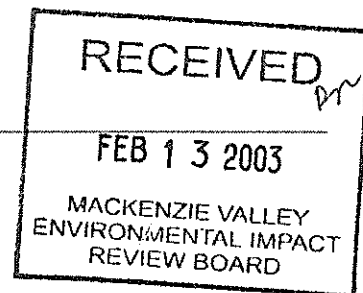


EA-SnapLake

From: Colleen English [colleen.english@ca.debeersgroup.com]
Sent: Thursday, January 30, 2003 4:16 PM
To: EA-SnapLake
Cc: Robin Johnstone
Subject: Electronic File of the 2002 Soil Sampling Program Report - Snap Lake
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Attached please find the 2002 Soil Sampling Program Report for Environmental Health in support of the De Beers Canada Mining Inc. Snap Lake Diamond Project. Please accept this as an electronic submission to the public registry.

If you have any questions, please feel free to contact me.

Sincerely,
~Colleen

Colleen English
Environmental Scientist
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5244

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FINAL REPORT ON

**2002 SOIL SAMPLING PROGRAM FOR
ENVIRONMENTAL HEALTH**

Submitted to:

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January 2003

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1 INTRODUCTION

In February 2002, De Beers Canada Mining Inc. (De Beers) submitted an Environmental Assessment (EA) for the Snap Lake Diamond Project to the Mackenzie Valley Environmental Impact Review Board (MVEIRB). The mitigation and monitoring section of the Environmental Health component of the EA (Section 11.3.2.5) included a commitment by De Beers to conduct further soil characterization and analysis to reduce the uncertainty associated with baseline exposure of aluminum by wildlife (De Beers 2002). In addition, baseline data were required to better characterize soil metals and polycyclic aromatic hydrocarbon (PAH) concentrations within 11 km of the Snap Lake Diamond Project. In August 2002, soil sampling was conducted and submitted for chemical analyses. This report describes the results of the soil sampling program and addresses the commitments made by De Beers in the EA.

1.1 OBJECTIVES

The objective of the soil sampling program was to answer two questions as follows:

- Question #1: What are the baseline concentrations of metals and PAHs in soil within 11 km of the proposed mine site?
- Question #2: How much aluminum in soil in the Local Study Area (LSA) and Regional Study Area (RSA) is available for uptake into animals?

Baseline data collected during the spring of 2001 did not include sampling locations within 11 km of the Snap Lake Diamond Project. Data from this area are necessary for comparison with the results of future monitoring programs (if necessary). In the EA, it was assumed that regional soil concentrations (i.e., 11 to 30 km from the mine) represent concentrations within the vicinity of the mine (i.e., within 11 km). While this was a sound assumption, it is possible that concentrations of some metals may be different in areas closer to the mine due to variations in geological conditions. Therefore, detailed baseline soil data for the area within the mine footprint and within 11 km of the mine footprint were collected in 2002.

In the EA, measured and predicted soil aluminum concentrations were estimated to have a potential health risk for some wildlife receptors in both the LSA and

RSA for baseline and application cases¹. However, the risk assessment assumed 100% availability. The calculated risk is likely to have been substantially overestimated because aluminum is naturally abundant in soil. Most naturally occurring aluminum is tightly bound to soil particles and not available for uptake by plants and wildlife. Because baseline data on soil characteristics that affect aluminum availability were not available, a conservative approach (i.e., assuming 100% availability) was used in the assessment. Aluminum availability in soil is dependent on soil pH, organic content, and the presence of cations such as magnesium. The amount of available aluminum present in soils from the Snap Lake area was quantified and used to re-calculate aluminum exposure in this report to provide a more realistic estimate of the risk from aluminum exposure.

1.2 STRUCTURE OF THE REPORT

The remainder of the report is structured as follows:

- Section 2, Field Program Methods, provides a description of the field sampling program conducted in August 2002.
- Section 3, Baseline Results, provides a summary of the results of the field program that address Question #1 and compares data obtained during the August 2002 field program with data obtained during the June 2001 field program.
- Section 4, Aluminum Bioavailability, provides a summary of the results of the field program that address Question #2. Results of the re-evaluation of wildlife exposures to aluminum are also presented.
- Section 5, Conclusions, provides a brief summary of the report.

¹ The baseline case assessment was based on exposure to chemical emissions from existing sources (i.e., naturally occurring and anthropogenic). The application case assessment was based on exposure to chemical emissions from the combination of baseline sources and the Snap Lake Diamond Project operational phase.

2 FIELD PROGRAM METHODS

Prior to the field investigation, sampling locations were randomly selected using a geographical information system (GIS) program that selected four sampling locations within three rings; 0 to 1 km, >1 to 5 km, and >5 to 11 km from the footprint boundary of the Snap Lake Diamond Project. The rings are arbitrary boundaries located at increasing distances from the project footprint to allow a comparison of concentration versus distance. Each of the four random sampling locations (identified as a green dot in Figure 1) within each ring is a plot. For example, there are four plots between the 5-km and 11-km rings. Within each plot, two or three soil samples were collected for metals and one sample was collected for PAH analysis. One quality assurance/quality control (QA/QC) split sample was collected within each ring.

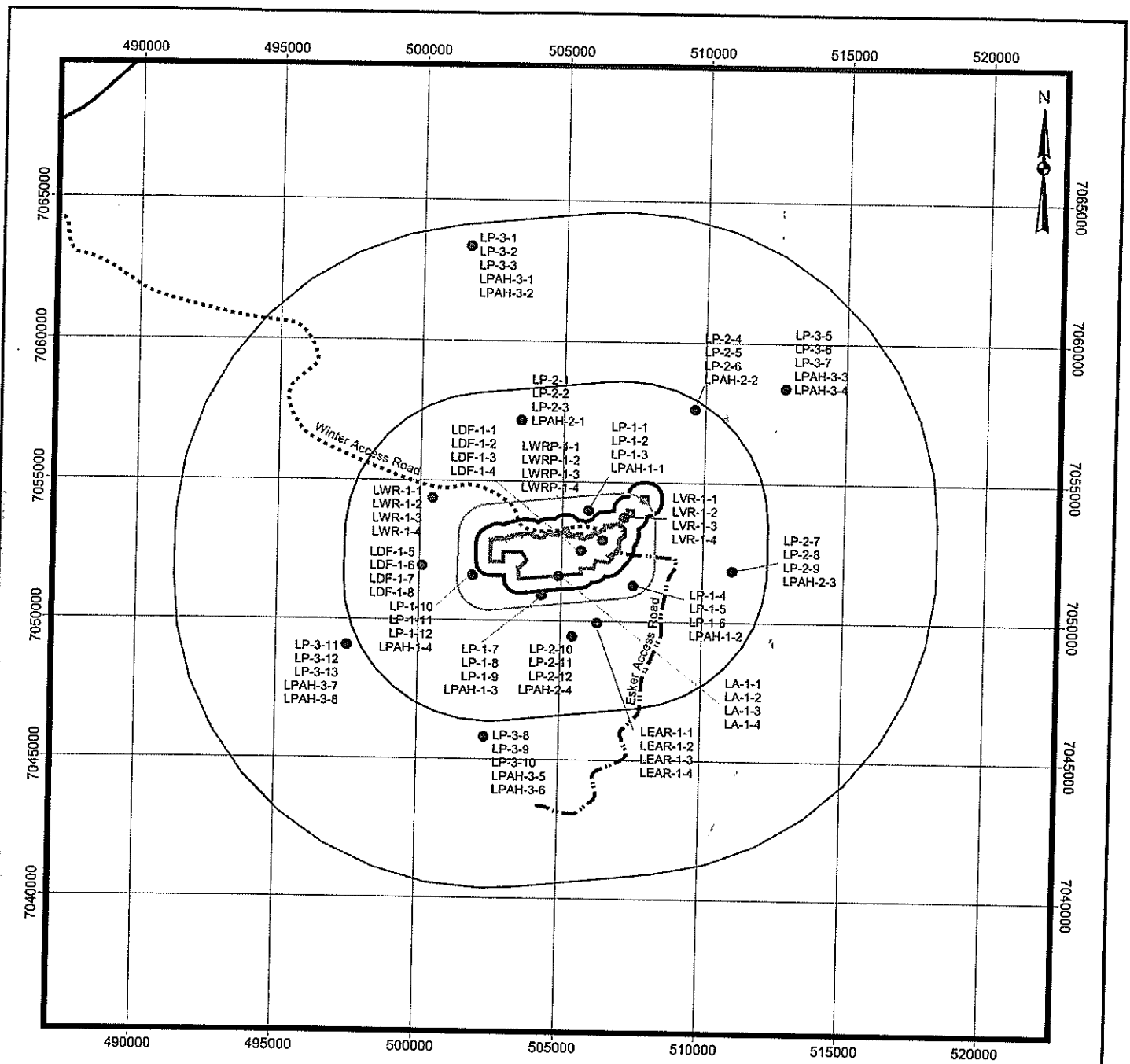
In addition, the following locations were systematically chosen as sampling locations (identified as purple dots in Figure 1) because they may be impacted by dust when the project is in operation:

- next to the airstrip;
- near the future north pile (i.e., waste rock storage);
- near the future vent raises on the north shore;
- near the dust fall monitoring locations within the mine footprint and in the reference location;
- near the esker access road; and
- near the winter access road.

One soil sample was collected at each of the systematic sampling locations with the exception of the future north pile where three samples were collected and the future vent raises where two samples were collected. No QA/QC samples were collected in the systematic sampling locations. Soil sampling locations are presented in Figure 1.

The soil sampling program was carried out between August 12 to 14, 2002. Methods used for the soil sampling program were based on Golder Standard Operating Procedures (Golder 1995) and on methods used previously for trace metals analyses (Golder 1998; Golder 2000). Detailed methods are presented in Appendix I. Briefly, a nylon trowel was used to collect all soil samples. The trowel was rinsed in 10% nitric acid and deionized water between each sample. Field staff wore nitrile gloves while collecting samples, and changed gloves between samples. Soil depth and type were recorded for each sample location. All samples were collected from the top 10 cm of the soil horizon. Samples were placed in plastic bags (for metals analysis) or glass jars (for PAH analysis) and stored in a cooler with ice packs until access to a refrigerator was possible. All

samples were stored at approximately 4°C until shipment to the laboratory. Samples were submitted to EnviroTest Laboratories (ETL) for analysis of total metals, major ions, PAHs, aluminum in saturated paste, cation exchange capacity, organic and inorganic carbon, and pH. Analytical methods, including QA/QC measures, are presented in Appendix II.

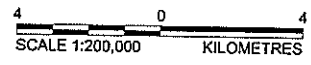


LEGEND

- 1 Km Ring
- 5 Km Ring
- 11 Km Ring
- Local Study Area Outline
- Lakes
- Project Footprint
- Tibbitt - Contwoyto Winter Road
- Winter Access Road
- Esker Access Road
- Random Lichen Sampling Locations
- Systematic Sampling Locations

REFERENCE

Digital map data from National Topographic Data Base (NTDB 1:250,000 scale).
Datum: NAD 83 Projection: UTM Zone 12 Imagery and land cover
information derived from Landsat TM (Bands 5,4,3) Image Date: Aug.2, 1994



PROJECT		DE BEERS	
TITLE		LICHEN SAMPLING LOCATIONS	
 Golder Associates Calgary, Alberta		PROJECT No. 022-2803.5700 DESIGN CR 29 Jan. 2003 GIS RD 29 Jan. 2003 CHECK CR 29 Jan. 2003 REVIEW SS 29 Jan. 2003	SCALE AS SHOWN REV. 2

FIGURE 1

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3 BASELINE RESULTS

This section provides a summary of the results of the field program that address Question #1: What are the baseline concentrations of metals and polycyclic aromatic hydrocarbons (PAHs) in soil within 11 km of the proposed mine site? It also compares data obtained during the August 2002 field program with data obtained during the June 2001 field program.

Concentrations of all samples collected during the 2002 field program are presented in Tables 1 to 6. Concentrations of metals were similar between the systematic sample locations and the random sample locations. Concentrations of PAHs were less than analytical detection limits for all samples except for naphthalene at the dustfall on-site location, and naphthalene and phenanthrene at the dustfall reference location. Naphthalene and phenanthrene were marginally above the detection limit in these two locations.

There was no apparent relationship between distance from the mine and concentration of metals (Figures I-1 to I-23 in Appendix III). This relationship could not be determined for mercury, selenium and silver since concentrations of these metals were mainly less than the detection limits.

To determine if the baseline data used in the EA were representative of soil concentrations within 11 km of the mine footprint, the 2002 data were compared with data collected in 2001 (i.e., data presented in the Snap Lake Diamond Project EA) using SYSTAT® and Statistix® statistics software packages. Since there was no relationship between distance from the mine and concentration of metals, the statistical tests were conducted only for the chemicals of concern (COCs) identified in the EA (i.e., aluminum, barium, chromium, manganese, strontium, thallium, and naphthalene). The COCs are the substances that are expected to increase in concentration during the operation of the Snap Lake Diamond Project. For a detailed description of the COC screening process, refer to Appendix XI, Section 4.1.2 of the EA (De Beers 2002).

The Lilliefors test for normality and the Bartlett's test for equal variances were used for each year of data. These tests indicated that the data were normally distributed and that the variability was similar for both years. Data from 2001 and 2002 were then compared using a one-way Analysis of Variance (ANOVA) to determine if the data from 2002 were statistically similar to the 2001 data used in the EA. There was no significant difference between the 2001 and 2002 data ($p > 0.05$), with the exception of aluminum and chromium. Concentrations of aluminum and chromium were significantly lower in 2002 than 2001 (i.e., concentrations were less within 11-km of the mine footprint).

Table 1 Concentrations of Metals at Systematic Sampling Locations, August 2002

Parameter	Concentration (mg/kg)										
	Detection Limits	Future Vent Raise		Dustfall - On Site	Airstrip	Dustfall - Reference	Waste Rock Pile			Winter Access Road	Esker Access Road
		SL-1-1 ¹	SL-1-2 ¹	SL-1-3 ¹	SL-1-4 ¹	SL-1-5 ¹	SL-1-6 ¹	SL-1-7 ¹	SL-1-8 ¹	SL-1-9 ¹	SL-1-10 ¹
Aluminum	50	7,330	7,800	4,500	9,650	14,800	6,430	10,400	9,420	15,500	13,100
Arsenic	0.5	<0.5	<0.5	1	0.7	1	0.6	0.9	0.6	2	<0.5
Barium	5	36	44	114	39	30	25	37	29	113	50
Beryllium	0.2	0.2	0.3	0.3	0.4	0.4	0.2	0.3	0.4	0.4	0.3
Boron	2	2	3	4	3	4	3	4	3	5	5
Cadmium	0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium	100	1,700	2,400	4,400	1,700	1,100	1,600	1,200	1,200	1,700	800
Chromium	0.2	13.6	18.8	3.9	19.4	28.5	14.2	22.7	18.1	49.8	32.5
Cobalt	0.1	3.7	4.3	3.8	5.9	4.8	3.8	5.2	4.4	8.5	5.6
Copper	2	7	9	14	16	9	11	12	10	19	9
Iron	200	9,400	10,500	4,000	14,300	19,000	9,500	11,400	11,100	22,800	14,600
Lead	0.5	2	2.5	3	2.7	3.4	2.3	3.1	2.4	4.3	3.1
Magnesium	10	3,990	4,260	2,010	5,490	5,630	3,850	4,610	4,120	7,530	5,420
Manganese	0.5	112	125	422	131	107	97.9	134	109	171	83.7
Mercury	0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum	0.1	0.3	0.5	0.8	0.9	0.7	0.8	0.6	0.5	1.2	0.6
Nickel	0.5	8.1	10.3	8.4	13.1	12.9	9.1	12.4	11	27.1	15.7
Potassium	20	1,230	1,500	1,280	970	720	640	1,170	710	2,850	1,110
Selenium	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sodium	20	80	110	160	120	130	110	110	100	120	90
Strontium	1	7	10	31	8	9	8	8	7	10	6
Thallium	0.05	0.08	0.09	0.09	0.08	0.09	<0.05	0.1	0.07	0.19	0.07
Tin	0.1	1	1.1	0.4	0.7	0.8	1.1	1.1	0.9	0.6	0.3
Titanium	0.5	639	736	270	685	767	610	718	703	812	695
Uranium	0.1	0.9	1.1	1	0.9	1.1	0.9	1.1	0.7	1.2	0.8
Vanadium	0.1	18.2	22.1	6	26.4	30.5	19.6	23.9	22.4	38.6	32.8
Zinc	5	32	35	76	41	29	26	45	33	49	36

¹ Sample identification in the De Beers' database includes zero placemarks (e.g., SL-001-001).

Table 2 Concentrations of Polycyclic Aromatic Hydrocarbons at Systematic Sampling Locations, August 2002

Parameter	Concentration (mg/kg)						
	Detection Limits	Future Vent Raise	Winter Access Road	Airstrip	Dustfall - On Site	Dustfall - Reference	Esker Access Road
		SPAH-1-1 ¹	SPAH-1-2 ¹	SPAH-1-3 ¹	SPAH-1-4 ¹	SPAH-1-4 ^{1,2}	SPAH-1-5 ¹
Benzo(a)anthracene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)pyrene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a,h)anthracene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Naphthalene	0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.01
Phenanthrene	0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01
Pyrene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Quinoline	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

¹ Sample identification in the De Beers' database includes zero placemarks (e.g., SPAH-001-001).

² Dustfall Reference location was accidentally given the same identification as the dustfall on-site sample. Samples were differentiated by date sampled.

Note: PAH analysis was not done for the Waste Rock Pile location because this area was sampled in 2001 and all PAHs were less than analytical detection limits.

Table 3 Concentrations of Metals at the Random Sampling Locations Within the 1-km Ring and Averages at Each Plot, August 2002

Parameter	Detection Limits	Concentration (mg/kg)													
		SL-2-1 ¹	SL-2-2 ¹	Average of Plot	SL-2-3 ¹	SL-2-4 ¹	SL-2-10 ^{1,2}	Average of Plot	SL-2-5 ¹	SL-2-6 ¹	Average of Plot	SL-2-7 ¹	SL-2-8 ¹	SL-2-9 ¹	Average of Plot
Aluminum	50	11,000	9,340	10,170	8,930	3,700	2,300	5,965	9,980	9,730	9,855	7,300	4,990	4,790	5,693
Arsenic	0.5	0.7	0.6	1	<0.5	<0.5	<0.5	<0.5	0.9	0.8	1	0.5	<0.5	<0.5	<0.5
Barium	5	37	32	35	30	174	151	96	28	43	36	69	72	49	63
Beryllium	0.2	0.4	0.3	0.4	0.3	0.2	<0.2	0.3	0.3	0.3	0.3	0.2	<0.2	<0.2	0.2
Bismuth	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	2	5	4	5	3	8	8	6	4	3	4	2	<2	<2	2
Cadmium	0.1	<0.1	<0.1	<0.1	0.1	0.6	0.5	0	<0.1	<0.1	<0.1	0.2	0.4	0.2	0.3
Calcium	100	1,800	1,600	1,700	1,600	2,900	3,500	2,400	1,400	1,100	1,250	2,100	2,200	1,300	1,867
Chromium	0.2	22.3	19.7	21	13	1.6	1	7	15.9	21.5	18.7	14.2	7	7.5	10
Cobalt	0.1	5.2	4.5	5	3.6	2.7	2.5	3	3.6	4.2	3.9	3.2	2.1	2.1	2
Copper	2	14	12	13	12	14	7	11	6	9	8	14	11	8	11
Iron	200	11,500	10,100	10,800	10,400	1,800	1,000	5,900	11,400	12,000	11,700	8,400	5,300	4,200	5,967
Lead	0.5	2.8	2.6	3	3.3	1.6	0.9	2	2.9	3.4	3.2	3.3	2.3	1.4	2
Magnesium	10	4,620	3,900	4,260	3,850	540	650	2,223	3,650	4,380	4,015	2,140	1,070	1,420	1,543
Manganese	0.5	111	97.1	104	92.4	13.9	9.8	52	85.9	98.9	92	67.2	36.5	39.2	48
Mercury	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1	0.06	0.09
Molybdenum	0.1	1	0.9	1	1.2	1.1	0.8	1	0.5	0.6	1	0.6	0.6	0.5	0.6
Nickel	0.5	13.1	11.2	12	9.5	7.5	5.7	8	8.4	11.7	10	10.9	7.9	8.1	9.0
Potassium	20	1,250	1,000	1,125	660	330	300	488	590	1,030	810	1,030	620	630	760
Selenium	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.2
Silver	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sodium	20	130	120	125	140	80	70	108	90	100	95	140	150	100	130
Strontium	1	9	8	9	8	53	69	35	7	7	7	14	18	11	14
Thallium	0.05	0.08	0.07	0.08	<0.05	<0.05	<0.05	<0.05	0.06	0.08	0.07	0.07	<0.05	<0.05	0.06
Tin	0.1	0.9	0.9	1	0.5	0.9	1	1	0.5	0.3	0.4	0.6	0.8	0.1	0.5
Titanium	0.5	688	621	655	613	81.2	40.6	337	572	769	671	493	301	169	321
Uranium	0.1	0.8	1	0.9	0.7	0.4	0.1	0.5	0.7	1	1	0.5	0.4	0.3	0.4
Vanadium	0.1	21.9	19.9	21	20.8	2.3	3.5	12	22	26.3	24	15.6	9.1	6.5	10.4
Zinc	5	34	31	33	26	37	40	32	23	32	28	43	36	26	35

¹ Sample identification in the De Beers' database includes zero placemarks (e.g., SL-002-001).

² QA/QC duplicate of SL-002-004.

Note: Average calculations for concentrations less than detection limits were based on the detection limit.

Table 4 Concentrations of Metals at the Random Sampling Locations Within the 5-km Ring and Averages at Each Plot, August 2002

Parameter	Detection Limits	Concentration (mg/kg)													
		SL-3-1 ¹	SL-3-2 ¹	Average of Plot	SL-3-3 ¹	SL-3-4 ¹	Average of Plot	SL-3-5 ¹	SL-3-6 ¹	SL-3-10 ^{1,2}	Average of Plot	SL-3-7 ¹	SL-3-8 ¹	SL-3-9 ¹	Average of Plot
Aluminum	50	14,100	12,000	13,050	13,900	9,060	11,480	12,100	7,930	9,370	10,375	7,820	5,570	8,770	7,387
Arsenic	0.5	1.5	1.2	1.4	<0.5	1.1	1	0.8	0.7	1	0.8	0.5	0.5	0.7	0.6
Barium	5	103	85	94	147	97	122	90	89	70	85	31	50	37	39
Beryllium	0.2	0.3	0.4	0.4	0.2	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.4	0
Bismuth	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	2	4	4	4	10	13	12	3	3	9	5	2	2	2	2
Cadmium	0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.3	0.6	0.5	0.4	0.1	0.2	0.1	0.1
Calcium	100	1,500	1,500	1,500	800	1,400	1,100	1,600	2,100	2,200	1,875	800	1,200	1,000	1,000
Chromium	0.2	46.7	37.8	42	41.2	10.8	26	5.6	3.2	4.9	5	16.8	9.6	17.9	15
Cobalt	0.1	8.4	6.8	8	5.7	3.2	4.5	2.9	3.9	4	3	4.2	2.1	4.3	4
Copper	2	19	17	18	8	11	10	15	11	11	13	18	15	8	14
Iron	200	20,500	15,300	17,900	13,500	7,700	10,600	6,300	4,300	6,000	5,725	10,200	9,500	11,600	10,433
Lead	0.5	3.9	4.2	4	3.9	3.8	4	3.4	2.4	3.4	3	2.7	4	3.4	3
Magnesium	10	7,230	6,330	6,780	5,780	2,320	4,050	610	750	920	723	3,860	1,490	3,750	3,033
Manganese	0.5	171	146	159	109	63.2	86	21.1	15.1	29.7	22	101	43.5	100	82
Mercury	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.07	0.07	0.07	<0.05	0.06	<0.05	0.05
Molybdenum	0.1	1	1.3	1	0.6	0.4	1	0.6	0.6	0.7	0.6	0.6	0.8	0.6	0.7
Nickel	0.5	26.3	20.8	24	17.3	8.9	13	6.8	6.4	6.6	6.7	10.2	6.6	10.8	9
Potassium	20	4,020	3,450	3,735	4,350	1,360	2,855	420	600	710	538	630	480	700	603
Selenium	0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.2	0.4	0.4	0.3	0.4	<0.2	0.2	<0.2	0.2
Silver	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sodium	20	130	140	135	180	170	175	130	120	140	130	80	90	120	97
Strontium	1	7	7	7	11	19	15	24	32	23	26	5	10	9	8
Thallium	0.05	0.19	0.17	0.18	0.17	0.09	0.13	<0.05	<0.05	<0.05	<0.05	0.07	0.06	0.07	0.07
Tin	0.1	0.8	1	0.9	0.3	<0.1	0.2	0.2	0.7	0.6	0.4	1	0.7	1.1	1
Titanium	0.5	740	665	703	862	392	627	190	162	205	187	590	641	674	635
Uranium	0.1	1.4	1.4	1	0.9	1	1	2.1	1.1	1.4	1.7	0.9	0.7	1	0.9
Vanadium	0.1	36	31.2	34	35.4	17.5	26	4.4	4.1	5	4.5	21.6	22.8	25.3	23
Zinc	5	47	42	45	44	31	38	19	23	25	22	40	32	34	35

¹ Sample identification in the De Beers' database includes zero placemarks (e.g., SL-003-001).

² QA/QC duplicate of SL-003-006.

Note: Average calculations for concentrations less than detection limits were based on the detection limit.

Table 5 Concentrations of Metals at the Random Sampling Locations Within the 11-km Ring and Averages at each Plot, August 2002

Parameter	Detection Limits	Concentration (mg/kg)													
		SL-4-1 ¹	SL-4-2 ¹	SL-4-10 ^{1,2}	Average of Plot	SL-4-3 ¹	SL-4-4 ¹	SL-4-5 ¹	Average of Plot	SL-4-6 ¹	SL-4-7 ¹	Average of Plot	SL-4-8 ¹	SL-4-9	Average of Plot
Aluminum	50	16,400	13,200	13,300	14,825	16,200	9,650	8,970	11,607	5,050	5,950	5,500	12,100	13,100	12,600
Arsenic	0.5	2.5	1.9	1.9	2	7.5	0.7	0.8	3	<0.5	<0.5	<0.5	1.4	1.5	1
Barium	5	72	73	68	71	333	24	26	128	14	23	19	75	83	79
Beryllium	0.2	0.5	0.4	0.4	0.4	0.8	0.3	0.3	0.5	<0.2	<0.2	<0.2	0.6	0.6	1
Bismuth	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	0.6	<0.5	0.6	0.6	<0.5	<0.5	<0.5
Boron	2	12	5	7	9	8	3	5	5	3	6	5	3	3	3
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium	100	1,800	1,700	1,400	1,675	8,600	1,400	1,700	3,900	1,400	1,900	1,650	1,200	1,200	1,200
Chromium	0.2	48.2	35.4	34.6	42	27.2	16.4	14.9	20	6.8	7.2	7	52.2	54.9	54
Cobalt	0.1	7.5	5.7	5.6	7	8.7	2.9	3.6	5	2.3	2.4	2	7.3	8.1	8
Copper	2	13	12	13	13	20	19	22	20	12	12	12	14	16	15
Iron	200	18,500	14,700	17,800	17,375	21,000	12,500	11,900	15,133	5,600	5,900	5,750	15,400	16,300	15,850
Lead	0.5	4.1	4.1	4.5	4	10.9	7.6	4.9	8	1.4	1.7	2	4.2	4.2	4
Magnesium	10	7,130	5,470	5,440	6,293	3,970	3,040	3,380	3,463	2,390	2,420	2,405	6,810	7,440	7,125
Manganese	0.5	173	120	115	145	159	83.5	95.6	113	59.2	64.7	62	174	178	176
Mercury	0.05	0.53	<0.05	<0.05	0.3	0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum	0.1	0.7	0.8	0.8	0.8	0.8	0.6	0.5	0.6	0.4	0.3	0.4	0.5	0.5	0.5
Nickel	0.5	21	17.5	16.9	19	28.2	7.2	6.9	14	4.9	6	5	25.2	27.1	26
Potassium	20	4,210	1,960	1,720	3,025	2,600	600	560	1,253	510	700	605	2,030	2,330	2,180
Selenium	0.2	<0.2	<0.2	<0.2	<0.2	0.7	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sodium	20	220	120	110	168	330	120	100	183	120	220	170	150	150	150
Strontium	1	11	13	11	12	60	11	10	27	4	7	6	10	10	10
Thallium	0.05	0.29	0.13	0.12	0.21	0.22	0.09	0.1	0.14	<0.05	<0.05	<0.05	0.18	0.19	0.19
Tin	0.1	5.5	0.5	0.5	3	<0.1	0.3	0.2	0.2	0.8	0.6	0.7	1	1	1
Titanium	0.5	976	784	764	875	4.1	690	569	421	272	299	286	1020	1090	1,055
Uranium	0.1	1.5	1.1	1.2	1	1.2	1.8	2.8	2	0.5	0.6	0.6	2.1	2.4	2.3
Vanadium	0.1	39.6	31.7	31.8	36	38.8	28.4	24.7	31	9.4	11.6	10.5	37	39.5	38
Zinc	5	54	35	38	45	119	32	50	67	19	19	19	46	49	48

¹ Sample identification in the De Beers' database includes zero placemarks (e.g., SL-004-001).

² QA/QC duplicate of SL-004-002.

Note: Average calculations for concentrations less than detection limits were based on the detection limit.

Table 6 Concentrations of Polycyclic Aromatic Hydrocarbons at the Random Sampling Locations Within the 1-km, 5-km and 11-km Rings, August 2002

Parameter	Detection Limits	Concentration (mg/kg)											
		1-km Ring				5-km Ring				11-km Ring			
		SPAH-2-1 ¹	SPAH-2-2 ¹	SPAH-2-3 ¹	SPAH-2-4 ¹	SPAH-3-1 ¹	SPAH-3-2 ¹	SPAH-3-3 ¹	SPAH-3-4 ¹	SPAH-4-1 ¹	SPAH-4-2 ¹	SPAH-4-3 ¹	SPAH-4-4 ¹
Benzo(a)anthracene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)pyrene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(a,h)anthracene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Naphthalene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pyrene	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Quinoline	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

¹ Sample identification in the De Beers' database includes zero placemarks (e.g., SPAH-002-001).

The average 2002 baseline concentrations and standard deviations based on the random sampling data are presented in Table 7. Average concentrations were calculated by determining an average for each plot and then calculating the average of all the plots.

Table 7 Average Concentration of August 2002 Random Sample Location Data and Standard Deviation

Parameter	Detection Limits (mg/kg)	Average Concentration (mg/kg)	Standard Deviation (mg/kg)
Metals			
Aluminum	50	8,517	4,405
Arsenic	0.5	1.23	1.31
Barium	5	71	59
Beryllium	0.2	0.33	0.16
Bismuth	0.5	0.50	0.12
Boron	2	4.38	3.23
Cadmium	0.1	0.29	0.23
Calcium	100	1,704	1,348
Chromium	0.2	18.6	16.3
Cobalt	0.1	4.02	2.22
Copper	2	12	5
Iron	200	9,575	5,835
Lead	0.5	3.26	1.96
Magnesium	10	3,185	2,298
Manganese	0.5	80.37	53.86
Mercury	0.05	0.08	0.10
Molybdenum	0.1	0.61	0.29
Nickel	0.5	11.42	7.56
Potassium	20	1,274	1,204
Selenium	0.2	0.24	0.17
Silver	0.1	0.1	(all values are at or less than detection limit)
Sodium	20	123	59
Strontium	1	15	15
Thallium	0.05	0.12	0.09
Tin	0.1	0.73	0.86
Titanium	0.5	478	314
Uranium	0.1	1.01	0.65
Vanadium	0.1	19	13
Zinc	5	34	19
PAHs			
Benzo(a)anthracene	0.01	<0.01	(all values are less than detection limits)
Benzo(a)pyrene	0.01	<0.01	
Benzo(b)fluoranthene	0.01	<0.01	
Benzo(k)fluoranthene	0.01	<0.01	
Dibenzo(a,h)anthracene	0.01	<0.01	
Indeno(1,2,3-cd)pyrene	0.01	<0.01	
Naphthalene	0.01	<0.01	
Phenanthrene	0.01	<0.01	
Pyrene	0.01	<0.01	
Quinoline	0.01	<0.01	

4 ALUMINUM BIOAVAILABILITY

This section provides a summary of the results of the field program that address Question #2: How much aluminum in soil in the LSA and RSA is available for uptake into animals? In addition to the standard total metals analysis, all of the soil samples collected were analyzed by saturated paste extraction for aluminum. Soil analysis for total metals requires preparation of the samples with strong acid solutions that essentially strip tightly bound metals from the soil grains. The saturated paste method uses water for the preparation of the sample, which simulates removal of only those metals that are water soluble and in the form that can be readily taken up by animals. Therefore, an adjustment can be made to the exposure calculations used to predict risks in the EA to estimate a more realistic aluminum exposure.

Results of the analysis of aluminum by both the saturated paste extraction and the total analysis are presented in Table 8. Concentrations of soluble aluminum range from 0.48 to 6.95 mg/L (equivalent to mg/kg). These values represent less than 0.06% of the total aluminum present in the soils and are typical of soils with similar pH and organic matter content (Kabata-Pendias 2001). While available aluminum concentrations are usually higher in acid soils, there was no correlation of the saturated paste results with pH (Appendix IV). The lack of correlation with pH indicates that other parameters such as organic matter content and cation exchange capacity are also acting to reduce aluminum availability (Kabata-Pendias 2001). Therefore, available aluminum is only a small proportion of the total aluminum measured in these soils.

Based on the reduced availability and the lower baseline concentration measured during the 2002 field season, risk estimates due to aluminum exposure were recalculated for caribou, grizzly bear, wolverine, Arctic ground squirrel and ptarmigan (i.e., value ecosystem components [VECs] for which risks were predicted in the EA).

The risk estimates were calculated using the same methods described in Appendix XI, Section 3 of the EA (De Beers 2002). Briefly, exposure was calculated for each VEC according to the amount of time they spend in the area, food and soil ingestion rates, and body weight. The exposure was compared with a toxicity benchmark provided from toxicity studies using laboratory animals. The product of the comparison is called an exposure ratio (ER). The ER is calculated using the following equation:

$$\text{ER} = \text{Estimated Exposure} \div \text{Benchmark Dose}$$

Table 8 Concentration of Aluminum in Soil by Saturated Paste Extraction Compared with Total Aluminum Concentrations

Sample Location	Sample Location Description	Aluminum Concentration in Saturated Paste (mg/L)	Total Aluminum Concentration (mg/kg)	Percent Available Aluminum (%)
SL-1-1	Future Vent Raise	3.14	7,330	0.04
SL-1-2	Future Vent Raise	3.59	7,800	0.05
SL-1-3	Dust Fall - On-site	2.37	4,500	0.05
SL-1-4	Airstrip	5.43	9,650	0.06
SL-1-5	Dust Fall - Reference	0.48	14,800	0.003
SL-1-6	Waste Rock Pile	2.97	6,430	0.05
SL-1-7	Waste Rock Pile	2.41	10,400	0.02
SL-1-8	Waste Rock Pile	2.29	9,420	0.02
SL-1-9	Winter Access Road	4.78	15,500	0.03
SL-1-10	Esker Access Road	2.33	13,100	0.02
SL-2-1	1 km Ring	1.79	11,000	0.02
SL-2-2	1 km Ring	1.92	9,340	0.02
SL-2-3	1 km Ring	3.15	8,930	0.04
SL-2-4	1 km Ring	1.30	3,700	0.04
SL-2-5	1 km Ring	2.20	9,980	0.02
SL-2-6	1 km Ring	3.18	9,730	0.03
SL-2-7	1 km Ring	2.49	7,300	0.03
SL-2-8	1 km Ring	2.77	4,990	0.06
SL-2-9	1 km Ring	2.14	4,790	0.05
SL-2-10	1 km Ring	0.96	2,300	0.04
SL-3-1	5 km Ring	3.92	14,100	0.03
SL-3-2	5 km Ring	6.95	12,000	0.06
SL-3-3	5 km Ring	3.96	13,900	0.03
SL-3-4	5 km Ring	3.49	9,060	0.04
SL-3-5	5 km Ring	1.03	12,100	0.009
SL-3-6	5 km Ring	3.90	7,930	0.05
SL-3-7	5 km Ring	1.95	7,820	0.03
SL-3-8	5 km Ring	3.51	5,570	0.06
SL-3-9	5 km Ring	2.02	8,770	0.02
SL-3-10	5 km Ring	4.96	9,370	0.05
SL-4-1	11 km Ring	4.52	16,400	0.03
SL-4-2	11 km Ring	2.47	13,200	0.02
SL-4-3	11 km Ring	2.01	16,200	0.01
SL-4-4	11 km Ring	1.40	9,650	0.02
SL-4-5	11 km Ring	1.07	8,970	0.01
SL-4-6	11 km Ring	1.51	5,050	0.03
SL-4-7	11 km Ring	3.14	5,950	0.05
SL-4-8	11 km Ring	1.42	12,100	0.01
SL-4-9	11 km Ring	2.25	13,100	0.02
SL-4-10	11 km Ring	2.26	13,300	0.02

ERs less than one indicate that exposures to COCs are unlikely to cause adverse effects to wildlife. An ER greater than one indicates that there is a potential for adverse effects on wildlife.

All assumptions used in the EA were also used for the re-calculation of ERs, except the assumption for aluminum availability, which was adjusted based on the data collected in 2002. Aluminum availability from soil was conservatively assumed to be 1% to account for additional available aluminum that may not have been captured by the saturated paste method. This is a very conservative assumption since the saturated paste method is well-recognized method for estimation of availability (Abboud, pers. comm; Kabata-Pendias 2001). The re-calculation of risk also included 2002 data for vascular plants and lichen, which were collected at the same time as the soil and are presented in Appendix V.

The comparison between the ERs presented in the EA and the ERs calculated based on the 2002 data are presented in Tables 9 and 10.

Table 9 Comparison Between Estimated Risks for Aluminum Presented in the EA and Re-Calculated Estimated Risks Based on 2002 Data for Wildlife That Inhabit Both the Local Study Area and Regional Study Area

Valued Ecosystem Component	Baseline		Application	
	2001	2002	2001	2002
Caribou	1.4	0.8	1.4	0.8
Grizzly Bear	1.6	0.1	1.9	0.1
Wolverine	1.2	0.01	1.2	0.01

Table 10 Comparison Between Estimated Risks for Aluminum Presented in the EA and Re-Calculated Estimated Risks Based on 2002 Data for Wildlife that Live Entirely Within the Local Study Area or Regional Study Area

Valued Ecosystem Component	Local Study Area				Regional Study Area			
	Baseline		Application		Baseline		Application	
	2001	2002	2001	2002	2001	2002	2001	2002
Arctic ground squirrel	6.3	0.6	7.7	0.6	6.3	0.6	7.7	0.6
Ptarmigan	0.9	0.06	1.0	0.06	0.9	0.06	1.0	0.06

ERs are less than one for all VECs for both baseline and application case exposures to aluminum. These ERs were calculated using more realistic exposure assumptions than used for the EA (i.e., adjustment for availability of aluminum from soil). In addition, Arctic ground squirrel, ptarmigan, and grizzly bear exposures were based on aluminum concentrations in vascular plants rather than lichen (i.e., lichen was assumed in the EA).

These re-calculated ERs supercede those presented in the EA. The VECs for which new ERs were calculated are considered to be representative of all of the VECs evaluated in the EA since their intake of plants and soils is greater than the other VECs.

The new ERs using updated baseline data and more realistic bioavailability assumptions show that wildlife health risks are not expected to occur due to the operation of the Snap Lake Diamond Project.

5 CONCLUSIONS

During the August 2002 Environmental Health field program, soil samples were collected and submitted to ETL for chemical analyses. The purpose of the program was to address commitments made by De Beers in the EA and to answer two questions:

- Question #1: What are the baseline concentrations of metals and PAHs in soil within 11 km of the proposed mine site?
- Question #2: How much aluminum in soil in the LSA and RSA is available for uptake into animals?

The baseline concentrations of metals and PAHs in soils in the Local Study Area (LSA) are provided in Tables 1 to 7. There was no significant difference between the 2001 (Regional Study Area) and 2002 (LSA) baseline data. The exceptions were concentrations of aluminum and chromium, which were significantly lower in 2002 than 2001. The 2002 data illustrate the importance of establishing the local (<11 km) baseline concentrations prior to future monitoring programs. The data indicate that different geological conditions within the LSA have produced lower baseline concentrations of aluminum and chromium than in the RSA.

Aluminum availability is less than 1% in soil samples collected in 2002. Based on the reduced availability and lower baseline concentrations measured in 2002, potential risks due to aluminum exposures were re-calculated for caribou, grizzly bear, wolverine, Arctic ground squirrel, and ptarmigan. All ERs are less than one for all VECs for both baseline and application case exposures to aluminum (i.e., exposure is calculated to be less than the toxicity benchmark). Therefore, wildlife health risks are not expected to occur due to the operation of the Snap Lake Diamond Project.

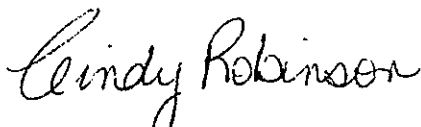
Chromium ERs were not re-calculated since all ERs were less than 1 in the EA. The ERs in the EA were produced using the higher 2001 baseline data. Therefore, any re-calculated ERs would remain less than 1 using 2002 data.

6 CLOSURE

We trust the above meets your present requirements. If you have any questions or require additional details, please contact the undersigned.

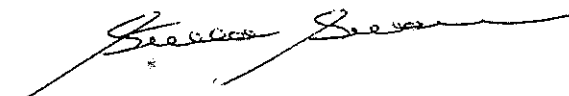
GOLDER ASSOCIATES LTD.

Report prepared by:

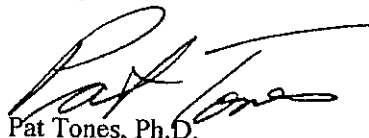


Cindy Robinson, B.Sc.
Toxicologist

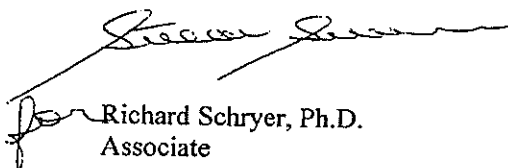
Report reviewed by:



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Principal



Pat Tones, Ph.D.
Associate



Richard Schryer, Ph.D.
Associate

7 REFERENCES

Abboud, Salim. 2002. Research Scientist, Alberta Research Council. Personal Communication with Dale Doram of Golder Associates.

De Beers (De Beers Canada Mining Inc.). 2002. Snap Lake Diamond Project Environmental Assessment Report. Submitted to the Mackenzie Valley Environmental Impact Review Board, Yellowknife.

Golder (Golder Associates Ltd.). 1995. Field Procedures for Contaminated Sites Program.

Golder (Golder Associates Ltd.). 1998. Task 5 Interim Report on Determination of Background Levels. Submitted to: Technical/Project Authority for Public Works.

Golder (Golder Associates Ltd.). 2000. Terrestrial Ecological Risk Assessment for Blackbird Mine / Panther Creek Lemhi County, Idaho. Submitted to Blackbird Mine Site Group.

Kabata-Pendias, A. 2001. Trace Elements in Soils and Plants. Third Edition. CRC Press, Boca Raton.

APPENDIX I
SOIL SAMPLING METHODS



**GOLDER ASSOCIATES LTD.
SPECIFIC WORK INSTRUCTIONS**

SPECIFIC WORK INSTRUCTIONS		SWI No: 3
Project: DeBeers EIA		
Date: August 1, 2002		
Author: Cindy Robinson		Project Manager: Dave Caughill
To: Conrad Pilon		
cc: File	File No.:	
Subject: Soil Sampling for Chemical Analysis		Job/Task No.: 5700
Scope of Work/Specific Instructions:		
Objective: The objective of the soil sampling is to determine metal and PAH concentrations in areas within 11 km of the site.		
Supplies: Clean ziploc sample bags. Glass sample jars. Disposable nitrile gloves. Plastic (nylon) trowel. Pre-printed labels and extra labels. Dry J-cloths. Cooler.		
Sampling Instructions:		
1) Label ziploc bags and glass jars with the sample number (as identified in the attached sample number list), location and date.		
2) Use nitrile gloves for all contact with soil and change gloves between samples.		
3) Clean trowel with a J-cloth soaked with 10% nitric acid (5% nitric acid is fine if that is what is available at the mine site) and then with another J-cloth soaked in distilled water. Dry the trowel with a clean J-cloth.		
4) Using the trowel test for soil depth. Record soil depth. Take the sample from the full soil depth if less than 10 cm deep. If greater than 10 cm, take the sample from the top 10 cm layer. Record the soil characteristics (see attached soil sample identification form). Note GPS location. Take close-up photo of soil sample site. Fill the ziploc bag ¼ to ½ full with soil (at least 200 g). And fill a labelled jar.		
5) Squeeze air out of the bag and seal closed. Place inside another ziploc bag, place a more detailed paper label inside the outer bag and seal closed.		
6) In between samples, clean the trowel with a J-cloth soaked with 10% nitric acid (or 5%) and then with another J-cloth soaked in distilled water. Dry the trowel with a clean J-cloth.		
7) If possible, bring a cooler and ice packs with you in the field to store the samples in during the day. Soil samples must be packed in a cooler with ice packs for transport to the lab. If there is no space for a cooler, place samples in a clean garbage bag and keep as cool as possible.		

8) At one sample site, collect a QA/QC split sample. Specify which sample is split in field notes. Mix the sample by stirring and shaking in the bag. Split and label the two bags and two jars using the same sample number scheme as for regular samples.

Precautions: Make sure soil is always handled by gloved hands and never by anything made of metal (unless thoroughly acid washed). Change gloves between samples.

Sampling Locations:

- 1) Collect 2 soil samples from each of the lichen sampling locations (i.e., each plot) unless there is no soil available (i.e., boulder/bedrock areas). At one plot collect 3 soil samples.
- 2) You may have to collect soil from more than one area if the only soil occurs as a thin deposit in the lee of boulders, or at the base of a few dwarf shrubs. You may have to obtain soil from underneath a clump of grasses or shrubs, or from underneath the lichen. Note if soils taken from underneath vegetation. Note depth of roots.

Shipment:

Ship samples, packed with ice packs, to:

Enviro-Test Laboratories
9936 67 Ave
Edmonton, AB
T6E 0P5

Include DeBeers chain of custody form.

Work Product(s) Due By:

Allocated Manhours:

Subcontractor (as applicable):

Special Handling Requirements:

Applicable Specs. and Procedures:

Project Manager Approval/Date:

QA Manager/Date:

Sample Description	Sample Number	Analysis and Container
Vent Raise 1	SL-001-001	Metals - Plastic bag
Vent Raise 2	SL-001-002	Metals - Plastic bag
Crusher	SL-001-003	Metals - Plastic bag
Airstrip	SL-001-004	Metals - Plastic bag
Mine Portal	SL-001-005	Metals - Plastic bag
Waste Rock Pile	SL-001-006	Metals - Plastic bag
Waste Rock Pile	SL-001-007	Metals - Plastic bag
Waste Rock Pile	SL-001-008	Metals - Plastic bag
Winter Road	SL-001-009	Metals - Plastic bag
Esker Access Road	SL-001-010	Metals - Plastic bag
Vent Raise – PAH sample	SPAH-001-001	PAHs – Glass jar
Road - PAH sample	SPAH-001-002	PAHs – Glass jar
Mine Portal - PAH sample	SPAH-001-003	PAHs – Glass jar
Area in 1 km radius from edge of site	SL-002-001	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-002	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-003	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-004	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-005	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-006	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-007	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-008	Metals - Plastic bag
Area in 1 km radius from edge of site	SL-002-009	Metals - Plastic bag
Area in 1 km radius from edge of site – QA/QC split	SL-002-010	Metals - Plastic bag
Area in 1 km radius from edge of site – PAH sample	SPAH-002-001	PAHs – Glass jar
Area in 1 km radius from edge of site – PAH sample	SPAH-002-002	PAHs – Glass jar
Area in 1 km radius from edge of site – PAH sample	SPAH-002-003	PAHs – Glass jar
Area in 1 km radius from edge of site – PAH sample	SPAH-002-004	PAHs – Glass jar
Area in 5 km radius from edge of site	SL-003-001	Metals - Plastic bag
Area in 5 km radius from edge of site	SL-003-002	Metals - Plastic bag
Area in 5 km radius from edge of site	SL-003-003	Metals - Plastic bag

Sample Description	Sample Number	Analysis and Container
Area in 5 km radius from edge of site	SL-003-004	Metals - Plastic bag
Area in 5 km radius from edge of site	SL-003-005	Metals - Plastic bag
Area in 5 km radius from edge of site	SL-003-006	Metals - Plastic bag
Area in 5 km radius from edge of site	SL-003-007	Metals - Plastic bag
Area in 5 km radius from edge of site	SL-003-008	Metals - Plastic bag
Area in 5 km radius from edge of site	SL-003-009	Metals - Plastic bag
Area in 5 km radius from edge of site – QAQC split	SL-003-010	Metals - Plastic bag
Area in 5 km radius from edge of site – PAH sample	SPAH-003-001	PAHs – Glass jar
Area in 5 km radius from edge of site – PAH sample	SPAH-003-002	PAHs – Glass jar
Area in 5 km radius from edge of site – PAH sample	SPAH-003-003	PAHs – Glass jar
Area in 5 km radius from edge of site – PAH sample	SPAH-003-004	PAHs – Glass jar
Area in 11 km radius from edge of site	SL-004-001	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-002	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-003	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-004	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-005	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-006	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-007	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-008	Metals - Plastic bag
Area in 11 km radius from edge of site	SL-004-009	Metals - Plastic bag
Area in 11 km radius from edge of site – QAQC split	SL-004-010	Metals - Plastic bag
Area in 11 km radius from edge of site – PAH sample	SPAH-004-001	PAHs – Glass jar
Area in 11 km radius from edge of site – PAH sample	SPAH-004-002	PAHs – Glass jar
Area in 11 km radius from edge of site – PAH sample	SPAH-004-003	PAHs – Glass jar
Area in 11 km radius from edge of site – PAH sample	SPAH-004-004	PAHs – Glass jar

APPENDIX II

**ENVIROTEST LABORATORIES ANALYTICAL METHODS
AND QUALITY ASSURANCE/QUALITY CONTROL**

Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
H	Result falls within the 99% Confidence Interval (Laboratory Control Limits)
RAMB	Result Adjusted For Method Blank

Methods Listed (if applicable):

ETL Test Code	Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)
AL-SAR-ED	Soil	Aluminum (Al) in (Saturated Paste)		APHA 3120 B-ICP-OES
AS-FLORA-ED	Tissue	Arsenic (As)	EPA 3050	APHA 3114 C-AAS - Hydride
C-TOT-LECO-SK	Soil	Total Carbon by combustion method		SSSA (1996) - Combustion Instrument
		Nelson, D.W. and Sommers, L.E. 1996. Total carbon and organic matter. p 961-1010. In: J.M. Bartels et al. (ed.). Methods of Soil Analysis: Part 3 Chemical Methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5.		
CEC-SK	Soil	Cation Exchange Capacity (NH4OAc Extn)	CSSS (1978) 3.351 *	CSSS 19.4 - 1M NH4OAc Extraction @ pH 7
CL-SAR-ED	Soil	Chloride (Cl) (Saturated Paste)		APHA 4500 Cl E-Colorimetry
HG-FLORA-ED	Tissue	Mercury (Hg)	EPA 3050	EPA 6020
HG-LOW-ED	Soil	Mercury (Hg)	EPA 3050	EPA 6020
MET1-FLORA-ED	Tissue	Metals in Tissue	EPA 3050	EPA 200.3/200.8-ICPMS
MET2-FLORA-ED	Tissue	Metals in Tissue	EPA 3050	EPA 200.7
METAL-LOW-EXD-ED	Soil	Metals (ICP/MS)	EPA 3050	EPA 6020
P-FLORA-ED	Tissue	Phosphorus (P)	EPA 3050	EPA 200.7
PAH-CCME-ED	Soil	CCME PAHs	GC/MS	EPA 3540/8270-GC/MS
PAH-CCME-ED	Tissue	CCME PAHs	GC/MS	EPA 3640/8270
PREP-MOISTURE-ED	Soil	% Moisture		Oven dry 105C-Gravimetric
PREP-MOISTURE-ED	Tissue	% Moisture		Oven dry 105C-Gravimetric
PSA-1-ED	Soil	Particle Size		CSSS 47.3 - Hydrometer
SAR-CALC-ED	Soil	SAR		CSSS 18.4-Calculation
SAT/PH/EC-ED	Soil	pH and EC (Saturated Paste)		CSSS, Chp. 18 - Saturation Extract
SE-FLORA-ED	Tissue	Selenium (Se)	APHA 3114C EPA 3050 EPA 3051	APHA 3114C
SO4-SAR-ED	Soil	Sulfate (SO4) in saturated paste		APHA 3120 B-ICP-OES
TI-FLORA-ED	Tissue	Titanium (Ti)	EPA 3050	EPA 6020

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.

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

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
ED	Enviro-Test Laboratories - Edmonton, Alberta, Canada	SK	Enviro-Test Laboratories - Saskatoon, Saskatchewan, Canada

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

Enviro-Test Laboratories has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, Enviro-Test Laboratories assumes no liability for the use or interpretation of the results.

ENVIRO-TEST OC REPORT

Workorder: L76761

Client: DeBEERS CANADA MINING INC.
300 SCOTIA CENTRE 5102 50 AVENUE
YELLOWKNIFE NT X1A 3S8

Contact: KEVIN LEDREW

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AL-SAR-ED	Soil							
Batch	R91826							
WG81482-7	DUP	L76761-69						
Aluminum (Al)		3.49	3.65		mg/L	4.5	20	07-SEP-02
WG81482-9	DUP	L76761-183						
Aluminum (Al)		2.77	2.53		mg/L	9.2	20	08-SEP-02
WG81482-1	MB							
Aluminum (Al)			<0.02		mg/L		0.02	07-SEP-02
WG81482-10	MS	L76761-183						
Aluminum (Al)			97		%		75-125	08-SEP-02
WG81482-8	MS	L76761-69						
Aluminum (Al)			100		%		75-125	07-SEP-02
C-INORG-ORG-SK	Soil							
Batch	R93743							
WG78801-1	DUP	L76761-58						
Inorganic Carbon		0.15	0.14	J	%	0.01	0.077	20-SEP-02
WG78801-2	DUP	L76761-109						
Inorganic Carbon		<0.01	0.09	J	%	N/A	7.7	20-SEP-02
WG78801-3	DUP	L76761-160						
Inorganic Carbon		0.10	0.18	J,H	%	0.08	0.077	20-SEP-02
WG78801-4	DUP	L76761-194						
Inorganic Carbon		0.08	0.13	J	%	0.05	0.077	20-SEP-02
C-TOT-LECO-SK	Soil							
Batch	R93681							
WG78806-1	DUP	L76761-58						
Total Carbon by Combustion		0.6	0.5	J	%	0.0	0.15	20-SEP-02
WG78806-2	DUP	L76761-109						
Total Carbon by Combustion		1.6	1.6	J	%	0.1	0.15	20-SEP-02
WG78806-4	DUP	L76761-160						
Total Carbon by Combustion		50.8	49.2		%	3.1	3.8	20-SEP-02
WG78806-5	DUP	L76761-194						
Total Carbon by Combustion		1.2	1.1	J	%	0.1	0.15	20-SEP-02
WG78806-3	IRM							
Total Carbon by Combustion			1.6		%		1.5-1.7	20-SEP-02
WG78806-6	IRM							
Total Carbon by Combustion			1.6		%		1.5-1.7	20-SEP-02
CEC-SK	Soil							

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CEC-SK Soil								
Batch	R92111							
WG78820-1	DUP	L76761-22						
Cation Exchange Capacity		1.6	2.0	J	meq/100g	0.4	3.1	06-SEP-02
WG78820-2	DUP	L76761-89						
Cation Exchange Capacity		24.8	28.6	G	meq/100g	14	7.7	06-SEP-02
COMMENTS: Sample is high in organic matter, soil limits may not apply.								
WG78820-3	IRM							
Cation Exchange Capacity			106		%		87-113	06-SEP-02
Batch	R92112							
WG78823-3	IRM							
Cation Exchange Capacity			105		%		87-113	10-SEP-02
CL-SAR-ED Soil								
Batch	R91611							
WG81235-16	DUP	L76761-69						
Chloride (Cl)		7	7		mg/L	9.5	12	05-SEP-02
WG81235-17	DUP	L76761-183						
Chloride (Cl)		5	5	J	mg/L	0	3.1	05-SEP-02
WG81235-6	DUP	L77488-78						
Chloride (Cl)		267	271		mg/L	1.5	12	05-SEP-02
WG81235-4	IRM							
Chloride (Cl)			92		%		57-143	05-SEP-02
WG81235-5	IRM							
Chloride (Cl)			88		%		57-143	05-SEP-02
WG81235-18	MS	L76761-69						
Chloride (Cl)			102		%		95-109	05-SEP-02
WG81235-19	MS	L76761-148						
Chloride (Cl)			108		%		95-109	05-SEP-02
WG81235-7	MS	L76761-12						
Chloride (Cl)			104		%		95-109	05-SEP-02
HG-LOW-ED Soil								
Batch	R90572							
WG79873-2	CRM							
Mercury (Hg)			96		%		79-121	27-AUG-02
WG79873-3	DUP	L76761-172						
Mercury (Hg)		<0.05	<0.05	RPD-NA	mg/kg	N/A	52	27-AUG-02
WG79873-1	MB							
Mercury (Hg)			<0.05		mg/kg		0.25	27-AUG-02
WG79873-4	MS	L76761-172						
Mercury (Hg)			97		%		80-122	27-AUG-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-LOW-ED								
Batch	R90772							
WG80064-2	CRM							
Mercury (Hg)			87		%		79-121	28-AUG-02
WG80064-1	MB							
Mercury (Hg)			<0.05		mg/kg		0.25	28-AUG-02
METAL-LOW-EXD-ED								
Batch	R90572							
WG79873-2	CRM							
Aluminum (Al)			110		%		56-144	27-AUG-02
Arsenic (As)			109		%		84-116	27-AUG-02
Boron (B)			100		%		32-168	27-AUG-02
Cadmium (Cd)			114		%		84-116	27-AUG-02
Calcium (Ca)			107		%		78-122	27-AUG-02
Chromium (Cr)			93		%		79-121	27-AUG-02
Cobalt (Co)			105		%		89-111	27-AUG-02
Copper (Cu)			100		%		85-115	27-AUG-02
Lead (Pb)			100		%		87-113	27-AUG-02
Magnesium (Mg)			110		%		87-113	27-AUG-02
Manganese (Mn)			123	G	%		88-112	27-AUG-02
Nickel (Ni)			103		%		83-117	27-AUG-02
Potassium (K)			88		%		84-116	27-AUG-02
Selenium (Se)			108		%		60-140	27-AUG-02
Sodium (Na)			110		%		77-123	27-AUG-02
Strontium (Sr)			108		%		87-113	27-AUG-02
Vanadium (V)			103		%		71-129	27-AUG-02
Zinc (Zn)			116	H	%		85-115	27-AUG-02
Barium (Ba)			96		%		88-112	27-AUG-02
Iron (Fe)			111		%		80-120	27-AUG-02
WG79873-3	DUP	L76761-172						
Aluminum (Al)		9730	9160		mg/kg	6.0	29	27-AUG-02
Arsenic (As)		0.8	0.8	J	mg/kg	0.1	1.5	27-AUG-02
Barium (Ba)		43	42		mg/kg	0.88	20	27-AUG-02
Beryllium (Be)		0.3	0.3	J	mg/kg	0.0	0.61	27-AUG-02
Bismuth (Bi)		<0.5	<0.5	RPD-NA	mg/kg	N/A	21	27-AUG-02
Boron (B)		3	3	J	mg/kg	0	6.1	27-AUG-02
Cadmium (Cd)		<0.1	<0.1	RPD-NA	mg/kg	N/A	18	27-AUG-02
Calcium (Ca)		1100	1000		mg/kg	6.1	15	27-AUG-02
Chromium (Cr)		21.5	21.5		mg/kg	0.015	32	27-AUG-02
Cobalt (Co)		4.2	4.0		mg/kg	4.0	10	27-AUG-02
Copper (Cu)		9	9	J		0	6.1	

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
METAL-LOW-EXD-ED		Soil						
Batch	R90572							
WG79873-3	DUP	L76761-172						
Copper (Cu)		9	9	J	mg/kg	0	6.1	27-AUG-02
Iron (Fe)		12000	11500		mg/kg	4.2	14	27-AUG-02
Lead (Pb)		3.4	3.2		mg/kg	7.8	17	27-AUG-02
Magnesium (Mg)		4380	4090		mg/kg	6.7	14	27-AUG-02
Manganese (Mn)		98.9	98.1		mg/kg	0.80	14	27-AUG-02
Molybdenum (Mo)		0.6	0.6		mg/kg	2.3	22	27-AUG-02
Nickel (Ni)		11.7	11.4		mg/kg	2.7	15	27-AUG-02
Potassium (K)		1030	1010		mg/kg	1.1	35	27-AUG-02
Selenium (Se)		<0.2	<0.2	RPD-NA	mg/kg	N/A	59	27-AUG-02
Silver (Ag)		<0.1	<0.1	RPD-NA	mg/kg	N/A	25	27-AUG-02
Sodium (Na)		100	100	J	mg/kg	10	61	27-AUG-02
Strontium (Sr)		7	7		mg/kg	4.1	16	27-AUG-02
Thallium (Tl)		0.08	0.08	J	mg/kg	0.00	0.15	27-AUG-02
Tin (Sn)		0.3	0.2	J	mg/kg	0.0	0.31	27-AUG-02
Titanium (Ti)		769	738		mg/kg	4.2	59	27-AUG-02
Uranium (U)		1.0	0.9		mg/kg	8.8	10	27-AUG-02
Vanadium (V)		26.3	25.1		mg/kg	4.7	37	27-AUG-02
Zinc (Zn)		32	37		mg/kg	15	17	27-AUG-02
WG79873-1	MB							
Aluminum (Al)			<50		mg/kg		250	27-AUG-02
Arsenic (As)			<0.5		mg/kg		2.5	27-AUG-02
Barium (Ba)			<5		mg/kg		25	27-AUG-02
Beryllium (Be)			<0.2		mg/kg		1	27-AUG-02
Bismuth (Bi)			<0.5		mg/kg		2.5	27-AUG-02
Boron (B)			<2		mg/kg		10	27-AUG-02
Cadmium (Cd)			<0.1		mg/kg		0.5	27-AUG-02
Calcium (Ca)			<100		mg/kg		500	27-AUG-02
Chromium (Cr)			<0.2		mg/kg		1	27-AUG-02
Cobalt (Co)			<0.1		mg/kg		0.5	27-AUG-02
Copper (Cu)			<2		mg/kg		10	27-AUG-02
Iron (Fe)			<200		mg/kg		1000	27-AUG-02
Lead (Pb)			<0.5		mg/kg		2.5	27-AUG-02
Magnesium (Mg)			<10		mg/kg		50	27-AUG-02
Manganese (Mn)			<0.5		mg/kg		2.5	27-AUG-02
Molybdenum (Mo)			<0.1		mg/kg		0.5	27-AUG-02
Nickel (Ni)			<0.5		mg/kg		2.5	27-AUG-02
Potassium (K)			30		mg/kg		100	27-AUG-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
METAL-LOW-EXD-ED	Soil							
Batch	R90572							
WG79873-1	MB							
Selenium (Se)			<0.2		mg/kg		1	27-AUG-02
Silver (Ag)			<0.1		mg/kg		0.5	27-AUG-02
Sodium (Na)			<20		mg/kg		100	27-AUG-02
Strontium (Sr)			<1		mg/kg		5	27-AUG-02
Thallium (Tl)			<0.05		mg/kg		0.25	27-AUG-02
Tin (Sn)			1.5	A	mg/kg		0.5	27-AUG-02
Titanium (Ti)			<0.5		mg/kg		2.5	27-AUG-02
Uranium (U)			<0.1		mg/kg		0.5	27-AUG-02
Vanadium (V)			<0.1		mg/kg		0.5	27-AUG-02
Zinc (Zn)			<5		mg/kg		25	27-AUG-02
WG79873-4	MS	L76761-172						
Aluminum (Al)			234	E	%		25-113	27-AUG-02
Arsenic (As)			107		%		89-117	27-AUG-02
Barium (Ba)			100		%		63-128	27-AUG-02
Beryllium (Be)			112		%		87-119	27-AUG-02
Bismuth (Bi)			112		%		85-133	27-AUG-02
Boron (B)			106		%		81-123	27-AUG-02
Cadmium (Cd)			111		%		92-114	27-AUG-02
Calcium (Ca)			105		%		57-141	27-AUG-02
Chromium (Cr)			95		%		84-113	27-AUG-02
Cobalt (Co)			102		%		89-115	27-AUG-02
Copper (Cu)			103		%		82-114	27-AUG-02
Iron (Fe)			144	E	%		68-131	27-AUG-02
Lead (Pb)			119	H	%		78-117	27-AUG-02
Magnesium (Mg)			110		%		68-123	27-AUG-02
Manganese (Mn)			91		%		61-139	27-AUG-02
Molybdenum (Mo)			100		%		90-124	27-AUG-02
Nickel (Ni)			101		%		87-113	27-AUG-02
Potassium (K)			96		%		64-129	27-AUG-02
Selenium (Se)			121		%		86-122	27-AUG-02
Silver (Ag)			77		%		8-94	27-AUG-02
Sodium (Na)			110		%		85-117	27-AUG-02
Strontium (Sr)			115		%		85-119	27-AUG-02
Thallium (Tl)			121	H	%		85-115	27-AUG-02
Tin (Sn)			107		%		86-122	27-AUG-02
Titanium (Ti)			106	E	%		78-124	27-AUG-02
Uranium (U)			107		%		90-114	27-AUG-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
METAL-LOW-EXD-ED	Soil							
Batch	R90572							
WG79873-4	MS	L76761-172						
Vanadium (V)			98		%		85-115	27-AUG-02
Zinc (Zn)			113		%		79-127	27-AUG-02
Batch	R90772							
WG80064-2	CRM							
Aluminum (Al)			67		%		56-144	28-AUG-02
Arsenic (As)			114		%		84-116	28-AUG-02
Barium (Ba)			89		%		88-112	28-AUG-02
Cadmium (Cd)			103		%		84-116	28-AUG-02
Calcium (Ca)			101		%		78-122	28-AUG-02
Chromium (Cr)			82		%		79-121	28-AUG-02
Cobalt (Co)			96		%		89-111	28-AUG-02
Copper (Cu)			101		%		85-115	28-AUG-02
Iron (Fe)			92		%		80-120	28-AUG-02
Lead (Pb)			97		%		87-113	28-AUG-02
Manganese (Mn)			73	G	%		88-112	28-AUG-02
Nickel (Ni)			100		%		83-117	28-AUG-02
Potassium (K)			81	H	%		84-116	28-AUG-02
Selenium (Se)			109		%		60-140	28-AUG-02
Sodium (Na)			82		%		77-123	28-AUG-02
Strontium (Sr)			97		%		87-113	28-AUG-02
Vanadium (V)			86		%		71-129	28-AUG-02
Zinc (Zn)			102		%		85-115	28-AUG-02
Boron (B)			44		%		32-168	28-AUG-02
Magnesium (Mg)			82	H	%		87-113	28-AUG-02
WG80064-1	MB							
Aluminum (Al)			<50		mg/kg		250	28-AUG-02
Arsenic (As)			<0.5		mg/kg		2.5	28-AUG-02
Barium (Ba)			<5		mg/kg		25	28-AUG-02
Beryllium (Be)			<0.2		mg/kg		1	28-AUG-02
Bismuth (Bi)			<0.5		mg/kg		2.5	28-AUG-02
Boron (B)			<2		mg/kg		10	28-AUG-02
Cadmium (Cd)			<0.1		mg/kg		0.5	28-AUG-02
Calcium (Ca)			<100		mg/kg		500	28-AUG-02
Chromium (Cr)			<0.2		mg/kg		1	28-AUG-02
Cobalt (Co)			<0.1		mg/kg		0.5	28-AUG-02
Copper (Cu)			<2		mg/kg		10	28-AUG-02
Iron (Fe)			<200		mg/kg		1000	28-AUG-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
METAL-LOW-EXD-ED								
Soil								
Batch	R90772							
WG80064-1	MB							
Lead (Pb)			<0.5		mg/kg		2.5	28-AUG-02
Magnesium (Mg)			<10		mg/kg		50	28-AUG-02
Manganese (Mn)			<0.5		mg/kg		2.5	28-AUG-02
Molybdenum (Mo)			<0.1		mg/kg		0.5	28-AUG-02
Nickel (Ni)			<0.5		mg/kg		2.5	28-AUG-02
Potassium (K)			80		mg/kg		100	28-AUG-02
Selenium (Se)			<0.2		mg/kg *		1	28-AUG-02
Silver (Ag)			0.1		mg/kg		0.5	28-AUG-02
Sodium (Na)			<20		mg/kg		100	28-AUG-02
Strontium (Sr)			<1		mg/kg		5	28-AUG-02
Thallium (Tl)			<0.05		mg/kg		0.25	28-AUG-02
Tin (Sn)			1.6	A	mg/kg		0.5	28-AUG-02
Titanium (Ti)			<0.5		mg/kg		2.5	28-AUG-02
Uranium (U)			<0.1		mg/kg		0.5	28-AUG-02
Vanadium (V)			<0.1		mg/kg		0.5	28-AUG-02
Zinc (Zn)			8		mg/kg		25	28-AUG-02
PAH-CCME-ED								
Soil								
Batch	R92341							
WG78606-2	DUP	L76761-111						
Benzo(a)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	24	11-SEP-02
Benzo(a)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	28	11-SEP-02
Benzo(b)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	11-SEP-02
Benzo(k)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	21	11-SEP-02
Dibenzo(a,h)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	11-SEP-02
Indeno(1,2,3-cd)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	11-SEP-02
Naphthalene		<0.01	<0.01	RPD-NA	mg/kg	N/A	25	11-SEP-02
Phenanthrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	23	11-SEP-02
Pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	11-SEP-02
Quinoline		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	11-SEP-02
WG78614-2	DUP	L76761-210						
Benzo(a)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	24	12-SEP-02
Benzo(a)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	28	12-SEP-02
Benzo(b)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	12-SEP-02
Benzo(k)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	21	12-SEP-02
Dibenzo(a,h)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	12-SEP-02
Indeno(1,2,3-cd)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	12-SEP-02
Naphthalene		<0.01	<0.01	RPD-NA	mg/kg	N/A	25	12-SEP-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-ED		Soil						
Batch	R92341							
WG78614-2	DUP	L76761-210						
Phenanthrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	23	12-SEP-02
Pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	12-SEP-02
Quinoline		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	12-SEP-02
WG78606-1	MB							
Benzo(a)anthracene			<0.01		mg/kg		0.01	11-SEP-02
Benzo(a)pyrene			<0.01		mg/kg		0.01	11-SEP-02
Benzo(b)fluoranthene			<0.01		mg/kg		0.01	11-SEP-02
Benzo(k)fluoranthene			<0.01		mg/kg		0.01	11-SEP-02
Dibenzo(a,h)anthracene			<0.01		mg/kg		0.01	11-SEP-02
Indeno(1,2,3-cd)pyrene			<0.01		mg/kg		0.01	11-SEP-02
Naphthalene			<0.01		mg/kg		0.01	11-SEP-02
Phenanthrene			<0.01		mg/kg		0.01	11-SEP-02
Pyrene			<0.01		mg/kg		0.01	11-SEP-02
Quinoline			<0.01		mg/kg		0.01	11-SEP-02
WG78606-3	MS	L76761-1						
Benzo(a)anthracene			87		%		83-109	11-SEP-02
Benzo(a)pyrene			93		%		79-108	11-SEP-02
Benzo(b)fluoranthene			96		%		80-108	11-SEP-02
Benzo(k)fluoranthene			97		%		73-103	11-SEP-02
Dibenzo(a,h)anthracene			91		%		71-113	11-SEP-02
Indeno(1,2,3-cd)pyrene			95		%		76-111	11-SEP-02
Naphthalene			99		%		72-107	11-SEP-02
Phenanthrene			98		%		80-114	11-SEP-02
Pyrene			100		%		77-107	11-SEP-02
Quinoline			78		%		73-107	11-SEP-02
PSA-1-ED		Soil						
Batch	R91378							
WG81030-2	DUP	L76761-58						
% Clay		6	6		%	0.0	18	04-SEP-02
% Sand		66	64		%	3.1	18	04-SEP-02
% Silt		28	30		%	6.9	18	04-SEP-02
WG81030-1	MB							
% Clay			<1		%		1	04-SEP-02
% Sand			<1		%		1	04-SEP-02
% Silt			<1		%		1	04-SEP-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PSA-1-ED		Soil						
Batch	R91528							
WG81194-2	DUP	L76761-134						
% Clay		4	4	J	%	0	3.1	05-SEP-02
% Sand		90	90		%	0.0	18	05-SEP-02
% Silt		6	6		%	0.0	18	05-SEP-02
WG81194-1	MB							
% Clay			<1		%		1	05-SEP-02
% Sand			<1		%		1	05-SEP-02
% Silt			<1		%		1	05-SEP-02
Batch	R91733							
WG81412-2	DUP	L76761-209						
% Clay		10	10		%	0.0	18	06-SEP-02
% Sand		49	50		%	2.0	18	06-SEP-02
% Silt		41	40		%	2.5	18	06-SEP-02
WG81412-1	MB							
% Clay			<1		%		1	06-SEP-02
% Sand			<1		%		1	06-SEP-02
% Silt			<1		%		1	06-SEP-02
SAR-CALC-ED		Soil						
Batch	R91826							
WG81482-3	DUP	L79412-1						
Calcium (Ca)		240	250		mg/L	4.1	18	07-SEP-02
Magnesium (Mg)		51.8	54.4		mg/L	4.8	25	07-SEP-02
Potassium (K)		5.6	5.5		mg/L	2.4	43	07-SEP-02
Sodium (Na)		122	123		mg/L	1.1	22	07-SEP-02
WG81482-7	DUP	L76761-69						
Calcium (Ca)		4.6	5.0		mg/L	8.4	18	07-SEP-02
Magnesium (Mg)		2.7	3.1		mg/L	12	25	07-SEP-02
Potassium (K)		5.9	6.1		mg/L	4.0	43	07-SEP-02
Sodium (Na)		3	4	J	mg/L	1	3.1	07-SEP-02
WG81482-9	DUP	L76761-183						
Calcium (Ca)		7.6	7.8		mg/L	3.2	18	08-SEP-02
Magnesium (Mg)		2.6	2.6		mg/L	0.66	25	08-SEP-02
Potassium (K)		8.8	8.3		mg/L	5.3	43	08-SEP-02
Sodium (Na)		3	2	J	mg/L	0	3.1	08-SEP-02
WG81482-2	IRM							
Calcium (Ca)			94		%		89-111	07-SEP-02
Magnesium (Mg)			95		%		73-127	07-SEP-02
Potassium (K)			88		%		83-117	07-SEP-02
Sodium (Na)			97		%		85-112	07-SEP-02
WG81482-5	IRM							

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-CALC-ED		Soil						
Batch	R91826							
WG81482-5	IRM							
Calcium (Ca)			97		%		89-111	08-SEP-02
Magnesium (Mg)			97		%		73-127	08-SEP-02
Potassium (K)			88		%		83-117	08-SEP-02
Sodium (Na)			100		%		85-112	08-SEP-02
WG81482-6	IRM							
Calcium (Ca)			95		%		89-111	07-SEP-02
Magnesium (Mg)			95		%		73-127	07-SEP-02
Potassium (K)			87		%		83-117	07-SEP-02
Sodium (Na)			98		%		85-112	07-SEP-02
WG81482-1	MB							
Calcium (Ca)			<0.5		mg/L		2.5	07-SEP-02
Magnesium (Mg)			<0.1		mg/L		0.5	07-SEP-02
Potassium (K)			<0.1		mg/L		0.5	07-SEP-02
Sodium (Na)			<1		mg/L		5	07-SEP-02
WG81482-10	MS	L76761-183						
Calcium (Ca)			100		%		92-114	08-SEP-02
Magnesium (Mg)			100		%		93-113	08-SEP-02
Potassium (K)			99		%		93-115	08-SEP-02
Sodium (Na)			102		%		92-114	08-SEP-02
WG81482-4	MS	L79412-1						
Calcium (Ca)			99		%		92-114	07-SEP-02
Magnesium (Mg)			99		%		93-113	07-SEP-02
Potassium (K)			98		%		93-115	07-SEP-02
Sodium (Na)			99		%		92-114	07-SEP-02
WG81482-8	MS	L76761-69						
Calcium (Ca)			101		%		92-114	07-SEP-02
Magnesium (Mg)			101		%		93-113	07-SEP-02
Potassium (K)			100		%		93-115	07-SEP-02
Sodium (Na)			102		%		92-114	07-SEP-02
Batch	R91947							
WG81657-12	DUP	L79021-1						
Calcium (Ca)		142	138		mg/L	2.7	18	09-SEP-02
Magnesium (Mg)		19.3	19.4		mg/L	0.60	25	09-SEP-02
Potassium (K)		13.7	13.6		mg/L	0.74	43	09-SEP-02
Sodium (Na)		2	2	J	mg/L	0	3.1	09-SEP-02
WG81657-7	DUP	L79184-4						
Calcium (Ca)		324	325		mg/L	0.23	18	09-SEP-02
Magnesium (Mg)		60.2	59.6		mg/L	1.1	25	09-SEP-02
Potassium (K)		25.3	23.6			6.7	43	

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-CALC-ED	Soil							
Batch	R91947							
WG81657-7	DUP	L79184-4						
Potassium (K)		25.3	23.6		mg/L	6.7	43	09-SEP-02
Sodium (Na)		32	32		mg/L	1.9	22	09-SEP-02
WG81657-9	DUP	L79332-1						
Calcium (Ca)		488	494		mg/L	1.3	18	09-SEP-02
Magnesium (Mg)		203	209		mg/L	2.9	25	09-SEP-02
Potassium (K)		40.9	41.4		mg/L	1.1	43	09-SEP-02
Sodium (Na)		228	235		mg/L	2.9	22	09-SEP-02
WG81657-11	IRM							
Calcium (Ca)			91		%		89-111	09-SEP-02
Magnesium (Mg)			92		%		73-127	09-SEP-02
Potassium (K)			79	H	%		83-117	09-SEP-02
Sodium (Na)			95		%		85-112	09-SEP-02
WG81657-6	IRM							
Calcium (Ca)			88	H	%		89-111	09-SEP-02
Magnesium (Mg)			86		%		73-127	09-SEP-02
Potassium (K)			95		%		83-117	09-SEP-02
Sodium (Na)			92		%		85-112	09-SEP-02
WG81657-1	MB							
Calcium (Ca)			<0.5		mg/L		2.5	09-SEP-02
Magnesium (Mg)			<0.1		mg/L		0.5	09-SEP-02
Potassium (K)			<0.1		mg/L		0.5	09-SEP-02
Sodium (Na)			<1		mg/L		5	09-SEP-02
WG81657-10	MS	L79332-1						
Calcium (Ca)			97		%		92-114	09-SEP-02
Magnesium (Mg)			92	H	%		93-113	09-SEP-02
Potassium (K)			99		%		93-115	09-SEP-02
Sodium (Na)			96		%		92-114	09-SEP-02
WG81657-13	MS	L79021-1						
Calcium (Ca)			98		%		92-114	09-SEP-02
Magnesium (Mg)			95		%		93-113	09-SEP-02
Potassium (K)			102		%		93-115	09-SEP-02
Sodium (Na)			98		%		92-114	09-SEP-02
WG81657-8	MS	L79184-4						
Calcium (Ca)			89	H	%		92-114	09-SEP-02
Magnesium (Mg)			91	H	%		93-113	09-SEP-02
Potassium (K)			96		%		93-115	09-SEP-02
Sodium (Na)			92		%		92-114	09-SEP-02
SAT/PH/EC-ED	Soil							

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAT/PH/EC-ED		Soil						
Batch	R91305							
WG80797-2	DUP	L77488-78						
% Saturation		176	175		%	0.37	6.2	04-SEP-02
Conductivity Sat. Paste		2.22	2.17		dS m-1	2.3	5.5	04-SEP-02
pH in Saturated Paste		6.4	6.4	J	pH	0.0	0.2	04-SEP-02
WG80797-1	IRM							
% Saturation			102		%		94-106	04-SEP-02
Conductivity Sat. Paste			99		%		90-110	04-SEP-02
pH in Saturated Paste			7.8		pH		7.3-7.9	04-SEP-02
WG80797-3	LCS							
pH in Saturated Paste			4.0		pH		3.9-4.1	04-SEP-02
WG80797-4	LCS							
pH in Saturated Paste			7.1		pH		6.9-7.1	04-SEP-02
WG80797-5	LCS							
pH in Saturated Paste			10.0		pH		9.9-10.1	04-SEP-02
WG80797-6	LCS							
Conductivity Sat. Paste			101		%		93-106	04-SEP-02
WG80797-7	LCS							
Conductivity Sat. Paste			103		%		97-105	04-SEP-02
WG80797-8	LCS							
Conductivity Sat. Paste			101		%		98-106	04-SEP-02
Batch	R91487							
WG80982-2	DUP	L76761-183						
% Saturation		225	227		%	0.94	6.2	05-SEP-02
Conductivity Sat. Paste		0.14	0.14		dS m-1	2.8	5.5	05-SEP-02
pH in Saturated Paste		4.2	4.1	J	pH	0.0	0.2	05-SEP-02
WG80982-1	IRM							
% Saturation			99		%		94-106	05-SEP-02
Conductivity Sat. Paste			97		%		90-110	05-SEP-02
pH in Saturated Paste			7.7		pH		7.3-7.9	05-SEP-02
WG80982-3	LCS							
pH in Saturated Paste			4.0		pH		3.9-4.1	05-SEP-02
WG80982-4	LCS							
pH in Saturated Paste			7.0		pH		6.9-7.1	05-SEP-02
WG80982-5	LCS							
pH in Saturated Paste			9.9		pH		9.9-10.1	05-SEP-02
WG80982-6	LCS							
Conductivity Sat. Paste			95		%		93-106	05-SEP-02
WG80982-7	LCS							
Conductivity Sat. Paste			102		%		97-105	05-SEP-02
WG80982-8	LCS							
Conductivity Sat. Paste			100		%		98-106	05-SEP-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAT/PH/EC-ED		Soil						
Batch	R91488							
WG80981-2	DUP	L76761-69						
% Saturation		118	119		%	0.93	6.2	05-SEP-02
Conductivity Sat. Paste		0.11	0.11	H	dS m-1	5.5	5.5	05-SEP-02
pH in Saturated Paste		4.3	4.3	J	pH	0.0	0.2	05-SEP-02
WG80981-1	IRM							
% Saturation			99		%		94-106	05-SEP-02
Conductivity Sat. Paste			97		%		90-110	05-SEP-02
pH in Saturated Paste			7.7		pH		7.3-7.9	05-SEP-02
WG80981-3	LCS							
pH in Saturated Paste			4.0		pH		3.9-4.1	05-SEP-02
WG80981-4	LCS							
pH in Saturated Paste			7.0		pH		6.9-7.1	05-SEP-02
WG80981-5	LCS							
pH in Saturated Paste			9.9		pH		9.9-10.1	05-SEP-02
WG80981-6	LCS							
Conductivity Sat. Paste			95		%		93-106	05-SEP-02
WG80981-7	LCS							
Conductivity Sat. Paste			102		%		97-105	05-SEP-02
WG80981-8	LCS							
Conductivity Sat. Paste			100		%		98-106	05-SEP-02
SU4-SAR-ED		Soil						
Batch	R91826							
WG81482-3	DUP	L79412-1						
Sulphate (SO4)		51.8	51.6		mg/L	0.38	32	07-SEP-02
WG81482-7	DUP	L76761-69						
Sulphate (SO4)		5.9	6.0		mg/L	1.1	32	07-SEP-02
WG81482-9	DUP	L76761-183						
Sulphate (SO4)		12.5	12.6		mg/L	0.50	32	08-SEP-02
WG81482-2	IRM							
Sulphate (SO4)			111		%		87-113	07-SEP-02
WG81482-5	IRM							
Sulphate (SO4)			109		%		87-113	08-SEP-02
WG81482-6	IRM							
Sulphate (SO4)			106		%		87-113	07-SEP-02
WG81482-1	MB							
Sulphate (SO4)			<0.5		mg/L		0.5	07-SEP-02
WG81482-10	MS	L76761-183						
Sulphate (SO4)			100		%		75-125	08-SEP-02
WG81482-4	MS	L79412-1						
Sulphate (SO4)			99		%		75-125	07-SEP-02
WG81482-8	MS	L76761-69						
Sulphate (SO4)			107		%		75-125	07-SEP-02

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-SAR-ED		Soil						
Batch	R91947							
WG81657-7	DUP	L79184-4						
Sulphate (SO4)		116	119		mg/L	2.4	32	09-SEP-02
WG81657-9	DUP	L79332-1						
Sulphate (SO4)		2150	2110		mg/L	1.8	32	09-SEP-02
WG81657-11	IRM							
Sulphate (SO4)			107		%		87-113	09-SEP-02
WG81657-6	IRM							
Sulphate (SO4)			99		%		87-113	09-SEP-02
WG81657-1	MB							
Sulphate (SO4)			<0.5		mg/L		0.5	09-SEP-02
WG81657-10	MS	L79332-1						
Sulphate (SO4)			107		%		75-125	09-SEP-02
WG81657-8	MS	L79184-4						
Sulphate (SO4)			99		%		75-125	09-SEP-02
HG-FLORA-ED		Tissue						
Batch	R92149							
WG81523-2	CRM							
WG81523-3	CRM							
Mercury (Hg)			75		%		75-125	09-SEP-02
WG81578-2	CRM							
WG81578-3	CRM							
Mercury (Hg)			69	H	%		75-125	09-SEP-02
WG81523-4	DUP	L76761-116						
Mercury (Hg)		0.05	0.06		mg/kg	4.7	18	09-SEP-02
WG81578-4	DUP	L76761-95						
Mercury (Hg)		<0.01	<0.01	RPD-NA	mg/kg	N/A	18	09-SEP-02
WG81737-4	DUP	L76761-143						
Mercury (Hg)		<0.01	<0.01	RPD-NA	mg/kg	N/A	18	09-SEP-02
WG81523-1	MB							
Mercury (Hg)			<0.01		mg/kg		0.05	09-SEP-02
WG81578-1	MB							
Mercury (Hg)			<0.01		mg/kg		0.05	09-SEP-02
WG81737-1	MB							
Mercury (Hg)			<0.01		mg/kg		0.05	09-SEP-02
WG81523-5	MS	L76761-116						
Mercury (Hg)			104		%		81-116	09-SEP-02
WG81578-5	MS	L76761-95						
Mercury (Hg)			90		%		81-116	09-SEP-02
WG81737-5	MS	L76761-143						
Mercury (Hg)			103		%		81-116	09-SEP-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-FLORA-ED	Tissue							
Batch	R92498							
WG81777-4	DUP	L76761-217						
Mercury (Hg)		0.02	0.02	J	mg/kg	0.01	0.031	11-SEP-02
WG81777-1	MB							
Mercury (Hg)			<0.01		mg/kg		0.05	11-SEP-02
WG81777-5	MS	L76761-217						
Mercury (Hg)			95		%		81-116	11-SEP-02
MET1-FLORA-ED	Tissue							
Batch	R92149							
WG81523-2	CRM							
Antimony (Sb)			105		%		73-153	09-SEP-02
Cadmium (Cd)			94		%		76-96	09-SEP-02
Chromium (Cr)			140	H	%		83-133	09-SEP-02
Cobalt (Co)			99		%		85-159	09-SEP-02
Copper (Cu)			97		%		79-107	09-SEP-02
Nickel (Ni)			117		%		58-138	09-SEP-02
Zinc (Zn)			101		%		77-109	09-SEP-02
WG81523-3	CRM							
Cadmium (Cd)			95		%		75-125	09-SEP-02
Cobalt (Co)			93		%		75-125	09-SEP-02
Copper (Cu)			97		%		75-125	09-SEP-02
Nickel (Ni)			100		%		75-125	09-SEP-02
Strontium (Sr)			111		%		75-125	09-SEP-02
Zinc (Zn)			94		%		75-125	09-SEP-02
WG81578-2	CRM							
Aluminum (Al)			30	G	%		58-118	09-SEP-02
Antimony (Sb)			101		%		73-153	09-SEP-02
Cadmium (Cd)			89		%		76-96	09-SEP-02
Chromium (Cr)			125		%		83-133	09-SEP-02
Cobalt (Co)			94		%		85-159	09-SEP-02
Copper (Cu)			91		%		79-107	09-SEP-02
Nickel (Ni)			115		%		58-138	09-SEP-02
Zinc (Zn)			96		%		77-109	09-SEP-02
WG81578-3	CRM							
Cadmium (Cd)			91		%		75-125	09-SEP-02
Cobalt (Co)			92		%		75-125	09-SEP-02
Copper (Cu)			95		%		75-125	09-SEP-02
Nickel (Ni)			100		%		75-125	09-SEP-02
Strontium (Sr)			108		%		75-125	09-SEP-02
Zinc (Zn)			90		%		75-125	09-SEP-02

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET1-FLORA-ED	Tissue							
Batch	R92149							
WG81737-2	CRM							
Antimony (Sb)			97		%		73-153	09-SEP-02
Cadmium (Cd)			88		%		76-96	09-SEP-02
Chromium (Cr)			126		%		83-133	09-SEP-02
Cobalt (Co)			93		%		85-159	09-SEP-02
Copper (Cu)			92		%		79-107	09-SEP-02
Zinc (Zn)			114	H	%		77-109	09-SEP-02
WG81737-3	CRM							
Cadmium (Cd)			88		%		75-125	09-SEP-02
Cobalt (Co)			91		%		75-125	09-SEP-02
Copper (Cu)			93		%		75-125	09-SEP-02
Strontium (Sr)			108		%		75-125	09-SEP-02
Zinc (Zn)			92		%		75-125	09-SEP-02
WG81523-4	DUP	L76761-116						
Aluminum (Al)		699	698		mg/kg	0.21	27	09-SEP-02
Antimony (Sb)		<0.04	<0.04	RPD-NA	mg/kg	N/A	27	09-SEP-02
Barium (Ba)		42.1	42.9		mg/kg	1.9	23	09-SEP-02
Beryllium (Be)		<0.2	<0.2	RPD-NA	mg/kg	N/A	20	09-SEP-02
Cadmium (Cd)		0.12	0.13	J	mg/kg	0.00	0.25	09-SEP-02
Chromium (Cr)		7.4	7.6		mg/kg	2.7	19	09-SEP-02
Cobalt (Co)		0.60	0.61		mg/kg	2.7	18	09-SEP-02
Copper (Cu)		4.25	4.50		mg/kg	5.8	18	09-SEP-02
Lead (Pb)		1.92	1.98		mg/kg	3.1	31	09-SEP-02
Molybdenum (Mo)		0.29	0.30		mg/kg	1.3	17	09-SEP-02
Nickel (Ni)		18.2	18.9		mg/kg	4.0	32	09-SEP-02
Silver (Ag)		<0.08	<0.08	RPD-NA	mg/kg	N/A	25	09-SEP-02
Strontium (Sr)		9.35	9.44		mg/kg	0.89	50	09-SEP-02
Thallium (Tl)		<0.04	<0.04	RPD-NA	mg/kg	N/A	20	09-SEP-02
Tin (Sn)		0.17	<0.08	RAMB	mg/kg	N/A	44	09-SEP-02
Zinc (Zn)		43.6	44.4		mg/kg	1.9	29	09-SEP-02
WG81578-4	DUP	L76761-95						
Aluminum (Al)		140	141		mg/kg	0.38	27	09-SEP-02
Antimony (Sb)		<0.04	<0.04	RPD-NA	mg/kg	N/A	27	09-SEP-02
Barium (Ba)		76.0	75.0		mg/kg	1.3	23	09-SEP-02
Beryllium (Be)		<0.2	<0.2	RPD-NA	mg/kg	N/A	20	09-SEP-02
Cadmium (Cd)		0.16	0.15	J	mg/kg	0.01	0.25	09-SEP-02
Chromium (Cr)		2.2	1.9		mg/kg	12	19	09-SEP-02
Cobalt (Co)		0.23	0.23	J	mg/kg	0.00	0.25	09-SEP-02
Copper (Cu)		4.88	4.92			0.93	18	

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET1-FLORA-ED		Tissue						
Batch	R92149							
WG81578-4	DUP	L76761-95						
Copper (Cu)		4.88	4.92		mg/kg	0.93	18	09-SEP-02
Lead (Pb)		0.19	0.18	J	mg/kg	0.01	0.12	09-SEP-02
Molybdenum (Mo)		0.13	0.12	J	mg/kg	0.01	0.12	09-SEP-02
Nickel (Ni)		8.61	8.09		mg/kg	6.2	32	09-SEP-02
Silver (Ag)		<0.08	<0.08	RPD-NA	mg/kg	N/A	25	09-SEP-02
Strontium (Sr)		19.0	18.2		mg/kg	4.0	50	09-SEP-02
Thallium (Tl)		<0.04	<0.04	RPD-NA	mg/kg	N/A	20	09-SEP-02
Tin (Sn)		<0.08	<0.08	RAMB	mg/kg	N/A	44	09-SEP-02
Zinc (Zn)		40.4	39.0		mg/kg	3.6	29	09-SEP-02
WG81737-4	DUP	L76761-143						
Aluminum (Al)		43	45		mg/kg	4.8	27	09-SEP-02
Antimony (Sb)		<0.04	<0.04	RPD-NA	mg/kg	N/A	27	09-SEP-02
Barium (Ba)		72.2	72.8		mg/kg	0.86	23	09-SEP-02
Beryllium (Be)		<0.2	<0.2	RPD-NA	mg/kg	N/A	20	09-SEP-02
Cadmium (Cd)		<0.08	<0.08	RPD-NA	mg/kg	N/A	14	09-SEP-02
Chromium (Cr)		1.1	1.1		mg/kg	0.53	19	09-SEP-02
Cobalt (Co)		0.11	0.11	J	mg/kg	0.00	0.25	09-SEP-02
Copper (Cu)		4.05	4.05		mg/kg	0.074	18	09-SEP-02
Lead (Pb)		0.08	0.08	J	mg/kg	0.00	0.12	09-SEP-02
Molybdenum (Mo)		0.27	0.26		mg/kg	3.9	17	09-SEP-02
Nickel (Ni)		1.50	1.52		mg/kg	1.9	32	09-SEP-02
Silver (Ag)		<0.08	<0.08	RPD-NA	mg/kg	N/A	25	09-SEP-02
Strontium (Sr)		7.84	7.89		mg/kg	0.69	50	09-SEP-02
Thallium (Tl)		<0.04	<0.04	RPD-NA	mg/kg	N/A	20	09-SEP-02
Tin (Sn)		<0.08	<0.08	RAMB	mg/kg	N/A	44	09-SEP-02
Zinc (Zn)		32.7	36.6		mg/kg	11	29	09-SEP-02
WG81523-1	MB							
Aluminum (Al)			<4		mg/kg		20	09-SEP-02
Antimony (Sb)			<0.04		mg/kg		0.2	09-SEP-02
Barium (Ba)			0.34		mg/kg		0.4	09-SEP-02
Beryllium (Be)			<0.2		mg/kg		1	09-SEP-02
Cadmium (Cd)			<0.08		mg/kg		0.4	09-SEP-02
Chromium (Cr)			<0.2		mg/kg		1	09-SEP-02
Cobalt (Co)			<0.08		mg/kg		0.4	09-SEP-02
Copper (Cu)			<0.08		mg/kg		0.4	09-SEP-02
Lead (Pb)			<0.04		mg/kg		0.2	09-SEP-02
Molybdenum (Mo)			<0.04		mg/kg		0.2	09-SEP-02

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET1-FLORA-ED	Tissue							
Batch	R92149							
WG81523-1	MB							
Nickel (Ni)			<0.08		mg/kg		0.4	09-SEP-02
Silver (Ag)			<0.08		mg/kg		0.4	09-SEP-02
Strontium (Sr)			<0.04		mg/kg		0.2	09-SEP-02
Thallium (Tl)			<0.04		mg/kg		0.2	09-SEP-02
Tin (Sn)			2.03	A	mg/kg		0.4	09-SEP-02
Zinc (Zn)			2.9	A	mg/kg		1	09-SEP-02
WG81578-1	MB							
Aluminum (Al)			<4		mg/kg		20	09-SEP-02
Antimony (Sb)			<0.04		mg/kg		0.2	09-SEP-02
Barium (Ba)			0.36		mg/kg		0.4	09-SEP-02
Beryllium (Be)			<0.2		mg/kg		1	09-SEP-02
Cadmium (Cd)			<0.08		mg/kg		0.4	09-SEP-02
Chromium (Cr)			<0.2		mg/kg		1	09-SEP-02
Cobalt (Co)			<0.08		mg/kg		0.4	09-SEP-02
Copper (Cu)			<0.08		mg/kg		0.4	09-SEP-02
Lead (Pb)			<0.04		mg/kg		0.2	09-SEP-02
Molybdenum (Mo)			<0.04		mg/kg		0.2	09-SEP-02
Nickel (Ni)			<0.08		mg/kg		0.4	09-SEP-02
Silver (Ag)			<0.08		mg/kg		0.4	09-SEP-02
Strontium (Sr)			0.05		mg/kg		0.2	09-SEP-02
Thallium (Tl)			<0.04		mg/kg		0.2	09-SEP-02
Tin (Sn)			2.63	A	mg/kg		0.4	09-SEP-02
Zinc (Zn)			3.6	A	mg/kg		1	09-SEP-02
WG81737-1	MB							
Aluminum (Al)			<4		mg/kg		20	09-SEP-02
Antimony (Sb)			<0.04		mg/kg		0.2	09-SEP-02
Barium (Ba)			0.26		mg/kg		0.4	09-SEP-02
Beryllium (Be)			<0.2		mg/kg		1	09-SEP-02
Cadmium (Cd)			<0.08		mg/kg		0.4	09-SEP-02
Chromium (Cr)			0.2		mg/kg		1	09-SEP-02
Cobalt (Co)			<0.08		mg/kg		0.4	09-SEP-02
Copper (Cu)			<0.08		mg/kg		0.4	09-SEP-02
Lead (Pb)			0.04		mg/kg		0.2	09-SEP-02
Molybdenum (Mo)			<0.04		mg/kg		0.2	09-SEP-02
Nickel (Ni)			0.13		mg/kg		0.4	09-SEP-02
Silver (Ag)			<0.08		mg/kg		0.4	09-SEP-02
Strontium (Sr)			<0.04		mg/kg		0.2	09-SEP-02

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET1-FLORA-ED	Tissue							
Batch	R92149							
WG81737-1	MB							
Thallium (Tl)			<0.04		mg/kg		0.2	09-SEP-02
Zinc (Zn)			2.9	A	mg/kg		1	09-SEP-02
Tin (Sn)			2.61	A	mg/kg		0.4	09-SEP-02
WG81578-5	MS	L76761-95						
Aluminum (Al)			117	E	%		52-138	09-SEP-02
Antimony (Sb)			101		%		92-112	09-SEP-02
Barium (Ba)			122	E	%		73-129	09-SEP-02
Beryllium (Be)			110		%		81-119	09-SEP-02
Cadmium (Cd)			105		%		86-108	09-SEP-02
Chromium (Cr)			92		%		77-122	09-SEP-02
Cobalt (Co)			96		%		90-114	09-SEP-02
Copper (Cu)			97		%		84-114	09-SEP-02
Lead (Pb)			89		%		85-114	09-SEP-02
Molybdenum (Mo)			96		%		94-112	09-SEP-02
Nickel (Ni)			98		%		87-113	09-SEP-02
Silver (Ag)			83		%		21-109	09-SEP-02
Strontium (Sr)			111	E	%		70-121	09-SEP-02
Thallium (Tl)			91		%		87-115	09-SEP-02
Tin (Sn)			98		%		86-118	09-SEP-02
Zinc (Zn)			97	E	%		55-138	09-SEP-02
WG81737-5	MS	L76761-143						
Aluminum (Al)			104		%		52-138	09-SEP-02
Antimony (Sb)			105		%		92-112	09-SEP-02
Barium (Ba)			155	E	%		73-129	09-SEP-02
Beryllium (Be)			112		%		81-119	09-SEP-02
Cadmium (Cd)			112	H	%		86-108	09-SEP-02
Chromium (Cr)			100		%		77-122	09-SEP-02
Cobalt (Co)			103		%		90-114	09-SEP-02
Copper (Cu)			105		%		84-114	09-SEP-02
Lead (Pb)			96		%		85-114	09-SEP-02
Molybdenum (Mo)			102		%		94-112	09-SEP-02
Nickel (Ni)			102		%		87-113	09-SEP-02
Silver (Ag)			92		%		21-109	09-SEP-02
Strontium (Sr)			117		%		70-121	09-SEP-02
Thallium (Tl)			98		%		87-115	09-SEP-02
Tin (Sn)			112		%		86-118	09-SEP-02
Zinc (Zn)			151	E	%		55-138	09-SEP-02

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET1-FLORA-ED	Tissue							
Batch	R92498							
WG81777-2	CRM							
Antimony (Sb)			96		%		73-153	11-SEP-02
Cadmium (Cd)			94		%		76-96	11-SEP-02
Cobalt (Co)			95		%		85-159	11-SEP-02
Copper (Cu)			93		%		79-107	11-SEP-02
Nickel (Ni)			104		%		58-138	11-SEP-02
Zinc (Zn)			104		%		77-109	11-SEP-02
WG81777-4	DUP	L76761-217						
Aluminum (Al)		139	160		mg/kg	14	27	11-SEP-02
Antimony (Sb)		<0.04	<0.04	RPD-NA	mg/kg	N/A	27	11-SEP-02
Barium (Ba)		115	123		mg/kg	6.8	23	11-SEP-02
Beryllium (Be)		<0.2	<0.2	RPD-NA	mg/kg	N/A	20	11-SEP-02
Cadmium (Cd)		0.18	0.19	J	mg/kg	0.01	0.25	11-SEP-02
Chromium (Cr)		3.5	4.0		mg/kg	13	19	11-SEP-02
Cobalt (Co)		0.24	0.27	J	mg/kg	0.03	0.25	11-SEP-02
Copper (Cu)		4.52	4.60		mg/kg	1.7	18	11-SEP-02
Lead (Pb)		0.20	0.20	J	mg/kg	0.00	0.12	11-SEP-02
Molybdenum (Mo)		0.05	0.04	J	mg/kg	0.01	0.12	11-SEP-02
Nickel (Ni)		10.5	11.8		mg/kg	11	32	11-SEP-02
Silver (Ag)		<0.08	<0.08	RPD-NA	mg/kg	N/A	25	11-SEP-02
Strontium (Sr)		42.9	47.6		mg/kg	10	50	11-SEP-02
Thallium (Tl)		<0.04	<0.04	RPD-NA	mg/kg	N/A	20	11-SEP-02
Tin (Sn)		<0.08	<0.08	RAMB	mg/kg	N/A	44	11-SEP-02
Zinc (Zn)		40.6	43.1		mg/kg	6.1	29	11-SEP-02
WG81777-1	MB							
Aluminum (Al)			<4		mg/kg		20	11-SEP-02
Antimony (Sb)			<0.04		mg/kg		0.2	11-SEP-02
Barium (Ba)			0.36		mg/kg		0.4	11-SEP-02
Beryllium (Be)			<0.2		mg/kg		1	11-SEP-02
Cadmium (Cd)			<0.08		mg/kg		0.4	11-SEP-02
Chromium (Cr)			<0.2		mg/kg		1	11-SEP-02
Cobalt (Co)			<0.08		mg/kg		0.4	11-SEP-02
Copper (Cu)			<0.08		mg/kg		0.4	11-SEP-02
Lead (Pb)			0.06		mg/kg		0.2	11-SEP-02
Molybdenum (Mo)			<0.04		mg/kg		0.2	11-SEP-02
Nickel (Ni)			<0.08		mg/kg		0.4	11-SEP-02
Silver (Ag)			<0.08		mg/kg		0.4	11-SEP-02
Strontium (Sr)			0.08		mg/kg		0.2	11-SEP-02

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET1-FLORA-ED		Tissue						
Batch	R92498							
WG81777-1	MB							
Thallium (Tl)			<0.04		mg/kg		0.2	11-SEP-02
WG81777-5	MS	L76761-217						
Aluminum (Al)			116		%		52-138	11-SEP-02
Antimony (Sb)			100		%		92-112	11-SEP-02
Barium (Ba)			145	E	%		73-129	11-SEP-02
Beryllium (Be)			105		%		81-119	11-SEP-02
Cadmium (Cd)			106		%		86-108	11-SEP-02
Chromium (Cr)			84		%		77-122	11-SEP-02
Cobalt (Co)			100		%		90-114	11-SEP-02
Copper (Cu)			102		%		84-114	11-SEP-02
Lead (Pb)			94		%		85-114	11-SEP-02
Molybdenum (Mo)			95		%		94-112	11-SEP-02
Nickel (Ni)			101		%		87-113	11-SEP-02
Silver (Ag)			58		%		21-109	11-SEP-02
Strontium (Sr)			122	E	%		70-121	11-SEP-02
Thallium (Tl)			96		%		87-115	11-SEP-02
Tin (Sn)			102		%		86-118	11-SEP-02
Zinc (Zn)			156	H	%		55-138	11-SEP-02
MET2-FLORA-ED		Tissue						
Batch	R92987							
WG81523-2	CRM							
Calcium (Ca)			93		%		76-104	10-SEP-02
Iron (Fe)			86		%		55-108	10-SEP-02
Manganese (Mn)			95		%		80-118	10-SEP-02
Potassium (K)			100		%		73-127	10-SEP-02
Sodium (Na)			127		%		71-135	10-SEP-02
WG81523-3	CRM							
Calcium (Ca)			92		%		75-125	10-SEP-02
Manganese (Mn)			94		%		75-125	10-SEP-02
Potassium (K)			97		%		75-125	10-SEP-02
Sodium (Na)			96		%		75-125	10-SEP-02
WG81578-2	CRM							
Calcium (Ca)			90		%		76-104	10-SEP-02
Iron (Fe)			81		%		55-108	10-SEP-02
Manganese (Mn)			90		%		80-118	10-SEP-02
Potassium (K)			97		%		73-127	10-SEP-02
Sodium (Na)			89		%		71-135	10-SEP-02
WG81578-3	CRM							

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET2-FLORA-ED		Tissue						
Batch	R92987							
WG81578-3	CRM							
Calcium (Ca)			90		%		75-125	10-SEP-02
Manganese (Mn)			94		%		75-125	10-SEP-02
Potassium (K)			94		%		75-125	10-SEP-02
Sodium (Na)			92		%		75-125	10-SEP-02
WG81523-4	DUP	L76761-116						
Calcium (Ca)		1630	1680		mg/kg	2.7	20	10-SEP-02
Iron (Fe)		923	954		mg/kg	3.2	20	10-SEP-02
Magnesium (Mg)		554	554		mg/kg	0.071	20	10-SEP-02
Manganese (Mn)		57.2	56.8		mg/kg	0.73	20	10-SEP-02
Potassium (K)		841	862		mg/kg	2.5	20	10-SEP-02
Sodium (Na)		70	73		mg/kg	4.1	20	10-SEP-02
WG81578-4	DUP	L76761-95						
Calcium (Ca)		4660	4500		mg/kg	3.4	20	10-SEP-02
Iron (Fe)		95	97		mg/kg	1.5	20	10-SEP-02
Magnesium (Mg)		986	993		mg/kg	0.68	20	10-SEP-02
Manganese (Mn)		213	220		mg/kg	3.1	20	10-SEP-02
Potassium (K)		3470	3330		mg/kg	4.1	20	10-SEP-02
Sodium (Na)		26	27		mg/kg	4.8	20	10-SEP-02
WG81523-1	MB							
Calcium (Ca)			<10		mg/kg		50	10-SEP-02
Iron (Fe)			2		mg/kg		10	10-SEP-02
Magnesium (Mg)			4		mg/kg		10	10-SEP-02
Potassium (K)			4		mg/kg		10	10-SEP-02
Sodium (Na)			69	A	mg/kg		10	10-SEP-02
Manganese (Mn)			0.22	B	mg/kg		0.2	10-SEP-02
WG81578-1	MB							
Calcium (Ca)			<10		mg/kg		50	10-SEP-02
Iron (Fe)			3		mg/kg		10	10-SEP-02
Magnesium (Mg)			<2		mg/kg		10	10-SEP-02
Sodium (Na)			7		mg/kg		10	10-SEP-02
Manganese (Mn)			0.23	B	mg/kg		0.2	10-SEP-02
Potassium (K)			12	B	mg/kg		10	10-SEP-02
WG81523-5	MS	L76761-116						
Calcium (Ca)			96		%		75-125	10-SEP-02
Iron (Fe)			89		%		75-125	10-SEP-02
Magnesium (Mg)			89		%		75-125	10-SEP-02
Manganese (Mn)			90		%		75-125	10-SEP-02
Potassium (K)			94		%		75-125	10-SEP-02

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET2-FLORA-ED		Tissue						
Batch	R92987							
WG81523-5	MS	L76761-116						
Sodium (Na)			92		%		75-125	10-SEP-02
WG81578-5	MS	L76761-95						
Calcium (Ca)			104		%		75-125	10-SEP-02
Iron (Fe)			96		%		75-125	10-SEP-02
Magnesium (Mg)			96		%		75-125	10-SEP-02
Manganese (Mn)			99		%		75-125	10-SEP-02
Potassium (K)			113		%		75-125	10-SEP-02
Sodium (Na)			100		%		75-125	10-SEP-02
Batch	R92994							
WG81737-2	CRM							
Calcium (Ca)			93		%		76-104	11-SEP-02
Iron (Fe)			84		%		55-108	11-SEP-02
Manganese (Mn)			93		%		80-118	11-SEP-02
Potassium (K)			96		%		73-127	11-SEP-02
Sodium (Na)			91		%		71-135	11-SEP-02
WG81737-3	CRM							
Calcium (Ca)			90		%		75-125	11-SEP-02
Manganese (Mn)			94		%		75-125	11-SEP-02
Potassium (K)			93		%		75-125	11-SEP-02
Sodium (Na)			93		%		75-125	11-SEP-02
WG81777-2	CRM							
Calcium (Ca)			91		%		76-104	11-SEP-02
Iron (Fe)			79		%		55-108	11-SEP-02
Manganese (Mn)			92		%		80-118	11-SEP-02
Potassium (K)			97		%		73-127	11-SEP-02
Sodium (Na)			94		%		71-135	11-SEP-02
WG81777-3	CRM							
Calcium (Ca)			91		%		75-125	11-SEP-02
Manganese (Mn)			94		%		75-125	11-SEP-02
Potassium (K)			95		%		75-125	11-SEP-02
Sodium (Na)			95		%		75-125	11-SEP-02
WG81737-4	DUP	L76761-143						
Calcium (Ca)		4030	4100		mg/kg	1.8	20	11-SEP-02
Iron (Fe)		30	32		mg/kg	6.4	20	11-SEP-02
Magnesium (Mg)		1090	1100		mg/kg	1.6	20	11-SEP-02
Manganese (Mn)		321	328		mg/kg	2.0	20	11-SEP-02
Potassium (K)		3490	3600		mg/kg	3.1	20	11-SEP-02
Sodium (Na)		9	10	J	mg/kg	1	6.1	11-SEP-02
WG81777-4	DUP	L76761-217						

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET2-FLORA-ED	Tissue							
Batch	R92994							
WG81777-4	DUP	L76761-217						
Calcium (Ca)		6330	5270		mg/kg	18	20	11-SEP-02
Iron (Fe)		229	189		mg/kg	19	20	11-SEP-02
Magnesium (Mg)		1190	986		mg/kg	19	20	11-SEP-02
Manganese (Mn)		153	127		mg/kg	18	20	11-SEP-02
Potassium (K)		4260	3620		mg/kg	16	20	11-SEP-02
Sodium (Na)		41	52	H	mg/kg	24	20	11-SEP-02
WG81737-1	MB							
Calcium (Ca)			<10		mg/kg		50	11-SEP-02
Iron (Fe)			2		mg/kg		10	11-SEP-02
Magnesium (Mg)			<2		mg/kg		10	11-SEP-02
Potassium (K)			4		mg/kg		10	11-SEP-02
Sodium (Na)			4		mg/kg		10	11-SEP-02
Manganese (Mn)			0.22	B	mg/kg		0.2	11-SEP-02
WG81777-1	MB							
Calcium (Ca)			20		mg/kg		50	11-SEP-02
Iron (Fe)			<2		mg/kg		10	11-SEP-02
Magnesium (Mg)			4		mg/kg		10	11-SEP-02
Sodium (Na)			3		mg/kg		10	11-SEP-02
Manganese (Mn)			0.32	B	mg/kg		0.2	11-SEP-02
Potassium (K)			20	B	mg/kg		10	11-SEP-02
WG81737-5	MS	L76761-143						
Calcium (Ca)			100		%		75-125	11-SEP-02
Iron (Fe)			96		%		75-125	11-SEP-02
Magnesium (Mg)			98		%		75-125	11-SEP-02
Manganese (Mn)			98		%		75-125	11-SEP-02
Potassium (K)			100		%		75-125	11-SEP-02
Sodium (Na)			101		%		75-125	11-SEP-02
WG81777-5	MS	L76761-217						
Calcium (Ca)			99		%		75-125	11-SEP-02
Iron (Fe)			96		%		75-125	11-SEP-02
Magnesium (Mg)			98		%		75-125	11-SEP-02
Manganese (Mn)			99		%		75-125	11-SEP-02
Potassium (K)			94		%		75-125	11-SEP-02
Sodium (Na)			97		%		75-125	11-SEP-02
P-FLORA-ED	Tissue							

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-FLORA-ED	Tissue							
Batch R92987								
WG81523-2 CRM								
Phosphorus (P)			107		%		65-111	10-SEP-02
WG81523-3 CRM								
Phosphorus (P)			104		%		75-125	10-SEP-02
WG81578-2 CRM								
Phosphorus (P)			103		%		65-111	10-SEP-02
WG81578-3 CRM								
Phosphorus (P)			104		%		75-125	10-SEP-02
WG81523-4 DUP		L76761-116						
Phosphorus (P)		570	567		mg/kg	0.45	26	10-SEP-02
WG81578-4 DUP		L76761-95						
Phosphorus (P)		848	849		mg/kg	0.21	26	10-SEP-02
WG81523-1 MB								
Phosphorus (P)			<2		mg/kg		10	10-SEP-02
WG81578-1 MB								
Phosphorus (P)			<2		mg/kg		10	10-SEP-02
WG81523-5 MS		L76761-116						
Phosphorus (P)			106		%		68-156	10-SEP-02
WG81578-5 MS		L76761-95						
Phosphorus (P)			108		%		68-156	10-SEP-02
Batch R92994								
WG81737-2 CRM								
Phosphorus (P)			107		%		65-111	11-SEP-02
WG81737-3 CRM								
Phosphorus (P)			102		%		75-125	11-SEP-02
WG81777-2 CRM								
Phosphorus (P)			103		%		65-111	11-SEP-02
WG81777-3 CRM								
Phosphorus (P)			101		%		75-125	11-SEP-02
WG81737-4 DUP		L76761-143						
Phosphorus (P)		838	877		mg/kg	4.5	26	11-SEP-02
WG81777-4 DUP		L76761-217						
Phosphorus (P)		866	736		mg/kg	16	26	11-SEP-02
WG81737-1 MB								
Phosphorus (P)			<2		mg/kg		10	11-SEP-02
WG81777-1 MB								
Phosphorus (P)			<2		mg/kg		10	11-SEP-02
WG81737-5 MS		L76761-143						
Phosphorus (P)			104		%		68-156	11-SEP-02
WG81777-5 MS		L76761-217						
Phosphorus (P)			102		%		68-156	11-SEP-02
PAH-CCME-ED	Tissue							

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-ED	Tissue							
Batch	R92759							
WG78623-2	DUP	L76761-51						
Benzo(a)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	24	15-SEP-02
Benzo(a)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	28	15-SEP-02
Benzo(b)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	15-SEP-02
Benzo(k)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	21	15-SEP-02
Dibenzo(a,h)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	15-SEP-02
Indeno(1,2,3-cd)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	15-SEP-02
Naphthalene		0.02	0.02	J	mg/kg	0.00	0.031	15-SEP-02
Phenanthrene		0.03	0.03	J	mg/kg	0.00	0.031	15-SEP-02
Pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	15-SEP-02
Quinoline		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	15-SEP-02
WG78636-2	DUP	L76761-141						
Benzo(a)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	24	15-SEP-02
Benzo(a)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	28	15-SEP-02
Benzo(b)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	15-SEP-02
Benzo(k)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	21	15-SEP-02
Dibenzo(a,h)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	15-SEP-02
Indeno(1,2,3-cd)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	15-SEP-02
Naphthalene		0.03	0.02	J	mg/kg	0.01	0.031	15-SEP-02
Phenanthrene		0.01	<0.01	RPD-NA	mg/kg	N/A	23	15-SEP-02
Pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	15-SEP-02
Quinoline		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	15-SEP-02
WG78642-2	DUP	L76761-207						
Benzo(a)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	24	16-SEP-02
Benzo(a)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	28	16-SEP-02
Benzo(b)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	16-SEP-02
Benzo(k)fluoranthene		<0.01	<0.01	RPD-NA	mg/kg	N/A	21	16-SEP-02
Dibenzo(a,h)anthracene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	16-SEP-02
Indeno(1,2,3-cd)pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	16-SEP-02
Naphthalene		0.02	0.02	J	mg/kg	0.00	0.031	16-SEP-02
Phenanthrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	23	16-SEP-02
Pyrene		<0.01	<0.01	RPD-NA	mg/kg	N/A	27	16-SEP-02
Quinoline		<0.01	<0.01	RPD-NA	mg/kg	N/A	30	16-SEP-02
WG78623-1	MB							
Benzo(a)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(a)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(b)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(k)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Dibenzo(a,h)anthracene			<0.01					

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-ED	Tissue							
Batch	R92759							
WG78623-1	MB							
Dibenzo(a,h)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Indeno(1,2,3-cd)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Naphthalene			<0.01		mg/kg		0.01	15-SEP-02
Phenanthrene			<0.01		mg/kg		0.01	15-SEP-02
Pyrene			<0.01		mg/kg		0.01	15-SEP-02
Quinoline			<0.01		mg/kg		0.01	15-SEP-02
WG78631-1	MB							
Benzo(a)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(a)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(b)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(k)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Dibenzo(a,h)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Indeno(1,2,3-cd)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Naphthalene			<0.01		mg/kg		0.01	15-SEP-02
Phenanthrene			<0.01		mg/kg		0.01	15-SEP-02
Pyrene			<0.01		mg/kg		0.01	15-SEP-02
Quinoline			<0.01		mg/kg		0.01	15-SEP-02
WG78636-1	MB							
Benzo(a)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(a)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(b)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(k)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Dibenzo(a,h)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Indeno(1,2,3-cd)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Naphthalene			<0.01		mg/kg		0.01	15-SEP-02
Phenanthrene			<0.01		mg/kg		0.01	15-SEP-02
Pyrene			<0.01		mg/kg		0.01	15-SEP-02
Quinoline			<0.01		mg/kg		0.01	15-SEP-02
WG78639-1	MB							
Benzo(a)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(a)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(b)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(k)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Dibenzo(a,h)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Indeno(1,2,3-cd)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Naphthalene			<0.01		mg/kg		0.01	15-SEP-02
Phenanthrene			<0.01		mg/kg		0.01	15-SEP-02
Pyrene			<0.01		mg/kg		0.01	15-SEP-02

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-ED	Tissue							
Batch	R92759							
WG78639-1	MB							
Pyrene			<0.01		mg/kg		0.01	15-SEP-02
Quinoline			<0.01		mg/kg		0.01	15-SEP-02
WG78642-1	MB							
Benzo(a)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(a)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(b)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Benzo(k)fluoranthene			<0.01		mg/kg		0.01	15-SEP-02
Dibenzo(a,h)anthracene			<0.01		mg/kg		0.01	15-SEP-02
Indeno(1,2,3-cd)pyrene			<0.01		mg/kg		0.01	15-SEP-02
Naphthalene			<0.01		mg/kg		0.01	15-SEP-02
Phenanthrene			<0.01		mg/kg		0.01	15-SEP-02
Pyrene			<0.01		mg/kg		0.01	15-SEP-02
Quinoline			<0.01		mg/kg		0.01	15-SEP-02
WG78631-2	MS	L76761-55						
Naphthalene			92		%		72-107	15-SEP-02
Benzo(a)anthracene			98		%		83-109	15-SEP-02
Benzo(a)pyrene			92		%		79-108	15-SEP-02
Benzo(b)fluoranthene			96		%		80-108	15-SEP-02
Benzo(k)fluoranthene			88		%		73-103	15-SEP-02
Dibenzo(a,h)anthracene			94		%		71-113	15-SEP-02
Indeno(1,2,3-cd)pyrene			94		%		76-111	15-SEP-02
Phenanthrene			89		%		80-114	15-SEP-02
Pyrene			93		%		77-107	15-SEP-02
Quinoline			92		%		70-130	15-SEP-02
WG78639-2	MS	L76761-193						
Benzo(a)anthracene			99		%		83-109	15-SEP-02
Benzo(a)pyrene			89		%		79-108	15-SEP-02
Benzo(b)fluoranthene			99		%		80-108	15-SEP-02
Benzo(k)fluoranthene			97		%		73-103	15-SEP-02
Dibenzo(a,h)anthracene			88		%		71-113	15-SEP-02
Indeno(1,2,3-cd)pyrene			84		%		76-111	15-SEP-02
Naphthalene			86		%		72-107	15-SEP-02
Phenanthrene			99		%		80-114	15-SEP-02
Pyrene			89		%		77-107	15-SEP-02
Quinoline			82		%		70-130	15-SEP-02
PREP-MOISTURE-ED	Tissue							

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PREP-MOISTURE-ED Tissue								
Batch	R91426							
WG81070-1	DUP	L76761-218						
% Moisture		44	48		%	8.2	10	30-AUG-02
SE-FLORA-ED Tissue								
Batch	R98254							
WG88926-2	CRM							
Selenium (Se)			75		%		75-125	11-OCT-02
WG88926-3	DUP	L76761-190						
Selenium (Se)		0.3	0.4	J	mg/kg	0.1	0.61	11-OCT-02
WG88926-1	MB							
Selenium (Se)			<0.2		mg/kg		1	11-OCT-02
WG88926-4	MS	L76761-190						
Selenium (Se)			66	H	%		75-125	11-OCT-02
Batch	R98269							
WG88930-2	CRM							
Selenium (Se)			81		%		75-125	19-OCT-02
WG88930-3	DUP	L76761-116						
Selenium (Se)		0.2	<0.2	RPD-NA	mg/kg	N/A	28	19-OCT-02
WG88930-5	DUP	L76761-151						
Selenium (Se)		<0.2	<0.2	RPD-NA	mg/kg	N/A	28	19-OCT-02
WG88930-7	DUP	L76761-187						
Selenium (Se)		<0.2	<0.2	RPD-NA	mg/kg	N/A	28	19-OCT-02
WG88930-1	MB							
Selenium (Se)			<0.2		mg/kg		1	19-OCT-02
WG88930-6	MS	L76761-151						
Selenium (Se)			65	H	%		75-125	19-OCT-02
Batch	R98276							
WG88934-2	DUP	L76761-3						
Selenium (Se)		0.6	0.4	J	mg/kg	0.3	0.61	18-OCT-02
WG88934-6	DUP	L76761-76						
Selenium (Se)		0.3	0.3	J	mg/kg	0.0	0.61	18-OCT-02
WG88934-1	MB							
Selenium (Se)			<0.2		mg/kg		1	18-OCT-02
TI-FLORA-ED Tissue								
Batch	R92149							
WG81523-4	DUP	L76761-116						
Titanium (Ti)		33.0	32.4		mg/kg	1.7	63	09-SEP-02
WG81578-4	DUP	L76761-95						
Titanium (Ti)		2.84	2.64		mg/kg	7.5	63	09-SEP-02
WG81737-4	DUP	L76761-143						
Titanium (Ti)		1.13	1.04		mg/kg	8.8	63	09-SEP-02
WG81523-1	MB							

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TI-FLORA-ED	Tissue							
Batch	R92149							
WG81523-1	MB							
Titanium (Ti)			0.11		mg/kg		0.25	09-SEP-02
WG81578-1	MB							
Titanium (Ti)			0.11		mg/kg		0.25	09-SEP-02
WG81737-1	MB							
Titanium (Ti)			0.14		mg/kg		0.25	09-SEP-02
WG81578-5	MS	L76761-95						
Titanium (Ti)			95		%		54-142	09-SEP-02
WG81737-5	MS	L76761-143						
Titanium (Ti)			97		%		54-142	09-SEP-02
Batch	R92498							
WG81777-4	DUP	L76761-217						
Titanium (Ti)		6.06	6.76		mg/kg	11	63	11-SEP-02
WG81777-1	MB							
Titanium (Ti)			0.08		mg/kg		0.25	11-SEP-02
WG81777-5	MS	L76761-217						
Titanium (Ti)			98		%		54-142	11-SEP-02

Product - Batch and Sample Number Relations:

AL-SAR-ED	2					
R91826		L76761-2	L76761-11	L76761-12	L76761-13	L76761-22
		L76761-23	L76761-33	L76761-43	L76761-44	L76761-45
		L76761-57	L76761-58	L76761-68	L76761-69	L76761-79
		L76761-89	L76761-99	L76761-109	L76761-110	L76761-120
		L76761-121	L76761-122	L76761-134	L76761-135	L76761-147
		L76761-148	L76761-149	L76761-159	L76761-160	L76761-161
		L76761-171	L76761-172	L76761-182	L76761-183	L76761-194
		L76761-195	L76761-196	L76761-208	L76761-209	
AL-SAR-ED	2					
R91947		L76761-184				
C-INORG-ORG-SK	2					
R93743		L76761-2	L76761-11	L76761-12	L76761-13	L76761-22
		L76761-23	L76761-33	L76761-43	L76761-44	L76761-45
		L76761-57	L76761-58	L76761-68	L76761-69	L76761-79
		L76761-89	L76761-99	L76761-109	L76761-110	L76761-120
		L76761-121	L76761-122	L76761-134	L76761-135	L76761-147
		L76761-148	L76761-149	L76761-159	L76761-160	L76761-161
		L76761-171	L76761-172	L76761-182	L76761-183	L76761-184
		L76761-194	L76761-195	L76761-196	L76761-208	L76761-209
C-TOT-LECO-SK	2					
R93681		L76761-2	L76761-11	L76761-12	L76761-13	L76761-22
		L76761-23	L76761-33	L76761-43	L76761-44	L76761-45
		L76761-57	L76761-58	L76761-68	L76761-69	L76761-79
		L76761-89	L76761-99	L76761-109	L76761-110	L76761-120
		L76761-121	L76761-122	L76761-134	L76761-135	L76761-147

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
CEC-SK	R92111	2	L76761-148	L76761-149	L76761-159	L76761-160	L76761-161	
			L76761-171	L76761-172	L76761-182	L76761-183	L76761-184	
			L76761-194	L76761-195	L76761-196	L76761-208	L76761-209	
CEC-SK	R92112	2	L76761-2	L76761-11	L76761-12	L76761-13	L76761-22	
			L76761-23	L76761-33	L76761-43	L76761-44	L76761-45	
			L76761-57	L76761-58	L76761-68	L76761-69	L76761-79	
CL-SAR-ED	R91611	2	L76761-89	L76761-99	L76761-109	L76761-110	L76761-120	
			L76761-121	L76761-122	L76761-134	L76761-135	L76761-147	
			L76761-148	L76761-149	L76761-159	L76761-160	L76761-161	
HG-LOW-ED	R90572	2	L76761-171	L76761-172	L76761-182	L76761-183	L76761-184	
			L76761-194	L76761-195	L76761-196	L76761-208	L76761-209	
			L76761-2	L76761-11	L76761-12	L76761-13	L76761-22	
HG-LOW-ED	R90772	2	L76761-23	L76761-33	L76761-43	L76761-44	L76761-45	
			L76761-57	L76761-58	L76761-68	L76761-69	L76761-79	
			L76761-89	L76761-99	L76761-109	L76761-110	L76761-120	
METAL-LOW-EXD-ED	R90572	2	L76761-121	L76761-122	L76761-134	L76761-135	L76761-147	
			L76761-148	L76761-149	L76761-159	L76761-160	L76761-161	
			L76761-171	L76761-172				
METAL-LOW-EXD-ED	R90772	2	L76761-182	L76761-183	L76761-184	L76761-194	L76761-195	
			L76761-196	L76761-208	L76761-209			
METAL-LOW-EXD-ED	R98182	2	L76761-122					

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
PAH-CCME-ED	2							
R92341		L76761-1	L76761-24	L76761-34		L76761-46	L76761-59	
		L76761-70	L76761-80	L76761-90		L76761-100	L76761-111	
		L76761-123	L76761-136	L76761-150		L76761-162	L76761-173	
		L76761-185	L76761-197	L76761-210				
PREP-MOISTURE-ED	2							
R90016		L76761-1	L76761-24	L76761-34		L76761-46	L76761-59	
		L76761-70	L76761-80	L76761-90		L76761-100	L76761-111	
		L76761-123	L76761-136	L76761-150		L76761-162	L76761-173	
		L76761-185	L76761-197	L76761-210				
PSA-1-ED	2							
R91378		L76761-2	L76761-11	L76761-12		L76761-13	L76761-22	
		L76761-23	L76761-33	L76761-43		L76761-44	L76761-45	
		L76761-57	L76761-58					
PSA-1-ED	2							
R91528		L76761-68	L76761-69	L76761-79		L76761-89	L76761-99	
		L76761-109	L76761-110	L76761-120		L76761-121	L76761-122	
		L76761-134	L76761-135					
PSA-1-ED	2							
R91733		L76761-147	L76761-148	L76761-149		L76761-159	L76761-160	
		L76761-161	L76761-171	L76761-172		L76761-182	L76761-183	
		L76761-184	L76761-194	L76761-195		L76761-196	L76761-208	
		L76761-209						
SAR-CALC-ED	2							
R91826		L76761-2	L76761-11	L76761-12		L76761-13	L76761-22	
		L76761-23	L76761-33	L76761-43		L76761-44	L76761-45	
		L76761-57	L76761-58	L76761-68		L76761-69	L76761-79	
		L76761-89	L76761-99	L76761-109		L76761-110	L76761-120	
		L76761-121	L76761-122	L76761-134		L76761-135	L76761-147	
		L76761-148	L76761-149	L76761-159		L76761-160	L76761-161	
		L76761-171	L76761-172	L76761-182		L76761-183	L76761-194	
		L76761-195	L76761-196	L76761-208		L76761-209		
SAR-CALC-ED	2							
R91947		L76761-184						
SAT/PH/EC-ED	2							
R91305		L76761-2	L76761-11	L76761-12		L76761-13	L76761-22	
		L76761-23	L76761-33	L76761-43		L76761-44	L76761-45	
SAT/PH/EC-ED	2							
R91487		L76761-135	L76761-147	L76761-148		L76761-149	L76761-159	
		L76761-160	L76761-161	L76761-171		L76761-172	L76761-182	
		L76761-183	L76761-184	L76761-194		L76761-195	L76761-196	
		L76761-208	L76761-209					
SAT/PH/EC-ED	2							
R91488		L76761-57	L76761-58	L76761-68		L76761-69	L76761-79	
		L76761-89	L76761-99	L76761-109		L76761-110	L76761-120	
		L76761-121	L76761-122	L76761-134				

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
SO4-SAR-ED	2							
R91826		L76761-2	L76761-11	L76761-12	L76761-13	L76761-22		
		L76761-23	L76761-33	L76761-43	L76761-44	L76761-45		
		L76761-57	L76761-58	L76761-68	L76761-69	L76761-79		
		L76761-89	L76761-99	L76761-109	L76761-110	L76761-120		
		L76761-121	L76761-122	L76761-134	L76761-135	L76761-147		
		L76761-148	L76761-149	L76761-159	L76761-160	L76761-161		
		L76761-171	L76761-172	L76761-182	L76761-183	L76761-194		
		L76761-195	L76761-196	L76761-208	L76761-209			
SO4-SAR-ED	2							
R91947		L76761-184						
AS-FLORA-ED	20							
R92149		L76761-3	L76761-4	L76761-5	L76761-7	L76761-8		
		L76761-9	L76761-14	L76761-15	L76761-16	L76761-18		
		L76761-19	L76761-20	L76761-25	L76761-26	L76761-27		
		L76761-29	L76761-30	L76761-31	L76761-35	L76761-36		
		L76761-37	L76761-39	L76761-40	L76761-41	L76761-47		
		L76761-48	L76761-49	L76761-52	L76761-53	L76761-54		
		L76761-60	L76761-61	L76761-62	L76761-64	L76761-65		
		L76761-66	L76761-71	L76761-72	L76761-73	L76761-75		
		L76761-76	L76761-77	L76761-81	L76761-82	L76761-83		
		L76761-85	L76761-86	L76761-87	L76761-91	L76761-92		
		L76761-93	L76761-95	L76761-96	L76761-97	L76761-101		
		L76761-102	L76761-103	L76761-105	L76761-106	L76761-107		
		L76761-112	L76761-113	L76761-114	L76761-116	L76761-117		
		L76761-118	L76761-124	L76761-125	L76761-126	L76761-129		
		L76761-130	L76761-131	L76761-137	L76761-138	L76761-139		
		L76761-142	L76761-143	L76761-151	L76761-152	L76761-153		
		L76761-163	L76761-164	L76761-165	L76761-178	L76761-179		
		L76761-180	L76761-190	L76761-191	L76761-192	L76761-203		
		L76761-204	L76761-205	L76761-211	L76761-212			
AS-FLORA-ED	20							
R92498		L76761-144	L76761-155	L76761-156	L76761-157	L76761-167		
		L76761-168	L76761-169	L76761-174	L76761-175	L76761-176		
		L76761-186	L76761-187	L76761-188	L76761-198	L76761-199		
		L76761-200	L76761-213	L76761-216	L76761-217	L76761-218		
HG-FLORA-ED	20							
R92149		L76761-3	L76761-4	L76761-5	L76761-7	L76761-8		
		L76761-9	L76761-14	L76761-15	L76761-16	L76761-18		
		L76761-19	L76761-20	L76761-25	L76761-26	L76761-27		
		L76761-29	L76761-30	L76761-31	L76761-35	L76761-36		
		L76761-37	L76761-39	L76761-40	L76761-41	L76761-47		
		L76761-48	L76761-49	L76761-52	L76761-53	L76761-54		
		L76761-60	L76761-61	L76761-62	L76761-64	L76761-65		
		L76761-66	L76761-71	L76761-72	L76761-73	L76761-75		
		L76761-76	L76761-77	L76761-81	L76761-82	L76761-83		
		L76761-85	L76761-86	L76761-87	L76761-91	L76761-92		
		L76761-93	L76761-95	L76761-96	L76761-97	L76761-101		

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
HG-FLORA-ED	20	L76761-102	L76761-103	L76761-105	L76761-106	L76761-107		
		L76761-112	L76761-113	L76761-114	L76761-116	L76761-117		
		L76761-118	L76761-124	L76761-125	L76761-126	L76761-129		
		L76761-130	L76761-131	L76761-137	L76761-138	L76761-139		
		L76761-142	L76761-143	L76761-151	L76761-152	L76761-153		
		L76761-163	L76761-164	L76761-165	L76761-178	L76761-179		
		L76761-180	L76761-190	L76761-191	L76761-192	L76761-203		
		L76761-204	L76761-205	L76761-211	L76761-212			
		L76761-144	L76761-155	L76761-156	L76761-157	L76761-167		
		L76761-168	L76761-169	L76761-174	L76761-175	L76761-176		
MET1-FLORA-ED	20	L76761-186	L76761-187	L76761-188	L76761-198	L76761-199		
		L76761-200	L76761-213	L76761-216	L76761-217	L76761-218		
		L76761-3	L76761-4	L76761-5	L76761-7	L76761-8		
		L76761-9	L76761-14	L76761-15	L76761-16	L76761-18		
		L76761-19	L76761-20	L76761-25	L76761-26	L76761-27		
		L76761-29	L76761-30	L76761-31	L76761-35	L76761-36		
		L76761-37	L76761-39	L76761-40	L76761-41	L76761-47		
		L76761-48	L76761-49	L76761-52	L76761-53	L76761-54		
		L76761-60	L76761-61	L76761-62	L76761-64	L76761-65		
		L76761-66	L76761-71	L76761-72	L76761-73	L76761-75		
MET1-FLORA-ED	20	L76761-76	L76761-77	L76761-81	L76761-82	L76761-83		
		L76761-85	L76761-86	L76761-87	L76761-91	L76761-92		
		L76761-93	L76761-95	L76761-96	L76761-97	L76761-101		
		L76761-102	L76761-103	L76761-105	L76761-106	L76761-107		
		L76761-112	L76761-113	L76761-114	L76761-116	L76761-117		
		L76761-118	L76761-124	L76761-125	L76761-126	L76761-129		
		L76761-130	L76761-131	L76761-137	L76761-138	L76761-139		
		L76761-142	L76761-143	L76761-151	L76761-152	L76761-153		
		L76761-163	L76761-164	L76761-165	L76761-178	L76761-179		
		L76761-180	L76761-190	L76761-191	L76761-192	L76761-203		
MET1-FLORA-ED	20	L76761-204	L76761-205	L76761-211	L76761-212			
		L76761-144	L76761-155	L76761-156	L76761-157	L76761-167		
		L76761-168	L76761-169	L76761-174	L76761-175	L76761-176		
		L76761-186	L76761-187	L76761-188	L76761-198	L76761-199		
		L76761-200	L76761-213	L76761-216	L76761-217	L76761-218		
		L76761-3	L76761-4	L76761-5	L76761-7	L76761-8		
		L76761-9	L76761-14	L76761-15	L76761-16	L76761-18		
		L76761-19	L76761-20	L76761-25	L76761-26	L76761-27		
		L76761-29	L76761-30	L76761-31	L76761-35	L76761-36		
		L76761-37	L76761-39	L76761-40	L76761-41	L76761-47		
MET1-FLORA-ED	20	L76761-48	L76761-49	L76761-52	L76761-53	L76761-54		
		L76761-60	L76761-61	L76761-62	L76761-64	L76761-65		
		L76761-66	L76761-71	L76761-72	L76761-73	L76761-75		
		L76761-76	L76761-77	L76761-81	L76761-82	L76761-83		
		L76761-85	L76761-86	L76761-87	L76761-91	L76761-92		
		L76761-93	L76761-95	L76761-96	L76761-97	L76761-101		
		L76761-102	L76761-103	L76761-105	L76761-106	L76761-107		
		L76761-112	L76761-113	L76761-114	L76761-116	L76761-117		
		L76761-118	L76761-124	L76761-125	L76761-126	L76761-129		
		L76761-130	L76761-131	L76761-137	L76761-138	L76761-139		

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
MET1-FLORA-ED	20		L76761-76	L76761-77	L76761-81	L76761-82	L76761-83	
			L76761-85	L76761-86	L76761-87	L76761-91	L76761-92	
			L76761-93	L76761-95	L76761-101	L76761-102	L76761-103	
			L76761-116	L76761-117	L76761-118	L76761-129	L76761-130	
			L76761-131	L76761-137				
MET1-FLORA-ED	20	R92994	L76761-96	L76761-97	L76761-105	L76761-106	L76761-107	
			L76761-112	L76761-113	L76761-114	L76761-124	L76761-125	
			L76761-126	L76761-138	L76761-139	L76761-142	L76761-143	
			L76761-144	L76761-151	L76761-152	L76761-153	L76761-155	
			L76761-156	L76761-157	L76761-163	L76761-164	L76761-165	
			L76761-167	L76761-168	L76761-169	L76761-174	L76761-175	
			L76761-176	L76761-178	L76761-179	L76761-180	L76761-186	
			L76761-187	L76761-188	L76761-190	L76761-191	L76761-192	
			L76761-198	L76761-199	L76761-200	L76761-203	L76761-204	
			L76761-205	L76761-211	L76761-212	L76761-213	L76761-216	
MET2-FLORA-ED	20		L76761-217	L76761-218				
MET2-FLORA-ED	20	R92987	L76761-3	L76761-4	L76761-5	L76761-7	L76761-8	
			L76761-9	L76761-14	L76761-15	L76761-16	L76761-18	
			L76761-19	L76761-20	L76761-25	L76761-26	L76761-27	
			L76761-29	L76761-30	L76761-31	L76761-35	L76761-36	
			L76761-37	L76761-39	L76761-40	L76761-41	L76761-47	
			L76761-48	L76761-49	L76761-52	L76761-53	L76761-54	
			L76761-60	L76761-61	L76761-62	L76761-64	L76761-65	
			L76761-66	L76761-71	L76761-72	L76761-73	L76761-75	
			L76761-76	L76761-77	L76761-81	L76761-82	L76761-83	
			L76761-85	L76761-86	L76761-87	L76761-91	L76761-92	
MET2-FLORA-ED	20		L76761-93	L76761-95	L76761-101	L76761-102	L76761-103	
			L76761-116	L76761-117	L76761-118	L76761-129	L76761-130	
			L76761-131	L76761-137				
MET2-FLORA-ED	20	R92994	L76761-96	L76761-97	L76761-105	L76761-106	L76761-107	
			L76761-112	L76761-113	L76761-114	L76761-124	L76761-125	
			L76761-126	L76761-138	L76761-139	L76761-142	L76761-143	
			L76761-144	L76761-151	L76761-152	L76761-153	L76761-155	
			L76761-156	L76761-157	L76761-163	L76761-164	L76761-165	
			L76761-167	L76761-168	L76761-169	L76761-174	L76761-175	
			L76761-176	L76761-178	L76761-179	L76761-180	L76761-186	
			L76761-187	L76761-188	L76761-190	L76761-191	L76761-192	
			L76761-198	L76761-199	L76761-200	L76761-203	L76761-204	
			L76761-205	L76761-211	L76761-212	L76761-213	L76761-216	
MET2-FLORA-ED	20		L76761-217	L76761-218				
MET2-FLORA-ED	20	R93657	L76761-3					

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
P-FLORA-ED	20							
R92987		L76761-3	L76761-4	L76761-5		L76761-7		L76761-8
		L76761-9	L76761-14	L76761-15		L76761-16		L76761-18
		L76761-19	L76761-20	L76761-25		L76761-26		L76761-27
		L76761-29	L76761-30	L76761-31		L76761-35		L76761-36
		L76761-37	L76761-39	L76761-40		L76761-41		L76761-47
		L76761-48	L76761-49	L76761-52		L76761-53		L76761-54
		L76761-60	L76761-61	L76761-62		L76761-64		L76761-65
		L76761-66	L76761-71	L76761-72		L76761-73		L76761-75
		L76761-76	L76761-77	L76761-81		L76761-82		L76761-83
		L76761-85	L76761-86	L76761-87		L76761-91		L76761-92
		L76761-93	L76761-95	L76761-101		L76761-102		L76761-103
		L76761-116	L76761-117	L76761-118		L76761-129		L76761-130
		L76761-131	L76761-137					
P-FLORA-ED	20							
R92994		L76761-96	L76761-97	L76761-105		L76761-106		L76761-107
		L76761-112	L76761-113	L76761-114		L76761-124		L76761-125
		L76761-126	L76761-138	L76761-139		L76761-142		L76761-143
		L76761-144	L76761-151	L76761-152		L76761-153		L76761-155
		L76761-156	L76761-157	L76761-163		L76761-164		L76761-165
		L76761-167	L76761-168	L76761-169		L76761-174		L76761-175
		L76761-176	L76761-178	L76761-179		L76761-180		L76761-186
		L76761-187	L76761-188	L76761-190		L76761-191		L76761-192
		L76761-198	L76761-199	L76761-200		L76761-203		L76761-204
		L76761-205	L76761-211	L76761-212		L76761-213		L76761-216
		L76761-217	L76761-218					
PAH-CCME-ED	20							
R92759		L76761-6	L76761-10	L76761-17		L76761-21		L76761-28
		L76761-32	L76761-38	L76761-42		L76761-50		L76761-51
		L76761-55	L76761-56	L76761-63		L76761-67		L76761-74
		L76761-78	L76761-84	L76761-88		L76761-94		L76761-98
		L76761-104	L76761-108	L76761-115		L76761-119		L76761-127
		L76761-128	L76761-132	L76761-133		L76761-140		L76761-141
		L76761-145	L76761-146	L76761-154		L76761-158		L76761-166
		L76761-170	L76761-177	L76761-181		L76761-189		L76761-193
		L76761-201	L76761-202	L76761-206		L76761-207		L76761-214
		L76761-215	L76761-219	L76761-220				
PREP-MOISTURE-ED	20							
R91423		L76761-3	L76761-4	L76761-5		L76761-14		L76761-15
		L76761-16	L76761-25	L76761-26		L76761-27		L76761-35
		L76761-36	L76761-37	L76761-52		L76761-53		L76761-54
		L76761-64	L76761-65	L76761-66		L76761-75		L76761-76
		L76761-77	L76761-81	L76761-82		L76761-83		L76761-91
		L76761-92	L76761-93					
PREP-MOISTURE-ED	20							
R91425		L76761-101	L76761-102	L76761-103		L76761-116		L76761-117
		L76761-118	L76761-129	L76761-130		L76761-131		L76761-137
		L76761-138	L76761-139	L76761-151		L76761-152		L76761-153

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Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
PREP-MOISTURE-ED R91426	20	L76761-163	L76761-164	L76761-165		L76761-178		L76761-179
		L76761-180	L76761-190	L76761-191		L76761-192		L76761-203
		L76761-204	L76761-205	L76761-211		L76761-212		L76761-213
		L76761-7	L76761-8	L76761-9		L76761-18		L76761-19
		L76761-20	L76761-29	L76761-30		L76761-31		L76761-39
		L76761-40	L76761-41	L76761-47		L76761-48		L76761-49
		L76761-60	L76761-61	L76761-62		L76761-71		L76761-72
		L76761-73	L76761-85	L76761-86		L76761-87		L76761-95
		L76761-96	L76761-97	L76761-105		L76761-106		L76761-107
		L76761-112	L76761-113	L76761-114		L76761-124		L76761-125
		L76761-126	L76761-142	L76761-143		L76761-144		L76761-155
		L76761-156	L76761-157	L76761-167		L76761-168		L76761-169
		L76761-174	L76761-175	L76761-176		L76761-186		L76761-187
		L76761-188	L76761-198	L76761-199		L76761-200		L76761-216
		L76761-217	L76761-218					
SE-FLORA-ED R98254	20	L76761-190	L76761-191	L76761-192		L76761-198		L76761-199
		L76761-200	L76761-203	L76761-204		L76761-205		L76761-211
		L76761-212	L76761-213	L76761-216		L76761-217		
SE-FLORA-ED R98269	20	L76761-37	L76761-97	L76761-112		L76761-113		L76761-114
		L76761-116	L76761-117	L76761-118		L76761-124		L76761-125
		L76761-126	L76761-129	L76761-130		L76761-131		L76761-137
		L76761-138	L76761-139	L76761-142		L76761-143		L76761-144
		L76761-151	L76761-152	L76761-153		L76761-155		L76761-156
		L76761-157	L76761-163	L76761-164		L76761-165		L76761-167
		L76761-168	L76761-169	L76761-174		L76761-175		L76761-176
		L76761-178	L76761-179	L76761-180		L76761-186		L76761-187
		L76761-188	L76761-218					
SE-FLORA-ED R98276	20	L76761-3	L76761-4	L76761-5		L76761-7		L76761-8
		L76761-9	L76761-14	L76761-15		L76761-16		L76761-18
		L76761-19	L76761-20	L76761-25		L76761-26		L76761-27
		L76761-29	L76761-30	L76761-31		L76761-35		L76761-36
		L76761-39	L76761-40	L76761-41		L76761-47		L76761-48
		L76761-49	L76761-52	L76761-53		L76761-54		L76761-60
		L76761-61	L76761-62	L76761-64		L76761-65		L76761-66
		L76761-71	L76761-72	L76761-73		L76761-75		L76761-76
		L76761-77	L76761-81	L76761-82		L76761-83		L76761-85
		L76761-86	L76761-87	L76761-91		L76761-92		L76761-93
		L76761-95	L76761-96	L76761-101		L76761-102		L76761-103
		L76761-105	L76761-106	L76761-107				
TI-FLORA-ED R92149	20	L76761-3	L76761-4	L76761-5		L76761-7		L76761-8
		L76761-9	L76761-14	L76761-15		L76761-16		L76761-18

ENVIRO-TEST QC REPORT

Workorder: L76761

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Product - Batch and Sample Number Relations:								
		L76761-19	L76761-20	L76761-25		L76761-26		L76761-27
		L76761-29	L76761-30	L76761-31		L76761-35		L76761-36
		L76761-37	L76761-39	L76761-40		L76761-41		L76761-47
		L76761-48	L76761-49	L76761-52		L76761-53		L76761-54
		L76761-60	L76761-61	L76761-62		L76761-64		L76761-65
		L76761-66	L76761-71	L76761-72		L76761-73		L76761-75
		L76761-76	L76761-77	L76761-81		L76761-82		L76761-83
		L76761-85	L76761-86	L76761-87		L76761-91		L76761-92
		L76761-93	L76761-95	L76761-96		L76761-97		L76761-101
		L76761-102	L76761-103	L76761-105		L76761-106		L76761-107
		L76761-112	L76761-113	L76761-114		L76761-116		L76761-117
		L76761-118	L76761-124	L76761-125		L76761-126		L76761-129
		L76761-130	L76761-131	L76761-137		L76761-138		L76761-139
		L76761-142	L76761-143	L76761-151		L76761-152		L76761-153
		L76761-163	L76761-164	L76761-165		L76761-178		L76761-179
		L76761-180	L76761-190	L76761-191		L76761-192		L76761-203
		L76761-204	L76761-205	L76761-211		L76761-212		
TI-FLORA-ED	20							
R92498		L76761-144	L76761-155	L76761-156		L76761-157		L76761-167
		L76761-168	L76761-169	L76761-174		L76761-175		L76761-176
		L76761-186	L76761-187	L76761-188		L76761-198		L76761-199
		L76761-200	L76761-213	L76761-216		L76761-217		L76761-218

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Legend:

Limit	95% Confidence Interval (Laboratory Warning Limits)
DUP	Duplicate
RPD	Relative Percent Difference ((higher result-lower result)/Average, expressed as %)
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Materials
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material

Qualifier:

RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
A	Method blank exceeds acceptance limit. Blank correction applied, where appropriate.
B	Method blank result exceeds acceptance limit, however, it is less than 5% of sample concentration. Blank correction not applied.
D	Duplicate result may exceed limit due to increased variability for low level samples.
E	Matrix spike recovery may fall outside the acceptance limits due to high sample background.
F	Silver recovery low, likely due to elevated chloride levels in sample.
G	Outlier - No assignable cause for nonconformity has been determined.
H	Result falls within the 99% Confidence Interval (Laboratory Control Limits)
J	Duplicate results and limit(s) are expressed in terms of absolute difference.

APPENDIX III

GRAPHS OF SOIL CONCENTRATION VERSUS DISTANCE FROM SNAP LAKE DIAMOND PROJECT

Figure III-1 Aluminum Concentration versus Distance from the Mine Footprint Boundary

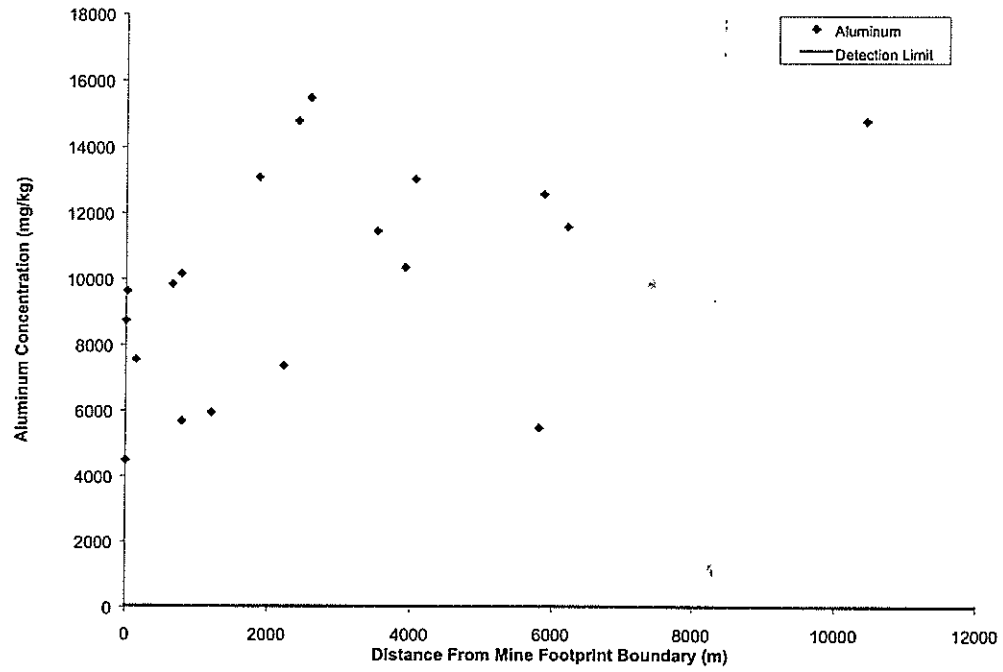


Figure III-2 Arsenic Concentration versus Distance from the Mine Footprint Boundary

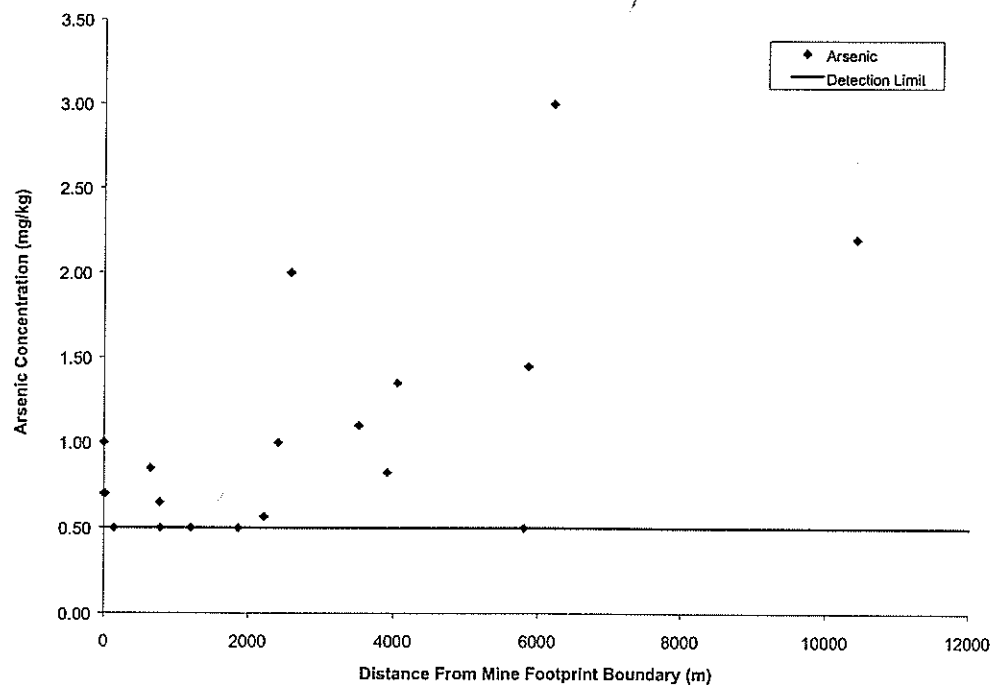


Figure III-3 Barium Concentration versus Distance from the Mine Footprint Boundary

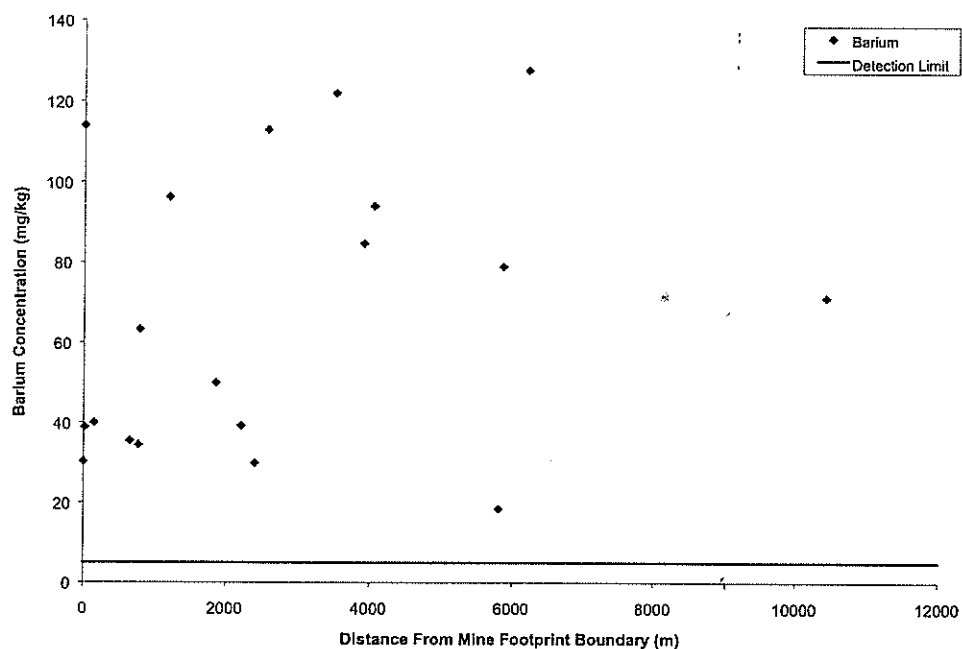


Figure III-4 Beryllium Concentration versus Distance from the Mine Footprint Boundary

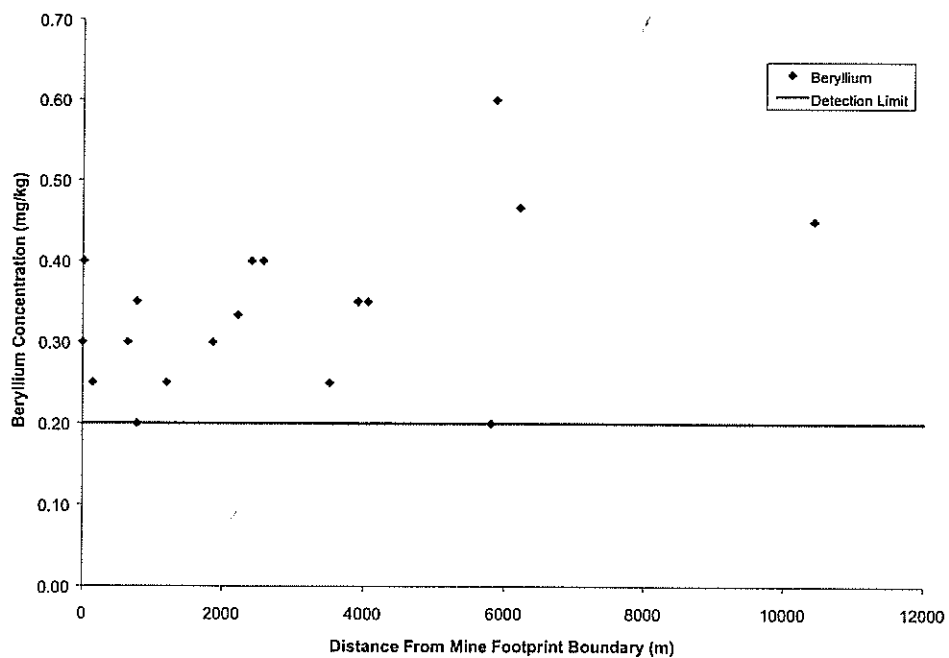


Figure III-5 Boron Concentration versus Distance from the Mine Footprint Boundary

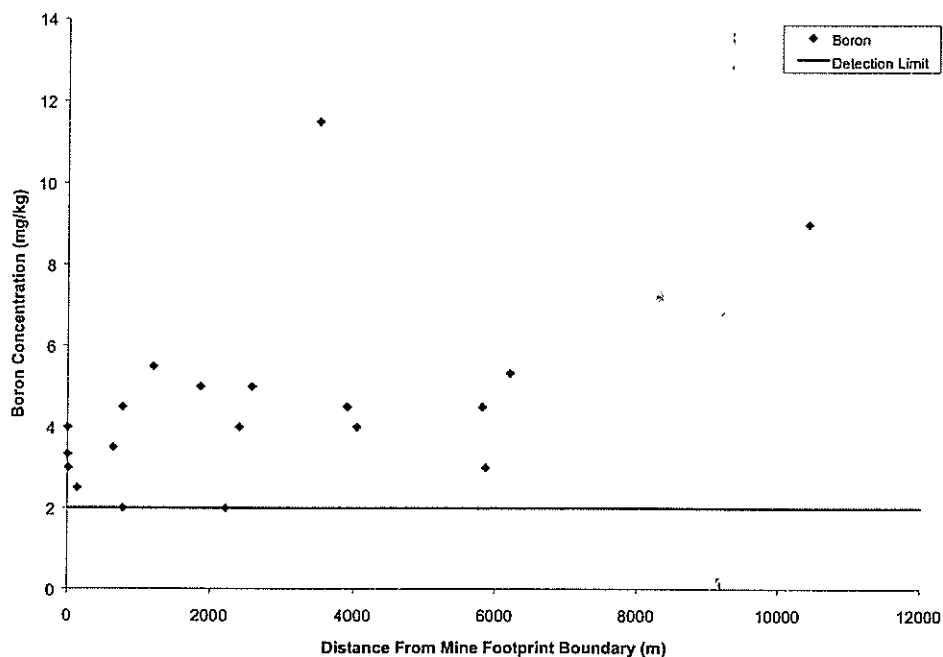


Figure III-6 Cadmium Concentration versus Distance from the Mine Footprint Boundary

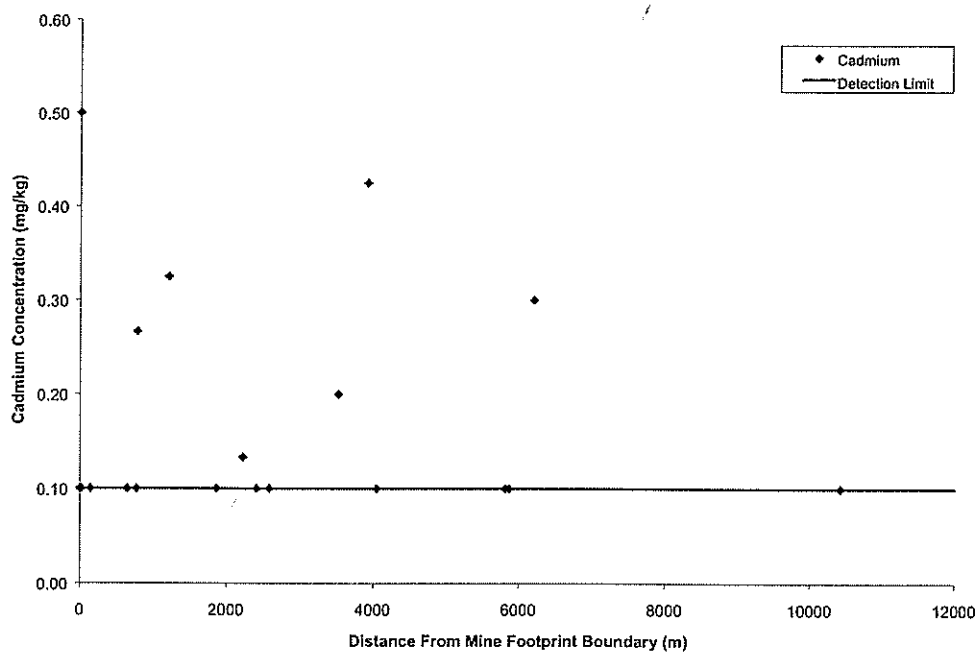


Figure III-7 Chromium Concentration versus Distance from the Mine Footprint Boundary

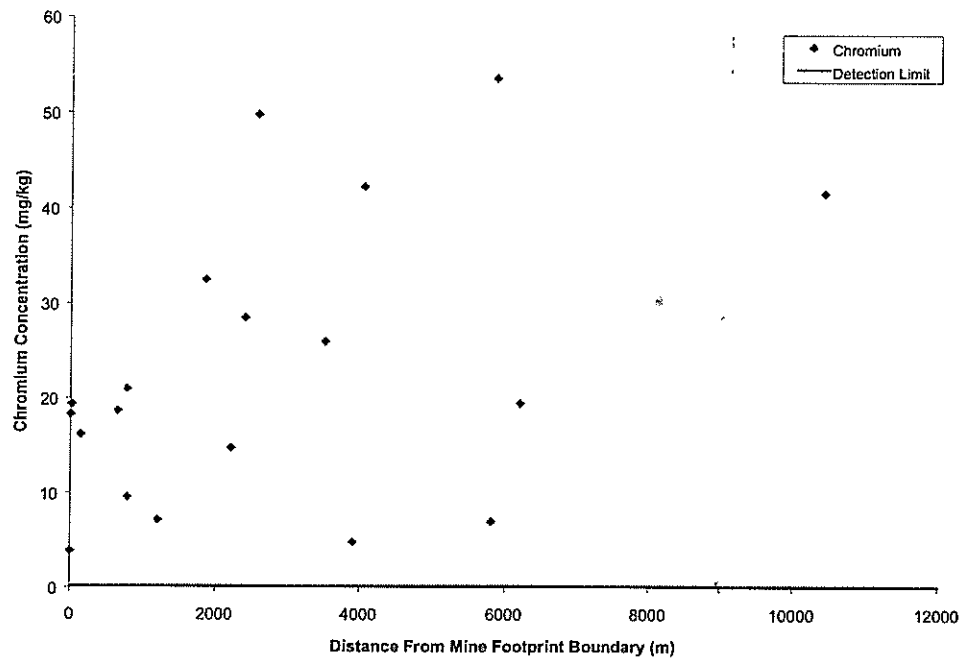


Figure III-8 Cobalt Concentration versus Distance from the Mine Footprint Boundary

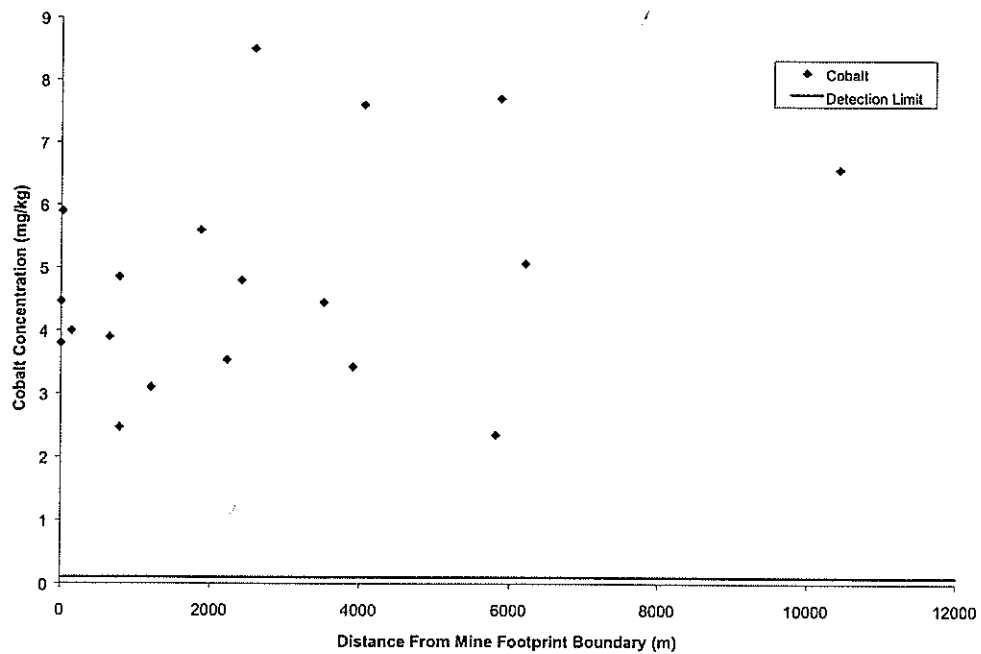


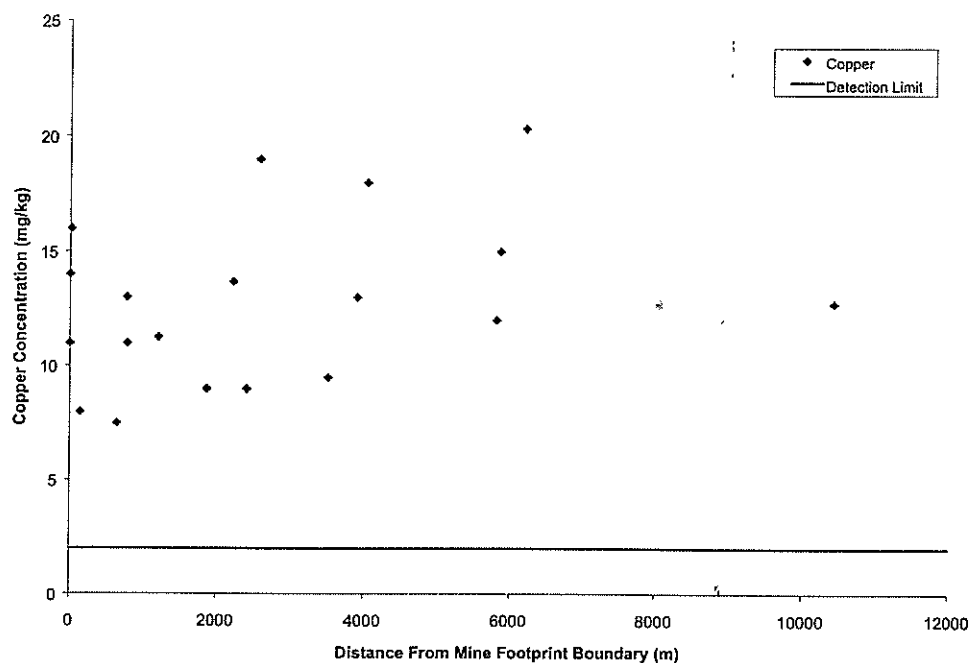
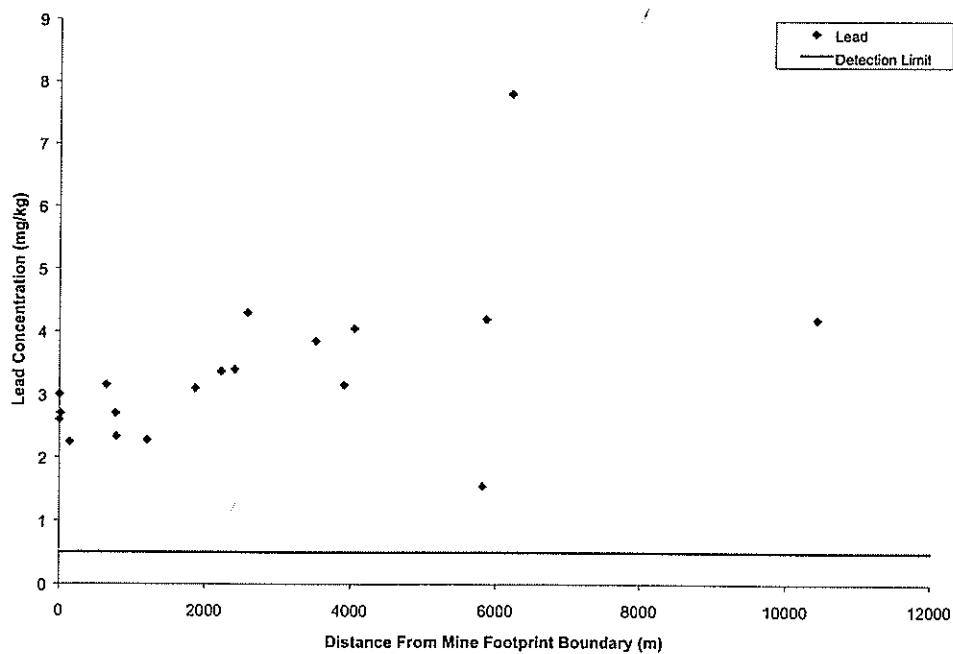
Figure III-9 Copper Concentration versus Distance from the Mine Footprint Boundary**Figure III-10 Lead Concentration versus Distance from the Mine Footprint Boundary**

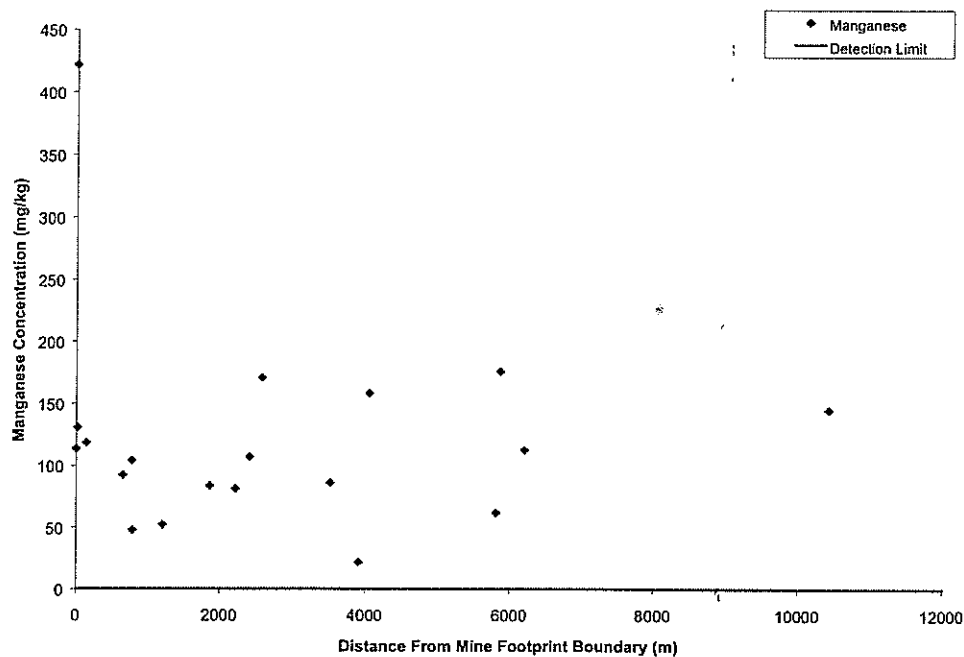
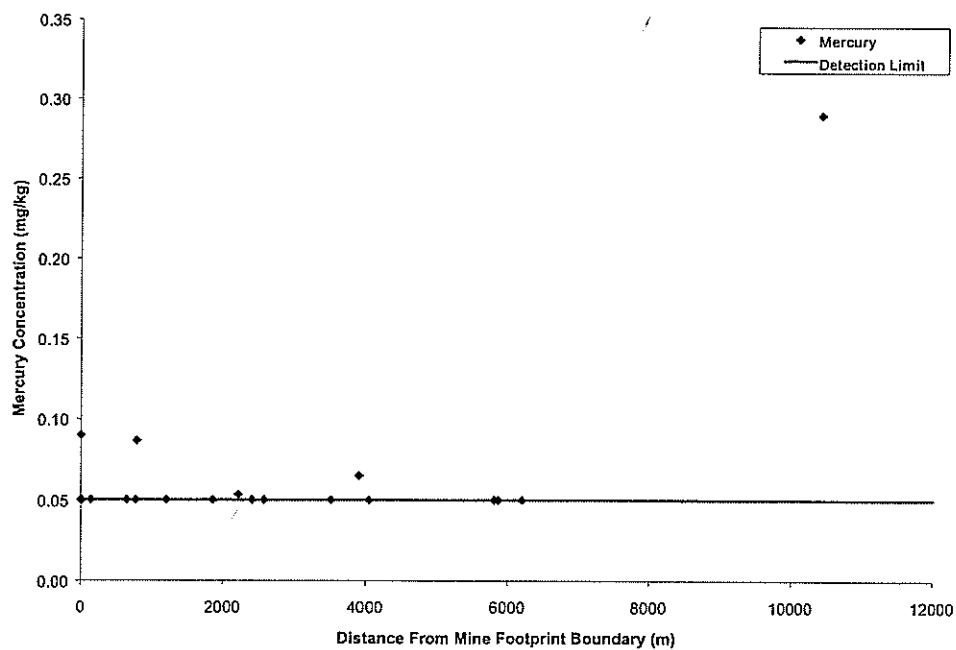
Figure III-11 Manganese Concentration versus Distance from the Mine Footprint Boundary**Figure III-12 Mercury Concentration versus Distance from the Mine Footprint Boundary**

Figure III-13 Molybdenum Concentration versus Distance from the Mine Footprint Boundary

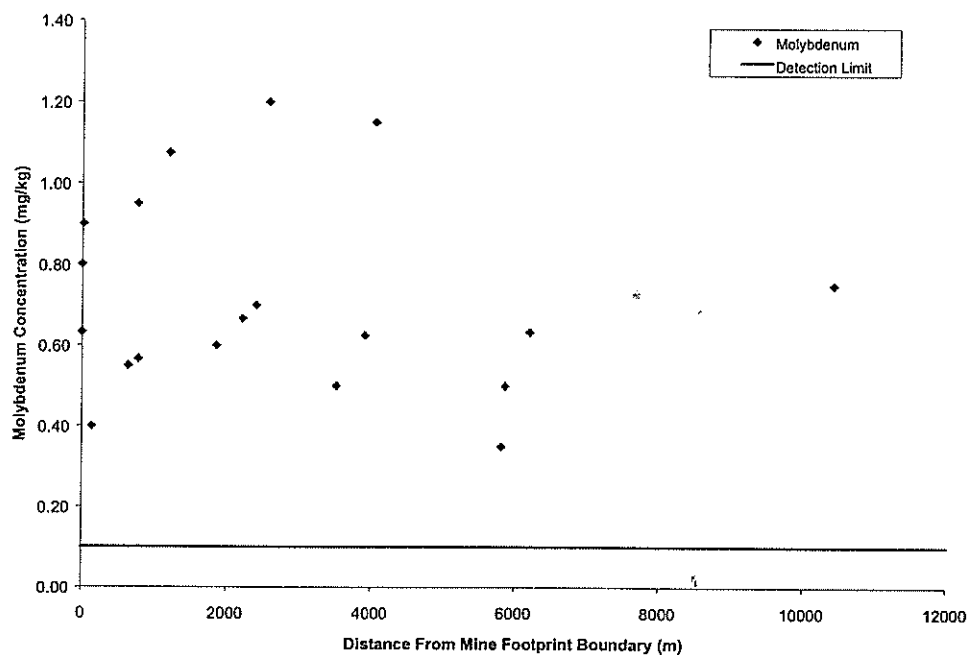


Figure III-14 Nickel Concentration versus Distance from the Mine Footprint Boundary

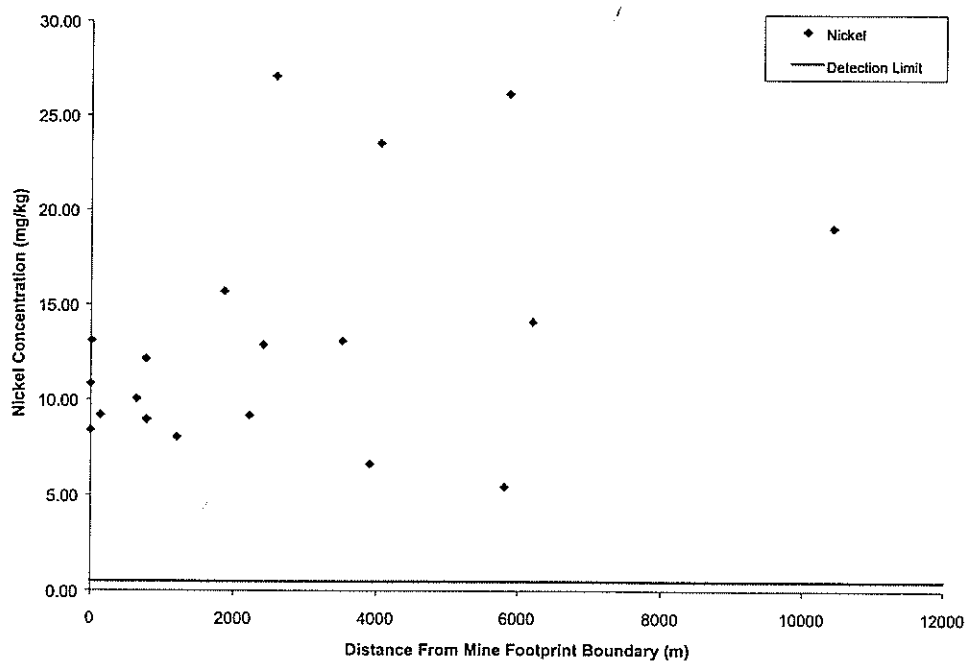


Figure III-15 Selenium Concentration versus Distance from the Mine Footprint Boundary

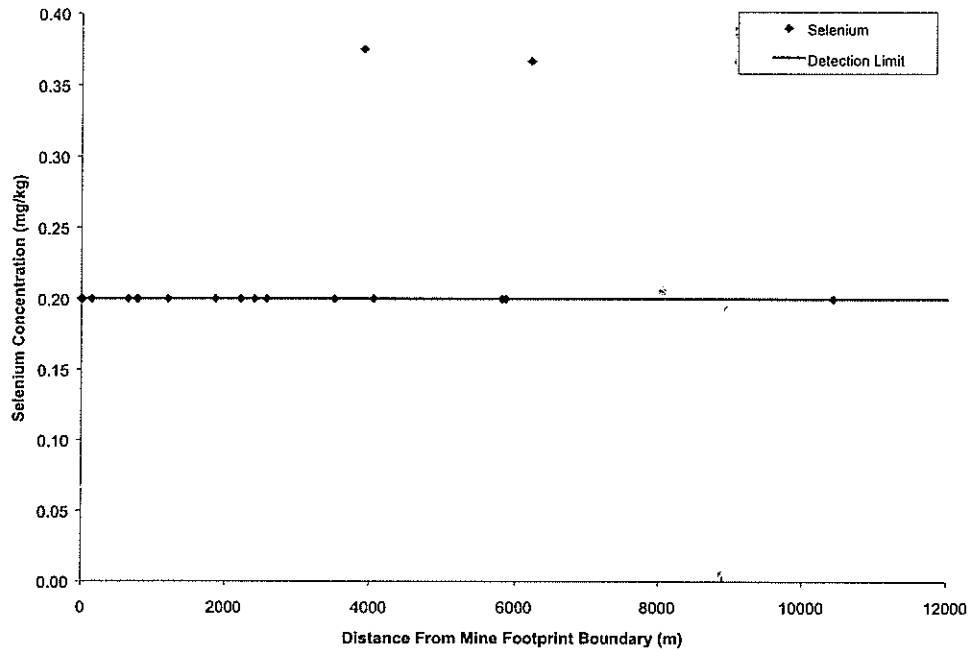


Figure III-16 Silver Concentration versus Distance from the Mine Footprint Boundary

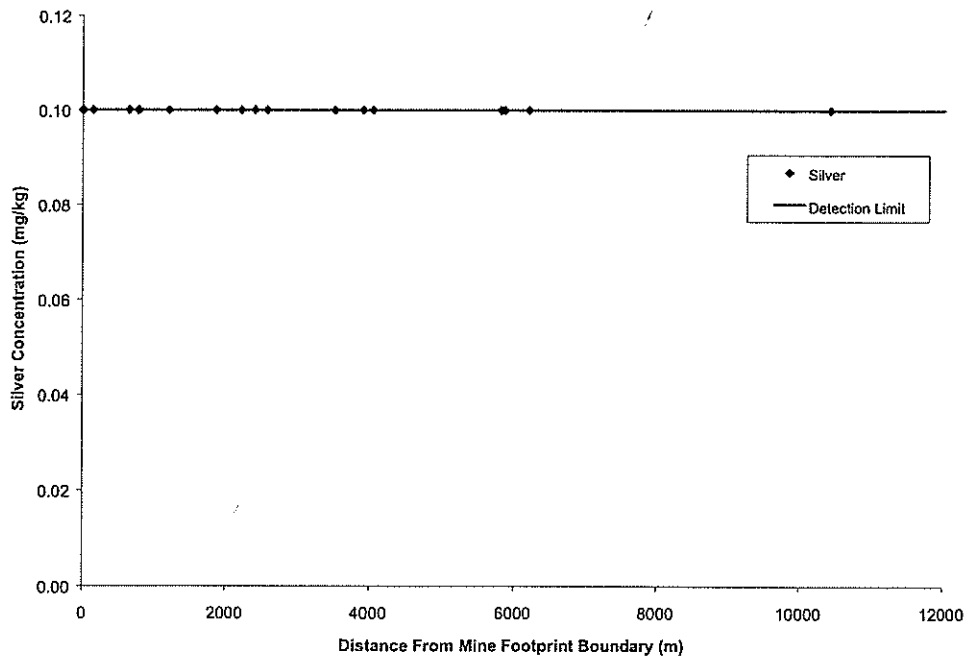


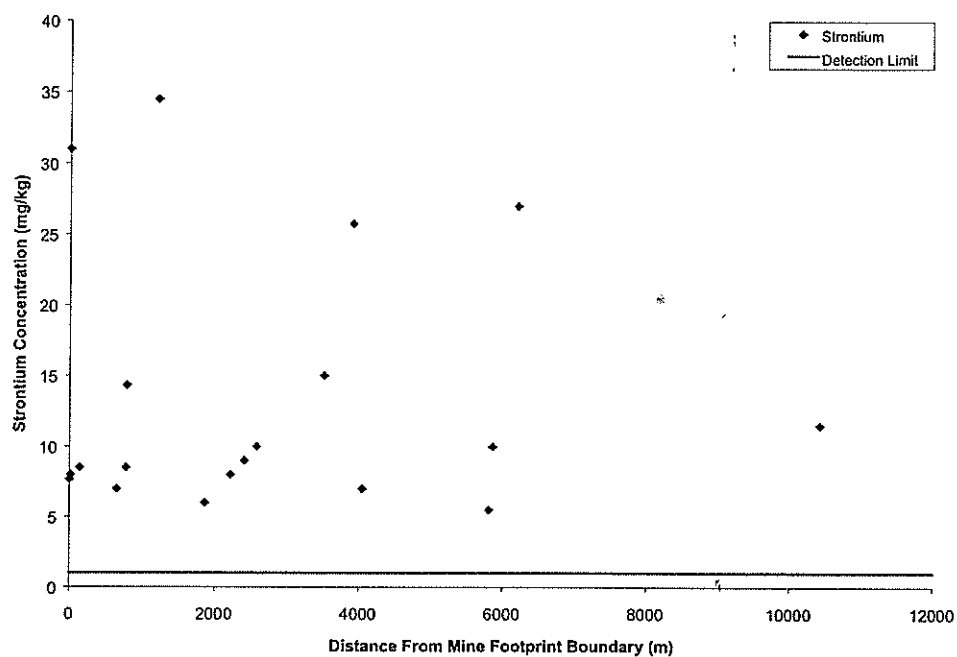
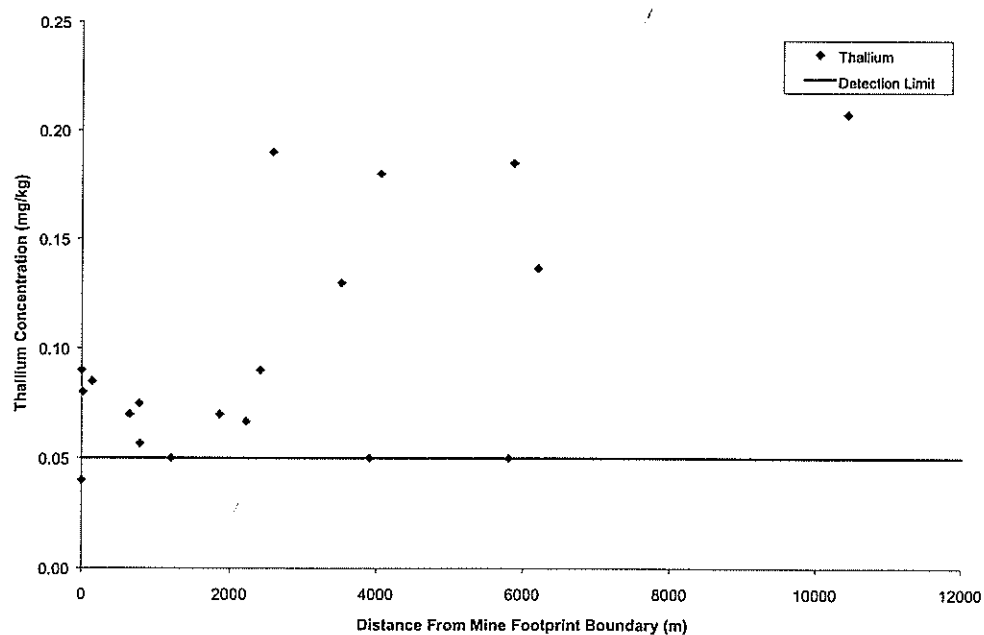
Figure III-17 Strontium Concentration versus Distance from the Mine Footprint Boundary**Figure III-18 Thallium Concentration versus Distance from the Mine Footprint Boundary**

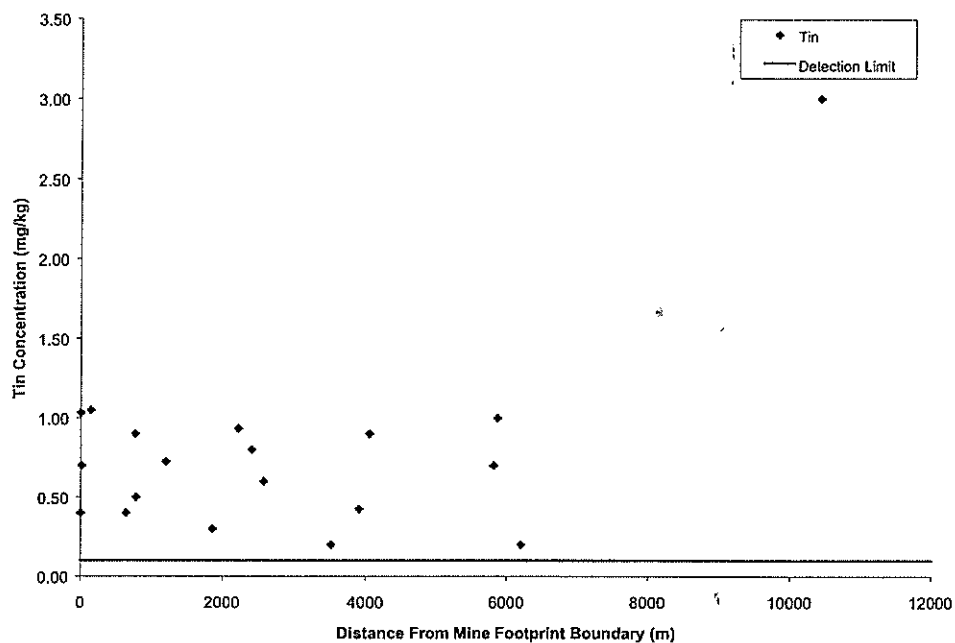
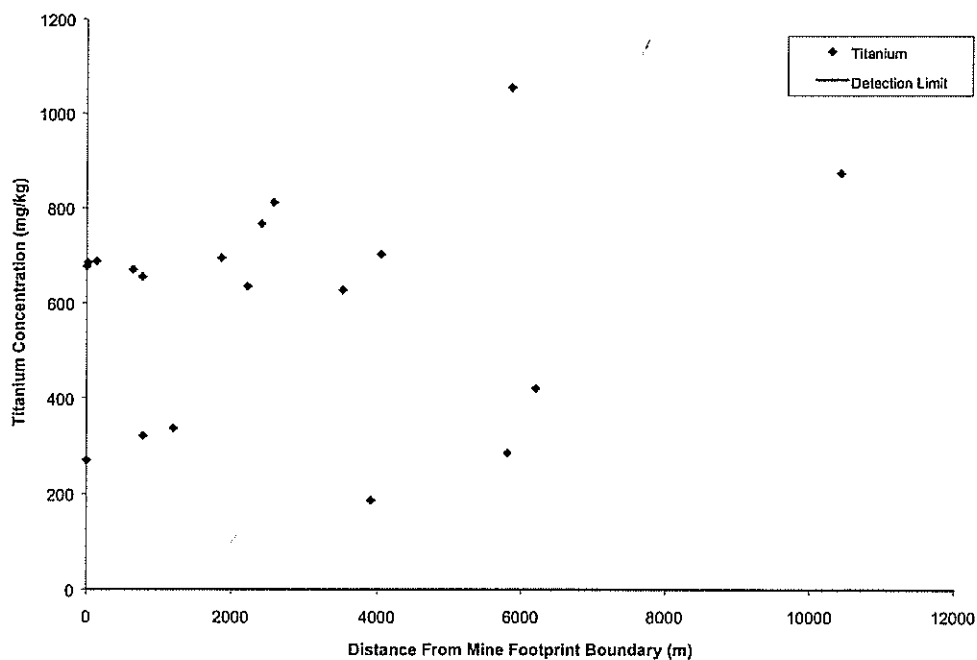
Figure III-19 Tin Concentration versus Distance from the Mine Footprint Boundary**Figure III-20 Titanium Concentration versus Distance from the Mine Footprint Boundary**

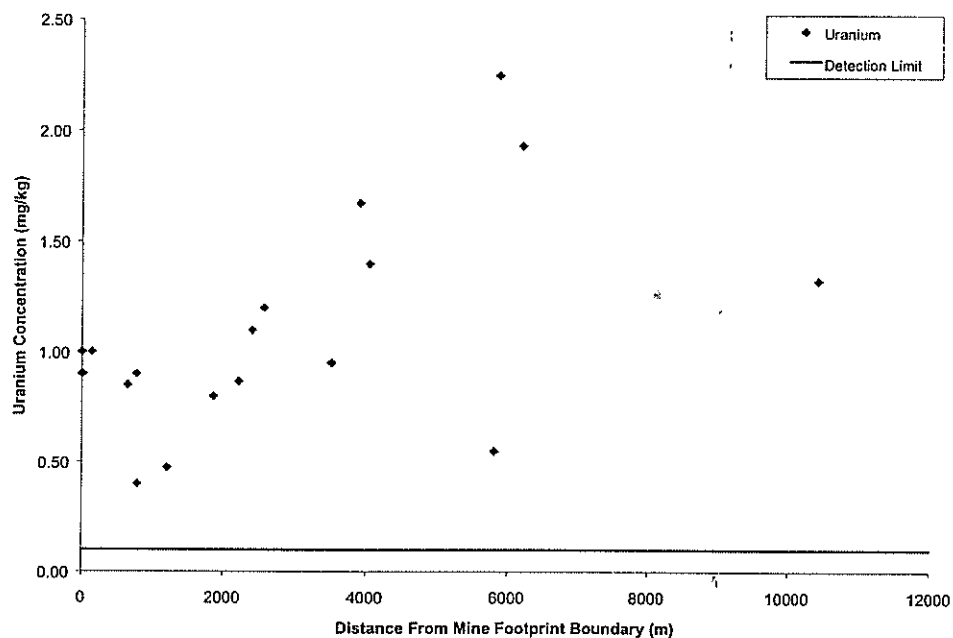
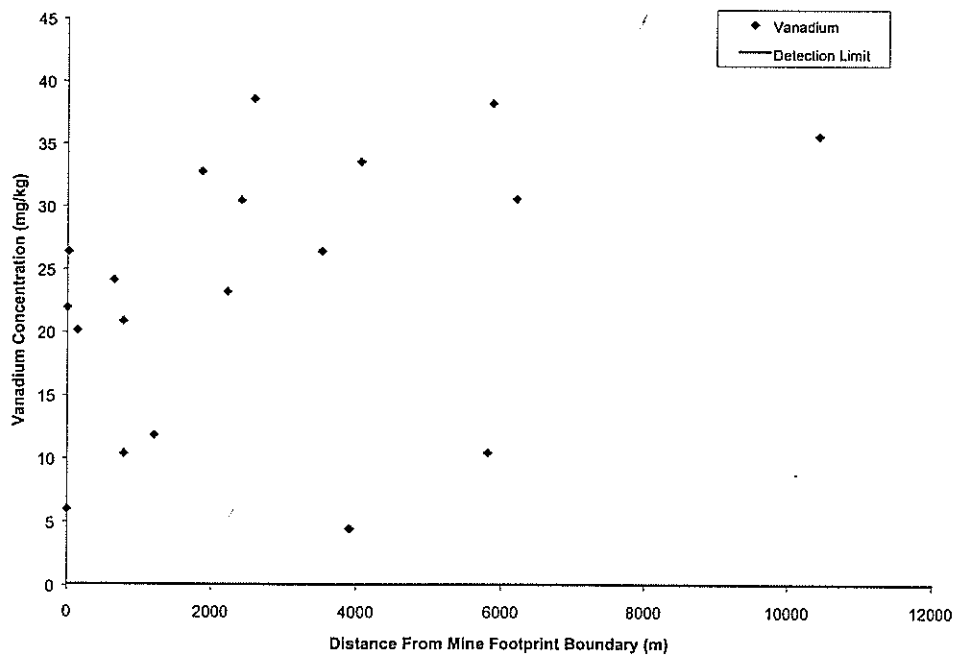
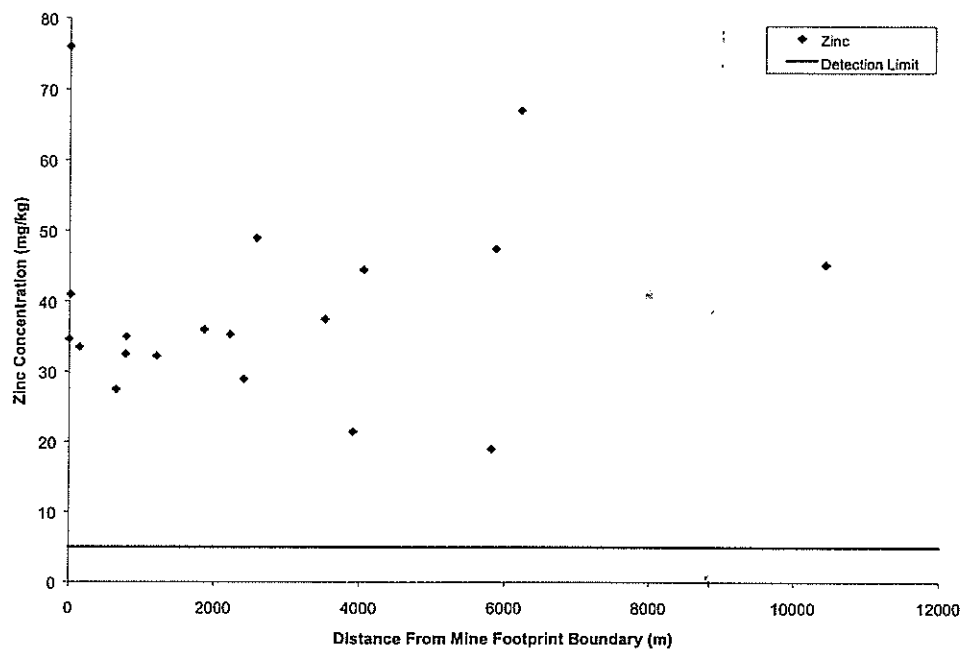
Figure III-21 Uranium Concentration versus Distance from the Mine Footprint Boundary**Figure III-22 Vanadium Concentration versus Distance from the Mine Footprint Boundary**

Figure III-23 Zinc Concentration versus Distance from the Mine Footprint Boundary



APPENDIX IV
SOIL CHARACTERISTICS

Table IV-1 Soil Characteristics Measured in 2002 to Support Aluminum Availability Data

Parameters	Units	Detection	Future Vent Raise		Winter Access Road	Dust Fall - On Site	Airstrip	Esker Access Road	Dust Fall - Reference	Waste Rock Pile		
		Limits	SL-001-001	SL-001-002	SL-001-009	SL-001-003	SL-001-004	SL-001-010	SL-001-005	SL-001-006	SL-001-007	SL001-008
Cation Exchange Capacity	meq/100g	0.2	1.6	1.6	4.0	83.1	5.1	24.8	5.5	3.2	2.6	3.4
Inorganic Carbon	%	0.01	0.24	0.22	0.21	0.25	0.2	0.23	<0.01	0.06	0.20	0.11
Total Organic Carbon	%	0.1	<0.1	0.6	0.3	42.7	1.1	12.3	0.8	1.0	<0.1	0.5
pH in Saturated Paste	pH	0.1	6.1	6.6	5.4	4.4	5	4.5	5.6	5.6	6.3	5.6
% Clay	%	1	4	6	10	9	7	6	7	5	7	6
% Sand	%	1	54	56	54	74	66	73	40	58	58	62
% Silt	%	1	42	38	36	17	27	21	53	37	35	32

Parameters	Units	1-km Ring									
		SL-002-001	SL-002-002	SL-002-003	SL-002-004	SL-002-005	SL-002-006	SL-002-007	SL-002-008	SL-002-009	SL-002-010
Cation Exchange Capacity	meq/100g	4.5	4.5	10.4	120	4.0	5.3	22.9	40.4	23.7	128
Inorganic Carbon	%	<0.01	0.01	0.05	0.10	0.06	0.05	0.03	0.10	0.09	0.09
Total Organic Carbon	%	1.6	1.6	3.9	50.7	-0.9	0.8	11.5	22.8	11.0	49.4
pH in Saturated Paste	pH	5.3	5.3	4.4	3.5	5.6	4.8	4.3	4.2	4.2	3.4
% Clay	%	6	6	5	5	6	6	6	9	10	3
% Sand	%	67	68	84	62	64	58	82	84	84	60
% Silt	%	27	26	11	33	30	36	12	7	6	37

Table IV-1 Soil Characteristics Measured in 2002 to Support Aluminum Availability Data (continued)

Parameters	Units	5-km Ring												
		SL-003-001	SL-003-002	SL-003-003	SL-003-004	SL-003-005	SL-003-006	SL-003-007	SL-003-008	SL-003-009	SL-003-010	SL-004-001	SL-004-002	SL-004-003
Cation Exchange Capacity	meq/100g	2.3	1.9	22.3	36.7	85.7	93.0	4.1	13.4	5.1	96.3	4.4	14.1	105
Inorganic Carbon	%	0.17	0.15	0.21	0.13	0.12	0.09	0.08	0.07	0.08	0.07	0.25	0.11	<0.01
Total Organic Carbon	%	0.4	0.4	9.6	9.9	43.3	44.7	1.1	5.7	1.3	38.3	0.3	5.8	46.2
pH in Saturated Paste	pH	6.1	5.7	4.2	4.3	4.2	3.9	5.0	4.5	5.1	3.9	5.5	5.2	3.8
% Clay	%	8	6	6	8	8	12	5	7	6	9	8	7	8
% Sand	%	60	66	87	84	53	76	64	82	62	77	48	64	55
% Silt	%	32	28	7	8	39	12	31	11	32	14	44	29	37

Parameters	Units	11-km Ring						
		SL-004-004	SL-004-005	SL-004-006	SL-004-007	SL-004-008	SL-004-009	SL-004-010
Cation Exchange Capacity	meq/100g	8.3	8.7	2.5	19.2	7.4	5.2	9.2
Inorganic Carbon	%	0.02	0.03	0.03	0.03	0.08	0.08	0.09
Total Organic Carbon	%	2.4	3.2	0.8	11.0	1.6	0.4	2.4
pH in Saturated Paste	pH	5.0	5.1	5.0	4.7	5.2	5.5	5.1
% Clay	%	9	8	4	4	10	10	6
% Sand	%	44	58	90	84	54	49	64
% Silt	%	47	34	6	12	36	41	30

APPENDIX V
LICHEN AND VASCULAR PLANT DATA

Table V-1 Average Concentrations of Metals and Polycyclic Aromatic Hydrocarbons in Lichen at Random Sample Locations, August 2002

Parameter	Detection Limits (mg/kg)	Average Concentration (mg/kg dry weight)	Standard Deviation
Metals			
Aluminum	4	650	396
Antimony	0.04	0.04	(all values are at or less than detection limit)
Arsenic	0.2	0.4	0.1
Barium	0.1	57	19
Beryllium	0.2	0.2	(all values are at or less than detection limit)
Cadmium	0.08	0.1	0.01
Calcium	10	2,385	564
Chromium	0.2	7.7	8.7
Cobalt	0.08	0.5	0.2
Copper	0.08	3.2	0.7
Iron	2	835	665
Lead	0.04	1.4	0.4
Magnesium	2	558	151
Manganese	0.04	132	55
Mercury	0.01	0.07	0.02
Molybdenum	0.04	0.20	0.08
Nickel	0.08	19	20
Phosphorous	2	598	113
Potassium	2	939	120
Selenium	0.2	0.3	0.07
Silver	0.08	0.08	(all values are at or less than detection limit)
Sodium	2	80	23
Strontium	0.04	12	5
Thallium	0.04	0.04	(all values are at or less than detection limit)
Tin	0.08	0.1	0.04
Titanium	0.1	32.5	28
Vanadium	0.08	1.7	1.3
Zinc	0.2	36	6.6
PAHs			
Benzo(a)anthracene	0.01	<0.01	(all values are less than detection limit)
Benzo(a)pyrene	0.01	<0.01	
Benzo(b)fluoranthene	0.01	<0.01	
Benzo(k)fluoranthene	0.01	<0.01	
Dibenzo(a,h)anthracene	0.01	<0.01	
Indeno(1,2,3-cd)pyrene	0.01	<0.01	
Naphthalene	0.01	0.02	0.01
Phenanthrene	0.01	0.01	0.01
Pyrene	0.01	<0.01	(all values are less than detection limit)
Quinoline	0.01	<0.01	

Table V-2 Average Concentrations of Metals and Polycyclic Aromatic Hydrocarbons in Vascular Plants at Random Sample Locations, August 2002

Parameter	Detection Limits	Average Concentration	Standard Deviation
Metals			
Aluminum	4	120	82
Antimony	0.04	0.04	(all values are at or less than detection limit)
Arsenic	0.2	0.2	(all values are at or less than detection limit)
Barium	0.1	97	27
Beryllium	0.2	0.2	(all values are at or less than detection limit)
Cadmium	0.08	0.21	0.17
Calcium	10	4,785	576
Chromium	0.2	2.0	2.3
Cobalt	0.08	0.20	0.11
Copper	0.1	5	2
Iron	2	88	82
Lead	0.04	0.17	0.11
Magnesium	2	1,086	151
Manganese	0.04	294	95
Mercury	0.01	0.01	0.01
Molybdenum	0.04	0.24	0.09
Nickel	0.08	8.71	7.20
Phosphorous	2	885	137
Potassium	2	3,306	450
Selenium	0.2	0.3	0.1
Silver	0.08	<0.08	(all values are less than detection limit)
Sodium	2	100	267
Strontium	0.04	21	9
Thallium	0.04	0.05	0.01
Tin	0.08	0.79	1.10
Titanium	0.1	4.3	5.7
Vanadium	0.1	0.2	0.2
Zinc	0.2	47	15
PAHs			
Benzo(a)anthracene	0.01	<0.01	(all values are less than detection limit)
Benzo(a)pyrene	0.01	<0.01	
Benzo(b)fluoranthene	0.01	<0.01	
Benzo(k)fluoranthene	0.01	<0.01	
Dibenzo(a,h)anthracene	0.01	<0.01	
Indeno(1,2,3-cd)pyrene	0.01	<0.01	0.004
Naphthalene	0.01	0.01	
Phenanthrene	0.01	0.01	0.005
Pyrene	0.01	<0.01	(all values are less than detection limit)
Quinoline	0.01	<0.01	