



March 27, 2008

Osisko Exploration Ltd.
2140 Saint-Mathieu
Montreal, Quebec
H3H 2J4

Attn: Mr. Jean Chateauneuf
Chief Metallurgist

**Re: Re: Interim Humidity Cell Test Report
Malartic Project
SGS Reference No. 11623-002**

Dear Mr. Chateauneuf:

SGS was contracted by Osisko Exploration Ltd. to complete acid rock drainage (ARD) testing on three tailings samples, designated as *GR Comp CN73/74* (GR Comp), *Overall Comp CN95/96* (OA Comp) and *Overall Comp CND2* (OA Comp CND2), from the Malartic project. The environmental characterisation program included modified acid base accounting (ABA) and humidity cell testing. Representative portions of the samples received were prepared and submitted for testing according to SGS Lakefield Research Standard Operating Procedures.

The modified ABA test provided quantification of the total sulphur, sulphide sulphur, and sulphate concentrations present and the potential acid generation (AP) related to the oxidation of the sulphide sulphur. The test method determined the neutralization potential (NP) of the sample by initiating a reaction with excess acid, then back titrating to pH 8.3 with NaOH. The balance between the AP and NP assists in defining the potential of the sample to generate acid drainage. In addition, quantification of the extent of carbonate mineral content permitted calculation of the theoretical carbonate NP.

Humidity cell testing is used to predict the potential for acidic leachate generation and the primary rates of reaction under aerobic weathering conditions. Humidity cell testing was initiated on the *OA Comp* and *OA Comp CND2 (-200 mesh)* tailings samples at the as received particle size according to the standard ASTM D5744 (2001) method. The 1000 gram (dry wt equivalent) tailings samples were

loaded into standard tailings test cells (203.2 mm (8") ID by 101.6 mm (4") high). The first leach was performed by flooding the tailings sample with 1000 mL of deionised water for one hour, followed by the collection of leachate for analyses. Subsequent stages of the humidity cell test involved three stages over a 7-day cycle: (1) dry air (which entered the bottom of the cell and flowed upward through the sample) was passed through the sample for 3 days; (2) humid air was passed through the cell in the same manner as the dry air for 3 days; and (3) on the last day of the cycle, deionised water was added through the top of the cell and allowed to flood the cell for one hour prior to the leachate being collected. The cycle is proposed to be repeated for a period of 20 weeks, after which time the test data will be re-evaluated and the need for further testing will be assessed.

Results of the environmental testwork completed to date are summarised in Tables 1 through 4.

Table 1 Modified ABA Test Results

Parameter	Unit	GR Comp CN73/74	Overall Comp CN95/96	Overall Comp CND2 (-200 Mesh)
Paste pH	units	10.03	10.00	9.72
NP ¹	t CaCO ₃ /1000 t	64.0	64.1	72.2
AP	t CaCO ₃ /1000 t	44.6	39.4	37.0
Net NP	t CaCO ₃ /1000 t	19.4	24.7	35.2
NP/AP	ratio	1.44	1.63	1.95
S	%	1.64	1.60	1.32
SO ₄	%	0.22	0.35	0.13
Sulphide	%	1.43	1.26	1.18
C	%	0.634	0.631	0.728
Carbonate	%	1.17	1.30	1.89
CO ₃ NP ²	t CaCO ₃ /1000 t	19.4	21.6	31.4
CO ₃ Net NP	t CaCO ₃ /1000 t	-25.2	-17.8	-5.6
CO ₃ NP/AP	Ratio	0.44	0.55	0.85
Classification	based on ABA NP ¹	uncertain	uncertain	uncertain
Classification	based on CO ₃ NP ²	PAG	PAG	PAG

¹ measured in ABA test

² theoretical, based on CO₃ content alone.

Green highlighting indicates Net NP values less than 20.

Orange highlighting indicates NP/AP ratios less than 3.

PAG - Potentially Acid Generating based on interpretation of ABA test data alone.

PAN - Potentially Acid Neutralizing based on interpretation of ABA test data alone.

uncertain - acid generation potential is uncertain based on interpretation of ABA test data alone.

Table 2 Weekly Leachate Results and Depletion Rates – Overall Comp CN95/96 Humidity Cell

Week	pH	Acidity	Alkalinity	Conductivity	SO ₄	Cum. S ⁼ Depletion	Cum. NP Depletion	Cum. CO ₃ NP Depletion
No.	units	CaCO ₃ eq. mg/L	CaCO ₃ eq. mg/L	µmhos/cm	mg/L	%	%	%
0	7.75	<2	31	210	36	0.07	0.04	0.12
1	7.74	18	32	269	56	0.23	0.14	0.42
2	7.55	<2	39	201	34	0.30	0.19	0.56
3	7.31	<2	31	170	36	0.39	0.24	0.72
4	7.51	<2	29	168	43	0.50	0.31	0.91
5	7.62	<2	29	161	46	0.61	0.38	1.12
6	7.50	<2	20	124	33	0.69	0.43	1.27
7	7.82	<2	18	114	34	0.78	0.48	1.41
8	7.69	<2	25	189	54	0.90	0.56	1.65
9	8.09	<2	43	352	150	1.28	0.79	2.33
10	7.82	<2	41	253	96	1.51	0.93	2.76
11	7.91	<2	34	237	73	1.68	1.03	3.06

Table 3 Dissolved Metal Concentrations – Overall Comp CN95/96 Humidity Cell

Parameter	Units	Dir. No. 019	0	1	2	3	4	5
pH	units	6-9.5	7.75	7.74	7.55	7.31	7.51	7.62
CN(T)	mg/L	1.00	2.84	0.94	0.42	< 0.01	0.16	0.11
CN _{WAD}	mg/L		0.15	0.22	< 0.1	< 0.01	< 0.1	< 0.1
CN(F)	mg/L		0.15	0.22	< 0.1	< 0.01	< 0.1	< 0.1
CNO	mg/L		1.0	< 0.1	< 0.1	< 1	< 0.1	< 0.1
CNS	mg/L		2.6	1.4	5.5	< 5	< 2	< 2
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
As	mg/L	0.20	0.0044	0.0005	0.0004	< 0.0002	0.0002	< 0.0002
Cu	mg/L	0.30	0.0393	0.0006	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Fe	mg/L	3.00	1.01	0.29	0.12	0.08	0.06	0.03
Ni	mg/L	0.50	0.108	0.0024	0.0011	0.0007	0.0011	0.0006
Pb	mg/L	0.20	0.00009	0.00007	0.00002	0.00004	0.00003	< 0.00002
Zn	mg/L	0.50	< 0.001	0.003	0.002	0.002	0.002	< 0.001

Table 3 (continued) Dissolved Metal Concentrations – Overall Comp CN95/96 Humidity Cell

Parameter	Units	Dir. No. 019	6	7	8	9	10	11
pH	units	6-9.5	7.50	7.82	7.69	8.09	7.82	7.91
CN(T)	mg/L	1.00	---	---	---	---	0.02	---
CN _{WAD}	mg/L		---	---	---	---	< 0.01	---
CN(F)	mg/L		---	---	---	---	< 0.02	---
CNO	mg/L		---	---	---	---	< 0.1	---
CNS	mg/L		---	---	---	---	< 2	---
Hg	mg/L		---	---	---	---	< 0.0001	---
As	mg/L	0.20	---	---	---	---	0.0003	---
Cu	mg/L	0.30	---	---	---	---	< 0.0005	---
Fe	mg/L	3.00	---	---	---	---	< 0.01	---
Ni	mg/L	0.50	---	---	---	---	0.0018	---
Pb	mg/L	0.20	---	---	---	---	0.00003	---
Zn	mg/L	0.50	---	---	---	---	0.002	---

Government du Quebec, Ministère de L'Environnement, 2005. Directive no. 019.

Table 4 Weekly Leachate Results and Depletion Rates – Overall Comp CND2 (-200 mesh) Humidity Cell

Week	pH	Acidity	Alkalinity	Conductivity	SO ₄	Cum. S ⁼ Depletion	Cum. NP Depletion	Cum. CO ₃ NP Depletion
No.	units	CaCO ₃ eq. mg/L	CaCO ₃ eq. mg/L	µmhos/cm	mg/L	%	%	%
0	7.60	<2	28	101	14	0.03	0.01	0.03
1	7.48	<2	21	91	15	0.07	0.04	0.09
2	8.21	<2	28	140	28	0.15	0.08	0.18
3	7.22	<2	11	74	15	0.19	0.10	0.22
4	7.40	<2	18	118	29	0.27	0.14	0.32
5	7.31	<2	14	96	28	0.34	0.17	0.40
6	7.49	<2	9	92	28	0.41	0.21	0.48
7	7.48	<2	8	85	28	0.48	0.25	0.57
8	7.09	<2	10	111	33	0.57	0.29	0.67
9	7.51	<2	11	69	21	0.62	0.32	0.73
10	7.16	<2	9	88	31	0.70	0.36	0.82
11	7.63	<2	10	129	44	0.81	0.41	0.95

Table 5 Dissolved Metal Concentrations – Overall Comp CND2 (-200 mesh) Humidity Cell

Parameter	Units	Dir. No. 019	0	1	2	3	4	5
pH	units	6-9.5	7.60	7.48	8.21	7.22	7.40	7.31
CN(T)	mg/L	1.00	0.99	0.13	< 0.1	0.010	< 0.1	< 0.1
CN _{WAD}	mg/L		0.04	0.05	< 0.1	< 0.01	< 0.1	< 0.1
CN(F)	mg/L		0.04	0.05	< 0.1	< 0.01	< 0.1	< 0.1
CNO	mg/L		1.2	0.4	0.6	< 1	0.2	< 0.1
CNS	mg/L		< 2	0.3	< 2	< 5	< 2	< 2
Hg	mg/L		< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
As	mg/L	0.20	0.0019	0.0003	0.0005	< 0.0002	< 0.0002	< 0.0002
Cu	mg/L	0.30	0.0117	0.0097	0.0069	0.0051	0.0040	0.0041
Fe	mg/L	3.00	0.40	0.05	0.03	0.03	0.01	< 0.01
Ni	mg/L	0.50	0.0003	0.0003	0.0004	0.0001	0.0003	< 0.0001
Pb	mg/L	0.20	0.00013	0.00010	0.00006	0.00004	0.00003	0.00004
Zn	mg/L	0.50	< 0.001	0.002	0.002	< 0.001	< 0.001	< 0.001

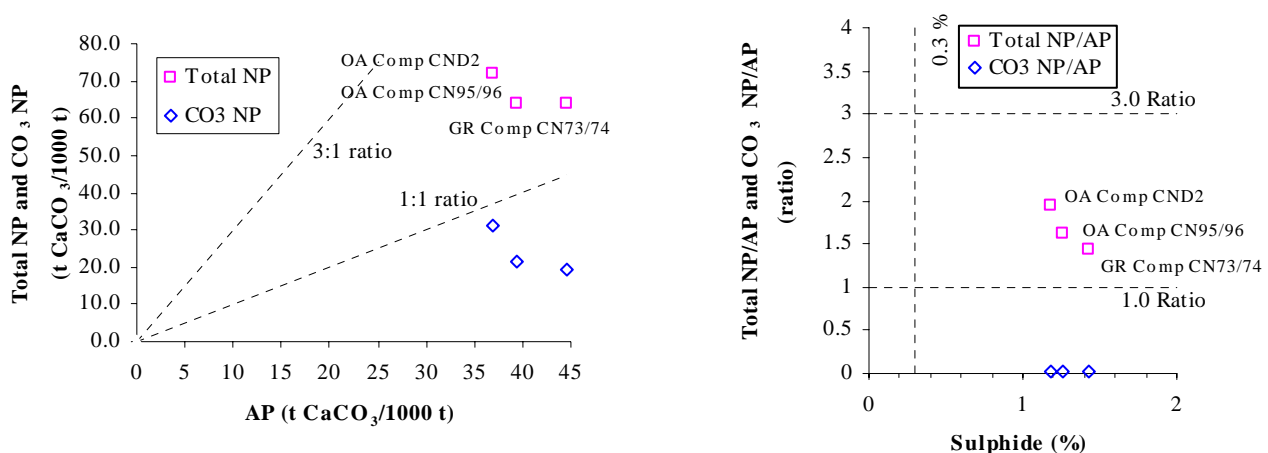
Table 5 (cont.) Dissolved Metal Concentrations – Overall Comp CND2 (-200 mesh) Humidity Cell

Parameter	Units	Dir. No. 019	6	7	8	9	10	11
pH	units	6-9.5	7.49	7.48	7.09	7.51	7.16	7.63
CN(T)	mg/L	1.00	---	---	---	---	0.03	---
CN _{WAD}	mg/L		---	---	---	---	< 0.01	---
CN(F)	mg/L		---	---	---	---	< 0.02	---
CNO	mg/L		---	---	---	---	< 0.1	---
CNS	mg/L		---	---	---	---	< 2	---
Hg	mg/L		---	---	---	---	< 0.0001	---
As	mg/L	0.20	---	---	---	---	< 0.0002	---
Cu	mg/L	0.30	---	---	---	---	0.0047	---
Fe	mg/L	3.00	---	---	---	---	0.02	---
Ni	mg/L	0.50	---	---	---	---	0.0002	---
Pb	mg/L	0.20	---	---	---	---	0.00006	---
Zn	mg/L	0.50	---	---	---	---	0.002	---

Government du Québec, Ministère de L'Environnement. 2005. Directive no. 019.

Although ABA testing of the Osisko tailings samples suggested uncertain acid generation potential based on the total NP/AP ratios (1.44 to 1.95), and in the case of the *GR Comp* sample, total net NP value less than 20 t CaCO₃/1000 t; determination of the carbonate (CO₃) contents (1.17 to 1.89%) of the samples indicated that much of this total NP is from less reactive sources. Since carbonate minerals are typically the only minerals that can react at fast enough rates to counteract acidities released by sulphide mineral oxidation; the resultant negative CO₃ Net NP values (-5.6 to -25.2 t CaCO₃/1000 t) and CO₃ NP/AP ratios (0.44 to 0.85), coupled with the significant sulphide concentrations (1.18 to 1.43%), indicate the potential for acid generation. Comparisons of the total and CO₃ NP as compared to the AP and of the total and CO₃ NP/AP ratios versus sulphide are provided in Figure 1.

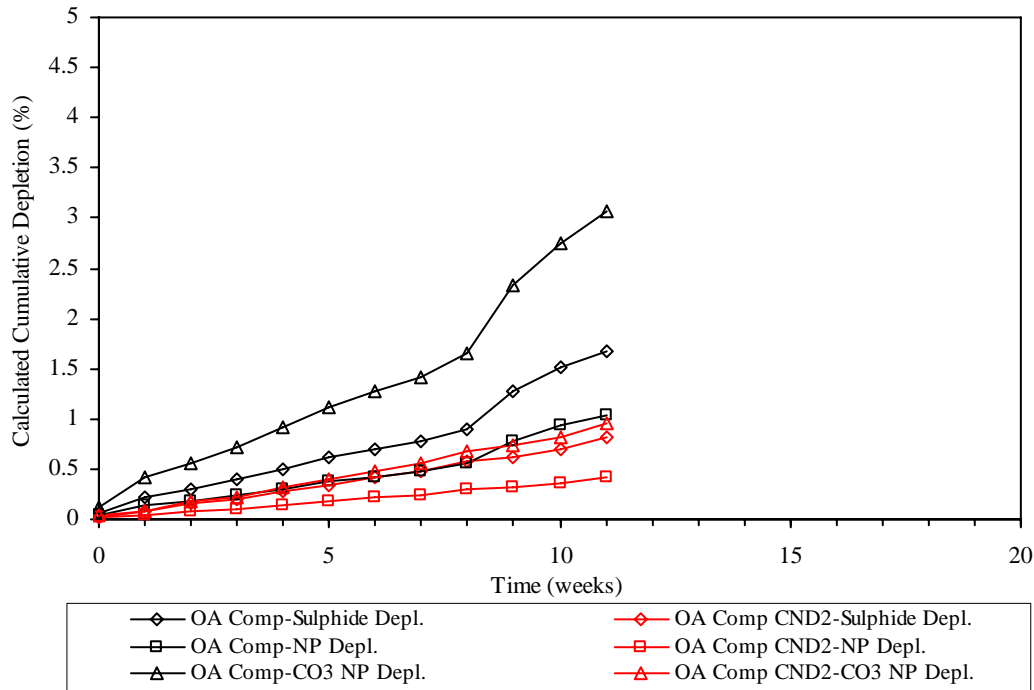
Figure 1 Modified ABA Test Results



After eleven weeks of leaching, calculated cumulative sulphide depletion rates of 1.68% (from 1.26 to 1.24% sulphide) and 0.81% (from 1.18 to 1.17% sulphide) were determined for the *OA Comp* and *OA Comp CND2* samples, respectively. Although the related total NP depletions (1.03 and 0.41%, respectively) suggest that the sulphide in these samples is depleting faster than the total NP, carbonate assays indicated that less than 45% of this total NP is related to carbonate mineralization. Since both the *OA Comp* and the *OA Comp CND2* samples contains significantly less CO₃ NP (in comparison to the total NP reported by the ABA test method), CO₃ NP depletion rates were also calculated. The resultant CO₃ NP depletion rates (3.06 and 0.95%, respectively) indicate that the CO₃ minerals in the *OA Comp* sample are depleting at a rate almost twice as fast the sulphides, while the CO₃ minerals in the *OA Comp*

CND2 sample are depleting at a rate slightly faster than the sulphides. The cumulative depletion rates calculated are shown in Figure 2.

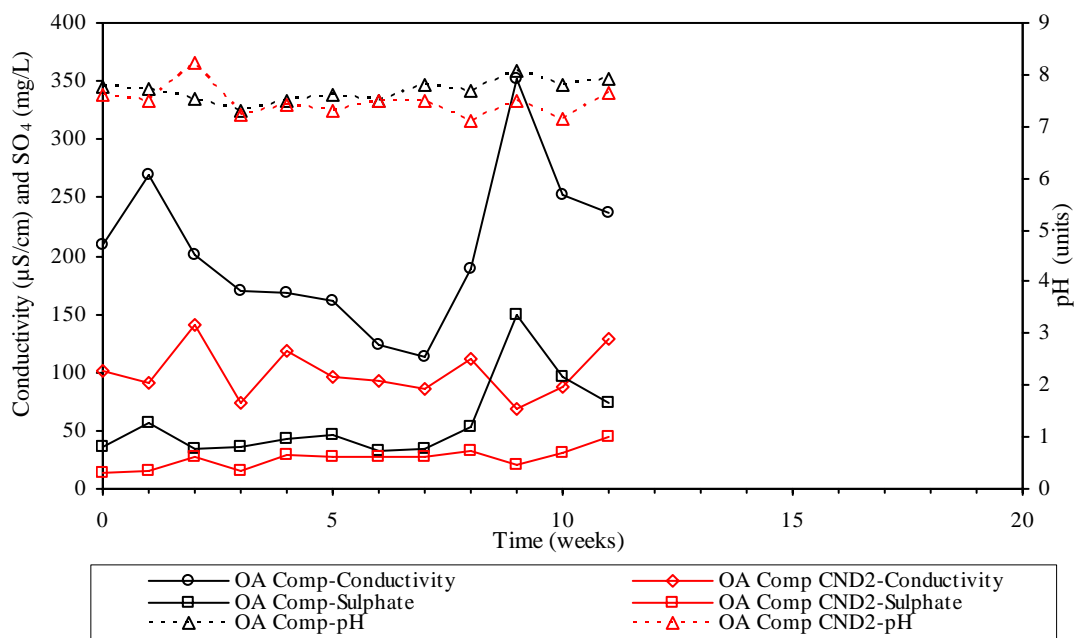
Figure 2 Humidity Cell Depletion Rates



Note: Graphs Y-axis formatted to 5%.

Although near neutral to slightly alkaline pH values have been maintained throughout the initial eleven weeks of testing, increasing concentrations of SO_4 are evident in the leachates. Acidity has typically remained below the analytical detection limit with the exception of an isolated occurrence of free acidity in the *OA Comp* Week 1 leachate. While moderate levels of alkalinity have been maintained in the *OA Comp* leachates, decreasing alkalinity has been observed in the *OA Comp CND2* leachates. Increased cyanide concentrations initially reported in the Week 0 leachates decreased to within the Directive No. 019 limits in the Week 1 leachates. All other Directive no. 019 controlled parameters were within the specified limits. Results of the weekly pH, conductivity and SO_4 analyses are illustrated in Figure 3.

Figure 3 Humidity Cell pH, Conductivity and Sulphate Concentrations



We trust that this summary report meets your needs at this time. If you have any question regarding the contents of this letter please contact the undersigned at (705) 652-2000 (ext. 2524) or by email at barbara_bowman@sgs.com.

Best regards,

SGS LAKEFIELD RESEARCH LIMITED
Minerals Services



Barbara Bowman
 Technologist, Environmental Testing

Attachment

c.c. Rob Caldwell, SGS

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