Grey shading indicates EPA priority pollutants for the Protection of Aquatic Life.

* Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.

3. SUMMARY

The following observations and conclusions have been made based on the static geochemical analyses done on the cleaner and scavenger tailings and associated process waters.

Static geochemical testing of tailings indicated both cleaner (CL-1 and CL-2) and scavenger (SC-1) tailings samples will likely generate ARD if left exposed to atmospheric conditions due to the low neutralizing potential and the high acid potential. The lag time to ARD for the pyrite-rich cleaner tailings will probably be relatively short but requires kinetic testing to quantify this time period. Potential parameters of concern include pH, sulfate, Cd, Cu, Fe, Pb, Mn, Ni, Se and Zn. However, reasonable downstream water quality predictions require detailed modeling.

The following future work is recommended based on the above conclusions.

- Development of a geochemical kinetic testing program for the different tailings streams to quantify lag times to acidic conditions and metal loading rates; and
- Downstream water quality modeling using mass balance, dilution and solubility constrained approaches.

4. USES AND LIMITATIONS

This letter report was prepared by Klohn Crippen Berger Ltd. for the account of Resolution Copper Mining. The material in it reflects Klohn Crippen Berger's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Klohn Crippen Berger Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Yours truly,

KLOHN CRIPPEN BERGER LTD.

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Project Geochemist

Howard Plewes, M.Sc., P. Eng.
Project Manager

Attachment:	Appendix I	Metals
	Appendix II	X-Ray Diffraction
	Appendix III	Acid Base Accounting
	Appendix IV	Shake Flask Extractions
	Appendix V	Supernatant Quality

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APPENDIX I

Metals

CLIENT : **Klohn Crippen Berger**
PROJECT : **HP-A**
CEMI Project # : **0769**
Test : **Metals by Aqua Regia Digestion with ICP Finish**
Date : **November 1, 2007**

Sample ID	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm	Mg %	Mn ppm
Cleaner Tails - B	5.9	0.12	31.4	5	<1	10.3	0.17	0.6	188.3	79	3847.9	>10.00	0.1	0.08	1	0.08	66
Cleaner Tails - P	6	0.19	27.5	6	<1	11.4	0.2	0.6	197.4	79	4040.7	>10.00	0.2	0.11	1	0.1	56
Scavenger Tails - P	0.6	0.84	1.9	81	1	1.5	0.37	0.2	6.8	50	421.4	0.84	0.1	0.54	2	0.66	91

Sample ID	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Si ppm	Sr ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm	Zr ppm
Cleaner Tails - B	57.2	<0.01	119.6	0.015	24.8	>10.00	0.7	0.5	<0.01	12	0.2	0.011	0.2	0.4	3	4.2	49	0.3
Cleaner Tails - P	57.1	<0.01	130.6	0.018	26.2	>10.00	0.6	0.8	0.01	19	0.3	0.013	0.2	0.5	5	4.9	52	0.5
Scavenger Tails - P	28.8	0.01	41.3	0.041	11.9	0.7	0.1	3.6	0.05	50	0.6	0.048	0.2	0.7	37	3.3	27	0.4

* Cleaner Tails - B = CL - 2
  Cleaner Tails - P = CL - 1
  Scavenger Tails - P = SC - 1

CLIENT : Klohn Crippen Berger
PROJECT : HP-A
CEMI Project # : 0769
Test : Hg Assay
Date : November 1, 2007

Sample ID	**Hg ppb**
Cleaner Tails - B	23
Cleaner Tails - P	28
Scavenger Tails - P	<5
Duplicate	
Cleaner Tails - P	24

* Cleaner Tails - B = CL - 2
Cleaner Tails - P = CL - 1
Scavenger Tails - P = SC - 1

APPENDIX II

X-Ray Diffraction

No. 1 C1 Tails = CL – 2
No. 1 CC Tails = CL – 1
Scavenger Tails: SC - 1

QUANTITATIVE PHASE ANALYSIS OF THREE POWDER SAMPLES USING THE RIETVELD METHOD AND X-RAY POWDER DIFFRACTION DATA.

(Project: M09441A01 Resolution – P.O. M02007 – PO35)

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September 24, 2007

EXPERIMENTAL METHOD

The three samples “No.1 C1 Tails”, “No.1 CC Tails” and “Scav Tails” were reduced into fine powder to the optimum grain-sizeM0944 range for X-ray analysis (<10μm) grinding under ethanol in a vibratory McCrone Micronising Mill for 7 minutes. Step-scan X-ray powder-diffraction data were collected over a range 3-80°2θ with CoKα radiation on a standard Siemens (Bruker) D5000 Bragg-Brentano diffractometer equipped with a with an Fe monochromator foil, 0.6 mm (0.3°) divergence slit, incident- and diffracted-beam Soller slits and a Vantec-1 strip detector. The long fine-focus Co X-ray tube was operated at 35 kV and 40 mA, using a take-off angle of 6°.

RESULTS AND DISCUSSION

The X-ray diffractograms were analyzed using the International Centre for Diffraction Database PDF-4 using Search-Match software by Siemens (Bruker). X-ray powder-diffraction data were refined with Rietveld program Topas 3 (Bruker AXS). The results of quantitative phase analysis by Rietveld refinement are given in Table 1. These amounts represent the relative amounts of crystalline phases normalized to 100%. The Rietveld refinement plots for the samples are shown in Figures 1-3.

Table 1. Results of quantitative phase analysis (wt. %)

Mineral	Ideal formula	No.1 C1 Tails	No.1 CC Tails	Scav Tails
Quartz	SiO_2	11.5	12.3	47.5
Muscovite	$KAl_2AlSi_3O_{10}(OH)_2$	8.8	8.9	36.8
Biotite	$K(Mg,Fe^{2+})_3AlSi_3O_{10}(OH)_2$			5.8
K-feldspar	$KAlSi_3O_8$	1.6	3.2	4.3
Kaolinite	$Al_2Si_2O_5(OH)_4$	1.8	2.7	5.2
Gypsum	$CaSO_4 \cdot 2H_2O$	1.4	1.2	0.5
Calcite	$CaCO_3$	0.5	0.8	
Pyrite	FeS_2	74.5	70.9	
Total		100.0	100.0	100.0

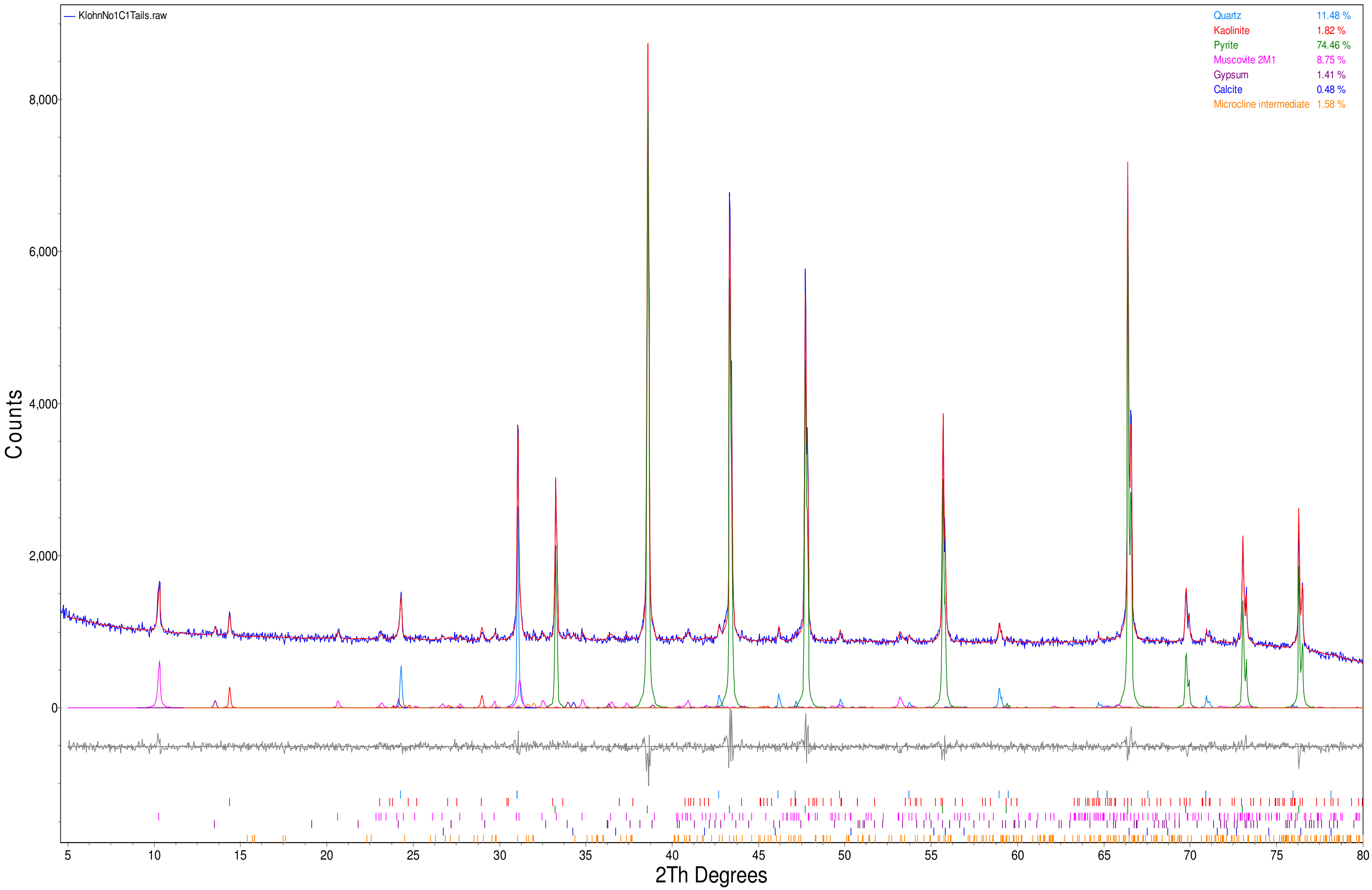

Figure 1. Rietveld refinement plot of sample **Klohn Crippen Berger "No.1 C1 Tails"** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

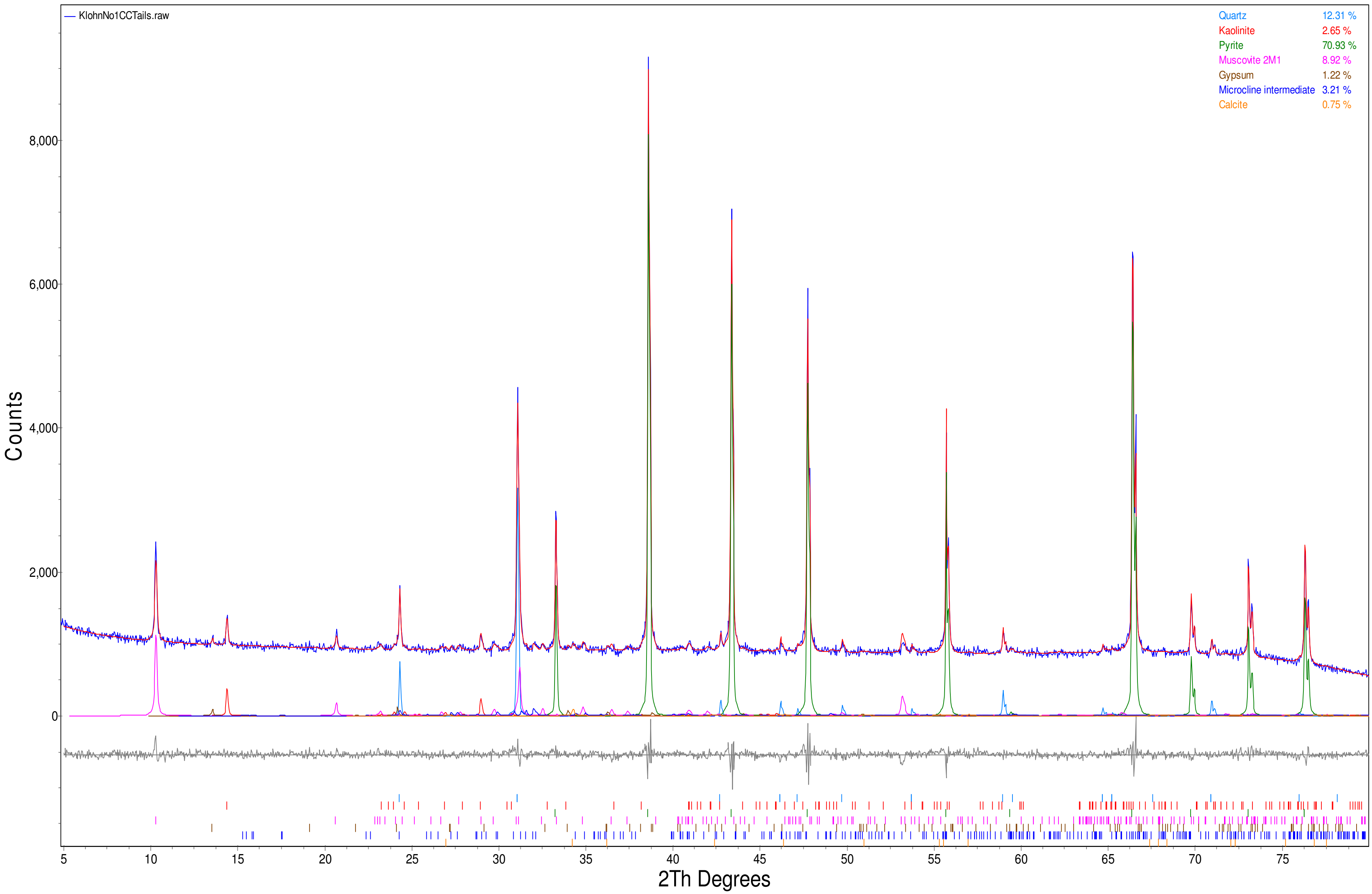

Figure 2. Rietveld refinement plot of sample **Klohn Crippen Berger "No.1 CC Tails"** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

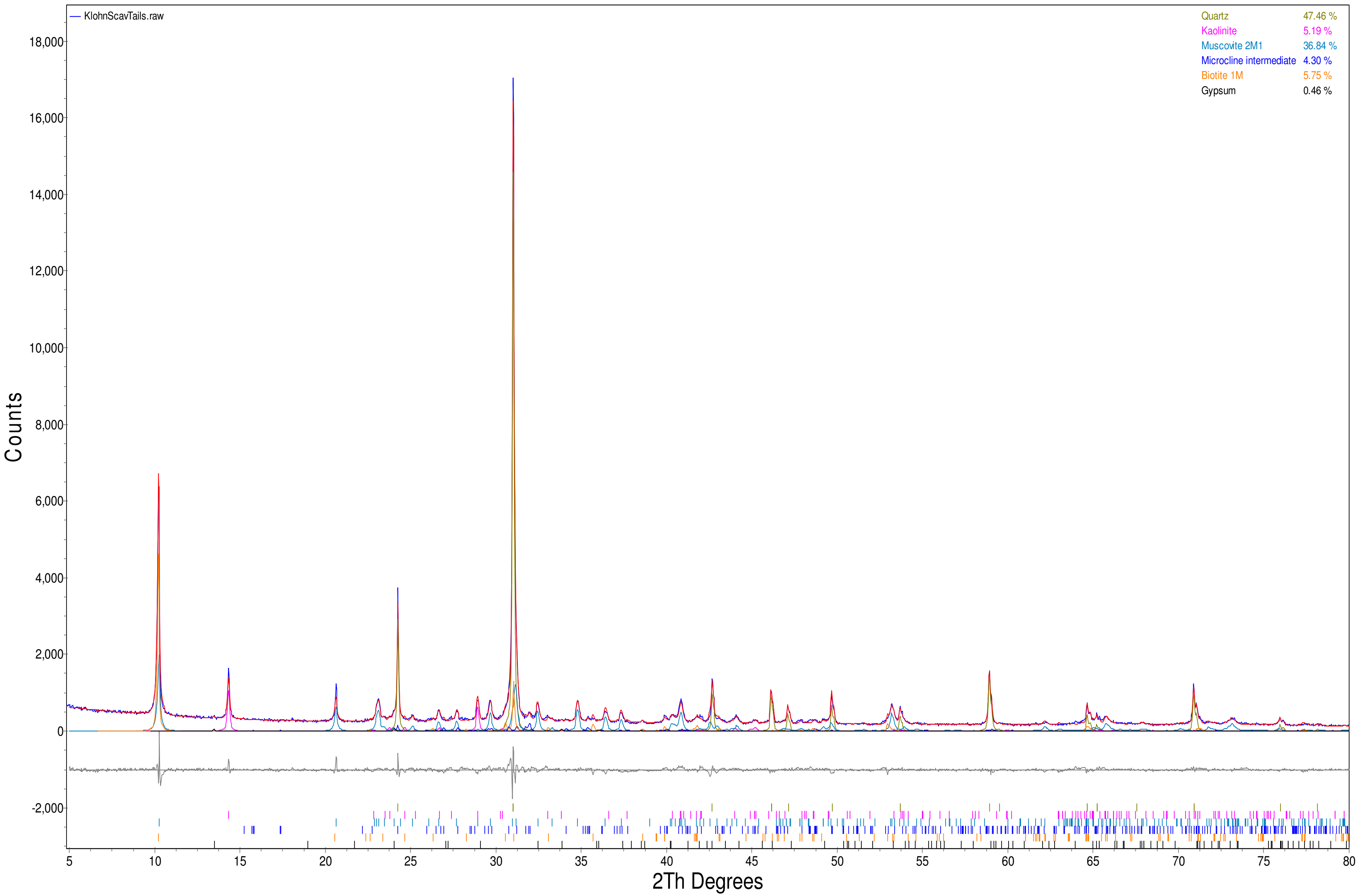

Figure 3. Rietveld refinement plot of sample **Klohn Crippen Berger "Scav Tails"** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

APPENDIX III

Acid Base Accounting

December 6, 2007

CLIENT : Klohn Crippen Berger
PROJECT : HP-A
CEMI Project # : 0769
Test : Modified Acid-Base Accounting
Date : October 1, 2007

Sample ID	Paste pH	TIC %	CaCO3 NP	S(T) %	S(SO4) %	S(S-2) %	AP	NP	Net NP	Fizz Test
Cleaner Tails - B	3.77	<0.01	<0.8	38.7	0.29	38.41	1200.3	-1.1	-1201.4	None
Cleaner Tails - P	5.73	0.02	1.7	38.3	0.15	38.15	1192.2	1.9	-1190.3	Slight
Scavenger Tails - P	7.53	0.02	1.7	0.53	0.24	0.29	9.1	5.5	-3.6	None
Duplicates										
Cleaner Tails - B	3.76							-1.0		None
Cleaner Tails - P		0.02		38.4	0.14					

Note:

AP = Acid potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is determined from calculated sulphide sulphur content: S(T) - S(SO4).
NP = Neutralization potential in tonnes CaCO3 equivalent per 1000 tonnes of material.
NET NP = NP - AP
Carbonate NP is calculated from TIC originating from carbonates and is expressed in kg CaCO3/tonne.

* Cleaner Tails - B = CL - 2
Cleaner Tails - P = CL - 1
Scavenger Tails - P = SC - 1

APPENDIX IV

Shake Flask Extractions

CLIENT : **Klohn Crippen Berger**
PROJECT : **HP-A**
CEMI Project # : **0769**
Test : **24 Hour NanoPure Water Leach Extraction Test at 3:1 Liquid to Solid Ratio**
Date : **September 19, 2007**

Leachate Analysis

Sample ID			Cleaner Tails - B	Cleaner Tails - P	Scavenger Tails - P	Blank
Parameter	**Method**	**Units**				
Volume Nanopure water		mL	750	750	750	750
Sample Weight		g	250	250	250	250
pH	meter		4.48	7.34	7.49	7.23
Redox	meter	mV	534	362	371	427
Conductivity	meter	uS/cm	2470	1577	1789	<1
Acidity (to pH 4.5)	titration	mg CaCO3/L	2.5	#N/A	#N/A	#N/A
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	260.3	11.5	10.0	3.4
Alkalinity	titration	mg CaCO3/L	#N/A	71.7	42.1	2.4
Chloride		mg/L	1.1	64.8	6.4	<0.5
Fluoride		mg/L	33.4	1.37	2.06	0.01
Sulphate	Turbidity	mg/L	1768	674	845	<1
Ion Balance						
Major Anions	Calc	meq/L	36.83	15.48	18.45	#N/A
Major Cations	Calc	meq/L	31.33	15.53	16.56	#N/A
Difference	Calc	meq/L	5.50	-0.06	1.89	#N/A
Balance (%)	Calc	%	8.1%	-0.2%	5.4%	#N/A
Dissolved Metals						
Hardness CaCO3		mg/L	1310	764	801	<0.5
Aluminum Al	ICP-MS	mg/L	18.6	0.0159	0.0308	0.0046
Antimony Sb	ICP-MS	mg/L	<0.0003	0.0003	0.00042	<0.00005
Arsenic As	ICP-MS	mg/L	0.0015	0.0005	0.0006	<0.0001
Barium Ba	ICP-MS	mg/L	0.014	0.0152	0.013	0.00013
Beryllium Be	ICP-MS	mg/L	0.0089	<0.00005	<0.00005	<0.00005
Bismuth Bi	ICP-MS	mg/L	<0.0003	<0.00005	<0.00005	<0.00005
Boron B	ICP-MS	mg/L	0.013	0.013	0.009	<0.008
Cadmium Cd	ICP-MS	mg/L	0.0371	0.00009	0.00012	<0.00001
Calcium Ca	ICP-MS	mg/L	464	283	314	<0.05
Chromium Cr	ICP-MS	mg/L	<0.001	<0.0002	<0.0002	<0.0002
Cobalt Co	ICP-MS	mg/L	1.16	0.00943	0.00027	<0.00002
Copper Cu	ICP-MS	mg/L	73	0.0165	0.004	0.0013
Iron Fe	ICP-MS	mg/L	3.26	<0.005	<0.005	<0.005
Lead Pb	ICP-MS	mg/L	0.0031	0.00042	0.00035	0.00004
Lithium Li	ICP-MS	mg/L	0.029	0.0114	0.0039	0.0003
Magnesium Mg	ICP-MS	mg/L	36.6	14	4.43	<0.05
Manganese Mn	ICP-MS	mg/L	9.31	0.18	0.106	0.00012
Mercury Hg	CVAA	ug/L	<0.05	<0.05	<0.05	<0.05
Molybdenum Mo	ICP-MS	mg/L	<0.0001	0.0213	0.0387	<0.00002
Nickel Ni	ICP-MS	mg/L	0.875	0.0018	0.0014	<0.0005
Phosphorus P	ICP-MS	mg/L	<0.1	<0.1	<0.1	<0.1
Potassium K	ICP-MS	mg/L	4.62	6.92	14.5	<0.05
Selenium Se	ICP-MS	mg/L	0.007	0.0042	0.004	<0.0005
Silicon Si	ICP-MS	mg/L	5.85	1.57	1.83	<0.05
Silver Ag	ICP-MS	mg/L	<0.00005	0.00001	<0.00001	<0.00001
Sodium Na	ICP-MS	mg/L	1.11	1.86	2.88	<0.05
Strontium Sr	ICP-MS	mg/L	1	0.704	1.16	0.00011
Sulphur (S)	ICP-MS	mg/L	527	266	246	<0.1
Thallium Tl	ICP-MS	mg/L	0.0007	0.00013	0.00006	<0.00005
Tin Sn	ICP-MS	mg/L	<0.0003	0.00014	0.00017	0.00008
Titanium Ti	ICP-MS	mg/L	<0.003	0.001	0.0011	<0.0005
Uranium U	ICP-MS	mg/L	0.00463	0.00033	0.00126	<0.00001
Vanadium V	ICP-MS	mg/L	<0.0003	<0.00005	<0.00005	<0.00005
Zinc Zn	ICP-MS	mg/L	1.91	0.0038	0.0023	0.0007
Zirconium Zr	ICP-MS	mg/L	<0.005	<0.005	<0.005	<0.005
Total Metals	ICP-MS					
Aluminum Al	ICP-MS	mg/L	19.7	0.528	0.0902	-
Antimony Sb	ICP-MS	mg/L	<0.0003	0.00035	0.00043	-
Arsenic As	ICP-MS	mg/L	0.0017	0.0021	0.0007	-
Barium Ba	ICP-MS	mg/L	0.018	0.0243	0.0168	-
Beryllium Be	ICP-MS	mg/L	0.0108	<0.00005	<0.00005	-
Bismuth Bi	ICP-MS	mg/L	0.0004	0.00069	<0.00005	-
Boron B	ICP-MS	mg/L	0.009	0.011	0.012	-
Cadmium Cd	ICP-MS	mg/L	0.0369	0.00017	0.00015	-
Calcium Ca	ICP-MS	mg/L	516	324	384	-
Chromium Cr	ICP-MS	mg/L	0.003	0.005	<0.0002	-
Cobalt Co	ICP-MS	mg/L	1.23	0.0155	0.00056	-
Copper Cu	ICP-MS	mg/L	71.1	0.458	0.0138	-
Iron Fe	ICP-MS	mg/L	5.88	3.18	0.09	-
Lead Pb	ICP-MS	mg/L	0.0036	0.00451	0.00036	-
Lithium Li	ICP-MS	mg/L	0.038	0.0136	0.0051	-
Magnesium Mg	ICP-MS	mg/L	38.4	14.5	4.83	-
Manganese Mn	ICP-MS	mg/L	10.4	0.239	0.137	-
Mercury Hg	ICP-MS	ug/L	<0.05	<0.05	<0.05	-
Molybdenum Mo	ICP-MS	mg/L	0.0023	0.0386	0.0423	-
Nickel Ni	ICP-MS	mg/L	0.884	0.0126	0.0015	-
Phosphorus P	ICP-MS	mg/L	<0.1	<0.1	<0.1	-
Potassium K	ICP-MS	mg/L	6.92	10.5	19.1	-
Selenium Se	ICP-MS	mg/L	0.011	0.0064	0.0046	-
Silicon Si	ICP-MS	mg/L	7.9	3.89	2.29	-
Silver Ag	ICP-MS	mg/L	0.0002	0.00049	<0.00001	-
Sodium Na	ICP-MS	mg/L	1.19	1.94	2.97	-
Strontium Sr	ICP-MS	mg/L	1.03	0.799	1.29	-
Sulphur (S)	ICP-MS	mg/L	517	312	312	-
Thallium Tl	ICP-MS	mg/L	0.0007	0.00018	0.00007	-
Tin Sn	ICP-MS	mg/L	0.0005	0.00079	0.00019	-
Titanium Ti	ICP-MS	mg/L	0.008	0.0212	0.0041	-
Uranium U	ICP-MS	mg/L	0.00495	0.00054	0.00164	-
Vanadium V	ICP-MS	mg/L	0.0009	0.0016	0.00037	-
Zinc Zn	ICP-MS	mg/L	1.65	0.0116	0.0027	-
Zirconium Zr	ICP-MS	mg/L	<0.005	<0.005	<0.005	-

* Cleaner Tails - B = CL - 2
Cleaner Tails - P = CL - 1
Scavenger Tails - P = SC - 1

APPENDIX V

Supernatant Quality

Project HP-A
Report To CLAUDIO ANDRADE, KLOHN CRIPPEN BERGER LTD.
ALS File No. L554664
Date Received 14-Sep-07
Date 16-Oct-07

RESULTS OF ANALYSIS

Sample ID	CLEANER TAILS DECANT	SCAVENGER TAILS DECANT
Date Sampled	14-SEP-07	14-SEP-07
Time Sampled	14:30	14:30
ALS Sample ID	L554664-1	L554664-2
Matrix	Water	Water
Physical Tests		
Hardness (as CaCO3)	712	1060
Conductivity	1360	1910
pH	7.89	7.70
Total Dissolved Solids	1100	1680
Anions and Nutrients		
Acidity (as CaCO3)	3.5	7.6
Alkalinity, Total (as CaCO3)	15.1	48.4
Bromide (Br)	<0.050	<0.050
Chloride (Cl)	43.0	47.9
Fluoride (F)	1.88	2.67
Sulfate (SO4)	608	963
Total Metals		
Aluminum (Al)-Total	0.756	0.0447
Antimony (Sb)-Total	0.00069	<0.00050
Arsenic (As)-Total	0.00107	0.00095
Barium (Ba)-Total	0.0157	0.0297
Beryllium (Be)-Total	<0.0025	<0.0025
Bismuth (Bi)-Total	<0.0025	<0.0025
Boron (B)-Total	<0.050	<0.050
Cadmium (Cd)-Total	<0.00025	0.00026
Calcium (Ca)-Total	286	401
Chromium (Cr)-Total	<0.0025	<0.0025
Cobalt (Co)-Total	<0.00050	0.00071
Copper (Cu)-Total	0.00451	0.00574
Iron (Fe)-Total	<0.030	<0.030
Lead (Pb)-Total	<0.00025	0.00045
Lithium (Li)-Total	<0.025	<0.025
Magnesium (Mg)-Total	1.79	17.7
Manganese (Mn)-Total	0.00045	0.154
Mercury (Hg)-Total	<0.000010	<0.000010
Molybdenum (Mo)-Total	0.110	0.0712
Nickel (Ni)-Total	<0.0025	<0.0025
Phosphorus (P)-Total	<0.30	<0.30
Potassium (K)-Total	12.5	40.9
Selenium (Se)-Total	0.0108	<0.0050
Silicon (Si)-Total	1.37	1.91
Silver (Ag)-Total	<0.000050	<0.000050
Sodium (Na)-Total	22.9	27.4
Strontium (Sr)-Total	0.806	1.66
Sulfur (S)-Total	293	335
Thallium (Tl)-Total	<0.00050	<0.00050
Tin (Sn)-Total	<0.00050	<0.00050
Titanium (Ti)-Total	0.011	0.011
Uranium (U)-Total	<0.000050	0.00114
Vanadium (V)-Total	<0.0050	<0.0050
Zinc (Zn)-Total	<0.0050	0.0120
Dissolved Metals		
Aluminum (Al)-Dissolved	0.549	0.0369
Antimony (Sb)-Dissolved	0.00064	<0.00050
Arsenic (As)-Dissolved	0.00094	0.00088
Barium (Ba)-Dissolved	0.0155	0.0261
Beryllium (Be)-Dissolved	<0.0025	<0.0025
Bismuth (Bi)-Dissolved	<0.0025	<0.0025
Boron (B)-Dissolved	<0.050	<0.050
Cadmium (Cd)-Dissolved	<0.00025	<0.00025
Calcium (Ca)-Dissolved	282	397
Chromium (Cr)-Dissolved	<0.0025	<0.0025
Cobalt (Co)-Dissolved	<0.00050	0.00064
Copper (Cu)-Dissolved	0.00404	0.00489
Iron (Fe)-Dissolved	<0.030	<0.030
Lead (Pb)-Dissolved	<0.00025	0.00036
Lithium (Li)-Dissolved	<0.025	<0.025
Magnesium (Mg)-Dissolved	1.77	17.9
Manganese (Mn)-Dissolved	0.00042	0.137
Mercury (Hg)-Dissolved	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	0.106	0.0626
Nickel (Ni)-Dissolved	<0.0025	0.0031
Phosphorus (P)-Dissolved	<0.30	<0.30
Potassium (K)-Dissolved	12.6	41.3
Selenium (Se)-Dissolved	0.0089	<0.0050
Silicon (Si)-Dissolved	1.31	1.89
Silver (Ag)-Dissolved	0.000329	<0.000050
Sodium (Na)-Dissolved	23.4	27.9
Strontium (Sr)-Dissolved	0.793	1.48
Sulfur (S)-Dissolved	290	337
Thallium (Tl)-Dissolved	<0.00050	<0.00050
Tin (Sn)-Dissolved	<0.00050	<0.00050
Titanium (Ti)-Dissolved	<0.010	0.011
Uranium (U)-Dissolved	<0.000050	0.00100
Vanadium (V)-Dissolved	<0.0050	<0.0050
Zinc (Zn)-Dissolved	<0.0050	0.0111

Project	**HP-A**
Report To	**CLAUDIO ANDRADE, KLOHN CRIPPEN BERGER LTD.**
ALS File No.	**L554664**
Date Received	**14-Sep-07**
Date	**16-Oct-07**

DETECTION LIMITS

Sample ID	**CLEANER TAILS DECANT**	**SCAVENGER TAILS DECANT**
Date Sampled	14-SEP-07	14-SEP-07
Time Sampled	14:30	14:30
ALS Sample ID	L554664-1	L554664-2
Matrix	Water	Water
Physical Tests		
Hardness (as CaCO3)	0.5	0.5
Conductivity	2	2
pH	0.01	0.01
Total Dissolved Solids	13.33333333	20
Anions and Nutrients		
Acidity (as CaCO3)	1	1
Alkalinity, Total (as CaCO3)	2	2
Bromide (Br)	0.05	0.05
Chloride (Cl)	0.5	0.5
Fluoride (F)	0.02	0.02
Sulfate (SO4)	0.5	0.5
Total Metals		
Aluminum (Al)-Total	0.005	0.005
Antimony (Sb)-Total	0.0005	0.0005
Arsenic (As)-Total	0.0005	0.0005
Barium (Ba)-Total	0.00025	0.00025
Beryllium (Be)-Total	0.0025	0.0025
Bismuth (Bi)-Total	0.0025	0.0025
Boron (B)-Total	0.05	0.05
Cadmium (Cd)-Total	0.00025	0.00025
Calcium (Ca)-Total	0.05	0.05
Chromium (Cr)-Total	0.0025	0.0025
Cobalt (Co)-Total	0.0005	0.0005
Copper (Cu)-Total	0.0005	0.0005
Iron (Fe)-Total	0.03	0.03
Lead (Pb)-Total	0.00025	0.00025
Lithium (Li)-Total	0.025	0.025
Magnesium (Mg)-Total	0.1	0.1
Manganese (Mn)-Total	0.00025	0.00025
Mercury (Hg)-Total	0.00001	0.00001
Molybdenum (Mo)-Total	0.00025	0.00025
Nickel (Ni)-Total	0.0025	0.0025
Phosphorus (P)-Total	0.3	0.3
Potassium (K)-Total	2	2
Selenium (Se)-Total	0.005	0.005
Silicon (Si)-Total	0.05	0.05
Silver (Ag)-Total	0.00005	0.00005
Sodium (Na)-Total	2	2
Strontium (Sr)-Total	0.0005	0.0005
Sulfur (S)-Total	0.5	0.5
Thallium (Tl)-Total	0.0005	0.0005
Tin (Sn)-Total	0.0005	0.0005
Titanium (Ti)-Total	0.01	0.01
Uranium (U)-Total	0.00005	0.00005
Vanadium (V)-Total	0.005	0.005
Zinc (Zn)-Total	0.005	0.005
Dissolved Metals		
Aluminum (Al)-Dissolved	0.005	0.005
Antimony (Sb)-Dissolved	0.0005	0.0005
Arsenic (As)-Dissolved	0.0005	0.0005
Barium (Ba)-Dissolved	0.00025	0.00025
Beryllium (Be)-Dissolved	0.0025	0.0025
Bismuth (Bi)-Dissolved	0.0025	0.0025
Boron (B)-Dissolved	0.05	0.05
Cadmium (Cd)-Dissolved	0.00025	0.00025
Calcium (Ca)-Dissolved	0.05	0.05
Chromium (Cr)-Dissolved	0.0025	0.0025
Cobalt (Co)-Dissolved	0.0005	0.0005
Copper (Cu)-Dissolved	0.0005	0.0005
Iron (Fe)-Dissolved	0.03	0.03
Lead (Pb)-Dissolved	0.00025	0.00025
Lithium (Li)-Dissolved	0.025	0.025
Magnesium (Mg)-Dissolved	0.1	0.1
Manganese (Mn)-Dissolved	0.00025	0.00025
Mercury (Hg)-Dissolved	0.00001	0.00001
Molybdenum (Mo)-Dissolved	0.00025	0.00025
Nickel (Ni)-Dissolved	0.0025	0.0025
Phosphorus (P)-Dissolved	0.3	0.3
Potassium (K)-Dissolved	2	2
Selenium (Se)-Dissolved	0.005	0.005
Silicon (Si)-Dissolved	0.05	0.05
Silver (Ag)-Dissolved	0.00001	0.00005
Sodium (Na)-Dissolved	2	2
Strontium (Sr)-Dissolved	0.0005	0.0005
Sulfur (S)-Dissolved	0.5	0.5
Thallium (Tl)-Dissolved	0.0005	0.0005
Tin (Sn)-Dissolved	0.0005	0.0005
Titanium (Ti)-Dissolved	0.01	0.01
Uranium (U)-Dissolved	0.00005	0.00005
Vanadium (V)-Dissolved	0.005	0.005
Zinc (Zn)-Dissolved	0.005	0.005

Project	**HP-A**
Report To	**CLAUDIO ANDRADE, KLOHN CRIPPEN BERGER LTD.**
ALS File No.	**L554664**
Date Received	**14-Sep-07**
Date	**16-Oct-07**

UNITS

Sample ID	**CLEANER TAILS DECANT**	**SCAVENGER TAILS DECANT**
Date Sampled	14-SEP-07	14-SEP-07
Time Sampled	14:30	14:30
ALS Sample ID	L554664-1	L554664-2
Matrix	Water	Water
Physical Tests		
Hardness (as CaCO3)	mg/L	mg/L
Conductivity	uS/cm	uS/cm
pH	pH	pH
Total Dissolved Solids	mg/L	mg/L
Anions and Nutrients		
Acidity (as CaCO3)	mg/L	mg/L
Alkalinity, Total (as CaCO3)	mg/L	mg/L
Bromide (Br)	mg/L	mg/L
Chloride (Cl)	mg/L	mg/L
Fluoride (F)	mg/L	mg/L
Sulfate (SO4)	mg/L	mg/L
Total Metals		
Aluminum (Al)-Total	mg/L	mg/L
Antimony (Sb)-Total	mg/L	mg/L
Arsenic (As)-Total	mg/L	mg/L
Barium (Ba)-Total	mg/L	mg/L
Beryllium (Be)-Total	mg/L	mg/L
Bismuth (Bi)-Total	mg/L	mg/L
Boron (B)-Total	mg/L	mg/L
Cadmium (Cd)-Total	mg/L	mg/L
Calcium (Ca)-Total	mg/L	mg/L
Chromium (Cr)-Total	mg/L	mg/L
Cobalt (Co)-Total	mg/L	mg/L
Copper (Cu)-Total	mg/L	mg/L
Iron (Fe)-Total	mg/L	mg/L
Lead (Pb)-Total	mg/L	mg/L
Lithium (Li)-Total	mg/L	mg/L
Magnesium (Mg)-Total	mg/L	mg/L
Manganese (Mn)-Total	mg/L	mg/L
Mercury (Hg)-Total	mg/L	mg/L
Molybdenum (Mo)-Total	mg/L	mg/L
Nickel (Ni)-Total	mg/L	mg/L
Phosphorus (P)-Total	mg/L	mg/L
Potassium (K)-Total	mg/L	mg/L
Selenium (Se)-Total	mg/L	mg/L
Silicon (Si)-Total	mg/L	mg/L
Silver (Ag)-Total	mg/L	mg/L
Sodium (Na)-Total	mg/L	mg/L
Strontium (Sr)-Total	mg/L	mg/L
Sulfur (S)-Total	mg/L	mg/L
Thallium (Tl)-Total	mg/L	mg/L
Tin (Sn)-Total	mg/L	mg/L
Titanium (Ti)-Total	mg/L	mg/L
Uranium (U)-Total	mg/L	mg/L
Vanadium (V)-Total	mg/L	mg/L
Zinc (Zn)-Total	mg/L	mg/L
Dissolved Metals		
Aluminum (Al)-Dissolved	mg/L	mg/L
Antimony (Sb)-Dissolved	mg/L	mg/L
Arsenic (As)-Dissolved	mg/L	mg/L
Barium (Ba)-Dissolved	mg/L	mg/L
Beryllium (Be)-Dissolved	mg/L	mg/L
Bismuth (Bi)-Dissolved	mg/L	mg/L
Boron (B)-Dissolved	mg/L	mg/L
Cadmium (Cd)-Dissolved	mg/L	mg/L
Calcium (Ca)-Dissolved	mg/L	mg/L
Chromium (Cr)-Dissolved	mg/L	mg/L
Cobalt (Co)-Dissolved	mg/L	mg/L
Copper (Cu)-Dissolved	mg/L	mg/L
Iron (Fe)-Dissolved	mg/L	mg/L
Lead (Pb)-Dissolved	mg/L	mg/L
Lithium (Li)-Dissolved	mg/L	mg/L
Magnesium (Mg)-Dissolved	mg/L	mg/L
Manganese (Mn)-Dissolved	mg/L	mg/L
Mercury (Hg)-Dissolved	mg/L	mg/L
Molybdenum (Mo)-Dissolved	mg/L	mg/L
Nickel (Ni)-Dissolved	mg/L	mg/L
Phosphorus (P)-Dissolved	mg/L	mg/L
Potassium (K)-Dissolved	mg/L	mg/L
Selenium (Se)-Dissolved	mg/L	mg/L
Silicon (Si)-Dissolved	mg/L	mg/L
Silver (Ag)-Dissolved	mg/L	mg/L
Sodium (Na)-Dissolved	mg/L	mg/L
Strontium (Sr)-Dissolved	mg/L	mg/L
Sulfur (S)-Dissolved	mg/L	mg/L
Thallium (Tl)-Dissolved	mg/L	mg/L
Tin (Sn)-Dissolved	mg/L	mg/L
Titanium (Ti)-Dissolved	mg/L	mg/L
Uranium (U)-Dissolved	mg/L	mg/L
Vanadium (V)-Dissolved	mg/L	mg/L
Zinc (Zn)-Dissolved	mg/L	mg/L

Project HP-A
Report To CLAUDIO ANDRADE, KLOHN CRIPPEN BERGER LTD.
ALS File No. L554664
Date Received 14-Sep-07
Date 16-Oct-07

QUALITY CONTROL RESULTS

Matrix	QC Type	Analyte	QC Spl. No.	Reference	Result	Target	Units	%	Limits	Qualifier
Physical Tests										
Water	CRM	pH	WG661140-10	VA-PH7-BUF	7.02	7.00	pH	7.02	6.97-7.03	
Water	CRM	Acidity (as CaCO3)	WG661140-11	A-ACY-CONTRO	53.8	50.0	mg/L	108	85-115	
Water	MB	Total Dissolved Solids	WG663903-1		<10	<10	mg/L	-	10	
Anions and Nutrients										
Water	CRM	Bromide (Br)	WG661345-2	VA-ALLT-170088	0.972	1.00	mg/L	97	90-110	
Water	CRM	Chloride (Cl)	WG661345-2	VA-ALLT-170088	49.9	50.1	mg/L	100	94-106	
Water	CRM	Fluoride (F)	WG661345-2	VA-ALLT-170088	1.02	1.00	mg/L	102	93-107	
Water	CRM	Sulfate (SO4)	WG661345-2	VA-ALLT-170088	50.2	50.1	mg/L	100	93-107	
Water	CRM	pH	WG661140-10	VA-PH7-BUF	7.02	7.00	pH	7.02	6.97-7.03	
Water	CRM	Acidity (as CaCO3)	WG661140-11	A-ACY-CONTRO	53.8	50.0	mg/L	108	85-115	
Water	CRM	Bromide (Br)	WG661345-12	VA-ALLT-170088	0.983	1.00	mg/L	98	90-110	
Water	CRM	Chloride (Cl)	WG661345-12	VA-ALLT-170088	50.0	50.1	mg/L	100	94-106	
Water	CRM	Fluoride (F)	WG661345-12	VA-ALLT-170088	1.01	1.00	mg/L	101	93-107	
Water	CRM	Sulfate (SO4)	WG661345-12	VA-ALLT-170088	50.4	50.1	mg/L	101	93-107	
Water	MB	Bromide (Br)	WG661345-1		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chloride (Cl)	WG661345-1		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Fluoride (F)	WG661345-1		<0.020	<0.02	mg/L	-	0.02	
Water	MB	Sulfate (SO4)	WG661345-1		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Bromide (Br)	WG661345-4		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chloride (Cl)	WG661345-4		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Fluoride (F)	WG661345-4		<0.020	<0.02	mg/L	-	0.02	
Water	MB	Sulfate (SO4)	WG661345-4		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Bromide (Br)	WG661345-6		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chloride (Cl)	WG661345-6		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Fluoride (F)	WG661345-6		<0.020	<0.02	mg/L	-	0.02	
Water	MB	Sulfate (SO4)	WG661345-6		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Bromide (Br)	WG661345-8		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chloride (Cl)	WG661345-8		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Fluoride (F)	WG661345-8		<0.020	<0.02	mg/L	-	0.02	
Water	MB	Sulfate (SO4)	WG661345-8		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Alkalinity, Total (as CaCO3)	WG665450-1		<2.0	<2	mg/L	-	2	
Water	MB	Bromide (Br)	WG661345-10		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chloride (Cl)	WG661345-10		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Fluoride (F)	WG661345-10		<0.020	<0.02	mg/L	-	0.02	
Water	MB	Sulfate (SO4)	WG661345-10		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Bromide (Br)	WG661345-11		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chloride (Cl)	WG661345-11		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Fluoride (F)	WG661345-11		<0.020	<0.02	mg/L	-	0.02	
Water	MB	Sulfate (SO4)	WG661345-11		<0.50	<0.5	mg/L	-	0.5	
Total Metals										
Water	MB	Aluminum (Al)-Total	WG663763-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Antimony (Sb)-Total	WG663763-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Arsenic (As)-Total	WG663763-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Barium (Ba)-Total	WG663763-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Beryllium (Be)-Total	WG663763-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Bismuth (Bi)-Total	WG663763-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Boron (B)-Total	WG663763-1		<0.010	<0.01	mg/L	-	0.01	
Water	MB	Cadmium (Cd)-Total	WG663763-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Calcium (Ca)-Total	WG663763-1		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chromium (Cr)-Total	WG663763-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Cobalt (Co)-Total	WG663763-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Copper (Cu)-Total	WG663763-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Iron (Fe)-Total	WG663763-1		<0.030	<0.03	mg/L	-	0.03	
Water	MB	Lead (Pb)-Total	WG663763-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Lithium (Li)-Total	WG663763-1		<0.0050	<0.005	mg/L	-	0.005	
Water	MB	Magnesium (Mg)-Total	WG663763-1		<0.10	<0.1	mg/L	-	0.1	
Water	MB	Manganese (Mn)-Total	WG663763-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Molybdenum (Mo)-Total	WG663763-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Nickel (Ni)-Total	WG663763-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Phosphorus (P)-Total	WG663763-1		<0.30	<0.3	mg/L	-	0.3	
Water	MB	Potassium (K)-Total	WG663763-1		<2.0	<2	mg/L	-	2	
Water	MB	Selenium (Se)-Total	WG663763-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Silicon (Si)-Total	WG663763-1		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Silver (Ag)-Total	WG663763-1		<0.000010	<0.00001	mg/L	-	0.00001	
Water	MB	Sodium (Na)-Total	WG663763-1		<2.0	<2	mg/L	-	2	
Water	MB	Strontium (Sr)-Total	WG663763-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Sulfur (S)-Total	WG663763-1		<0.50	<0.5	mg/L	-	0.5	
Water	MB	Thallium (Tl)-Total	WG663763-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Tin (Sn)-Total	WG663763-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Titanium (Ti)-Total	WG663763-1		<0.010	<0.01	mg/L	-	0.01	
Water	MB	Uranium (U)-Total	WG663763-1		<0.000010	<0.00001	mg/L	-	0.00001	
Water	MB	Vanadium (V)-Total	WG663763-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Zinc (Zn)-Total	WG663763-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Mercury (Hg)-Total	WG664742-1		<0.000010	<0.00001	mg/L	-	0.00001	
Dissolved Metals										
Water	CRM	Aluminum (Al)-Dissolved	WG662129-4	VA-HIGH-WATRM	1.98	2.00	mg/L	99	90-110	
Water	CRM	Antimony (Sb)-Dissolved	WG662129-4	VA-HIGH-WATRM	1.00	1.00	mg/L	100	90-110	
Water	CRM	Arsenic (As)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.979	1.00	mg/L	98	90-110	
Water	CRM	Barium (Ba)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.247	0.250	mg/L	99	90-110	
Water	CRM	Beryllium (Be)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.102	0.100	mg/L	102	90-110	
Water	CRM	Bismuth (Bi)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.963	1.00	mg/L	96	90-110	
Water	CRM	Boron (B)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.96	1.00	mg/L	96	85-115	
Water	CRM	Cadmium (Cd)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.0978	0.100	mg/L	98	90-110	
Water	CRM	Calcium (Ca)-Dissolved	WG662129-4	VA-HIGH-WATRM	50.1	50.0	mg/L	100	85-115	
Water	CRM	Chromium (Cr)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.247	0.250	mg/L	99	90-110	
Water	CRM	Cobalt (Co)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.247	0.250	mg/L	99	90-110	
Water	CRM	Copper (Cu)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.240	0.250	mg/L	96	90-110	
Water	CRM	Iron (Fe)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.948	1.00	mg/L	95	90-110	
Water	CRM	Lead (Pb)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.498	0.500	mg/L	100	90-110	
Water	CRM	Lithium (Li)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.26	0.25	mg/L	103	90-110	
Water	CRM	Magnesium (Mg)-Dissolved	WG662129-4	VA-HIGH-WATRM	50.8	50.0	mg/L	102	85-115	
Water	CRM	Manganese (Mn)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.243	0.250	mg/L	97	90-110	
Water	CRM	Molybdenum (Mo)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.248	0.250	mg/L	99	90-110	
Water	CRM	Nickel (Ni)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.490	0.500	mg/L	98	90-110	
Water	CRM	Phosphorus (P)-Dissolved	WG662129-4	VA-HIGH-WATRM	2.46	2.50	mg/L	99	90-110	
Water	CRM	Potassium (K)-Dissolved	WG662129-4	VA-HIGH-WATRM	49.0	50.0	mg/L	98	85-115	
Water	CRM	Selenium (Se)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.961	1.00	mg/L	96	90-110	
Water	CRM	Silicon (Si)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.976	1.00	mg/L	98	90-110	
Water	CRM	Silver (Ag)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.0964	0.100	mg/L	96	90-110	
Water	CRM	Sodium (Na)-Dissolved	WG662129-4	VA-HIGH-WATRM	49.5	50.0	mg/L	99	85-115	
Water	CRM	Strontium (Sr)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.245	0.250	mg/L	98	90-110	
Water	CRM	Thallium (Tl)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.974	1.00	mg/L	97	85-115	
Water	CRM	Tin (Sn)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.524	0.500	mg/L	105	90-110	
Water	CRM	Titanium (Ti)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.248	0.250	mg/L	99	90-110	
Water	CRM	Uranium (U)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.00490	0.00500	mg/L	98	90-110	
Water	CRM	Vanadium (V)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.497	0.500	mg/L	99	90-110	
Water	CRM	Zinc (Zn)-Dissolved	WG662129-4	VA-HIGH-WATRM	0.499	0.500	mg/L	100	85-115	
Water	CRM	Mercury (Hg)-Dissolved	WG667253-2	VA-HG-WATRM	0.000091	0.000100	mg/L	91	88-112	
Water	MB	Aluminum (Al)-Dissolved	WG662129-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Antimony (Sb)-Dissolved	WG662129-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Arsenic (As)-Dissolved	WG662129-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Barium (Ba)-Dissolved	WG662129-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Beryllium (Be)-Dissolved	WG662129-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Bismuth (Bi)-Dissolved	WG662129-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Boron (B)-Dissolved	WG662129-1		<0.010	<0.01	mg/L	-	0.01	
Water	MB	Cadmium (Cd)-Dissolved	WG662129-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Calcium (Ca)-Dissolved	WG662129-1		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Chromium (Cr)-Dissolved	WG662129-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Cobalt (Co)-Dissolved	WG662129-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Copper (Cu)-Dissolved	WG662129-1		0.00036	<0.0001	mg/L	-	0.0001	A
Water	MB	Iron (Fe)-Dissolved	WG662129-1		<0.030	<0.03	mg/L	-	0.03	
Water	MB	Lead (Pb)-Dissolved	WG662129-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Lithium (Li)-Dissolved	WG662129-1		<0.0050	<0.005	mg/L	-	0.005	
Water	MB	Magnesium (Mg)-Dissolved	WG662129-1		<0.10	<0.1	mg/L	-	0.1	
Water	MB	Manganese (Mn)-Dissolved	WG662129-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Mercury (Hg)-Dissolved	WG662129-1		<0.000010	<0.00001	mg/L	-	0.00001	
Water	MB	Molybdenum (Mo)-Dissolved	WG662129-1		<0.000050	<0.00005	mg/L	-	0.00005	
Water	MB	Nickel (Ni)-Dissolved	WG662129-1		<0.00050	<0.0005	mg/L	-	0.0005	
Water	MB	Phosphorus (P)-Dissolved	WG662129-1		<0.30	<0.3	mg/L	-	0.3	
Water	MB	Potassium (K)-Dissolved	WG662129-1		<2.0	<2	mg/L	-	2	
Water	MB	Selenium (Se)-Dissolved	WG662129-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Silicon (Si)-Dissolved	WG662129-1		<0.050	<0.05	mg/L	-	0.05	
Water	MB	Silver (Ag)-Dissolved	WG662129-1		<0.000010	<0.00001	mg/L	-	0.00001	
Water	MB	Sodium (Na)-Dissolved	WG662129-1		<2.0	<2	mg/L	-	2	
Water	MB	Strontium (Sr)-Dissolved	WG662129-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Thallium (Tl)-Dissolved	WG662129-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Tin (Sn)-Dissolved	WG662129-1		<0.00010	<0.0001	mg/L	-	0.0001	
Water	MB	Titanium (Ti)-Dissolved	WG662129-1		<0.010	<0.01	mg/L	-	0.01	
Water	MB	Uranium (U)-Dissolved	WG662129-1		<0.000010	<0.00001	mg/L	-	0.00001	
Water	MB	Vanadium (V)-Dissolved	WG662129-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Zinc (Zn)-Dissolved	WG662129-1		<0.0010	<0.001	mg/L	-	0.001	
Water	MB	Mercury (Hg)-Dissolved	WG667253-1		<0.000010	<0.00001	mg/L	-	0.00001	