



Agri-Food & Environmental Group
Calgary Edmonton Winnipeg Lethbridge Surrey

Quality Control

ATT-5
Norwest Labs
9938-67 Avenue
Edmonton, AB. T6E 0P5
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Echo Bay Mines Ltd.
Report to: Echo Bay Mines Ltd.

9818 International Airport
Edmonton, AB, Canada
T5J2T2

Attn: David Hohnstein

Sampled By:
Company:

Project
ID: L48906
Name:
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 181019
Control Number:
Date Received: Jul 11, 2002
Date Reported: Jul 18, 2002
Report Number: 278937

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Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Cyanide	mg/L	<0.001	0.00000	-0.00100	0.00100	✓

Material Used: Edmonton Method Blank
Date Acquired: Jul 17, 2002
Acquired By:

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Ammonium - N	mg/L	0.24	0.24	10.00	0.10	✓

Material Used: Edmonton Duplicate
Date Acquired: Jul 15, 2002
Acquired By:

Control Sample	Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	3.09	3.00	2.70	3.30	✓
Cyanide	mg/L	0.074	0.0750	0.0680	0.0870	✓

Material Used: Water High
Date Acquired: Jul 17, 2002
Acquired By:

Ammonium - N	mg/L	0.81	0.800	0.720	0.880	✓
Cyanide	mg/L	0.015	0.0150	0.0135	0.0165	✓

Material Used: Water Low
Date Acquired: Jul 17, 2002
Acquired By:



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Physical and Aggregate Properties

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	11	9	10.0	5.0	✓
Material Used:	Edmonton Duplicate					
Date Acquired:	Jul 12, 2002					
Acquired By:	Tina Knott					

Routine Water

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Calcium	mg/L	<2	<2	10.0	0.6	✓
Magnesium	mg/L	0.83	0.81	10.00	0.15	✓
Material Used:	Edmonton Duplicate					
Date Acquired:	Jul 12, 2002					
Acquired By:	Darren Crichton					

Control Sample	Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Calcium	mg/L	9.8	10.00	9.00	11.00	✓
Magnesium	mg/L	47.8	50.00	45.00	55.00	✓
Material Used:	Metals High					
Date Acquired:	Jul 12, 2002					
Acquired By:	Darren Crichton					

Calcium	mg/L	<0.2	0.1000	0.0800	0.1200	✓
Magnesium	mg/L	0.46	0.500	0.400	0.600	✓
Material Used:	Metals Low					
Date Acquired:	Jul 12, 2002					
Acquired By:	Darren Crichton					



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Metals Total

Blanks	Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Arsenic	mg/L		0.000000	-0.000200	0.000200	✓
Calcium	mg/L	<0.2	0.0000	-0.0312	0.2000	✓
Iron	mg/L	<0.003	0.0000	-0.0149	0.0290	✓
Magnesium	mg/L	<0.05	0.0000	-0.0305	0.0500	✓
Manganese	mg/L	0.0010	0.000000	-0.000700	0.001200	✓
Potassium	mg/L	<0.4	0.000	-0.102	0.400	✓
Silicon	mg/L	<0.004	0.0000	-0.0435	0.0933	✓
Sodium	mg/L	<0.4	0.000	-0.194	0.400	✓
Sulphur	mg/L	<0.008	0.0000	-0.0333	0.0447	✓

Material Used: Edmonton Method Blank
Date Acquired: Jul 12, 2002
Acquired By: Jesse Dang

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Arsenic	mg/L	UNDEFINED		10.0000	0.0006	✓

Material Used: Edmonton Duplicate
Date Acquired: Jul 16, 2002
Acquired By:



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Metals Total (Continued...)

Control Sample	Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Calcium	mg/L	0.9	1.000	0.900	1.100	✓
Iron	mg/L	0.502	0.500	0.478	0.552	✓
Magnesium	mg/L	4.74	5.00	4.48	5.19	✓
Manganese	mg/L	0.0514	0.0500	0.0412	0.0539	✓
Potassium	mg/L	4.5	5.00	4.30	5.06	✓
Silicon	mg/L	1.87	2.000	1.700	2.160	✓
Sodium	mg/L	4.7	5.00	4.08	5.25	✓
Sulphur	mg/L	1.85	2.000	1.730	2.110	✓

Material Used: Edmonton Digestion Check
Date Acquired: Jul 12, 2002
Acquired By: Jesse Dang

Arsenic	mq/L		0.0200	0.0180	0.0220	✓
Calcium	mq/L	9.2	10.00	9.00	11.00	✓
Iron	mq/L	4.80	5.000	4.500	5.500	✓
Magnesium	mq/L	48.4	50.00	45.00	55.00	✓
Manganese	mq/L	0.496	0.5000	0.4500	0.5500	✓
Potassium	mq/L	46.6	50.0	45.0	55.0	✓
Silicon	mq/L	22.5	20.000	16.000	24.000	✓
Sodium	mq/L	47.2	50.0	45.0	55.0	✓
Sulphur	mq/L	19.9	20.000	18.000	22.000	✓

Material Used: Metals High
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Acquired By:



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Metals Total (Continued...)

Control Sample	Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Arsenic	mg/L		0.00200	0.00160	0.00240	✓
Calcium	mg/L	<0.2	0.1000	0.0800	0.1200	✓
Iron	mg/L	0.050	0.0500	0.0400	0.0600	✓
Magnesium	mg/L	0.49	0.500	0.400	0.600	✓
Manganese	mg/L	0.0060	0.00500	0.00400	0.00600	✓
Potassium	mg/L	0.5	0.500	0.400	0.600	✓
Silicon	mg/L	0.238	0.200	0.160	0.240	✓
Sodium	mg/L	0.5	0.500	0.400	0.600	✓
Sulphur	mg/L	0.160	0.200	0.160	0.240	✓
Aluminum	ug/L	213	200	180	220	✓
Antimony	ug/L	50.3	50.0	45.0	55.0	✓
Arsenic	ug/L	53.2	50.0	45.0	55.0	✓
Barium	ug/L	5	5.00	4.50	5.50	✓
Beryllium	ug/L	5.5	5.00	4.50	5.50	✓
Bismuth	ug/L	51.5	50.0	45.0	55.0	✓
Boron	ug/L	214	200	180	220	✓
Cadmium	ug/L	4.93	5.00	4.50	5.50	✓
Chromium	ug/L	9.8	10.00	9.00	11.00	✓
Cobalt	ug/L	10.1	10.00	9.00	11.00	✓
Copper	ug/L	10	10.00	9.00	11.00	✓
Lead	ug/L	20.2	20.0	18.0	22.0	✓
Lithium	ug/L	6	5.00	4.50	5.50	✓
Molybdenum	ug/L	10	10.00	9.00	11.00	✓
Nickel	ug/L	9.7	10.00	9.00	11.00	✓
Selenium	ug/L	52.5	50.0	45.0	55.0	✓
Silver	ug/L	9.8	10.00	9.00	11.00	✓
Strontium	ug/L	5	5.00	4.50	5.50	✓
Thallium	ug/L	51.2	50.00	45.00	55.00	✓
Titanium	ug/L	5.0	5.00	4.50	5.50	✓
Uranium	ug/L	522	500.0	450.0	550.0	✓
Vanadium	ug/L	9.7	10.00	9.00	11.00	✓
Zinc	ug/L	10	10.00	9.00	11.00	✓
Zirconium	ug/L	10	10.00	9.00	11.00	✓

Material Used: Metals Low
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Metals Total (Continued...)

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Aluminum	ug/L	20	20.0	18.0	22.0	✓
Antimony	ug/L	4.9	5.00	4.50	5.50	✓
Arsenic	ug/L	5.2	5.00	4.50	5.50	✓
Barium	ug/L	<1	0.500	0.450	0.550	✓
Beryllium	ug/L	0.5	0.500	0.450	0.550	✓
Bismuth	ug/L	5.0	5.00	4.50	5.50	✓
Boron	ug/L	22	20.0	18.0	22.0	✓
Cadmium	ug/L	0.47	0.500	0.450	0.550	✓
Chromium	ug/L	1.1	1.000	0.900	1.100	✓
Cobalt	ug/L	1.0	1.000	0.900	1.100	✓
Copper	ug/L	1	1.000	0.900	1.100	✓
Lead	ug/L	2.0	2.00	1.80	2.20	✓
Lithium	ug/L	<1	0.500	0.450	0.550	✓
Molybdenum	ug/L	1	1.000	0.900	1.100	✓
Nickel	ug/L	1.1	1.000	0.900	1.100	✓
Selenium	ug/L	5.1	5.00	4.50	5.50	✓
Silver	ug/L	1.0	1.000	0.900	1.100	✓
Strontium	ug/L	<1	0.500	0.450	0.550	✓
Thallium	ug/L	4.91	5.00	4.50	5.50	✓
Titanium	ug/L	0.5	0.500	0.450	0.550	✓
Uranium	ug/L	51.8	50.0	45.0	55.0	✓
Vanadium	ug/L	0.9	1.000	0.900	1.100	✓
Zinc	ug/L	<1	1.000	0.900	1.100	✓
Zirconium	ug/L	<1	1.000	0.900	1.100	✓

Material Used: Metals Trace

Date Acquired: Jul 12, 2002

Acquired By: Darren Crichton