

2034608

APPENDIX A
SURFACE WATER QUALITY AND QUANTITY, GROUNDWATER QUALITY
AND SEDIMENT QUALITY RESULTS

- A1 SURFACE WATER AND SEDIMENT QUALITY RESULTS**
- A2 FLOW MONITORING RECORDS**
- A3 GROUNDWATER QUALITY RESULTS**

APPENDIX A1
SURFACE WATER AND SEDIMENT QUALITY RESULTS

- Field Notes and Laboratory Results 419 pages



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Analytical Report

Client:	Brad Bowman	Work Order Number:	11624
Company:	NAR Environmental Consulting	Date Order Received:	7/16/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	Ursa Major Minerals Inc.
Email:	jay.dickison@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM-1A	49282	Water		7/15/2004	

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Work Order: 11624

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ALKA	Determination of Alkalinity Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-2320
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Orion Conductivity Meter	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130



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This report has been approved by:

Dr. Xiaojing Li
Laboratory Director



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Work Order: 11624

Sample Data:

Sample Name: UM-1A

Date: 7/15/2004

Matrix: Water

Lab #: 49282

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	8.8	mg/L	20040722.alk

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.015	mg/L	20040721.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.75	mg/L	20040719.anions
Chloride	0.2	0.59	mg/L	20040719.anions
Fluoride	0.01	0.01	mg/L	20040719.anions
Fluoride	0.01	<0.01	mg/L	20040719.anions
Nitrate (as N)	0.1	<0.1	mg/L	20040719.anions
Nitrate (as N)	0.1	<0.1	mg/L	20040719.anions
Nitrite (as N)	0.05	<0.05	mg/L	20040719.anions
Nitrite (as N)	0.05	<0.05	mg/L	20040719.anions
Sulfate	0.2	1.4	mg/L	20040719.anions
Sulfate	0.2	1.4	mg/L	20040719.anions

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	72	TCU	20040716.colr

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	23	µS/cm	20040719.COND

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	17	mg/L	20040723.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	9.9	mg/L	20040719.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	335	ug/L	20040719.R13A
Antimony	1	<1	ug/L	20040719.R13A
Arsenic	1	<1	ug/L	20040719.R13A
Barium	1	13	ug/L	20040719.R13A
Beryllium	1	<1	ug/L	20040719.R13A
Bismuth	1	<1	ug/L	20040719.R13A
Boron	2	5.4	ug/L	20040719.R13A
Cadmium	0.1	<0.1	ug/L	20040719.R13A
Calcium	50	3100	ug/L	20040719.R13A
Cerium	1	1.1	ug/L	20040719.R13A

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Work Order: 11624

Sample Name: UM-1A

Date: 7/15/2004

Matrix: Water

Lab #: 49282

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cesium	1	<1	ug/L	20040719.R13A
Chromium	1	<1	ug/L	20040719.R13A
Cobalt	0.1	1.8	ug/L	20040719.R13A
Copper	1	5.5	ug/L	20040719.R13A
Europium	1	<1	ug/L	20040719.R13A
Gallium	1	<1	ug/L	20040719.R13A
Iron	20	93	ug/L	20040719.R13A
Lanthanum	1	<1	ug/L	20040719.R13A
Lead	1	<1	ug/L	20040719.R13A
Lithium	5	<5	ug/L	20040719.R13A
Magnesium	4	548	ug/L	20040719.R13A
Manganese	1	49	ug/L	20040719.R13A
Mercury	0.1	<0.1	ug/L	20040719.R13A
Molybdenum	1	<1	ug/L	20040719.R13A
Nickel	1	13	ug/L	20040719.R13A
Niobium	1	<1	ug/L	20040719.R13A
Phosphorus	50	<50	ug/L	20040719.R13A
Rubidium	1	1.2	ug/L	20040719.R13A
Scandium	1	<1	ug/L	20040719.R13A
Selenium	1	<1	ug/L	20040719.R13A
Silver	1	<1	ug/L	20040719.R13A
Strontium	1	9.7	ug/L	20040719.R13A
Thallium	0.1	<0.1	ug/L	20040719.R13A
Thorium	1	<1	ug/L	20040719.R13A
Tin	1	<1	ug/L	20040719.R13A
Titanium	1	1.9	ug/L	20040719.R13A
Tungsten	1	<1	ug/L	20040719.R13A
Uranium	1	<1	ug/L	20040719.R13A
Vanadium	1	<1	ug/L	20040719.R13A
Yttrium	1	<1	ug/L	20040719.R13A
Zinc	1	11	ug/L	20040719.R13A
Zirconium	1	<1	ug/L	20040719.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.43	pH	20040722.PH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	32	mg/L	20040720.TSS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.31	mg/L	20040727.R58A

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Work Order: 11624

Sample Name: UM-1A

Date: 7/15/2004

Matrix: Water

Lab #: 49282

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.03	mg/L	20040720.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040720.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1	NTU	20040716.TURB

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Quality Control Data:

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.541	0.4	20040721.NH3

Blank

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20040721.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.8	8	20040719.anions
Chloride	0.2	mg/L	12	9.3	8	20040719.anions
Fluoride	0.01	mg/L	12	9.93	8	20040719.anions
Nitrate (as N)	0.1	mg/L	12	10.7	8	20040719.anions
Nitrite (as N)	0.05	mg/L	12	9.26	8	20040719.anions
Phosphate	0.3	mg/L	12	10	8	20040719.anions
Sulfate	0.2	mg/L	12	9.2	8	20040719.anions

Blank

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20040719.anions
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20040719.anions
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20040719.anions
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20040719.anions
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20040719.anions
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20040719.anions
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20040719.anions

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	80	77	60	20040716.colr

Blank

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	<4	<4	<4	20040716.colr

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	0.1	µS/cm	104	100	96	20040719.COND

DOC Water

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10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	12	11	8	20040723.DOC

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20040723.DOC

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	543	400	20040719.R13A
Arsenic	1	ug/L	120	101	80	20040719.R13A
Barium	1	ug/L	120	112	80	20040719.R13A
Beryllium	1	ug/L	125	111	75	20040719.R13A
Boron	2	ug/L	125	100	75	20040719.R13A
Cadmium	1	ug/L	120	101	80	20040719.R13A
Calcium	50	ug/L	1200	1100	800	20040719.R13A
Chromium	1	ug/L	120	97	80	20040719.R13A
Cobalt	1	ug/L	120	105	80	20040719.R13A
Copper	1	ug/L	120	103	80	20040719.R13A
Iron	20	ug/L	600	550	400	20040719.R13A
Lead	1	ug/L	120	99	80	20040719.R13A
Magnesium	4	ug/L	1200	1070	800	20040719.R13A
Manganese	1	ug/L	120	97	80	20040719.R13A
Molybdenum	1	ug/L	120	104	80	20040719.R13A
Nickel	1	ug/L	120	102	80	20040719.R13A
Selenium	1	ug/L	120	100	80	20040719.R13A
Thallium	1	ug/L	120	99	80	20040719.R13A
Vanadium	1	ug/L	120	96	80	20040719.R13A
Zinc	1	ug/L	120	101	80	20040719.R13A

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	100	80	20040719.R13A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	1.8	<1	20040719.R13A
Antimony	1	ug/L	5	<1	<1	20040719.R13A
Arsenic	1	ug/L	5	<1	<1	20040719.R13A
Barium	1	ug/L	5	<1	<1	20040719.R13A
Beryllium	1	ug/L	5	<1	<1	20040719.R13A
Bismuth	1	ug/L	5	<1	<1	20040719.R13A
Boron	2	ug/L	5	<2	<2	20040719.R13A
Cadmium	1	ug/L	5	<1	<1	20040719.R13A
Calcium	50	ug/L	<50	<50	<50	20040719.R13A
Cerium	1	ug/L	5	<1	<1	20040719.R13A

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Work Order: 11624

ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Cesium	1	ug/L	5	<1	<1	20040719.R13A
Chromium	1	ug/L	5	<1	<1	20040719.R13A
Cobalt	1	ug/L	5	<1	<1	20040719.R13A
Copper	1	ug/L	5	1.8	<1	20040719.R13A
Europium	1	ug/L	5	<1	<1	20040719.R13A
Gallium	1	ug/L	5	<1	<1	20040719.R13A
Iron	20	ug/L	<20	<20	<20	20040719.R13A
Lanthanum	1	ug/L	5	<1	<1	20040719.R13A
Lead	1	ug/L	5	<1	<1	20040719.R13A
Lithium	1	ug/L	5	<1	<1	20040719.R13A
Magnesium	4	ug/L	20	4.1	<4	20040719.R13A
Manganese	1	ug/L	5	<1	<1	20040719.R13A
Mercury	1	ug/L	5	<1	<1	20040719.R13A
Molybdenum	1	ug/L	5	<1	<1	20040719.R13A
Nickel	1	ug/L	5	1.5	<1	20040719.R13A
Niobium	1	ug/L	5	<1	<1	20040719.R13A
Phosphorus	20	ug/L	<20	<20	<20	20040719.R13A
Rubidium	1	ug/L	5	<1	<1	20040719.R13A
Scandium	1	ug/L	5	<1	<1	20040719.R13A
Selenium	1	ug/L	5	<1	<1	20040719.R13A
Silver	5	ug/L	5	<5	<5	20040719.R13A
Strontium	1	ug/L	5	<1	<1	20040719.R13A
Thallium	1	ug/L	5	<1	<1	20040719.R13A
Thorium	1	ug/L	5	<1	<1	20040719.R13A
Tin	1	ug/L	5	<1	<1	20040719.R13A
Titanium	1	ug/L	5	<1	<1	20040719.R13A
Tungsten	1	ug/L	5	<1	<1	20040719.R13A
Uranium	1	ug/L	5	<1	<1	20040719.R13A
Vanadium	1	ug/L	5	<1	<1	20040719.R13A
Yttrium	1	ug/L	5	<1	<1	20040719.R13A
Zinc	1	ug/L	5	<1	<1	20040719.R13A
Zirconium	1	ug/L	5	<1	<1	20040719.R13A

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7	6.9	20040722.PH

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20040720.TSS

TKN Water

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Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20040727.R58A

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1	0.8	20040727.R58A

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.053	0.04	20040720.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20040720.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20040720.TSS

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.8	0.77	0.7	20040716.TURB

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20040716.TURB

UCL Upper Control Limit

LCL Lower Control Limit

NAR Environmental Consultant
Ursa Major Field Note
Aug-17-04

Mine Site Creek Sampling Station

Station UM-SW-4
435646 E
5134168 N

- Stream not flowing at all poorly defined channel likely only flows in spring
- no sample collected
- Steep gradient water flows over bedrock when flowing

Station UM-SW-5
0435909 E
5134269 N

Air Temp = 17°C
Water Temp = 13°C
Cond = 30 $\mu\text{s}/\text{cm}$
pH = 5.27
D.O. = 5mg/L
- heavy iron staining on bottom substrate

Station UM-SW-3
0435247 E
5132435 N

Air Temp = 17°C
Water Temp = 14°C
pH = 5.30
Cond = 60 $\mu\text{s}/\text{cm}$
D.O. = 6mg/L
- Very Low Flow

Station UM-SW-1
0438047 E
5133098 N

- no flow standing water only
- same ground water seepage in one area of channel

Station UM-SW-3A
0499476 E
5142641 N

Air Temp = 17°C
Water Temp = 13°C
Cond = 50 $\mu\text{s}/\text{cm}$
pH = 5.23
- very low flow, appears to be groundwater
- took sample to compare with earlier sample

Station UM-SW-2
0436866 E
5132905 N

- Small amount of groundwater seepage only
- no sample collected



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Analytical Report

Client:	Brad Bowman	Work Order Number:	12305
Company:	NAR Environmental Consulting	Date Order Received:	8/18/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	Ursa Major
Email:	jay.dickison@bellnet.ca	Water Works Number:	

Analyses were performed on the following samples submitted with your order.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UMSW-3	51365	Water		8/17/2004	11:00
UMSW-3A	51366	Water		8/17/2004	11:00
UMSW-5	51367	Water		8/17/2004	11:00

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NAR Environmental Consulting

Work Order: 12305

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Orion Conductivity Meter	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjedahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Work Order: 12305

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Stephen Falvo, B.Sc. Chem. Eng.
Inorganic Section Head



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Work Order: 12305

Sample Data:

Sample Name: UMSW-3

Date: 8/17/2004

Matrix: Water

Lab #: 51365

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	15	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.058	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.64	mg/L	20040827.R5A
Fluoride	0.01	0.022	mg/L	20040827.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20040827.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20040827.R5A
Sulfate	0.2	5	mg/L	20040827.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	76	TCU	-20040818.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	52	µS/cm	20040826.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	11	mg/L	20040820.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	19.5	mg/L	20040819.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	77	µg/L	20040819.R13B
Antimony	1	<1	µg/L	20040819.R13B
Arsenic	1	<1	µg/L	20040819.R13B
Barium	1	9.7	µg/L	20040819.R13B
Beryllium	1	<1	µg/L	20040819.R13B
Bismuth	1	<1	µg/L	20040819.R13B
Boron	2	7.5	µg/L	20040819.R13B
Cadmium	0.1	<0.1	µg/L	20040819.R13B
Calcium	50	5620	µg/L	20040819.R13B
Cerium	1	<1	µg/L	20040819.R13B
Cesium	1	<1	µg/L	20040819.R13B
Chromium	1	<1	µg/L	20040819.R13B
Cobalt	0.1	0.99	µg/L	20040819.R13B
Copper	1	2.4	µg/L	20040819.R13B
Europium	1	<1	µg/L	20040819.R13B

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Work Order: 12305

Sample Name: UMSW-3

Date: 8/17/2004

Matrix: Water

Lab #: 51365

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Gallium	1	<1	µg/L	20040819.R13B
Iron	20	420	µg/L	20040819.R13B
Lanthanum	1	<1	µg/L	20040819.R13B
Lead	1	<1	µg/L	20040819.R13B
Lithium	5	10	µg/L	20040819.R13B
Magnesium	4	1330	µg/L	20040819.R13B
Manganese	1	116	µg/L	20040819.R13B
Mercury	0.1	<0.1	µg/L	20040819.R13B
Molybdenum	1	<1	µg/L	20040819.R13B
Nickel	1	9.7	µg/L	20040819.R13B
Niobium	1	<1	µg/L	20040819.R13B
Phosphorus	50	<50	µg/L	20040819.R13B
Rubidium	1	1	µg/L	20040819.R13B
Scandium	1	<1	µg/L	20040819.R13B
Selenium	1	<1	µg/L	20040819.R13B
Silver	0.1	<0.1	µg/L	20040819.R13B
Strontium	1	22	µg/L	20040819.R13B
Thallium	0.1	<0.1	µg/L	20040819.R13B
Thorium	1	<1	µg/L	20040819.R13B
Tin	1	<1	µg/L	20040819.R13B
Titanium	1	4	µg/L	20040819.R13B
Tungsten	1	<1	µg/L	20040819.R13B
Uranium	1	<1	µg/L	20040819.R13B
Vanadium	1	<1	µg/L	20040819.R13B
Yttrium	1	<1	µg/L	20040819.R13B
Zinc	1	6.8	µg/L	20040819.R13B
Zirconium	1	<1	µg/L	20040819.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.12	pH	20040826.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	55	mg/L	20040827.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.5	mg/L	20040819.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.035	mg/L	20040819.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040827.TSS

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Work Order: 12305

Sample Name: UMSW-3

Date: 8/17/2004

Matrix: Water

Lab #: 51365

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	5.5	NTU	20040818.R21A

Sample Name: UMSW-3A

Date: 8/17/2004

Matrix: Water

Lab #: 51366

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	15	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.032	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.6	mg/L	20040827.R5A
Fluoride	0.01	0.024	mg/L	20040827.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20040827.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20040827.R5A
Sulfate	0.2	0.51	mg/L	20040827.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	43	TCU	20040818.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	38	µS/cm	20040826.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	14	mg/L	20040820.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	14.3	mg/L	20040819.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	178	µg/L	20040819.R13B
Antimony	1	<1	µg/L	20040819.R13B
Arsenic	1	<1	µg/L	20040819.R13B
Barium	1	17	µg/L	20040819.R13B
Beryllium	1	<1	µg/L	20040819.R13B
Bismuth	1	<1	µg/L	20040819.R13B
Boron	2	<2	µg/L	20040819.R13B
Cadmium	0.1	0.11	µg/L	20040819.R13B
Calcium	50	4400	µg/L	20040819.R13B
Cerium	1	<1	µg/L	20040819.R13B
Cesium	1	<1	µg/L	20040819.R13B

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Work Order: 12305

Sample Name: UMSW-3A

Date: 8/17/2004

Matrix: Water

Lab #: 51366

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Chromium	1	<1	µg/L	20040819.R13B
Cobalt	0.1	16.3	µg/L	20040819.R13B
Copper	1	6.3	µg/L	20040819.R13B
Europium	1	<1	µg/L	20040819.R13B
Gallium	1	<1	µg/L	20040819.R13B
Iron	20	350	µg/L	20040819.R13B
Lanthanum	1	<1	µg/L	20040819.R13B
Lead	1	<1	µg/L	20040819.R13B
Lithium	5	<5	µg/L	20040819.R13B
Magnesium	4	804	µg/L	20040819.R13B
Manganese	1	509	µg/L	20040819.R13B
Mercury	0.1	<0.1	µg/L	20040819.R13B
Molybdenum	1	<1	µg/L	20040819.R13B
Nickel	1	19	µg/L	20040819.R13B
Niobium	1	<1	µg/L	20040819.R13B
Phosphorus	50	<50	µg/L	20040819.R13B
Rubidium	1	1.9	µg/L	20040819.R13B
Scandium	1	1.3	µg/L	20040819.R13B
Selenium	1	<1	µg/L	20040819.R13B
Silver	0.1	<0.1	µg/L	20040819.R13B
Strontium	1	15	µg/L	20040819.R13B
Thallium	0.1	<0.1	µg/L	20040819.R13B
Thorium	1	<1	µg/L	20040819.R13B
Tin	1	<1	µg/L	20040819.R13B
Titanium	1	2.4	µg/L	20040819.R13B
Tungsten	1	<1	µg/L	20040819.R13B
Uranium	1	<1	µg/L	20040819.R13B
Vanadium	1	<1	µg/L	20040819.R13B
Yttrium	1	<1	µg/L	20040819.R13B
Zinc	1	17	µg/L	20040819.R13B
Zirconium	1	<1	µg/L	20040819.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.47	pH	20040826.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	48	mg/L	20040827.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.34	mg/L	20040819.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.036	mg/L	20040819.TP

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Work Order: 12305

Sample Name: UMSW-3A

Date: 8/17/2004

Matrix: Water

Lab #: 51366

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	6	mg/L	20040827.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	14	NTU	20040818.R21A

Sample Name: UMSW-5

Date: 8/17/2004

Matrix: Water

Lab #: 51367

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.2	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.33	mg/L	20040827.R5A
Fluoride	0.01	0.011	mg/L	20040827.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20040827.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20040827.R5A
Sulfate	0.2	1.9	mg/L	20040827.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	140	TCU	20040818.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	17	µS/cm	20040826.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	12	mg/L	20040820.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	4.3	mg/L	20040819.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	185	µg/L	20040819.R13B
Antimony	1	<1	µg/L	20040819.R13B
Arsenic	1	<1	µg/L	20040819.R13B
Barium	1	11	µg/L	20040819.R13B
Beryllium	1	<1	µg/L	20040819.R13B
Bismuth	1	<1	µg/L	20040819.R13B

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Work Order: 12305

Sample Name: UMSW-5

Date: 8/17/2004

Matrix: Water

Lab #: 51367

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Boron	2	3.1	µg/L	20040819.R13B
Cadmium	0.1	<0.1	µg/L	20040819.R13B
Calcium	50	1100	µg/L	20040819.R13B
Cerium	1	<1	µg/L	20040819.R13B
Cesium	1	<1	µg/L	20040819.R13B
Chromium	1	<1	µg/L	20040819.R13B
Cobalt	0.1	9.6	µg/L	20040819.R13B
Copper	1	2.1	µg/L	20040819.R13B
Europium	1	<1	µg/L	20040819.R13B
Gallium	1	<1	µg/L	20040819.R13B
Iron	20	1200	µg/L	20040819.R13B
Lanthanum	1	<1	µg/L	20040819.R13B
Lead	1	<1	µg/L	20040819.R13B
Lithium	5	<5	µg/L	20040819.R13B
Magnesium	4	360	µg/L	20040819.R13B
Manganese	1	373	µg/L	20040819.R13B
Mercury	0.1	<0.1	µg/L	20040819.R13B
Molybdenum	1	<1	µg/L	20040819.R13B
Nickel	1	6	µg/L	20040819.R13B
Niobium	1	<1	µg/L	20040819.R13B
Phosphorus	50	<50	µg/L	20040819.R13B
Rubidium	1	2.2	µg/L	20040819.R13B
Scandium	1	<1	µg/L	20040819.R13B
Selenium	1	<1	µg/L	20040819.R13B
Silver	0.1	<0.1	µg/L	20040819.R13B
Strontium	1	7.7	µg/L	20040819.R13B
Thallium	0.1	<0.1	µg/L	20040819.R13B
Thorium	1	<1	µg/L	20040819.R13B
Tin	1	<1	µg/L	20040819.R13B
Titanium	1	1.8	µg/L	20040819.R13B
Tungsten	1	<1	µg/L	20040819.R13B
Uranium	1	<1	µg/L	20040819.R13B
Vanadium	1	<1	µg/L	20040819.R13B
Yttrium	1	<1	µg/L	20040819.R13B
Zinc	1	14	µg/L	20040819.R13B
Zirconium	1	<1	µg/L	20040819.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.07	pH	20040826.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	42	mg/L	20040827.R27B

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Sample Name: UMSW-5

Date: 8/17/2004

Matrix: Water

Lab #: 51367

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.59	mg/L	20040819.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.035	mg/L	20040819.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040827.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	5.4	NTU	20040818.R21A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	220	200	180	20040826.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	<10	<10	<10	20040826.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.564	0.4	20040820.NH3

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20040820.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.2	8	20040827.R5A
Chloride	0.2	mg/L	12	9.1	8	20040827.R5A
Fluoride	0.01	mg/L	12	9.92	8	20040827.R5A
Nitrate (as N)	0.1	mg/L	12	10.8	8	20040827.R5A
Nitrite (as N)	0.05	mg/L	12	9.41	8	20040827.R5A
Phosphate	0.3	mg/L	12	9.9	8	20040827.R5A
Sulfate	0.2	mg/L	12	9.7	8	20040827.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20040827.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20040827.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20040827.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20040827.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20040827.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20040827.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20040827.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	80	63	60	20040818.R26A

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Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	<4	<4	<4	20040818.R26A

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	0.1	µS/cm	104	101	96	20040826.cond

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	0.1	µS/cm	1	0.4	<0.1	20040826.cond

DOC Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	12	11	8	20040820.doc

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20040820.doc

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	482	400	20040819.R13B
Arsenic	1	µg/L	120	100	80	20040819.R13B
Barium	1	µg/L	120	102	80	20040819.R13B
Beryllium	1	µg/L	125	101	75	20040819.R13B
Boron	2	µg/L	125	95	75	20040819.R13B
Cadmium	1	µg/L	120	104	80	20040819.R13B
Calcium	50	µg/L	1200	1000	800	20040819.R13B
Chromium	1	µg/L	120	103	80	20040819.R13B
Cobalt	1	µg/L	120	100	80	20040819.R13B
Copper	1	µg/L	120	100	80	20040819.R13B
Iron	20	µg/L	600	490	400	20040819.R13B
Lead	1	µg/L	120	105	80	20040819.R13B
Magnesium	4	µg/L	1200	1010	800	20040819.R13B
Manganese	1	µg/L	120	99	80	20040819.R13B
Molybdenum	1	µg/L	120	103	80	20040819.R13B
Nickel	1	µg/L	120	101	80	20040819.R13B
Selenium	1	µg/L	120	105	80	20040819.R13B
Thallium	1	µg/L	120	101	80	20040819.R13B
Vanadium	1	µg/L	120	103	80	20040819.R13B
Zinc	1	µg/L	120	102	80	20040819.R13B

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ICPMS Water

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	120	80	20040819.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20040819.R13B
Antimony	1	µg/L	5	<1	<1	20040819.R13B
Arsenic	1	µg/L	5	<1	<1	20040819.R13B
Barium	1	µg/L	5	<1	<1	20040819.R13B
Beryllium	1	µg/L	5	<1	<1	20040819.R13B
Bismuth	1	µg/L	5	<1	<1	20040819.R13B
Boron	2	µg/L	5	<2	<2	20040819.R13B
Cadmium	1	µg/L	5	<1	<1	20040819.R13B
Calcium	50	µg/L	<50	<50	<50	20040819.R13B
Cerium	1	µg/L	5	<1	<1	20040819.R13B
Cesium	1	µg/L	5	<1	<1	20040819.R13B
Chromium	1	µg/L	5	<1	<1	20040819.R13B
Cobalt	1	µg/L	5	<1	<1	20040819.R13B
Copper	1	µg/L	5	<1	<1	20040819.R13B
Europium	1	µg/L	5	<1	<1	20040819.R13B
Gallium	1	µg/L	5	<1	<1	20040819.R13B
Iron	20	µg/L	<20	<20	<20	20040819.R13B
Lanthanum	1	µg/L	5	<1	<1	20040819.R13B
Lead	1	µg/L	5	<1	<1	20040819.R13B
Lithium	1	µg/L	5	<1	<1	20040819.R13B
Magnesium	4	µg/L	20	<4	<4	20040819.R13B
Manganese	1	µg/L	5	<1	<1	20040819.R13B
Mercury	1	µg/L	5	<1	<1	20040819.R13B
Molybdenum	1	µg/L	5	<1	<1	20040819.R13B
Nickel	1	µg/L	5	<1	<1	20040819.R13B
Niobium	1	µg/L	5	<1	<1	20040819.R13B
Phosphorus	20	µg/L	<20	<20	<20	20040819.R13B
Rubidium	1	µg/L	5	<1	<1	20040819.R13B
Scandium	1	µg/L	5	<1	<1	20040819.R13B
Selenium	1	µg/L	5	<1	<1	20040819.R13B
Silver	5	µg/L	5	<5	<5	20040819.R13B
Strontium	1	µg/L	5	<1	<1	20040819.R13B
Thallium	1	µg/L	5	<1	<1	20040819.R13B
Thorium	1	µg/L	5	<1	<1	20040819.R13B
Tin	1	µg/L	5	<1	<1	20040819.R13B
Titanium	1	µg/L	5	<1	<1	20040819.R13B
Tungsten	1	µg/L	5	<1	<1	20040819.R13B
Uranium	1	µg/L	5	<1	<1	20040819.R13B
Vanadium	1	µg/L	5	<1	<1	20040819.R13B
Yttrium	1	µg/L	5	<1	<1	20040819.R13B
Zinc	1	µg/L	5	<1	<1	20040819.R13B
Zirconium	1	µg/L	5	<1	<1	20040819.R13B

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Work Order: 12305

ICPMS Water

Blank

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7	6.9	20040826.pH

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20040827.R27B

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20040819.tkn

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1	0.8	20040819.tkn

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.047	0.04	20040819.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20040819.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20040827.TSS

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.85	0.82	0.75	20040818.R21A

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20040818.R21A

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Work Order: 12305

UCL Upper Control Limit

LCL Lower Control Limit

A1-26



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Analytical Report

Client:	Brad Bowman	Work Order Number:	12373
Company:	NAR Environmental Consulting	Date Order Received:	8/20/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	04-1304
Email:	jay.dickison@bellnet.ca	Water Works Number:	

Analyses were performed on the following samples submitted with your order.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM-AL-REF-S	51573	Water		8/19/2004	
UM-AL-REF-B	51574	Water		8/19/2004	
UM-AL-NF-S	51575	Water		8/19/2004	
UM-AL-NF-B	51576	Water		8/19/2004	
UM-AL-FF-S	51577	Water		8/19/2004	
UM-AL-FF-B	51578	Water		8/19/2004	



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Work Order: 12373

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
CONDWATER	Determination of conductivity in water Instrument group: Orion Conductivity Meter	Mod. APHA-2510
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Stephen Falvo, B.Sc. Chem. Eng.
Inorganic Section Head



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Work Order: 12373

Sample Data:

Sample Name: UM-AL-REF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51573

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.034	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	2.3	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	6.2	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	40	µS/cm	20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	14.7	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	29	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	5.3	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	2.3	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	3900	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	<1	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	73	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1180	µg/L	20040823.R13B
Manganese	1	18	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B

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Work Order: 12373

Sample Name: UM-AL-REF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51573

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	<1	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	<1	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	16	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	<1	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	1.7	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.4	pH	20040826.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	43	mg/L	20040827.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.33	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.016	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040827.TSS

Sample Name: UM-AL-REF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51574

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

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Work Order: 12373

Sample Name: UM-AL-REF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51574

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.025	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.5	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.2	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	41	µS/cm	20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	15	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	31	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	5.6	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	2.2	µg/L	20040823.R13B
Cadmium	0.1	0.35	µg/L	20040823.R13B
Calcium	50	4100	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	0.2	µg/L	20040823.R13B
Copper	1	2.3	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	87	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1150	µg/L	20040823.R13B
Manganese	1	30	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	2.7	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.1	µg/L	20040823.R13B

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Work Order: 12373

Sample Name: UM-AL-REF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51574

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	16	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	<1	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	20	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.99	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	40	mg/L	20040827.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.33	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.016	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040827.TSS

Sample Name: UM-AL-NF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51575

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.06	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.2	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C

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Work Order: 12373

Sample Name: UM-AL-NF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51575

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.3	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	40	µS/cm	20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	14.7	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	28	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	5.5	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	<2	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	4000	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	<1	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	68	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1130	µg/L	20040823.R13B
Manganese	1	34	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	<1	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	16	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B

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Work Order: 12373

Sample Name: UM-AL-NF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51575

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	1	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	1.4	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.05	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	37	mg/L	20040827.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.31	mg/L	20040825.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.016	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040827.TSS

Sample Name: UM-AL-NF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51576

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.023	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.1	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.6	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	41	µS/cm	20040827.cond

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Work Order: 12373

Sample Name: UM-AL-NF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51576

Hardness	MDL	Result	Units	QAQCID
Parameter				
Total Hardness	0.1	15.2	mg/L	20040823.R90B

ICPMS Water	MDL	Result	Units	QAQCID
Parameter				
Aluminum	1	35	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	6.1	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	<2	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	4200	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	1.2	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	140	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1160	µg/L	20040823.R13B
Manganese	1	98	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	1.1	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.1	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	17	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	<1	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	3.7	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

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Work Order: 12373

Sample Name: UM-AL-NF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51576

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.9	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	35	mg/L	20040827.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.36	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.016	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040827.TSS

Sample Name: UM-AL-FF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51577

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.052	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.1	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.4	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	41	µS/cm	20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	15.6	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	34	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B

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Work Order: 12373

Sample Name: UM-AL-FF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51577

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	6	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	2.7	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	4300	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	<1	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	76	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1200	µg/L	20040823.R13B
Manganese	1	35	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	1.1	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.2	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	18	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	1	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	1.4	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B
pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.97	pH	20040827.pH

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Work Order: 12373

Sample Name: UM-AL-FF-S

Date: 8/19/2004

Matrix: Water

Lab #: 51577

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	48	mg/L	20040901.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.38	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.017	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040901.R27A

Sample Name: UM-AL-FF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51578

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.045	mg/L	20040820.NH3
Ammonia (as N)	0.002	0.038	mg/L	20040820.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.3	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.5	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	41	µS/cm	20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	13.9	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	32	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	5.6	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	2.2	µg/L	20040823.R13B

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Work Order: 12373

Sample Name: UM-AL-FF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51578

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cadmium	0.1	0.13	µg/L	20040823.R13B
Calcium	50	3800	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	1.9	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	110	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1080	µg/L	20040823.R13B
Manganese	1	93	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	2	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.1	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	16	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	1.1	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	9.1	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.75	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	52	mg/L	20040901.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.28	mg/L	20040825.tkn

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Work Order: 12373

Sample Name: UM-AL-FF-B

Date: 8/19/2004

Matrix: Water

Lab #: 51578

TKN Water				
Parameter	MDL	Result	Units	QAQCID
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.018	mg/L	20040824.TP
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040901.R27A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	220	200	180	20040826.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	<10	<10	<10	20040826.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.564	0.4	20040820.NH3

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20040820.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	10.2	8	20040830.R5C
Chloride	0.2	mg/L	12	10	8	20040830.R5C
Fluoride	0.01	mg/L	12	11	8	20040830.R5C
Nitrate (as N)	0.1	mg/L	12	11.7	8	20040830.R5C
Nitrite (as N)	0.05	mg/L	12	10.2	8	20040830.R5C
Phosphate	0.3	mg/L	12	9.8	8	20040830.R5C
Sulfate	0.2	mg/L	12	10	8	20040830.R5C

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20040830.R5C
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20040830.R5C
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20040830.R5C
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20040830.R5C
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20040830.R5C
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20040830.R5C
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20040830.R5C

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	0.1	µS/cm	1	0.4	<0.1	20040827.cond

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CONDWATER

Blank

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	475	400	20040823.R13B
Arsenic	1	µg/L	120	97	80	20040823.R13B
Barium	1	µg/L	120	104	80	20040823.R13B
Beryllium	1	µg/L	125	102	75	20040823.R13B
Boron	2	µg/L	125	110	75	20040823.R13B
Cadmium	1	µg/L	120	99	80	20040823.R13B
Calcium	50	µg/L	1200	980	800	20040823.R13B
Chromium	1	µg/L	120	93	80	20040823.R13B
Cobalt	1	µg/L	120	97	80	20040823.R13B
Copper	1	µg/L	120	98	80	20040823.R13B
Iron	20	µg/L	600	490	400	20040823.R13B
Lead	1	µg/L	120	106	80	20040823.R13B
Magnesium	4	µg/L	1200	1020	800	20040823.R13B
Manganese	1	µg/L	120	93	80	20040823.R13B
Molybdenum	1	µg/L	120	111	80	20040823.R13B
Nickel	1	µg/L	120	101	80	20040823.R13B
Selenium	1	µg/L	120	103	80	20040823.R13B
Thallium	1	µg/L	120	105	80	20040823.R13B
Vanadium	1	µg/L	120	98	80	20040823.R13B
Zinc	1	µg/L	120	101	80	20040823.R13B

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	110	80	20040823.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20040823.R13B
Antimony	1	µg/L	5	<1	<1	20040823.R13B
Arsenic	1	µg/L	5	<1	<1	20040823.R13B
Barium	1	µg/L	5	<1	<1	20040823.R13B
Beryllium	1	µg/L	5	<1	<1	20040823.R13B
Bismuth	1	µg/L	5	<1	<1	20040823.R13B
Boron	2	µg/L	5	<2	<2	20040823.R13B
Cadmium	1	µg/L	5	<1	<1	20040823.R13B
Calcium	50	µg/L	<50	<50	<50	20040823.R13B
Cerium	1	µg/L	5	<1	<1	20040823.R13B
Cesium	1	µg/L	5	<1	<1	20040823.R13B
Chromium	1	µg/L	5	<1	<1	20040823.R13B
Cobalt	1	µg/L	5	<1	<1	20040823.R13B
Copper	1	µg/L	5	<1	<1	20040823.R13B
Europium	1	µg/L	5	<1	<1	20040823.R13B

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ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Gallium	1	µg/L	5	<1	<1	20040823.R13B
Iron	20	µg/L	<20	<20	<20	20040823.R13B
Lanthanum	1	µg/L	5	<1	<1	20040823.R13B
Lead	1	µg/L	5	<1	<1	20040823.R13B
Lithium	1	µg/L	5	<1	<1	20040823.R13B
Magnesium	4	µg/L	20	<4	<4	20040823.R13B
Manganese	1	µg/L	5	<1	<1	20040823.R13B
Mercury	1	µg/L	5	<1	<1	20040823.R13B
Molybdenum	1	µg/L	5	<1	<1	20040823.R13B
Nickel	1	µg/L	5	<1	<1	20040823.R13B
Niobium	1	µg/L	5	<1	<1	20040823.R13B
Phosphorus	20	µg/L	<20	<20	<20	20040823.R13B
Rubidium	1	µg/L	5	<1	<1	20040823.R13B
Scandium	1	µg/L	5	<1	<1	20040823.R13B
Selenium	1	µg/L	5	<1	<1	20040823.R13B
Silver	5	µg/L	5	<5	<5	20040823.R13B
Strontium	1	µg/L	5	<1	<1	20040823.R13B
Thallium	1	µg/L	5	<1	<1	20040823.R13B
Thorium	1	µg/L	5	<1	<1	20040823.R13B
Tin	1	µg/L	5	<1	<1	20040823.R13B
Titanium	1	µg/L	5	<1	<1	20040823.R13B
Tungsten	1	µg/L	5	<1	<1	20040823.R13B
Uranium	1	µg/L	5	<1	<1	20040823.R13B
Vanadium	1	µg/L	5	<1	<1	20040823.R13B
Yttrium	1	µg/L	5	<1	<1	20040823.R13B
Zinc	1	µg/L	5	<1	<1	20040823.R13B
Zirconium	1	µg/L	5	<1	<1	20040823.R13B

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7	6.9	20040826.pH
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.01	6.9	20040827.pH

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20040827.R27B
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20040901.R27B

TKN Water

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Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20040825.tkn

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20040825.tkn

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.047	0.04	20040824.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20040824.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20040827.TSS
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20040901.R27A

UCL Upper Control Limit

LCL Lower Control Limit

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Analytical Report

Client:	Brad Bowman	Work Order Number:	12380
Company:	NAR Environmental Consulting	Date Order Received:	8/23/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	Ursa Major
Email:	jay.dickison@bellnet.ca	Water Works Number:	

Analyses were performed on the following samples submitted with your order.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
JC FF-S	51593	Water		8/20/2004	11:00
JC FF-B	51594	Water		8/20/2004	11:00
JC NF-S	51595	Water		8/20/2004	11:30
JC NF-B	51596	Water		8/20/2004	11:30

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NAR Environmental Consulting

Work Order: 12380

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
CONDWATER	Determination of conductivity in water Instrument group: Orion Conductivity Meter	Mod. APHA-2510
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Stephen Falvo, B.Sc. Chem. Eng.
Inorganic Section Head



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Work Order: 12380

Sample Data:

Sample Name: JC FF-S

Date: 8/20/2004

Matrix: Water

Lab #: 51593

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.044	mg/L	20040826.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.1	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.4	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	41	µS/cm	20040827.cond
Conductivity	0.1	41	µS/cm	- 20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	15.5	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	35	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	5.7	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	2.4	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	4200	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	<1	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	46	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1200	µg/L	20040823.R13B
Manganese	1	7.6	µg/L	20040823.R13B

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Work Order: 12380

Sample Name: JC FF-S

Date: 8/20/2004

Matrix: Water

Lab #: 51593

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	<1	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.2	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	18	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	1.3	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	2.1	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.04	pH	20040827.pH
pH	N/A	7.04	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	47	mg/L	20040901.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.27	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.018	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040901.R27A

Sample Name: JC FF-B

Date: 8/20/2004

Matrix: Water

Lab #: 51594

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

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Work Order: 12380

Sample Name: JC FF-B

Date: 8/20/2004

Matrix: Water

Lab #: 51594

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.024	mg/L	20040826.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.95	mg/L	20040830.R5C
Nitrate (as N)	0.1	0.14	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.4	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	36	µS/cm	20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	13	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	71	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	7	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	<2	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	3600	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	1.4	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	180	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	967	µg/L	20040823.R13B
Manganese	1	69	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	1.4	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.1	µg/L	20040823.R13B

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Work Order: 12380

Sample Name: JC FF-B

Date: 8/20/2004

Matrix: Water

Lab #: 51594

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	15	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	1.9	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	5.8	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.44	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	47	mg/L	20040901.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.33	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040901.R27A

Sample Name: JC NF-S

Date: 8/20/2004

Matrix: Water

Lab #: 51595

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.027	mg/L	20040826.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.97	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C

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Work Order: 12380

Sample Name: JC NF-S

Date: 8/20/2004

Matrix: Water

Lab #: 51595

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.3	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	41	µS/cm	20040827.cond

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	16.4	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	64	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	5.8	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	<2	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	4700	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	2.3	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	43	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.F13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1160	µg/L	20040823.R13B
Manganese	1	8.5	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	3.4	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.2	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	19	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B

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Work Order: 12380

Sample Name: JC NF-S

Date: 8/20/2004

Matrix: Water

Lab #: 51595

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	1.3	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	7.8	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.17	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	50	mg/L	20040901.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.24	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.016	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040901.R27A

Sample Name: JC NF-B

Date: 8/20/2004

Matrix: Water

Lab #: 51596

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	11	mg/L	20040826.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.04	mg/L	20040826.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.4	mg/L	20040830.R5C
Nitrate (as N)	0.1	<0.1	mg/L	20040830.R5C
Nitrite (as N)	0.05	<0.05	mg/L	20040830.R5C
Sulfate	0.2	5.8	mg/L	20040830.R5C

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	0.1	53	µS/cm	20040827.cond

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Work Order: 12380

Sample Name: JC NF-B

Date: 8/20/2004

Matrix: Water

Lab #: 51596

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	20.5	mg/L	20040823.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	39	µg/L	20040823.R13B
Antimony	1	<1	µg/L	20040823.R13B
Arsenic	1	<1	µg/L	20040823.R13B
Barium	1	6.9	µg/L	20040823.R13B
Beryllium	1	<1	µg/L	20040823.R13B
Bismuth	1	<1	µg/L	20040823.R13B
Boron	2	2.4	µg/L	20040823.R13B
Cadmium	0.1	<0.1	µg/L	20040823.R13B
Calcium	50	6060	µg/L	20040823.R13B
Cerium	1	<1	µg/L	20040823.R13B
Cesium	1	<1	µg/L	20040823.R13B
Chromium	1	<1	µg/L	20040823.R13B
Cobalt	0.1	<0.1	µg/L	20040823.R13B
Copper	1	1.1	µg/L	20040823.R13B
Europium	1	<1	µg/L	20040823.R13B
Gallium	1	<1	µg/L	20040823.R13B
Iron	20	140	µg/L	20040823.R13B
Lanthanum	1	<1	µg/L	20040823.R13B
Lead	1	<1	µg/L	20040823.R13B
Lithium	5	<5	µg/L	20040823.R13B
Magnesium	4	1290	µg/L	20040823.R13B
Manganese	1	20	µg/L	20040823.R13B
Mercury	0.1	<0.1	µg/L	20040823.R13B
Molybdenum	1	<1	µg/L	20040823.R13B
Nickel	1	1.2	µg/L	20040823.R13B
Niobium	1	<1	µg/L	20040823.R13B
Phosphorus	50	<50	µg/L	20040823.R13B
Rubidium	1	1.1	µg/L	20040823.R13B
Scandium	1	<1	µg/L	20040823.R13B
Selenium	1	<1	µg/L	20040823.R13B
Silver	0.1	<0.1	µg/L	20040823.R13B
Strontium	1	31	µg/L	20040823.R13B
Thallium	0.1	<0.1	µg/L	20040823.R13B
Thorium	1	<1	µg/L	20040823.R13B
Tin	1	<1	µg/L	20040823.R13B
Titanium	1	2.1	µg/L	20040823.R13B
Tungsten	1	<1	µg/L	20040823.R13B
Uranium	1	<1	µg/L	20040823.R13B
Vanadium	1	<1	µg/L	20040823.R13B
Yttrium	1	<1	µg/L	20040823.R13B
Zinc	1	3.8	µg/L	20040823.R13B
Zirconium	1	<1	µg/L	20040823.R13B

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NAR Environmental Consulting

Work Order: 12380

Sample Name: JC NF-B

Date: 8/20/2004

Matrix: Water

Lab #: 51596

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.26	pH	20040827.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	55	mg/L	20040901.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.3	mg/L	20040825.tkn
Total Kjeldahl Nitrogen	0.05	0.29	mg/L	20040825.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.022	mg/L	20040824.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040901.R27A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Work Order: 12380

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	220	200	180	20040826.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	<10	<10	<10	20040826.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.545	0.4	20040826.NH3

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20040826.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	10.2	8	20040830.R5C
Chloride	0.2	mg/L	12	10	8	20040830.R5C
Fluoride	0.01	mg/L	12	11	8	20040830.R5C
Nitrate (as N)	0.1	mg/L	12	11.7	8	20040830.R5C
Nitrite (as N)	0.05	mg/L	12	10.2	8	20040830.R5C
Phosphate	0.3	mg/L	12	9.8	8	20040830.R5C
Sulfate	0.2	mg/L	12	10	8	20040830.R5C

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20040830.R5C
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20040830.R5C
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20040830.R5C
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20040830.R5C
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20040830.R5C
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20040830.R5C
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20040830.R5C

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	0.1	µS/cm	1	0.4	<0.1	20040827.cond

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	0.1	µS/cm	1	0.4	<0.1	20040827.cond

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CONDWATER

Blank

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	475	400	20040823.R13B
Arsenic	1	µg/L	120	97	80	20040823.R13B
Barium	1	µg/L	120	104	80	20040823.R13B
Beryllium	1	µg/L	125	102	75	20040823.R13B
Boron	2	µg/L	125	110	75	20040823.R13B
Cadmium	1	µg/L	120	99	80	20040823.R13B
Calcium	50	µg/L	1200	980	800	20040823.R13B
Chromium	1	µg/L	120	93	80	20040823.R13B
Cobalt	1	µg/L	120	97	80	20040823.R13B
Copper	1	µg/L	120	98	80	20040823.R13B
Iron	20	µg/L	600	490	400	20040823.R13B
Lead	1	µg/L	120	106	80	20040823.R13B
Magnesium	4	µg/L	1200	1020	800	20040823.R13B
Manganese	1	µg/L	120	93	80	20040823.R13B
Molybdenum	1	µg/L	120	111	80	20040823.R13B
Nickel	1	µg/L	120	101	80	20040823.R13B
Selenium	1	µg/L	120	103	80	20040823.R13B
Thallium	1	µg/L	120	105	80	20040823.R13B
Vanadium	1	µg/L	120	98	80	20040823.R13B
Zinc	1	µg/L	120	101	80	20040823.R13B

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	110	80	20040823.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20040823.R13B
Antimony	1	µg/L	5	<1	<1	20040823.R13B
Arsenic	1	µg/L	5	<1	<1	20040823.R13B
Barium	1	µg/L	5	<1	<1	20040823.R13B
Beryllium	1	µg/L	5	<1	<1	20040823.R13B
Bismuth	1	µg/L	5	<1	<1	20040823.R13B
Boron	2	µg/L	5	<2	<2	20040823.R13B
Cadmium	1	µg/L	5	<1	<1	20040823.R13B
Calcium	50	µg/L	<50	<50	<50	20040823.R13B
Cerium	1	µg/L	5	<1	<1	20040823.R13B
Cesium	1	µg/L	5	<1	<1	20040823.R13B
Chromium	1	µg/L	5	<1	<1	20040823.R13B
Cobalt	1	µg/L	5	<1	<1	20040823.R13B
Copper	1	µg/L	5	<1	<1	20040823.R13B
Europium	1	µg/L	5	<1	<1	20040823.R13B

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ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Gallium	1	µg/L	5	<1	<1	20040823.R13B
Iron	20	µg/L	<20	<20	<20	20040823.R13B
Lanthanum	1	µg/L	5	<1	<1	20040823.R13B
Lead	1	µg/L	5	<1	<1	20040823.R13B
Lithium	1	µg/L	5	<1	<1	20040823.R13B
Magnesium	4	µg/L	20	<4	<4	20040823.R13B
Manganese	1	µg/L	5	<1	<1	20040823.R13B
Mercury	1	µg/L	5	<1	<1	20040823.R13B
Molybdenum	1	µg/L	5	<1	<1	20040823.R13B
Nickel	1	µg/L	5	<1	<1	20040823.R13B
Niobium	1	µg/L	5	<1	<1	20040823.R13B
Phosphorus	20	µg/L	<20	<20	<20	20040823.R13B
Rubidium	1	µg/L	5	<1	<1	20040823.R13B
Scandium	1	µg/L	5	<1	<1	20040823.R13B
Selenium	1	µg/L	5	<1	<1	20040823.R13B
Silver	5	µg/L	5	<5	<5	20040823.R13B
Strontium	1	µg/L	5	<1	<1	20040823.R13B
Thallium	1	µg/L	5	<1	<1	20040823.R13B
Thorium	1	µg/L	5	<1	<1	20040823.R13B
Tin	1	µg/L	5	<1	<1	20040823.R13B
Titanium	1	µg/L	5	<1	<1	20040823.R13B
Tungsten	1	µg/L	5	<1	<1	20040823.R13B
Uranium	1	µg/L	5	<1	<1	20040823.R13B
Vanadium	1	µg/L	5	<1	<1	20040823.R13B
Yttrium	1	µg/L	5	<1	<1	20040823.R13B
Zinc	1	µg/L	5	<1	<1	20040823.R13B
Zirconium	1	µg/L	5	<1	<1	20040823.R13B

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.01	6.9	20040827.pH

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20040901.R27B

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20040825.tkn

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TKN Water

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20040825.tkn

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.047	0.04	20040824.TP

Blank

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20040824.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20040901.R27A

UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on Sept. 21, 2004

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	21/09/04 11:00					No flow due to dry conditions
UM Sw-2	21/09/04 13:50					No flow due to dry conditions
UM Sw-3	21/09/04 12:24	16 C	11 C	5.5		Very light flow
UM Sw-3a	21/09/04 13:35					No flow due to dry conditions
UM Sw-4	21/09/04 11:24					No flow due to dry conditions
UM Sw-5	21/09/04 11:35	15 C	11 C	9	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Light flow, clear water

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Analytical Report

Client:	Brad Bowman	Work Order Number:	12949
Company:	NAR Environmental Consulting	Date Order Received:	9/22/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	Ursa Major Minerals
Email:	jay.dickison@bellnet.ca	Water Works Number:	

Analyses were performed on the following samples submitted with your order.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-5	53362	Water		9/21/2004	11:35
UM SW-3	53363	Water		9/21/2004	12:24

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Work Order: 12949

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Work Order: 12948

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head

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NAR Environmental Consulting

Work Order: 12949

Sample Data:

Sample Name: UM SW-5

Date: 9/21/2004

Matrix: Water

Lab #: 53362

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	<10	mg/L	20040922.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.16	mg/L	20040924.NH3
Ammonia (as N)	0.002	0.19	mg/L	20040924.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.4	mg/L	20040924.R5A
Fluoride	0.01	0.026	mg/L	20040924.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20040924.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20040924.R5A
Sulfate	> 0.2	1.8	mg/L	20040924.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	160	TCU	20040923.colour

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	17.16	µS/cm	20040922.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	10	mg/L	20040922.DOC
Dissolved Organic Carbon	0.4	9.9	mg/L	20040922.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	4.7	mg/L	20040922.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	204	µg/L	20040922.R13B
Antimony	1	<1	µg/L	20040922.R13B
Arsenic	1	<1	µg/L	20040922.R13B
Barium	1	8.5	µg/L	20040922.R13B
Beryllium	1	<1	µg/L	20040922.R13B
Bismuth	1	<1	µg/L	20040922.R13B
Boron	2	3.8	µg/L	20040922.R13B
Cadmium	0.1	<0.1	µg/L	20040922.R13B
Calcium	50	1200	µg/L	20040922.R13B
Cerium	1	<1	µg/L	20040922.R13B
Cesium	1	<1	µg/L	20040922.R13B
Chromium	1	<1	µg/L	20040922.R13B
Cobalt	0.1	9.7	µg/L	20040922.R13B

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Work Order: 12949

Sample Name: UM SW-5

Date: 9/21/2004

Matrix: Water

Lab #: 53362

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Copper	1	<1	µg/L	20040922.R13B
Europium	1	<1	µg/L	20040922.R13B
Gallium	1	<1	µg/L	20040922.R13B
Iron	20	2140	µg/L	20040922.R13B
Lanthanum	1	<1	µg/L	20040922.R13B
Lead	1	<1	µg/L	20040922.R13B
Lithium	5	<5	µg/L	20040922.R13B
Magnesium	4	413	µg/L	20040922.R13B
Manganese	1	385	µg/L	20040922.R13B
Mercury	0.1	<0.1	µg/L	20040922.R13B
Molybdenum	1	<1	µg/L	20040922.R13B
Nickel	1	5	µg/L	20040922.R13B
Niobium	1	<1	µg/L	20040922.R13B
Phosphorus	50	<50	µg/L	20040922.R13B
Rubidium	1	2.2	µg/L	20040922.R13B
Scandium	1	<1	µg/L	20040922.R13B
Selenium	1	<1	µg/L	20040922.R13B
Silver	0.1	<0.1	µg/L	20040922.R13B
Strontium	1	7.9	µg/L	20040922.R13B
Thallium	0.1	<0.1	µg/L	20040922.R13B
Thorium	1	<1	µg/L	20040922.R13B
Tin	1	<1	µg/L	20040922.R13B
Titanium	1	2.7	µg/L	20040922.R13B
Tungsten	1	<1	µg/L	20040922.R13B
Uranium	1	<1	µg/L	20040922.R13B
Vanadium	1	<1	µg/L	20040922.R13B
Yttrium	1	<1	µg/L	20040922.R13B
Zinc	1	6.5	µg/L	20040922.R13B
Zirconium	1	1	µg/L	20040922.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.16	pH	20040922.R2B
pH	N/A	6.22	pH	20040922.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	29	mg/L	20040927.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.52	mg/L	20040923.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.026	mg/L	20040928.TP

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Work Order: 12949

Sample Name: UM SW-5

Date: 9/21/2004

Matrix: Water

Lab #: 53362

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20040927.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	13	NTU	20040923.turb

Sample Name: UM SW-3

Date: 9/21/2004

Matrix: Water

Lab #: 53363

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity (pH 4.5)	10	17	mg/L	20040922.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.022	mg/L	20040924.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.75	mg/L	20040924.R5A
Chloride	0.2	0.77	mg/L	20040924.R5A
Fluoride	0.01	<0.01	mg/L	20040924.R5A
Fluoride	0.01	<0.01	mg/L	20040924.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20040924.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20040924.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20040924.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20040924.R5A
Sulfate	0.2	5.9	mg/L	20040924.R5A
Sulfate	0.2	5.8	mg/L	20040924.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	47	TCU	20040923.colour
Apparent Colour	4	49	TCU	20040923.colour

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	61.1	µS/cm	20040922.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.4	mg/L	20040922.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness	0.1	23.7	mg/L	20040922.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	69	µg/L	20040922.R13B

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Work Order: 12949

Sample Name: UM SW-3

Date: 9/21/2004

Matrix: Water

Lab #: 53363

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Antimony	1	<1	µg/L	20040922.R13B
Arsenic	1	<1	µg/L	20040922.R13B
Barium	1	9.7	µg/L	20040922.R13B
Beryllium	1	<1	µg/L	20040922.R13B
Bismuth	1	<1	µg/L	20040922.R13B
Boron	2	8.1	µg/L	20040922.R13B
Cadmium	0.1	<0.1	µg/L	20040922.R13B
Calcium	50	6760	µg/L	20040922.R13B
Cerium	1	<1	µg/L	20040922.R13B
Cesium	1	<1	µg/L	20040922.R13B
Chromium	1	<1	µg/L	20040922.R13B
Cobalt	0.1	1.6	µg/L	20040922.R13B
Copper	1	<1	µg/L	20040922.R13B
Europium	1	<1	µg/L	20040922.R13B
Gallium	1	<1	µg/L	20040922.R13B
Iron	20	240	µg/L	20040922.R13B
Lanthanum	1	<1	µg/L	20040922.R13B
Lead	1	<1	µg/L	20040922.R13B
Lithium	5	<5	µg/L	20040922.R13B
Magnesium	4	1670	µg/L	20040922.R13B
Manganese	1	228	µg/L	20040922.R13B
Mercury	0.1	<0.1	µg/L	20040922.R13B
Molybdenum	1	<1	µg/L	20040922.R13B
Nickel	1	6.5	µg/L	20040922.R13B
Niobium	1	<1	µg/L	20040922.R13B
Phosphorus	50	<50	µg/L	20040922.R13B
Rubidium	1	1.1	µg/L	20040922.R13B
Scandium	1	<1	µg/L	20040922.R13B
Selenium	1	<1	µg/L	20040922.R13B
Silver	0.1	<0.1	µg/L	20040922.R13B
Strontium	1	25	µg/L	20040922.R13B
Thallium	0.1	<0.1	µg/L	20040922.R13B
Thorium	1	<1	µg/L	20040922.R13B
Tin	1	<1	µg/L	20040922.R13B
Titanium	1	2.8	µg/L	20040922.R13B
Tungsten	1	<1	µg/L	20040922.R13B
Uranium	1	<1	µg/L	20040922.R13B
Vanadium	1	<1	µg/L	20040922.R13B
Yttrium	1	<1	µg/L	20040922.R13B
Zinc	1	4.2	µg/L	20040922.R13B
Zirconium	1	<1	µg/L	20040922.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.9	pH	20040922.R2B

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Work Order: 12949

Sample Name: UM SW-3

Date: 9/21/2004

Matrix: Water

Lab #: 53363

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	50	mg/L	20040927.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.33	mg/L	20040923.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.018	mg/L	20040928.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	3	mg/L	20040927.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	2.3	NTU	20040923.turb
Turbidity	0.2	2.1	NTU	20040923.turb

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	220	200	180	20040922.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity (pH 4.5)	10	mg/L	<10	<10	<10	20040922.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.503	0.4	20040924.NH3

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	0.0042	<0.002	20040924.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.6	8	20040924.R5A
Chloride	0.2	mg/L	12	9.3	8	20040924.R5A
Fluoride	0.01	mg/L	12	9.98	8	20040924.R5A
Nitrate (as N)	0.1	mg/L	12	10.6	8	20040924.R5A
Nitrite (as N)	0.05	mg/L	12	9.31	8	20040924.R5A
Phosphate	0.3	mg/L	12	9.6	8	20040924.R5A
Sulfate	0.2	mg/L	12	9.3	8	20040924.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20040924.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20040924.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20040924.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20040924.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20040924.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20040924.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20040924.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	80	76	60	20040923.colour

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Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	<4	<4	<4	20040923.colour

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	104	96	20040922.R12B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20040922.R12B

DOC Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	12	10	8	20040922.DOC

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20040922.DOC

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	523	400	20040922.R13B
Arsenic	1	µg/L	120	101	80	20040922.R13B
Barium	1	µg/L	120	103	80	20040922.R13B
Beryllium	1	µg/L	125	98	75	20040922.R13B
Boron	2	µg/L	125	100	75	20040922.R13B
Cadmium	1	µg/L	120	103	80	20040922.R13B
Calcium	50	µg/L	1200	1100	800	20040922.R13B
Chromium	1	µg/L	120	98	80	20040922.R13B
Cobalt	1	µg/L	120	103	80	20040922.R13B
Copper	1	µg/L	120	103	80	20040922.R13B
Iron	20	µg/L	600	510	400	20040922.R13B
Lead	1	µg/L	120	110	80	20040922.R13B
Magnesium	4	µg/L	1200	1060	800	20040922.R13B
Manganese	1	µg/L	120	94	80	20040922.R13B
Molybdenum	1	µg/L	120	106	80	20040922.R13B
Nickel	1	µg/L	120	106	80	20040922.R13B
Selenium	1	µg/L	120	100	80	20040922.R13B
Thallium	1	µg/L	120	105	80	20040922.R13B
Vanadium	1	µg/L	120	102	80	20040922.R13B
Zinc	1	µg/L	120	107	80	20040922.R13B

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ICPMS Water

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	96	80	20040922.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20040922.R13B
Antimony	1	µg/L	5	<1	<1	20040922.R13B
Arsenic	1	µg/L	5	<1	<1	20040922.R13B
Barium	1	µg/L	5	<1	<1	20040922.R13B
Beryllium	1	µg/L	5	<1	<1	20040922.R13B
Bismuth	1	µg/L	5	<1	<1	20040922.R13B
Boron	2	µg/L	5	<2	<2	20040922.R13B
Cadmium	1	µg/L	5	<1	<1	20040922.R13B
Calcium	50	µg/L	<50	<50	<50	20040922.R13B
Cerium	1	µg/L	5	<1	<1	20040922.R13B
Cesium	1	µg/L	5	<1	<1	20040922.R13B
Chromium	1	µg/L	5	<1	<1	20040922.R13B
Cobalt	1	µg/L	5	<1	<1	20040922.R13B
Copper	1	µg/L	5	<1	<1	20040922.R13B
Europium	1	µg/L	5	<1	<1	20040922.R13B
Gallium	1	µg/L	5	<1	<1	20040922.R13B
Iron	20	µg/L	<20	<20	<20	20040922.R13B
Lanthanum	1	µg/L	5	<1	<1	20040922.R13B
Lead	1	µg/L	5	<1	<1	20040922.R13B
Lithium	1	µg/L	5	<1	<1	20040922.R13B
Magnesium	4	µg/L	20	<4	<4	20040922.R13B
Manganese	1	µg/L	5	<1	<1	20040922.R13B
Mercury	1	µg/L	5	<1	<1	20040922.R13B
Molybdenum	1	µg/L	5	<1	<1	20040922.R13B
Nickel	1	µg/L	5	<1	<1	20040922.R13B
Niobium	1	µg/L	5	<1	<1	20040922.R13B
Phosphorus	20	µg/L	<20	<20	<20	20040922.R13B
Rubidium	1	µg/L	5	<1	<1	20040922.R13B
Scandium	1	µg/L	5	<1	<1	20040922.R13B
Selenium	1	µg/L	5	<1	<1	20040922.R13B
Silver	5	µg/L	5	<5	<5	20040922.R13B
Strontium	1	µg/L	5	<1	<1	20040922.R13B
Thallium	1	µg/L	5	<1	<1	20040922.R13B
Thorium	1	µg/L	5	<1	<1	20040922.R13B
Tin	1	µg/L	5	<1	<1	20040922.R13B
Titanium	1	µg/L	5	<1	<1	20040922.R13B
Tungsten	1	µg/L	5	<1	<1	20040922.R13B
Uranium	1	µg/L	5	<1	<1	20040922.R13B
Vanadium	1	µg/L	5	<1	<1	20040922.R13B
Yttrium	1	µg/L	5	<1	<1	20040922.R13B
Zinc	1	µg/L	5	<1	<1	20040922.R13B
Zirconium	1	µg/L	5	<1	<1	20040922.R13B

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ICPMS Water

Blank

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.07	6.9	20040922.R2B

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20040927.R27B

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20040923.tkn

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1	0.8	20040923.tkn

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.045	0.04	20040928.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20040928.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20040927.R27A

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.8	0.77	0.7	20040923.turb

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20040923.turb

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UCL Upper Control Limit

LCL Lower Control Limit

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Analytical Report

Client: Brad Bowman
Company: NAR Environmental Consulting
Address: 1130 Southlane Road
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Phone: (705) 522-5990
Fax: (705) 522-1898
Email: jay.dickison@bellnet.ca

Work Order Number: 13266
Date Order Received: 10/7/2004
Regulation: PWQO
PO #:
Project #:
Water Works Number:

Analyses were performed on the following samples submitted with your order.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM-AL-REF	54573	Water		10/7/2004	
UM-AL-NF	54574	Water		10/6/2004	
UM-AL-FF	54575	Water		10/6/2004	
UM-AL-REF-1	54576	Soil		10/7/2004	
UM-AL-REF-2	54577	Soil		10/7/2004	
UM-AL-REF-3	54578	Soil		10/7/2004	
UM-AL-NF-1	54579	Soil		10/6/2004	
UM-AL-NF-2	54580	Soil		10/6/2004	
UM-AL-NF-3	54581	Soil		10/6/2004	
UM-AL-FF-1	54582	Soil		10/6/2004	
UM-AL-FF-2	54583	Soil		10/6/2004	
UM-AL-FF-3	54584	Soil		10/6/2004	



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Work Order: 13266

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Soil	Determination of Metals in Soil by ICP/MS with Aqua Regia Digest Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
LOI	Determination of Loss on Ignition of Solids by Gravimetry Instrument group: Mettler Analytical Balance	In House
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Soil	Determination of Total Kjeldahl Nitrogen in Soils Instrument group: Skalar San++ FIA	APHA 4500B
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540

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This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head



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Work Order: 13266

Sample Data:

Sample Name: UM-AL-REF

Date: 10/7/2004

Matrix: Water

Lab #: 54573

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	13	mg/L	20041012.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.022	mg/L	20041008.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.1	mg/L	20041012.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20041012.R5B
Nitrite (as N)	0.05	<0.05	mg/L	20041012.R5B
Sulfate	0.2	4.9	mg/L	20041012.R5B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	42.8	µS/cm	20041007.R12B
Conductivity	2	42.5	µS/cm	-20041007.R12B

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	17.1	mg/L	20041008.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	24	µg/L	20041008.R13A
Antimony	1	<1	µg/L	20041008.R13A
Arsenic	1	<1	µg/L	20041008.R13A
Barium	1	5.5	µg/L	20041008.R13A
Beryllium	1	<1	µg/L	20041008.R13A
Bismuth	1	<1	µg/L	20041008.R13A
Boron	2	2.9	µg/L	20041008.R13A
Cadmium	0.1	<0.1	µg/L	20041008.R13A
Calcium	50	4700	µg/L	20041008.R13A
Cerium	1	<1	µg/L	20041008.R13A
Cesium	1	<1	µg/L	20041008.R13A
Chromium	1	<1	µg/L	20041008.R13A
Cobalt	0.1	<0.1	µg/L	20041008.R13A
Copper	1	<1	µg/L	20041008.R13A
Europium	1	<1	µg/L	20041008.R13A
Gallium	1	<1	µg/L	20041008.R13A
Iron	20	76	µg/L	20041008.R13A
Lanthanum	1	<1	µg/L	20041008.R13A
Lead	1	<1	µg/L	20041008.R13A
Lithium	5	<5	µg/L	20041008.R13A
Magnesium	4	1300	µg/L	20041008.R13A
Manganese	1	16	µg/L	20041008.R13A

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Sample Name: UM-AL-REF

Date: 10/7/2004

Matrix: Water

Lab #: 54573

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Mercury	0.1	<0.1	µg/L	20041008.R13A
Molybdenum	1	<1	µg/L	20041008.R13A
Nickel	1	<1	µg/L	20041008.R13A
Niobium	1	<1	µg/L	20041008.R13A
Phosphorus	50	<50	µg/L	20041008.R13A
Rubidium	1	1.2	µg/L	20041008.R13A
Scandium	1	<1	µg/L	20041008.R13A
Selenium	1	<1	µg/L	20041008.R13A
Silver	0.1	<0.1	µg/L	20041008.R13A
Strontium	1	20	µg/L	20041008.R13A
Thallium	0.1	<0.1	µg/L	20041008.R13A
Thorium	1	<1	µg/L	20041008.R13A
Tin	1	<1	µg/L	20041008.R13A
Titanium	1	<1	µg/L	20041008.R13A
Tungsten	1	<1	µg/L	20041008.R13A
Uranium	1	<1	µg/L	20041008.R13A
Vanadium	1	<1	µg/L	20041008.R13A
Yttrium	1	<1	µg/L	20041008.R13A
Zinc	1	<1	µg/L	20041008.R13A
Zirconium	1	<1	µg/L	20041008.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.24	pH	20041007.R2A
pH	N/A	7.23	pH	20041007.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	41	mg/L	20041013.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.31	mg/L	20041014.tkn2

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.0073	mg/L	20041012.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041013.tss

Sample Name: UM-AL-NF

Date: 10/6/2004

Matrix: Water

Lab #: 54574

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	12	mg/L	20041012.R69A
M-Alkalinity as CaCO3 (pH 4.5)	10	11	mg/L	20041012.R69A

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Work Order: 13286

Sample Name: UM-AL-NF

Date: 10/6/2004

Matrix: Water

Lab #: 54574

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.049	mg/L	20041008.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1	mg/L	20041012.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20041012.R5B
Nitrite (as N)	0.05	<0.05	mg/L	20041012.R5B
Sulfate	0.2	4.8	mg/L	20041012.R5B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	42.4	µS/cm	20041007.R12B

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	16.9	mg/L	20041008.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	23	µg/L	20041008.R13A
Antimony	1	<1	µg/L	20041008.R13A
Arsenic	1	<1	µg/L	20041008.R13A
Barium	1	5.5	µg/L	20041008.R13A
Beryllium	1	<1	µg/L	20041008.R13A
Bismuth	1	<1	µg/L	20041008.R13A
Boron	2	2.2	µg/L	20041008.R13A
Cadmium	0.1	<0.1	µg/L	20041008.R13A
Calcium	50	4700	µg/L	20041008.R13A
Cerium	1	<1	µg/L	20041008.R13A
Cesium	1	<1	µg/L	20041008.R13A
Chromium	1	<1	µg/L	20041008.R13A
Cobalt	0.1	<0.1	µg/L	20041008.R13A
Copper	1	<1	µg/L	20041008.R13A
Europium	1	<1	µg/L	20041008.R13A
Gallium	1	<1	µg/L	20041008.R13A
Iron	20	55	µg/L	20041008.R13A
Lanthanum	1	<1	µg/L	20041008.R13A
Lead	1	<1	µg/L	20041008.R13A
Lithium	5	<5	µg/L	20041008.R13A
Magnesium	4	1290	µg/L	20041008.R13A
Manganese	1	21	µg/L	20041008.R13A
Mercury	0.1	<0.1	µg/L	20041008.R13A
Molybdenum	1	<1	µg/L	20041008.R13A
Nickel	1	<1	µg/L	20041008.R13A
Niobium	1	<1	µg/L	20041008.R13A

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Work Order: 13266

Sample Name: UM-AL-NF

Date: 10/6/2004

Matrix: Water

Lab #: 54574

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Phosphorus	50	<50	µg/L	20041008.R13A
Rubidium	1	1.2	µg/L	20041008.R13A
Scandium	1	<1	µg/L	20041008.R13A
Selenium	1	<1	µg/L	20041008.R13A
Silver	0.1	<0.1	µg/L	20041008.R13A
Strontium	1	18	µg/L	20041008.R13A
Thallium	0.1	<0.1	µg/L	20041008.R13A
Thorium	1	<1	µg/L	20041008.R13A
Tin	1	<1	µg/L	20041008.R13A
Titanium	1	<1	µg/L	20041008.R13A
Tungsten	1	<1	µg/L	20041008.R13A
Uranium	1	<1	µg/L	20041008.R13A
Vanadium	1	<1	µg/L	20041008.R13A
Yttrium	1	<1	µg/L	20041008.R13A
Zinc	1	<1	µg/L	20041008.R13A
Zirconium	1	<1	µg/L	20041008.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.16	pH	20041007.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	41	mg/L	20041013.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.3	mg/L	20041014.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.0083	mg/L	20041012.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041013.tss

Sample Name: UM-AL-FF

Date: 10/6/2004

Matrix: Water

Lab #: 54575

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	10	mg/L	20041012.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.043	mg/L	20041008.R42A
Ammonia (as N)	0.002	0.043	mg/L	20041008.R42A

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Work Order: 13266

Sample Name: UM-AL-FF

Date: 10/6/2004

Matrix: Water

Lab #: 54575

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1	mg/L	20041012.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20041012.R5B
Nitrite (as N)	0.05	<0.05	mg/L	20041012.R5B
Sulfate	0.2	4.9	mg/L	20041012.R5B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	42.4	µS/cm	20041007.R12B

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	16.4	mg/L	20041008.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	23	µg/L	20041008.R13A
Antimony	1	<1	µg/L	20041008.R13A
Arsenic	1	<1	µg/L	20041008.R13A
Barium	1	5.6	µg/L	20041008.R13A
Beryllium	1	<1	µg/L	20041008.R13A
Bismuth	1	<1	µg/L	20041008.R13A
Boron	2	<2	µg/L	20041008.R13A
Cadmium	0.1	<0.1	µg/L	20041008.R13A
Calcium	50	4500	µg/L	20041008.R13A
Cerium	1	<1	µg/L	20041008.R13A
Cesium	1	<1	µg/L	20041008.R13A
Chromium	1	<1	µg/L	20041008.R13A
Cobalt	0.1	<0.1	µg/L	20041008.R13A
Copper	1	1.7	µg/L	20041008.R13A
Europium	1	<1	µg/L	20041008.R13A
Gallium	1	<1	µg/L	20041008.R13A
Iron	20	57	µg/L	20041008.R13A
Lanthanum	1	<1	µg/L	20041008.R13A
Lead	1	<1	µg/L	20041008.R13A
Lithium	5	<5	µg/L	20041008.R13A
Magnesium	4	1270	µg/L	20041008.R13A
Manganese	1	17	µg/L	20041008.R13A
Mercury	0.1	<0.1	µg/L	20041008.R13A
Molybdenum	1	<1	µg/L	20041008.R13A
Nickel	1	<1	µg/L	20041008.R13A
Niobium	1	<1	µg/L	20041008.R13A
Phosphorus	50	<50	µg/L	20041008.R13A
Rubidium	1	1.1	µg/L	20041008.R13A
Scandium	1	<1	µg/L	20041008.R13A
Selenium	1	<1	µg/L	20041008.R13A
Silver	0.1	<0.1	µg/L	20041008.R13A
Strontium	1	18	µg/L	20041008.R13A

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Work Order: 13266

Sample Name: UM-AL-FF

Date: 10/6/2004

Matrix: Water

Lab #: 54575

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Thallium	0.1	<0.1	µg/L	20041008.R13A
Thorium	1	<1	µg/L	20041008.R13A
Tin	1	<1	µg/L	20041008.R13A
Titanium	1	<1	µg/L	20041008.R13A
Tungsten	1	<1	µg/L	20041008.R13A
Uranium	1	<1	µg/L	20041008.R13A
Vanadium	1	<1	µg/L	20041008.R13A
Yttrium	1	<1	µg/L	20041008.R13A
Zinc	1	<1	µg/L	20041008.R13A
Zirconium	1	<1	µg/L	20041008.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.14	pH	20041007.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	32	mg/L	20041013.tds
Total Dissolved Solids	20	43	mg/L	20041013.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.28	mg/L	20041014.TKN
Total Kjeldahl Nitrogen	0.05	0.29	mg/L	20041014.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.0091	mg/L	20041012.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041013.tss
Total Suspended Solids	3	<3	mg/L	20041013.tss

Sample Name: UM-AL-REF-1

Date: 10/7/2004

Matrix: Soil

Lab #: 54576

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	13300	µg/g	20041015.R13G
Antimony	0.5	<0.5	µg/g	20041015.R13G
Arsenic	0.5	3.6	µg/g	20041015.R13G
Barium	0.5	116	µg/g	20041015.R13G
Beryllium	0.5	0.84	µg/g	20041015.R13G
Bismuth	0.5	<0.5	µg/g	20041015.R13G
Boron	1	6.8	µg/g	20041015.R13G
Cadmium	0.05	1	µg/g	20041015.R13G
Calcium	20	3280	µg/g	20041015.R13G
Cerium	5	75	µg/g	20041015.R13G

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Work Order: 13266

Sample Name: UM-AL-REF-1

Date: 10/7/2004

Matrix: Soil

Lab #: 54576

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Cesium	0.5	1	µg/g	20041015.R13G
Chromium	0.5	40	µg/g	20041015.R13G
Cobalt	0.05	18.6	µg/g	20041015.R13G
Copper	0.5	31	µg/g	20041015.R13G
Europium	0.5	0.95	µg/g	20041015.R13G
Gallium	0.5	7.5	µg/g	20041015.R13G
Iron	1000	36000	µg/g	20041015.R13G
Lanthanum	0.5	48	µg/g	20041015.R13G
Lead	0.5	38	µg/g	20041015.R13G
Lithium	2	14	µg/g	20041015.R13G
Magnesium	20	5860	µg/g	20041015.R13G
Manganese	5	1020	µg/g	20041015.R13G
Mercury	0.05	0.14	µg/g	20041015.R13G
Molybdenum	0.5	1.4	µg/g	20041015.R13G
Nickel	0.5	40	µg/g	20041015.R13G
Niobium	0.5	2.8	µg/g	20041015.R13G
Phosphorus	20	1000	µg/g	20041015.R13G
Rubidium	0.5	11	µg/g	20041015.R13G
Scandium	0.5	4.2	µg/g	20041015.R13G
Selenium	0.5	<0.5	µg/g	20041015.R13G
Silver	0.5	<0.5	µg/g	20041015.R13G
Strontium	0.5	16	µg/g	20041015.R13G
Thallium	0.5	<0.5	µg/g	20041015.R13G
Thorium	0.5	12	µg/g	20041015.R13G
Tin	0.5	1.3	µg/g	20041015.R13G
Titanium	5	888	µg/g	20041015.R13G
Tungsten	0.5	<0.5	µg/g	20041015.R13G
Uranium	0.5	8	µg/g	20041015.R13G
Vanadium	5	55	µg/g	20041015.R13G
Yttrium	0.5	12	µg/g	20041015.R13G
Zinc	5	140	µg/g	20041015.R13G
Zirconium	0.5	8.3	µg/g	20041015.R13G

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	77.4	%	20041015.loi1
% Organic	0.01	9.47	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	6	698	µg/g	20041018.tkn

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Work Order: 13266

Sample Name: UM-AL-REF-2

Date: 10/7/2004

Matrix: Soil

Lab #: 54577

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	12200	µg/g	20041015.R13G
Antimony	0.5	<0.5	µg/g	20041015.R13G
Arsenic	0.5	0.99	µg/g	20041015.R13G
Barium	0.5	112	µg/g	20041015.R13G
Beryllium	0.5	0.61	µg/g	20041015.R13G
Bismuth	0.5	<0.5	µg/g	20041015.R13G
Boron	1	5.6	µg/g	20041015.R13G
Cadmium	0.05	0.9	µg/g	20041015.R13G
Calcium	20	3100	µg/g	20041015.R13G
Cerium	5	72	µg/g	20041015.R13G
Cesium	0.5	0.87	µg/g	20041015.R13G
Chromium	0.5	36	µg/g	20041015.R13G
Cobalt	0.05	16.8	µg/g	20041015.R13G
Copper	0.5	29	µg/g	20041015.R13G
Europium	0.5	0.83	µg/g	20041015.R13G
Gallium	0.5	6.9	µg/g	20041015.R13G
Iron	1000	30000	µg/g	20041015.R13G
Lanthanum	0.5	41	µg/g	20041015.R13G
Lead	0.5	36	µg/g	20041015.R13G
Lithium	2	13	µg/g	20041015.R13G
Magnesium	20	5660	µg/g	20041015.R13G
Manganese	5	1280	µg/g	20041015.R13G
Mercury	0.05	<0.05	µg/g	20041015.R13G
Molybdenum	0.5	1.1	µg/g	20041015.R13G
Nickel	0.5	37	µg/g	20041015.R13G
Niobium	0.5	2.3	µg/g	20041015.R13G
Phosphorus	20	770	µg/g	20041015.R13G
Rubidium	0.5	11	µg/g	20041015.R13G
Scandium	0.5	3.8	µg/g	20041015.R13G
Selenium	0.5	<0.5	µg/g	20041015.R13G
Silver	0.5	<0.5	µg/g	20041015.R13G
Strontium	0.5	15	µg/g	20041015.R13G
Thallium	0.5	<0.5	µg/g	20041015.R13G
Thorium	0.5	13	µg/g	20041015.R13G
Tin	0.5	1.1	µg/g	20041015.R13G
Titanium	5	818	µg/g	20041015.R13G
Tungsten	0.5	<0.5	µg/g	20041015.R13G
Uranium	0.5	6.9	µg/g	20041015.R13G
Vanadium	0.5	46	µg/g	20041015.R13G
Yttrium	0.5	10	µg/g	20041015.R13G
Zinc	5	130	µg/g	20041015.R13G
Zirconium	0.5	6.6	µg/g	20041015.R13G

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	76.1	%	20041015.loi1

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Work Order: 13266

Sample Name: UM-AL-REF-2

Date: 10/7/2004

Matrix: Soil

Lab #: 54577

LOI				
Parameter	MDL	Result	Units	QAQCID
% Organic	0.01	9.35	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	4	572	µg/g	20041018.tkn

Sample Name: UM-AL-REF-3

Date: 10/7/2004

Matrix: Soil

Lab #: 54578

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	12500	µg/g	20041015.R13G
Antimony	0.5	<0.5	µg/g	20041015.R13G
Arsenic	0.5	2.2	µg/g	20041015.R13G
Barium	0.5	129	µg/g	20041015.R13G
Beryllium	0.5	0.72	µg/g	20041015.R13G
Bismuth	0.5	<0.5	µg/g	20041015.R13G
Boron	1	3.4	µg/g	20041015.R13G
Cadmium	0.05	1.1	µg/g	20041015.R13G
Calcium	20	3270	µg/g	20041015.R13G
Cerium	5	73	µg/g	20041015.R13G
Cesium	0.5	0.92	µg/g	20041015.R13G
Chromium	0.5	40	µg/g	20041015.R13G
Cobalt	0.05	19.7	µg/g	20041015.R13G
Copper	0.5	35	µg/g	20041015.R13G
Europium	0.5	0.89	µg/g	20041015.R13G
Gallium	0.5	7.7	µg/g	20041015.R13G
Iron	1000	33000	µg/g	20041015.R13G
Lanthanum	0.5	44	µg/g	20041015.R13G
Lead	0.5	42	µg/g	20041015.R13G
Lithium	2	14	µg/g	20041015.R13G
Magnesium	20	5720	µg/g	20041015.R13G
Manganese	5	2130	µg/g	20041015.R13G
Mercury	0.05	0.079	µg/g	20041015.R13G
Molybdenum	0.5	1.4	µg/g	20041015.R13G
Nickel	0.5	41	µg/g	20041015.R13G
Niobium	0.5	2.5	µg/g	20041015.R13G
Phosphorus	20	900	µg/g	20041015.R13G
Rubidium	0.5	12	µg/g	20041015.R13G
Scandium	0.5	4	µg/g	20041015.R13G
Selenium	0.5	<0.5	µg/g	20041015.R13G
Silver	0.5	<0.5	µg/g	20041015.R13G
Strontium	0.5	16	µg/g	20041015.R13G
Thallium	0.5	<0.5	µg/g	20041015.R13G
Thorium	0.5	13	µg/g	20041015.R13G
Tin	0.5	1.4	µg/g	20041015.R13G
Titanium	5	853	µg/g	20041015.R13G

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Work Order: 13266

Sample Name: UM-AL-REF-3

Date: 10/7/2004

Matrix: Soil

Lab #: 54578

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Tungsten	0.5	<0.5	µg/g	20041015.R13G
Uranium	0.5	7	µg/g	20041015.R13G
Vanadium	5	53	µg/g	20041015.R13G
Yttrium	0.5	11	µg/g	20041015.R13G
Zinc	5	140	µg/g	20041015.R13G
Zirconium	0.5	6	µg/g	20041015.R13G

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	75.2	%	20041015.loi1
% Organic	0.01	9.16	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	5	700	µg/g	20041018.tkn

Sample Name: UM-AL-NF-1

Date: 10/6/2004

Matrix: Soil

Lab #: 54579

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	14400	µg/g	20041015.R13G
Antimony	0.5	<0.5	µg/g	20041015.R13G
Arsenic	0.5	1.1	µg/g	20041015.R13G
Barium	0.5	74.1	µg/g	20041015.R13G
Beryllium	0.5	0.54	µg/g	20041015.R13G
Bismuth	0.5	<0.5	µg/g	20041015.R13G
Boron	0.9	5.3	µg/g	20041015.R13G
Cadmium	0.05	0.57	µg/g	20041015.R13G
Calcium	20	2850	µg/g	20041015.R13G
Cerium	5	68	µg/g	20041015.R13G
Cesium	0.5	0.79	µg/g	20041015.R13G
Chromium	0.5	33	µg/g	20041015.R13G
Cobalt	0.05	11.7	µg/g	20041015.R13G
Copper	0.5	24	µg/g	20041015.R13G
Europium	0.5	0.65	µg/g	20041015.R13G
Gallium	0.5	6.2	µg/g	20041015.R13G
Iron	900	24000	µg/g	20041015.R13G
Lanthanum	0.5	31	µg/g	20041015.R13G
Lead	0.5	27	µg/g	20041015.R13G
Lithium	2	12	µg/g	20041015.R13G
Magnesium	20	5790	µg/g	20041015.R13G
Manganese	5	420	µg/g	20041015.R13G
Mercury	0.05	<0.05	µg/g	20041015.R13G
Molybdenum	0.5	0.89	µg/g	20041015.R13G
Nickel	0.5	28	µg/g	20041015.R13G
Niobium	0.5	2.6	µg/g	20041015.R13G

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Work Order: 13266

Sample Name: UM-AL-NF-1

Date: 10/6/2004

Matrix: Soil

Lab #: 54579

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Phosphorus	20	680	µg/g	20041015.R13G
Rubidium	0.5	11	µg/g	20041015.R13G
Scandium	0.5	3.2	µg/g	20041015.R13G
Selenium	0.5	<0.5	µg/g	20041015.R13G
Silver	0.5	<0.5	µg/g	20041015.R13G
Strontium	0.5	14	µg/g	20041015.R13G
Thallium	0.5	<0.5	µg/g	20041015.R13G
Thorium	0.5	9.7	µg/g	20041015.R13G
Tin	0.5	1.2	µg/g	20041015.R13G
Titanium	5	933	µg/g	20041015.R13G
Tungsten	0.5	<0.5	µg/g	20041015.R13G
Uranium	0.5	4.5	µg/g	20041015.R13G
Vanadium	0.5	40	µg/g	20041015.R13G
Yttrium	0.5	7.9	µg/g	20041015.R13G
Zinc	5	110	µg/g	20041015.R13G
Zirconium	0.5	7.1	µg/g	20041015.R13G

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	70.8	%	20041015.loi1
% Organic	0.01	8.87	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	5	632	µg/g	20041018.tkn

Sample Name: UM-AL-NF-2

Date: 10/6/2004

Matrix: Soil

Lab #: 54580

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	13400	µg/g	20041015.R13G
Antimony	0.5	<0.5	µg/g	20041015.R13G
Arsenic	0.5	1.8	µg/g	20041015.R13G
Barium	0.5	80.8	µg/g	20041015.R13G
Beryllium	0.5	0.61	µg/g	20041015.R13G
Bismuth	0.5	<0.5	µg/g	20041015.R13G
Boron	1	4.8	µg/g	20041015.R13G
Cadmium	0.05	0.64	µg/g	20041015.R13G
Calcium	20	2960	µg/g	20041015.R13G
Cerium	5	72	µg/g	20041015.R13G
Cesium	0.5	0.88	µg/g	20041015.R13G
Chromium	0.5	34	µg/g	20041015.R13G
Cobalt	0.05	11.8	µg/g	20041015.R13G
Copper	0.5	29	µg/g	20041015.R13G
Europium	0.5	0.71	µg/g	20041015.R13G
Gallium	0.5	6.8	µg/g	20041015.R13G

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Work Order: 13266

Sample Name: UM-AL-NF-2

Date: 10/6/2004

Matrix: Soil

Lab #: 54580

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Iron	1000	22000	µg/g	20041015.R13G
Lanthanum	0.5	33	µg/g	20041015.R13G
Lead	0.5	35	µg/g	20041015.R13G
Lithium	2	12	µg/g	20041015.R13G
Magnesium	20	6090	µg/g	20041015.R13G
Manganese	0.5	478	µg/g	20041015.R13G
Mercury	0.05	<0.05	µg/g	20041015.R13G
Molybdenum	0.5	0.94	µg/g	20041015.R13G
Nickel	0.5	35	µg/g	20041015.R13G
Niobium	0.5	2.5	µg/g	20041015.R13G
Phosphorus	20	720	µg/g	20041015.R13G
Rubidium	0.5	11	µg/g	20041015.R13G
Scandium	0.5	3.4	µg/g	20041015.R13G
Selenium	0.5	<0.5	µg/g	20041015.R13G
Silver	0.5	<0.5	µg/g	20041015.R13G
Strontium	0.5	14	µg/g	20041015.R13G
Thallium	0.5	<0.5	µg/g	20041015.R13G
Thorium	0.5	10	µg/g	20041015.R13G
Tin	0.5	1.4	µg/g	20041015.R13G
Titanium	5	991	µg/g	20041015.R13G
Tungsten	0.5	<0.5	µg/g	20041015.R13G
Uranium	0.5	5	µg/g	20041015.R13G
Vanadium	0.5	45	µg/g	20041015.R13G
Yttrium	0.5	8.2	µg/g	20041015.R13G
Zinc	5	120	µg/g	20041015.R13G
Zirconium	0.5	5.9	µg/g	20041015.R13G

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	70.5	%	20041015.loi1
% Organic	0.01	8.49	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	5	597	µg/g	20041018.tkn

Sample Name: UM-AL-NF-3

Date: 10/6/2004

Matrix: Soil

Lab #: 54581

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	16500	µg/g	20041015.R13G
Antimony	0.5	<0.5	µg/g	20041015.R13G
Arsenic	0.5	2.1	µg/g	20041015.R13G
Barium	0.5	85.6	µg/g	20041015.R13G
Beryllium	0.5	0.72	µg/g	20041015.R13G
Bismuth	0.5	<0.5	µg/g	20041015.R13G

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Work Order: 13266

Sample Name: UM-AL-NF-3

Date: 10/6/2004

Matrix: Soil

Lab #: 54581

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Boron	1	4.7	µg/g	20041015.R13G
Cadmium	0.05	0.89	µg/g	20041015.R13G
Calcium	20	3070	µg/g	20041015.R13G
Cerium	5	77	µg/g	20041015.R13G
Cesium	0.5	0.82	µg/g	20041015.R13G
Chromium	0.5	37	µg/g	20041015.R13G
Cobalt	0.05	12.6	µg/g	20041015.R13G
Copper	0.5	33	µg/g	20041015.R13G
Europium	0.5	0.77	µg/g	20041015.R13G
Gallium	0.5	6.7	µg/g	20041015.R13G
Iron	1000	40000	µg/g	20041015.R13G
Lanthanum	0.5	36	µg/g	20041015.R13G
Lead	0.5	46	µg/g	20041015.R13G
Lithium	2	12	µg/g	20041015.R13G
Magnesium	20	5850	µg/g	20041015.R13G
Manganese	5	543	µg/g	20041015.R13G
Mercury	0.05	<0.05	µg/g	20041015.R13G
Molybdenum	0.5	1.1	µg/g	20041015.R13G
Nickel	0.5	40	µg/g	20041015.R13G
Niobium	0.5	2.6	µg/g	20041015.R13G
Phosphorus	20	870	µg/g	20041015.R13G
Rubidium	0.5	11	µg/g	20041015.R13G
Scandium	0.5	3.6	µg/g	20041015.R13G
Selenium	0.5	<0.5	µg/g	20041015.R13G
Silver	0.5	<0.5	µg/g	20041015.R13G
Strontium	0.5	14	µg/g	20041015.R13G
Thallium	0.5	<0.5	µg/g	20041015.R13G
Thorium	0.5	12	µg/g	20041015.R13G
Tin	0.5	1.6	µg/g	20041015.R13G
Titanium	5	872	µg/g	20041015.R13G
Tungsten	0.5	<0.5	µg/g	20041015.R13G
Uranium	0.5	5.4	µg/g	20041015.R13G
Vanadium	5	64	µg/g	20041015.R13G
Yttrium	0.5	8.9	µg/g	20041015.R13G
Zinc	5	160	µg/g	20041015.R13G
Zirconium	0.5	6.6	µg/g	20041015.R13G

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	79.6	%	20041015.loi1
% Organic	0.01	11.8	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	5	703	µg/g	20041018.tkn

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Work Order: 13266

Sample Name: UM-AL-FF-1

Date: 10/6/2004

Matrix: Soil

Lab #: 54582

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	5	10000	µg/g	20041018.R13A
Antimony	0.5	<0.5	µg/g	20041018.R13A
Arsenic	0.5	11	µg/g	20041018.R13A
Barium	0.5	90.3	µg/g	20041018.R13A
Beryllium	0.5	<0.5	µg/g	20041018.R13A
Bismuth	0.5	<0.5	µg/g	20041018.R13A
Boron	1	3	µg/g	20041018.R13A
Cadmium	0.05	0.97	µg/g	20041018.R13A
Calcium	20	3220	µg/g	20041018.R13A
Cerium	5	58	µg/g	20041018.R13A
Cesium	0.5	1.1	µg/g	20041018.R13A
Chromium	0.5	23	µg/g	20041018.R13A
Cobalt	0.05	10.9	µg/g	20041018.R13A
Copper	0.5	25	µg/g	20041018.R13A
Europium	0.5	0.63	µg/g	20041018.R13A
Gallium	0.5	5.5	µg/g	20041018.R13A
Iron	100	18800	µg/g	20041018.R13A
Lanthanum	0.5	30	µg/g	20041018.R13A
Lead	0.5	31	µg/g	20041018.R13A
Lithium	2	7.2	µg/g	20041018.R13A
Magnesium	2	2680	µg/g	20041018.R13A
Manganese	5	1170	µg/g	20041018.R13A
Mercury	0.05	0.076	µg/g	20041018.R13A
Molybdenum	0.5	1.4	µg/g	20041018.R13A
Nickel	0.5	28	µg/g	20041018.R13A
Niobium	0.5	1.3	µg/g	20041018.R13A
Phosphorus	20	590	µg/g	20041018.R13A
Rubidium	0.5	8.2	µg/g	20041018.R13A
Scandium	0.5	1.8	µg/g	20041018.R13A
Selenium	0.5	1.2	µg/g	20041018.R13A
Silver	0.5	<0.5	µg/g	20041018.R13A
Strontium	0.5	18	µg/g	20041018.R13A
Thallium	0.5	<0.5	µg/g	20041018.R13A
Thorium	0.5	3.4	µg/g	20041018.R13A
Tin	0.5	1	µg/g	20041018.R13A
Titanium	0.5	357	µg/g	20041018.R13A
Tungsten	0.5	<0.5	µg/g	20041018.R13A
Uranium	0.5	4	µg/g	20041018.R13A
Vanadium	0.5	34	µg/g	20041018.R13A
Yttrium	0.5	6.7	µg/g	20041018.R13A
Zinc	5	100	µg/g	20041018.R13A
Zirconium	0.5	14	µg/g	20041018.R13A

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	73.9	%	20041015.loi1

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Work Order: 13266

Sample Name: UM-AL-FF-1

Date: 10/6/2004

Matrix: Soil

Lab #: 54582

LOI				
Parameter	MDL	Result	Units	QAQCID
% Organic	0.01	20.7	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	4	708	µg/g	20041018.tkn

Sample Name: UM-AL-FF-2

Date: 10/6/2004

Matrix: Soil

Lab #: 54583

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	5	17800	µg/g	20041018.R13A
Antimony	0.5	<0.5	µg/g	20041018.R13A
Arsenic	0.5	9.4	µg/g	20041018.R13A
Barium	0.5	110	µg/g	20041018.R13A
Beryllium	0.5	0.62	µg/g	20041018.R13A
Bismuth	0.5	0.63	µg/g	20041018.R13A
Boron	1	1.1	µg/g	20041018.R13A
Cadmium	0.05	1.2	µg/g	20041018.R13A
Calcium	20	2920	µg/g	20041018.R13A
Cerium	5	77	µg/g	20041018.R13A
Cesium	0.5	1.1	µg/g	20041018.R13A
Chromium	0.5	35	µg/g	20041018.R13A
Cobalt	0.05	18.6	µg/g	20041018.R13A
Copper	0.5	36	µg/g	20041018.R13A
Europium	0.5	0.78	µg/g	20041018.R13A
Gallium	0.5	7.5	µg/g	20041018.R13A
Iron	100	29000	µg/g	20041018.R13A
Lanthanum	0.5	40	µg/g	20041018.R13A
Lead	0.5	46	µg/g	20041018.R13A
Lithium	2	12	µg/g	20041018.R13A
Magnesium	2	4460	µg/g	20041018.R13A
Manganese	5	1110	µg/g	20041018.R13A
Mercury	0.05	0.17	µg/g	20041018.R13A
Molybdenum	0.5	1.9	µg/g	20041018.R13A
Nickel	0.5	46	µg/g	20041018.R13A
Niobium	0.5	2.6	µg/g	20041018.R13A
Phosphorus	20	1000	µg/g	20041018.R13A
Rubidium	0.5	11	µg/g	20041018.R13A
Scandium	0.5	3.6	µg/g	20041018.R13A
Selenium	0.5	1.3	µg/g	20041018.R13A
Silver	0.5	<0.5	µg/g	20041018.R13A
Strontium	0.5	19	µg/g	20041018.R13A
Thallium	0.5	<0.5	µg/g	20041018.R13A
Thorium	0.5	8.8	µg/g	20041018.R13A
Tin	0.5	1.6	µg/g	20041018.R13A
Titanium	5	684	µg/g	20041018.R13A

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Work Order: 13266

Sample Name: UM-AL-FF-2

Date: 10/6/2004

Matrix: Soil

Lab #: 54583

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Tungsten	0.5	<0.5	µg/g	20041018.R13A
Uranium	0.5	5.9	µg/g	20041018.R13A
Vanadium	5	51	µg/g	20041018.R13A
Yttrium	0.5	9.9	µg/g	20041018.R13A
Zinc	5	140	µg/g	20041018.R13A
Zirconium	0.5	11	µg/g	20041018.R13A

LOI				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.01	77.9	%	20041015.loi1
% Organic	0.01	12.9	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	5	755	µg/g	20041018.tkn

Sample Name: UM-AL-FF-3

Date: 10/6/2004

Matrix: Soil

Lab #: 54584

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	5	15900	µg/g	20041018.R13A
Antimony	0.5	<0.5	µg/g	20041018.R13A
Arsenic	0.5	5.4	µg/g	20041018.R13A
Barium	0.5	79.4	µg/g	20041018.R13A
Beryllium	0.5	<0.5	µg/g	20041018.R13A
Bismuth	0.5	<0.5	µg/g	20041018.R13A
Boron	1	<1	µg/g	20041018.R13A
Cadmium	0.05	0.49	µg/g	20041018.R13A
Calcium	20	2300	µg/g	20041018.R13A
Cerium	5	54	µg/g	20041018.R13A
Cesium	0.5	0.88	µg/g	20041018.R13A
Chromium	0.5	27	µg/g	20041018.R13A
Cobalt	0.05	9.97	µg/g	20041018.R13A
Copper	0.5	19	µg/g	20041018.R13A
Eurpium	0.5	0.56	µg/g	20041018.R13A
Gallium	0.5	8	µg/g	20041018.R13A
Iron	100	22000	µg/g	20041018.R13A
Lanthanum	0.5	29	µg/g	20041018.R13A
Lead	0.5	25	µg/g	20041018.R13A
Lithium	2	8.1	µg/g	20041018.R13A
Magnesium	2	3120	µg/g	20041018.R13A
Manganese	5	666	µg/g	20041018.R13A
Mercury	0.05	0.14	µg/g	20041018.R13A
Molybdenum	0.5	1.7	µg/g	20041018.R13A
Nickel	0.5	21	µg/g	20041018.R13A
Niobium	0.5	2.7	µg/g	20041018.R13A

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Sample Name: UM-AL-FF-3

Date: 10/6/2004

Matrix: Soil

Lab #: 54584

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Phosphorus	20	800	µg/g	20041018.R13A
Rubidium	0.5	8.5	µg/g	20041018.R13A
Scandium	0.5	2.3	µg/g	20041018.R13A
Selenium	0.5	1	µg/g	20041018.R13A
Silver	0.5	<0.5	µg/g	20041018.R13A
Strontium	0.5	16	µg/g	20041018.R13A
Thallium	0.5	<0.5	µg/g	20041018.R13A
Thorium	0.5	5.3	µg/g	20041018.R13A
Tin	0.5	1.2	µg/g	20041018.R13A
Titanium	5	820	µg/g	20041018.R13A
Tungsten	0.5	<0.5	µg/g	20041018.R13A
Uranium	0.5	4.8	µg/g	20041018.R13A
Vanadium	0.5	45	µg/g	20041018.R13A
Yttrium	0.5	6.8	µg/g	20041018.R13A
Zinc	5	74	µg/g	20041018.R13A
Zirconium	0.5	10	µg/g	20041018.R13A

LOI				
Parameter	MDL	Result	Units	QAQCID
% Carbonate	0.01	1.63	%	20041015.loi1
% Moisture	0.01	66.7	%	20041015.loi1
% Organic	0.01	10.8	%	20041015.loi1

TKN Soil				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	5	749	µg/g	20041018.tkn

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	210	180	20041012.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	<10	<10	<10	20041012.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.498	0.4	20041008.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20041008.R42A

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.8	8	20041012.R5B
Chloride	0.2	mg/L	12	9.5	8	20041012.R5B
Fluoride	0.01	mg/L	12	10.1	8	20041012.R5B
Nitrate (as N)	0.1	mg/L	12	11.1	8	20041012.R5B
Nitrite (as N)	0.05	mg/L	12	9.67	8	20041012.R5B
Phosphate	0.3	mg/L	12	9.9	8	20041012.R5B
Sulfate	0.2	mg/L	12	9.5	8	20041012.R5B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20041012.R5B
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20041012.R5B
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20041012.R5B
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20041012.R5B
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20041012.R5B
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20041012.R5B
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20041012.R5B

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	101.3	96	20041007.R12B

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CONDWATER

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20041007.R12B

ICPMS Soil

5 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	0.05	µg/g	30	25.9	20	20041015.R13G
Arsenic	0.05	µg/g	6	5.03	4	20041015.R13G
Barium	0.05	µg/g	6	4.9	4	20041015.R13G
Beryllium	0.05	µg/g	6.25	4.8	3.75	20041015.R13G
Boron	0.1	µg/g	6.25	4.8	3.75	20041015.R13G
Cadmium	0.05	µg/g	6	5.04	4	20041015.R13G
Calcium	3	µg/g	60	51	40	20041015.R13G
Chromium	0.05	µg/g	6	5.26	4	20041015.R13G
Cobalt	0.05	µg/g	6	5.02	4	20041015.R13G
Copper	0.05	µg/g	6	5.19	4	20041015.R13G
Iron	1	µg/g	30	26	20	20041015.R13G
Lead	0.05	µg/g	6	4.9	4	20041015.R13G
Magnesium	0.2	µg/g	60	52.8	40	20041015.R13G
Manganese	0.05	µg/g	6	4.8	4	20041015.R13G
Molybdenum	0.05	µg/g	6	5.01	4	20041015.R13G
Nickel	0.05	µg/g	6	5.28	4	20041015.R13G
Selenium	0.05	µg/g	6	5	4	20041015.R13G
Thallium	0.05	µg/g	6	4.8	4	20041015.R13G
Vanadium	0.05	µg/g	6	5.26	4	20041015.R13G
Zinc	0.05	µg/g	6	5.22	4	20041015.R13G
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	0.05	µg/g	30	25.2	20	20041018.R13A
Arsenic	0.05	µg/g	6	5.13	4	20041018.R13A
Barium	0.05	µg/g	6	5.1	4	20041018.R13A
Beryllium	0.05	µg/g	6.25	4.9	3.75	20041018.R13A
Boron	0.1	µg/g	6.25	4.9	3.75	20041018.R13A
Cadmium	0.05	µg/g	6	5.02	4	20041018.R13A
Calcium	3	µg/g	60	50	40	20041018.R13A
Chromium	0.05	µg/g	6	5.19	4	20041018.R13A
Cobalt	0.05	µg/g	6	5.09	4	20041018.R13A
Copper	0.05	µg/g	6	5.24	4	20041018.R13A
Iron	1	µg/g	30	25	20	20041018.R13A
Lead	0.05	µg/g	6	5.18	4	20041018.R13A
Magnesium	0.2	µg/g	60	51.5	40	20041018.R13A
Manganese	0.05	µg/g	6	4.8	4	20041018.R13A
Molybdenum	0.05	µg/g	6	5.88	4	20041018.R13A
Nickel	0.05	µg/g	6	5.3	4	20041018.R13A
Selenium	0.05	µg/g	6	5.36	4	20041018.R13A
Thallium	0.05	µg/g	6	5.12	4	20041018.R13A
Vanadium	0.05	µg/g	6	5.1	4	20041018.R13A

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ICPMS Soil

5 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Zinc	0.05	µg/g	6	5.36	4	20041018.R13A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	2	µg/g	<2	<2	<2	20041015.R13G
Antimony	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Arsenic	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Barium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Beryllium	3	µg/g	<3	<3	<3	20041015.R13G
Bismuth	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Boron	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Cadmium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Calcium	3	µg/g	<3	<3	<3	20041015.R13G
Cerium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Cesium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Chromium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Cobalt	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Copper	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Europium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Gallium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Iron	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Lanthanum	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Lead	0.05	µg/g	0.05	<0.05	<0.05	20041015.R13G
Magnesium	1	µg/g	<1	<1	<1	20041015.R13G
Manganese	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Mercury	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Molybdenum	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Nickel	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Niobium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Rubidium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Scandium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Selenium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Silver	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Strontium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Thallium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Thorium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Tin	3	µg/g	<3	<3	<3	20041015.R13G
Titanium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Tungsten	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Uranium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Vanadium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Yttrium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Zinc	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Zirconium	0.5	µg/g	<0.5	<0.5	<0.5	20041015.R13G
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	2	µg/g	<2	<2	<2	20041018.R13A

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Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Antimony	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Arsenic	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Barium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Beryllium	3	µg/g	<3	<3	<3	20041018.R13A
Bismuth	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Boron	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Cadmium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Calcium	3	µg/g	<3	<3	<3	20041018.R13A
Cerium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Cesium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Chromium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Cobalt	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Copper	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Europium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Gallium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Iron	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Lanthanum	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Lead	0.05	µg/g	0.05	<0.05	<0.05	20041018.R13A
Magnesium	1	µg/g	<1	<1	<1	20041018.R13A
Manganese	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Mercury	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Molybdenum	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Nickel	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Niobium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Rubidium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Scandium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Selenium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Silver	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Strontium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Thallium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Thorium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Tin	3	µg/g	<3	<3	<3	20041018.R13A
Titanium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Tungsten	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Uranium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Vanadium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Yttrium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Zinc	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A
Zirconium	0.5	µg/g	<0.5	<0.5	<0.5	20041018.R13A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	573	400	20041008.R13A
Arsenic	1	µg/L	120	104	80	20041008.R13A

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ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Barium	1	µg/L	120	103	80	20041008.R13A
Beryllium	1	µg/L	125	110	75	20041008.R13A
Boron	2	µg/L	125	110	75	20041008.R13A
Cadmium	1	µg/L	120	102	80	20041008.R13A
Calcium	50	µg/L	1200	1100	800	20041008.R13A
Chromium	1	µg/L	120	111	80	20041008.R13A
Cobalt	1	µg/L	120	108	80	20041008.R13A
Copper	1	µg/L	120	110	80	20041008.R13A
Iron	20	µg/L	600	570	400	20041008.R13A
Lead	1	µg/L	120	99	80	20041008.R13A
Magnesium	4	µg/L	1200	1120	800	20041008.R13A
Manganese	1	µg/L	120	105	80	20041008.R13A
Molybdenum	1	µg/L	120	103	80	20041008.R13A
Nickel	1	µg/L	120	112	80	20041008.R13A
Selenium	1	µg/L	120	109	80	20041008.R13A
Thallium	1	µg/L	120	99	80	20041008.R13A
Vanadium	1	µg/L	120	108	80	20041008.R13A
Zinc	1	µg/L	120	106	80	20041008.R13A

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	100	80	20041008.R13A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20041008.R13A
Antimony	1	µg/L	5	<1	<1	20041008.R13A
Arsenic	1	µg/L	5	<1	<1	20041008.R13A
Barium	1	µg/L	5	<1	<1	20041008.R13A
Beryllium	1	µg/L	5	<1	<1	20041008.R13A
Bismuth	1	µg/L	5	<1	<1	20041008.R13A
Boron	2	µg/L	5	<2	<2	20041008.R13A
Cadmium	1	µg/L	5	<1	<1	20041008.R13A
Calcium	50	µg/L	<50	<50	<50	20041008.R13A
Cerium	1	µg/L	5	<1	<1	20041008.R13A
Cesium	1	µg/L	5	<1	<1	20041008.R13A
Chromium	1	µg/L	5	<1	<1	20041008.R13A
Cobalt	1	µg/L	5	<1	<1	20041008.R13A
Copper	1	µg/L	5	<1	<1	20041008.R13A
Europium	1	µg/L	5	<1	<1	20041008.R13A
Gallium	1	µg/L	5	<1	<1	20041008.R13A
Iron	20	µg/L	<20	<20	<20	20041008.R13A
Lanthanum	1	µg/L	5	<1	<1	20041008.R13A
Lead	1	µg/L	5	<1	<1	20041008.R13A
Lithium	1	µg/L	5	<1	<1	20041008.R13A
Magnesium	4	µg/L	20	<4	<4	20041008.R13A

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ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Manganese	1	µg/L	5	<1	<1	20041008.R13A
Mercury	1	µg/L	5	<1	<1	20041008.R13A
Molybdenum	1	µg/L	5	<1	<1	20041008.R13A
Nickel	1	µg/L	5	<1	<1	20041008.R13A
Niobium	1	µg/L	5	<1	<1	20041008.R13A
Phosphorus	20	µg/L	<20	<20	<20	20041008.R13A
Rubidium	1	µg/L	5	<1	<1	20041008.R13A
Scandium	1	µg/L	5	<1	<1	20041008.R13A
Selenium	1	µg/L	5	<1	<1	20041008.R13A
Silver	5	µg/L	5	<5	<5	20041008.R13A
Strontium	1	µg/L	5	<1	<1	20041008.R13A
Thallium	1	µg/L	5	<1	<1	20041008.R13A
Thorium	1	µg/L	5	<1	<1	20041008.R13A
Tin	1	µg/L	5	<1	<1	20041008.R13A
Titanium	1	µg/L	5	<1	<1	20041008.R13A
Tungsten	1	µg/L	5	<1	<1	20041008.R13A
Uranium	1	µg/L	5	<1	<1	20041008.R13A
Vanadium	1	µg/L	5	<1	<1	20041008.R13A
Yttrium	1	µg/L	5	<1	<1	20041008.R13A
Zinc	1	µg/L	5	<1	<1	20041008.R13A
Zirconium	1	µg/L	5	<1	<1	20041008.R13A

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.078	6.9	20041007.R2A

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20041013.tds

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20041014.TKN
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20041014.tkn2

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20041014.TKN
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1	0.8	20041014.tkn2

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TKN Water

control

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.045	0.04	20041012.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20041012.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20041013.tss

UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on Oct. 21, 2004

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	21/10/04 10:50	8 c	6 c	3.5	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Very light flow
UM Sw-2	21/10/04 14:10					No flow due to dry conditions
UM Sw-3	21/10/04 12:25	7 c	5 c	7	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Moderate flow
UM Sw-3a	21/10/04 13:25	10 c	6 c	2.5	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Very light flow
UM Sw-4	21/10/04 11:30	5 c	6 c	9	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Light flow
UM Sw-5	21/10/04 11:55	6 c	6 c	9	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Moderate flow

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Analytical Report

Client:	Brad Bowman	Work Order Number:	13530
Company:	NAR Environmental Consulting	Date Order Received:	10/22/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	Ursa Major
		Water Works Number:	

Analyses were performed on the following samples submitted with your order.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	55561	Water		10/21/2004	10:50
UM SW-3	55562	Water		10/21/2004	12:25
UM SW-3A	55563	Water		10/21/2004	13:25
UM SW-4	55564	Water		10/21/2004	11:30
UM SW-5	55565	Water		10/21/2004	11:55



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Work Order: 13530

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Work Order: 13530

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head

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NAR Environmental Consulting

Work Order: 13530

Sample Data:

Sample Name: UM SW-1

Date: 10/21/2004

Matrix: Water

Lab #: 55561

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041027.R69A
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041027.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.18	mg/L	20041025.NH3A
Ammonia (as N)	0.002	0.11	mg/L	20041025.NH3A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.53	mg/L	20041026.anions
Fluoride	0.01	0.013	mg/L	20041026.anions
Nitrate (as N)	0.1	<0.1	mg/L	20041026.anions
Nitrite (as N)	0.05	<0.05	mg/L	20041026.anions
Sulfate	0.2	14	mg/L	20041026.anions

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	21	TCU	20041022.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	39	µS/cm	20041022.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	9	mg/L	20041022.R55D

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	8.9	mg/L	20041022.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	405	µg/L	20041022.R13C
Antimony	1	<1	µg/L	20041022.R13C
Arsenic	1	<1	µg/L	20041022.R13C
Barium	1	25	µg/L	20041022.R13C
Beryllium	1	<1	µg/L	20041022.R13C
Bismuth	1	<1	µg/L	20041022.R13C
Boron	2	<2	µg/L	20041022.R13C
Cadmium	0.1	0.5	µg/L	20041022.R13C
Calcium	50	2200	µg/L	20041022.R13C
Cerium	1	<1	µg/L	20041022.R13C
Cesium	1	<1	µg/L	20041022.R13C
Chromium	1	<1	µg/L	20041022.R13C
Cobalt	0.1	35.2	µg/L	20041022.R13C

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Work Order: 13530

Sample Name: UM SW-1

Date: 10/21/2004

Matrix: Water

Lab #: 55561

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Copper	1	2	µg/L	20041022.R13C
Europium	1	<1	µg/L	20041022.R13C
Gallium	1	<1	µg/L	20041022.R13C
Iron	20	1300	µg/L	20041022.R13C
Lanthanum	1	<1	µg/L	20041022.R13C
Lead	1	<1	µg/L	20041022.R13C
Lithium	5	<5	µg/L	20041022.R13C
Magnesium	4	809	µg/L	20041022.R13C
Manganese	1	803	µg/L	20041022.R13C
Mercury	0.1	<0.1	µg/L	20041022.R13C
Molybdenum	1	<1	µg/L	20041022.R13C
Nickel	1	10	µg/L	20041022.R13C
Niobium	1	<1	µg/L	20041022.R13C
Phosphorus	50	<50	µg/L	20041022.R13C
Rubidium	1	1.6	µg/L	20041022.R13C
Scandium	1	1.2	µg/L	20041022.R13C
Selenium	1	<1	µg/L	20041022.R13C
Silver	0.1	<0.1	µg/L	20041022.R13C
Strontium	1	14	µg/L	20041022.R13C
Thallium	0.1	<0.1	µg/L	20041022.R13C
Thorium	1	<1	µg/L	20041022.R13C
Tin	1	<1	µg/L	20041022.R13C
Titanium	1	1	µg/L	20041022.R13C
Tungsten	1	<1	µg/L	20041022.R13C
Uranium	1	<1	µg/L	20041022.R13C
Vanadium	1	<1	µg/L	20041022.R13C
Yttrium	1	<1	µg/L	20041022.R13C
Zinc	1	30	µg/L	20041022.R13C
Zirconium	1	<1	µg/L	20041022.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.04	pH	20041022.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	<20	mg/L	20041028.R27A
Total Dissolved Solids	20	<20	mg/L	20041028.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.24	mg/L	20041028.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.017	mg/L	20041029.tp

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Work Order: 13530

Sample Name: UM SW-1

Date: 10/21/2004

Matrix: Water

Lab #: 55561

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	9	mg/L	20041028.R27A
Total Suspended Solids	3	10	mg/L	20041028.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.73	NTU	20041022.turb

Sample Name: UM SW-3

Date: 10/21/2004

Matrix: Water

Lab #: 55562

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20041027.R89A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.062	mg/L	20041025.NH3A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.2	mg/L	20041026.anions
Fluoride	0.01	<0.01	mg/L	20041026.anions
Nitrate (as N)	0.1	<0.1	mg/L	20041026.anions
Nitrite (as N)	0.05	<0.05	mg/L	20041026.anions
Sulfate	0.2	16	mg/L	20041026.anions

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	28	TCU	20041022.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	59.7	µS/cm	20041022.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	9.3	mg/L	20041022.R55D

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	25.2	mg/L	20041022.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	67	µg/L	20041022.R13C
Antimony	1	<1	µg/L	20041022.R13C
Arsenic	1	<1	µg/L	20041022.R13C
Barium	1	15	µg/L	20041022.R13C
Beryllium	1	<1	µg/L	20041022.R13C
Bismuth	1	<1	µg/L	20041022.R13C

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Work Order: 13530

Sample Name: UM SW-3

Date: 10/21/2004

Matrix: Water

Lab #: 55562

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Boron	2	<2	µg/L	20041022.R13C
Cadmium	0.1	<0.1	µg/L	20041022.R13C
Calcium	50	7000	µg/L	20041022.R13C
Cerium	1	<1	µg/L	20041022.R13C
Cesium	1	<1	µg/L	20041022.R13C
Chromium	1	<1	µg/L	20041022.R13C
Cobalt	0.1	0.38	µg/L	20041022.R13C
Copper	1	2.7	µg/L	20041022.R13C
Europium	1	<1	µg/L	20041022.R13C
Gallium	1	<1	µg/L	20041022.R13C
Iron	20	110	µg/L	20041022.R13C
Lanthanum	1	<1	µg/L	20041022.R13C
Lead	1	<1	µg/L	20041022.R13C
Lithium	5	<5	µg/L	20041022.R13C
Magnesium	4	1870	µg/L	20041022.R13C
Manganese	1	29	µg/L	20041022.R13C
Mercury	0.1	<0.1	µg/L	20041022.R13C
Molybdenum	1	<1	µg/L	20041022.R13C
Nickel	1	7.7	µg/L	20041022.R13C
Niobium	1	<1	µg/L	20041022.R13C
Phosphorus	50	<50	µg/L	20041022.R13C
Rubidium	1	1.3	µg/L	20041022.R13C
Scandium	1	<1	µg/L	20041022.R13C
Selenium	1	<1	µg/L	20041022.R13C
Silver	0.1	<0.1	µg/L	20041022.R13C
Strontium	1	24	µg/L	20041022.R13C
Thallium	0.1	<0.1	µg/L	20041022.R13C
Thorium	1	<1	µg/L	20041022.R13C
Tin	1	<1	µg/L	20041022.R13C
Titanium	1	1.4	µg/L	20041022.R13C
Tungsten	1	<1	µg/L	20041022.R13C
Uranium	1	<1	µg/L	20041022.R13C
Vanadium	1	<1	µg/L	20041022.R13C
Yttrium	1	<1	µg/L	20041022.R13C
Zinc	1	6.8	µg/L	20041022.R13C
Zirconium	1	<1	µg/L	20041022.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.58	pH	20041022.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	44	mg/L	20041028.R27A



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Work Order: 13530

Sample Name: UM SW-3

Date: 10/21/2004

Matrix: Water

Lab #: 55562

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.38	mg/L	20041028.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.019	mg/L	20041029.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041028.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.1	NTU	20041022.turb

Sample Name: UM SW-3A

Date: 10/21/2004

Matrix: Water

Lab #: 55563

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	-20041027.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.03	mg/L	20041025.NH3A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.5	mg/L	20041026.anions
Fluoride	0.01	0.014	mg/L	20041026.anions
Nitrate (as N)	0.1	<0.1	mg/L	20041026.anions
Nitrite (as N)	0.05	<0.05	mg/L	20041026.anions
Sulfate	0.2	6.8	mg/L	20041026.anions

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	27	TCU	20041022.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	40.1	µS/cm	20041022.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	9.5	mg/L	20041022.R55D

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	16.5	mg/L	20041022.R90C

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Work Order: 13530

Sample Name: UM SW-3A

Date: 10/21/2004

Matrix: Water

Lab #: 55563

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	166	µg/L	20041022.R13C
Antimony	1	<1	µg/L	20041022.R13C
Arsenic	1	<1	µg/L	20041022.R13C
Barium	1	17	µg/L	20041022.R13C
Beryllium	1	<1	µg/L	20041022.R13C
Bismuth	1	<1	µg/L	20041022.R13C
Boron	2	<2	µg/L	20041022.R13C
Cadmium	0.1	0.13	µg/L	20041022.R13C
Calcium	50	4900	µg/L	20041022.R13C
Cerium	1	<1	µg/L	20041022.R13C
Cesium	1	<1	µg/L	20041022.R13C
Chromium	1	<1	µg/L	20041022.R13C
Cobalt	0.1	0.97	µg/L	20041022.R13C
Copper	1	5.1	µg/L	20041022.R13C
Europium	1	<1	µg/L	20041022.R13C
Gallium	1	<1	µg/L	20041022.R13C
Iron	20	39	µg/L	20041022.R13C
Lanthanum	1	<1	µg/L	20041022.R13C
Lead	1	<1	µg/L	20041022.R13C
Lithium	5	<5	µg/L	20041022.R13C
Magnesium	4	1030	µg/L	20041022.R13C
Manganese	1	16	µg/L	20041022.R13C
Mercury	0.1	<0.1	µg/L	20041022.R13C
Molybdenum	1	<1	µg/L	20041022.R13C
Nickel	1	11	µg/L	20041022.R13C
Niobium	1	<1	µg/L	20041022.R13C
Phosphorus	50	<50	µg/L	20041022.R13C
Rubidium	1	1.2	µg/L	20041022.R13C
Scandium	1	1.3	µg/L	20041022.R13C
Selenium	1	<1	µg/L	20041022.R13C
Silver	0.1	<0.1	µg/L	20041022.R13C
Strontium	1	15	µg/L	20041022.R13C
Thallium	0.1	<0.1	µg/L	20041022.R13C
Thorium	1	<1	µg/L	20041022.R13C
Tin	1	<1	µg/L	20041022.R13C
Titanium	1	1.2	µg/L	20041022.R13C
Tungsten	1	<1	µg/L	20041022.R13C
Uranium	1	<1	µg/L	20041022.R13C
Vanadium	1	<1	µg/L	20041022.R13C
Yttrium	1	<1	µg/L	20041022.R13C
Zinc	1	16	µg/L	20041022.R13C
Zirconium	1	<1	µg/L	20041022.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.97	pH	20041022.R2A

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Work Order: 13530

Sample Name: UM SW-3A

Date: 10/21/2004

Matrix: Water

Lab #: 55563

pHWATER				
Parameter	MDL	Result	Units	QAQCID

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	40	mg/L	20041028.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.26	mg/L	20041028.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.024	mg/L	20041029.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041028.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.3	NTU	20041022.turb

Sample Name: UM SW-4

Date: 10/21/2004

Matrix: Water

Lab #: 55564

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20041027.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.09	mg/L	20041025.NH3A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.65	mg/L	20041026.anions
Fluoride	0.01	0.03	mg/L	20041026.anions
Nitrate (as N)	0.1	<0.1	mg/L	20041026.anions
Nitrite (as N)	0.05	<0.05	mg/L	20041026.anions
Sulfate	0.2	9	mg/L	20041026.anions

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	<4	TCU	20041022.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	31.93	µS/cm	20041022.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.6	mg/L	20041022.R55D

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Work Order: 13530

Sample Name: UM SW-4

Date: 10/21/2004

Matrix: Water

Lab #: 55564

Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	5.2	mg/L	20041022.R90C

Parameter	MDL	Result	Units	QAQCID
Aluminum	1	500	µg/L	20041022.R13C
Antimony	1	<1	µg/L	20041022.R13C
Arsenic	1	<1	µg/L	20041022.R13C
Barium	1	22	µg/L	20041022.R13C
Beryllium	1	<1	µg/L	20041022.R13C
Bismuth	1	<1	µg/L	20041022.R13C
Boron	2	<2	µg/L	20041022.R13C
Cadmium	0.1	0.24	µg/L	20041022.R13C
Calcium	50	1300	µg/L	20041022.R13C
Cerium	1	<1	µg/L	20041022.R13C
Cesium	1	<1	µg/L	20041022.R13C
Chromium	1	<1	µg/L	20041022.R13C
Cobalt	0.1	16.4	µg/L	20041022.R13C
Copper	1	<1	µg/L	20041022.R13C
Europium	1	<1	µg/L	20041022.R13C
Gallium	1	<1	µg/L	20041022.R13C
Iron	20	<20	µg/L	20041022.R13C
Lanthanum	1	<1	µg/L	20041022.R13C
Lead	1	<1	µg/L	20041022.R13C
Lithium	5	<5	µg/L	20041022.R13C
Magnesium	4	501	µg/L	20041022.R13C
Manganese	1	198	µg/L	20041022.R13C
Mercury	0.1	<0.1	µg/L	20041022.R13C
Molybdenum	1	<1	µg/L	20041022.R13C
Nickel	1	9.4	µg/L	20041022.R13C
Niobium	1	<1	µg/L	20041022.R13C
Phosphorus	50	<50	µg/L	20041022.R13C
Rubidium	1	<1	µg/L	20041022.R13C
Scandium	1	1.4	µg/L	20041022.R13C
Selenium	1	<1	µg/L	20041022.R13C
Silver	0.1	<0.1	µg/L	20041022.R13C
Strontium	1	10	µg/L	20041022.R13C
Thallium	0.1	<0.1	µg/L	20041022.R13C
Thorium	1	<1	µg/L	20041022.R13C
Tin	1	<1	µg/L	20041022.R13C
Titanium	1	1	µg/L	20041022.R13C
Tungsten	1	<1	µg/L	20041022.R13C
Uranium	1	<1	µg/L	20041022.R13C
Vanadium	1	<1	µg/L	20041022.R13C
Yttrium	1	<1	µg/L	20041022.R13C
Zinc	1	33	µg/L	20041022.R13C
Zirconium	1	<1	µg/L	20041022.R13C

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Work Order: 13530

Sample Name: UM SW-4

Date: 10/21/2004

Matrix: Water

Lab #: 55564

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.61	pH	20041022.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	39	mg/L	20041028.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.28	mg/L	20041028.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.025	mg/L	20041029.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041028.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	<0.2	NTU	20041022.turb

Sample Name: UM SW-5

Date: 10/21/2004

Matrix: Water

Lab #: 55565

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20041027.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.13	mg/L	20041025.NH3A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20041026.anions
Fluoride	0.01	<0.01	mg/L	20041026.anions
Nitrate (as N)	0.1	<0.1	mg/L	20041026.anions
Nitrite (as N)	0.05	<0.05	mg/L	20041026.anions
Sulfate	0.2	4.2	mg/L	20041026.anions

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	100	TCU	20041022.color
Apparent Colour	4	100	TCU	20041022.color

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Work Order: 13530

Sample Name: UM SW-5

Date: 10/21/2004

Matrix: Water

Lab #: 55565

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	16.59	µS/cm	20041022.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	8.1	mg/L	20041022.R55D

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	4.6	mg/L	20041022.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	221	µg/L	20041022.R13C
Antimony	1	<1	µg/L	20041022.R13C
Arsenic	1	<1	µg/L	20041022.R13C
Barium	1	10	µg/L	20041022.R13C
Beryllium	1	<1	µg/L	20041022.R13C
Bismuth	1	<1	µg/L	20041022.R13C
Boron	2	<2	µg/L	20041022.R13C
Cadmium	0.1	<0.1	µg/L	20041022.R13C
Calcium	50	1200	µg/L	20041022.R13C
Cerium	1	<1	µg/L	20041022.R13C
Cesium	1	<1	µg/L	20041022.R13C
Chromium	1	<1	µg/L	20041022.R13C
Cobalt	0.1	4	µg/L	20041022.R13C
Copper	1	<1	µg/L	20041022.R13C
Europium	1	<1	µg/L	20041022.R13C
Gallium	1	<1	µg/L	20041022.R13C
Iron	20	530	µg/L	20041022.R13C
Lanthanum	1	<1	µg/L	20041022.R13C
Lead	1	<1	µg/L	20041022.R13C
Lithium	5	<5	µg/L	20041022.R13C
Magnesium	4	421	µg/L	20041022.R13C
Manganese	1	133	µg/L	20041022.R13C
Mercury	0.1	<0.1	µg/L	20041022.R13C
Molybdenum	1	<1	µg/L	20041022.R13C
Nickel	1	4.3	µg/L	20041022.R13C
Niobium	1	<1	µg/L	20041022.R13C
Phosphorus	50	<50	µg/L	20041022.R13C
Rubidium	1	1.2	µg/L	20041022.R13C
Scandium	1	<1	µg/L	20041022.R13C
Selenium	1	<1	µg/L	20041022.R13C
Silver	0.1	<0.1	µg/L	20041022.R13C
Strontium	1	7.7	µg/L	20041022.R13C
Thallium	0.1	<0.1	µg/L	20041022.R13C
Thorium	1	<1	µg/L	20041022.R13C
Tin	1	<1	µg/L	20041022.R13C

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Work Order: 13530

Sample Name: UM SW-5

Date: 10/21/2004

Matrix: Water

Lab #: 55565

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Titanium	1	2.6	µg/L	20041022.R13C
Tungsten	1	<1	µg/L	20041022.R13C
Uranium	1	<1	µg/L	20041022.R13C
Vanadium	1	<1	µg/L	20041022.R13C
Yttrium	1	<1	µg/L	20041022.R13C
Zinc	1	12	µg/L	20041022.R13C
Zirconium	1	<1	µg/L	20041022.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.4	pH	20041022.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	<20	mg/L	20041028.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.37	mg/L	20041028.tkn
Total Kjeldahl Nitrogen	0.05	0.35	mg/L	20041028.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.012	mg/L	20041029.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041028.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	13	NTU	20041022.turb
Turbidity	0.2	14	NTU	20041022.turb

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	220	210	180	20041027.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	<10	<10	<10	20041027.R69A

Ammonia FIA

500 ppb HN ₃						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.517	0.4	20041025.NH3A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20041025.NH3A

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	10.5	8	20041026.anions
Chloride	0.2	mg/L	12	9.4	8	20041026.anions
Fluoride	0.01	mg/L	12	10	8	20041026.anions
Nitrate (as N)	0.1	mg/L	12	10.8	8	20041026.anions
Nitrite (as N)	0.05	mg/L	12	9.41	8	20041026.anions
Phosphate	0.3	mg/L	12	9.6	8	20041026.anions
Sulfate	0.2	mg/L	12	9	8	20041026.anions

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20041026.anions
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20041026.anions
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20041026.anions
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20041026.anions
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20041026.anions
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20041026.anions
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20041026.anions

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	80	76	60	20041022.color

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Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	<4	<4	<4	20041022.color

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	102.6	96	20041022.R12A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20041022.R12A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	532	400	20041022.R13C
Arsenic	1	µg/L	120	99	80	20041022.R13C
Barium	1	µg/L	120	103	80	20041022.R13C
Beryllium	1	µg/L	125	97	75	20041022.R13C
Boron	2	µg/L	125	100	75	20041022.R13C
Cadmium	1	µg/L	120	103	80	20041022.R13C
Calcium	50	µg/L	1200	920	800	20041022.R13C
Chromium	1	µg/L	120	97	80	20041022.R13C
Cobalt	1	µg/L	120	99	80	20041022.R13C
Copper	1	µg/L	120	85	80	20041022.R13C
Iron	20	µg/L	600	590	400	20041022.R13C
Lead	1	µg/L	120	102	80	20041022.R13C
Magnesium	4	µg/L	1200	982	800	20041022.R13C
Manganese	1	µg/L	120	90	80	20041022.R13C
Molybdenum	1	µg/L	120	98	80	20041022.R13C
Nickel	1	µg/L	120	92	80	20041022.R13C
Selenium	1	µg/L	120	97	80	20041022.R13C
Thallium	1	µg/L	120	101	80	20041022.R13C
Vanadium	1	µg/L	120	97	80	20041022.R13C
Zinc	1	µg/L	120	98	80	20041022.R13C

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	110	80	20041022.R13C

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20041022.R13C
Antimony	1	µg/L	5	<1	<1	20041022.R13C
Arsenic	1	µg/L	5	<1	<1	20041022.R13C
Barium	1	µg/L	5	<1	<1	20041022.R13C

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10/29/2004

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ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Beryllium	1	µg/L	5	<1	<1	20041022.R13C
Bismuth	1	µg/L	5	<1	<1	20041022.R13C
Boron	2	µg/L	5	<2	<2	20041022.R13C
Cadmium	1	µg/L	5	<1	<1	20041022.R13C
Calcium	50	µg/L	<50	<50	<50	20041022.R13C
Cerium	1	µg/L	5	<1	<1	20041022.R13C
Cesium	1	µg/L	5	<1	<1	20041022.R13C
Chromium	1	µg/L	5	<1	<1	20041022.R13C
Cobalt	1	µg/L	5	<1	<1	20041022.R13C
Copper	1	µg/L	5	<1	<1	20041022.R13C
Europium	1	µg/L	5	<1	<1	20041022.R13C
Gallium	1	µg/L	5	<1	<1	20041022.R13C
Iron	20	µg/L	<20	<20	<20	20041022.R13C
Lanthanum	1	µg/L	5	<1	<1	20041022.R13C
Lead	1	µg/L	5	<1	<1	20041022.R13C
Lithium	1	µg/L	5	<1	<1	20041022.R13C
Magnesium	4	µg/L	20	<4	<4	20041022.R13C
Manganese	1	µg/L	5	<1	<1	20041022.R13C
Mercury	1	µg/L	5	<1	<1	20041022.R13C
Molybdenum	1	µg/L	5	<1	<1	20041022.R13C
Nickel	1	µg/L	5	<1	<1	20041022.R13C
Niobium	1	µg/L	5	<1	<1	20041022.R13C
Phosphorus	20	µg/L	<20	<20	<20	20041022.R13C
Rubidium	1	µg/L	5	<1	<1	20041022.R13C
Scandium	1	µg/L	5	<1	<1	20041022.R13C
Selenium	1	µg/L	5	<1	<1	20041022.R13C
Silver	5	µg/L	5	<5	<5	20041022.R13C
Strontium	1	µg/L	5	<1	<1	20041022.R13C
Thallium	1	µg/L	5	<1	<1	20041022.R13C
Thorium	1	µg/L	5	<1	<1	20041022.R13C
Tin	1	µg/L	5	<1	<1	20041022.R13C
Titanium	1	µg/L	5	<1	<1	20041022.R13C
Tungsten	1	µg/L	5	<1	<1	20041022.R13C
Uranium	1	µg/L	5	<1	<1	20041022.R13C
Vanadium	1	µg/L	5	<1	<1	20041022.R13C
Yttrium	1	µg/L	5	<1	<1	20041022.R13C
Zinc	1	µg/L	5	<1	<1	20041022.R13C
Zirconium	1	µg/L	5	<1	<1	20041022.R13C

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.071	6.9	20041022.R2A

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TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20041028.R27A

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20041028.tkn

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1	0.8	20041028.tkn

TOC Water

20 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Organic Carbon	0.4	mg/L	22	19	18	20041022.R55D

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20041022.R55D

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.04	0.04	20041029.tp

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20041029.tp

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20041028.R27A

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.8	0.72	0.7	20041022.turb

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20041022.turb

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UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on Nov. 4, 2004

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1						
UM Sw-2	04/11/2004 11:55	5 c	5 c	6	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Re located UM SW-2 0436953E 5133134N Good flow, clear water
UM Sw-3	04/11/2004 10:04	5 c	3 c	8	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water
UM Sw-3a	04/11/2004 9:20	3 c	4 c	6	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water
UM Sw-4						
UM Sw-5						

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Analytical Report

Client:	Brad Bowman	Work Order Number:	13809
Company:	NAR Environmental Consulting	Date Order Received:	11/5/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	Ursa Major
Email:	jay.dickison@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-3A	56544	Water		11/4/2004	9:20
UM SW-3	56545	Water		11/4/2004	10:04
UM SW-2	56546	Water		11/4/2004	11:55

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Work Order: 13809

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Work Order: 13809

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head



TESTMARK Laboratories Ltd.

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Work Order: 13809

Sample Data:

Sample Name: UM SW-3A

Date: 11/4/2004

Matrix: Water

Lab #: 56544

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20041112.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.01	mg/L	20041111.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.9	mg/L	20041109.R5B
Fluoride	0.01	<0.01	mg/L	20041109.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20041109.R5B
Nitrite (as N)	0.05	<0.05	mg/L	20041109.R5B
Sulfate	0.2	6.7	mg/L	20041109.R5B

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	45	TCU	- 20041105.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	34.21	µS/cm	20041105.R12A
Conductivity	2	34.24	µS/cm	20041105.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	11	mg/L	20041105.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	11.7	mg/L	20041105.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	216	µg/L	20041105.R13A
Antimony	1	<1	µg/L	20041105.R13A
Arsenic	1	<1	µg/L	20041105.R13A
Barium	1	15	µg/L	20041105.R13A
Beryllium	1	<1	µg/L	20041105.R13A
Bismuth	1	<1	µg/L	20041105.R13A
Boron	2	3.9	µg/L	20041105.R13A
Cadmium	0.1	<0.1	µg/L	20041105.R13A
Calcium	50	3500	µg/L	20041105.R13A
Cerium	1	<1	µg/L	20041105.R13A
Cesium	1	<1	µg/L	20041105.R13A
Chromium	1	<1	µg/L	20041105.R13A
Cobalt	0.1	0.33	µg/L	20041105.R13A
Copper	1	5.6	µg/L	20041105.R13A

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Work Order: 13809

Sample Name: UM SW-3A

Date: 11/4/2004

Matrix: Water

Lab #: 56544

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Europium	1	<1	µg/L	20041105.R13A
Gallium	1	<1	µg/L	20041105.R13A
Iron	20	50	µg/L	20041105.R13A
Lanthanum	1	<1	µg/L	20041105.R13A
Lead	1	<1	µg/L	20041105.R13A
Lithium	5	<5	µg/L	20041105.R13A
Magnesium	4	715	µg/L	20041105.R13A
Manganese	1	5	µg/L	20041105.R13A
Mercury	0.1	<0.1	µg/L	20041105.R13A
Molybdenum	1	<1	µg/L	20041105.R13A
Nickel	1	12	µg/L	20041105.R13A
Niobium	1	<1	µg/L	20041105.R13A
Phosphorus	50	<50	µg/L	20041105.R13A
Rubidium	1	1.3	µg/L	20041105.R13A
Scandium	1	1.1	µg/L	20041105.R13A
Selenium	1	<1	µg/L	20041105.R13A
Silver	0.1	<0.1	µg/L	20041105.R13A
Strontium	1	13	µg/L	20041105.R13A
Thallium	0.1	<0.1	µg/L	20041105.R13A
Thorium	1	<1	µg/L	20041105.R13A
Tin	1	<1	µg/L	20041105.R13A
Titanium	1	1.1	µg/L	20041105.R13A
Tungsten	1	<1	µg/L	20041105.R13A
Uranium	1	<1	µg/L	20041105.R13A
Vanadium	1	<1	µg/L	20041105.R13A
Yttrium	1	<1	µg/L	20041105.R13A
Zinc	1	14	µg/L	20041105.R13A
Zirconium	1	<1	µg/L	20041105.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.04	pH	20041105.R2A
pH	N/A	6.14	pH	20041105.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	55	mg/L	20041108.TDS
Total Dissolved Solids	20	40	mg/L	20041108.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.27	mg/L	20041109.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20041105.tp

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Work Order: 13809

Sample Name: UM SW-3A

Date: 11/4/2004

Matrix: Water

Lab #: 56544

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041108.tss
Total Suspended Solids	3	<3	mg/L	20041108.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.24	NTU	20041105.turb

Sample Name: UM SW-3

Date: 11/4/2004

Matrix: Water

Lab #: 56545

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041112.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0092	mg/L	20041111.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.81	mg/L	20041109.R5B
Fluoride	0.01	<0.01	mg/L	20041109.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20041109.R5B
Nitrite (as N)	0.05	<0.05	mg/L	20041109.R5B
Sulfate	0.2	9	mg/L	20041109.R5B

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	49	TCU	20041105.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	37.66	µS/cm	20041105.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	10	mg/L	20041105.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	12.5	mg/L	20041105.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	160	µg/L	20041105.R13A
Antimony	1	<1	µg/L	20041105.R13A
Arsenic	1	<1	µg/L	20041105.R13A
Barium	1	14	µg/L	20041105.R13A
Beryllium	1	<1	µg/L	20041105.R13A
Bismuth	1	<1	µg/L	20041105.R13A

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Work Order: 13809

Sample Name: UM SW-3

Date: 11/4/2004

Matrix: Water

Lab #: 56545

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Boron	2	3.5	µg/L	20041105.R13A
Cadmium	0.1	0.11	µg/L	20041105.R13A
Calcium	50	3600	µg/L	20041105.R13A
Cerium	1	<1	µg/L	20041105.R13A
Cesium	1	<1	µg/L	20041105.R13A
Chromium	1	<1	µg/L	20041105.R13A
Cobalt	0.1	0.71	µg/L	20041105.R13A
Copper	1	4.1	µg/L	20041105.R13A
Europium	1	<1	µg/L	20041105.R13A
Gallium	1	<1	µg/L	20041105.R13A
Iron	20	120	µg/L	20041105.R13A
Lanthanum	1	<1	µg/L	20041105.R13A
Lead	1	<1	µg/L	20041105.R13A
Lithium	5	<5	µg/L	20041105.R13A
Magnesium	4	874	µg/L	20041105.R13A
Manganese	1	30	µg/L	20041105.R13A
Mercury	0.1	<0.1	µg/L	20041105.R13A
Molybdenum	1	<1	µg/L	20041105.R13A
Nickel	1	12	µg/L	20041105.R13A
Niobium	1	<1	µg/L	20041105.R13A
Phosphorus	50	<50	µg/L	20041105.R13A
Rubidium	1	1.3	µg/L	20041105.R13A
Scandium	1	1	µg/L	20041105.R13A
Selenium	1	<1	µg/L	20041105.R13A
Silver	0.1	<0.1	µg/L	20041105.R13A
Strontium	1	16	µg/L	20041105.R13A
Thallium	0.1	<0.1	µg/L	20041105.R13A
Thorium	1	<1	µg/L	20041105.R13A
Tin	1	<1	µg/L	20041105.R13A
Titanium	1	2.6	µg/L	20041105.R13A
Tungsten	1	<1	µg/L	20041105.R13A
Uranium	1	<1	µg/L	20041105.R13A
Vanadium	1	<1	µg/L	20041105.R13A
Yttrium	1	<1	µg/L	20041105.R13A
Zinc	1	20	µg/L	20041105.R13A
Zirconium	1	<1	µg/L	20041105.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.27	pH	20041105.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	46	mg/L	20041108.TDS

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Work Order: 13809

Sample Name: UM SW-3

Date: 11/4/2004

Matrix: Water

Lab #: 56545

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.3	mg/L	20041109.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20041105.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	<3	mg/L	20041108.tss
Total Suspended Solids	3	<3	mg/L	20041108.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.87	NTU	20041105.turb

Sample Name: UM SW-2

Date: 11/4/2004

Matrix: Water

Lab #: 56546

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041112.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.016	mg/L	20041111.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.63	mg/L	20041109.R5B
Fluoride	0.01	0.017	mg/L	20041109.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20041109.R5B
Nitrite (as N)	0.05	<0.05	mg/L	20041109.R5B
Sulfate	0.2	7.8	mg/L	20041109.R5B

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	17	TCU	20041105.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	30.89	µS/cm	20041105.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.5	mg/L	20041105.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	6.9	mg/L	20041105.R90A

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Work Order: 13809

Sample Name: UM SW-2

Date: 11/4/2004

Matrix: Water

Lab #: 56546

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	332	µg/L	20041105.R13A
Antimony	1	<1	µg/L	20041105.R13A
Arsenic	1	<1	µg/L	20041105.R13A
Barium	1	20	µg/L	20041105.R13A
Beryllium	1	<1	µg/L	20041105.R13A
Bismuth	1	<1	µg/L	20041105.R13A
Boron	2	2.2	µg/L	20041105.R13A
Cadmium	0.1	0.1	µg/L	20041105.R13A
Calcium	50	2000	µg/L	20041105.R13A
Cerium	1	<1	µg/L	20041105.R13A
Cesium	1	<1	µg/L	20041105.R13A
Chromium	1	<1	µg/L	20041105.R13A
Cobalt	0.1	7.5	µg/L	20041105.R13A
Copper	1	1.3	µg/L	20041105.R13A
Europium	1	<1	µg/L	20041105.R13A
Gallium	1	<1	µg/L	20041105.R13A
Iron	20	30	µg/L	20041105.R13A
Lanthanum	1	<1	µg/L	20041105.R13A
Lead	1	<1	µg/L	20041105.R13A
Lithium	5	<5	µg/L	20041105.R13A
Magnesium	4	481	µg/L	20041105.R13A
Manganese	1	115	µg/L	20041105.R13A
Mercury	0.1	<0.1	µg/L	20041105.R13A
Molybdenum	1	<1	µg/L	20041105.R13A
Nickel	1	5.9	µg/L	20041105.R13A
Niobium	1	<1	µg/L	20041105.R13A
Phosphorus	50	<50	µg/L	20041105.R13A
Rubidium	1	<1	µg/L	20041105.R13A
Scandium	1	1.1	µg/L	20041105.R13A
Selenium	1	<1	µg/L	20041105.R13A
Silver	0.1	<0.1	µg/L	20041105.R13A
Strontium	1	11	µg/L	20041105.R13A
Thallium	0.1	<0.1	µg/L	20041105.R13A
Thorium	1	<1	µg/L	20041105.R13A
Tin	1	<1	µg/L	20041105.R13A
Titanium	1	<1	µg/L	20041105.R13A
Tungsten	1	<1	µg/L	20041105.R13A
Uranium	1	<1	µg/L	20041105.R13A
Vanadium	1	<1	µg/L	20041105.R13A
Yttrium	1	<1	µg/L	20041105.R13A
Zinc	1	22	µg/L	20041105.R13A
Zirconium	1	<1	µg/L	20041105.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.84	pH	20041105.R2A

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Work Order: 13809

Sample Name: UM SW-2

Date: 11/4/2004

Matrix: Water

Lab #: 56546

pHWATER				
Parameter	MDL	Result	Units	QAQCID
TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	20	31	mg/L	20041108.TDS
TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.21	mg/L	20041109.tkn
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20041105.tp
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	3	3	mg/L	20041108.tss
Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	<0.2	NTU	20041105.turb

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	220	210	180	20041112.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	<10	<10	<10	20041112.R69A

AmmoniaFIA

500 ppb HN ₃						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.515	0.4	20041111.NH3

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20041111.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.8	8	20041109.R5B
Chloride	0.2	mg/L	12	9.8	8	20041109.R5B
Fluoride	0.01	mg/L	12	10.6	8	20041109.R5B
Nitrate (as N)	0.1	mg/L	12	11.1	8	20041109.R5B
Nitrite (as N)	0.05	mg/L	12	10.1	8	20041109.R5B
Phosphate	0.3	mg/L	12	9.8	8	20041109.R5B
Sulfate	0.2	mg/L	12	9.2	8	20041109.R5B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20041109.R5B
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20041109.R5B
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20041109.R5B
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20041109.R5B
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20041109.R5B
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20041109.R5B
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20041109.R5B

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	80	76	60	20041105.color

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Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	<4	<4	<4	20041105.color

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	101.8	96	20041105.R12A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20041105.R12A

DOC Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	12	11	8	20041105.doc

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20041105.doc

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	486	400	20041105.R13A
Arsenic	1	µg/L	120	105	80	20041105.R13A
Barium	1	µg/L	120	98	80	20041105.R13A
Beryllium	1	µg/L	125	105	75	20041105.R13A
Boron	2	µg/L	125	120	75	20041105.R13A
Cadmium	1	µg/L	120	106	80	20041105.R13A
Calcium	50	µg/L	1200	1000	800	20041105.R13A
Chromium	1	µg/L	120	101	80	20041105.R13A
Cobalt	1	µg/L	120	105	80	20041105.R13A
Copper	1	µg/L	120	104	80	20041105.R13A
Iron	20	µg/L	600	530	400	20041105.R13A
Lead	1	µg/L	120	103	80	20041105.R13A
Magnesium	4	µg/L	1200	951	800	20041105.R13A
Manganese	1	µg/L	120	105	80	20041105.R13A
Molybdenum	1	µg/L	120	103	80	20041105.R13A
Nickel	1	µg/L	120	107	80	20041105.R13A
Selenium	1	µg/L	120	106	80	20041105.R13A
Thallium	1	µg/L	120	103	80	20041105.R13A
Vanadium	1	µg/L	120	107	80	20041105.R13A
Zinc	1	µg/L	120	106	80	20041105.R13A

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ICPMS Water

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	110	80	20041105.R13A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20041105.R13A
Antimony	1	µg/L	5	<1	<1	20041105.R13A
Arsenic	1	µg/L	5	<1	<1	20041105.R13A
Barium	1	µg/L	5	<1	<1	20041105.R13A
Beryllium	1	µg/L	5	<1	<1	20041105.R13A
Bismuth	1	µg/L	5	<1	<1	20041105.R13A
Boron	2	µg/L	5	<2	<2	20041105.R13A
Cadmium	1	µg/L	5	<1	<1	20041105.R13A
Calcium	50	µg/L	<50	<50	<50	20041105.R13A
Cerium	1	µg/L	5	<1	<1	20041105.R13A
Cesium	1	µg/L	5	<1	<1	20041105.R13A
Chromium	1	µg/L	5	<1	<1	20041105.R13A
Cobalt	1	µg/L	5	<1	<1	20041105.R13A
Copper	1	µg/L	5	<1	<1	20041105.R13A
Europium	1	µg/L	5	<1	<1	20041105.R13A
Gallium	1	µg/L	5	<1	<1	20041105.R13A
Iron	20	µg/L	<20	<20	<20	20041105.R13A
Lanthanum	1	µg/L	5	<1	<1	20041105.R13A
Lead	1	µg/L	5	<1	<1	20041105.R13A
Lithium	1	µg/L	5	<1	<1	20041105.R13A
Magnesium	4	µg/L	20	<4	<4	20041105.R13A
Manganese	1	µg/L	5	<1	<1	20041105.R13A
Mercury	1	µg/L	5	<1	<1	20041105.R13A
Molybdenum	1	µg/L	5	<1	<1	20041105.R13A
Nickel	1	µg/L	5	<1	<1	20041105.R13A
Niobium	1	µg/L	5	<1	<1	20041105.R13A
Phosphorus	20	µg/L	<20	<20	<20	20041105.R13A
Rubidium	1	µg/L	5	<1	<1	20041105.R13A
Scandium	1	µg/L	5	<1	<1	20041105.R13A
Selenium	1	µg/L	5	<1	<1	20041105.R13A
Silver	5	µg/L	5	<5	<5	20041105.R13A
Strontium	1	µg/L	5	<1	<1	20041105.R13A
Thallium	1	µg/L	5	<1	<1	20041105.R13A
Thorium	1	µg/L	5	<1	<1	20041105.R13A
Tin	1	µg/L	5	<1	<1	20041105.R13A
Titanium	1	µg/L	5	<1	<1	20041105.R13A
Tungsten	1	µg/L	5	<1	<1	20041105.R13A
Uranium	1	µg/L	5	<1	<1	20041105.R13A
Vanadium	1	µg/L	5	<1	<1	20041105.R13A
Yttrium	1	µg/L	5	<1	<1	20041105.R13A
Zinc	1	µg/L	5	<1	<1	20041105.R13A
Zirconium	1	µg/L	5	<1	<1	20041105.R13A

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ICPMS Water

Blank

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.082	6.9	20041105.R2A

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20041108.TDS

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20041109.tkn

control

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20041109.tkn

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.048	0.04	20041105.tp

Blank

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20041105.tp

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20041108.tss

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.85	0.84	0.75	20041105.turb

Turbidity Water

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20041105.turb

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UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on Nov. 19, 2004

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	19/11/04 12:40	3 C	4 C	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	All pools are full and the stream is flowing very lightly
UM Sw-2	19/11/04 13:10	4 C	5 C	5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water
UM Sw-3	19/11/2004 11:45	4 C	3 C	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water
UM Sw-3a	19/11/2004 13.55	5 C	4 C	5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water
UM Sw-4	19/11/2004 10:45	4 C	4 C	8	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water
UM Sw-5	19/11/2004 11:10	4 C	4 C	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water

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Analytical Report

Client:	Brad Bowman	Work Order Number:	14075
Company:	NAR Environmental Consulting	Date Order Received:	11/22/2004
Address:	1130 Southlane Road Sudbury, Ontario, P3G 1N6	Regulation:	PWQO
Phone:	(705) 522-5990	PO #:	
Fax:	(705) 522-1898	Project #:	Ursa Major
Email:	jay.dickison@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	57324	Water		11/19/2004	12:40
UM SW-2	57325	Water		11/19/2004	13:10
UM SW-3	57326	Water		11/19/2004	11:45
UM SW-3A	57327	Water		11/19/2004	13:55
UM SW-4	57328	Water		11/19/2004	10:45
UM SW-5	57329	Water		11/19/2004	11:10

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Work Order: 14075

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Work Order: 14075

This report has been approved by:

Er. Xiaojing Li
Interim Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head



TESTMARK Laboratories Ltd.

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Work Order: 14075

Sample Data:

Sample Name: UM SW-1

Date: 11/19/2004

Matrix: Water

Lab #: 57324

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041126.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.035	mg/L	20041123.R42

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.4	mg/L	20041122.R5A
Fluoride	0.01	0.015	mg/L	20041122.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041122.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041122.R5A
Sulfate	0.2	7	mg/L	20041122.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	13	TCU	-20041122.R26A
Apparent Colour	4	14	TCU	20041122.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.24	µS/cm	20041122.R12B
Conductivity	2	25.98	µS/cm	20041122.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.2	mg/L	20041125.doc2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	4.6	mg/L	20041122.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	288	µg/L	20041122.R13A
Antimony	1	<1	µg/L	20041122.R13A
Arsenic	1	<1	µg/L	20041122.R13A
Barium	1	17	µg/L	20041122.R13A
Beryllium	1	<1	µg/L	20041122.R13A
Bismuth	1	<1	µg/L	20041122.R13A
Boron	2	4.1	µg/L	20041122.R13A
Cadmium	0.1	0.13	µg/L	20041122.R13A
Calcium	50	1200	µg/L	20041122.R13A
Cerium	1	<1	µg/L	20041122.R13A
Cesium	1	<1	µg/L	20041122.R13A
Chromium	1	<1	µg/L	20041122.R13A
Cobalt	0.1	17.4	µg/L	20041122.R13A

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Sample Name: UM SW-1

Date: 11/19/2004

Matrix: Water

Lab #: 57324

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Copper	1	<1	µg/L	20041122.R13A
Europium	1	<1	µg/L	20041122.R13A
Gallium	1	<1	µg/L	20041122.R13A
Iron	20	210	µg/L	20041122.R13A
Lanthanum	1	<1	µg/L	20041122.R13A
Lead	1	<1	µg/L	20041122.R13A
Lithium	5	<5	µg/L	20041122.R13A
Magnesium	4	390	µg/L	20041122.R13A
Manganese	1	329	µg/L	20041122.R13A
Mercury	0.1	<0.1	µg/L	20041122.R13A
Molybdenum	1	1	µg/L	20041122.R13A
Nickel	1	6.8	µg/L	20041122.R13A
Niobium	1	<1	µg/L	20041122.R13A
Phosphorus	50	<50	µg/L	20041122.R13A
Rubidium	1	1.3	µg/L	20041122.R13A
Scandium	1	<1	µg/L	20041122.R13A
Selenium	1	<1	µg/L	20041122.R13A
Silver	0.1	<0.1	µg/L	20041122.R13A
Strontium	1	8.8	µg/L	20041122.R13A
Thallium	0.1	<0.1	µg/L	20041122.R13A
Thorium	1	<1	µg/L	20041122.R13A
Tin	1	<1	µg/L	20041122.R13A
Titanium	1	<1	µg/L	20041122.R13A
Tungsten	1	<1	µg/L	20041122.R13A
Uranium	1	<1	µg/L	20041122.R13A
Vanadium	1	<1	µg/L	20041122.R13A
Yttrium	1	<1	µg/L	20041122.R13A
Zinc	1	22	µg/L	20041122.R13A
Zirconium	1	<1	µg/L	20041122.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.82	pH	20041122.R2B
pH	N/A	4.85	pH	20041122.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	67	mg/L	20041125.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.12	mg/L	20041125.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.012	mg/L	20041123.TP

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Sample Name: UM SW-1

Date: 11/19/2004

Matrix: Water

Lab #: 57324

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20041125.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.48	NTU	20041122.Turb

Sample Name: UM SW-2

Date: 11/19/2004

Matrix: Water

Lab #: 57325

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041126.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0071	mg/L	20041123.R42

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.57	mg/L	20041122.R5A
Fluoride	0.01	0.017	mg/L	20041122.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041122.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041122.R5A
Sulfate	0.2	8.1	mg/L	20041122.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	9	TCU	20041122.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	29.31	µS/cm	20041122.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.3	mg/L	20041125.doc2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	8	mg/L	20041122.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	330	µg/L	20041122.R13A
Antimony	1	<1	µg/L	20041122.R13A
Arsenic	1	<1	µg/L	20041122.R13A
Barium	1	18	µg/L	20041122.R13A
Beryllium	1	<1	µg/L	20041122.R13A
Bismuth	1	<1	µg/L	20041122.R13A
Boron	2	<2	µg/L	20041122.R13A

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Work Order: 14075

Sample Name: UM SW-2

Date: 11/19/2004

Matrix: Water

Lab #: 57325

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cadmium	0.1	0.15	µg/L	20041122.R13A
Calcium	50	2200	µg/L	20041122.R13A
Cerium	1	<1	µg/L	20041122.R13A
Cesium	1	<1	µg/L	20041122.R13A
Chromium	1	<1	µg/L	20041122.R13A
Cobalt	0.1	7.6	µg/L	20041122.R13A
Copper	1	<1	µg/L	20041122.R13A
Europium	1	<1	µg/L	20041122.R13A
Gallium	1	<1	µg/L	20041122.R13A
Iron	20	<20	µg/L	20041122.R13A
Lanthanum	1	<1	µg/L	20041122.R13A
Lead	1	<1	µg/L	20041122.R13A
Lithium	5	<5	µg/L	20041122.R13A
Magnesium	4	583	µg/L	20041122.R13A
Manganese	1	106	µg/L	20041122.R13A
Mercury	0.1	<0.1	µg/L	20041122.R13A
Molybdenum	1	<1	µg/L	20041122.R13A
Nickel	1	7.5	µg/L	20041122.R13A
Niobium	1	<1	µg/L	20041122.R13A
Phosphorus	50	<50	µg/L	20041122.R13A
Rubidium	1	<1	µg/L	20041122.R13A
Scandium	1	<1	µg/L	20041122.R13A
Selenium	1	<1	µg/L	20041122.R13A
Silver	0.1	<0.1	µg/L	20041122.R13A
Strontium	1	13	µg/L	20041122.R13A
Thallium	0.1	<0.1	µg/L	20041122.R13A
Thorium	1	<1	µg/L	20041122.R13A
Tin	1	<1	µg/L	20041122.R13A
Titanium	1	<1	µg/L	20041122.R13A
Tungsten	1	<1	µg/L	20041122.R13A
Uranium	1	<1	µg/L	20041122.R13A
Vanadium	1	<1	µg/L	20041122.R13A
Yttrium	1	<1	µg/L	20041122.R13A
Zinc	1	25	µg/L	20041122.R13A
Zirconium	1	<1	µg/L	20041122.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.92	pH	20041122.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	64	mg/L	20041125.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.15	mg/L	20041125.tkn

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Sample Name: UM SW-2

Date: 11/19/2004

Matrix: Water

Lab #: 57325

TKN Water				
Parameter	MDL	Result	Units	QAQCID

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.015	mg/L	20041123.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	8	mg/L	20041125.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.24	NTU	20041122.Turb

Sample Name: UM SW-3

Date: 11/19/2004

Matrix: Water

Lab #: 57326

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041126.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	<0.002	mg/L	20041123.R42

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.81	mg/L	20041122.R5A
Fluoride	0.01	<0.01	mg/L	20041122.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041122.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041122.R5A
Sulfate	0.2	8.5	mg/L	20041122.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	39	TCU	20041122.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	38.33	µS/cm	20041122.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	8.4	mg/L	20041125.doc2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	13.8	mg/L	20041122.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	137	µg/L	20041122.R13A

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Work Order: 14075

Sample Name: UM SW-3

Date: 11/19/2004

Matrix: Water

Lab #: 57326

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Antimony	1	<1	µg/L	20041122.R13A
Arsenic	1	<1	µg/L	20041122.R13A
Barium	1	13	µg/L	20041122.R13A
Beryllium	1	<1	µg/L	20041122.R13A
Bismuth	1	<1	µg/L	20041122.R13A
Boron	2	2.3	µg/L	20041122.R13A
Cadmium	0.1	<0.1	µg/L	20041122.R13A
Calcium	50	3900	µg/L	20041122.R13A
Cerium	1	<1	µg/L	20041122.R13A
Cesium	1	<1	µg/L	20041122.R13A
Chromium	1	<1	µg/L	20041122.R13A
Cobalt	0.1	0.57	µg/L	20041122.R13A
Copper	1	3.9	µg/L	20041122.R13A
Europium	1	<1	µg/L	20041122.R13A
Gallium	1	<1	µg/L	20041122.R13A
Iron	20	100	µg/L	20041122.R13A
Lanthanum	1	<1	µg/L	20041122.R13A
Lead	1	<1	µg/L	20041122.R13A
Lithium	5	<5	µg/L	20041122.R13A
Magnesium	4	1010	µg/L	20041122.R13A
Manganese	1	25	µg/L	20041122.R13A
Mercury	0.1	<0.1	µg/L	20041122.R13A
Molybdenum	1	<1	µg/L	20041122.R13A
Nickel	1	9.7	µg/L	20041122.R13A
Niobium	1	<1	µg/L	20041122.R13A
Phosphorus	50	<50	µg/L	20041122.R13A
Rubidium	1	<1	µg/L	20041122.R13A
Scandium	1	<1	µg/L	20041122.R13A
Selenium	1	<1	µg/L	20041122.R13A
Silver	0.1	<0.1	µg/L	20041122.R13A
Strontium	1	16	µg/L	20041122.R13A
Thallium	0.1	<0.1	µg/L	20041122.R13A
Thorium	1	<1	µg/L	20041122.R13A
Tin	1	<1	µg/L	20041122.R13A
Titanium	1	1.4	µg/L	20041122.R13A
Tungsten	1	<1	µg/L	20041122.R13A
Uranium	1	<1	µg/L	20041122.R13A
Vanadium	1	<1	µg/L	20041122.R13A
Yttrium	1	<1	µg/L	20041122.R13A
Zinc	1	14	µg/L	20041122.R13A
Zirconium	1	<1	µg/L	20041122.R13A
pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.41	pH	20041122.R2B

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Sample Name: UM SW-3

Date: 11/19/2004

Matrix: Water

Lab #: 57326

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	47	mg/L	20041130.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.24	mg/L	20041125.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.018	mg/L	20041123.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20041125.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.6	NTU	20041122.Turb

Sample Name: UM SW-3A

Date: 11/19/2004

Matrix: Water

Lab #: 57327

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041126.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0065	mg/L	20041123.R42

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.9	mg/L	20041122.R5A
Chloride	0.2	0.88	mg/L	20041122.R5A
Fluoride	0.01	0.01	mg/L	20041122.R5A
Fluoride	0.01	0.013	mg/L	20041122.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041122.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041122.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041122.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041122.R5A
Sulfate	0.2	7	mg/L	20041122.R5A
Sulfate	0.2	7.1	mg/L	20041122.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	30	TCU	20041122.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	34.45	µS/cm	20041122.R12B

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Work Order: 14075

Sample Name: UM SW-3A

Date: 11/19/2004

Matrix: Water

Lab #: 57327

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	9.6	mg/L	20041125.doc2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	11.8	mg/L	20041122.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	191	µg/L	20041122.R13A
Antimony	1	<1	µg/L	20041122.R13A
Arsenic	1	<1	µg/L	20041122.R13A
Barium	1	13	µg/L	20041122.R13A
Beryllium	1	<1	µg/L	20041122.R13A
Bismuth	1	<1	µg/L	20041122.R13A
Boron	2	2.1	µg/L	20041122.R13A
Cadmium	0.1	<0.1	µg/L	20041122.R13A
Calcium	50	3500	µg/L	20041122.R13A
Cerium	1	<1	µg/L	20041122.R13A
Cesium	1	<1	µg/L	20041122.R13A
Chromium	1	<1	µg/L	20041122.R13A
Cobalt	0.1	0.35	µg/L	20041122.R13A
Copper	1	4.5	µg/L	20041122.R13A
Europium	1	<1	µg/L	20041122.R13A
Gallium	1	<1	µg/L	20041122.R13A
Iron	20	<20	µg/L	20041122.R13A
Lanthanum	1	<1	µg/L	20041122.R13A
Lead	1	<1	µg/L	20041122.R13A
Lithium	5	<5	µg/L	20041122.R13A
Magnesium	4	729	µg/L	20041122.R13A
Manganese	1	3.3	µg/L	20041122.R13A
Mercury	0.1	<0.1	µg/L	20041122.R13A
Molybdenum	1	<1	µg/L	20041122.R13A
Nickel	1	9.7	µg/L	20041122.R13A
Niobium	1	<1	µg/L	20041122.R13A
Phosphorus	50	<50	µg/L	20041122.R13A
Rubidium	1	<1	µg/L	20041122.R13A
Scandium	1	<1	µg/L	20041122.R13A
Selenium	1	<1	µg/L	20041122.R13A
Silver	0.1	<0.1	µg/L	20041122.R13A
Strontium	1	12	µg/L	20041122.R13A
Thallium	0.1	<0.1	µg/L	20041122.R13A
Thorium	1	<1	µg/L	20041122.R13A
Tin	1	<1	µg/L	20041122.R13A
Titanium	1	<1	µg/L	20041122.R13A
Tungsten	1	<1	µg/L	20041122.R13A
Uranium	1	<1	µg/L	20041122.R13A

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Work Order: 14075

Sample Name: UM SW-3A

Date: 11/19/2004

Matrix: Water

Lab #: 57327

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Vanadium	1	<1	µg/L	20041122.R13A
Yttrium	1	<1	µg/L	20041122.R13A
Zinc	1	15	µg/L	20041122.R13A
Zirconium	1	<1	µg/L	20041122.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.93	pH	20041122.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	85	mg/L	20041125.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.21	mg/L	20041125.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.015	mg/L	20041123.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	9	mg/L	20041125.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.4	NTU	20041122.Turb

Sample Name: UM SW-4

Date: 11/19/2004

Matrix: Water

Lab #: 57328

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041126.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0046	mg/L	20041123.R42

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.44	mg/L	20041123.R5A
Fluoride	0.01	0.024	mg/L	20041123.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041123.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041123.R5A
Sulfate	0.2	7.9	mg/L	20041123.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	9	TCU	20041122.R26A

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Work Order: 14075

Sample Name: UM SW-4

Date: 11/19/2004

Matrix: Water

Lab #: 57328

Colour	MDL	Result	Units	QAQCID
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Parameter	MDL	Result	Units	QAQCID
CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	30.74	µS/cm	20041122.R12B

Parameter	MDL	Result	Units	QAQCID
DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.8	mg/L	20041125.doc2

Parameter	MDL	Result	Units	QAQCID
Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	4	mg/L	20041122.R90A

Parameter	MDL	Result	Units	QAQCID
ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	485	µg/L	20041122.R13A
Antimony	1	<1	µg/L	20041122.R13A
Arsenic	1	<1	µg/L	20041122.R13A
Barium	1	18	µg/L	20041122.R13A
Beryllium	1	<1	µg/L	20041122.R13A
Bismuth	1	<1	µg/L	20041122.R13A
Boron	2	<2	µg/L	20041122.R13A
Cadmium	0.1	0.18	µg/L	20041122.R13A
Calcium	50	960	µg/L	20041122.R13A
Cerium	1	<1	µg/L	20041122.R13A
Cesium	1	<1	µg/L	20041122.R13A
Chromium	1	<1	µg/L	20041122.R13A
Cobalt	0.1	11.4	µg/L	20041122.R13A
Copper	1	<1	µg/L	20041122.R13A
Europium	1	<1	µg/L	20041122.R13A
Gallium	1	<1	µg/L	20041122.R13A
Iron	20	<20	µg/L	20041122.R13A
Lanthanum	1	<1	µg/L	20041122.R13A
Lead	1	<1	µg/L	20041122.R13A
Lithium	5	<5	µg/L	20041122.R13A
Magnesium	4	400	µg/L	20041122.R13A
Manganese	1	137	µg/L	20041122.R13A
Mercury	0.1	<0.1	µg/L	20041122.R13A
Molybdenum	1	<1	µg/L	20041122.R13A
Nickel	1	7.7	µg/L	20041122.R13A
Niobium	1	<1	µg/L	20041122.R13A
Phosphorus	50	<50	µg/L	20041122.R13A
Rubidium	1	<1	µg/L	20041122.R13A
Scandium	1	<1	µg/L	20041122.R13A
Selenium	1	<1	µg/L	20041122.R13A
Silver	0.1	<0.1	µg/L	20041122.R13A
Strontium	1	8.8	µg/L	20041122.R13A

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Sample Name: UM SW-4

Date: 11/19/2004

Matrix: Water

Lab #: 57328

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Thallium	0.1	<0.1	µg/L	20041122.R13A
Thorium	1	<1	µg/L	20041122.R13A
Tin	1	<1	µg/L	20041122.R13A
Titanium	1	<1	µg/L	20041122.R13A
Tungsten	1	<1	µg/L	20041122.R13A
Uranium	1	<1	µg/L	20041122.R13A
Vanadium	1	<1	µg/L	20041122.R13A
Yttrium	1	<1	µg/L	20041122.R13A
Zinc	1	30	µg/L	20041122.R13A
Zirconium	1	<1	µg/L	20041122.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.57	pH	20041122.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	48	mg/L	20041125.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.1	mg/L	20041125.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.017	mg/L	20041123.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	10	mg/L	20041125.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.41	NTU	20041122.Turb

Sample Name: UM SW-5

Date: 11/19/2004

Matrix: Water

Lab #: 57329

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20041126.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.037	mg/L	20041123.R42

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.5	mg/L	20041123.R5A
Chloride	0.2	0.48	mg/L	20041123.R5A

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Work Order: 14075

Sample Name: UM SW-5

Date: 11/19/2004

Matrix: Water

Lab #: 57329

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Fluoride	0.01	0.026	mg/L	20041123.R5A
Fluoride	0.01	0.021	mg/L	20041123.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041123.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20041123.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041123.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20041123.R5A
Sulfate	0.2	4.3	mg/L	20041123.R5A
Sulfate	0.2	4.4	mg/L	20041123.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
Apparent Colour	4	71	TCU	20041122.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	20.71	µS/cm	20041122.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	8.5	mg/L	20041125.doc2
Dissolved Organic Carbon	0.4	8.8	mg/L	20041125.doc2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	4.9	mg/L	20041122.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	186	µg/L	20041122.R13A
Aluminum	1	194	µg/L	20041122.R13A
Antimony	1	<1	µg/L	20041122.R13A
Antimony	1	<1	µg/L	20041122.R13A
Arsenic	1	<1	µg/L	20041122.R13A
Arsenic	1	<1	µg/L	20041122.R13A
Barium	1	11	µg/L	20041122.R13A
Barium	1	12	µg/L	20041122.R13A
Beryllium	1	<1	µg/L	20041122.R13A
Beryllium	1	<1	µg/L	20041122.R13A
Bismuth	1	<1	µg/L	20041122.R13A
Bismuth	1	<1	µg/L	20041122.R13A
Boron	2	2.5	µg/L	20041122.R13A
Boron	2	2.4	µg/L	20041122.R13A
Cadmium	0.1	<0.1	µg/L	20041122.R13A
Cadmium	0.1	0.11	µg/L	20041122.R13A
Calcium	50	1200	µg/L	20041122.R13A
Calcium	50	1200	µg/L	20041122.R13A
Cerium	1	<1	µg/L	20041122.R13A
Cerium	1	<1	µg/L	20041122.R13A

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Work Order: 14075

Sample Name: UM SW-5

Date: 11/19/2004

Matrix: Water

Lab #: 57329

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cesium	1	<1	µg/L	20041122.R13A
Cesium	1	<1	µg/L	20041122.R13A
Chromium	1	<1	µg/L	20041122.R13A
Chromium	1	<1	µg/L	20041122.R13A
Cobalt	0.1	3.6	µg/L	20041122.R13A
Cobalt	0.1	3.4	µg/L	20041122.R13A
Copper	1	<1	µg/L	20041122.R13A
Copper	1	<1	µg/L	20041122.R13A
Europium	1	<1	µg/L	20041122.R13A
Europium	1	<1	µg/L	20041122.R13A
Gallium	1	<1	µg/L	20041122.R13A
Gallium	1	<1	µg/L	20041122.R13A
Iron	20	350	µg/L	20041122.R13A
Iron	20	340	µg/L	20041122.R13A
Lanthanum	1	<1	µg/L	20041122.R13A
Lanthanum	1	<1	µg/L	20041122.R13A
Lead	1	<1	µg/L	20041122.R13A
Lead	1	<1	µg/L	20041122.R13A
Lithium	5	<5	µg/L	20041122.R13A
Lithium	5	<5	µg/L	20041122.R13A
Magnesium	4	457	µg/L	20041122.R13A
Magnesium	4	437	µg/L	20041122.R13A
Manganese	1	107	µg/L	20041122.R13A
Manganese	1	113	µg/L	20041122.R13A
Mercury	0.1	<0.1	µg/L	20041122.R13A
Mercury	0.1	<0.1	µg/L	20041122.R13A
Molybdenum	1	<1	µg/L	20041122.R13A
Molybdenum	1	<1	µg/L	20041122.R13A
Nickel	1	3.9	µg/L	20041122.R13A
Nickel	1	3.9	µg/L	20041122.R13A
Niobium	1	<1	µg/L	20041122.R13A
Niobium	1	<1	µg/L	20041122.R13A
Phosphorus	50	<50	µg/L	20041122.R13A
Phosphorus	50	<50	µg/L	20041122.R13A
Rubidium	1	1.2	µg/L	20041122.R13A
Rubidium	1	1.2	µg/L	20041122.R13A
Scandium	1	<1	µg/L	20041122.R13A
Scandium	1	<1	µg/L	20041122.R13A
Selenium	1	<1	µg/L	20041122.R13A
Selenium	1	<1	µg/L	20041122.R13A
Silver	0.1	<0.1	µg/L	20041122.R13A
Silver	0.1	<0.1	µg/L	20041122.R13A
Strontium	1	8.9	µg/L	20041122.R13A
Strontium	1	9	µg/L	20041122.R13A
Thallium	0.1	<0.1	µg/L	20041122.R13A

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Work Order: 14075

Sample Name: UM SW-5

Date: 11/19/2004

Matrix: Water

Lab #: 57329

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Thallium	0.1	<0.1	µg/L	20041122.R13A
Thorium	1	<1	µg/L	20041122.R13A
Thorium	1	<1	µg/L	20041122.R13A
Tin	1	<1	µg/L	20041122.R13A
Tin	1	<1	µg/L	20041122.R13A
Titanium	1	1.7	µg/L	20041122.R13A
Titanium	1	1.4	µg/L	20041122.R13A
Tungsten	1	<1	µg/L	20041122.R13A
Tungsten	1	<1	µg/L	20041122.R13A
Uranium	1	<1	µg/L	20041122.R13A
Uranium	1	<1	µg/L	20041122.R13A
Vanadium	1	<1	µg/L	20041122.R13A
Vanadium	1	<1	µg/L	20041122.R13A
Yttrium	1	<1	µg/L	20041122.R13A
Yttrium	1	<1	µg/L	20041122.R13A
Zinc	1	15	µg/L	20041122.R13A
Zinc	1	15	µg/L	20041122.R13A
Zirconium	1	<1	µg/L	20041122.R13A
Zirconium	1	<1	µg/L	20041122.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.21	pH	20041122.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	35	mg/L	20041125.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.28	mg/L	20041125.lkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.013	mg/L	20041123.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20041125.TSS
Total Suspended Solids	6	<6	mg/L	20041125.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.3	NTU	20041122.Turb
Turbidity	0.2	1.3	NTU	20041122.Turb

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MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	200	180	20041126.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	<10	<10	<10	20041126.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.511	0.4	20041123.R42

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20041123.R42

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.5	8	20041122.R5A
Chloride	0.2	mg/L	12	8.2	8	20041122.R5A
Fluoride	0.01	mg/L	12	10.3	8	20041122.R5A
Nitrate (as N)	0.1	mg/L	12	9.7	8	20041122.R5A
Nitrite (as N)	0.05	mg/L	12	9.68	8	20041122.R5A
Phosphate	0.3	mg/L	12	10	8	20041122.R5A
Sulfate	0.2	mg/L	12	9.4	8	20041122.R5A
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.5	8	20041123.R5A
Chloride	0.2	mg/L	12	8.3	8	20041123.R5A
Fluoride	0.01	mg/L	12	10.2	8	20041123.R5A
Nitrate (as N)	0.1	mg/L	12	9.7	8	20041123.R5A
Nitrite (as N)	0.05	mg/L	12	9.71	8	20041123.R5A
Phosphate	0.3	mg/L	12	9.7	8	20041123.R5A
Sulfate	0.2	mg/L	12	9.3	8	20041123.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20041122.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20041122.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20041122.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20041122.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20041122.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20041122.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20041122.R5A

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Anions Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20041123.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20041123.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20041123.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20041123.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20041123.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20041123.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20041123.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	80	75	60	20041122.R26A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Apparent Colour	4	TCU	<4	<4	<4	20041122.R26A

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	103.2	96	20041122.R12B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20041122.R12B

DOC Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	12	9.7	8	20041125.doc2

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20041125.doc2

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	600	543	400	20041122.R13A
Arsenic	1	µg/L	120	105	80	20041122.R13A
Barium	1	µg/L	120	100	80	20041122.R13A
Beryllium	1	µg/L	125	107	75	20041122.R13A
Boron	2	µg/L	125	110	75	20041122.R13A
Cadmium	1	µg/L	120	104	80	20041122.R13A

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ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Calcium	50	µg/L	1200	1100	800	20041122.R13A
Chromium	1	µg/L	120	107	80	20041122.R13A
Cobalt	1	µg/L	120	111	80	20041122.R13A
Copper	1	µg/L	120	110	80	20041122.R13A
Iron	20	µg/L	600	530	400	20041122.R13A
Lead	1	µg/L	120	101	80	20041122.R13A
Magnesium	4	µg/L	1200	1090	800	20041122.R13A
Manganese	1	µg/L	120	103	80	20041122.R13A
Molybdenum	1	µg/L	120	97	80	20041122.R13A
Nickel	1	µg/L	120	107	80	20041122.R13A
Selenium	1	µg/L	120	102	80	20041122.R13A
Thallium	1	µg/L	120	100	80	20041122.R13A
Vanadium	1	µg/L	120	108	80	20041122.R13A
Zinc	1	µg/L	120	108	80	20041122.R13A

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	µg/L	120	110	80	20041122.R13A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	µg/L	5	<1	<1	20041122.R13A
Antimony	1	µg/L	5	<1	<1	20041122.R13A
Arsenic	1	µg/L	5	<1	<1	20041122.R13A
Barium	1	µg/L	5	<1	<1	20041122.R13A
Beryllium	1	µg/L	5	<1	<1	20041122.R13A
Bismuth	1	µg/L	5	<1	<1	20041122.R13A
Boron	2	µg/L	5	<2	<2	20041122.R13A
Cadmium	1	µg/L	5	<1	<1	20041122.R13A
Calcium	50	µg/L	<50	<50	<50	20041122.R13A
Cerium	1	µg/L	5	<1	<1	20041122.R13A
Cesium	1	µg/L	5	<1	<1	20041122.R13A
Chromium	1	µg/L	5	<1	<1	20041122.R13A
Cobalt	1	µg/L	5	<1	<1	20041122.R13A
Copper	1	µg/L	5	<1	<1	20041122.R13A
Europium	1	µg/L	5	<1	<1	20041122.R13A
Gallium	1	µg/L	5	<1	<1	20041122.R13A
Iron	20	µg/L	<20	<20	<20	20041122.R13A
Lanthanum	1	µg/L	5	<1	<1	20041122.R13A
Lead	1	µg/L	5	<1	<1	20041122.R13A
Lithium	1	µg/L	5	<1	<1	20041122.R13A
Magnesium	4	µg/L	20	<4	<4	20041122.R13A
Manganese	1	µg/L	5	<1	<1	20041122.R13A
Mercury	1	µg/L	5	<1	<1	20041122.R13A
Molybdenum	1	µg/L	5	<1	<1	20041122.R13A
Nickel	1	µg/L	5	<1	<1	20041122.R13A

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ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Niobium	1	µg/L	5	<1	<1	20041122.R13A
Phosphorus	20	µg/L	<20	<20	<20	20041122.R13A
Rubidium	1	µg/L	5	<1	<1	20041122.R13A
Scandium	1	µg/L	5	<1	<1	20041122.R13A
Selenium	1	µg/L	5	<1	<1	20041122.R13A
Silver	5	µg/L	5	<5	<5	20041122.R13A
Strontium	1	µg/L	5	<1	<1	20041122.R13A
Thallium	1	µg/L	5	<1	<1	20041122.R13A
Thorium	1	µg/L	5	<1	<1	20041122.R13A
Tin	1	µg/L	5	<1	<1	20041122.R13A
Titanium	1	µg/L	5	<1	<1	20041122.R13A
Tungsten	1	µg/L	5	<1	<1	20041122.R13A
Uranium	1	µg/L	5	<1	<1	20041122.R13A
Vanadium	1	µg/L	5	<1	<1	20041122.R13A
Yttrium	1	µg/L	5	<1	<1	20041122.R13A
Zinc	1	µg/L	5	<1	<1	20041122.R13A
Zirconium	1	µg/L	5	<1	<1	20041122.R13A

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.069	6.9	20041122.R2B

TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20041125.TDS
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20041130.TDS

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20041125.tkn

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.6	0.54	0.4	20041125.tkn

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.051	0.04	20041123.TP

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TP Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20041123.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20041125.TSS

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.85	0.83	0.75	20041122.Turb

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20041122.Turb

UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on Jan. 10, 2004

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	01/10/2005 13:45	-3	1	5.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light flow
UM Sw-2	01/10/2005 13:25	-3	1	11	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	good flow
UM Sw-3	01/10/2005 11:50	-4	0	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	good flow
UM Sw-3a	01/10/2005 13:05	-3	1	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light to moderate flow
UM Sw-4	01/10/2005 11:25	-4	1	10	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	good flow
UM Sw-5	01/10/2005 10:35	-3	1	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	good flow

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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	14802
Company:	Ursa Major Minerals Inc.	Date Order Received:	1/11/2005
Address:	8 King Street East, Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	59462	Water		1/10/2005	13:45
UM SW-2	59463	Water		1/10/2005	13:25
UM SW-3	59464	Water		1/10/2005	11:50
UM SW-3A	59465	Water		1/10/2005	13:05
UM SW-4	59466	Water		1/10/2005	11:25
UM SW-5	59467	Water		1/10/2005	10:35

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Ursa Major Minerals Inc.

Work Order: 14802

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ALKA	Determination of Alkalinity Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-2320
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Ursa Major Minerals Inc.

Work Order: 14802

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head

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Ursa Major Minerals Inc.

Work Order: 14802

Sample Data:

Sample Name: UM SW-1

Date: 1/10/2005

Matrix: Water

Lab #: 59462

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	1.3	mg/L	20050112.R1A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0085	mg/L	20050112.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.48	mg/L	20050112.R5A
Fluoride	0.01	0.046	mg/L	20050112.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050112.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050112.R5A
Sulfate	0.2	6.7	mg/L	20050112.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	9	TCU	20050111.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	24.54	µS/cm	20050111.R12A
Conductivity	2	24.61	µS/cm	20050111.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.3	mg/L	20050111.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	3.9	mg/L	20050111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	287	ug/L	20050111.R13B
Antimony	1	<1	ug/L	20050111.R13B
Arsenic	1	<1	ug/L	20050111.R13B
Barium	1	18	ug/L	20050111.R13B
Beryllium	1	<1	ug/L	20050111.R13B
Bismuth	1	<1	ug/L	20050111.R13B
Boron	2	5.2	ug/L	20050111.R13B
Cadmium	0.1	0.12	ug/L	20050111.R13B
Calcium	50	1000	ug/L	20050111.R13B
Cerium	1	<1	ug/L	20050111.R13B
Cesium	1	<1	ug/L	20050111.R13B
Chromium	1	<1	ug/L	20050111.R13B
Cobalt	0.1	13.6	ug/L	20050111.R13B
Copper	1	<1	ug/L	20050111.R13B

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Ursa Major Minerals Inc.

Work Order: 14802

Sample Name: UM SW-1

Date: 1/10/2005

Matrix: Water

Lab #: 59462

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Europium	1	<1	ug/L	20050111.R13B
Gallium	1	<1	ug/L	20050111.R13B
Iron	20	100	ug/L	20050111.R13B
Lanthanum	1	<1	ug/L	20050111.R13B
Lead	1	<1	ug/L	20050111.R13B
Lithium	5	<5	ug/L	20050111.R13B
Magnesium	4	330	ug/L	20050111.R13B
Manganese	1	263	ug/L	20050111.R13B
Mercury	0.1	<0.1	ug/L	20050111.R13B
Molybdenum	1	<1	ug/L	20050111.R13B
Nickel	1	6.4	ug/L	20050111.R13B
Niobium	1	<1	ug/L	20050111.R13B
Phosphorus	50	<50	ug/L	20050111.R13B
Rubidium	1	1.3	ug/L	20050111.R13B
Scandium	1	1.4	ug/L	20050111.R13B
Selenium	1	<1	ug/L	20050111.R13B
Silver	0.1	<0.1	ug/L	20050111.R13B
Strontium	1	8.9	ug/L	20050111.R13B
Thallium	0.1	<0.1	ug/L	20050111.R13B
Thorium	1	<1	ug/L	20050111.R13B
Tin	1	<1	ug/L	20050111.R13B
Titanium	1	1.7	ug/L	20050111.R13B
Tungsten	1	<1	ug/L	20050111.R13B
Uranium	1	<1	ug/L	20050111.R13B
Vanadium	1	<1	ug/L	20050111.R13B
Yttrium	1	<1	ug/L	20050111.R13B
Zinc	1	23	ug/L	20050111.R13B
Zirconium	1	<1	ug/L	20050111.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.79	pH	20050111.R2A
pH	N/A	4.83	pH	20050111.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050112.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.19	mg/L	20050118.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.013	mg/L	20050117.TP

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Work Order: 14802

Sample Name: UM SW-1

Date: 1/10/2005

Matrix: Water

Lab #: 59462

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050112.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.26	NTU	20050111.turb

Sample Name: UM SW-2

Date: 1/10/2005

Matrix: Water

Lab #: 59463

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	1.3	mg/L	20050112.R1A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0074	mg/L	20050112.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.33	mg/L	20050112.R5A
Fluoride	0.01	0.038	mg/L	20050112.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050112.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050112.R5A
Sulfate	0.2	7.1	mg/L	20050112.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	11	TCU	20050111.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.35	µS/cm	20050111.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.3	mg/L	20050111.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	6	mg/L	20050111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	307	ug/L	20050111.R13B
Antimony	1	<1	ug/L	20050111.R13B
Arsenic	1	<1	ug/L	20050111.R13B
Barium	1	17	ug/L	20050111.R13B
Beryllium	1	<1	ug/L	20050111.R13B
Bismuth	1	<1	ug/L	20050111.R13B
Boron	2	3.2	ug/L	20050111.R13B

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Work Order: 14802

Sample Name: UM SW-2

Date: 1/10/2005

Matrix: Water

Lab #: 59463

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cadmium	0.1	0.15	ug/L	20050111.R13B
Caicium	50	1700	ug/L	20050111.R13B
Cerium	1	<1	ug/L	20050111.R13B
Cesium	1	<1	ug/L	20050111.R13B
Chromium	1	<1	ug/L	20050111.R13B
Cobalt	0.1	5.3	ug/L	20050111.R13B
Copper	1	<1	ug/L	20050111.R13B
Europium	1	<1	ug/L	20050111.R13B
Gallium	1	<1	ug/L	20050111.R13B
Iron	20	<20	ug/L	20050111.R13B
Lanthanum	1	<1	ug/L	20050111.R13B
Lead	1	<1	ug/L	20050111.R13B
Lithium	5	<5	ug/L	20050111.R13B
Magnesium	4	429	ug/L	20050111.R13B
Manganese	1	69	ug/L	20050111.R13B
Mercury	0.1	<0.1	ug/L	20050111.R13B
Molybdenum	1	<1	ug/L	20050111.R13B
Nickel	1	4.8	ug/L	20050111.R13B
Niobium	1	<1	ug/L	20050111.R13B
Phosphorus	50	<50	ug/L	20050111.R13B
Rubidium	1	<1	ug/L	20050111.R13B
Scandium	1	1.4	ug/L	20050111.R13B
Selenium	1	<1	ug/L	20050111.R13B
Silver	0.1	<0.1	ug/L	20050111.R13B
Strontium	1	10	ug/L	20050111.R13B
Thallium	0.1	<0.1	ug/L	20050111.R13B
Thorium	1	<1	ug/L	20050111.R13B
Tin	1	<1	ug/L	20050111.R13B
Titanium	1	1.6	ug/L	20050111.R13B
Tungsten	1	<1	ug/L	20050111.R13B
Uranium	1	<1	ug/L	20050111.R13B
Vanadium	1	<1	ug/L	20050111.R13B
Yttrium	1	<1	ug/L	20050111.R13B
Zinc	1	20	ug/L	20050111.R13B
Zirconium	1	<1	ug/L	20050111.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.88	pH	20050111.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050112.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.16	mg/L	20050118.TKN

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Work Order: 14802

Sample Name: UM SW-2

Date: 1/10/2005

Matrix: Water

Lab #: 59463

TKN Water				
Parameter	MDL	Result	Units	QAQCID

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.013	mg/L	20050117.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050112.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	<0.2	NTU	20050111.turb

Sample Name: UM SW-3

Date: 1/10/2005

Matrix: Water

Lab #: 59464

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	7.5	mg/L	20050112.R1A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.019	mg/L	20050112.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.57	mg/L	20050112.R5A
Fluoride	0.01	0.011	mg/L	20050112.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050112.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050112.R5A
Sulfate	0.2	7.1	mg/L	20050112.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	34	TCU	20050111.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	34.36	µS/cm	20050111.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.5	mg/L	20050111.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	11	mg/L	20050111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	124	ug/L	20050111.R13B

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Work Order: 14802

Sample Name: UM SW-3

Date: 1/10/2005

Matrix: Water

Lab #: 59464

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Antimony	1	<1	ug/L	20050111.R13B
Arsenic	1	<1	ug/L	20050111.R13B
Barium	1	12	ug/L	20050111.R13B
Beryllium	1	<1	ug/L	20050111.R13B
Bismuth	1	<1	ug/L	20050111.R13B
Boron	2	4.4	ug/L	20050111.R13B
Cadmium	0.1	0.14	ug/L	20050111.R13B
Calcium	50	3100	ug/L	20050111.R13B
Cerium	1	<1	ug/L	20050111.F13B
Cesium	1	<1	ug/L	20050111.R13B
Chromium	1	<1	ug/L	20050111.R13B
Cobalt	0.1	0.63	ug/L	20050111.R13B
Copper	1	2.4	ug/L	20050111.R13B
Europium	1	<1	ug/L	20050111.R13B
Gallium	1	<1	ug/L	20050111.R13B
Iron	20	71	ug/L	20050111.R13B
Lanthanum	1	<1	ug/L	20050111.R13B
Lead	1	<1	ug/L	20050111.R13B
Lithium	5	<5	ug/L	20050111.R13B
Magnesium	4	797	ug/L	20050111.R13B
Manganese	1	27	ug/L	20050111.R13B
Mercury	0.1	<0.1	ug/L	20050111.R13B
Molybdenum	1	<1	ug/L	20050111.R13B
Nickel	1	8.4	ug/L	20050111.R13B
Niobium	1	<1	ug/L	20050111.R13B
Phosphorus	50	<50	ug/L	20050111.R13B
Rubidium	1	1.1	ug/L	20050111.R13B
Scandium	1	1.8	ug/L	20050111.R13B
Selenium	1	<1	ug/L	20050111.R13B
Silver	0.1	<0.1	ug/L	20050111.R13B
Strontium	1	14	ug/L	20050111.R13B
Thallium	0.1	<0.1	ug/L	20050111.R13B
Thorium	1	<1	ug/L	20050111.R13B
Tin	1	<1	ug/L	20050111.R13B
Titanium	1	2.7	ug/L	20050111.R13B
Tungsten	1	<1	ug/L	20050111.R13B
Uranium	1	<1	ug/L	20050111.R13B
Vanadium	1	<1	ug/L	20050111.R13B
Yttrium	1	<1	ug/L	20050111.R13B
Zinc	1	17	ug/L	20050111.R13B
Zirconium	1	<1	ug/L	20050111.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.16	pH	20050111.R2A

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Work Order: 14802

Sample Name: UM SW-3

Date: 1/10/2005

Matrix: Water

Lab #: 59464

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	51	mg/L	20050112.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.29	mg/L	20050118.TKN
Total Kjeldahl Nitrogen	0.05	0.31	mg/L	20050118.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20050117.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050112.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.65	NTU	20050111.turb

Sample Name: UM SW-3A

Date: 1/10/2005

Matrix: Water

Lab #: 59465

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	5	mg/L	20050112.R1A
M-Alkalinity as CaCO3 (pH 4.5)	1	6.3	mg/L	20050112.R1A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0027	mg/L	20050112.NH3

AnIons Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.69	mg/L	20050112.R5A
Fluoride	0.01	0.014	mg/L	20050112.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050112.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050112.R5A
Sulfate	0.2	6.3	mg/L	20050112.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	35	TCU	20050111.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	31.32	µS/cm	20050111.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.8	mg/L	20050111.doc

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Work Order: 14802

Sample Name: UM SW-3A

Date: 1/10/2005

Matrix: Water

Lab #: 59465

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	11	mg/L	20050111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	159	ug/L	20050111.R13B
Antimony	1	<1	ug/L	20050111.R13B
Arsenic	1	<1	ug/L	20050111.R13B
Barium	1	13	ug/L	20050111.R13B
Beryllium	1	<1	ug/L	20050111.R13B
Bismuth	1	<1	ug/L	20050111.R13B
Boron	2	4.3	ug/L	20050111.R13B
Cadmium	0.1	<0.1	ug/L	20050111.R13B
Calcium	50	3300	ug/L	20050111.R13B
Cerium	1	<1	ug/L	20050111.R13B
Cesium	1	<1	ug/L	20050111.R13B
Chromium	1	<1	ug/L	20050111.R13B
Cobalt	0.1	0.27	ug/L	20050111.R13B
Copper	1	3.3	ug/L	20050111.R13B
Europium	1	<1	ug/L	20050111.R13B
Gallium	1	<1	ug/L	20050111.R13B
Iron	20	<20	ug/L	20050111.R13B
Lanthanum	1	<1	ug/L	20050111.R13B
Lead	1	<1	ug/L	20050111.R13B
Lithium	5	<5	ug/L	20050111.R13B
Magnesium	4	664	ug/L	20050111.R13B
Manganese	1	4	ug/L	20050111.R13B
Mercury	0.1	<0.1	ug/L	20050111.R13B
Molybdenum	1	<1	ug/L	20050111.R13B
Nickel	1	9.2	ug/L	20050111.R13B
Niobium	1	<1	ug/L	20050111.R13B
Phosphorus	50	<50	ug/L	20050111.R13B
Rubidium	1	1.1	ug/L	20050111.R13B
Scandium	1	2	ug/L	20050111.R13B
Selenium	1	<1	ug/L	20050111.R13B
Silver	0.1	<0.1	ug/L	20050111.R13B
Strontium	1	13	ug/L	20050111.R13B
Thallium	0.1	<0.1	ug/L	20050111.R13B
Thorium	1	<1	ug/L	20050111.R13B
Tin	1	<1	ug/L	20050111.R13B
Titanium	1	1.4	ug/L	20050111.R13B
Tungsten	1	<1	ug/L	20050111.R13B
Uranium	1	<1	ug/L	20050111.R13B
Vanadium	1	<1	ug/L	20050111.R13B
Yttrium	1	<1	ug/L	20050111.R13B
Zinc	1	15	ug/L	20050111.R13B
Zirconium	1	<1	ug/L	20050111.R13B

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Work Order: 14802

Sample Name: UM SW-3A

Date: 1/10/2005

Matrix: Water

Lab #: 59465

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.97	pH	20050111.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	48	mg/L	20050112.R27A

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.23	mg/L	20050118.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.017	mg/L	20050117.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050112.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.23	NTU	20050111.turb

Sample Name: UM SW-4

Date: 1/10/2005

Matrix: Water

Lab #: 59466

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	<1	mg/L	20050112.R1A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0065	mg/L	20050112.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.28	mg/L	20050112.R5A
Fluoride	0.01	0.031	mg/L	20050112.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050112.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050112.R5A
Sulfate	0.2	8.1	mg/L	20050112.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	5	TCU	20050111.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	27.97	µS/cm	20050111.R12A

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Work Order: 14802

Sample Name: UM SW-4

Date: 1/10/2005

Matrix: Water

Lab #: 59466

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	3.3	mg/L	20050111.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	3.4	mg/L	20050111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	431	ug/L	20050111.R13E
Antimony	1	<1	ug/L	20050111.R13B
Arsenic	1	<1	ug/L	20050111.R13B
Barium	1	18	ug/L	20050111.R13B
Beryllium	1	<1	ug/L	20050111.R13B
Bismuth	1	<1	ug/L	20050111.R13B
Boron	2	2.4	ug/L	20050111.R13B
Cadmium	0.1	0.18	ug/L	20050111.R13B
Calcium	50	760	ug/L	20050111.R13B
Cerium	1	<1	ug/L	20050111.R13B
Cesium	1	<1	ug/L	20050111.R13B
Chromium	1	<1	ug/L	20050111.R13B
Cobalt	0.1	10.9	ug/L	20050111.R13B
Copper	1	<1	ug/L	20050111.R13B
Europium	1	<1	ug/L	20050111.R13B
Gallium	1	<1	ug/L	20050111.R13B
Iron	20	<20	ug/L	20050111.R13B
Lanthanum	1	<1	ug/L	20050111.R13B
Lead	1	<1	ug/L	20050111.R13B
Lithium	5	<5	ug/L	20050111.R13B
Magnesium	4	350	ug/L	20050111.R13B
Manganese	1	140	ug/L	20050111.R13B
Mercury	0.1	<0.1	ug/L	20050111.R13B
Molybdenum	1	<1	ug/L	20050111.R13B
Nickel	1	7.4	ug/L	20050111.R13B
Niobium	1	<1	ug/L	20050111.R13B
Phosphorus	50	<50	ug/L	20050111.R13B
Rubidium	1	<1	ug/L	20050111.R13B
Scandium	1	1.7	ug/L	20050111.R13B
Selenium	1	<1	ug/L	20050111.R13B
Silver	0.1	<0.1	ug/L	20050111.R13B
Strontium	1	8.8	ug/L	20050111.R13B
Thallium	0.1	<0.1	ug/L	20050111.R13B
Thorium	1	<1	ug/L	20050111.R13B
Tin	1	<1	ug/L	20050111.R13B
Titanium	1	<1	ug/L	20050111.R13B
Tungsten	1	<1	ug/L	20050111.R13B
Uranium	1	<1	ug/L	20050111.R13B

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Work Order: 14802

Sample Name: UM SW-4

Date: 1/10/2005

Matrix: Water

Lab #: 59466

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Vanadium	1	<1	ug/L	20050111.R13B
Yttrium	1	<1	ug/L	20050111.R13B
Zinc	1	33	ug/L	20050111.R13B
Zirconium	1	<1	ug/L	20050111.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.58	pH	20050111.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050119.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.17	mg/L	20050118.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.016	mg/L	20050117.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050112.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	<0.2	NTU	20050111.turb

Sample Name: UM SW-5

Date: 1/10/2005

Matrix: Water

Lab #: 59467

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	2.5	mg/L	20050112.R1A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.045	mg/L	20050112.NH3
Ammonia (as N)	0.002	0.054	mg/L	20050112.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.52	mg/L	20050112.R5A
Chloride	0.2	0.44	mg/L	20050112.R5A
Fluoride	0.01	0.032	mg/L	20050112.R5A
Fluoride	0.01	0.032	mg/L	20050112.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050112.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050112.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050112.R5A

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Work Order: 14802

Sample Name: UM SW-5

Date: 1/10/2005

Matrix: Water

Lab #: 59467

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Nitrite (as N)	0.05	<0.05	mg/L	20050112.R5A
Sulfate	0.2	6.1	mg/L	20050112.R5A
Sulfate	0.2	5.9	mg/L	20050112.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	44	TCU	20050111.color
True Colour	4	45	TCU	20050111.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	22.8	µS/cm	20050111.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.6	mg/L	20050111.doc
Dissolved Organic Carbon	0.4	5.3	mg/L	20050111.doc

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	5.1	mg/L	20050111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	201	ug/L	20050111.R13B
Aluminum	1	215	ug/L	20050111.R13B
Antimony	1	<1	ug/L	20050111.R13B
Antimony	1	<1	ug/L	20050111.R13B
Arsenic	1	<1	ug/L	20050111.R13B
Arsenic	1	<1	ug/L	20050111.R13B
Barium	1	16	ug/L	20050111.R13B
Barium	1	17	ug/L	20050111.R13B
Beryllium	1	<1	ug/L	20050111.R13B
Beryllium	1	<1	ug/L	20050111.R13B
Bismuth	1	<1	ug/L	20050111.R13B
Bismuth	1	<1	ug/L	20050111.R13B
Boron	2	2.1	ug/L	20050111.R13B
Boron	2	2.3	ug/L	20050111.R13B
Cadmium	0.1	0.14	ug/L	20050111.R13B
Cadmium	0.1	0.1	ug/L	20050111.R13B
Calcium	50	1200	ug/L	20050111.R13B
Calcium	50	1300	ug/L	20050111.R13B
Cerium	1	<1	ug/L	20050111.R13B
Cerium	1	<1	ug/L	20050111.R13B
Cesium	1	<1	ug/L	20050111.R13B
Cesium	1	<1	ug/L	20050111.R13B
Chromium	1	<1	ug/L	20050111.R13B
Chromium	1	<1	ug/L	20050111.R13B

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Work Order: 14802

Sample Name: UM SW-5

Date: 1/10/2005

Matrix: Water

Lab #: 59467

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cobalt	0.1	3.9	ug/L	20050111.R13B
Cobalt	0.1	4	ug/L	20050111.R13B
Copper	1	<1	ug/L	20050111.R13B
Copper	1	<1	ug/L	20050111.R13B
Europium	1	<1	ug/L	20050111.R13B
Europium	1	<1	ug/L	20050111.R13B
Gallium	1	<1	ug/L	20050111.R13B
Gallium	1	<1	ug/L	20050111.R13B
Iron	20	270	ug/L	20050111.R13B
Iron	20	260	ug/L	20050111.R13B
Lanthanum	1	<1	ug/L	20050111.R13B
Lanthanum	1	<1	ug/L	20050111.R13B
Lead	1	<1	ug/L	20050111.R13B
Lead	1	<1	ug/L	20050111.R13B
Lithium	5	<5	ug/L	20050111.R13B
Lithium	5	<5	ug/L	20050111.R13B
Magnesium	4	435	ug/L	20050111.R13B
Magnesium	4	447	ug/L	20050111.R13B
Manganese	1	112	ug/L	20050111.R13B
Manganese	1	112	ug/L	20050111.R13B
Mercury	0.1	<0.1	ug/L	20050111.R13B
Mercury	0.1	<0.1	ug/L	20050111.R13B
Molybdenum	1	<1	ug/L	20050111.R13B
Molybdenum	1	<1	ug/L	20050111.R13B
Nickel	1	4.5	ug/L	20050111.R13B
Nickel	1	5.4	ug/L	20050111.R13B
Niobium	1	<1	ug/L	20050111.R13B
Niobium	1	<1	ug/L	20050111.R13B
Phosphorus	50	<50	ug/L	20050111.R13B
Phosphorus	50	<50	ug/L	20050111.R13B
Rubidium	1	1.3	ug/L	20050111.R13B
Rubidium	1	1.3	ug/L	20050111.R13B
Scandium	1	1.3	ug/L	20050111.R13B
Scandium	1	1.1	ug/L	20050111.R13B
Selenium	1	<1	ug/L	20050111.R13B
Selenium	1	<1	ug/L	20050111.R13B
Silver	0.1	<0.1	ug/L	20050111.R13B
Silver	0.1	<0.1	ug/L	20050111.R13B
Strontium	1	12	ug/L	20050111.R13B
Strontium	1	12	ug/L	20050111.R13B
Thallium	0.1	<0.1	ug/L	20050111.R13B
Thallium	0.1	<0.1	ug/L	20050111.R13B
Thorium	1	<1	ug/L	20050111.R13B
Thorium	1	<1	ug/L	20050111.R13B
Tin	1	<1	ug/L	20050111.R13B

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Work Order: 14802

Sample Name: UM SW-5

Date: 1/10/2005

Matrix: Water

Lab #: 59467

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Tin	1	<1	ug/L	20050111.R13B
Titanium	1	2	ug/L	20050111.R13B
Titanium	1	1.9	ug/L	20050111.R13B
Tungsten	1	<1	ug/L	20050111.R13B
Tungsten	1	<1	ug/L	20050111.R13B
Uranium	1	<1	ug/L	20050111.R13B
Uranium	1	<1	ug/L	20050111.R13B
Vanadium	1	<1	ug/L	20050111.R13B
Vanadium	1	<1	ug/L	20050111.R13B
Yttrium	1	<1	ug/L	20050111.R13B
Yttrium	1	<1	ug/L	20050111.R13B
Zinc	1	22	ug/L	20050111.R13B
Zinc	1	22	ug/L	20050111.R13B
Zirconium	1	<1	ug/L	20050111.R13B
Zirconium	1	<1	ug/L	20050111.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.3	pH	20050111.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	34	mg/L	20050119.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.41	mg/L	20050118.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20050117.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050112.tss
Total Suspended Solids	6	<6	mg/L	20050112.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.48	NTU	20050111.turb
Turbidity	0.2	0.5	NTU	20050111.turb

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Ursa Major Minerals Inc.

Work Order: 14802

MDL *Method detection limit or minimum reporting limit.*
% Rec *Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.*
QAQCID *This is a unique reference to the quality control data set used to generate the reported value.*
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix *if the matrix is a leachate, the sample was extracted according to regulation 558.*
INT *Interferences*
TNTC *To numerous to count*
ND *Not detected*

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Work Order: 14802

Quality Control Data:

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.474	0.4	20050112.NH3

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.005	0.0044	<0.002	20050112.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.7	8	20050112.R5A
Chloride	0.2	mg/L	12	9.5	8	20050112.R5A
Fluoride	0.01	mg/L	12	10.2	8	20050112.R5A
Nitrate (as N)	0.1	mg/L	12	10.7	8	20050112.R5A
Nitrite (as N)	0.05	mg/L	12	9.77	8	20050112.R5A
Phosphate	0.3	mg/L	12	10	8	20050112.R5A
Sulfate	0.2	mg/L	12	9.4	8	20050112.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050112.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050112.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050112.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050112.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050112.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050112.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050112.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	80	70	60	20050111.color

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20050111.color

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	101.9	96	20050111.R12A

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CONDWATER

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050111.R12A

DOC Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	12	10	8	20050111.doc

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20050111.doc

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	470	400	20050111.R13B
Arsenic	1	ug/L	120	107	80	20050111.R13B
Barium	1	ug/L	120	109	80	20050111.R13B
Beryllium	1	ug/L	125	104	75	20050111.R13B
Boron	2	ug/L	125	100	75	20050111.R13B
Cadmium	1	ug/L	120	109	80	20050111.R13B
Calcium	50	ug/L	1200	830	800	20050111.R13B
Chromium	1	ug/L	120	103	80	20050111.R13B
Cobalt	1	ug/L	120	110	80	20050111.R13B
Copper	1	ug/L	120	105	80	20050111.R13B
Iron	20	ug/L	600	520	400	20050111.R13B
Lead	1	ug/L	120	110	80	20050111.R13B
Magnesium	4	ug/L	1200	936	800	20050111.R13B
Manganese	1	ug/L	120	104	80	20050111.R13B
Molybdenum	1	ug/L	120	110	80	20050111.R13B
Nickel	1	ug/L	120	105	80	20050111.R13B
Selenium	1	ug/L	120	113	80	20050111.R13B
Thallium	1	ug/L	120	110	80	20050111.R13B
Vanadium	1	ug/L	120	101	80	20050111.R13B
Zinc	1	ug/L	120	108	80	20050111.R13B

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	99	80	20050111.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050111.R13B
Antimony	1	ug/L	5	<1	<1	20050111.R13B
Arsenic	1	ug/L	5	<1	<1	20050111.R13B
Barium	1	ug/L	5	<1	<1	20050111.R13B

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ICPMS Water

Blank	MDL	Units	UCL	Result	LCL	QAQCID
Beryllium	1	ug/L	5	<1	<1	20050111.R13B
Bismuth	1	ug/L	5	<1	<1	20050111.R13B
Boron	2	ug/L	5	<2	<2	20050111.R13B
Cadmium	1	ug/L	5	<1	<1	20050111.R13B
Calcium	50	ug/L	<50	<50	<50	20050111.R13B
Cerium	1	ug/L	5	<1	<1	20050111.R13B
Cesium	1	ug/L	5	<1	<1	20050111.R13B
Chromium	1	ug/L	5	<1	<1	20050111.R13B
Cobalt	1	ug/L	5	<1	<1	20050111.R13B
Copper	1	ug/L	5	<1	<1	20050111.R13B
Europium	1	ug/L	5	<1	<1	20050111.R13B
Gallium	1	ug/L	5	<1	<1	20050111.R13B
Iron	20	ug/L	<20	<20	<20	20050111.R13B
Lanthanum	1	ug/L	5	<1	<1	20050111.R13B
Lead	1	ug/L	5	<1	<1	20050111.R13B
Lithium	1	ug/L	5	<1	<1	20050111.R13B
Magnesium	4	ug/L	20	<4	<4	20050111.R13B
Manganese	1	ug/L	5	<1	<1	20050111.R13B
Mercury	1	ug/L	5	<1	<1	20050111.R13B
Molybdenum	1	ug/L	5	<1	<1	20050111.R13B
Nickel	1	ug/L	5	<1	<1	20050111.R13B
Niobium	1	ug/L	5	<1	<1	20050111.R13B
Phosphorus	20	ug/L	<20	<20	<20	20050111.R13B
Rubidium	1	ug/L	5	<1	<1	20050111.R13B
Scandium	1	ug/L	5	<1	<1	20050111.R13B
Selenium	1	ug/L	5	<1	<1	20050111.R13B
Silver	5	ug/L	5	<5	<5	20050111.R13B
Strontium	1	ug/L	5	<1	<1	20050111.R13B
Thallium	1	ug/L	5	<1	<1	20050111.R13B
Thorium	1	ug/L	5	<1	<1	20050111.R13B
Tin	1	ug/L	5	<1	<1	20050111.R13B
Titanium	1	ug/L	5	<1	<1	20050111.R13B
Tungsten	1	ug/L	5	<1	<1	20050111.R13B
Uranium	1	ug/L	5	<1	<1	20050111.R13B
Vanadium	1	ug/L	5	<1	<1	20050111.R13B
Yttrium	1	ug/L	5	<1	<1	20050111.R13B
Zinc	1	ug/L	5	<1	<1	20050111.R13B
Zirconium	1	ug/L	5	<1	<1	20050111.R13B

pHWATER

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.014	6.9	20050111.R2A

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TDS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20050112.R27A
control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20050119.tds

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.07	0.06	<0.05	20050118.TKN

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	0.99	0.8	20050118.TKN

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.049	0.04	20050117.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20050117.TP

TSS

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20050112.tss

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.85	0.82	0.75	20050111.turb

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050111.turb

UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on Feb. 11, 2004

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L
UM Sw-1	02/11/2005 14:35	-1	0	6
UM Sw-2	02/11/2005 15:00	-1	0	9
UM Sw-3	02/11/2005 15:15	-1	0	8
UM Sw-3a	02/11/2005 14:05	-1	1	7
UM Sw-4	02/11/2005 15:40	-2	0	12
UM Sw-5	02/11/2005 15:55	-2	0	9

Station #	Record of Samples	Comments
UM Sw-1	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	moderate flow, clear water
UM Sw-2	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	moderate flow, clear water
UM Sw-3	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	moderate flow, clear water
UM Sw-3a	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	moderate flow, clear water
UM Sw-4	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	moderate flow, clear water
UM Sw-5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	te flow, clear water



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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	15326
Company:	Ursa Major Minerals Inc.	Date Order Received:	2/14/2005
Address:	8 King Street East, Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca		

Analyses were performed on the following samples submitted with your order.
The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	60890	Water		2/11/2005	14:35
UM SW-2	60891	Water		2/11/2005	15:00
UM SW-3	60892	Water		2/11/2005	15:15
UM SW-3A	60893	Water		2/11/2005	14:05
UM SW-4	60894	Water		2/11/2005	15:40
UM SW-5	60895	Water		2/11/2005	15:55

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Ursa Major Minerals Inc.

Work Order: 15326

The following Instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ALKA	Determination of Alkalinity Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-2320
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod., APHA-2130

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Work Order: 15326

This report has been approved by:

Dr. Xiaojing Li
Interim Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head

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Ursa Major Minerals Inc.

Work Order: 15326

Sample Data:

Sample Name: UM SW-1

Date: 2/11/2005

Matrix: Water

Lab #: 60890

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	2.5	mg/L	20050214.alk

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.06	mg/L	20050217.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.33	mg/L	20050216.R5A
Chloride	0.2	0.31	mg/L	20050216.R5A
Fluoride	0.01	0.052	mg/L	20050216.R5A
Fluoride	0.01	0.048	mg/L	20050216.R5A
Nitrate (as N)	0.1	0.1	mg/L	20050216.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050216.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050216.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050216.R5A
Sulfate	0.2	6.8	mg/L	20050216.R5A
Sulfate	0.2	7.2	mg/L	20050216.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	9	TCU	20050214.color
True Colour	4	7	TCU	20050214.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25.88	µS/cm	20050214.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.7	mg/L	20050216.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	3.7	mg/L	20050216.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	283	ug/L	20050216.R13D
Antimony	1	<1	ug/L	20050216.R13D
Arsenic	1	<1	ug/L	20050216.R13D
Barium	1	19	ug/L	20050216.R13D
Beryllium	1	<1	ug/L	20050216.R13D
Bismuth	1	<1	ug/L	20050216.R13D
Boron	2	3.8	ug/L	20050216.R13D
Cadmium	0.1	0.17	ug/L	20050216.R13D
Calcium	50	960	ug/L	20050216.R13D

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Work Order: 15326

Sample Name: UM SW-1

Date: 2/11/2005

Matrix: Water

Lab #: 60890

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cerium	1	<1	ug/L	20050216.R13D
Cesium	1	<1	ug/L	20050216.R13D
Chromium	1	1.6	ug/L	20050216.R13D
Cobalt	0.1	12.4	ug/L	20050216.R13D
Copper	1	<1	ug/L	20050216.R13D
Europium	1	<1	ug/L	20050216.R13D
Gallium	1	<1	ug/L	20050216.R13D
Iron	20	26	ug/L	20050216.R13D
Lanthanum	1	<1	ug/L	20050216.R13D
Lead	1	<1	ug/L	20050216.R13D
Lithium	5	<5	ug/L	20050216.R13D
Magnesium	4	320	ug/L	20050216.R13D
Manganese	1	226	ug/L	20050216.R13D
Mercury	0.1	<0.1	ug/L	20050216.R13D
Molybdenum	1	<1	ug/L	20050216.R13D
Nickel	1	5.1	ug/L	20050216.R13D
Niobium	1	<1	ug/L	20050216.R13D
Phosphorus	50	<50	ug/L	20050216.R13D
Rubidium	1	1.2	ug/L	20050216.R13D
Scandium	1	<1	ug/L	20050216.R13D
Selenium	1	<1	ug/L	20050216.R13D
Silver	0.1	<0.1	ug/L	20050216.R13D
Strontium	1	7.7	ug/L	20050216.R13D
Thallium	0.1	<0.1	ug/L	20050216.R13D
Thorium	1	<1	ug/L	20050216.R13D
Tin	1	<1	ug/L	20050216.R13D
Titanium	1	<1	ug/L	20050216.R13D
Tungsten	1	<1	ug/L	20050216.R13D
Uranium	1	<1	ug/L	20050216.R13D
Vanadium	1	<1	ug/L	20050216.R13D
Yttrium	1	<1	ug/L	20050216.R13D
Zinc	1	22	ug/L	20050216.R13D
Zirconium	1	<1	ug/L	20050216.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.86	pH	20050214.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050216.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.25	mg/L	20050218.TKN

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Work Order: 15326

Sample Name: UM SW-1

Date: 2/11/2005

Matrix: Water

Lab #: 60890

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.014	mg/L	20050216.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050216.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.22	NTU	20050214.turb

Sample Name: UM SW-2

Date: 2/11/2005

Matrix: Water

Lab #: 60891

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	3.8	mg/L	20050214.alk

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.063	mg/L	20050217.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.3	mg/L	20050216.R5A
Fluoride	0.01	0.029	mg/L	20050216.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050216.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050216.R5A
Sulfate	0.2	7.1	mg/L	20050216.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	13	TCU	20050214.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.49	µS/cm	20050214.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.9	mg/L	20050216.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	5.4	mg/L	20050216.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	291	ug/L	20050216.R13D
Antimony	1	<1	ug/L	20050216.R13D
Arsenic	1	<1	ug/L	20050216.R13D
Barium	1	14	ug/L	20050216.R13D

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Work Order: 15326

Sample Name: UM SW-2

Date: 2/11/2005

Matrix: Water

Lab #: 60891

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Beryllium	1	<1	ug/L	20050216.R13D
Bismuth	1	<1	ug/L	20050216.R13D
Boron	2	3.9	ug/L	20050216.R13D
Cadmium	0.1	0.12	ug/L	20050216.R13D
Calcium	50	1500	ug/L	20050216.R13D
Cerium	1	<1	ug/L	20050216.R13D
Cesium	1	<1	ug/L	20050216.R13D
Chromium	1	1.1	ug/L	20050216.R13D
Cobalt	0.1	4.3	ug/L	20050216.R13D
Copper	1	<1	ug/L	20050216.R13D
Europium	1	<1	ug/L	20050216.R13D
Gallium	1	<1	ug/L	20050216.R13D
Iron	20	<20	ug/L	20050216.R13D
Lanthanum	1	<1	ug/L	20050216.R13D
Lead	1	<1	ug/L	20050216.R13D
Lithium	5	<5	ug/L	20050216.R13D
Magnesium	4	401	ug/L	20050216.R13D
Manganese	1	54	ug/L	20050216.R13D
Mercury	0.1	<0.1	ug/L	20050216.R13D
Molybdenum	1	<1	ug/L	20050216.R13D
Nickel	1	4.6	ug/L	20050216.R13D
Niobium	1	<1	ug/L	20050216.R13D
Phosphorus	50	<50	ug/L	20050216.R13D
Rubidium	1	<1	ug/L	20050216.R13D
Scandium	1	<1	ug/L	20050216.R13D
Selenium	1	<1	ug/L	20050216.R13D
Silver	0.1	<0.1	ug/L	20050216.R13D
Strontium	1	9.2	ug/L	20050216.R13D
Thallium	0.1	<0.1	ug/L	20050216.R13D
Thorium	1	<1	ug/L	20050216.R13D
Tin	1	<1	ug/L	20050216.R13D
Titanium	1	<1	ug/L	20050216.R13D
Tungsten	1	<1	ug/L	20050216.R13D
Uranium	1	<1	ug/L	20050216.R13D
Vanadium	1	<1	ug/L	20050216.R13D
Yttrium	1	<1	ug/L	20050216.R13D
Zinc	1	19	ug/L	20050216.R13D
Zirconium	1	<1	ug/L	20050216.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.92	pH	20050214.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050216.TDS

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Work Order: 15326

Sample Name: UM SW-2

Date: 2/11/2005

Matrix: Water

Lab #: 60891

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.25	mg/L	20050218.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.014	mg/L	20050216.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050216.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.58	NTU	20050214.turb

Sample Name: UM SW-3

Date: 2/11/2005

Matrix: Water

Lab #: 60892

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	7.5	mg/L	20050214.alk

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.1	mg/L	20050217.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.45	mg/L	20050216.R5A
Fluoride	0.01	0.012	mg/L	20050216.R5A
Nitrate (as N)	0.1	0.11	mg/L	20050216.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050216.R5A
Sulfate	0.2	7.5	mg/L	20050216.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	22	TCU	20050214.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	38.63	µS/cm	20050214.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.2	mg/L	20050216.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	12.1	mg/L	20050216.R90D

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Work Order: 15326

Sample Name: UM SW-3

Date: 2/11/2005

Matrix: Water

Lab #: 60892

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	102	ug/L	20050216.R13D
Antimony	1	<1	ug/L	20050216.R13D
Arsenic	1	<1	ug/L	20050216.R13D
Barium	1	11	ug/L	20050216.R13D
Beryllium	1	<1	ug/L	20050216.R13D
Bismuth	1	<1	ug/L	20050216.R13D
Boron	2	5.1	ug/L	20050216.R13D
Cadmium	0.1	<0.1	ug/L	20050216.R13D
Calcium	50	3400	ug/L	20050216.R13D
Cerium	1	<1	ug/L	20050216.R13D
Cesium	1	<1	ug/L	20050216.R13D
Chromium	1	1.3	ug/L	20050216.R13D
Cobalt	0.1	0.54	ug/L	20050216.R13D
Copper	1	3.8	ug/L	20050216.R13D
Europium	1	<1	ug/L	20050216.R13D
Gallium	1	<1	ug/L	20050216.R13D
Iron	20	29	ug/L	20050216.R13D
Lanthanum	1	<1	ug/L	20050216.R13D
Lead	1	<1	ug/L	20050216.R13D
Lithium	5	<5	ug/L	20050216.R13D
Magnesium	4	903	ug/L	20050216.R13D
Manganese	1	23	ug/L	20050216.R13D
Mercury	0.1	<0.1	ug/L	20050216.R13D
Molybdenum	1	<1	ug/L	20050216.R13D
Nickel	1	8.1	ug/L	20050216.R13D
Niobium	1	<1	ug/L	20050216.R13D
Phosphorus	50	<50	ug/L	20050216.R13D
Rubidium	1	<1	ug/L	20050216.R13D
Scandium	1	1	ug/L	20050216.R13D
Selenium	1	<1	ug/L	20050216.R13D
Silver	0.1	<0.1	ug/L	20050216.R13D
Strontium	1	15	ug/L	20050216.R13D
Thallium	0.1	<0.1	ug/L	20050216.R13D
Thorium	1	<1	ug/L	20050216.R13D
Tin	1	<1	ug/L	20050216.R13D
Titanium	1	2.4	ug/L	20050216.R13D
Tungsten	1	<1	ug/L	20050216.R13D
Uranium	1	<1	ug/L	20050216.R13D
Vanadium	1	<1	ug/L	20050216.R13D
Yttrium	1	<1	ug/L	20050216.R13D
Zinc	1	15	ug/L	20050216.R13D
Zirconium	1	<1	ug/L	20050216.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.29	pH	20050214.R2A

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Work Order: 15326

Sample Name: UM SW-3

Date: 2/11/2005

Matrix: Water

Lab #: 60892

pHWATER				
Parameter	MDL	Result	Units	QAQCID

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	30	mg/L	20050216.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.28	mg/L	20050218.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20050216.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050216.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.71	NTU	20050214.turb

Sample Name: UM SW-3A

Date: 2/11/2005

Matrix: Water

Lab #: 60893

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	7.5	mg/L	20050214.alk

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.059	mg/L	20050217.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.58	mg/L	20050216.R5A
Fluoride	0.01	0.027	mg/L	20050216.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050216.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050216.R5A
Sulfate	0.2	6.3	mg/L	20050216.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	20	TCU	20050214.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	33.23	µS/cm	20050214.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.4	mg/L	20050216.DOC

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Work Order: 15326

Sample Name: UM SW-3A

Date: 2/11/2005

Matrix: Water

Lab #: 60893

Hardness	MDL	Result	Units	QAQCID
Parameter				
Total Hardness (as CaCO ₃)	0.1	11.5	mg/L	20050216.R90D

ICPMS Water	MDL	Result	Units	QAQCID
Parameter				
Aluminum	1	144	ug/L	20050216.R13D
Antimony	1	<1	ug/L	20050216.R13D
Arsenic	1	<1	ug/L	20050216.R13D
Barium	1	12	ug/L	20050216.R13D
Beryllium	1	<1	ug/L	20050216.R13D
Bismuth	1	<1	ug/L	20050216.R13D
Boron	2	<2	ug/L	20050216.R13D
Cadmium	0.1	<0.1	ug/L	20050216.R13D
Calcium	50	3400	ug/L	20050216.R13D
Cerium	1	<1	ug/L	20050216.R13D
Cesium	1	<1	ug/L	20050216.R13D
Chromium	1	1.3	ug/L	20050216.R13D
Cobalt	0.1	0.24	ug/L	20050216.R13D
Copper	1	3	ug/L	20050216.R13D
Europium	1	<1	ug/L	20050216.R13D
Gallium	1	<1	ug/L	20050216.R13D
Iron	20	<20	ug/L	20050216.R13D
Lanthanum	1	<1	ug/L	20050216.R13D
Lead	1	<1	ug/L	20050216.R13D
Lithium	5	<5	ug/L	20050216.R13D
Magnesium	4	727	ug/L	20050216.R13D
Manganese	1	2.4	ug/L	20050216.R13D
Mercury	0.1	<0.1	ug/L	20050216.R13D
Molybdenum	1	<1	ug/L	20050216.R13D
Nickel	1	8.8	ug/L	20050216.R13D
Niobium	1	<1	ug/L	20050216.R13D
Phosphorus	50	<50	ug/L	20050216.R13D
Rubidium	1	<1	ug/L	20050216.R13D
Scandium	1	1.7	ug/L	20050216.R13D
Selenium	1	<1	ug/L	20050216.R13D
Silver	0.1	<0.1	ug/L	20050216.R13D
Strontium	1	11	ug/L	20050216.R13D
Thallium	0.1	<0.1	ug/L	20050216.R13D
Thorium	1	<1	ug/L	20050216.R13D
Tin	1	<1	ug/L	20050216.R13D
Titanium	1	1	ug/L	20050216.R13D
Tungsten	1	<1	ug/L	20050216.R13D
Uranium	1	<1	ug/L	20050216.R13D
Vanadium	1	<1	ug/L	20050216.R13D
Yttrium	1	<1	ug/L	20050216.R13D
Zinc	1	9	ug/L	20050216.R13D
Zirconium	1	1.7	ug/L	20050216.R13D

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Work Order: 15326

Sample Name: UM SW-3A

Date: 2/11/2005

Matrix: Water

Lab #: 60893

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.07	pH	20050214.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	33	mg/L	20050216.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.36	mg/L	20050218.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.017	mg/L	20050216.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050216.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.28	NTU	20050214.turb

Sample Name: UM SW-4

Date: 2/11/2005

Matrix: Water

Lab #: 60894

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	2.5	mg/L	20050214.alk

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.053	mg/L	20050217.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050216.R5A
Fluoride	0.01	0.027	mg/L	20050216.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050216.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050216.R5A
Sulfate	0.2	8.1	mg/L	20050216.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	5	TCU	20050214.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	27.9	µS/cm	20050214.R12A

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Work Order: 15326

Sample Name: UM SW-4

Date: 2/11/2005

Matrix: Water

Lab #: 60894

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.1	mg/L	20050216.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	3.9	mg/L	20050216.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	453	ug/L	20050216.R13D
Antimony	1	<1	ug/L	20050216.R13D
Arsenic	1	<1	ug/L	20050216.R13D
Barium	1	17	ug/L	20050216.R13D
Beryllium	1	<1	ug/L	20050216.R13D
Bismuth	1	<1	ug/L	20050216.R13D
Boron	2	<2	ug/L	20050216.R13D
Cadmium	0.1	0.25	ug/L	20050216.R13D
Calcium	50	910	ug/L	20050216.R13D
Cerium	1	<1	ug/L	20050216.R13D
Cesium	1	<1	ug/L	20050216.R13D
Chromium	1	<1	ug/L	20050216.R13D
Cobalt	0.1	9.9	ug/L	20050216.R13D
Copper	1	<1	ug/L	20050216.R13D
Europium	1	<1	ug/L	20050216.R13D
Gallium	1	<1	ug/L	20050216.R13D
Iron	20	<20	ug/L	20050216.R13D
Lanthanum	1	<1	ug/L	20050216.R13D
Lead	1	<1	ug/L	20050216.R13D
Lithium	5	<5	ug/L	20050216.R13D
Magnesium	4	400	ug/L	20050216.R13D
Manganese	1	130	ug/L	20050216.R13D
Mercury	0.1	<0.1	ug/L	20050216.R13D
Molybdenum	1	<1	ug/L	20050216.R13D
Nickel	1	6.4	ug/L	20050216.R13D
Niobium	1	<1	ug/L	20050216.R13D
Phosphorus	50	<50	ug/L	20050216.R13D
Rubidium	1	<1	ug/L	20050216.R13D
Scandium	1	1.4	ug/L	20050216.R13D
Selenium	1	<1	ug/L	20050216.R13D
Silver	0.1	<0.1	ug/L	20050216.R13D
Strontium	1	8.5	ug/L	20050216.R13D
Thallium	0.1	<0.1	ug/L	20050216.R13D
Thorium	1	<1	ug/L	20050216.R13D
Tin	1	<1	ug/L	20050216.R13D
Titanium	1	<1	ug/L	20050216.R13D
Tungsten	1	<1	ug/L	20050216.R13D
Uranium	1	<1	ug/L	20050216.R13D

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Work Order: 15326

Sample Name: UM SW-4

Date: 2/11/2005

Matrix: Water

Lab #: 60894

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Vanadium	1	<1	ug/L	20050216.R13D
Yttrium	1	<1	ug/L	20050216.R13D
Zinc	1	26	ug/L	20050216.R13D
Zirconium	1	2.2	ug/L	20050216.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.64	pH	20050214.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050216.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.17	mg/L	20050218.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.016	mg/L	20050216.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050216.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.43	NTU	20050214.turb

Sample Name: UM SW-5

Date: 2/11/2005

Matrix: Water

Lab #: 60895

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	1	2.5	mg/L	20050214.alk

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.18	mg/L	20050217.NH3
Ammonia (as N)	0.002	0.18	mg/L	20050217.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.46	mg/L	20050216.R5A
Fluoride	0.01	0.018	mg/L	20050216.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050216.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050216.R5A
Sulfate	0.2	5.9	mg/L	20050216.R5A

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Work Order: 15326

Sample Name: UM SW-5

Date: 2/11/2005

Matrix: Water

Lab #: 60895

Colour	MDL	Result	Units	QAQCID
Parameter				
True Colour	4	40	TCU	20050214.color

CONDWATER	MDL	Result	Units	QAQCID
Parameter				
Conductivity	2	24.06	µS/cm	20050214.R12A

DOC Water	MDL	Result	Units	QAQCID
Parameter				
Dissolved Organic Carbon	0.4	6.1	mg/L	20050216.DOC
Dissolved Organic Carbon	0.4	6	mg/L	20050216.DOC

Hardness	MDL	Result	Units	QAQCID
Parameter				
Total Hardness (as CaCO ₃)	0.1	5.5	mg/L	20050216.R90D

ICPMS Water	MDL	Result	Units	QAQCID
Parameter				
Aluminum	1	175	ug/L	20050216.R13D
Aluminum	1	185	ug/L	20050216.R13D
Antimony	1	<1	ug/L	20050216.R13D
Antimony	1	<1	ug/L	20050216.R13D
Arsenic	1	<1	ug/L	20050216.R13D
Arsenic	1	<1	ug/L	20050216.R13D
Barium	1	14	ug/L	20050216.R13D
Barium	1	13	ug/L	20050216.R13D
Beryllium	1	<1	ug/L	20050216.R13D
Beryllium	1	<1	ug/L	20050216.R13D
Bismuth	1	<1	ug/L	20050216.R13D
Bismuth	1	<1	ug/L	20050216.R13D
Boron	2	<2	ug/L	20050216.R13D
Boron	2	<2	ug/L	20050216.R13D
Cadmium	0.1	<0.1	ug/L	20050216.R13D
Cadmium	0.1	<0.1	ug/L	20050216.R13D
Calcium	50	1400	ug/L	20050216.R13D
Calcium	50	1300	ug/L	20050216.R13D
Cerium	1	<1	ug/L	20050216.R13D
Cerium	1	<1	ug/L	20050216.R13D
Cesium	1	<1	ug/L	20050216.R13D
Cesium	1	<1	ug/L	20050216.R13D
Chromium	1	<1	ug/L	20050216.R13D
Chromium	1	<1	ug/L	20050216.R13D
Cobalt	0.1	3.2	ug/L	20050216.R13D
Cobalt	0.1	3.3	ug/L	20050216.R13D
Copper	1	<1	ug/L	20050216.R13D
Copper	1	<1	ug/L	20050216.R13D
Europium	1	<1	ug/L	20050216.R13D
Europium	1	<1	ug/L	20050216.R13D

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Work Order: 15326

Sample Name: UM SW-5

Date: 2/11/2005

Matrix: Water

Lab #: 60895

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Gallium	1	<1	ug/L	20050216.R13D
Gallium	1	<1	ug/L	20050216.R13D
Iron	20	330	ug/L	20050216.R13D
Iron	20	330	ug/L	20050216.R13D
Lanthanum	1	<1	ug/L	20050216.R13D
Lanthanum	1	<1	ug/L	20050216.R13D
Lead	1	<1	ug/L	20050216.R13D
Lead	1	<1	ug/L	20050216.R13D
Lithium	5	<5	ug/L	20050216.R13D
Lithium	5	<5	ug/L	20050216.R13D
Magnesium	4	477	ug/L	20050216.R13D
Magnesium	4	496	ug/L	20050216.R13D
Manganese	1	83	ug/L	20050216.R13D
Manganese	1	87	ug/L	20050216.R13D
Mercury	0.1	<0.1	ug/L	20050216.R13D
Mercury	0.1	<0.1	ug/L	20050216.R13D
Molybdenum	1	<1	ug/L	20050216.R13D
Molybdenum	1	<1	ug/L	20050216.R13D
Nickel	1	4	ug/L	20050216.R13D
Nickel	1	3.8	ug/L	20050216.R13D
Niobium	1	<1	ug/L	20050216.R13D
Niobium	1	<1	ug/L	20050216.R13D
Phosphorus	50	<50	ug/L	20050216.R13D
Phosphorus	50	<50	ug/L	20050216.R13D
Rubidium	1	1.6	ug/L	20050216.R13D
Rubidium	1	1.5	ug/L	20050216.R13D
Scandium	1	1.3	ug/L	20050216.R13D
Scandium	1	1.2	ug/L	20050216.R13D
Selenium	1	<1	ug/L	20050216.R13D
Selenium	1	<1	ug/L	20050216.R13D
Silver	0.1	<0.1	ug/L	20050216.R13D
Silver	0.1	<0.1	ug/L	20050216.R13D
Strontium	1	10	ug/L	20050216.R13D
Strontium	1	11	ug/L	20050216.R13D
Thallium	0.1	<0.1	ug/L	20050216.R13D
Thallium	0.1	<0.1	ug/L	20050216.R13D
Thorium	1	<1	ug/L	20050216.R13D
Thorium	1	<1	ug/L	20050216.R13D
Tin	1	<1	ug/L	20050216.R13D
Tin	1	<1	ug/L	20050216.R13D
Titanium	1	1.3	ug/L	20050216.R13D
Titanium	1	1.1	ug/L	20050216.R13D
Tungsten	1	<1	ug/L	20050216.R13D
Tungsten	1	<1	ug/L	20050216.R13D
Uranium	1	<1	ug/L	20050216.R13D

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Ursa Major Minerals Inc.

Work Order: 15326

Sample Name: UM SW-5

Date: 2/11/2005

Matrix: Water

Lab #: 60895

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Uranium	1	<1	ug/L	20050218.R13D
Vanadium	1	<1	ug/L	20050218.R13D
Vanadium	1	<1	ug/L	20050218.R13D
Yttrium	1	<1	ug/L	20050218.R13D
Yttrium	1	<1	ug/L	20050218.R13D
Zinc	1	7.4	ug/L	20050218.R13D
Zinc	1	8.2	ug/L	20050218.R13D
Zirconium	1	1.1	ug/L	20050218.R13D
Zirconium	1	1.2	ug/L	20050218.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.59	pH	20050214.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050216.TDS
Total Dissolved Solids	30	<30	mg/L	20050216.TDS

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.46	mg/L	20050218.TKN
Total Kjeldahl Nitrogen	0.05	0.44	mg/L	20050218.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.019	mg/L	20050216.tp
Total Phosphorus (as P)	0.002	0.019	mg/L	20050216.tp

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050216.TSS
Total Suspended Solids	6	<6	mg/L	20050216.TSS

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.8	NTU	20050214.turb
Turbidity	0.2	0.81	NTU	20050214.turb

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

A1-200

Field notes collected by Bill Dillabough on March 15, 2005.

All temp. readings in degrees celsius.

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	15/03/05 10:35	-2	0.5	4	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Standing water, no flow
UM Sw-2	15/03/05 11:00	0	1	5.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Standing water, no flow
UM Sw-3	15/03/05 11:30	0	0.5	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	moderate flow,
UM Sw-3a	15/03/05 12:45	2	1	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light flow
UM Sw-4	15/03/05 12:00	-1	0.5	11	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light flow
UM Sw-5	15/03/05 12:15	1	1	11	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light flow

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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	15807
Company:	Ursa Major Minerals Inc.	Date Order Received:	3/16/2005
Address:	8 King Street East, Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca; dduff@knightpiesold.com		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UMSW-1	62433	Water		3/15/2005	10:35
UMSW-2	62434	Water		3/15/2005	11:00
UMSW-3	62435	Water		3/15/2005	11:30
UMSW-4	62436	Water		3/15/2005	12:00
UMSW-5	62437	Water		3/15/2005	12:15
UMSW-3A	62438	Water		3/15/2005	12:45

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Ursa Major Minerals Inc.

Work Order: 15807

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Ursa Major Minerals Inc.

Work Order: 15807

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head

A1-204



TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc.

Work Order: 15807

Sample Data:

Sample Name: UMSW-1

Date: 3/15/2005

Matrix: Water

Lab #: 62433

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050321.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.044	mg/L	20050317.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.53	mg/L	20050316.R5A
Fluoride	0.01	0.034	mg/L	20050316.R5A
Nitrate (as N)	0.1	0.11	mg/L	20050316.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050316.R5A
Sulfate	0.2	7.2	mg/L	20050316.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	<4	TCU	20050316.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.63	µS/cm	20050316.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.6	mg/L	20050323.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	4.1	mg/L	20050316.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	284	ug/L	20050316.R13A
Antimony	1	<1	ug/L	20050316.R13A
Arsenic	1	<1	ug/L	20050316.R13A
Barium	1	20	ug/L	20050316.R13A
Beryllium	1	<1	ug/L	20050316.R13A
Bismuth	1	<1	ug/L	20050316.R13A
Boron	2	<2	ug/L	20050316.R13A
Cadmium	0.1	0.13	ug/L	20050316.R13A
Calcium	50	1100	ug/L	20050316.R13A
Cerium	1	<1	ug/L	20050316.R13A
Cesium	1	<1	ug/L	20050316.R13A
Chromium	1	1.5	ug/L	20050316.R13A
Cobalt	0.1	17.9	ug/L	20050316.R13A
Copper	1	2.2	ug/L	20050316.R13A
Europium	1	<1	ug/L	20050316.R13A

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Ursa Major Minerals Inc.

Work Order: 15807

Sample Name: UMSW-1

Date: 3/15/2005

Matrix: Water

Lab #: 62433

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Gallium	1	<1	ug/L	20050316.R13A
Iron	20	340	ug/L	20050316.R13A
Lanthanum	1	<1	ug/L	20050316.R13A
Lead	1	<1	ug/L	20050316.R13A
Lithium	5	<5	ug/L	20050316.R13A
Magnesium	4	340	ug/L	20050316.R13A
Manganese	1	317	ug/L	20050316.R13A
Mercury	0.1	<0.1	ug/L	20050316.R13A
Molybdenum	1	<1	ug/L	20050316.R13A
Nickel	1	5.2	ug/L	20050316.R13A
Niobium	1	<1	ug/L	20050316.R13A
Phosphorus	50	<50	ug/L	20050316.R13A
Rubidium	1	1.3	ug/L	20050316.R13A
Scandium	1	<1	ug/L	20050316.R13A
Selenium	1	<1	ug/L	20050316.R13A
Silver	0.1	<0.1	ug/L	20050316.R13A
Strontium	1	8.2	ug/L	20050316.R13A
Thallium	0.1	<0.1	ug/L	20050316.R13A
Thorium	1	<1	ug/L	20050316.R13A
Tin	1	<1	ug/L	20050316.R13A
Titanium	1	<1	ug/L	20050316.R13A
Tungsten	1	<1	ug/L	20050316.R13A
Uranium	1	<1	ug/L	20050316.R13A
Vanadium	1	<1	ug/L	20050316.R13A
Yttrium	1	<1	ug/L	20050316.R13A
Zinc	1	61	ug/L	20050316.R13A
Zirconium	1	<1	ug/L	20050316.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.99	pH	20050316.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	63	mg/L	20050323.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.71	mg/L	20050318.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.025	mg/L	20050322.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	7	mg/L	20050323.R27A

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Ursa Major Minerals Inc.

Work Order: 15807

Sample Name: UMSW-1

Date: 3/15/2005

Matrix: Water

Lab #: 62433

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.2	NTU	20050316.turb

Sample Name: UMSW-2

Date: 3/15/2005

Matrix: Water

Lab #: 62434

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050321.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.02	mg/L	20050317.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.37	mg/L	20050316.R5A
Fluoride	0.01	0.023	mg/L	20050316.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050316.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050316.R5A
Sulfate	0.2	7.6	mg/L	20050316.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	4.7	TCU	20050316.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.15	µS/cm	20050316.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5	mg/L	20050323.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	5.5	mg/L	20050316.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	229	ug/L	20050316.R13A
Antimony	1	<1	ug/L	20050316.R13A
Arsenic	1	<1	ug/L	20050316.R13A
Barium	1	14	ug/L	20050316.R13A
Beryllium	1	<1	ug/L	20050316.R13A
Bismuth	1	<1	ug/L	20050316.R13A
Boron	2	<2	ug/L	20050316.R13A
Cadmium	0.1	<0.1	ug/L	20050316.R13A
Calcium	50	1500	ug/L	20050316.R13A
Cerium	1	<1	ug/L	20050316.R13A
Cesium	1	<1	ug/L	20050316.R13A

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Ursa Major Minerals Inc.

Work Order: 15807

Sample Name: UMSW-2

Date: 3/15/2005

Matrix: Water

Lab #: 62434

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Chromium	1	<1	ug/L	20050316.R13A
Cobalt	0.1	4.5	ug/L	20050316.R13A
Copper	1	1	ug/L	20050316.R13A
Europium	1	<1	ug/L	20050316.R13A
Gallium	1	<1	ug/L	20050316.R13A
Iron	20	<20	ug/L	20050316.R13A
Lanthanum	1	<1	ug/L	20050316.R13A
Lead	1	<1	ug/L	20050316.R13A
Lithium	5	<5	ug/L	20050316.R13A
Magnesium	4	413	ug/L	20050316.R13A
Manganese	1	45	ug/L	20050316.R13A
Mercury	0.1	<0.1	ug/L	20050316.R13A
Molybdenum	1	<1	ug/L	20050316.R13A
Nickel	1	4.2	ug/L	20050316.R13A
Niobium	1	<1	ug/L	20050316.R13A
Phosphorus	50	<50	ug/L	20050316.R13A
Rubidium	1	<1	ug/L	20050316.R13A
Scandium	1	<1	ug/L	20050316.R13A
Selenium	1	<1	ug/L	20050316.R13A
Silver	0.1	<0.1	ug/L	20050316.R13A
Strontium	1	8.6	ug/L	20050316.R13A
Thallium	0.1	<0.1	ug/L	20050316.R13A
Thorium	1	<1	ug/L	20050316.R13A
Tin	1	<1	ug/L	20050316.R13A
Titanium	1	<1	ug/L	20050316.R13A
Tungsten	1	<1	ug/L	20050316.R13A
Uranium	1	<1	ug/L	20050316.R13A
Vanadium	1	<1	ug/L	20050316.R13A
Yttrium	1	<1	ug/L	20050316.R13A
Zinc	1	21	ug/L	20050316.R13A
Zirconium	1	1.5	ug/L	20050316.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.04	pH	20050316.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	54	mg/L	20050323.R27B
Total Dissolved Solids	30	52	mg/L	20050323.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.38	mg/L	20050318.R58A

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Work Order: 15807

Sample Name: UMSW-2

Date: 3/15/2005

Matrix: Water

Lab #: 62434

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.023	mg/L	20050322.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050323.R27A
Total Suspended Solids	6	<6	mg/L	20050323.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.1	NTU	20050316.turb

Sample Name: UMSW-3

Date: 3/15/2005

Matrix: Water

Lab #: 62435

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	11	mg/L	20050321.R89A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.11	mg/L	20050317.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.51	mg/L	20050316.R5A
Fluoride	0.01	0.023	mg/L	20050316.R5A
Nitrate (as N)	0.1	0.14	mg/L	20050316.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050316.R5A
Sulfate	0.2	7.4	mg/L	20050316.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	18	TCU	20050316.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	45	µS/cm	20050316.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.7	mg/L	20050323.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	15	mg/L	20050316.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	111	ug/L	20050316.R13A
Antimony	1	<1	ug/L	20050316.R13A
Arsenic	1	<1	ug/L	20050316.R13A

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Ursa Major Minerals Inc.

Work Order: 15807

Sample Name: UMSW-3

Date: 3/15/2005

Matrix: Water

Lab #: 62435

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Barium	1	14	ug/L	20050316.R13A
Beryllium	1	<1	ug/L	20050316.R13A
Bismuth	1	<1	ug/L	20050316.R13A
Boron	2	<2	ug/L	20050316.R13A
Cadmium	0.1	<0.1	ug/L	20050316.R13A
Calcium	50	4200	ug/L	20050316.R13A
Cerium	1	<1	ug/L	20050316.R13A
Cesium	1	<1	ug/L	20050316.R13A
Chromium	1	<1	ug/L	20050316.R13A
Cobalt	0.1	0.98	ug/L	20050316.R13A
Copper	1	3	ug/L	20050316.R13A
Europium	1	<1	ug/L	20050316.R13A
Gallium	1	<1	ug/L	20050316.R13A
Iron	20	120	ug/L	20050316.R13A
Lanthanum	1	<1	ug/L	20050316.R13A
Lead	1	<1	ug/L	20050316.R13A
Lithium	5	<5	ug/L	20050316.R13A
Magnesium	4	1120	ug/L	20050316.R13A
Manganese	1	50	ug/L	20050316.R13A
Mercury	0.1	<0.1	ug/L	20050316.R13A
Molybdenum	1	<1	ug/L	20050316.R13A
Nickel	1	8.1	ug/L	20050316.R13A
Niobium	1	<1	ug/L	20050316.R13A
Phosphorus	50	<50	ug/L	20050316.R13A
Rubidium	1	1	ug/L	20050316.R13A
Scandium	1	1.4	ug/L	20050316.R13A
Selenium	1	<1	ug/L	20050316.R13A
Silver	0.1	<0.1	ug/L	20050316.R13A
Strontium	1	16	ug/L	20050316.R13A
Thallium	0.1	<0.1	ug/L	20050316.R13A
Thorium	1	<1	ug/L	20050316.R13A
Tin	1	<1	ug/L	20050316.R13A
Titanium	1	2.6	ug/L	20050316.R13A
Tungsten	1	<1	ug/L	20050316.R13A
Uranium	1	<1	ug/L	20050316.R13A
Vanadium	1	<1	ug/L	20050316.R13A
Yttrium	1	<1	ug/L	20050316.R13A
Zinc	1	15	ug/L	20050316.R13A
Zirconium	1	<1	ug/L	20050316.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.45	pH	20050316.pH

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Work Order: 15807

Sample Name: UMSW-3

Date: 3/15/2005

Matrix: Water

Lab #: 62435

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	67	mg/L	20050323.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.23	mg/L	20050318.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.028	mg/L	20050322.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050323.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	2.2	NTU	20050316.turb

Sample Name: UMSW-4

Date: 3/15/2005

Matrix: Water

Lab #: 62436

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050321.R69A
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050321.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.049	mg/L	20050317.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.26	mg/L	20050316.R5A
Fluoride	0.01	0.05	mg/L	20050316.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050316.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050316.R5A
Sulfate	0.2	8.9	mg/L	20050316.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	<4	TCU	20050316.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	27.74	µS/cm	20050316.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	3.8	mg/L	20050323.DOC



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Ursa Major Minerals Inc.

Work Order: 15807

Sample Name: UMSW-4

Date: 3/15/2005

Matrix: Water

Lab #: 62436

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	3.6	mg/L	20050316.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	418	ug/L	20050316.R13A
Antimony	1	<1	ug/L	20050316.R13A
Arsenic	1	<1	ug/L	20050316.R13A
Barium	1	16	ug/L	20050316.R13A
Beryllium	1	<1	ug/L	20050316.R13A
Bismuth	1	<1	ug/L	20050316.R13A
Boron	2	<2	ug/L	20050316.R13A
Cadmium	0.1	0.24	ug/L	20050316.R13A
Calcium	50	840	ug/L	20050316.R13A
Cerium	1	<1	ug/L	20050316.R13A
Cesium	1	<1	ug/L	20050316.R13A
Chromium	1	<1	ug/L	20050316.R13A
Cobalt	0.1	9.5	ug/L	20050316.R13A
Copper	1	<1	ug/L	20050316.R13A
Europium	1	<1	ug/L	20050316.R13A
Gallium	1	<1	ug/L	20050316.R13A
Iron	20	<20	ug/L	20050316.R13A
Lanthanum	1	<1	ug/L	20050316.R13A
Lead	1	29	ug/L	20050316.R13A
Lithium	5	<5	ug/L	20050316.R13A
Magnesium	4	370	ug/L	20050316.R13A
Manganese	1	124	ug/L	20050316.R13A
Mercury	0.1	<0.1	ug/L	20050316.R13A
Molybdenum	1	<1	ug/L	20050316.R13A
Nickel	1	6.4	ug/L	20050316.R13A
Niobium	1	<1	ug/L	20050316.R13A
Phosphorus	50	<50	ug/L	20050316.R13A
Rubidium	1	<1	ug/L	20050316.R13A
Scandium	1	<1	ug/L	20050316.R13A
Selenium	1	<1	ug/L	20050316.R13A
Silver	0.1	<0.1	ug/L	20050316.R13A
Strontium	1	7.8	ug/L	20050316.R13A
Thallium	0.1	<0.1	ug/L	20050316.R13A
Thorium	1	<1	ug/L	20050316.R13A
Tin	1	<1	ug/L	20050316.R13A
Titanium	1	<1	ug/L	20050316.R13A
Tungsten	1	<1	ug/L	20050316.R13A
Uranium	1	<1	ug/L	20050316.R13A
Vanadium	1	<1	ug/L	20050316.R13A
Yttrium	1	<1	ug/L	20050316.R13A
Zinc	1	35	ug/L	20050316.R13A
Zirconium	1	1.9	ug/L	20050316.R13A

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Work Order: 15807

Sample Name: UMSW-4

Date: 3/15/2005

Matrix: Water

Lab #: 62436

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.67	pH	20050316.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	59	mg/L	20050323.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.1	mg/L	20050318.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.021	mg/L	20050322.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050323.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.58	NTU	20050316.turb

Sample Name: UMSW-5

Date: 3/15/2005

Matrix: Water

Lab #: 62437

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050321.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.18	mg/L	20050317.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.65	mg/L	20050316.R5A
Fluoride	0.01	0.02	mg/L	20050316.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050316.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050316.R5A
Sulfate	0.2	5.8	mg/L	20050316.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	39	TCU	20050316.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	24.78	µS/cm	20050316.cond

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Work Order: 15807

Sample Name: UMSW-5

Date: 3/15/2005

Matrix: Water

Lab #: 62437

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.2	mg/L	20050323.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	4.9	mg/L	20050316.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	174	ug/L	20050316.R13A
Antimony	1	<1	ug/L	20050316.R13A
Arsenic	1	<1	ug/L	20050316.R13A
Barium	1	13	ug/L	20050316.R13A
Beryllium	1	<1	ug/L	20050316.R13A
Bismuth	1	<1	ug/L	20050316.R13A
Boron	2	<2	ug/L	20050316.R13A
Cadmium	0.1	<0.1	ug/L	20050316.R13A
Calcium	50	1200	ug/L	20050316.R13A
Cerium	1	<1	ug/L	20050316.R13A
Cesium	1	<1	ug/L	20050316.R13A
Chromium	1	<1	ug/L	20050316.R13A
Cobalt	0.1	2.4	ug/L	20050316.R13A
Copper	1	3.2	ug/L	20050316.R13A
Europium	1	<1	ug/L	20050316.R13A
Gallium	1	<1	ug/L	20050316.R13A
Iron	20	670	ug/L	20050316.R13A
Lanthanum	1	<1	ug/L	20050316.R13A
Lead	1	<1	ug/L	20050316.R13A
Lithium	5	<5	ug/L	20050316.R13A
Magnesium	4	442	ug/L	20050316.R13A
Manganese	1	61	ug/L	20050316.R13A
Mercury	0.1	<0.1	ug/L	20050316.R13A
Molybdenum	1	<1	ug/L	20050316.R13A
Nickel	1	3.5	ug/L	20050316.R13A
Niobium	1	<1	ug/L	20050316.R13A
Phosphorus	50	<50	ug/L	20050316.R13A
Rubidium	1	1.6	ug/L	20050316.R13A
Scandium	1	<1	ug/L	20050316.R13A
Selenium	1	<1	ug/L	20050316.R13A
Silver	0.1	<0.1	ug/L	20050316.R13A
Strontium	1	9.5	ug/L	20050316.R13A
Thallium	0.1	<0.1	ug/L	20050316.R13A
Thorium	1	<1	ug/L	20050316.R13A
Tin	1	<1	ug/L	20050316.R13A
Titanium	1	1.8	ug/L	20050316.R13A
Tungsten	1	<1	ug/L	20050316.R13A
Uranium	1	<1	ug/L	20050316.R13A

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Work Order: 15807

Sample Name: UMSW-5

Date: 3/15/2005

Matrix: Water

Lab #: 62437

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Vanadium	1	<1	ug/L	20050316.R13A
Yttrium	1	<1	ug/L	20050316.R13A
Zinc	1	16	ug/L	20050316.R13A
Zirconium	1	<1	ug/L	20050316.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.82	pH	20050316.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	55	mg/L	20050323.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.45	mg/L	20050318.R58A
Total Kjeldahl Nitrogen	0.05	0.43	mg/L	20050318.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.022	mg/L	20050322.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050323.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.96	NTU	20050316.turb

Sample Name: UMSW-3A

Date: 3/15/2005

Matrix: Water

Lab #: 62438

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050321.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.036	mg/L	20050317.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.76	mg/L	20050316.R5A
Chloride	0.2	0.76	mg/L	20050316.R5A
Fluoride	0.01	0.011	mg/L	20050316.R5A
Fluoride	0.01	<0.01	mg/L	20050316.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050316.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050316.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050316.R5A

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Work Order: 15807

Sample Name: UMSW-3A

Date: 3/15/2005

Matrix: Water

Lab #: 62438

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Nitrite (as N)	0.05	<0.05	mg/L	20050316.R5A
Sulfate	0.2	6.8	mg/L	20050316.R5A
Sulfate	0.2	6.7	mg/L	20050316.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	14	TCU	20050316.color
True Colour	4	13	TCU	20050316.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	36.9	µS/cm	20050316.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.5	mg/L	20050323.DOC
Dissolved Organic Carbon	0.4	6.3	mg/L	20050323.DOC

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	12.2	mg/L	20050316.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	122	ug/L	20050316.R13A
Antimony	1	<1	ug/L	20050316.R13A
Arsenic	1	<1	ug/L	20050316.R13A
Barium	1	13	ug/L	20050316.R13A
Beryllium	1	<1	ug/L	20050316.R13A
Bismuth	1	<1	ug/L	20050316.R13A
Boron	2	<2	ug/L	20050316.R13A
Cadmium	0.1	<0.1	ug/L	20050316.R13A
Calcium	50	3700	ug/L	20050316.R13A
Cerium	1	<1	ug/L	20050316.R13A
Cesium	1	<1	ug/L	20050316.R13A
Chromium	1	<1	ug/L	20050316.R13A
Cobalt	0.1	0.25	ug/L	20050316.R13A
Copper	1	2.9	ug/L	20050316.R13A
Europium	1	<1	ug/L	20050316.R13A
Gallium	1	<1	ug/L	20050316.R13A
Iron	20	<20	ug/L	20050316.R13A
Lanthanum	1	<1	ug/L	20050316.R13A
Lead	1	<1	ug/L	20050316.R13A
Lithium	5	<5	ug/L	20050316.R13A
Magnesium	4	734	ug/L	20050316.R13A
Manganese	1	1.9	ug/L	20050316.R13A
Mercury	0.1	<0.1	ug/L	20050316.R13A
Molybdenum	1	<1	ug/L	20050316.R13A

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Work Order: 15807

Sample Name: UMSW-3A

Date: 3/15/2005

Matrix: Water

Lab #: 62438

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Nickel	1	7.8	ug/L	20050316.R13A
Niobium	1	<1	ug/L	20050316.R13A
Phosphorus	50	<50	ug/L	20050316.R13A
Rubidium	1	<1	ug/L	20050316.R13A
Scandium	1	1.1	ug/L	20050316.R13A
Selenium	1	<1	ug/L	20050316.R13A
Silver	0.1	<0.1	ug/L	20050316.R13A
Strontium	1	11	ug/L	20050316.R13A
Thallium	0.1	<0.1	ug/L	20050316.R13A
Thorium	1	<1	ug/L	20050316.R13A
Tin	1	<1	ug/L	20050316.R13A
Titanium	1	1	ug/L	20050316.R13A
Tungsten	1	<1	ug/L	20050316.R13A
Uranium	1	<1	ug/L	20050316.R13A
Vanadium	1	<1	ug/L	20050316.R13A
Yttrium	1	<1	ug/L	20050316.R13A
Zinc	1	13	ug/L	20050316.R13A
Zirconium	1	9.6	ug/L	20050316.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.09	pH	20050316.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	55	mg/L	20050323.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.17	mg/L	20050318.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.026	mg/L	20050322.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050323.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.5	NTU	20050316.turb
Turbidity	0.2	1.4	NTU	20050316.turb

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Work Order: 15807

MDL Method detection limit or minimum reporting limit.
% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
QAQCID This is a unique reference to the quality control data set used to generate the reported value.
Data reported for organic analysis in soil samples are corrected for moisture content
Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
INT Interferences
TNTC To numerous to count
ND Not detected

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Work Order: 15807

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	220	220	180	20050321.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	<10	<10	<10	20050321.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.497	0.4	20050317.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050317.R42A

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.4	8	20050316.R5A
Chloride	0.2	mg/L	12	9.8	8	20050316.R5A
Fluoride	0.01	mg/L	12	10.5	8	20050316.R5A
Nitrate (as N)	0.1	mg/L	12	10.6	8	20050316.R5A
Nitrite (as N)	0.05	mg/L	12	9.96	8	20050316.R5A
Phosphate	0.3	mg/L	12	9.7	8	20050316.R5A
Sulfate	0.2	mg/L	12	9.4	8	20050316.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050316.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050316.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050316.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050316.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050316.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050316.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050316.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	80	68	60	20050316.color

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID

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Work Order: 15807

Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20050316.color

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	100.2	96	20050316.cond

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050316.cond

DOC Water

20 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	20	18	20050323.DOC

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20050323.DOC

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	555	400	20050316.R13A
Arsenic	1	ug/L	120	107	80	20050316.R13A
Barium	1	ug/L	120	112	80	20050316.R13A
Beryllium	1	ug/L	125	114	75	20050316.R13A
Boron	2	ug/L	125	120	75	20050316.R13A
Cadmium	1	ug/L	120	105	80	20050316.R13A
Calcium	50	ug/L	1200	960	800	20050316.R13A
Chromium	1	ug/L	120	106	80	20050316.R13A
Cobalt	1	ug/L	120	107	80	20050316.R13A
Copper	1	ug/L	120	99	80	20050316.R13A
Iron	20	ug/L	600	530	400	20050316.R13A
Lead	1	ug/L	120	110	80	20050316.R13A
Magnesium	4	ug/L	1200	1150	800	20050316.R13A
Manganese	1	ug/L	120	108	80	20050316.R13A
Molybdenum	1	ug/L	120	89	80	20050316.R13A
Nickel	1	ug/L	120	103	80	20050316.R13A
Selenium	1	ug/L	120	112	80	20050316.R13A
Thallium	1	ug/L	120	104	80	20050316.R13A
Vanadium	1	ug/L	120	106	80	20050316.R13A
Zinc	1	ug/L	120	88	80	20050316.R13A

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ICPMS Water

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	100	80	20050316.R13A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050316.R13A
Antimony	1	ug/L	5	<1	<1	20050316.R13A
Arsenic	1	ug/L	5	<1	<1	20050316.R13A
Barium	1	ug/L	5	<1	<1	20050316.R13A
Beryllium	1	ug/L	5	<1	<1	20050316.R13A
Bismuth	1	ug/L	5	<1	<1	20050316.R13A
Boron	2	ug/L	5	<2	<2	20050316.R13A
Cadmium	1	ug/L	5	<1	<1	20050316.R13A
Calcium	50	ug/L	<50	<50	<50	20050316.R13A
Cerium	1	ug/L	5	<1	<1	20050316.R13A
Cesium	1	ug/L	5	<1	<1	20050316.R13A
Chromium	1	ug/L	5	<1	<1	20050316.R13A
Cobalt	1	ug/L	5	<1	<1	20050316.R13A
Copper	1	ug/L	5	<1	<1	20050316.R13A
Europium	1	ug/L	5	<1	<1	20050316.R13A
Gallium	1	ug/L	5	<1	<1	20050316.R13A
Iron	20	ug/L	<20	<20	<20	20050316.R13A
Lanthanum	1	ug/L	5	<1	<1	20050316.R13A
Lead	1	ug/L	5	<1	<1	20050316.R13A
Lithium	1	ug/L	5	<1	<1	20050316.R13A
Magnesium	4	ug/L	20	<4	<4	20050316.R13A
Manganese	1	ug/L	5	<1	<1	20050316.R13A
Mercury	1	ug/L	5	<1	<1	20050316.R13A
Molybdenum	1	ug/L	5	<1	<1	20050316.R13A
Nickel	1	ug/L	5	<1	<1	20050316.R13A
Niobium	1	ug/L	5	<1	<1	20050316.R13A
Phosphorus	20	ug/L	<20	<20	<20	20050316.R13A
Rubidium	1	ug/L	5	<1	<1	20050316.R13A
Scandium	1	ug/L	5	<1	<1	20050316.R13A
Selenium	1	ug/L	5	<1	<1	20050316.R13A
Silver	5	ug/L	5	<5	<5	20050316.R13A
Strontium	1	ug/L	5	<1	<1	20050316.R13A
Thallium	1	ug/L	5	<1	<1	20050316.R13A
Thorium	1	ug/L	5	<1	<1	20050316.R13A
Tin	1	ug/L	5	<1	<1	20050316.R13A
Titanium	1	ug/L	5	<1	<1	20050316.R13A
Tungsten	1	ug/L	5	<1	<1	20050316.R13A
Uranium	1	ug/L	5	<1	<1	20050316.R13A
Vanadium	1	ug/L	5	<1	<1	20050316.R13A
Yttrium	1	ug/L	5	<1	<1	20050316.R13A
Zinc	1	ug/L	5	<1	<1	20050316.R13A
Zirconium	1	ug/L	5	<1	<1	20050316.R13A

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Work Order: 15807

ICPMS Water

Blank

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.075	6.9	20050316.pH

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	230	160	20050323.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20050323.R27B

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050318.R58A

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20050318.R58A

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.051	0.04	20050322.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20050322.TP

TSS

160 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	192	170	128	20050323.R27A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20050323.R27A

Turbidity

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Work Order: 15807

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.85	0.81	0.75	20050316.turb

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050316.turb

UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on April 4, 2005.
All temp. readings in degrees Celsius.

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	04/04/2005 10:00	8	1	7	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Good flow, run off started
UM Sw-2	04/04/2005 10:30	8	1	10	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Good flow, run off started
UM Sw-3	04/04/2005 11:00	9	0.5	10	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Good flow, run off started
UM Sw-3a	04/04/2005 12:55	10	0.5	11	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Good flow, run off started
UM Sw-4	04/04/2005 11:15	6	0.5	11	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Good flow, run off started
UM Sw-5	04/04/2005 11:35	9	0.5	11	1- 500ml G/C 1- 200ml Metals 1- 50ml P/A	Good flow, run off started

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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	16097
Company:	Ursa Major Minerals Inc.	Date Order Received:	4/5/2005
Address:	8 King Street East, Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca; dduff@knightpiesold.com		

Analyses were performed on the following samples submitted with your order.
The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	63235	Water		4/4/2005	10:00
UM SW-2	63236	Water		4/4/2005	10:30
UM SW-3	63237	Water		4/4/2005	11:00
UM SW-3A	63238	Water		4/4/2005	12:55
UM SW-4	63239	Water		4/4/2005	11:15
UM SW-5	63240	Water		4/4/2005	11:35

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Ursa Major Minerals Inc.

Work Order: 16097

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SY846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Ursa Major Minerals Inc.

Work Order: 16097

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Camille Gervais, B.Sc.
Inorganic Section Head

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TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc.

Work Order: 16097

Sample Data:

Sample Name: UM SW-1

Date: 4/4/2005

Matrix: Water

Lab #: 63235

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050408.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.022	mg/L	20050406.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.28	mg/L	20050407.R5A
Chloride	0.2	0.26	mg/L	20050407.R5A
Fluoride	0.01	0.028	mg/L	20050407.R5A
Fluoride	0.01	0.012	mg/L	20050407.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050407.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050407.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050407.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050407.R5A
Sulfate	0.2	6.9	mg/L	20050407.R5A
Sulfate	0.2	6.7	mg/L	20050407.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	9.8	TCU	20050405.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	22.78	µS/cm	20050405.cond
Conductivity	2	23.02	µS/cm	20050405.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.7	mg/L	20050405.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	3.7	mg/L	20050405.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	280	ug/L	20050405.R13B
Antimony	1	<1	ug/L	20050405.R13B
Arsenic	1	<1	ug/L	20050405.R13B
Barium	1	15	ug/L	20050405.R13B
Beryllium	1	<1	ug/L	20050405.R13B
Bismuth	1	<1	ug/L	20050405.R13B
Boron	2	<2	ug/L	20050405.R13B
Cadmium	0.1	0.17	ug/L	20050405.R13B
Calcium	50	970	ug/L	20050405.R13B

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Work Order: 16097

Sample Name: UM SW-1

Date: 4/4/2005

Matrix: Water

Lab #: 63235

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cerium	1	<1	ug/L	20050405.R13B
Cesium	1	<1	ug/L	20050405.R13B
Chromium	1	<1	ug/L	20050405.R13B
Cobalt	0.1	6.7	ug/L	20050405.R13B
Copper	1	2.2	ug/L	20050405.R13B
Europium	1	<1	ug/L	20050405.R13B
Gallium	1	<1	ug/L	20050405.R13B
Iron	20	40	ug/L	20050405.R13B
Lanthanum	1	<1	ug/L	20050405.R13B
Lead	1	<1	ug/L	20050405.R13B
Lithium	5	<5	ug/L	20050405.R13B
Magnesium	4	300	ug/L	20050405.R13B
Manganese	1	137	ug/L	20050405.R13B
Mercury	0.1	<0.1	ug/L	20050405.R13B
Molybdenum	1	<1	ug/L	20050405.R13B
Nickel	1	5.1	ug/L	20050405.R13B
Niobium	1	<1	ug/L	20050405.R13B
Phosphorus	50	<50	ug/L	20050405.R13B
Rubidium	1	1.4	ug/L	20050405.R13B
Scandium	1	<1	ug/L	20050405.R13B
Selenium	1	<1	ug/L	20050405.R13B
Silver	0.1	<0.1	ug/L	20050405.R13B
Strontium	1	6.6	ug/L	20050405.R13B
Thallium	0.1	<0.1	ug/L	20050405.R13B
Thorium	1	<1	ug/L	20050405.R13B
Tin	1	<1	ug/L	20050405.R13B
Titanium	1	<1	ug/L	20050405.R13B
Tungsten	1	<1	ug/L	20050405.R13B
Uranium	1	<1	ug/L	20050405.R13B
Vanadium	1	<1	ug/L	20050405.R13B
Yttrium	1	<1	ug/L	20050405.R13B
Zinc	1	23	ug/L	20050405.R13B
Zirconium	1	1.5	ug/L	20050405.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.85	pH	20050405.ph
pH	N/A	4.81	pH	20050405.ph

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	34	mg/L	20050412.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.24	mg/L	20050407.tkn

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Work Order: 16097

Sample Name: UM SW-1

Date: 4/4/2005

Matrix: Water

Lab #: 63235

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.015	mg/L	20050408.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050412.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.35	NTU	20050405.R21A

Sample Name: UM SW-2

Date: 4/4/2005

Matrix: Water

Lab #: 63236

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050408.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.012	mg/L	20050408.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.31	mg/L	20050407.R5A
Fluoride	0.01	0.02	mg/L	20050407.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050407.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050407.R5A
Sulfate	0.2	7.4	mg/L	20050407.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	29	TCU	20050405.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25.78	µS/cm	20050405.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.8	mg/L	20050405.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	5.1	mg/L	20050405.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	296	ug/L	20050405.R13B
Antimony	1	<1	ug/L	20050405.R13B
Arsenic	1	<1	ug/L	20050405.R13B
Barium	1	14	ug/L	20050405.R13B

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Work Order: 16097

Sample Name: UM SW-2

Date: 4/4/2005

Matrix: Water

Lab #: 63236

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Beryllium	1	<1	ug/L	20050405.R13B
Bismuth	1	<1	ug/L	20050405.R13B
Boron	2	<2	ug/L	20050405.R13B
Cadmium	0.1	<0.1	ug/L	20050405.R13B
Calcium	50	1400	ug/L	20050405.R13B
Cerium	1	<1	ug/L	20050405.R13B
Cesium	1	<1	ug/L	20050405.R13B
Chromium	1	<1	ug/L	20050405.R13B
Cobalt	0.1	3.2	ug/L	20050405.R13B
Copper	1	1.5	ug/L	20050405.R13B
Europium	1	<1	ug/L	20050405.R13B
Gallium	1	<1	ug/L	20050405.R13B
Ircs	20	28	ug/L	20050405.R13B
Lanthanum	1	<1	ug/L	20050405.R13B
Lead	1	<1	ug/L	20050405.R13B
Lithium	5	<5	ug/L	20050405.R13B
Magnesium	4	360	ug/L	20050405.R13B
Manganese	1	54	ug/L	20050405.R13B
Mercury	0.1	<0.1	ug/L	20050405.R13B
Molybdenum	1	<1	ug/L	20050405.R13B
Nickel	1	4.5	ug/L	20050405.R13B
Niobium	1	<1	ug/L	20050405.R13B
Phosphorus	50	<50	ug/L	20050405.R13B
Rubidium	1	<1	ug/L	20050405.R13B
Scandium	1	<1	ug/L	20050405.R13B
Selenium	1	<1	ug/L	20050405.R13B
Silver	0.1	<0.1	ug/L	20050405.R13B
Strontium	1	7.5	ug/L	20050405.R13B
Thallium	0.1	<0.1	ug/L	20050405.R13B
Thorium	1	<1	ug/L	20050405.R13B
Tin	1	<1	ug/L	20050405.R13B
Titanium	1	1.1	ug/L	20050405.R13B
Tungsten	1	<1	ug/L	20050405.R13B
Uranium	1	<1	ug/L	20050405.R13B
Vanadium	1	<1	ug/L	20050405.R13B
Yttrium	1	<1	ug/L	20050405.R13B
Zinc	1	26	ug/L	20050405.R13B
Zirconium	1	2.5	ug/L	20050405.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.79	pH	20050405.ph

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	40	mg/L	20050412.tds

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Work Order: 16097

Sample Name: UM SW-2

Date: 4/4/2005

Matrix: Water

Lab #: 63236

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.22	mg/L	20050407.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.013	mg/L	20050408.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050412.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.55	NTU	20050405.R21A

Sample Name: UM SW-3

Date: 4/4/2005

Matrix: Water

Lab #: 63237

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	-20050408.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.044	mg/L	20050406.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.37	mg/L	20050407.R5A
Fluoride	0.01	0.011	mg/L	20050407.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050407.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050407.R5A
Sulfate	0.2	5.9	mg/L	20050407.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	27	TCU	20050405.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	31.05	µS/cm	20050405.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.7	mg/L	20050405.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	8.5	mg/L	20050405.R90B

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Work Order: 16097

Sample Name: UM SW-3

Date: 4/4/2005

Matrix: Water

Lab #: 63237

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	196	ug/L	20050405.R13B
Antimony	1	<1	ug/L	20050405.R13B
Arsenic	1	<1	ug/L	20050405.R13B
Barium	1	11	ug/L	20050405.R13B
Beryllium	1	<1	ug/L	20050405.R13B
Bismuth	1	<1	ug/L	20050405.R13B
Boron	2	<2	ug/L	20050405.R13B
Cadmium	0.1	<0.1	ug/L	20050405.R13B
Calcium	50	2400	ug/L	20050405.R13B
Cerium	1	<1	ug/L	20050405.R13B
Cesium	1	<1	ug/L	20050405.R13B
Chromium	1	<1	ug/L	20050405.R13B
Cobalt	0.1	1.2	ug/L	20050405.R13B
Copper	1	3.6	ug/L	20050405.R13B
Europium	1	<1	ug/L	20050405.R13B
Gallium	1	<1	ug/L	20050405.R13B
Iron	20	76	ug/L	20050405.R13B
Lanthanum	1	<1	ug/L	20050405.R13B
Lead	1	<1	ug/L	20050405.R13B
Lithium	5	<5	ug/L	20050405.R13B
Magnesium	4	634	ug/L	20050405.R13B
Manganese	1	43	ug/L	20050405.R13B
Mercury	0.1	<0.1	ug/L	20050405.R13B
Molybdenum	1	<1	ug/L	20050405.R13B
Nickel	1	7.7	ug/L	20050405.R13B
Niobium	1	<1	ug/L	20050405.R13B
Phosphorus	50	<50	ug/L	20050405.R13B
Rubidium	1	1.1	ug/L	20050405.R13B
Scandium	1	1.1	ug/L	20050405.R13B
Selenium	1	<1	ug/L	20050405.R13B
Silver	0.1	<0.1	ug/L	20050405.R13B
Strontium	1	10	ug/L	20050405.R13B
Thallium	0.1	<0.1	ug/L	20050405.R13B
Thorium	1	<1	ug/L	20050405.R13B
Tin	1	<1	ug/L	20050405.R13B
Titanium	1	4.3	ug/L	20050405.R13B
Tungsten	1	<1	ug/L	20050405.R13B
Uranium	1	<1	ug/L	20050405.R13B
Vanadium	1	<1	ug/L	20050405.R13B
Yttrium	1	<1	ug/L	20050405.R13B
Zinc	1	12	ug/L	20050405.R13B
Zirconium	1	2.2	ug/L	20050405.R13B
pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.36	pH	20050405.ph

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Work Order: 16097

Sample Name: UM SW-3

Date: 4/4/2005

Matrix: Water

Lab #: 63237

pHWATER				
Parameter	MDL	Result	Units	QAQCID

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	30	mg/L	20050412.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.31	mg/L	20050407.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.02	mg/L	20050408.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050412.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	4.1	NTU	20050405.R21A

Sample Name: UM SW-3A

Date: 4/4/2005

Matrix: Water

Lab #: 63238

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050408.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.047	mg/L	20050406.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.53	mg/L	20050407.R5A
Fluoride	0.01	0.012	mg/L	20050407.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050407.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050407.R5A
Sulfate	0.2	5.4	mg/L	20050407.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	29	TCU	20050405.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.53	µS/cm	20050405.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.3	mg/L	20050405.R55A

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Work Order: 16097

Sample Name: UM SW-3A

Date: 4/4/2005

Matrix: Water

Lab #: 63238

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	7.9	mg/L	20050405.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	143	ug/L	20050405.R13B
Antimony	1	<1	ug/L	20050405.R13B
Arsenic	1	<1	ug/L	20050405.R13B
Barium	1	8.5	ug/L	20050405.R13B
Beryllium	1	<1	ug/L	20050405.R13B
Bismuth	1	<1	ug/L	20050405.R13B
Boron	2	<2	ug/L	20050405.R13B
Cadmium	0.1	<0.1	ug/L	20050405.R13B
Calcium	50	2300	ug/L	20050405.R13B
Cerium	1	<1	ug/L	20050405.R13B
Cesium	1	<1	ug/L	20050405.R13B
Chromium	1	<1	ug/L	20050405.R13B
Cobalt	0.1	0.85	ug/L	20050405.R13B
Copper	1	3.6	ug/L	20050405.R13B
Europium	1	<1	ug/L	20050405.R13B
Gallium	1	<1	ug/L	20050405.R13B
Iron	20	<20	ug/L	20050405.R13B
Lanthanum	1	<1	ug/L	20050405.R13B
Lead	1	<1	ug/L	20050405.R13B
Lithium	5	<5	ug/L	20050405.R13B
Magnesium	4	498	ug/L	20050405.R13B
Manganese	1	19	ug/L	20050405.R13B
Mercury	0.1	<0.1	ug/L	20050405.R13B
Molybdenum	1	<1	ug/L	20050405.R13B
Nickel	1	6.5	ug/L	20050405.R13B
Niobium	1	<1	ug/L	20050405.R13B
Phosphorus	50	<50	ug/L	20050405.R13B
Rubidium	1	1.4	ug/L	20050405.R13B
Scandium	1	<1	ug/L	20050405.R13B
Selenium	1	<1	ug/L	20050405.R13B
Silver	0.1	<0.1	ug/L	20050405.R13B
Strontium	1	7.6	ug/L	20050405.R13B
Thallium	0.1	<0.1	ug/L	20050405.R13B
Thorium	1	<1	ug/L	20050405.R13B
Tin	1	<1	ug/L	20050405.R13B
Titanium	1	1.7	ug/L	20050405.R13B
Tungsten	1	<1	ug/L	20050405.R13B
Uranium	1	<1	ug/L	20050405.R13B
Vanadium	1	<1	ug/L	20050405.R13B
Yttrium	1	<1	ug/L	20050405.R13B
Zinc	1	9.5	ug/L	20050405.R13B
Zirconium	1	2.1	ug/L	20050405.R13B

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Work Order: 16097

Sample Name: UM SW-3A

Date: 4/4/2005

Matrix: Water

Lab #: 63238

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.28	pH	20050405.ph

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050412.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.23	mg/L	20050407.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.019	mg/L	20050408.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050412.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1	NTU	20050405.R21A

Sample Name: UM SW-4

Date: 4/4/2005

Matrix: Water

Lab #: 63239

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050408.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.016	mg/L	20050406.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050407.R5A
Fluoride	0.01	0.019	mg/L	20050407.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050407.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050407.R5A
Sulfate	0.2	8.1	mg/L	20050407.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	8	TCU	20050405.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.03	µS/cm	20050405.cond

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Work Order: 16097

Sample Name: UM SW-4

Date: 4/4/2005

Matrix: Water

Lab #: 63239

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	3.6	mg/L	20050405.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	3.4	mg/L	20050405.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	398	ug/L	20050405.R13B
Antimony	1	<1	ug/L	20050405.R13B
Arsenic	1	<1	ug/L	20050405.R13B
Barium	1	15	ug/L	20050405.R13B
Beryllium	1	<1	ug/L	20050405.R13B
Bismuth	1	<1	ug/L	20050405.R13B
Boron	2	<2	ug/L	20050405.R13B
Cadmium	0.1	<0.1	ug/L	20050405.R13B
Calcium	50	800	ug/L	20050405.R13B
Cerium	1	<1	ug/L	20050405.R13B
Cesium	1	<1	ug/L	20050405.R13B
Chromium	1	<1	ug/L	20050405.R13B
Cobalt	0.1	7.4	ug/L	20050405.R13B
Copper	1	<1	ug/L	20050405.R13B
Europium	1	<1	ug/L	20050405.R13B
Gallium	1	<1	ug/L	20050405.R13B
Iron	20	<20	ug/L	20050405.R13B
Lanthanum	1	<1	ug/L	20050405.R13B
Lead	1	<1	ug/L	20050405.R13B
Lithium	5	<5	ug/L	20050405.R13B
Magnesium	4	350	ug/L	20050405.R13B
Manganese	1	109	ug/L	20050405.R13B
Mercury	0.1	<0.1	ug/L	20050405.R13B
Molybdenum	1	<1	ug/L	20050405.R13B
Nickel	1	5.3	ug/L	20050405.R13B
Niobium	1	<1	ug/L	20050405.R13B
Phosphorus	50	<50	ug/L	20050405.R13B
Rubidium	1	<1	ug/L	20050405.R13B
Scandium	1	<1	ug/L	20050405.R13B
Selenium	1	<1	ug/L	20050405.R13B
Silver	0.1	<0.1	ug/L	20050405.R13B
Strontium	1	6.9	ug/L	20050405.R13B
Thallium	0.1	<0.1	ug/L	20050405.R13B
Thorium	1	<1	ug/L	20050405.R13B
Tin	1	<1	ug/L	20050405.R13B
Titanium	1	<1	ug/L	20050405.R13B
Tungsten	1	<1	ug/L	20050405.R13B
Uranium	1	<1	ug/L	20050405.R13B

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Work Order: 16097

Sample Name: UM SW-4

Date: 4/4/2005

Matrix: Water

Lab #: 63239

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Vanadium	1	<1	ug/L	20050405.R13B
Yttrium	1	<1	ug/L	20050405.R13B
Zinc	1	26	ug/L	20050405.R13B
Zirconium	1	1.6	ug/L	20050405.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.65	pH	20050405.ph

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050412.tds
Total Dissolved Solids	30	<30	mg/L	20050412.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.13	mg/L	20050407.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.015	mg/L	20050408.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050412.tss
Total Suspended Solids	6	<6	mg/L	20050412.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.57	NTU	20050405.R21A

Sample Name: UM SW-5

Date: 4/4/2005

Matrix: Water

Lab #: 63240

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050408.R69A
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050408.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.039	mg/L	20050406.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.35	mg/L	20050407.R5A
Fluoride	0.01	0.017	mg/L	20050407.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050407.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050407.R5A
Sulfate	0.2	6	mg/L	20050407.R5A

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Work Order: 16097

Sample Name: UM SW-5

Date: 4/4/2005

Matrix: Water

Lab #: 63240

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	12	TCU	20050405.R26B
True Colour	4	12	TCU	20050405.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	20.25	µS/cm	20050405.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	3.2	mg/L	20050405.R55A
Dissolved Organic Carbon	0.4	3.1	mg/L	20050405.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	4.2	mg/L	20050405.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	145	ug/L	20050405.R13B
Antimony	1	<1	ug/L	20050405.R13B
Arsenic	1	<1	ug/L	20050405.R13B
Barium	1	13	ug/L	20050405.R13B
Beryllium	1	<1	ug/L	20050405.R13B
Bismuth	1	<1	ug/L	20050405.R13B
Boron	2	<2	ug/L	20050405.R13B
Cadmium	0.1	<0.1	ug/L	20050405.R13B
Calcium	50	1100	ug/L	20050405.R13B
Cerium	1	<1	ug/L	20050405.R13B
Cesium	1	<1	ug/L	20050405.R13B
Chromium	1	<1	ug/L	20050405.R13B
Cobalt	0.1	3.6	ug/L	20050405.R13B
Copper	1	<1	ug/L	20050405.R13B
Europium	1	<1	ug/L	20050405.R13B
Gallium	1	<1	ug/L	20050405.R13B
Iron	20	57	ug/L	20050405.R13B
Lanthanum	1	<1	ug/L	20050405.R13B
Lead	1	<1	ug/L	20050405.R13B
Lithium	5	<5	ug/L	20050405.R13B
Magnesium	4	370	ug/L	20050405.R13B
Manganese	1	116	ug/L	20050405.R13B
Mercury	0.1	<0.1	ug/L	20050405.R13B
Molybdenum	1	<1	ug/L	20050405.R13B
Nickel	1	3.4	ug/L	20050405.R13B
Niobium	1	<1	ug/L	20050405.R13B
Phosphorus	50	<50	ug/L	20050405.R13B
Rubidium	1	1.3	ug/L	20050405.R13B
Scandium	1	<1	ug/L	20050405.R13B

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Work Order: 16097

Sample Name: UM SW-5

Date: 4/4/2005

Matrix: Water

Lab #: 63240

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Selenium	1	<1	ug/L	20050405.R13B
Silver	0.1	<0.1	ug/L	20050405.R13B
Strontium	1	8.2	ug/L	20050405.R13B
Thallium	0.1	<0.1	ug/L	20050405.R13B
Thorium	1	<1	ug/L	20050405.R13B
Tin	1	<1	ug/L	20050405.R13B
Titanium	1	1.8	ug/L	20050405.R13B
Tungsten	1	<1	ug/L	20050405.R13B
Uranium	1	<1	ug/L	20050405.R13B
Vanadium	1	<1	ug/L	20050405.R13B
Yttrium	1	<1	ug/L	20050405.R13B
Zinc	1	16	ug/L	20050405.R13B
Zirconium	1	<1	ug/L	20050405.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.3	pH	20050405.ph

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	31	mg/L	20050412.tds

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.27	mg/L	20050407.tkn

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.015	mg/L	20050408.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050412.tss

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.3	NTU	20050405.R21A
Turbidity	0.2	1.3	NTU	20050405.R21A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix if the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Work Order: 16097

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	200	180	20050408.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	<10	<10	<10	20050408.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.497	0.4	20050406.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050406.R42A

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.7	8	20050407.R5A
Chloride	0.2	mg/L	12	10	8	20050407.R5A
Fluoride	0.01	mg/L	12	10.8	9	20050407.R5A
Nitrate (as N)	0.1	mg/L	12	11.3	8	20050407.R5A
Nitrite (as N)	0.05	mg/L	12	10.5	8	20050407.R5A
Phosphate	0.3	mg/L	12	9.7	8	20050407.R5A
Sulfate	0.2	mg/L	12	9.6	8	20050407.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050407.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050407.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050407.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050407.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050407.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050407.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050407.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	80	66	60	20050405.R26B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID

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Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20050405.R26B

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	101.2	96	20050405.cond

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050405.cond

DOC Water

20 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	20	18	20050405.R55A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20050405.R55A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	515	400	20050405.R13B
Arsenic	1	ug/L	120	103	80	20050405.R13B
Barium	1	ug/L	120	101	80	20050405.R13B
Beryllium	1	ug/L	125	104	75	20050405.R13B
Boron	2	ug/L	125	110	75	20050405.R13B
Cadmium	1	ug/L	120	106	80	20050405.R13B
Calcium	50	ug/L	1200	1000	800	20050405.R13B
Chromium	1	ug/L	120	105	80	20050405.R13B
Cobalt	1	ug/L	120	105	80	20050405.R13B
Copper	1	ug/L	120	104	80	20050405.R13B
Iron	20	ug/L	600	520	400	20050405.R13B
Lead	1	ug/L	120	102	80	20050405.R13B
Magnesium	4	ug/L	1200	1050	800	20050405.R13B
Manganese	1	ug/L	120	99	80	20050405.R13B
Molybdenum	1	ug/L	120	91	80	20050405.R13B
Nickel	1	ug/L	120	105	80	20050405.R13B
Selenium	1	ug/L	120	105	80	20050405.R13B
Thallium	1	ug/L	120	100	80	20050405.R13B
Vanadium	1	ug/L	120	106	80	20050405.R13B
Zinc	1	ug/L	120	107	80	20050405.R13B

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ICPMS Water

100 ppb P

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	100	80	20050405.R13B

Blank

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050405.R13B
Antimony	1	ug/L	5	<1	<1	20050405.R13B
Arsenic	1	ug/L	5	<1	<1	20050405.R13B
Barium	1	ug/L	5	<1	<1	20050405.R13B
Beryllium	1	ug/L	5	<1	<1	20050405.R13B
Bismuth	1	ug/L	5	<1	<1	20050405.R13B
Boron	2	ug/L	5	<2	<2	20050405.R13B
Cadmium	1	ug/L	5	<1	<1	20050405.R13B
Calcium	50	ug/L	<50	<50	<50	20050405.R13B
Cerium	1	ug/L	5	<1	<1	20050405.R13B
Cesium	1	ug/L	5	<1	<1	20050405.R13B
Chromium	1	ug/L	5	<1	<1	20050405.R13B
Cobalt	1	ug/L	5	<1	<1	20050405.R13B
Copper	1	ug/L	5	<1	<1	20050405.R13B
Europium	1	ug/L	5	<1	<1	20050405.R13B
Gallium	1	ug/L	5	<1	<1	20050405.R13B
Iron	20	ug/L	<20	<20	<20	20050405.R13B
Lanthanum	1	ug/L	5	<1	<1	20050405.R13B
Lead	1	ug/L	5	<1	<1	20050405.R13B
Lithium	1	ug/L	5	<1	<1	20050405.R13B
Magnesium	4	ug/L	20	<4	<4	20050405.R13B
Manganese	1	ug/L	5	<1	<1	20050405.R13B
Mercury	1	ug/L	5	<1	<1	20050405.R13B
Molybdenum	1	ug/L	5	<1	<1	20050405.R13B
Nickel	1	ug/L	5	<1	<1	20050405.R13B
Niobium	1	ug/L	5	<1	<1	20050405.R13B
Phosphorus	20	ug/L	<20	<20	<20	20050405.R13B
Rubidium	1	ug/L	5	<1	<1	20050405.R13B
Scandium	1	ug/L	5	<1	<1	20050405.R13B
Selenium	1	ug/L	5	<1	<1	20050405.R13B
Silver	5	ug/L	5	<5	<5	20050405.R13B
Strontium	1	ug/L	5	<1	<1	20050405.R13B
Thallium	1	ug/L	5	<1	<1	20050405.R13B
Thorium	1	ug/L	5	<1	<1	20050405.R13B
Tin	1	ug/L	5	<1	<1	20050405.R13B
Titanium	1	ug/L	5	<1	<1	20050405.R13B
Tungsten	1	ug/L	5	<1	<1	20050405.R13B
Uranium	1	ug/L	5	<1	<1	20050405.R13B
Vanadium	1	ug/L	5	<1	<1	20050405.R13B
Yttrium	1	ug/L	5	<1	<1	20050405.R13B
Zinc	1	ug/L	5	<1	<1	20050405.R13B
Zirconium	1	ug/L	5	<1	<1	20050405.R13B

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ICPMS Water

Blank

pHWATER

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.071	6.9	20050405.ph

TDS

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
200 mg/L Control						
Total Dissolved Solids	30	mg/L	240	190	160	20050412.tds

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Blank						
Total Dissolved Solids	20	mg/L	20	<20	<20	20050412.tds

TKN Water

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Blank						
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050407.tkn

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
control						
Total Kjeldahl Nitrogen	0.05	mg/L	0.6	0.56	0.4	20050407.tkn

TP Water

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
50 ppb						
Total Phosphorus (as P)	0.005	mg/L	0.06	0.056	0.04	20050408.R23A

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Blank						
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20050408.R23A

TSS

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
160 mg/L Control						
Total Suspended Solids	6	mg/L	192	190	128	20050412.tss

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Blank						
Total Suspended Solids	3	mg/L	<3	<3	<3	20050412.tss

Turbidity

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1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.95	0.89	0.85	20050405.R21A

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050405.R21A

UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on April 27, 2005.
 All temp. readings in degrees Celsius.

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	27/04/05 9:15	5	3	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, strong
UM Sw-2	27/04/05 9:50	7	4	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, strong
UM Sw-3	27/04/05 10:20	7	4	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Strong flow, too much for culvert flowing around culvert
UM Sw-3a	27/04/05 12:05	7	4	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, corduroy bridge is floating
UM Sw-4	27/04/05 11:10	6	3	11	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	great flow
UM Sw-5	27/04/05 11:25	7	5	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow

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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	16551
Company:	Ursa Major Minerals Inc.	Date Order Received:	4/28/2005
Address:	8 King Street East, Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca; dduff@knightpiesold.com		

Analyses were performed on the following samples submitted with your order.
The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	64625	Water		4/27/2005	9:15
UM SW-2	64626	Water		4/27/2005	9:50
UM-SW-3	64627	Water		4/27/2005	10:20
UM SW-3A	64628	Water		4/27/2005	12:05
UM SW-4	64629	Water		4/27/2005	11:10
UM SW-5	64630	Water		4/27/2005	11:25

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Ursa Major Minerals Inc.

Work Order: 16551

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Orion Conductivity Meter	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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Ursa Major Minerals Inc.

Work Order: 16551

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director



TESTMARK Laboratories Ltd.

Committed to Quality and Service

Ursa Major Minerals Inc.

Work Order: 16551

Sample Data:

Sample Name: UM SW-1

Date: 4/27/2005

Matrix: Water

Lab #: 64625

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050429.R69A

Ammonia FIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.036	mg/L	20050429.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050503.R5A
Chloride	0.2	<0.2	mg/L	20050503.R5A
Fluoride	0.01	<0.01	mg/L	20050503.R5A
Fluoride	0.01	<0.01	mg/L	20050503.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050503.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050503.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050503.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050503.R5A
Sulfate	0.2	4.2	mg/L	20050503.R5A
Sulfate	0.2	4.1	mg/L	20050503.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	14	TCU	20050428.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	22.24	µS/cm	20050428.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	5.8	mg/L	20050428.DOC2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	3.6	mg/L	20050503.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	276	ug/L	20050503.R13B
Antimony	1	<1	ug/L	20050503.R13B
Arsenic	1	<1	ug/L	20050503.R13B
Barium	1	15	ug/L	20050503.R13B
Beryllium	1	<1	ug/L	20050503.R13B
Bismuth	1	<1	ug/L	20050503.R13B
Boron	2	<2	ug/L	20050503.R13B
Cadmium	0.1	0.29	ug/L	20050503.R13B
Calcium	50	950	ug/L	20050503.R13B
Cerium	1	<1	ug/L	20050503.R13B

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Ursa Major Minerals Inc.

Work Order: 16551

Sample Name: UM SW-1

Date: 4/27/2005

Matrix: Water

Lab #: 64625

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cesium	1	<1	ug/L	20050503.R13B
Chromium	1	<1	ug/L	20050503.R13B
Cobalt	0.1	6.5	ug/L	20050503.R13B
Copper	1	<1	ug/L	20050503.R13B
Europium	1	<1	ug/L	20050503.R13B
Gallium	1	<1	ug/L	20050503.R13B
Iron	20	54	ug/L	20050503.R13B
Lanthanum	1	<1	ug/L	20050503.R13B
Lead	1	<1	ug/L	20050503.R13B
Lithium	5	<5	ug/L	20050503.R13B
Magnesium	4	290	ug/L	20050503.R13B
Manganese	1	116	ug/L	20050503.R13B
Mercury	0.1	<0.1	ug/L	20050503.R13B
Molybdenum	1	<1	ug/L	20050503.R13B
Nickel	1	5	ug/L	20050503.R13B
Niobium	1	<1	ug/L	20050503.R13B
Phosphorus	50	<50	ug/L	20050503.R13B
Rubidium	1	1.1	ug/L	20050503.R13B
Scandium	1	<1	ug/L	20050503.R13B
Selenium	1	<1	ug/L	20050503.R13B
Silver	0.1	<0.1	ug/L	20050503.R13B
Strontium	1	6.9	ug/L	20050503.R13B
Thallium	0.1	<0.1	ug/L	20050503.R13B
Thorium	1	<1	ug/L	20050503.R13B
Tin	1	<1	ug/L	20050503.R13B
Titanium	1	<1	ug/L	20050503.R13B
Tungsten	1	<1	ug/L	20050503.R13B
Uranium	1	<1	ug/L	20050503.R13B
Vanadium	1	<1	ug/L	20050503.R13B
Yttrium	1	<1	ug/L	20050503.R13B
Zinc	1	18	ug/L	20050503.R13B
Zirconium	1	<1	ug/L	20050503.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.75	pH	20050428.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050506.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.24	mg/L	20050429.TKN

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Work Order: 16551

Sample Name: UM SW-1

Date: 4/27/2005

Matrix: Water

Lab #: 64625

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.012	mg/L	20050429.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050506.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.28	NTU	20050428.TURB

Sample Name: UM SW-2

Date: 4/27/2005

Matrix: Water

Lab #: 64626

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050429.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.013	mg/L	20050429.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.23	mg/L	20050503.R5A
Fluoride	0.01	0.016	mg/L	20050503.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050503.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050503.R5A
Sulfate	0.2	5.2	mg/L	20050503.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	34	TCU	20050428.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25.07	µS/cm	20050428.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	8.2	mg/L	20050428.DOC2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	5.5	mg/L	20050503.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	308	ug/L	20050503.R13B
Antimony	1	<1	ug/L	20050503.R13B
Arsenic	1	<1	ug/L	20050503.R13B
Barium	1	14	ug/L	20050503.R13B

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Work Order: 16551

Sample Name: UM SW-2

Date: 4/27/2005

Matrix: Water

Lab #: 64626

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Beryllium	1	<1	ug/L	20050503.R13B
Bismuth	1	<1	ug/L	20050503.R13B
Boron	2	<2	ug/L	20050503.R13B
Cadmium	0.1	<0.1	ug/L	20050503.R13B
Calcium	50	1600	ug/L	20050503.R13B
Cerium	1	<1	ug/L	20050503.R13B
Cesium	1	<1	ug/L	20050503.R13B
Chromium	1	<1	ug/L	20050503.R13B
Cobalt	0.1	3.1	ug/L	20050503.R13B
Copper	1	<1	ug/L	20050503.R13B
Europium	1	<1	ug/L	20050503.R13B
Gallium	1	<1	ug/L	20050503.R13B
Iron	20	35	ug/L	20050503.R13B
Lanthanum	1	<1	ug/L	20050503.R13B
Lead	1	<1	ug/L	20050503.R13B
Lithium	5	<5	ug/L	20050503.R13B
Magnesium	4	370	ug/L	20050503.R13B
Manganese	1	48	ug/L	20050503.R13B
Mercury	0.1	<0.1	ug/L	20050503.R13B
Molybdenum	1	<1	ug/L	20050503.R13B
Nickel	1	4.2	ug/L	20050503.R13B
Niobium	1	<1	ug/L	20050503.R13B
Phosphorus	50	<50	ug/L	20050503.R13B
Rubidium	1	1	ug/L	20050503.R13B
Scandium	1	<1	ug/L	20050503.R13B
Selenium	1	<1	ug/L	20050503.R13B
Silver	0.1	<0.1	ug/L	20050503.R13B
Strontium	1	8	ug/L	20050503.R13B
Thallium	0.1	<0.1	ug/L	20050503.R13B
Thorium	1	<1	ug/L	20050503.R13B
Tin	1	<1	ug/L	20050503.R13B
Titanium	1	1.6	ug/L	20050503.R13B
Tungsten	1	<1	ug/L	20050503.R13B
Uranium	1	<1	ug/L	20050503.R13B
Vanadium	1	<1	ug/L	20050503.R13B
Yttrium	1	<1	ug/L	20050503.R13B
Zinc	1	25	ug/L	20050503.R13B
Zirconium	1	<1	ug/L	20050503.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.79	pH	20050428.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050506.R27B

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Ursa Major Minerals Inc.

Work Order: 16551

Sample Name: UM SW-2

Date: 4/27/2005

Matrix: Water

Lab #: 64626

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.2	mg/L	20050429.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.012	mg/L	20050429.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050506.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.94	NTU	20050428.TURB

Sample Name: UM-SW-3

Date: 4/27/2005

Matrix: Water

Lab #: 64627

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050429.R69A
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050429.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.037	mg/L	20050429.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050503.R5A
Fluoride	0.01	<0.01	mg/L	20050503.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050503.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050503.R5A
Sulfate	0.2	4.7	mg/L	20050503.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	48	TCU	20050428.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25.83	µS/cm	20050428.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	12	mg/L	20050428.DOC2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	9.1	mg/L	20050503.R90B

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Work Order: 16551

Sample Name: UM-SW-3

Date: 4/27/2005

Matrix: Water

Lab #: 64627

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	239	ug/L	20050503.R13B
Antimony	1	<1	ug/L	20050503.R13B
Arsenic	1	<1	ug/L	20050503.R13B
Barium	1	12	ug/L	20050503.R13B
Beryllium	1	<1	ug/L	20050503.R13B
Bismuth	1	<1	ug/L	20050503.R13B
Boron	2	<2	ug/L	20050503.R13B
Cadmium	0.1	<0.1	ug/L	20050503.R13B
Calcium	50	2500	ug/L	20050503.R13B
Cerium	1	<1	ug/L	20050503.R13B
Cesium	1	<1	ug/L	20050503.R13B
Chromium	1	<1	ug/L	20050503.R13B
Cobalt	0.1	0.92	ug/L	20050503.R13B
Copper	1	1.3	ug/L	20050503.R13B
Europium	1	<1	ug/L	20050503.R13B
Gallium	1	<1	ug/L	20050503.R13B
Iron	20	87	ug/L	20050503.R13B
Lanthanum	1	<1	ug/L	20050503.R13B
Lead	1	<1	ug/L	20050503.R13B
Lithium	5	<5	ug/L	20050503.R13B
Magnesium	4	681	ug/L	20050503.R13B
Manganese	1	33	ug/L	20050503.R13B
Mercury	0.1	<0.1	ug/L	20050503.R13B
Molybdenum	1	<1	ug/L	20050503.R13B
Nickel	1	8.7	ug/L	20050503.R13B
Niobium	1	<1	ug/L	20050503.R13B
Phosphorus	50	<50	ug/L	20050503.R13B
Rubidium	1	1.2	ug/L	20050503.R13B
Scandium	1	1.2	ug/L	20050503.R13B
Selenium	1	<1	ug/L	20050503.R13B
Silver	0.1	<0.1	ug/L	20050503.R13B
Strontium	1	11	ug/L	20050503.R13B
Thallium	0.1	<0.1	ug/L	20050503.R13B
Thorium	1	<1	ug/L	20050503.R13B
Tin	1	<1	ug/L	20050503.R13B
Titanium	1	3.7	ug/L	20050503.R13B
Tungsten	1	<1	ug/L	20050503.R13B
Uranium	1	<1	ug/L	20050503.R13B
Vanadium	1	<1	ug/L	20050503.R13B
Yttrium	1	<1	ug/L	20050503.R13B
Zinc	1	9.7	ug/L	20050503.R13B
Zirconium	1	<1	ug/L	20050503.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.1	pH	20050428.pH

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Work Order: 16551

Sample Name: UM-SW-3

Date: 4/27/2005

Matrix: Water

Lab #: 64627

pHWATER				
Parameter	MDL	Result	Units	QAQCID

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	32	mg/L	20050506.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.33	mg/L	20050429.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.023	mg/L	20050429.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050506.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	3.6	NTU	20050428.TURB

Sample Name: UM SW-3A

Date: 4/27/2005

Matrix: Water

Lab #: 64628

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050429.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.023	mg/L	20050429.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.26	mg/L	20050503.R5A
Fluoride	0.01	<0.01	mg/L	20050503.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050503.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050503.R5A
Sulfate	0.2	4.2	mg/L	20050503.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	58	TCU	20050428.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25.52	µS/cm	20050428.cond

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	11	mg/L	20050428.DOC2

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Work Order: 16551

Sample Name: UM SW-3A

Date: 4/27/2005

Matrix: Water

Lab #: 64628

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	9.1	mg/L	20050503.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	212	ug/L	20050503.R13B
Antimony	1	<1	ug/L	20050503.R13B
Arsenic	1	<1	ug/L	20050503.R13B
Barium	1	9.4	ug/L	20050503.R13B
Beryllium	1	<1	ug/L	20050503.R13B
Bismuth	1	<1	ug/L	20050503.R13B
Boron	2	2.3	ug/L	20050503.R13B
Cadmium	0.1	<0.1	ug/L	20050503.R13B
Calcium	50	2700	ug/L	20050503.R13B
Cerium	1	<1	ug/L	20050503.R13B
Cesium	1	<1	ug/L	20050503.R13B
Chromium	1	<1	ug/L	20050503.R13B
Cobalt	0.1	0.46	ug/L	20050503.R13B
Copper	1	2.3	ug/L	20050503.R13B
Europium	1	<1	ug/L	20050503.R13B
Gallium	1	<1	ug/L	20050503.R13B
Iron	20	26	ug/L	20050503.R13B
Lanthanum	1	<1	ug/L	20050503.R13B
Lead	1	<1	ug/L	20050503.R13B
Lithium	5	<5	ug/L	20050503.R13B
Magnesium	4	567	ug/L	20050503.R13B
Manganese	1	7.6	ug/L	20050503.R13B
Mercury	0.1	<0.1	ug/L	20050503.R13B
Molybdenum	1	<1	ug/L	20050503.R13B
Nickel	1	8.1	ug/L	20050503.R13B
Niobium	1	<1	ug/L	20050503.R13B
Phosphorus	50	<50	ug/L	20050503.R13B
Rubidium	1	1.6	ug/L	20050503.R13B
Scandium	1	<1	ug/L	20050503.R13B
Selenium	1	<1	ug/L	20050503.R13B
Silver	0.1	<0.1	ug/L	20050503.R13B
Strontium	1	9	ug/L	20050503.R13B
Thallium	0.1	<0.1	ug/L	20050503.R13B
Thorium	1	<1	ug/L	20050503.R13B
Tin	1	<1	ug/L	20050503.R13B
Titanium	1	2	ug/L	20050503.R13B
Tungsten	1	<1	ug/L	20050503.R13B
Uranium	1	<1	ug/L	20050503.R13B
Vanadium	1	<1	ug/L	20050503.R13B
Yttrium	1	<1	ug/L	20050503.R13B
Zinc	1	9.5	ug/L	20050503.R13B
Zirconium	1	<1	ug/L	20050503.R13B

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Work Order: 16551

Sample Name: UM SW-3A

Date: 4/27/2005

Matrix: Water

Lab #: 64628

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.28	pH	20050428.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	40	mg/L	20050506.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.29	mg/L	20050429.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.015	mg/L	20050429.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050506.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.79	NTU	20050428.TURB

Sample Name: UM SW-4

Date: 4/27/2005

Matrix: Water

Lab #: 64629

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050429.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.025	mg/L	20050429.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050503.R5A
Fluoride	0.01	0.01	mg/L	20050503.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050503.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050503.R5A
Sulfate	0.2	6.3	mg/L	20050503.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	17	TCU	20050428.color

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	26.88	µS/cm	20050428.cond

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Ursa Major Minerals Inc.

Work Order: 16551

Sample Name: UM SW-4

Date: 4/27/2005

Matrix: Water

Lab #: 64629

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.6	mg/L	20050428.DOC2

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	3.4	mg/L	20050503.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	418	ug/L	20050503.R13B
Antimony	1	<1	ug/L	20050503.R13B
Arsenic	1	<1	ug/L	20050503.R13B
Barium	1	16	ug/L	20050503.R13B
Beryllium	1	<1	ug/L	20050503.R13B
Bismuth	1	<1	ug/L	20050503.R13B
Boron	2	<2	ug/L	20050503.R13B
Cadmium	0.1	0.15	ug/L	20050503.R13B
Calcium	50	820	ug/L	20050503.R13B
Cerium	1	<1	ug/L	20050503.R13B
Cesium	1	<1	ug/L	20050503.R13B
Chromium	1	<1	ug/L	20050503.R13B
Cobalt	0.1	7.2	ug/L	20050503.R13B
Copper	1	<1	ug/L	20050503.R13B
Europium	1	<1	ug/L	20050503.R13B
Gallium	1	<1	ug/L	20050503.R13B
Iron	20	<20	ug/L	20050503.R13B
Lanthanum	1	<1	ug/L	20050503.R13B
Lead	1	<1	ug/L	20050503.R13B
Lithium	5	<5	ug/L	20050503.R13B
Magnesium	4	320	ug/L	20050503.R13B
Manganese	1	104	ug/L	20050503.R13B
Mercury	0.1	<0.1	ug/L	20050503.R13B
Molybdenum	1	<1	ug/L	20050503.R13B
Nickel	1	5.8	ug/L	20050503.R13B
Niobium	1	<1	ug/L	20050503.R13B
Phosphorus	50	<50	ug/L	20050503.R13B
Rubidium	1	<1	ug/L	20050503.R13B
Scandium	1	<1	ug/L	20050503.R13B
Selenium	1	<1	ug/L	20050503.R13B
Silver	0.1	<0.1	ug/L	20050503.R13B
Strontium	1	7.4	ug/L	20050503.R13B
Thallium	0.1	<0.1	ug/L	20050503.R13B
Thorium	1	<1	ug/L	20050503.R13B
Tin	1	<1	ug/L	20050503.R13B
Titanium	1	<1	ug/L	20050503.R13B
Tungsten	1	<1	ug/L	20050503.R13B
Uranium	1	<1	ug/L	20050503.R13B

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Work Order: 16551

Sample Name: UM SW-4

Date: 4/27/2005

Matrix: Water

Lab #: 64629

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Vanadium	1	<1	ug/L	20050503.R13B
Yttrium	1	<1	ug/L	20050503.R13B
Zinc	1	25	ug/L	20050503.R13B
Zirconium	1	<1	ug/L	20050503.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.58	pH	20050428.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050506.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.17	mg/L	20050429.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.013	mg/L	20050429.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050506.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.58	NTU	20050428.TURB

Sample Name: UM SW-5

Date: 4/27/2005

Matrix: Water

Lab #: 64630

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050429.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.022	mg/L	20050429.NH3

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050503.R5A
Fluoride	0.01	<0.01	mg/L	20050503.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050503.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050503.R5A
Sulfate	0.2	5.3	mg/L	20050503.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	18	TCU	20050428.color

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Work Order: 16551

Sample Name: UM SW-5

Date: 4/27/2005

Matrix: Water

Lab #: 64630

Colour	MDL	Result	Units	QAQCID
Parameter				
True Colour	4	19	TCU	20050428.color

CONDWATER	MDL	Result	Units	QAQCID
Parameter				
Conductivity	2	27.9	µS/cm	20050428.cond

DOC Water	MDL	Result	Units	QAQCID
Parameter				
Dissolved Organic Carbon	0.4	5.8	mg/L	20050428.DOC2
Dissolved Organic Carbon	0.4	5.6	mg/L	20050428.DOC2

Hardness	MDL	Result	Units	QAQCID
Parameter				
Total Hardness (as CaCO3)	0.1	4.7	mg/L	20050503,R90B

ICPMS Water	MDL	Result	Units	QAQCID
Parameter				
Aluminum	1	213	ug/L	20050503.R13B
Antimony	1	<1	ug/L	20050503.R13B
Arsenic	1	<1	ug/L	20050503.R13B
Barium	1	15	ug/L	20050503.R13B
Beryllium	1	<1	ug/L	20050503.R13B
Bismuth	1	<1	ug/L	20050503.R13B
Boron	2	<2	ug/L	20050503.R13B
Cadmium	0.1	<0.1	ug/L	20050503.R13B
Calcium	50	1200	ug/L	20050503.R13B
Cerium	1	<1	ug/L	20050503.R13B
Cesium	1	<1	ug/L	20050503.R13B
Chromium	1	<1	ug/L	20050503.R13B
Cobalt	0.1	2.9	ug/L	20050503.R13B
Copper	1	<1	ug/L	20050503.R13B
Europium	1	<1	ug/L	20050503.R13B
Gallium	1	<1	ug/L	20050503.R13B
Iron	20	300	ug/L	20050503.R13B
Lanthanum	1	<1	ug/L	20050503.R13B
Lead	1	<1	ug/L	20050503.R13B
Lithium	5	<5	ug/L	20050503.R13B
Magnesium	4	414	ug/L	20050503.R13B
Manganese	1	71	ug/L	20050503.R13B
Mercury	0.1	<0.1	ug/L	20050503.R13B
Molybdenum	1	<1	ug/L	20050503.R13B
Nickel	1	4	ug/L	20050503.R13B
Niobium	1	<1	ug/L	20050503.R13B
Phosphorus	50	<50	ug/L	20050503.R13B
Rubidium	1	1.1	ug/L	20050503.R13B
Scandium	1	<1	ug/L	20050503.R13B
Selenium	1	<1	ug/L	20050503.R13B

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Ursa Major Minerals Inc.

Work Order: 16551

Sample Name: UM SW-5

Date: 4/27/2005

Matrix: Water

Lab #: 64630

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Silver	0.1	<0.1	ug/L	20050503.R13B
Strontium	1	9.2	ug/L	20050503.R13B
Thallium	0.1	<0.1	ug/L	20050503.R13B
Thorium	1	<1	ug/L	20050503.R13B
Tin	1	<1	ug/L	20050503.R13B
Titanium	1	2.1	ug/L	20050503.R13B
Tungsten	1	<1	ug/L	20050503.R13B
Uranium	1	<1	ug/L	20050503.R13B
Vanadium	1	<1	ug/L	20050503.R13B
Yttrium	1	<1	ug/L	20050503.R13B
Zinc	1	16	ug/L	20050503.R13B
Zirconium	1	<1	ug/L	20050503.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.11	pH	20050428.pH

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050506.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.22	mg/L	20050429.TKN
Total Kjeldahl Nitrogen	0.05	0.19	mg/L	20050429.TKN

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.012	mg/L	20050429.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	7	mg/L	20050506.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	5.3	NTU	20050428.TURB
Turbidity	0.2	5.1	NTU	20050428.TURB

MDL Method detection limit or minimum reporting limit.
 % Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.
 QAQCID This is a unique reference to the quality control data set used to generate the reported value.
 Data reported for organic analysis in soil samples are corrected for moisture content
 Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.
 INT Interferences
 TNTC To numerous to count
 ND Not detected

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Ursa Major Minerals Inc.

Work Order: 16551

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	200	180	20050429.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	<10	<10	<10	20050429.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.432	0.4	20050429.NH3

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050429.NH3

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.8	8	20050503.R5A
Chloride	0.2	mg/L	12	10	8	20050503.R5A
Fluoride	0.01	mg/L	12	10.9	9	20050503.R5A
Nitrate (as N)	0.1	mg/L	12	11	8	20050503.R5A
Nitrite (as N)	0.05	mg/L	12	10.6	8	20050503.R5A
Phosphate	0.3	mg/L	12	10	8	20050503.R5A
Sulfate	0.2	mg/L	12	9.7	8	20050503.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050503.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050503.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050503.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050503.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050503.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050503.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050503.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	80	70	60	20050428.color

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID

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Work Order: 16551

Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20050428.color

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	104	96	20050428.cond

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050428.cond

DOC Water

20 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	19	18	20050428.DOC2

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20050428.DOC2

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	467	400	20050503.R13B
Arsenic	1	ug/L	120	94	80	20050503.R13B
Barium	1	ug/L	120	92	80	20050503.R13B
Beryllium	1	ug/L	125	87	75	20050503.R13B
Boron	2	ug/L	125	89	75	20050503.R13B
Cadmium	1	ug/L	120	96	80	20050503.R13B
Calcium	50	ug/L	1200	840	800	20050503.R13B
Chromium	1	ug/L	120	90	80	20050503.R13B
Cobalt	1	ug/L	120	98	80	20050503.R13B
Copper	1	ug/L	120	104	80	20050503.R13B
Iron	20	ug/L	600	450	400	20050503.R13B
Lead	1	ug/L	120	98	80	20050503.R13B
Magnesium	4	ug/L	1200	897	800	20050503.R13B
Manganese	1	ug/L	120	87	80	20050503.R13B
Molybdenum	1	ug/L	120	94	80	20050503.R13B
Nickel	1	ug/L	120	95	80	20050503.R13B
Selenium	1	ug/L	120	90	80	20050503.R13B
Thallium	1	ug/L	120	99	80	20050503.R13B
Vanadium	1	ug/L	120	91	80	20050503.R13B
Zinc	1	ug/L	120	95	80	20050503.R13B

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Work Order: 16551

ICPMS Water

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	95	80	20050503.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050503.R13B
Antimony	1	ug/L	5	<1	<1	20050503.R13B
Arsenic	1	ug/L	5	<1	<1	20050503.R13B
Barium	1	ug/L	5	<1	<1	20050503.R13B
Beryllium	1	ug/L	5	<1	<1	20050503.R13B
Bismuth	1	ug/L	5	<1	<1	20050503.R13B
Boron	2	ug/L	5	<2	<2	20050503.R13B
Cadmium	1	ug/L	5	<1	<1	20050503.R13B
Calcium	50	ug/L	<50	<50	<50	20050503.R13B
Cerium	1	ug/L	5	<1	<1	20050503.R13B
Cesium	1	ug/L	5	<1	<1	20050503.R13B
Chromium	1	ug/L	5	<1	<1	20050503.R13B
Cobalt	1	ug/L	5	<1	<1	20050503.R13B
Copper	1	ug/L	5	<1	<1	20050503.R13B
Europium	1	ug/L	5	<1	<1	20050503.R13B
Gallium	1	ug/L	5	<1	<1	20050503.R13B
Iron	20	ug/L	<20	<20	<20	20050503.R13B
Lanthanum	1	ug/L	5	<1	<1	20050503.R13B
Lead	1	ug/L	5	<1	<1	20050503.R13B
Lithium	1	ug/L	5	<1	<1	20050503.R13B
Magnesium	4	ug/L	20	<4	<4	20050503.R13B
Manganese	1	ug/L	5	<1	<1	20050503.R13B
Mercury	1	ug/L	5	<1	<1	20050503.R13B
Molybdenum	1	ug/L	5	<1	<1	20050503.R13B
Nickel	1	ug/L	5	<1	<1	20050503.R13B
Niobium	1	ug/L	5	<1	<1	20050503.R13B
Phosphorus	20	ug/L	<20	<20	<20	20050503.R13B
Rubidium	1	ug/L	5	<1	<1	20050503.R13B
Scandium	1	ug/L	5	<1	<1	20050503.R13B
Selenium	1	ug/L	5	<1	<1	20050503.R13B
Silver	5	ug/L	5	<5	<5	20050503.R13B
Strontium	1	ug/L	5	<1	<1	20050503.R13B
Thallium	1	ug/L	5	<1	<1	20050503.R13B
Thorium	1	ug/L	5	<1	<1	20050503.R13B
Tin	1	ug/L	5	<1	<1	20050503.R13B
Titanium	1	ug/L	5	<1	<1	20050503.R13B
Tungsten	1	ug/L	5	<1	<1	20050503.R13B
Uranium	1	ug/L	5	<1	<1	20050503.R13B
Vanadium	1	ug/L	5	<1	<1	20050503.R13B
Yttrium	1	ug/L	5	<1	<1	20050503.R13B
Zinc	1	ug/L	5	<1	<1	20050503.R13B
Zirconium	1	ug/L	5	<1	<1	20050503.R13B

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Work Order: 16551

ICPMS Water

Blank

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.072	6.9	20050428.pH

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050429.TKN

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.6	0.55	0.4	20050429.TKN

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.05	0.04	20050429.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20050429.TP

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.9	0.85	0.8	20050428.TURB

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050428.TURB

UCL Upper Control Limit

LCL Lower Control Limit

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Analytical Report

Client:	Jan Linquist	Work Order Number:	16738
Company:	NAR Environmental Consulting	Date Order Received:	5/6/2005
Address:	1130 Southlane Road	Regulation:	PWQO
	Sudbury, Ontario, P3G 1N6	PO #:	04-1327
Phone:	(705) 522-5990	Project #:	Ursa Major
Fax:	(705) 522-1898		
Email:	jan.linquist@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
REF	65201	Water		5/4/2005	
SPB	65202	Water		5/4/2005	
SPB-1	65203	Soil		5/4/2005	
SPB-2	65204	Soil		5/4/2005	
SPB-3	65205	Soil		5/4/2005	
STB	65206	Water		5/4/2005	
STB-1	65207	Soil		5/4/2005	
STB-2	65208	Soil		5/4/2005	
STB-3	65209	Soil		5/4/2005	
NF	65210	Water		5/5/2005	
FF	65211	Water		5/5/2005	
LB	65212	Water		5/5/2005	
LB-1	65213	Soil		5/5/2005	
LB-2	65214	Soil		5/5/2005	
LB-3	65215	Soil		5/5/2005	

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NAR Environmental Consulting

Work Order: 16738

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ACIDITY	Determination of acidity Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-2310
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Soil	Determination of Metals in Soil by ICP/MS with Aqua Regia Digest Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
Moisture	Determination of Percent Moisture Instrument group: Mettler Analytical Balance	In House
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Sediment	Determination of Total Kjeldahl Nitrogen in Sediments by Block Digest/FIA Instrument group: Skalar San++ FIA	APHA 4500B
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TOC Soil	Determination of Total Organic Carbon in Soil Instrument group: Leco TOC Analyzer	APHA
TP Sediment	Determination of Total Phosphorus in Sediment by Block Digest/FIA Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

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NAR Environmental Consulting

Work Order: 16738

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

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TESTMARK Laboratories Ltd.

Committed to Quality and Service

NAR Environmental Consulting

Work Order: 16738

Sample Data:

Sample Name: REF

Date: 5/4/2005

Matrix: Water

Lab #: 65201

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	2.5	mg/L	20050516.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050509.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.055	mg/L	20050511.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1	mg/L	20050511.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050511.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050511.R5A
Sulfate	0.2	4.8	mg/L	20050511.R5A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	34.3	µS/cm	20050508.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	11.7	mg/L	20050511.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Calcium	50	3200	ug/L	20050511.R13C
Magnesium	4	915	ug/L	20050511.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.93	pH	20050506.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	44	mg/L	20050516.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.22	mg/L	20050509.R58A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050516.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1	NTU	20050506.R21A

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Work Order: 16738

Sample Name: SPB

Date: 5/4/2005

Matrix: Water

Lab #: 65202

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	2.5	mg/L	20050516.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050509.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.05	mg/L	20050511.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.94	mg/L	20050511.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050511.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050511.R5A
Sulfate	0.2	4.7	mg/L	20050511.R5A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	33.93	µS/cm	20050506.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	11.6	mg/L	20050511.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Calcium	50	3200	ug/L	20050511.R13C
Magnesium	4	881	ug/L	20050511.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.87	pH	20050506.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	56	mg/L	20050516.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.25	mg/L	20050509.R58A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050516.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.6	NTU	20050506.R21A

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NAR Environmental Consulting

Work Order: 16738

Sample Name: SPB-1

Date: 5/4/2005

Matrix: Soil

Lab #: 65203

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	12600	µg/g	20050517.R13B
Aluminum	50	12000	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	13	µg/g	20050517.R13B
Arsenic	0.5	13	µg/g	20050517.R13B
Barium	0.5	151	µg/g	20050517.R13B
Barium	0.5	148	µg/g	20050517.R13B
Beryllium	0.5	0.81	µg/g	20050517.R13B
Beryllium	0.5	0.88	µg/g	20050517.R13B
Bismuth	0.5	0.54	µg/g	20050517.R13B
Bismuth	0.5	0.56	µg/g	20050517.R13B
Cadmium	0.05	1.4	µg/g	20050517.R13B
Cadmium	0.05	1.4	µg/g	20050517.R13B
Calcium	20	3210	µg/g	20050517.R13B
Calcium	20	3070	µg/g	20050517.R13B
Cerium	0.5	82.5	µg/g	20050517.R13B
Cerium	0.5	83.9	µg/g	20050517.R13B
Cesium	0.5	0.96	µg/g	20050517.R13B
Cesium	0.5	0.99	µg/g	20050517.R13B
Chromium	0.5	36	µg/g	20050517.R13B
Chromium	0.5	36	µg/g	20050517.R13B
Cobalt	0.05	28.2	µg/g	20050517.R13B
Cobalt	0.05	27.6	µg/g	20050517.R13B
Copper	0.5	32	µg/g	20050517.R13B
Copper	0.5	34	µg/g	20050517.R13B
Europium	0.5	0.96	µg/g	20050517.R13B
Europium	0.5	0.99	µg/g	20050517.R13B
Gallium	0.5	7.9	µg/g	20050517.R13B
Gallium	0.5	7.9	µg/g	20050517.R13B
Iron	1000	65000	µg/g	20050517.R13B
Iron	1000	63000	µg/g	20050517.R13B
Lanthanum	0.5	44	µg/g	20050517.R13B
Lanthanum	0.5	46	µg/g	20050517.R13B
Lead	0.5	45	µg/g	20050517.R13B
Lead	0.5	45	µg/g	20050517.R13B
Lithium	2	12	µg/g	20050517.R13B
Lithium	2	12	µg/g	20050517.R13B
Magnesium	20	5530	µg/g	20050517.R13B
Magnesium	20	5030	µg/g	20050517.R13B
Manganese	50	2300	µg/g	20050517.R13B
Manganese	50	2500	µg/g	20050517.R13B
Mercury	0.05	0.11	µg/g	20050517.R13B
Mercury	0.05	0.11	µg/g	20050517.R13B
Molybdenum	0.5	1.5	µg/g	20050517.R13B

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Work Order: 16738

Sample Name: SPB-1

Date: 5/4/2005

Matrix: Soil

Lab #: 65203

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Molybdenum	0.5	1.6	µg/g	20050517.R13B
Nickel	0.5	56.6	µg/g	20050517.R13B
Nickel	0.5	58.4	µg/g	20050517.R13B
Niobium	0.5	3.2	µg/g	20050517.R13B
Niobium	0.5	3.2	µg/g	20050517.R13B
Rubidium	0.5	11	µg/g	20050517.R13B
Rubidium	0.5	11	µg/g	20050517.R13B
Scandium	0.5	4.5	µg/g	20050517.R13B
Scandium	0.5	4.9	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	19	µg/g	20050517.R13B
Strontium	0.5	18	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	23	µg/g	20050517.R13B
Thorium	0.5	23	µg/g	20050517.R13B
Tin	0.5	1.7	µg/g	20050517.R13B
Tin	0.5	1.4	µg/g	20050517.R13B
Titanium	5	1100	µg/g	20050517.R13B
Titanium	5	997	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	7.8	µg/g	20050517.R13B
Uranium	0.5	8.1	µg/g	20050517.R13B
Vanadium	0.5	57.1	µg/g	20050517.R13B
Vanadium	0.5	57.6	µg/g	20050517.R13B
Yttrium	0.5	12	µg/g	20050517.R13B
Yttrium	0.5	12	µg/g	20050517.R13B
Zinc	5	200	µg/g	20050517.R13B
Zinc	5	190	µg/g	20050517.R13B
Zirconium	0.5	9.8	µg/g	20050517.R13B
Zirconium	0.5	13	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	82.4	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	600	4900	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	4.4	%	20050514.R55A

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Work Order: 16738

Sample Name: SPB-1

Date: 5/4/2005

Matrix: Soil

Lab #: 65203

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	500	1300	µg/g	20050516.R23A

Sample Name: SPB-2

Date: 5/4/2005

Matrix: Soil

Lab #: 65204

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	7430	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	2.4	µg/g	20050517.R13B
Barium	0.5	69.6	µg/g	20050517.R13B
Beryllium	0.5	<0.5	µg/g	20050517.R13B
Bismuth	0.5	<0.5	µg/g	20050517.R13B
Cadmium	0.05	0.51	µg/g	20050517.R13B
Calcium	20	2200	µg/g	20050517.R13B
Cerium	0.5	52.1	µg/g	20050517.R13B
Cesium	0.5	0.6	µg/g	20050517.R13B
Chromium	0.5	22	µg/g	20050517.R13B
Cobalt	0.05	9.96	µg/g	20050517.R13B
Copper	0.5	19	µg/g	20050517.R13B
Europium	0.5	<0.5	µg/g	20050517.R13B
Gallium	0.5	5.1	µg/g	20050517.R13B
Iron	1000	17000	µg/g	20050517.R13B
Lanthanum	0.5	22	µg/g	20050517.R13B
Lead	0.5	21	µg/g	20050517.R13B
Lithium	2	8.2	µg/g	20050517.R13B
Magnesium	2	3180	µg/g	20050517.R13B
Manganese	5	945	µg/g	20050517.R13B
Mercury	0.05	<0.05	µg/g	20050517.R13B
Molybdenum	0.5	0.75	µg/g	20050517.R13B
Nickel	0.5	24	µg/g	20050517.R13B
Niobium	0.5	2.8	µg/g	20050517.R13B
Rubidium	0.5	7.7	µg/g	20050517.R13B
Scandium	0.5	2.7	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	12	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	12	µg/g	20050517.R13B
Tin	0.5	0.95	µg/g	20050517.R13B
Titanium	5	763	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	3.2	µg/g	20050517.R13B
Vanadium	0.5	33	µg/g	20050517.R13B



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Work Order: 16738

Sample Name: SPB-2

Date: 5/4/2005

Matrix: Soil

Lab #: 65204

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Yttrium	0.5	5.9	µg/g	20050517.R13B
Zinc	0.5	65.2	µg/g	20050517.R13B
Zirconium	0.5	5.7	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	66.9	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	300	2400	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	3	%	20050514.R55A

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	300	480	µg/g	20050516.R23A

Sample Name: SPB-3

Date: 5/4/2005

Matrix: Soil

Lab #: 65205

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	9830	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	1.9	µg/g	20050517.R13B
Barium	0.5	92.7	µg/g	20050517.R13B
Beryllium	0.5	<0.5	µg/g	20050517.R13B
Bismuth	0.5	<0.5	µg/g	20050517.R13B
Cadmium	0.05	0.68	µg/g	20050517.R13B
Calcium	20	2540	µg/g	20050517.R13B
Cerium	0.5	61.5	µg/g	20050517.R13B
Cesium	0.5	0.72	µg/g	20050517.R13B
Chromium	0.5	25	µg/g	20050517.R13B
Cobalt	0.05	11.1	µg/g	20050517.R13B
Copper	0.5	22	µg/g	20050517.R13B
Europium	0.5	0.58	µg/g	20050517.R13B
Gallium	0.5	5.5	µg/g	20050517.R13B
Iron	1000	21000	µg/g	20050517.R13B
Lanthanum	0.5	27	µg/g	20050517.R13B
Lead	0.5	32	µg/g	20050517.R13B
Lithium	2	9.6	µg/g	20050517.R13B
Magnesium	2	3910	µg/g	20050517.R13B
Manganese	5	1400	µg/g	20050517.R13B
Mercury	0.05	<0.05	µg/g	20050517.R13B
Molybdenum	0.5	0.87	µg/g	20050517.R13B

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Sample Name: SPB-3

Date: 5/4/2005

Matrix: Soil

Lab #: 65205

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Nickel	0.5	36	µg/g	20050517.R13B
Niobium	0.5	2.5	µg/g	20050517.R13B
Rubidium	0.5	8.8	µg/g	20050517.R13B
Scandium	0.5	3.1	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	14	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	15	µg/g	20050517.R13B
Tin	0.5	0.99	µg/g	20050517.R13B
Titanium	5	995	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	3.7	µg/g	20050517.R13B
Vanadium	0.5	36	µg/g	20050517.R13B
Yttrium	0.5	6.9	µg/g	20050517.R13B
Zinc	0.5	87.7	µg/g	20050517.R13B
Zirconium	0.5	3.3	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	72.7	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	400	2300	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	3.2	%	20050514.R55A
Total Organic Carbon	0.05	3.3	%	20050514.R55A

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	300	1100	µg/g	20050516.R23A

Sample Name: STB

Date: 5/4/2005

Matrix: Water

Lab #: 65206

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	3.8	mg/L	20050516.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050509.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.12	mg/L	20050511.R42A



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Work Order: 16738

Sample Name: STB

Date: 5/4/2005

Matrix: Water

Lab #: 65206

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.91	mg/L	20050511.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050511.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050511.R5A
Sulfate	0.2	4.8	mg/L	20050511.R5A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	33.99	µS/cm	20050506.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	11.1	mg/L	20050511.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Calcium	50	3000	ug/L	20050511.R13C
Magnesium	4	869	ug/L	20050511.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.91	pH	20050506.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	44	mg/L	20050516.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.32	mg/L	20050509.R58A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050516.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.2	NTU	20050506.R21A

Sample Name: STB-1

Date: 5/4/2005

Matrix: Soil

Lab #: 65207

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	12700	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	6.3	µg/g	20050517.R13B
Barium	0.5	111	µg/g	20050517.R13B
Beryllium	0.5	0.83	µg/g	20050517.R13B
Bismuth	0.5	0.59	µg/g	20050517.R13B
Cadmium	0.05	1.4	µg/g	20050517.R13B

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Work Order: 16738

Sample Name: STB-1

Date: 5/4/2005

Matrix: Soil

Lab #: 65207

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Calcium	20	3120	µg/g	20050517.R13B
Cerium	0.5	80.3	µg/g	20050517.R13B
Cesium	0.5	1.1	µg/g	20050517.R13B
Chromium	0.5	37	µg/g	20050517.R13B
Cobalt	0.05	19.3	µg/g	20050517.R13B
Copper	0.5	39	µg/g	20050517.R13B
Europium	0.5	1	µg/g	20050517.R13B
Gallium	0.5	7.6	µg/g	20050517.R13B
Iron	1000	36000	µg/g	20050517.R13B
Lanthanum	0.5	48	µg/g	20050517.R13B
Lead	0.5	56.7	µg/g	20050517.R13B
Lithium	2	12	µg/g	20050517.R13B
Magnesium	20	4900	µg/g	20050517.R13B
Manganese	5	726	µg/g	20050517.R13B
Mercury	0.05	0.12	µg/g	20050517.R13B
Molybdenum	0.5	1.4	µg/g	20050517.R13B
Nickel	0.5	48	µg/g	20050517.R13B
Niobium	0.5	3.8	µg/g	20050517.R13B
Rubidium	0.5	12	µg/g	20050517.R13B
Scandium	0.5	5.1	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	18	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	21	µg/g	20050517.R13B
Tin	0.5	1.8	µg/g	20050517.R13B
Titanium	5	1070	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	8.2	µg/g	20050517.R13B
Vanadium	0.5	53.2	µg/g	20050517.R13B
Yttrium	0.5	12	µg/g	20050517.R13B
Zinc	5	150	µg/g	20050517.R13B
Zirconium	0.5	12	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	82.2	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	500	6000	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	9.17	%	20050514.R55A



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Work Order: 16738

Sample Name: STB-1

Date: 5/4/2005

Matrix: Soil

Lab #: 65207

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	400	1300	µg/g	20050516.R23A

Sample Name: STB-2

Date: 5/4/2005

Matrix: Soil

Lab #: 65208

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	11500	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	5.2	µg/g	20050517.R13B
Barium	0.5	123	µg/g	20050517.R13B
Beryllium	0.5	0.77	µg/g	20050517.R13B
Bismuth	0.5	0.59	µg/g	20050517.R13B
Cadmium	0.05	1.4	µg/g	20050517.R13B
Calcium	20	3270	µg/g	20050517.R13B
Cerium	0.5	78.2	µg/g	20050517.R13B
Cesium	0.5	1.2	µg/g	20050517.R13B
Chromium	0.5	38	µg/g	20050517.R13B
Cobalt	0.05	20	µg/g	20050517.R13B
Copper	0.5	41	µg/g	20050517.R13B
Europium	0.5	0.93	µg/g	20050517.R13B
Gallium	0.5	8.2	µg/g	20050517.R13B
Iron	1000	28000	µg/g	20050517.R13B
Lanthanum	0.5	43	µg/g	20050517.R13B
Lead	0.5	60	µg/g	20050517.R13B
Lithium	2	13	µg/g	20050517.R13B
Magnesium	20	4970	µg/g	20050517.R13B
Manganese	5	1530	µg/g	20050517.R13B
Mercury	0.05	0.096	µg/g	20050517.R13B
Molybdenum	0.5	1.8	µg/g	20050517.R13B
Nickel	0.5	52.6	µg/g	20050517.R13B
Niobium	0.5	3.7	µg/g	20050517.R13B
Rubidium	0.5	14	µg/g	20050517.R13B
Scandium	0.5	4.6	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	19	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	19	µg/g	20050517.R13B
Tin	0.5	2.1	µg/g	20050517.R13B
Titanium	5	1010	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	7.5	µg/g	20050517.R13B
Vanadium	0.5	55.6	µg/g	20050517.R13B
Yttrium	0.5	12	µg/g	20050517.R13B
Zinc	5	160	µg/g	20050517.R13B



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Work Order: 16738

Sample Name: STB-2

Date: 5/4/2005

Matrix: Soil

Lab #: 65208

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Zirconium	0.5	6.4	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	78.8	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	400	4300	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	5.88	%	20050514.R55A

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	300	850	µg/g	20050516.R23A

Sample Name: STB-3

Date: 5/4/2005

Matrix: Soil

Lab #: 65209

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	10300	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	6.6	µg/g	20050517.R13B
Barium	0.5	132	µg/g	20050517.R13B
Beryllium	0.5	0.69	µg/g	20050517.R13B
Bismuth	0.5	<0.5	µg/g	20050517.R13B
Cadmium	0.05	1.2	µg/g	20050517.R13B
Calcium	20	3130	µg/g	20050517.R13B
Cerium	0.5	69.4	µg/g	20050517.R13B
Cesium	0.5	1	µg/g	20050517.R13B
Chromium	0.5	31	µg/g	20050517.R13B
Cobalt	0.05	18.8	µg/g	20050517.R13B
Copper	0.5	29	µg/g	20050517.R13B
Europium	0.5	0.93	µg/g	20050517.R13B
Gallium	0.5	7	µg/g	20050517.R13B
Iron	1000	32000	µg/g	20050517.R13B
Lanthanum	0.5	43	µg/g	20050517.R13B
Lead	0.5	40	µg/g	20050517.R13B
Lithium	2	11	µg/g	20050517.R13B
Magnesium	2	4310	µg/g	20050517.R13B
Manganese	50	2000	µg/g	20050517.R13B
Mercury	0.05	0.1	µg/g	20050517.R13B
Molybdenum	0.5	1.3	µg/g	20050517.R13B
Nickel	0.5	41	µg/g	20050517.R13B
Niobium	0.5	2.8	µg/g	20050517.R13B



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Work Order: 16738

Sample Name: STB-3

Date: 5/4/2005

Matrix: Soil

Lab #: 65209

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Rubidium	0.5	11	µg/g	20050517.R13B
Scandium	0.5	4.2	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	18	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	15	µg/g	20050517.R13B
Tin	0.5	1.3	µg/g	20050517.R13B
Titanium	5	796	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	7.4	µg/g	20050517.R13B
Vanadium	0.5	44	µg/g	20050517.R13B
Yttrium	0.5	11	µg/g	20050517.R13B
Zinc	5	110	µg/g	20050517.R13B
Zirconium	0.5	3.3	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	85.9	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	700	5500	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	7.98	%	20050514.R55A

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	600	1900	µg/g	20050516.R23A

Sample Name: NF

Date: 5/5/2005

Matrix: Water

Lab #: 65210

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	2.5	mg/L	20050516.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050509.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.058	mg/L	20050511.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.93	mg/L	20050511.R5A



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Work Order: 16738

Sample Name: NF

Date: 5/5/2005

Matrix: Water

Lab #: 65210

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Nitrate (as N)	0.1	<0.1	mg/L	20050511.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050511.R5A
Sulfate	0.2	4.7	mg/L	20050511.R5A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	35.07	µS/cm	20050506.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	11.8	mg/L	20050511.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Calcium	50	3200	ug/L	20050511.R13C
Magnesium	4	919	ug/L	20050511.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.94	pH	20050506.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	56	mg/L	20050516.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.41	mg/L	20050509.R58A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050516.R27A
Total Suspended Solids	6	<6	mg/L	20050516.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1	NTU	20050506.R21A

Sample Name: FF

Date: 5/5/2005

Matrix: Water

Lab #: 65211

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	2	mg/L	20050516.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050509.R69A



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Work Order: 16738

Sample Name: FF

Date: 5/5/2005

Matrix: Water

Lab #: 65211

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.054	mg/L	20050511.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.86	mg/L	20050511.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050511.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050511.R5A
Sulfate	0.2	4.8	mg/L	20050511.R5A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	33.97	µS/cm	20050506.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	10.3	mg/L	20050511.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Calcium	50	2800	ug/L	20050511.R13C
Magnesium	4	811	ug/L	20050511.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.89	pH	20050506.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	38	mg/L	20050516.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.41	mg/L	20050509.R58A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050516.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.3	NTU	20050506.R21A

Sample Name: LB

Date: 5/5/2005

Matrix: Water

Lab #: 65212

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	2.5	mg/L	20050516.R24A



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Work Order: 16738

Sample Name: LB

Date: 5/5/2005

Matrix: Water

Lab #: 65212

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050509.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.054	mg/L	20050511.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.86	mg/L	20050511.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050511.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050511.R5A
Sulfate	0.2	4.7	mg/L	20050511.R5A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	33.58	µS/cm	20050506.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	11.1	mg/L	20050511.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Calcium	50	3000	ug/L	20050511.R13C
Magnesium	4	880	ug/L	20050511.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.89	pH	20050506.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	53	mg/L	20050516.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.24	mg/L	20050509.R58A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050516.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.1	NTU	20050506.R21A



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Work Order: 16738

Sample Name: LB-1

Date: 5/5/2005

Matrix: Soil

Lab #: 65213

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	9760	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	4.4	µg/g	20050517.R13B
Barium	0.5	52.8	µg/g	20050517.R13B
Beryllium	0.5	<0.5	µg/g	20050517.R13B
Bismuth	0.5	<0.5	µg/g	20050517.R13B
Cadmium	0.05	0.43	µg/g	20050517.R13B
Calcium	20	2570	µg/g	20050517.R13B
Cerium	0.5	58.2	µg/g	20050517.R13B
Cesium	0.5	0.65	µg/g	20050517.R13B
Chromium	0.5	23	µg/g	20050517.R13B
Cobalt	0.05	8.76	µg/g	20050517.R13B
Copper	0.5	18	µg/g	20050517.R13B
Europium	0.5	0.52	µg/g	20050517.R13B
Gallium	0.5	4.9	µg/g	20050517.R13B
Iron	1000	18000	µg/g	20050517.R13B
Lanthanum	0.5	24	µg/g	20050517.R13B
Lead	0.5	22	µg/g	20050517.R13B
Lithium	2	7.8	µg/g	20050517.R13B
Magnesium	2	3200	µg/g	20050517.R13B
Manganese	5	617	µg/g	20050517.R13B
Mercury	0.05	<0.05	µg/g	20050517.R13B
Molybdenum	0.5	0.88	µg/g	20050517.R13B
Nickel	0.5	21	µg/g	20050517.R13B
Niobium	0.5	3.1	µg/g	20050517.R13B
Rubidium	0.5	8.8	µg/g	20050517.R13B
Scandium	0.5	2.9	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	16	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	15	µg/g	20050517.R13B
Tin	0.5	0.89	µg/g	20050517.R13B
Titanium	5	1060	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	3.1	µg/g	20050517.R13B
Vanadium	0.5	33	µg/g	20050517.R13B
Yttrium	0.5	6.8	µg/g	20050517.R13B
Zinc	0.5	53.6	µg/g	20050517.R13B
Zirconium	0.5	5.5	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	71.7	%	20050514.R99A

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Work Order: 16738

Sample Name: LB-1

Date: 5/5/2005

Matrix: Soil

Lab #: 65213

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	400	2600	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	4.3	%	20050514.R55A

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	300	800	µg/g	20050516.R23A

Sample Name: LB-2

Date: 5/5/2005

Matrix: Soil

Lab #: 65214

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	11700	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	6.2	µg/g	20050517.R13B
Barium	0.5	112	µg/g	20050517.R13B
Beryllium	0.5	0.66	µg/g	20050517.R13B
Bismuth	0.5	0.56	µg/g	20050517.R13B
Cadmium	0.05	0.9	µg/g	20050517.R13B
Calcium	20	2960	µg/g	20050517.R13B
Cerium	0.5	81.3	µg/g	20050517.R13B
Cesium	0.5	0.94	µg/g	20050517.R13B
Chromium	0.5	34	µg/g	20050517.R13B
Cobalt	0.05	18.3	µg/g	20050517.R13B
Copper	0.5	35	µg/g	20050517.R13B
Europium	0.5	0.81	µg/g	20050517.R13B
Gallium	0.5	7.2	µg/g	20050517.R13B
Iron	1000	36000	µg/g	20050517.R13B
Lanthanum	0.5	38	µg/g	20050517.R13B
Lead	0.5	49.9	µg/g	20050517.R13B
Lithium	2	11	µg/g	20050517.R13B
Magnesium	2	4760	µg/g	20050517.R13B
Manganese	5	1780	µg/g	20050517.R13B
Mercury	0.05	0.089	µg/g	20050517.R13B
Molybdenum	0.5	1.5	µg/g	20050517.R13B
Nickel	0.5	48	µg/g	20050517.R13B
Niobium	0.5	3.6	µg/g	20050517.R13B
Rubidium	0.5	11	µg/g	20050517.R13B
Scandium	0.5	4.1	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	17	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	24	µg/g	20050517.R13B



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Sample Name: LB-2

Date: 5/5/2005

Matrix: Soil

Lab #: 65214

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Tin	0.5	1.6	µg/g	20050517.R13B
Titanium	5	999	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	5.8	µg/g	20050517.R13B
Vanadium	0.5	51.5	µg/g	20050517.R13B
Yttrium	0.5	10	µg/g	20050517.R13B
Zinc	5	130	µg/g	20050517.R13B
Zirconium	0.5	5.8	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	76.5	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	500	3000	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	3.8	%	20050514.R55A

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	400	1000	µg/g	20050516.R23A

Sample Name: LB-3

Date: 5/5/2005

Matrix: Soil

Lab #: 65215

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Aluminum	50	9760	µg/g	20050517.R13B
Antimony	0.5	<0.5	µg/g	20050517.R13B
Arsenic	0.5	3.5	µg/g	20050517.R13B
Barium	0.5	78.6	µg/g	20050517.R13B
Beryllium	0.5	<0.5	µg/g	20050517.R13B
Bismuth	0.5	<0.5	µg/g	20050517.R13B
Cadmium	0.05	0.51	µg/g	20050517.R13B
Calcium	20	2870	µg/g	20050517.R13B
Cerium	0.5	68.9	µg/g	20050517.R13B
Cesium	0.5	0.75	µg/g	20050517.R13B
Chromium	0.5	27	µg/g	20050517.R13B
Cobalt	0.05	12.6	µg/g	20050517.R13B
Copper	0.5	24	µg/g	20050517.R13B
Europium	0.5	0.61	µg/g	20050517.R13B
Gallium	0.5	5.8	µg/g	20050517.R13B
Iron	900	17000	µg/g	20050517.R13B
Lanthanum	0.5	28	µg/g	20050517.R13B
Lead	0.5	29	µg/g	20050517.R13B



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Sample Name: LB-3

Date: 5/5/2005

Matrix: Soil

Lab #: 65215

ICPMS Soil				
Parameter	MDL	Result	Units	QAQCID
Lithium	2	9.9	µg/g	20050517.R13B
Magnesium	2	3940	µg/g	20050517.R13B
Manganese	5	621	µg/g	20050517.R13B
Mercury	0.05	<0.05	µg/g	20050517.R13B
Molybdenum	0.5	0.82	µg/g	20050517.R13B
Nickel	0.5	32	µg/g	20050517.R13B
Niobium	0.5	3.4	µg/g	20050517.R13B
Rubidium	0.5	9.8	µg/g	20050517.R13B
Scandium	0.5	3.3	µg/g	20050517.R13B
Selenium	0.5	<0.5	µg/g	20050517.R13B
Silver	0.5	<0.5	µg/g	20050517.R13B
Strontium	0.5	17	µg/g	20050517.R13B
Thallium	0.5	<0.5	µg/g	20050517.R13B
Thorium	0.5	19	µg/g	20050517.R13B
Tin	0.5	1.1	µg/g	20050517.R13B
Titanium	5	1120	µg/g	20050517.R13B
Tungsten	0.5	<0.5	µg/g	20050517.R13B
Uranium	0.5	3.6	µg/g	20050517.R13B
Vanadium	0.5	39	µg/g	20050517.R13B
Yttrium	0.5	7.3	µg/g	20050517.R13B
Zinc	0.5	73.3	µg/g	20050517.R13B
Zirconium	0.5	4.8	µg/g	20050517.R13B

Moisture				
Parameter	MDL	Result	Units	QAQCID
% Moisture	0.1	68.1	%	20050514.R99A

TKN Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	300	2000	µg/g	20050514.R58A

TOC Soil				
Parameter	MDL	Result	Units	QAQCID
Total Organic Carbon	0.05	3	%	20050514.R55A

TP Sediment				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	300	860	µg/g	20050516.R23A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Work Order: 16738

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	220	200	180	20050509.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	<10	<10	<10	20050509.R69A

AmmoniaFIA

500 ppb HN ₃						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.443	0.4	20050511.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050511.R42A

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.7	8	20050511.R5A
Chloride	0.2	mg/L	12	9.6	8	20050511.R5A
Fluoride	0.01	mg/L	12	10.3	9	20050511.R5A
Nitrate (as N)	0.1	mg/L	12	10.7	8	20050511.R5A
Nitrite (as N)	0.05	mg/L	12	10.2	8	20050511.R5A
Phosphate	0.3	mg/L	12	10	8	20050511.R5A
Sulfate	0.2	mg/L	12	10	8	20050511.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050511.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050511.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050511.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050511.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050511.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050511.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050511.R5A

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	102.2	96	20050506.R12A



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CONDWATER

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050506.R12A

ICPMS Soil

5 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	0.05	µg/g	30	26.5	20	20050517.R13B
Arsenic	0.05	µg/g	6	4.5	4	20050517.R13B
Barium	0.05	µg/g	6	5.06	4	20050517.R13B
Beryllium	0.05	µg/g	6.25	4.8	3.75	20050517.R13B
Boron	0.1	µg/g	6.25	5.3	3.75	20050517.R13B
Cadmium	0.05	µg/g	6	5.07	4	20050517.R13B
Calcium	3	µg/g	60	45	40	20050517.R13B
Chromium	0.05	µg/g	6	4.4	4	20050517.R13B
Cobalt	0.05	µg/g	6	4.8	4	20050517.R13B
Copper	0.05	µg/g	6	4.7	4	20050517.R13B
Iron	1	µg/g	30	25	20	20050517.R13B
Lead	0.05	µg/g	6	5.23	4	20050517.R13B
Magnesium	0.2	µg/g	60	47.8	40	20050517.R13B
Manganese	0.05	µg/g	6	4.5	4	20050517.R13B
Molybdenum	0.05	µg/g	6	5.37	4	20050517.R13B
Nickel	0.05	µg/g	6	4.9	4	20050517.R13B
Selenium	0.05	µg/g	6	4.3	4	20050517.R13B
Thallium	0.05	µg/g	6	5.15	4	20050517.R13B
Vanadium	0.05	µg/g	6	4.3	4	20050517.R13B
Zinc	0.05	µg/g	6	5	4	20050517.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	2	µg/g	<2	<2	<2	20050517.R13B
Antimony	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Arsenic	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Barium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Beryllium	3	µg/g	<3	<3	<3	20050517.R13B
Bismuth	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Boron	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Cadmium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Calcium	3	µg/g	<3	<3	<3	20050517.R13B
Cerium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Cesium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Chromium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Cobalt	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Copper	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Europium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Gallium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Iron	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B



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ICPMS Soil

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Lanthanum	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Lead	0.05	µg/g	0.05	<0.05	<0.05	20050517.R13B
Magnesium	1	µg/g	<1	<1	<1	20050517.R13B
Manganese	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Mercury	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Molybdenum	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Nickel	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Niobium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Rubidium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Scandium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Selenium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Silver	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Strontium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Thallium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Thorium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Tin	3-	µg/g	<3	<3	<3	20050517.R13B
Titanium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Tungsten	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Uranium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Vanadium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Yttrium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Zinc	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B
Zirconium	0.5	µg/g	<0.5	<0.5	<0.5	20050517.R13B

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	505	400	20050511.R13C
Arsenic	1	ug/L	120	94	80	20050511.R13C
Barium	1	ug/L	120	99	80	20050511.R13C
Beryllium	1	ug/L	125	100	75	20050511.R13C
Boron	2	ug/L	125	110	75	20050511.R13C
Cadmium	1	ug/L	120	95	80	20050511.R13C
Calcium	50	ug/L	1200	890	800	20050511.R13C
Chromium	1	ug/L	120	92	80	20050511.R13C
Cobalt	1	ug/L	120	96	80	20050511.R13C
Copper	1	ug/L	120	95	80	20050511.R13C
Iron	20	ug/L	600	490	400	20050511.R13C
Lead	1	ug/L	120	100	80	20050511.R13C
Magnesium	4	ug/L	1200	1000	800	20050511.R13C
Manganese	1	ug/L	120	91	80	20050511.R13C
Molybdenum	1	ug/L	120	83	80	20050511.R13C
Nickel	1	ug/L	120	93	80	20050511.R13C
Selenium	1	ug/L	120	95	80	20050511.R13C
Thallium	1	ug/L	120	98	80	20050511.R13C



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ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Vanadium	1	ug/L	120	92	80	20050511.R13C
Zinc	1	ug/L	120	97	80	20050511.R13C

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	110	80	20050511.R13C

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050511.R13C
Antimony	1	ug/L	5	<1	<1	20050511.R13C
Arsenic	1	ug/L	5	<1	<1	20050511.R13C
Barium	1	ug/L	5	<1	<1	20050511.R13C
Beryllium	1	ug/L	5	<1	<1	20050511.R13C
Bismuth	1	ug/L	5	<1	<1	20050511.R13C
Boron	2	ug/L	5	<2	<2	20050511.R13C
Cadmium	1	ug/L	5	<1	<1	20050511.R13C
Calcium	50	ug/L	<50	<50	<50	20050511.R13C
Cerium	1	ug/L	5	<1	<1	20050511.R13C
Cesium	1	ug/L	5	<1	<1	20050511.R13C
Chromium	1	ug/L	5	<1	<1	20050511.R13C
Cobalt	1	ug/L	5	<1	<1	20050511.R13C
Copper	1	ug/L	5	<1	<1	20050511.R13C
Europium	1	ug/L	5	<1	<1	20050511.R13C
Gallium	1	ug/L	5	<1	<1	20050511.R13C
Iron	20	ug/L	<20	<20	<20	20050511.R13C
Lanthanum	1	ug/L	5	<1	<1	20050511.R13C
Lead	1	ug/L	5	<1	<1	20050511.R13C
Lithium	1	ug/L	5	<1	<1	20050511.R13C
Magnesium	4	ug/L	20	<4	<4	20050511.R13C
Manganese	1	ug/L	5	<1	<1	20050511.R13C
Mercury	1	ug/L	5	<1	<1	20050511.R13C
Molybdenum	1	ug/L	5	<1	<1	20050511.R13C
Nickel	1	ug/L	5	<1	<1	20050511.R13C
Niobium	1	ug/L	5	<1	<1	20050511.R13C
Phosphorus	20	ug/L	<20	<20	<20	20050511.R13C
Rubidium	1	ug/L	5	<1	<1	20050511.R13C
Scandium	1	ug/L	5	<1	<1	20050511.R13C
Selenium	1	ug/L	5	<1	<1	20050511.R13C
Silver	5	ug/L	5	<5	<5	20050511.R13C
Strontium	1	ug/L	5	<1	<1	20050511.R13C
Thallium	1	ug/L	5	<1	<1	20050511.R13C
Thorium	1	ug/L	5	<1	<1	20050511.R13C
Tin	1	ug/L	5	<1	<1	20050511.R13C
Titanium	1	ug/L	5	<1	<1	20050511.R13C
Tungsten	1	ug/L	5	<1	<1	20050511.R13C



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ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Uranium	1	ug/L	5	<1	<1	20050511.R13C
Vanadium	1	ug/L	5	<1	<1	20050511.R13C
Yttrium	1	ug/L	5	<1	<1	20050511.F13C
Zinc	1	ug/L	5	<1	<1	20050511.F13C
Zirconium	1	ug/L	5	<1	<1	20050511.R13C

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.072	6.9	20050506.R2A

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	220	160	20050516.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	20	mg/L	20	<20	<20	20050516.R27B

TKN Soil

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.01	%(w/w)	250	<0.01	<0.01	20050514.R58A

ERA 545						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	1	%(w/w)	5.32	3.9	1.08	20050514.R58A

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050509.R58A

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.6	0.57	0.4	20050509.R58A

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.9	0.85	0.7	20050506.R21A



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Turbidity

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050506.R21A

UCL Upper Control Limit

LCL Lower Control Limit

Field notes collected by Bill Dillabough on May 18, 2005.
 All temp. readings in degrees Celsius. Date recorded m/d/y

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Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	5/18/2005 13:25	18	13	5.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	very light flow
UM Sw-2	5/18/2005 13:55	21	12	7	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	medium flow, clear water
UM Sw-3	5/18/2005 12:55	14	13	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	good flow, clear water
UM Sw-3a	5/18/2005 15:10	19	11	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light flow, clear water
UM Sw-4	5/18/2005 11:45	14	6	11	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light flow, clear water
UM Sw-5	5/18/2005 11:35	17	9	9	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow, clear water



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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	16993
Company:	Ursa Major Minerals Inc.	Date Order Received:	5/19/2005
Address:	8 King Street East, Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca; dduff@knightpiesold.com		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	66038	Water		5/18/2005	13:25
UM SW-2	66039	Water		5/18/2005	13:55
UM SW-3	66040	Water		5/18/2005	12:55
UM SW-3A	66041	Water		5/18/2005	15:10
UM SW-4	66042	Water		5/18/2005	11:45
UM SW-5	66043	Water		5/18/2005	11:35



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Ursa Major Minerals Inc.

Work Order: 16993

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130



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Ursa Major Minerals Inc.

Work Order: 16993

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director



TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc.

Work Order: 16993

Sample Data:

Sample Name: UM SW-1

Date: 5/18/2005

Matrix: Water

Lab #: 66038

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050527.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.03	mg/L	20050526.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.28	mg/L	20050525.R5A
Fluoride	0.01	0.013	mg/L	20050525.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050525.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050525.R5A
Sulfate	0.2	6.7	mg/L	20050525.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	7.5	TCU	20050519.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	24.99	µS/cm	20050519.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	1.2	mg/L	20050525.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	4.2	mg/L	20050519.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	266	ug/L	20050519.R13D
Antimony	1	<1	ug/L	20050519.R13D
Arsenic	1	<1	ug/L	20050519.R13D
Barium	1	18	ug/L	20050519.R13D
Beryllium	1	<1	ug/L	20050519.R13D
Bismuth	1	<1	ug/L	20050519.R13D
Boron	2	4.3	ug/L	20050519.R13D
Cadmium	0.1	0.15	ug/L	20050519.R13D
Calcium	50	1100	ug/L	20050519.R13D
Cerium	1	<1	ug/L	20050519.R13D
Cesium	1	<1	ug/L	20050519.R13D
Chromium	1	<1	ug/L	20050519.R13D
Cobalt	0.1	15.5	ug/L	20050519.R13D
Copper	1	<1	ug/L	20050519.R13D
Europium	1	<1	ug/L	20050519.R13D



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Ursa Major Minerals Inc.

Work Order: 16993

Sample Name: UM SW-1

Date: 5/18/2005

Matrix: Water

Lab #: 66038

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Gallium	1	<1	ug/L	20050519.R13D
Iron	20	220	ug/L	20050519.R13D
Lanthanum	1	<1	ug/L	20050519.R13D
Lead	1	<1	ug/L	20050519.R13D
Lithium	5	<5	ug/L	20050519.R13D
Magnesium	4	330	ug/L	20050519.R13D
Manganese	1	251	ug/L	20050519.R13D
Mercury	0.1	<0.1	ug/L	20050519.R13D
Molybdenum	1	<1	ug/L	20050519.R13D
Nickel	1	7	ug/L	20050519.R13D
Niobium	1	<1	ug/L	20050519.R13D
Phosphorus	50	<50	ug/L	20050519.R13D
Rubidium	1	1.3	ug/L	20050519.R13D
Scandium	1	<1	ug/L	20050519.R13D
Selenium	1	<1	ug/L	20050519.R13D
Silver	0.1	<0.1	ug/L	20050519.R13D
Strontium	1	8	ug/L	20050519.R13D
Thallium	0.1	<0.1	ug/L	20050519.R13D
Thorium	1	<1	ug/L	20050519.R13D
Tin	1	<1	ug/L	20050519.R13D
Titanium	1	<1	ug/L	20050519.R13D
Tungsten	1	<1	ug/L	20050519.R13D
Uranium	1	<1	ug/L	20050519.R13D
Vanadium	1	<1	ug/L	20050519.R13D
Yttrium	1	<1	ug/L	20050519.R13D
Zinc	1	19	ug/L	20050519.R13D
Zirconium	1	<1	ug/L	20050519.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.87	pH	20050519.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050525.R27C

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.22	mg/L	20050520.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.028	mg/L	20050520.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050525.R27B



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Ursa Major Minerals Inc.

Work Order: 16993

Sample Name: UM SW-1

Date: 5/18/2005

Matrix: Water

Lab #: 66038

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.42	NTU	20050520.R21B

Sample Name: UM SW-2

Date: 5/18/2005

Matrix: Water

Lab #: 66039

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050527.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.027	mg/L	20050526.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.38	mg/L	20050525.R5A
Fluoride	0.01	<0.01	mg/L	20050525.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050525.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050525.R5A
Sulfate	0.2	6.7	mg/L	20050525.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	8.4	TCU	20050519.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	24.22	µS/cm	20050519.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	1.9	mg/L	20050525.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	6	mg/L	20050519.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	251	ug/L	20050519.R13D
Antimony	1	<1	ug/L	20050519.R13D
Arsenic	1	<1	ug/L	20050519.R13D
Barium	1	16	ug/L	20050519.R13D
Beryllium	1	<1	ug/L	20050519.R13D
Bismuth	1	<1	ug/L	20050519.R13D
Boron	2	3.7	ug/L	20050519.R13D
Cadmium	0.1	0.1	ug/L	20050519.R13D
Calcium	50	1700	ug/L	20050519.R13D
Cerium	1	<1	ug/L	20050519.R13D
Cesium	1	<1	ug/L	20050519.R13D



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Ursa Major Minerals Inc.

Work Order: 16993

Sample Name: UM SW-2

Date: 5/18/2005

Matrix: Water

Lab #: 66039

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Chromium	1	<1	ug/L	20050519.R13D
Cobalt	0.1	5.3	ug/L	20050519.R13D
Copper	1	<1	ug/L	20050519.R13D
Europium	1	<1	ug/L	20050519.R13D
Gallium	1	<1	ug/L	20050519.R13D
Iron	20	<20	ug/L	20050519.R13D
Lanthanum	1	<1	ug/L	20050519.R13D
Lead	1	<1	ug/L	20050519.R13D
Lithium	5	<5	ug/L	20050519.R13D
Magnesium	4	410	ug/L	20050519.R13D
Manganese	1	68	ug/L	20050519.R13D
Mercury	0.1	<0.1	ug/L	20050519.R13D
Molybdenum	1	<1	ug/L	20050519.R13D
Nickel	1	5.2	ug/L	20050519.R13D
Niobium	1	<1	ug/L	20050519.R13D
Phosphorus	50	<50	ug/L	20050519.R13D
Rubidium	1	<1	ug/L	20050519.R13D
Scandium	1	<1	ug/L	20050519.R13D
Selenium	1	<1	ug/L	20050519.R13D
Silver	0.1	<0.1	ug/L	20050519.R13D
Strontium	1	8.9	ug/L	20050519.R13D
Thallium	0.1	<0.1	ug/L	20050519.R13D
Thorium	1	<1	ug/L	20050519.R13D
Tin	1	<1	ug/L	20050519.R13D
Titanium	1	<1	ug/L	20050519.R13D
Tungsten	1	<1	ug/L	20050519.R13D
Uranium	1	<1	ug/L	20050519.R13D
Vanadium	1	<1	ug/L	20050519.R13D
Yttrium	1	<1	ug/L	20050519.R13D
Zinc	1	20	ug/L	20050519.R13D
Zirconium	1	<1	ug/L	20050519.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.11	pH	20050519.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050525.R27C

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.28	mg/L	20050520.R58A
Total Kjeldahl Nitrogen	0.05	0.26	mg/L	20050520.R58A



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Work Order: 16993

Sample Name: UM SW-2

Date: 5/18/2005

Matrix: Water

Lab #: 66039

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.017	mg/L	20050520.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	7	mg/L	20050525.R27B

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.22	NTU	20050520.R21B

Sample Name: UM SW-3

Date: 5/18/2005

Matrix: Water

Lab #: 66040

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	11	mg/L	20050527.R69A

Ammonia FIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.042	mg/L	20050526.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.25	mg/L	20050525.R5A
Fluoride	0.01	0.011	mg/L	20050525.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050525.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050525.R5A
Sulfate	0.2	6.2	mg/L	20050525.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	35	TCU	20050519.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	35.86	µS/cm	20050519.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	2.8	mg/L	20050525.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	13.2	mg/L	20050519.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	126	ug/L	20050519.R13D
Antimony	1	<1	ug/L	20050519.R13D
Arsenic	1	<1	ug/L	20050519.R13D
Barium	1	11	ug/L	20050519.R13D

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Ursa Major Minerals Inc.

Work Order: 16993

Sample Name: UM SW-3

Date: 5/18/2005

Matrix: Water

Lab #: 66040

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Beryllium	1	<1	ug/L	20050519.R13D
Bismuth	1	<1	ug/L	20050519.R13D
Boron	2	3.8	ug/L	20050519.R13D
Cadmium	0.1	<0.1	ug/L	20050519.R13D
Calcium	50	3700	ug/L	20050519.R13D
Cerium	1	<1	ug/L	20050519.R13D
Cesium	1	<1	ug/L	20050519.R13D
Chromium	1	<1	ug/L	20050519.R13D
Cobalt	0.1	0.98	ug/L	20050519.R13D
Copper	1	1.9	ug/L	20050519.R13D
Europium	1	<1	ug/L	20050519.R13D
Gallium	1	<1	ug/L	20050519.R13D
Iron	20	150	ug/L	20050519.R13D
Lanthanum	1	<1	ug/L	20050519.R13D
Lead	1	<1	ug/L	20050519.R13D
Lithium	5	<5	ug/L	20050519.R13D
Magnesium	4	974	ug/L	20050519.R13D
Manganese	1	47	ug/L	20050519.R13D
Mercury	0.1	<0.1	ug/L	20050519.R13D
Molybdenum	1	<1	ug/L	20050519.R13D
Nickel	1	10	ug/L	20050519.R13D
Niobium	1	<1	ug/L	20050519.R13D
Phosphorus	50	<50	ug/L	20050519.R13D
Rubidium	1	<1	ug/L	20050519.R13D
Scandium	1	<1	ug/L	20050519.R13D
Selenium	1	<1	ug/L	20050519.R13D
Silver	0.1	<0.1	ug/L	20050519.R13D
Strontium	1	15	ug/L	20050519.R13D
Thallium	0.1	<0.1	ug/L	20050519.R13D
Thorium	1	<1	ug/L	20050519.R13D
Tin	1	<1	ug/L	20050519.R13D
Titanium	1	2.4	ug/L	20050519.R13D
Tungsten	1	<1	ug/L	20050519.R13D
Uranium	1	<1	ug/L	20050519.R13D
Vanadium	1	<1	ug/L	20050519.R13D
Yttrium	1	<1	ug/L	20050519.R13D
Zinc	1	9.8	ug/L	20050519.R13D
Zirconium	1	<1	ug/L	20050519.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.54	pH	20050519.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	53	mg/L	20050525.R27C



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Ursa Major Minerals Inc.

Work Order: 16993

Sample Name: UM SW-3

Date: 5/18/2005

Matrix: Water

Lab #: 66040

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	49	mg/L	20050525.R27C

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.42	mg/L	20050520.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.023	mg/L	20050520.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050525.R27B
Total Suspended Solids	6	<6	mg/L	20050525.R27B

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.7	NTU	20050520.R21B

Sample Name: UM SW-3A

Date: 5/18/2005

Matrix: Water

Lab #: 66041

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	13	mg/L	20050527.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.029	mg/L	20050526.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.35	mg/L	20050525.R5A
Fluoride	0.01	<0.01	mg/L	20050525.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050525.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050525.R5A
Sulfate	0.2	4.9	mg/L	20050525.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	21	TCU	20050519.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	34.43	µS/cm	20050519.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	2.2	mg/L	20050525.R55A



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Work Order: 16993

Sample Name: UM SW-3A

Date: 5/18/2005

Matrix: Water

Lab #: 66041

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	13.3	mg/L	20050519.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	143	ug/L	20050519.R13D
Antimony	1	<1	ug/L	20050519.R13D
Arsenic	1	<1	ug/L	20050519.R13D
Barium	1	14	ug/L	20050519.R13D
Beryllium	1	<1	ug/L	20050519.R13D
Bismuth	1	<1	ug/L	20050519.R13D
Boron	2	5	ug/L	20050519.R13D
Cadmium	0.1	<0.1	ug/L	20050519.R13D
Calcium	50	4000	ug/L	20050519.R13D
Cerium	1	<1	ug/L	20050519.R13D
Cesium	1	<1	ug/L	20050519.R13D
Chromium	1	<1	ug/L	20050519.R13D
Cobalt	0.1	0.5	ug/L	20050519.R13D
Copper	1	2.4	ug/L	20050519.R13D
Europium	1	<1	ug/L	20050519.R13D
Gallium	1	<1	ug/L	20050519.R13D
Iron	20	<20	ug/L	20050519.R13D
Lanthanum	1	<1	ug/L	20050519.R13D
Lead	1	<1	ug/L	20050519.R13D
Lithium	5	<5	ug/L	20050519.R13D
Magnesium	4	807	ug/L	20050519.R13D
Manganese	1	8.4	ug/L	20050519.R13D
Mercury	0.1	<0.1	ug/L	20050519.R13D
Molybdenum	1	<1	ug/L	20050519.R13D
Nickel	1	9.9	ug/L	20050519.R13D
Niobium	1	<1	ug/L	20050519.R13D
Phosphorus	50	<50	ug/L	20050519.R13D
Rubidium	1	1.6	ug/L	20050519.R13D
Scandium	1	<1	ug/L	20050519.R13D
Selenium	1	<1	ug/L	20050519.R13D
Silver	0.1	<0.1	ug/L	20050519.R13D
Strontium	1	13	ug/L	20050519.R13D
Thallium	0.1	<0.1	ug/L	20050519.R13D
Thorium	1	<1	ug/L	20050519.R13D
Tin	1	<1	ug/L	20050519.R13D
Titanium	1	<1	ug/L	20050519.R13D
Tungsten	1	<1	ug/L	20050519.R13D
Uranium	1	<1	ug/L	20050519.R13D
Vanadium	1	<1	ug/L	20050519.R13D
Yttrium	1	<1	ug/L	20050519.R13D
Zinc	1	12	ug/L	20050519.R13D
Zirconium	1	<1	ug/L	20050519.R13D



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Work Order: 16993

Sample Name: UM SW-3A

Date: 5/18/2005

Matrix: Water

Lab #: 66041

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.13	pH	20050519.R2A
TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050525.R27C
TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.23	mg/L	20050520.R58A
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.018	mg/L	20050520.TP
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050525.R27B
Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.87	NTU	20050520.R21B

Sample Name: UM SW-4

Date: 5/18/2005

Matrix: Water

Lab #: 66042

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050527.R69A
Ammonia FIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.027	mg/L	20050526.R42A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.24	mg/L	20050525.R5A
Fluoride	0.01	0.013	mg/L	20050525.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050525.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050525.R5A
Sulfate	0.2	8.5	mg/L	20050525.R5A
Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	7.5	TCU	20050519.R26A
CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	27.77	µS/cm	20050519.R12A



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Ursa Major Minerals Inc.

Work Order: 16993

Sample Name: UM SW-4

Date: 5/18/2005

Matrix: Water

Lab #: 66042

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	0.6	mg/L	20050525.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	4.3	mg/L	20050519.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	426	ug/L	20050519.R13D
Aluminum	1	430	ug/L	20050519.R13D
Antimony	1	<1	ug/L	20050519.R13D
Antimony	1	<1	ug/L	20050519.R13D
Arsenic	1	<1	ug/L	20050519.R13D
Arsenic	1	<1	ug/L	20050519.R13D
Barium	1	18	ug/L	20050519.R13D
Barium	1	18	ug/L	20050519.R13D
Beryllium	1	<1	ug/L	20050519.R13D
Beryllium	1	<1	ug/L	20050519.R13D
Bismuth	1	<1	ug/L	20050519.R13D
Bismuth	1	<1	ug/L	20050519.R13D
Boron	2	<2	ug/L	20050519.R13D
Boron	2	<2	ug/L	20050519.R13D
Cadmium	0.1	0.14	ug/L	20050519.R13D
Cadmium	0.1	0.19	ug/L	20050519.R13D
Calcium	50	1000	ug/L	20050519.R13D
Calcium	50	910	ug/L	20050519.R13D
Cerium	1	<1	ug/L	20050519.R13D
Cerium	1	<1	ug/L	20050519.R13D
Cesium	1	<1	ug/L	20050519.R13D
Cesium	1	<1	ug/L	20050519.R13D
Chromium	1	<1	ug/L	20050519.R13D
Chromium	1	<1	ug/L	20050519.R13D
Cobalt	0.1	8.6	ug/L	20050519.R13D
Cobalt	0.1	9.3	ug/L	20050519.R13D
Copper	1	<1	ug/L	20050519.R13D
Copper	1	<1	ug/L	20050519.R13D
Europium	1	<1	ug/L	20050519.R13D
Europium	1	<1	ug/L	20050519.R13D
Gallium	1	<1	ug/L	20050519.R13D
Gallium	1	<1	ug/L	20050519.R13D
Iron	20	<20	ug/L	20050519.R13D
Iron	20	<20	ug/L	20050519.R13D
Lanthanum	1	<1	ug/L	20050519.R13D
Lanthanum	1	<1	ug/L	20050519.R13D
Lead	1	<1	ug/L	20050519.R13D
Lead	1	<1	ug/L	20050519.R13D



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Work Order: 16993

Sample Name: UM SW-5

Date: 5/18/2005

Matrix: Water

Lab #: 66043

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	11	TCU	20050519.R26A
True Colour	4	11	TCU	20050519.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	19.63	µS/cm	20050519.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	0.63	mg/L	20050525.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	4.3	mg/L	20050519.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	111	ug/L	20050519.R13D
Antimony	1	<1	ug/L	20050519.R13D
Arsenic	1	<1	ug/L	20050519.R13D
Barium	1	15	ug/L	20050519.R13D
Beryllium	1	<1	ug/L	20050519.R13D
Bismuth	1	<1	ug/L	20050519.R13D
Boron	2	3.1	ug/L	20050519.R13D
Cadmium	0.1	0.11	ug/L	20050519.R13D
Calcium	50	1100	ug/L	20050519.R13D
Cerium	1	<1	ug/L	20050519.R13D
Cesium	1	<1	ug/L	20050519.R13D
Chromium	1	<1	ug/L	20050519.R13D
Cobalt	0.1	2.1	ug/L	20050519.R13D
Copper	1	<1	ug/L	20050519.R13D
Europium	1	<1	ug/L	20050519.R13D
Gallium	1	<1	ug/L	20050519.R13D
Iron	20	54	ug/L	20050519.R13D
Lanthanum	1	<1	ug/L	20050519.R13D
Lead	1	<1	ug/L	20050519.R13D
Lithium	5	<5	ug/L	20050519.R13D
Magnesium	4	380	ug/L	20050519.R13D
Manganese	1	54	ug/L	20050519.R13D
Mercury	0.1	<0.1	ug/L	20050519.R13D
Molybdenum	1	<1	ug/L	20050519.R13D
Nickel	1	3.7	ug/L	20050519.R13D
Niobium	1	<1	ug/L	20050519.R13D
Phosphorus	50	<50	ug/L	20050519.R13D
Rubidium	1	<1	ug/L	20050519.R13D
Scandium	1	<1	ug/L	20050519.R13D
Selenium	1	<1	ug/L	20050519.R13D

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Ursa Major Minerals Inc.

Work Order: 16993

Sample Name: UM SW-5

Date: 5/18/2005

Matrix: Water

Lab #: 66043

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Silver	0.1	<0.1	ug/L	20050519.R13D
Strontium	1	8.9	ug/L	20050519.R13D
Thallium	0.1	<0.1	ug/L	20050519.R13D
Thorium	1	<1	ug/L	20050519.R13D
Tin	1	<1	ug/L	20050519.R13D
Titanium	1	<1	ug/L	20050519.R13D
Tungsten	1	<1	ug/L	20050519.R13D
Uranium	1	<1	ug/L	20050519.R13D
Vanadium	1	<1	ug/L	20050519.R13D
Yttrium	1	<1	ug/L	20050519.R13D
Zinc	1	15	ug/L	20050519.R13D
Zirconium	1	<1	ug/L	20050519.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.32	pH	20050519.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	40	mg/L	20050525.R27C

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.31	mg/L	20050520.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.006	mg/L	20050520.TP

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050525.R27B

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.45	NTU	20050520.R21B

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Ursa Major Minerals Inc.

Work Order: 16993

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	220	200	180	20050527.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	<10	<10	<10	20050527.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.436	0.4	20050526.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050526.R42A

Anions Water

10 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.4	8	20050525.R5A
Chloride	0.2	mg/L	12	9.3	8	20050525.R5A
Fluoride	0.01	mg/L	12	10.4	9	20050525.R5A
Nitrate (as N)	0.1	mg/L	12	10.4	8	20050525.R5A
Nitrite (as N)	0.05	mg/L	12	9.85	8	20050525.R5A
Phosphate	0.3	mg/L	12	9.9	8	20050525.R5A
Sulfate	0.2	mg/L	12	9.5	8	20050525.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050525.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050525.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050525.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050525.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050525.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050525.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050525.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	80	67	60	20050519.R26A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID



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Work Order: 16993

Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20050519.R26A

CONDWATER

100 µS						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	101.3	96	20050519.R12A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050519.R12A

DOC Water

20 ppm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	21	18	20050525.R55A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20050525.R55A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	471	400	20050519.R13D
Arsenic	1	ug/L	120	91	80	20050519.R13D
Barium	1	ug/L	120	100	80	20050519.R13D
Beryllium	1	ug/L	125	98	75	20050519.R13D
Boron	2	ug/L	125	120	75	20050519.R13D
Cadmium	1	ug/L	120	95	80	20050519.R13D
Calcium	50	ug/L	1200	900	800	20050519.R13D
Chromium	1	ug/L	120	89	80	20050519.R13D
Cobalt	1	ug/L	120	94	80	20050519.R13D
Copper	1	ug/L	120	95	80	20050519.R13D
Iron	20	ug/L	600	450	400	20050519.R13D
Lead	1	ug/L	120	103	80	20050519.R13D
Magnesium	4	ug/L	1200	993	800	20050519.R13D
Manganese	1	ug/L	120	86	80	20050519.R13D
Molybdenum	1	ug/L	120	87	80	20050519.R13D
Nickel	1	ug/L	120	93	80	20050519.R13D
Selenium	1	ug/L	120	98	80	20050519.R13D
Thallium	1	ug/L	120	100	80	20050519.R13D
Vanadium	1	ug/L	120	93	80	20050519.R13D
Zinc	1	ug/L	120	114	80	20050519.R13D



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ICPMS Water

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	97	80	20050519.R13D

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050519.R13D
Antimony	1	ug/L	5	<1	<1	20050519.R13D
Arsenic	1	ug/L	5	<1	<1	20050519.R13D
Barium	1	ug/L	5	<1	<1	20050519.R13D
Beryllium	1	ug/L	5	<1	<1	20050519.R13D
Bismuth	1	ug/L	5	<1	<1	20050519.R13D
Boron	2	ug/L	5	<2	<2	20050519.R13D
Cadmium	1	ug/L	5	<1	<1	20050519.R13D
Calcium	50	ug/L	<50	<50	<50	20050519.R13D
Cerium	1	ug/L	5	<1	<1	20050519.R13D
Cesium	1	ug/L	5	<1	<1	20050519.R13D
Chromium	1	ug/L	5	<1	<1	20050519.R13D
Cobalt	1	ug/L	5	<1	<1	20050519.R13D
Copper	1	ug/L	5	<1	<1	20050519.R13D
Europium	1	ug/L	5	<1	<1	20050519.R13D
Gallium	1	ug/L	5	<1	<1	20050519.R13D
Iron	20	ug/L	<20	<20	<20	20050519.R13D
Lanthanum	1	ug/L	5	<1	<1	20050519.R13D
Lead	1	ug/L	5	<1	<1	20050519.R13D
Lithium	1	ug/L	5	<1	<1	20050519.R13D
Magnesium	4	ug/L	20	<4	<4	20050519.R13D
Manganese	1	ug/L	5	<1	<1	20050519.R13D
Mercury	1	ug/L	5	<1	<1	20050519.R13D
Molybdenum	1	ug/L	5	<1	<1	20050519.R13D
Nickel	1	ug/L	5	<1	<1	20050519.R13D
Niobium	1	ug/L	5	<1	<1	20050519.R13D
Phosphorus	20	ug/L	<20	<20	<20	20050519.R13D
Rubidium	1	ug/L	5	<1	<1	20050519.R13D
Scandium	1	ug/L	5	<1	<1	20050519.R13D
Selenium	1	ug/L	5	<1	<1	20050519.R13D
Silver	5	ug/L	5	<5	<5	20050519.R13D
Strontium	1	ug/L	5	<1	<1	20050519.R13D
Thallium	1	ug/L	5	<1	<1	20050519.R13D
Thorium	1	ug/L	5	<1	<1	20050519.R13D
Tin	1	ug/L	5	<1	<1	20050519.R13D
Titanium	1	ug/L	5	<1	<1	20050519.R13D
Tungsten	1	ug/L	5	<1	<1	20050519.R13D
Uranium	1	ug/L	5	<1	<1	20050519.R13D
Vanadium	1	ug/L	5	<1	<1	20050519.R13D
Yttrium	1	ug/L	5	<1	<1	20050519.R13D
Zinc	1	ug/L	5	<1	<1	20050519.R13D
Zirconium	1	ug/L	5	<1	<1	20050519.R13D

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5/27/2005

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Ursa Major Minerals Inc.

Work Order: 16993

ICPMS Water

Blank

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	6.955	6.9	20050519.R2A

TKN Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050520.R58A

control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1	0.8	20050520.R58A

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.05	0.04	20050520.TP

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20050520.TP

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.9	0.87	0.8	20050520.R21B

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050520.R21B

UCL Upper Control Limit

LCL Lower Control Limit

Field notes collected by Bill Dillabough on June 16, 2005.
 All temp. readings in degrees Celsius. Date recorded m/d/y

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	6/16/2005 10:00	13	12	2.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	No flow, standing water, brownish tinge
UM Sw-2	6/16/2005 10:20					Dry no water for a sample
UM Sw-3	6/16/2005 10:50	14	15	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Very light flow, tough to get water deep enough for a sample- light
UM Sw-3a	6/16/2005 12:00	16	15	1.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Standing pool -no real flow
UM Sw-4	6/16/2005 11:10					No Flow. Dry. No Water
UM Sw-5	6/16/2005 11:15	14	12	5.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Light flow, trickle of brown water

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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	17587
Company:	Ursa Major Minerals Inc	Date Order Received:	6/17/2005
Address:	8 King Street East Suite 1300	Regulation:	PWQO
	Toronto, ON, M5C 1B5	PO #:	
Phone:	(416) 864-0615	Project #:	U-03
Fax:	(416) 864-0620		
Email:	rsutcliffe@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	67895	Water		6/16/2005	10:00
UM SW-3	67896	Water		6/16/2005	10:50
UM SW-5	67897	Water		6/16/2005	11:15
UM SW-3A	67898	Water		6/16/2005	12:00



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Ursa Major Minerals Inc

Work Order: 17587

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: - Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130



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Ursa Major Minerals Inc

Work Order: 17587

Sample Data:

Sample Name: UM SW-1

Date: 6/16/2005

Matrix: Water

Lab #: 67895

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050622.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.049	mg/L	20050622.R42A
Ammonia (as N)	0.002	0.049	mg/L	20050622.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050621.R5A
Fluoride	0.01	<0.01	mg/L	20050621.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050621.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050621.R5A
Sulfate	0.2	7.4	mg/L	20050621.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	10	TCU	20050617.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25	µS/cm	20050617.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.3	mg/L	20050621.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	4.4	mg/L	20050617.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	201	ug/L	20050617.R13C
Antimony	1	<1	ug/L	20050617.R13C
Arsenic	1	<1	ug/L	20050617.R13C
Barium	1	11	ug/L	20050617.R13C
Beryllium	1	<1	ug/L	20050617.R13C
Bismuth	1	<1	ug/L	20050617.R13C
Boron	2	5.5	ug/L	20050617.R13C
Cadmium	0.1	0.12	ug/L	20050617.R13C
Calcium	50	1100	ug/L	20050617.R13C
Cerium	1	<1	ug/L	20050617.R13C
Cesium	1	<1	ug/L	20050617.R13C
Chromium	1	<1	ug/L	20050617.R13C
Cobalt	0.1	39.4	ug/L	20050617.R13C
Copper	1	<1	ug/L	20050617.R13C

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6/24/2005

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Work Order: 17587

Sample Name: UM SW-1

Date: 6/16/2005

Matrix: Water

Lab #: 67895

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Europium	1	<1	ug/L	20050617.R13C
Gallium	1	<1	ug/L	20050617.R13C
Iron	20	990	ug/L	20050617.R13C
Lanthanum	1	<1	ug/L	20050617.R13C
Lead	1	<1	ug/L	20050617.R13C
Lithium	5	<5	ug/L	20050617.R13C
Magnesium	4	390	ug/L	20050617.R13C
Manganese	1	776	ug/L	20050617.R13C
Mercury	0.1	<0.1	ug/L	20050617.R13C
Molybdenum	1	<1	ug/L	20050617.R13C
Nickel	1	4.6	ug/L	20050617.R13C
Niobium	1	<1	ug/L	20050617.R13C
Phosphorus	50	<50	ug/L	20050617.R13C
Rubidium	1	1.5	ug/L	20050617.R13C
Scandium	1	1.2	ug/L	20050617.R13C
Selenium	1	<1	ug/L	20050617.R13C
Silver	0.1	<0.1	ug/L	20050617.R13C
Strontium	1	7.7	ug/L	20050617.R13C
Thallium	0.1	<0.1	ug/L	20050617.R13C
Thorium	1	<1	ug/L	20050617.R13C
Tin	1	<1	ug/L	20050617.R13C
Titanium	1	1.1	ug/L	20050617.R13C
Tungsten	1	<1	ug/L	20050617.R13C
Uranium	1	<1	ug/L	20050617.R13C
Vanadium	1	<1	ug/L	20050617.R13C
Yttrium	1	<1	ug/L	20050617.R13C
Zinc	1	17	ug/L	20050617.R13C
Zirconium	1	<1	ug/L	20050617.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.92	pH	20050617.R2C

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	54	mg/L	20050621.R27B
Total Dissolved Solids	30	55	mg/L	20050621.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.18	mg/L	20050623.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.046	mg/L	20050621.R23A



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Ursa Major Minerals Inc

Work Order: 17587

Sample Name: UM SW-1

Date: 6/16/2005

Matrix: Water

Lab #: 67895

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050621.R27A
Total Suspended Solids	6	<6	mg/L	20050621.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.1	NTU	20050617.R21A
Turbidity	0.2	1.1	NTU	20050617.R21A

Sample Name: UM SW-3

Date: 6/16/2005

Matrix: Water

Lab #: 67896

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	27	mg/L	20050622.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.08	mg/L	20050622.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050621.R5A
Fluoride	0.01	<0.01	mg/L	20050621.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050621.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050621.R5A
Sulfate	0.2	2.6	mg/L	20050621.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	63	TCU	20050617.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	57	µS/cm	20050617.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	13	mg/L	20050621.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	23.2	mg/L	20050617.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	122	ug/L	20050617.R13C
Antimony	1	<1	ug/L	20050617.R13C
Arsenic	1	<1	ug/L	20050617.R13C
Barium	1	15	ug/L	20050617.R13C



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Ursa Major Minerals Inc

Work Order: 17587

Sample Name: UM SW-3

Date: 6/16/2005

Matrix: Water

Lab #: 67896

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Beryllium	1	<1	ug/L	20050617.R13C
Bismuth	1	<1	ug/L	20050617.R13C
Boron	2	7.4	ug/L	20050617.R13C
Cadmium	0.1	<0.1	ug/L	20050617.R13C
Calcium	50	6480	ug/L	20050617.R13C
Cerium	1	<1	ug/L	20050617.R13C
Cesium	1	<1	ug/L	20050617.R13C
Chromium	1	<1	ug/L	20050617.R13C
Cobalt	0.1	2.6	ug/L	20050617.R13C
Copper	1	2.3	ug/L	20050617.R13C
Europium	1	<1	ug/L	20050617.R13C
Gallium	1	<1	ug/L	20050617.R13C
Iron	20	860	ug/L	20050617.R13C
Lanthanum	1	<1	ug/L	20050617.R13C
Lead	1	<1	ug/L	20050617.R13C
Lithium	5	<5	ug/L	20050617.R13C
Magnesium	4	1690	ug/L	20050617.R13C
Manganese	1	260	ug/L	20050617.R13C
Mercury	0.1	<0.1	ug/L	20050617.R13C
Molybdenum	1	<1	ug/L	20050617.R13C
Nickel	1	14	ug/L	20050617.R13C
Niobium	1	<1	ug/L	20050617.R13C
Phosphorus	50	<50	ug/L	20050617.R13C
Rubidium	1	1.2	ug/L	20050617.R13C
Scandium	1	<1	ug/L	20050617.R13C
Selenium	1	<1	ug/L	20050617.R13C
Silver	0.1	<0.1	ug/L	20050617.R13C
Strontium	1	24	ug/L	20050617.R13C
Thallium	0.1	<0.1	ug/L	20050617.R13C
Thorium	1	<1	ug/L	20050617.R13C
Tin	1	<1	ug/L	20050617.R13C
Titanium	1	3.1	ug/L	20050617.R13C
Tungsten	1	<1	ug/L	20050617.R13C
Uranium	1	<1	ug/L	20050617.R13C
Vanadium	1	<1	ug/L	20050617.R13C
Yttrium	1	<1	ug/L	20050617.R13C
Zinc	1	8.7	ug/L	20050617.R13C
Zirconium	1	<1	ug/L	20050617.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.62	pH	20050617.R2C

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	45	mg/L	20050621.R27B

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6/24/2005

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TESTMARK Laboratories Ltd.

Committed to Quality and Service

Ursa Major Minerals Inc

Work Order: 17587

Sample Name: UM SW-3

Date: 6/16/2005

Matrix: Water

Lab #: 67896

TDS				
Parameter	MDL	Result	Units	QAQCID
TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.4	mg/L	20050623.R58A
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.045	mg/L	20050621.R23A
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	8	mg/L	20050621.R27A
Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	3.4	NTU	20050617.R21A

Sample Name: UM SW-5

Date: 6/16/2005

Matrix: Water

Lab #: 67897

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050622.R69A
AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.082	mg/L	20050622.R42A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.2	mg/L	20050621.R5A
Fluoride	0.01	0.012	mg/L	20050621.R5A
Nitrate (as N)	0.1	0.13	mg/L	20050621.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050621.R5A
Sulfate	0.2	4.1	mg/L	20050621.R5A
Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	26	TCU	20050617.R26A
CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	21	µS/cm	20050617.R12A
DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7	mg/L	20050621.R55A

A1-374



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Ursa Major Minerals Inc

Work Order: 17587

Sample Name: UM SW-5

Date: 6/16/2005

Matrix: Water

Lab #: 67897

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	5.3	mg/L	20050617.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	177	ug/L	20050617.R13C
Antimony	1	<1	ug/L	20050617.R13C
Arsenic	1	<1	ug/L	20050617.R13C
Barium	1	13	ug/L	20050617.R13C
Beryllium	1	<1	ug/L	20050617.R13C
Bismuth	1	<1	ug/L	20050617.R13C
Boron	2	4.3	ug/L	20050617.R13C
Cadmium	0.1	0.23	ug/L	20050617.R13C
Calcium	50	1300	ug/L	20050617.R13C
Cerium	1	<1	ug/L	20050617.R13C
Cesium	1	<1	ug/L	20050617.R13C
Chromium	1	<1	ug/L	20050617.R13C
Cobalt	0.1	4.4	ug/L	20050617.R13C
Copper	1	<1	ug/L	20050617.R13C
Europium	1	<1	ug/L	20050617.R13C
Gallium	1	<1	ug/L	20050617.R13C
Iron	20	870	ug/L	20050617.R13C
Lanthanum	1	<1	ug/L	20050617.R13C
Lead	1	<1	ug/L	20050617.R13C
Lithium	5	<5	ug/L	20050617.R13C
Magnesium	4	500	ug/L	20050617.R13C
Manganese	1	167	ug/L	20050617.R13C
Mercury	0.1	<0.1	ug/L	20050617.R13C
Molybdenum	1	<1	ug/L	20050617.R13C
Nickel	1	3.2	ug/L	20050617.R13C
Niobium	1	<1	ug/L	20050617.R13C
Phosphorus	50	<50	ug/L	20050617.R13C
Rubidium	1	1.7	ug/L	20050617.R13C
Scandium	1	<1	ug/L	20050617.R13C
Selenium	1	<1	ug/L	20050617.R13C
Silver	0.1	<0.1	ug/L	20050617.R13C
Strontium	1	9	ug/L	20050617.R13C
Thallium	0.1	<0.1	ug/L	20050617.R13C
Thorium	1	<1	ug/L	20050617.R13C
Tin	1	<1	ug/L	20050617.R13C
Titanium	1	1.9	ug/L	20050617.R13C
Tungsten	1	<1	ug/L	20050617.R13C
Uranium	1	<1	ug/L	20050617.R13C
Vanadium	1	<1	ug/L	20050617.R13C
Yttrium	1	<1	ug/L	20050617.R13C
Zinc	1	17	ug/L	20050617.R13C

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A1-375



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Ursa Major Minerals Inc

Work Order: 17587

Sample Name: UM SW-5

Date: 6/16/2005

Matrix: Water

Lab #: 67897

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Zirconium	1	<1	ug/L	20050617.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.55	pH	20050617.R2C

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	50	mg/L	20050621.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.3	mg/L	20050623.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.024	mg/L	20050621.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050621.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.1	NTU	20050617.R21A

Sample Name: UM SW-3A

Date: 6/16/2005

Matrix: Water

Lab #: 67898

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	31	mg/L	20050622.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.069	mg/L	20050622.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.57	mg/L	20050621.R5A
Fluoride	0.01	0.01	mg/L	20050621.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050621.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050621.R5A
Sulfate	0.2	0.63	mg/L	20050621.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	31	TCU	20050617.R26A
True Colour	4	31	TCU	20050617.R26A

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Ursa Major Minerals Inc

Work Order: 17587

Sample Name: UM SW-3A

Date: 6/16/2005

Matrix: Water

Lab #: 67838

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	48	µS/cm	20050617.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.9	mg/L	20050621.R65A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	18.7	mg/L	20050617.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	222	ug/L	20050617.R13C
Antimony	1	<1	ug/L	20050617.R13C
Arsenic	1	<1	ug/L	20050617.R13C
Barium	1	23	ug/L	20050617.R13C
Beryllium	1	<1	ug/L	20050617.R13C
Bismuth	1	<1	ug/L	20050617.R13C
Boron	2	5.7	ug/L	20050617.R13C
Cadmium	0.1	0.16	ug/L	20050617.R13C
Calcium	50	5610	ug/L	20050617.R13C
Cerium	1	<1	ug/L	20050617.R13C
Cesium	1	<1	ug/L	20050617.R13C
Chromium	1	<1	ug/L	20050617.R13C
Cobalt	0.1	21	ug/L	20050617.R13C
Copper	1	6.5	ug/L	20050617.R13C
Europium	1	<1	ug/L	20050617.R13C
Gallium	1	<1	ug/L	20050617.R13C
Iron	20	490	ug/L	20050617.R13C
Lanthanum	1	<1	ug/L	20050617.R13C
Lead	1	<1	ug/L	20050617.R13C
Lithium	5	<5	ug/L	20050617.R13C
Magnesium	4	1130	ug/L	20050617.R13C
Manganese	1	681	ug/L	20050617.R13C
Mercury	0.1	<0.1	ug/L	20050617.R13C
Molybdenum	1	<1	ug/L	20050617.R13C
Nickel	1	19	ug/L	20050617.R13C
Niobium	1	<1	ug/L	20050617.R13C
Phosphorus	50	<50	ug/L	20050617.R13C
Rubidium	1	3.2	ug/L	20050617.R13C
Scandium	1	1.4	ug/L	20050617.R13C
Selenium	1	<1	ug/L	20050617.R13C
Silver	0.1	<0.1	ug/L	20050617.R13C
Strontium	1	19	ug/L	20050617.R13C
Thallium	0.1	<0.1	ug/L	20050617.R13C
Thorium	1	<1	ug/L	20050617.R13C

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Ursa Major Minerals Inc

Work Order: 17587

Sample Name: UM SW-3A

Date: 6/16/2005

Matrix: Water

Lab #: 67898

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Tin	1	<1	ug/L	20050617.R13C
Titanium	1	3.1	ug/L	20050617.R13C
Tungsten	1	<1	ug/L	20050617.R13C
Uranium	1	<1	ug/L	20050617.R13C
Vanadium	1	<1	ug/L	20050617.R13C
Yttrium	1	<1	ug/L	20050617.R13C
Zinc	1	21	ug/L	20050617.R13C
Zirconium	1	<1	ug/L	20050617.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.98	pH	20050617.R2C

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	57	mg/L	20050621.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.27	mg/L	20050623.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.057	mg/L	20050621.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050621.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.1	NTU	20050617.R21A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

A1-27A

Field notes collected by Bill Dillabough on July 14, 2005.
 All temp. readings in degrees Celsius. Date recorded m/d/y

D1-309

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	7/14/2005 9:25					No Water, Dry Conditions
UM Sw-2	7/14/2005 9:40					No Water, Dry Conditions
UM Sw-3	7/14/2005 10:10					No Water, Dry Conditions
UM Sw-3a	7/14/2005 11:15					No Water, Dry Conditions
UM Sw-4	7/14/2005 10:20					No Water, Dry Conditions
UM Sw-5	7/14/2005 10:30	25	20	5	2-500 ml G/C 1-200 ml Metals 2-60 ml P&A	Very little flow, brown water



TESTMARK Laboratories Ltd.

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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	18187
Company:	Ursa Major Minerals Inc	Date Order Received:	7/15/2005
Address:	8 King Street East Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-5	69628	Water		7/14/2005	10:30



TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc

Work Order: 18187

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130

A1-221



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Ursa Major Minerals Inc

Work Order: 18187

This report has been approved by:

Rita Rienguette, Chem. Eng. Tech.
Organic Section Head

Dr. Xiaojing Li
Laboratory Director



TESTMARK Laboratories Ltd.

Committed to Quality and Service

Ursa Major Minerals Inc

Work Order: 18187

Sample Data:

Sample Name: UM SW-5

Date: 7/14/2005

Matrix: Water

Lab #: 69628

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	200	mg/L	20050722.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.17	mg/L	20050719.F.12A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.5	mg/L	20050719.F.5B
Fluoride	0.01	<0.01	mg/L	20050719.R.5B
Nitrate (as N)	0.1	<0.1	mg/L	20050719.F.5B
Nitrite (as N)	0.05	<0.05	mg/L	20050719.F.5B
Sulfate	0.2	3	mg/L	20050719.F.5B

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	62	TCU	20050715.R.26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	24	µS/cm	20050715.F.12A
Conductivity	2	24	µS/cm	20050715.F.12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	20	mg/L	20050721.F.15A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	7.1	mg/L	20050715.F.90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	289	ug/L	20050715.F.13B
Antimony	1	<1	ug/L	20050715.F.13B
Arsenic	1	<1	ug/L	20050715.F.13B
Barium	1	18	ug/L	20050715.F.13B
Beryllium	1	<1	ug/L	20050715.R.13B
Bismuth	1	<1	ug/L	20050715.R.13B
Boron	2	4.2	ug/L	20050715.R.13B
Cadmium	0.1	<0.1	ug/L	20050715.R.13B
Calcium	50	1800	ug/L	20050715.R.13B
Cerium	1	1.5	ug/L	20050715.R.13B
Cesium	1	<1	ug/L	20050715.R.13B
Chromium	1	<1	ug/L	20050715.R.13B
Cobalt	0.1	12.5	ug/L	20050715.R.13B
Copper	1	2.1	ug/L	20050715.R.13B

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AL-233



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Ursa Major Minerals Inc

Work Order: 18187

Sample Name: UM SW-5

Date: 7/14/2005

Matrix: Water

Lab #: 69628

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Europium	1	<1	ug/L	20050715.R13B
Gallium	1	<1	ug/L	20050715.R13B
Iron	20	8420	ug/L	20050715.R13B
Lanthanum	1	<1	ug/L	20050715.R13B
Lead	1	<1	ug/L	20050715.R13B
Lithium	5	<5	ug/L	20050715.R13B
Magnesium	4	652	ug/L	20050715.R13B
Manganese	1	636	ug/L	20050715.R13B
Mercury	0.1	<0.1	ug/L	20050715.R13B
Molybdenum	1	<1	ug/L	20050715.R13B
Nickel	1	9.1	ug/L	20050715.R13B
Niobium	1	<1	ug/L	20050715.R13B
Phosphorus	50	<50	ug/L	20050715.R13B
Rubidium	1	3.4	ug/L	20050715.R13B
Scandium	1	1.1	ug/L	20050715.R13B
Selenium	1	<1	ug/L	20050715.R13B
Silver	0.1	<0.1	ug/L	20050715.R13B
Strontium	1	12	ug/L	20050715.R13B
Thallium	0.1	<0.1	ug/L	20050715.R13B
Thorium	1	<1	ug/L	20050715.R13B
Tin	1	<1	ug/L	20050715.R13B
Titanium	1	3.7	ug/L	20050715.R13B
Tungsten	1	<1	ug/L	20050715.R13B
Uranium	1	<1	ug/L	20050715.R13B
Vanadium	1	1.4	ug/L	20050715.R13B
Yttrium	1	<1	ug/L	20050715.R13B
Zinc	1	15	ug/L	20050715.R13B
Zirconium	1	3.5	ug/L	20050715.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.11	pH	20050715.R2A
pH	N/A	5.91	pH	20050715.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	55	mg/L	20050720.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.81	mg/L	20050718.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.044	mg/L	20050725.R23A
Total Phosphorus (as P)	0.002	0.049	mg/L	20050725.R23A

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7/26/2005

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Ursa Major Minerals Inc

Work Order: 18187

Sample Name: UM SW-5

Date: 7/14/2005

Matrix: Water

Lab #: 69628

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	13	mg/L	20050720.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	11	NTU	20050715.R21A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Analytical Report

Client:	Steve Aiken	Work Order Number:	18651
Company:	Knight Piesold	Date Order Received:	8/5/2005
Address:	34 Commerce Crescent North Bay, ON, P1B 8G8	Regulation:	ODWS
Phone:	(705) 476-2165	PO #:	
Fax:	(705) 474-8095	Project #:	101-00222/1
Email:	saiken@knightpiesold.com		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
MW-05-07	71332	Water		8/2/2005	11:30
MW-05-01	71333	Water		8/2/2005	12:30
MW-05-02	71334	Water		8/2/2005	14:00
MW-05-03	71335	Water		8/2/2005	15:15
MW-05-05	71336	Water		8/2/2005	16:00
MW-05-04	71337	Water		8/3/2005	9:30
MW-05-04A	71338	Water		8/3/2005	9:35
MW-05-08	71339	Water		8/3/2005	10:00
MW-05-09	71340	Water		8/3/2005	12:00
MW-05-06	71341	Water		8/3/2005	15:00



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The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ACIDITY	Determination of acidity Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-2310
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
CN Water FIA	Determination of Cyanide in Water by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
CONDWATER	Determination of conductivity in water Instrument group: Orion Conductivity Meter	Mod. APHA-2510
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Dr. John D. Scollard
Biological Section Head



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Knight Plesold

Work Order: 18651

Sample Data:

Sample Name: MW-05-07

Date: 8/2/2005

Matrix: Water

Lab #: 71332

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	20	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	37	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.017	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	6.8	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	100	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	32.8	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	17	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	9080	ug/L	20050808.R13C
Copper	1	2.5	ug/L	20050808.R13C
Iron	20	200	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	2460	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	1.8	ug/L	20050808.R13C
Nickel	1	15	ug/L	20050808.R13C
Zinc	1	11	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.60	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	59	mg/L	20050810.R27B

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Sample Name: MW-05-07

Date: 8/2/2005

Matrix: Water

Lab #: 71332

TDS				
Parameter	MDL	Result	Units	QAQCID
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	60	21400	mg/L	20050810.R27A

Sample Name: MW-05-01

Date: 8/2/2005

Matrix: Water

Lab #: 71333

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	2.5	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	170	mg/L	20050808.R69A
M-Alkalinity as CaCO ₃ (pH 4.5)	10	170	mg/L	20050808.R69A

Ammonia FIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.324	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	4.3	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	340	µS/cm	20050805.R17A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	144	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	36	ug/L	20050808.R13C
Arsenic	1	12	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	45700	ug/L	20050808.R13C
Copper	1	3.4	ug/L	20050808.R13C
Iron	20	89	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	7240	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	7.4	ug/L	20050808.R13C

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Work Order: 18651

Sample Name: MW-05-01

Date: 8/2/2005

Matrix: Water

Lab #: 71333

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Nickel	1	2.4	ug/L	20050808.R13C
Zinc	1	7	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	8.35	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	300	320	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	60	36900	mg/L	20050810.R27A

Sample Name: MW-05-02

Date: 8/2/2005

Matrix: Water

Lab #: 71334

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	8.8	mg/L	20050811.R24A
Acidity	1	7.5	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	110	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.055	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	12	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	253	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	142	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	1.6	ug/L	20050808.R13C

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Work Order: 18651

Sample Name: MW-05-02

Date: 8/2/2005

Matrix: Water

Lab #: 71334

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Arsenic	1	14	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	48000	ug/L	20050808.R13C
Copper	1	<1	ug/L	20050808.R13C
Iron	20	<20	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	5380	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	7	ug/L	20050808.R13C
Zinc	1	5.8	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.39	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	160	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	32	mg/L	20050810.R27A

Sample Name: MW-05-03

Date: 8/2/2005

Matrix: Water

Lab #: 71335

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	3.8	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	110	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.355	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	13	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

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Work Order: 18651

Sample Name: MW-05-03

Date: 8/2/2005

Matrix: Water

Lab #: 71335

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	241	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	50.2	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	40	ug/L	20050808.R13C
Arsenic	1	8	ug/L	20050808.R13C
Cadmium	0.1	0.14	ug/L	20050808.R13C
Calcium	50	14500	ug/L	20050808.R13C
Copper	1	1.5	ug/L	20050808.R13C
Iron	20	<20	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	3380	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	51	ug/L	20050808.R13C
Nickel	1	2.4	ug/L	20050808.R13C
Zinc	1	2.5	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.85	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	300	490	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	60	10600	mg/L	20050810.R27A

Sample Name: MW-05-05

Date: 8/2/2005

Matrix: Water

Lab #: 71336

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	21	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.035	mg/L	20050805.R42A

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Work Order: 18651

Sample Name: MW-05-05

Date: 8/2/2005

Matrix: Water

Lab #: 71336

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	8	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	5.6	mg/L	20050808.R10C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	347	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	0.15	ug/L	20050808.R13C
Calcium	50	1400	ug/L	20050808.R13C
Copper	1	17	ug/L	20050808.R13C
Iron	20	130	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	499	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	1.3	ug/L	20050808.R13C
Nickel	1	15	ug/L	20050808.R13C
Zinc	1	14	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.91	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	<50	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	720	mg/L	20050810.R27A

Sample Name: MW-05-04

Date: 8/3/2005

Matrix: Water

Lab #: 71337

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	18	mg/L	20050811.R27A

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Work Order: 18651

Sample Name: MW-05-04

Date: 8/3/2005

Matrix: Water

Lab #: 71337

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	14	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.033	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	11	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	49	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	17.3	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	7.5	ug/L	20050808.R13C
Arsenic	1	1.6	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	3700	ug/L	20050808.R13C
Copper	1	2.4	ug/L	20050808.R13C
Iron	20	1500	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	1970	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	6	ug/L	20050808.R13C
Zinc	1	14	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.81	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	100	130	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	30	1100	mg/L	20050810.R27A

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Work Order: 18651

Sample Name: MW-05-04A

Date: 8/3/2005

Matrix: Water

Lab #: 71338

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	20	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	14	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.082	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	11	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	46	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	14.9	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	3.3	ug/L	20050808.R13C
Arsenic	1	1.5	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	3100	ug/L	20050808.R13C
Copper	1	<1	ug/L	20050808.R13C
Iron	20	1400	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	1740	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	5.1	ug/L	20050808.R13C
Zinc	1	8.3	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.75	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050810.R27B

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Work Order: 18651

Sample Name: MW-05-04A

Date: 8/3/2005

Matrix: Water

Lab #: 71338

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	30	1000	mg/L	20050810.R27A

Sample Name: MW-05-08

Date: 8/3/2005

Matrix: Water

Lab #: 71339

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	11	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	27	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.064	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	7.1	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	71	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	27.6	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	8.5	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	0.25	ug/L	20050808.R13C
Calcium	50	7340	ug/L	20050808.R13C
Copper	1	3.4	ug/L	20050808.R13C
Iron	20	1500	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	2250	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	9.1	ug/L	20050808.R13C
Zinc	1	83	ug/L	20050808.R13C

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Work Order: 18651

Sample Name: MW-05-08

Date: 8/3/2005

Matrix: Water

Lab #: 71339

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.43	pH	20050805.R2A
TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	60	mg/L	20050810.R27B
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	830	mg/L	20050810.R27A

Sample Name: MW-05-09

Date: 8/3/2005

Matrix: Water

Lab #: 71340

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	10	mg/L	20050811.R24A
Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	80	mg/L	20050808.R69A
AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.1	mg/L	20050805.R42A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	11	mg/L	20050809.R5A
CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A
CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	150	µS/cm	20050805.R12A
Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	61.9	mg/L	20050808.R90C
ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	3.8	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	17900	ug/L	20050808.R13C
Copper	1	1.7	ug/L	20050808.R13C
Iron	20	320	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C

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Knight Plesold

Work Order: 18651

Sample Name: MW-05-09

Date: 8/3/2005

Matrix: Water

Lab #: 71340

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Magnesium	4	4180	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	1.7	ug/L	20050808.R13C
Zinc	1	7.5	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.94	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	80	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	600	mg/L	20050810.R27A

Sample Name: MW-05-06

Date: 8/3/2005

Matrix: Water

Lab #: 71341

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	10	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	12	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.025	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	9	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	48	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	15.7	mg/L	20050808.R90C

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-06

Date: 8/3/2005

Matrix: Water

Lab #: 71341

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	17	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	3600	ug/L	20050808.R13C
Copper	1	14	ug/L	20050808.R13C
Iron	20	<20	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	1640	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	15	ug/L	20050808.R13C
Zinc	1	17	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.97	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	64	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	280	mg/L	20050810.R27A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Knight Piesold

Work Order: 18651

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	200	180	20050808.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	10	<10	<10	20050808.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.526	0.4	20050805.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050805.R42A

Anions Water

10 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.1	8	20050809.R5A
Chloride	0.2	mg/L	12	9.6	8	20050809.R5A
Fluoride	0.01	mg/L	12	10.5	9	20050809.R5A
Nitrate (as N)	0.1	mg/L	12	11.1	8	20050809.R5A
Nitrite (as N)	0.05	mg/L	12	10.3	8	20050809.R5A
Phosphate	0.3	mg/L	12	11	8	20050809.R5A
Sulfate	0.2	mg/L	12	9.5	8	20050809.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050809.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050809.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050809.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050809.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050809.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050809.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050809.R5A

CN Water FIA

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Free Cyanide	0.002	mg/L	<0.002	<0.002	<0.002	20050809.R43A
Total Cyanide	0.002	mg/L	<0.002	<0.002	<0.002	20050809.R43A

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Knight Piesold

Work Order: 18651

CN Water FIA

Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Free Cyanide	0.002	mg/L	0.06	0.043	0.04	20050809.R43A
Total Cyanide	0.002	mg/L	0.06	0.048	0.04	20050809.R43A

CONDWATER

100 µS Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	100	96	20050805.R12A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050805.R12A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	540	400	20050808.R13C
Arsenic	1	ug/L	120	91	80	20050808.R13C
Barium	1	ug/L	120	100	80	20050808.R13C
Beryllium	1	ug/L	125	98	75	20050808.R13C
Boron	2	ug/L	125	100	75	20050808.R13C
Cadmium	1	ug/L	120	90	80	20050808.R13C
Calcium	50	ug/L	1200	950	800	20050808.R13C
Chromium	1	ug/L	120	98	80	20050808.R13C
Cobalt	1	ug/L	120	99	80	20050808.R13C
Copper	1	ug/L	120	94	80	20050808.R13C
Iron	20	ug/L	600	480	400	20050808.R13C
Lead	1	ug/L	120	100	80	20050808.R13C
Magnesium	4	ug/L	1200	1080	800	20050808.R13C
Manganese	1	ug/L	120	91	80	20050808.R13C
Molybdenum	1	ug/L	120	104	80	20050808.R13C
Nickel	1	ug/L	120	99	80	20050808.R13C
Selenium	1	ug/L	120	98	80	20050808.R13C
Thallium	1	ug/L	120	99	80	20050808.R13C
Vanadium	1	ug/L	120	99	80	20050808.R13C
Zinc	1	ug/L	120	92	80	20050808.R13C

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	120	80	20050808.R13C

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050808.R13C
Antimony	1	ug/L	5	<1	<1	20050808.R13C
Arsenic	1	ug/L	5	<1	<1	20050808.R13C

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Knight Piesold

Work Order: 18651

ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Barium	1	ug/L	5	<1	<1	20050808.R13C
Beryllium	1	ug/L	5	<1	<1	20050808.R13C
Bismuth	1	ug/L	5	<1	<1	20050808.R13C
Boron	2	ug/L	5	<2	<2	20050808.R13C
Cadmium	1	ug/L	5	<1	<1	20050808.R13C
Calcium	50	ug/L	<50	<50	<50	20050808.R13C
Cerium	1	ug/L	5	<1	<1	20050808.R13C
Cesium	1	ug/L	5	<1	<1	20050808.R13C
Chromium	1	ug/L	5	<1	<1	20050808.R13C
Cobalt	1	ug/L	5	<1	<1	20050808.R13C
Copper	1	ug/L	5	<1	<1	20050808.R13C
Europium	1	ug/L	5	<1	<1	20050808.R13C
Gallium	1	ug/L	5	<1	<1	20050808.R13C
Iron	20	ug/L	<20	<20	<20	20050808.R13C
Lanthanum	1	ug/L	5	<1	<1	20050808.R13C
Lead	1	ug/L	5	<1	<1	20050808.R13C
Lithium	1	ug/L	5	<1	<1	20050808.R13C
Magnesium	4	ug/L	20	<4	<4	20050808.R13C
Manganese	1	ug/L	5	<1	<1	20050808.R13C
Mercury	1	ug/L	5	<1	<1	20050808.R13C
Molybdenum	1	ug/L	5	<1	<1	20050808.R13C
Nickel	1	ug/L	5	<1	<1	20050808.R13C
Niobium	1	ug/L	5	<1	<1	20050808.R13C
Phosphorus	20	ug/L	<20	<20	<20	20050808.R13C
Rubidium	1	ug/L	5	<1	<1	20050808.R13C
Scandium	1	ug/L	5	<1	<1	20050808.R13C
Selenium	1	ug/L	5	<1	<1	20050808.R13C
Silver	5	ug/L	5	<5	<5	20050808.R13C
Strontium	1	ug/L	5	<1	<1	20050808.R13C
Thallium	1	ug/L	5	<1	<1	20050808.R13C
Thorium	1	ug/L	5	<1	<1	20050808.R13C
Tin	1	ug/L	5	<1	<1	20050808.R13C
Titanium	1	ug/L	5	<1	<1	20050808.R13C
Tungsten	1	ug/L	5	<1	<1	20050808.R13C
Uranium	1	ug/L	5	<1	<1	20050808.R13C
Vanadium	1	ug/L	5	<1	<1	20050808.R13C
Yttrium	1	ug/L	5	<1	<1	20050808.R13C
Zinc	1	ug/L	5	<1	<1	20050808.R13C
Zirconium	1	ug/L	5	<1	<1	20050808.R13C

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.02	6.9	20050805.R2A

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Knight Piesold

Work Order: 18651

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	160	160	20050810.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	<30	<30	<30	20050810.R27B

TSS

160 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	192	170	128	20050810.R27A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20050810.R27A

UCL Upper Control Limit

LCL Lower Control Limit

D1-252

Field notes collected by Bill Dillabough on Aug. 16, 2005.
 All temp. readings in degrees Celsius. Date recorded m/d/y

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Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	8/16/2005 0:00					No Water for a sample, dry conditions.
UM Sw-2	8/16/2005 0:00					No water for a sample, dry conditions
UM Sw-3	8/16/2005 11:15	22	16	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Light flow, clear water
UM Sw-3a	8/16/2005 10:45	21	15	less than 1	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Standing water, no flow,
UM Sw-4	8/16/2005 12:00					No Flow. Dry
UM Sw-5	8/16/2005 11:45	24	15	5.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Very light flow, stained water



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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	18950
Company:	Ursa Major Minerals Inc	Date Order Received:	8/17/2005
Address:	8 King Street East Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca		

**Analyses were performed on the following samples submitted with your order.
The results relate only to the items tested.**

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-3A	72201	Water		8/16/2005	10:45
UM SW-3	72202	Water		8/16/2005	11:15
UM SW-5	72203	Water		8/16/2005	11:45



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Ursa Major Minerals Inc

Work Order: 18950

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon In Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130



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Ursa Major Minerals Inc

Work Order: 18950

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Dr. Xiaojing Li
Inorganic Section Head



TESTMARK Laboratories Ltd.

Committed to Quality and Service

Ursa Major Minerals Inc

Work Order: 18950

Sample Data:

Sample Name: UM SW-3A

Date: 8/16/2005

Matrix: Water

Lab #: 72201

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	27	mg/L	20050825.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.1	mg/L	20050817.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.7	mg/L	20050818.R5A
Fluoride	0.01	<0.01	mg/L	20050818.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050818.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050818.R5A
Sulfate	0.2	3.1	mg/L	20050818.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	35	TCU	20050818.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	60	µS/cm	20050817.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	10	mg/L	20050826.R55A
Dissolved Organic Carbon	0.4	9.9	mg/L	20050826.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	20.8	mg/L	20050817.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	224	ug/L	20050817.R13D
Antimony	1	<1	ug/L	20050817.R13D
Arsenic	1	1	ug/L	20050817.R13D
Barium	1	28	ug/L	20050817.R13D
Beryllium	1	<1	ug/L	20050817.R13D
Bismuth	1	<1	ug/L	20050817.R13D
Boron	2	<2	ug/L	20050817.R13D
Cadmium	0.1	0.29	ug/L	20050817.R13D
Calcium	50	6360	ug/L	20050817.R13D
Cerium	1	1.1	ug/L	20050817.R13D
Cesium	1	<1	ug/L	20050817.R13D
Chromium	1	3.5	ug/L	20050817.R13D
Cobalt	0.1	48.2	ug/L	20050817.R13D
Copper	1	21	ug/L	20050817.R13D

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Work Order: 18950

Sample Name: UM SW-3A

Date: 8/16/2005

Matrix: Water

Lab #: 72201

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Europium	1	<1	ug/L	20050817.R13D
Gallium	1	<1	ug/L	20050817.R13D
Iron	20	300	ug/L	20050817.R13D
Lanthanum	1	<1	ug/L	20050817.R13D
Lead	1	<1	ug/L	20050817.R13D
Lithium	5	<5	ug/L	20050817.R13D
Magnesium	4	1200	ug/L	20050817.R13D
Manganese	10	1840	ug/L	20050817.R13D
Mercury	0.1	<0.1	ug/L	20050817.R13D
Molybdenum	1	<1	ug/L	20050817.R13D
Nickel	1	28	ug/L	20050817.R13D
Niobium	1	<1	ug/L	20050817.R13D
Phosphorus	50	<50	ug/L	20050817.R13D
Rubidium	1	2.8	ug/L	20050817.R13D
Scandium	1	1.6	ug/L	20050817.R13D
Selenium	1	<1	ug/L	20050817.R13D
Silver	0.1	<0.1	ug/L	20050817.R13D
Strontium	1	23	ug/L	20050817.R13D
Thallium	0.1	<0.1	ug/L	20050817.R13D
Thorium	1	<1	ug/L	20050817.R13D
Tin	1	<1	ug/L	20050817.R13D
Titanium	1	2.8	ug/L	20050817.R13D
Tungsten	1	<1	ug/L	20050817.R13D
Uranium	1	<1	ug/L	20050817.R13D
Vanadium	1	<1	ug/L	20050817.R13D
Yttrium	1	<1	ug/L	20050817.R13D
Zinc	1	27	ug/L	20050817.R13D
Zirconium	1	<1	ug/L	20050817.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.11	pH	20050817.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	39	mg/L	20050819.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.32	mg/L	20050819.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.043	mg/L	20050824.R23A

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TESTMARK Laboratories Ltd.

Committed to Quality and Service

Ursa Major Minerals Inc

Work Order: 18950

Sample Name: UM SW-3A

Date: 8/16/2005

Matrix: Water

Lab #: 72201

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050819.R27C

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.4	NTU	20050818.R21A

Sample Name: UM SW-3

Date: 8/16/2005

Matrix: Water

Lab #: 72202

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	14	mg/L	20050825.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.032	mg/L	20050817.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	<0.2	mg/L	20050818.R5A
Fluoride	0.01	<0.01	mg/L	20050818.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050818.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050818.R5A
Sulfate	0.2	12	mg/L	20050818.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	34	TCU	20050818.R26A
True Colour	4	34	TCU	20050818.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	67	µS/cm	20050817.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	8.5	mg/L	20050826.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	26	mg/L	20050817.R90D

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	89	ug/L	20050817.R13D
Antimony	1	<1	ug/L	20050817.R13D
Arsenic	1	<1	ug/L	20050817.R13D
Barium	1	15	ug/L	20050817.R13D
Beryllium	1	<1	ug/L	20050817.R13D

D1-210



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Ursa Major Minerals Inc

Work Order: 18950

Sample Name: UM SW-3

Date: 8/16/2005

Matrix: Water

Lab #: 72202

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Bismuth	1	<1	ug/L	20050817.R13D
Boron	2	8.4	ug/L	20050817.R13D
Cadmium	0.1	<0.1	ug/L	20050817.R13D
Calcium	50	7280	ug/L	20050817.R13D
Cerium	1	<1	ug/L	20050817.R13D
Cesium	1	<1	ug/L	20050817.R13D
Chromium	1	1	ug/L	20050817.R13D
Cobalt	0.1	0.57	ug/L	20050817.R13D
Copper	1	2.6	ug/L	20050817.R13D
Europium	1	<1	ug/L	20050817.R13D
Gallium	1	<1	ug/L	20050817.R13D
Iron	20	230	ug/L	20050817.R13D
Lanthanum	1	<1	ug/L	20050817.R13D
Lead	1	<1	ug/L	20050817.R13D
Lithium	5	<5	ug/L	20050817.R13D
Magnesium	4	1900	ug/L	20050817.R13D
Manganese	1	39	ug/L	20050817.R13D
Mercury	0.1	<0.1	ug/L	20050817.R13D
Molybdenum	1	<1	ug/L	20050817.R13D
Nickel	1	8.5	ug/L	20050817.R13D
Niobium	1	<1	ug/L	20050817.R13D
Phosphorus	50	<50	ug/L	20050817.R13D
Rubidium	1	1	ug/L	20050817.R13D
Scandium	1	<1	ug/L	20050817.R13D
Selenium	1	<1	ug/L	20050817.R13D
Silver	0.1	<0.1	ug/L	20050817.R13D
Strontium	1	30	ug/L	20050817.R13D
Thallium	0.1	<0.1	ug/L	20050817.R13D
Thorium	1	<1	ug/L	20050817.R13D
Tin	1	<1	ug/L	20050817.R13D
Titanium	1	3.1	ug/L	20050817.R13D
Tungsten	1	<1	ug/L	20050817.R13D
Uranium	1	<1	ug/L	20050817.R13D
Vanadium	1	<1	ug/L	20050817.R13D
Yttrium	1	<1	ug/L	20050817.R13D
Zinc	1	6	ug/L	20050817.R13D
Zirconium	1	<1	ug/L	20050817.R13D

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.53	pH	20050817.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	59	mg/L	20050819.R27B

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Ursa Major Minerals Inc

Work Order: 18950

Sample Name: UM SW-3

Date: 8/16/2005

Matrix: Water

Lab #: 72202

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.43	mg/L	20050819.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.036	mg/L	20050824.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050819.R27C

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	2.9	NTU	20050818.R21A

Sample Name: UM SW-5

Date: 8/16/2005

Matrix: Water

Lab #: 72203

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050825.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.14	mg/L	20050817.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.25	mg/L	20050818.R5A
Fluoride	0.01	<0.01	mg/L	20050818.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050818.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050818.R5A
Sulfate	0.2	8.2	mg/L	20050818.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	23	TCU	20050818.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	32	µS/cm	20050817.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	2.9	mg/L	20050826.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	8.1	mg/L	20050817.R90D

A12L7



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Ursa Major Minerals Inc

Work Order: 18950

Sample Name: UM SW-5

Date: 8/16/2005

Matrix: Water

Lab #: 72203

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	101	ug/L	20050817.R13D
Antimony	1	<1	ug/L	20050817.R13D
Arsenic	1	<1	ug/L	20050817.R13D
Barium	1	17	ug/L	20050817.R13D
Beryllium	1	<1	ug/L	20050817.R13D
Bismuth	1	<1	ug/L	20050817.R13D
Boron	2	3.9	ug/L	20050817.R13D
Cadmium	0.1	<0.1	ug/L	20050817.R13D
Calcium	50	2000	ug/L	20050817.R13D
Cerium	1	<1	ug/L	20050817.R13D
Cesium	1	<1	ug/L	20050817.R13D
Chromium	1	<1	ug/L	20050817.R13D
Cobalt	0.1	7.1	ug/L	20050817.R13D
Copper	1	<1	ug/L	20050817.R13D
Europium	1	<1	ug/L	20050817.R13D
Gallium	1	<1	ug/L	20050817.R13D
Iron	20	1100	ug/L	20050817.R13D
Lanthanum	1	<1	ug/L	20050817.R13D
Lead	1	<1	ug/L	20050817.R13D
Lithium	5	<5	ug/L	20050817.R13D
Magnesium	4	769	ug/L	20050817.R13D
Manganese	1	331	ug/L	20050817.R13D
Mercury	0.1	<0.1	ug/L	20050817.R13D
Molybdenum	1	<1	ug/L	20050817.R13D
Nickel	1	4.5	ug/L	20050817.R13D
Niobium	1	<1	ug/L	20050817.R13D
Phosphorus	50	<50	ug/L	20050817.R13D
Rubidium	1	2.5	ug/L	20050817.R13D
Scandium	1	1.1	ug/L	20050817.R13D
Selenium	1	<1	ug/L	20050817.R13D
Silver	0.1	<0.1	ug/L	20050817.R13D
Strontium	1	15	ug/L	20050817.R13D
Thallium	0.1	<0.1	ug/L	20050817.R13D
Thorium	1	<1	ug/L	20050817.R13D
Tin	1	<1	ug/L	20050817.R13D
Titanium	1	2.2	ug/L	20050817.R13D
Tungsten	1	<1	ug/L	20050817.R13D
Uranium	1	<1	ug/L	20050817.R13D
Vanadium	1	<1	ug/L	20050817.R13D
Yttrium	1	<1	ug/L	20050817.R13D
Zinc	1	13	ug/L	20050817.R13D
Zirconium	1	<1	ug/L	20050817.R13D

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Work Order: 18950

Sample Name: UM SW-5

Date: 8/16/2005

Matrix: Water

Lab #: 72203

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.76	pH	20050817.R2B

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	57	mg/L	20050819.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.33	mg/L	20050819.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.032	mg/L	20050824.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050819.R27C

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	7	NTU	20050818.R21A
Turbidity	0.2	7	NTU	20050818.R21A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Work Order: 18950

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	220	190	180	20050825.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	10	<10	<10	20050825.R69A

AmmoniaFIA

500 ppb HN ₃						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.548	0.4	20050817.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050817.R42A

Anions Water

10 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	8.7	8	20050818.R5A
Chloride	0.2	mg/L	12	9	8	20050818.R5A
Fluoride	0.01	mg/L	12	10.3	9	20050818.R5A
Nitrate (as N)	0.1	mg/L	12	10.7	8	20050818.R5A
Nitrite (as N)	0.05	mg/L	12	9.88	8	20050818.R5A
Phosphate	0.3	mg/L	12	10	8	20050818.R5A
Sulfate	0.2	mg/L	12	9.6	8	20050818.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050818.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050818.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050818.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050818.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050818.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050818.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050818.R5A

Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20050818.R26A

CONDWATER

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Work Order: 18950

100 µS Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	100	96	20050817.R12A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050817.R12A

DOC Water

20 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	20	18	20050826.R55A

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20050826.R55A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	468	400	20050817.R13D
Arsenic	1	ug/L	120	98	80	20050817.R13D
Barium	1	ug/L	120	92	80	20050817.R13D
Beryllium	1	ug/L	125	97	75	20050817.R13D
Boron	2	ug/L	125	99	75	20050817.R13D
Cadmium	1	ug/L	120	100	80	20050817.R13D
Calcium	50	ug/L	1200	950	800	20050817.R13D
Chromium	1	ug/L	120	92	80	20050817.R13D
Cobalt	1	ug/L	120	94	80	20050817.R13D
Copper	1	ug/L	120	97	80	20050817.R13D
Iron	20	ug/L	600	410	400	20050817.R13D
Lead	1	ug/L	120	93	80	20050817.R13D
Magnesium	4	ug/L	1200	983	800	20050817.R13D
Manganese	1	ug/L	120	84	80	20050817.R13D
Molybdenum	1	ug/L	120	102	80	20050817.R13D
Nickel	1	ug/L	120	90	80	20050817.R13D
Selenium	1	ug/L	120	101	80	20050817.R13D
Thallium	1	ug/L	120	97	80	20050817.R13D
Vanadium	1	ug/L	120	94	80	20050817.R13D
Zinc	1	ug/L	120	95	80	20050817.R13D

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	100	80	20050817.R13D

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Work Order: 18950

ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050817.R13D
Antimony	1	ug/L	5	<1	<1	20050817.R13D
Arsenic	1	ug/L	5	<1	<1	20050817.R13D
Barium	1	ug/L	5	<1	<1	20050817.R13D
Beryllium	1	ug/L	5	<1	<1	20050817.R13D
Bismuth	1	ug/L	5	<1	<1	20050817.R13D
Boron	2	ug/L	5	<2	<2	20050817.R13D
Cadmium	1	ug/L	5	<1	<1	20050817.R13D
Calcium	50	ug/L	<50	<50	<50	20050817.R13D
Cerium	1	ug/L	5	<1	<1	20050817.R13D
Cesium	1	ug/L	5	<1	<1	20050817.R13D
Chromium	1	ug/L	5	<1	<1	20050817.R13D
Cobalt	1	ug/L	5	<1	<1	20050817.R13D
Copper	1	ug/L	5	<1	<1	20050817.R13D
Europium	1	ug/L	5	<1	<1	20050817.R13D
Gallium	1	ug/L	5	<1	<1	20050817.R13D
Iron	20	ug/L	<20	<20	<20	20050817.R13D
Lanthanum	1	ug/L	5	<1	<1	20050817.R13D
Lead	1	ug/L	5	<1	<1	20050817.R13D
Lithium	1	ug/L	5	<1	<1	20050817.R13D
Magnesium	4	ug/L	20	<4	<4	20050817.R13D
Manganese	1	ug/L	5	<1	<1	20050817.R13D
Mercury	1	ug/L	5	<1	<1	20050817.R13D
Molybdenum	1	ug/L	5	<1	<1	20050817.R13D
Nickel	1	ug/L	5	<1	<1	20050817.R13D
Niobium	1	ug/L	5	<1	<1	20050817.R13D
Phosphorus	20	ug/L	<20	<20	<20	20050817.R13D
Rubidium	1	ug/L	5	<1	<1	20050817.R13D
Scandium	1	ug/L	5	<1	<1	20050817.R13D
Selenium	1	ug/L	5	<1	<1	20050817.R13D
Silver	5	ug/L	5	<5	<5	20050817.R13D
Strontium	1	ug/L	5	<1	<1	20050817.R13D
Thallium	1	ug/L	5	<1	<1	20050817.R13D
Thorium	1	ug/L	5	<1	<1	20050817.R13D
Tin	1	ug/L	5	<1	<1	20050817.R13D
Titanium	1	ug/L	5	<1	<1	20050817.R13D
Tungsten	1	ug/L	5	<1	<1	20050817.R13D
Uranium	1	ug/L	5	<1	<1	20050817.R13D
Vanadium	1	ug/L	5	<1	<1	20050817.R13D
Yttrium	1	ug/L	5	<1	<1	20050817.R13D
Zinc	1	ug/L	5	<1	<1	20050817.R13D
Zirconium	1	ug/L	5	<1	<1	20050817.R13D

pHWATER

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Work Order: 18950

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.06	6.9	20050817.R2B

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	200	160	20050819.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	<30	<30	<30	20050819.R27B

TKN Water

Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1	0.8	20050819.R58A

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050819.R58A

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	0.06	0.055	0.04	20050824.R23A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.005	mg/L	<0.005	<0.005	<0.005	20050824.R23A

TSS

160 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	192	160	128	20050819.R27C

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20050819.R27C

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.99	0.96	0.95	20050818.R21A

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Ursa Major Minerals Inc

Work Order: 18950

Turbidity

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050818.R21A

UCL Upper Control Limit

LCL Lower Control Limit

D1-269

Field notes collected by Bill Dillabough on Sept. 20, 2005.
 All temp. readings in degrees Celsius. Date recorded m/d/y

D1-270

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	9/20/2005 13:45	17	14	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	clear water, very light flow
UM Sw-2	9/20/2005 14:10					No Water, Dry
UM Sw-3	9/20/2005 14:40	19	16	5.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Clear water, moderate flow
UM Sw-3a	9/20/2005 13:15	17	14	3*	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	clear water, light flow
UM Sw-4	9/20/2005 15:05					No flow, dry conditions
UM Sw-5	9/20/2005 15:15	19	15	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Very light flow, clear water.



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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	19757
Company:	Ursa Major Minerals Inc	Date Order Received:	9/21/2005
Address:	8 King Street East Suite 1300	Regulation:	PWQO
	Toronto, ON, M5C 1B5	PO #:	
Phone:	(416) 864-0615	Project #:	U-03
Fax:	(416) 864-0620		
Email:	rsutcliffe@bellnet.ca		
Notes:	Metals samples were field preserved.		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM-SW-1	74726	Water		9/20/2005	13:45
UM-SW-3	74727	Water		9/20/2005	14:40
UM-SW-3A	74728	Water		9/20/2005	13:15
UM-SW-5	74729	Water		9/20/2005	15:15

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Ursa Major Minerals Inc

Work Order: 19757

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130



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Work Order: 19757

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Dr. Xiaojing Li
Inorganic Section Head



TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc

Work Order: 19757

Sample Data:

Sample Name: UM-SW-1

Date: 9/20/2005

Matrix: Water

Lab #: 74726

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050921.R69A
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20050921.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.049	mg/L	20050922.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.6	mg/L	20050923.R5A
Fluoride	0.01	0.034	mg/L	20050923.R5A
Nitrate (as N)	0.1	0.2	mg/L	20050923.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050923.R5A
Sulfate	0.2	17	mg/L	20050923.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	<4	TCU	20050921.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	53	µS/cm	20050922.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.2	mg/L	20050928.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	14.3	mg/L	20050924.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	398	ug/L	20050924.R13A
Antimony	1	<1	ug/L	20050924.R13A
Arsenic	1	1	ug/L	20050924.R13A
Barium	1	50	ug/L	20050924.R13A
Beryllium	1	<1	ug/L	20050924.R13A
Bismuth	1	<1	ug/L	20050924.R13A
Boron	2	76	ug/L	20050924.R13A
Cadmium	0.1	0.55	ug/L	20050924.R13A
Calcium	50	3500	ug/L	20050924.R13A
Cerium	1	<1	ug/L	20050924.R13A
Cesium	1	<1	ug/L	20050924.R13A
Chromium	1	2.6	ug/L	20050924.R13A
Cobalt	0.1	27.9	ug/L	20050924.R13A
Copper	1	<1	ug/L	20050924.R13A

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Ursa Major Minerals Inc

Work Order: 19757

Sample Name: UM-SW-1

Date: 9/20/2005

Matrix: Water

Lab #: 74726

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Europium	1	<1	ug/L	20050924.R13A
Gallium	1	1	ug/L	20050924.R13A
Iron	20	64	ug/L	20050924.R13A
Lanthanum	1	<1	ug/L	20050924.R13A
Lead	1	<1	ug/L	20050924.R13A
Lithium	5	<5	ug/L	20050924.R13A
Magnesium	4	1350	ug/L	20050924.R13A
Manganese	1	567	ug/L	20050924.R13A
Mercury	0.1	<0.1	ug/L	20050924.R13A
Molybdenum	1	<1	ug/L	20050924.R13A
Nickel	1	11	ug/L	20050924.R13A
Niobium	1	<1	ug/L	20050924.R13A
Rubidium	1	1.5	ug/L	20050924.R13A
Scandium	1	5	ug/L	20050924.R13A
Selenium	1	<1	ug/L	20050924.R13A
Silver	0.1	<0.1	ug/L	20050924.R13A
Strontium	1	32	ug/L	20050924.R13A
Thallium	0.1	<0.1	ug/L	20050924.R13A
Thorium	1	<1	ug/L	20050924.R13A
Tin	1	<1	ug/L	20050924.R13A
Titanium	1	4.3	ug/L	20050924.R13A
Tungsten	1	<1	ug/L	20050924.R13A
Uranium	1	<1	ug/L	20050924.R13A
Vanadium	1	7.4	ug/L	20050924.R13A
Yttrium	1	<1	ug/L	20050924.R13A
Zinc	1	33	ug/L	20050924.R13A
Zirconium	1	<1	ug/L	20050924.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.77	pH	20050922.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050927.R2 B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.49	mg/L	20050922.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.014	mg/L	20050928.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050927.R27A

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Ursa Major Minerals Inc

Work Order: 19757

Sample Name: UM-SW-1

Date: 9/20/2005

Matrix: Water

Lab #: 74726

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.6	NTU	20050921.R21B

Sample Name: UM-SW-3

Date: 9/20/2005

Matrix: Water

Lab #: 74727

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	21	mg/L	20050921.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.02	mg/L	20050922.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.3	mg/L	20050923.R5A
Fluoride	0.01	0.013	mg/L	20050923.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050923.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050923.R5A
Sulfate	0.2	18	mg/L	20050923.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	35	TCU	20050921.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	78	µS/cm	20050922.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	13	mg/L	20050928.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	22.3	mg/L	20050924.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	152	ug/L	20050924.R13A
Antimony	1	<1	ug/L	20050924.R13A
Arsenic	1	1.1	ug/L	20050924.R13A
Barium	1	20	ug/L	20050924.R13A
Beryllium	1	<1	ug/L	20050924.R13A
Bismuth	1	<1	ug/L	20050924.R13A
Boron	2	28	ug/L	20050924.R13A
Cadmium	0.1	0.22	ug/L	20050924.R13A
Calcium	50	5330	ug/L	20050924.R13A
Cerium	1	<1	ug/L	20050924.R13A

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Ursa Major Minerals Inc

Work Order: 19757

Sample Name: UM-SW-3

Date: 9/20/2005

Matrix: Water

Lab #: 74727

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cesium	1	<1	ug/L	20050924.R13A
Chromium	1	1.2	ug/L	20050924.R13A
Cobalt	0.1	0.65	ug/L	20050924.R13A
Copper	1	2.6	ug/L	20050924.R13A
Europium	1	<1	ug/L	20050924.R13A
Gallium	1	<1	ug/L	20050924.R13A
Iron	20	220	ug/L	20050924.R13A
Lanthanum	1	<1	ug/L	20050924.R13A
Lead	1	<1	ug/L	20050924.R13A
Lithium	5	<5	ug/L	20050924.R13A
Magnesium	4	2180	ug/L	20050924.R13A
Manganese	1	32	ug/L	20050924.R13A
Mercury	0.1	<0.1	ug/L	20050924.R13A
Molybdenum	1	<1	ug/L	20050924.R13A
Nickel	1	12	ug/L	20050924.R13A
Niobium	1	<1	ug/L	20050924.R13A
Rubidium	1	3.2	ug/L	20050924.R13A
Scandium	1	3.6	ug/L	20050924.R13A
Selenium	1	<1	ug/L	20050924.R13A
Silver	0.1	<0.1	ug/L	20050924.R13A
Strontium	1	35	ug/L	20050924.R13A
Thallium	0.1	<0.1	ug/L	20050924.R13A
Thorium	1	<1	ug/L	20050924.R13A
Tin	1	<1	ug/L	20050924.R13A
Titanium	1	8.9	ug/L	20050924.R13A
Tungsten	1	<1	ug/L	20050924.R13A
Uranium	1	<1	ug/L	20050924.R13A
Vanadium	1	2.5	ug/L	20050924.R13A
Yttrium	1	<1	ug/L	20050924.R13A
Zinc	1	8.6	ug/L	20050924.R13A
Zirconium	1	<1	ug/L	20050924.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.63	pH	20050922.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	31	mg/L	20050927.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.91	mg/L	20050922.R53A
Total Kjeldahl Nitrogen	0.05	0.93	mg/L	20050922.R56A

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Ursa Major Minerals Inc

Work Order: 19757

Sample Name: UM-SW-3

Date: 9/20/2005

Matrix: Water

Lab #: 74727

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.014	mg/L	20050928.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050927.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	3.3	NTU	20050921.R21B

Sample Name: UM-SW-3A

Date: 9/20/2005

Matrix: Water

Lab #: 74728

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	21	mg/L	20050921.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.076	mg/L	20050922.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.2	mg/L	20050923.R5A
Fluoride	0.01	0.012	mg/L	20050923.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20050923.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050923.R5A
Sulfate	0.2	13	mg/L	20050923.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	15	TCU	20050921.R26B

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	67	µS/cm	20050922.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	6.4	mg/L	20050928.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	17	mg/L	20050924.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	144	ug/L	20050924.R13A
Antimony	1	<1	ug/L	20050924.R13A
Arsenic	1	<1	ug/L	20050924.R13A

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Work Order: 19757

Sample Name: UM-SW-3A

Date: 9/20/2005

Matrix: Water

Lab #: 74728

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Barium	1	32	ug/L	20050924.R13A
Beryllium	1	1.7	ug/L	20050924.R13A
Bismuth	1	<1	ug/L	20050924.R13A
Boron	2	21	ug/L	20050924.R13A
Cadmium	0.1	0.29	ug/L	20050924.R13A
Calcium	50	4500	ug/L	20050924.R13A
Cerium	1	<1	ug/L	20050924.R13A
Cesium	1	<1	ug/L	20050924.R13A
Chromium	1	2.3	ug/L	20050924.R13A
Cobalt	0.1	34.2	ug/L	20050924.R13A
Copper	1	3.6	ug/L	20050924.R13A
Europium	1	<1	ug/L	20050924.R13A
Gallium	1	<1	ug/L	20050924.R13A
Iron	20	620	ug/L	20050924.R13A
Lanthanum	1	<1	ug/L	20050924.R13A
Lead	1	<1	ug/L	20050924.R13A
Lithium	5	<5	ug/L	20050924.R13A
Magnesium	4	1430	ug/L	20050924.R13A
Manganese	1	952	ug/L	20050924.R13A
Mercury	0.1	<0.1	ug/L	20050924.R13A
Molybdenum	1	<1	ug/L	20050924.R13A
Nickel	1	24	ug/L	20050924.R13A
Niobium	1	<1	ug/L	20050924.R13A
Rubidium	1	3.3	ug/L	20050924.R13A
Scandium	1	3.5	ug/L	20050924.R13A
Selenium	1	<1	ug/L	20050924.R13A
Silver	0.1	<0.1	ug/L	20050924.R13A
Strontium	1	26	ug/L	20050924.R13A
Thallium	0.1	<0.1	ug/L	20050924.R13A
Thorium	1	<1	ug/L	20050924.R13A
Tin	1	<1	ug/L	20050924.R13A
Titanium	1	6	ug/L	20050924.R13A
Tungsten	1	<1	ug/L	20050924.R13A
Uranium	1	<1	ug/L	20050924.R13A
Vanadium	1	2.1	ug/L	20050924.R13A
Yttrium	1	<1	ug/L	20050924.R13A
Zinc	1	37	ug/L	20050924.R13A
Zirconium	1	<1	ug/L	20050924.R13A

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.94	pH	20050922.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050927.R27B

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Ursa Major Minerals Inc

Work Order: 19757

Sample Name: UM-SW-3A

Date: 9/20/2005

Matrix: Water

Lab #: 74728

TDS				
Parameter	MDL	Result	Units	QAQCID
TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.57	mg/L	20050922.R58A
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.014	mg/L	20050928.R23A
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050927.R27A
Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.92	NTU	20050921.R21B

Sample Name: UM-SW-5

Date: 9/20/2005

Matrix: Water

Lab #: 74729

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050921.R69A
AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.097	mg/L	20050922.R42A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.52	mg/L	20050923.R5A
Fluoride	0.01	0.014	mg/L	20050923.R5A
Nitrate (as N)	0.1	1.3	mg/L	20050923.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20050923.R5A
Sulfate	0.2	11	mg/L	20050923.R5A
Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	5.6	TCU	20050921.R26B
CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	47	µS/cm	20050922.R12A
DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	2.7	mg/L	20050928.R55A

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Ursa Major Minerals Inc

Work Order: 19757

Sample Name: UM-SW-5

Date: 9/20/2005

Matrix: Water

Lab #: 74729

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	10.9	mg/L	20050924.R90A

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	87	ug/L	20050924.R13A
Antimony	1	<1	ug/L	20050924.R13A
Arsenic	1	<1	ug/L	20050924.R13A
Barium	1	31	ug/L	20050924.R13A
Beryllium	1	<1	ug/L	20050924.R13A
Bismuth	1	<1	ug/L	20050924.R13A
Boron	2	15	ug/L	20050924.R13A
Cadmium	0.1	0.23	ug/L	20050924.R13A
Calcium	50	2300	ug/L	20050924.R13A
Cerium	1	<1	ug/L	20050924.R13A
Cesium	1	<1	ug/L	20050924.R13A
Chromium	1	<1	ug/L	20050924.R13A
Cobalt	0.1	6.8	ug/L	20050924.R13A
Copper	1	<1	ug/L	20050924.R13A
Europium	1	<1	ug/L	20050924.R13A
Gallium	1	<1	ug/L	20050924.R13A
Iron	20	210	ug/L	20050924.R13A
Lanthanum	1	<1	ug/L	20050924.R13A
Lead	1	<1	ug/L	20050924.R13A
Lithium	5	<5	ug/L	20050924.R13A
Magnesium	4	1240	ug/L	20050924.R13A
Manganese	1	287	ug/L	20050924.R13A
Mercury	0.1	<0.1	ug/L	20050924.R13A
Molybdenum	1	<1	ug/L	20050924.R13A
Nickel	1	6.4	ug/L	20050924.R13A
Niobium	1	<1	ug/L	20050924.R13A
Rubidium	1	3	ug/L	20050924.R13A
Scandium	1	2.8	ug/L	20050924.R13A
Selenium	1	<1	ug/L	20050924.R13A
Silver	0.1	0.12	ug/L	20050924.R13A
Strontium	1	25	ug/L	20050924.R13A
Thallium	0.1	<0.1	ug/L	20050924.R13A
Thorium	1	<1	ug/L	20050924.R13A
Tin	1	<1	ug/L	20050924.R13A
Titanium	1	4.9	ug/L	20050924.R13A
Tungsten	1	<1	ug/L	20050924.R13A
Uranium	1	<1	ug/L	20050924.R13A
Vanadium	1	1.1	ug/L	20050924.R13A
Yttrium	1	<1	ug/L	20050924.R13A
Zinc	1	24	ug/L	20050924.R13A
Zirconium	1	<1	ug/L	20050924.R13A

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Ursa Major Minerals Inc

Work Order: 19757

Sample Name: UM-SW-5

Date: 9/20/2005

Matrix: Water

Lab #: 74729

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.47	pH	20050922.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050927.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.5	0.7	mg/L	20050927.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.093	mg/L	20050928.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20050927.R27A
Total Suspended Solids	6	<6	mg/L	20050927.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.3	NTU	20050921.R21B

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Work Order: 19757

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	200	180	20050921.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	10	<10	<10	20050921.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.514	0.4	20050922.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050922.R42A

Anions Water

10 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.8	8	20050923.R5A
Chloride	0.2	mg/L	12	9.7	8	20050923.R5A
Fluoride	0.01	mg/L	12	10.3	9	20050923.R5A
Nitrate (as N)	0.1	mg/L	12	10.8	8	20050923.R5A
Nitrite (as N)	0.05	mg/L	12	10.2	8	20050923.R5A
Phosphate	0.3	mg/L	12	11	8	20050923.R5A
Sulfate	0.2	mg/L	12	10	8	20050923.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050923.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050923.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050923.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050923.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050923.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050923.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050923.R5A

Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20050921.R26B

CONDWATER

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Work Order: 19757

100 µS Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	99	96	20050922.R12A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050922.R12A

DOC Water

20 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	19	18	20050928.R55A

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20050928.R55A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	558	400	20050924.R13A
Arsenic	1	ug/L	120	88	80	20050924.R13A
Barium	1	ug/L	120	94	80	20050924.R13A
Beryllium	1	ug/L	125	91	75	20050924.R13A
Boron	2	ug/L	125	100	75	20050924.R13A
Cadmium	1	ug/L	120	95	80	20050924.R13A
Calcium	50	ug/L	1200	1100	800	20050924.R13A
Chromium	1	ug/L	120	90	80	20050924.R13A
Cobalt	1	ug/L	120	89	80	20050924.R13A
Copper	1	ug/L	120	94	80	20050924.R13A
Iron	20	ug/L	600	440	400	20050924.R13A
Lead	1	ug/L	120	94	80	20050924.R13A
Magnesium	4	ug/L	1200	1140	800	20050924.R13A
Manganese	1	ug/L	120	88	80	20050924.R13A
Molybdenum	1	ug/L	120	114	80	20050924.R13A
Nickel	1	ug/L	120	103	80	20050924.R13A
Selenium	1	ug/L	120	89	80	20050924.R13A
Thallium	1	ug/L	120	96	80	20050924.R13A
Vanadium	1	ug/L	120	93	80	20050924.R13A
Zinc	1	ug/L	120	88	80	20050924.R13A

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	110	80	20050924.R13A

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Work Order: 19757

ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050924.R13A
Antimony	1	ug/L	5	<1	<1	20050924.R13A
Arsenic	1	ug/L	5	<1	<1	20050924.R13A
Barium	1	ug/L	5	<1	<1	20050924.R13A
Beryllium	1	ug/L	5	<1	<1	20050924.R13A
Bismuth	1	ug/L	5	<1	<1	20050924.R13A
Boron	2	ug/L	5	<2	<2	20050924.R13A
Cadmium	1	ug/L	5	<1	<1	20050924.R13A
Calcium	50	ug/L	<50	<50	<50	20050924.R13A
Cerium	1	ug/L	5	<1	<1	20050924.R13A
Cesium	1	ug/L	5	<1	<1	20050924.R13A
Chromium	1	ug/L	5	<1	<1	20050924.R13A
Cobalt	1	ug/L	5	<1	<1	20050924.R13A
Copper	1	ug/L	5	<1	<1	20050924.R13A
Europium	1	ug/L	5	<1	<1	20050924.R13A
Gallium	1	ug/L	5	<1	<1	20050924.R13A
Iron	20	ug/L	<20	<20	<20	20050924.R13A
Lanthanum	1	ug/L	5	<1	<1	20050924.R13A
Lead	1	ug/L	5	<1	<1	20050924.R13A
Lithium	1	ug/L	5	<1	<1	20050924.R13A
Magnesium	4	ug/L	20	<4	<4	20050924.R13A
Manganese	1	ug/L	5	<1	<1	20050924.R13A
Mercury	1	ug/L	5	<1	<1	20050924.R13A
Molybdenum	1	ug/L	5	<1	<1	20050924.R13A
Nickel	1	ug/L	5	<1	<1	20050924.R13A
Niobium	1	ug/L	5	<1	<1	20050924.R13A
Phosphorus	20	ug/L	<20	<20	<20	20050924.R13A
Rubidium	1	ug/L	5	<1	<1	20050924.R13A
Scandium	1	ug/L	5	<1	<1	20050924.R13A
Selenium	1	ug/L	5	<1	<1	20050924.R13A
Silver	5	ug/L	5	<5	<5	20050924.R13A
Strontium	1	ug/L	5	<1	<1	20050924.R13A
Thallium	1	ug/L	5	<1	<1	20050924.R13A
Thorium	1	ug/L	5	<1	<1	20050924.R13A
Tin	1	ug/L	5	<1	<1	20050924.R13A
Titanium	1	ug/L	5	<1	<1	20050924.R13A
Tungsten	1	ug/L	5	<1	<1	20050924.R13A
Uranium	1	ug/L	5	<1	<1	20050924.R13A
Vanadium	1	ug/L	5	<1	<1	20050924.R13A
Yttrium	1	ug/L	5	<1	<1	20050924.R13A
Zinc	1	ug/L	5	<1	<1	20050924.R13A
Zirconium	1	ug/L	5	<1	<1	20050924.R13A

pHWATER

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Work Order: 19757

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.05	6.9	20050922.R2A

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	240	160	20050927.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	<30	<30	<30	20050927.R27B

TKN Water

Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20050922.R58A
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20050927.R58A

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050922.R58A
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20050927.R58A

TP Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20050928.R23A

TSS

160 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	192	170	128	20050927.R27A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20050927.R27A

Turbidity

1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.95	0.88	0.85	20050921.R21B

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Work Order: 19757

Turbidity

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20050921.R21B

UCL Upper Control Limit

LCL Lower Control Limit

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Field notes collected by Bill Dillabough on October 18, 2005.

All temp. readings in degrees Celsius.

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	Comments
UM Sw-1	10/18/2005 9:30	9	9	2.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Light flow, clear water.
UM Sw-2						No flow, dry
UM Sw-3	10/18/2005 10:15	9	9	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	moderate flow, clear water
UM Sw-3a	10/15/2005 11:30	9	9	3.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	very light flow, hard to get a good sample
UM Sw-4						
UM Sw-5	10/18/2005 10:50	8	10	5.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	light flow, clear water

D
1
2
3
4



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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	20368
Company:	Ursa Major Minerals Inc	Date Order Received:	10/18/2005
Address:	8 King Street East Suite 1300 Toronto, ON, M5C 1B5	Regulation:	PWQO
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	
Email:	rsutcliffe@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-1	76676	Water		10/18/2005	9:30
UM SW-3	76677	Water		10/18/2005	10:15
UM SW-3A	76678	Water		10/18/2005	11:30
UM SW-5	76679	Water		10/18/2005	10:50



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Work Order: 20368

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130



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Work Order: 20368

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Dr. Xiaojing Li
Inorganic Section Head

A1-391



TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc

Work Order: 20368

Sample Data:

Sample Name: UM SW-1

Date: 10/18/2005

Matrix: Water

Lab #: 76676

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20051024.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.013	mg/L	20051020.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.61	mg/L	20051021.R5A
Fluoride	0.01	0.012	mg/L	20051021.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20051021.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20051021.R5A
Sulfate	0.2	7.7	mg/L	20051021.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	12	TCU	20051018.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	31	µS/cm	20051019.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	3.8	mg/L	20051019.R55B

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	3.6	mg/L	20051019.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	206	ug/L	20051019.R13B
Antimony	1	<1	ug/L	20051019.R13B
Arsenic	1	<1	ug/L	20051019.R13B
Barium	1	21	ug/L	20051019.R13B
Beryllium	1	<1	ug/L	20051019.R13B
Bismuth	1	<1	ug/L	20051019.R13B
Boron	2	5.1	ug/L	20051019.R13B
Cadmium	0.1	0.39	ug/L	20051019.R13B
Calcium	50	1000	ug/L	20051019.R13B
Cerium	1	<1	ug/L	20051019.R13B
Cesium	1	<1	ug/L	20051019.R13B
Chromium	1	<1	ug/L	20051019.R13B
Cobalt	0.1	20.5	ug/L	20051019.R13B
Copper	1	<1	ug/L	20051019.R13B
Europium	1	<1	ug/L	20051019.R13B

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Ursa Major Minerals Inc

Work Order: 20368

Sample Name: UM SW-1

Date: 10/18/2005

Matrix: Water

Lab #: 76676

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Gallium	1	<1	ug/L	20051019.R13B
Iron	20	72	ug/L	20051019.R13B
Lanthanum	1	<1	ug/L	20051019.R13B
Lead	1	<1	ug/L	20051019.R13B
Lithium	5	<5	ug/L	20051019.R13B
Magnesium	4	260	ug/L	20051019.R13B
Manganese	1	370	ug/L	20051019.R13B
Mercury	0.1	<0.1	ug/L	20051019.R13B
Molybdenum	1	<1	ug/L	20051019.R13B
Nickel	1	8	ug/L	20051019.R13B
Niobium	1	<1	ug/L	20051019.R13B
Phosphorus	50	<50	ug/L	20051019.R13B
Rubidium	1	<1	ug/L	20051019.R13B
Scandium	1	<1	ug/L	20051019.R13B
Selenium	1	<1	ug/L	20051019.R13B
Silver	0.1	<0.1	ug/L	20051019.R13B
Strontium	1	8.9	ug/L	20051019.R13B
Thallium	0.1	<0.1	ug/L	20051019.R13B
Thorium	1	<1	ug/L	20051019.R13B
Tin	1	<1	ug/L	20051019.R13B
Titanium	1	<1	ug/L	20051019.R13B
Tungsten	1	<1	ug/L	20051019.R13B
Uranium	1	<1	ug/L	20051019.R13B
Vanadium	1	<1	ug/L	20051019.R13B
Yttrium	1	<1	ug/L	20051019.R13B
Zinc	1	21	ug/L	20051019.R13B
Zirconium	1	<1	ug/L	20051019.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.44	pH	20051019.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	36	mg/L	20051021.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.27	mg/L	20051024.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.027	mg/L	20051024.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20051021.R27A

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Work Order: 20368

Sample Name: UM SW-1

Date: 10/18/2005

Matrix: Water

Lab #: 76676

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.22	NTU	20051018.R21B

Sample Name: UM SW-3

Date: 10/18/2005

Matrix: Water

Lab #: 76677

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	14	mg/L	20051024.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.0084	mg/L	20051020.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1	mg/L	20051021.R5A
Fluoride	0.01	<0.01	mg/L	20051021.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20051021.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20051021.R5A
Sulfate	0.2	7.9	mg/L	20051021.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	32	TCU	20051018.R26A
True Colour	4	32	TCU	20051018.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	58	µS/cm	20051019.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	8	mg/L	20051019.R55B

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	19.7	mg/L	20051019.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	56	ug/L	20051019.R13B
Antimony	1	<1	ug/L	20051019.R13B
Arsenic	1	<1	ug/L	20051019.R13B
Barium	1	13	ug/L	20051019.R13B
Beryllium	1	<1	ug/L	20051019.R13B
Bismuth	1	<1	ug/L	20051019.R13B
Boron	2	7.1	ug/L	20051019.R13B
Cadmium	0.1	<0.1	ug/L	20051019.R13B
Calcium	50	5900	ug/L	20051019.R13B

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Work Order: 20368

Sample Name: UM SW-3

Date: 10/18/2005

Matrix: Water

Lab #: 76677

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Cerium	1	<1	ug/L	20051019.R13B
Cesium	1	<1	ug/L	20051019.R13B
Chromium	1	<1	ug/L	20051019.R13B
Cobalt	0.1	0.31	ug/L	20051019.R13B
Copper	1	2.6	ug/L	20051019.R13B
Europium	1	<1	ug/L	20051019.R13B
Gallium	1	<1	ug/L	20051019.R13B
Iron	20	88	ug/L	20051019.R13B
Lanthanum	1	<1	ug/L	20051019.R13B
Lead	1	<1	ug/L	20051019.R13B
Lithium	5	<5	ug/L	20051019.R13B
Magnesium	4	1210	ug/L	20051019.R13B
Manganese	1	9.5	ug/L	20051019.R13B
Mercury	0.1	<0.1	ug/L	20051019.R13B
Molybdenum	1	<1	ug/L	20051019.R13B
Nickel	1	9.8	ug/L	20051019.R13B
Niobium	1	<1	ug/L	20051019.R13B
Phosphorus	50	<50	ug/L	20051019.R13B
Rubidium	1	2.1	ug/L	20051019.R13B
Scandium	1	<1	ug/L	20051019.R13B
Selenium	1	<1	ug/L	20051019.R13B
Silver	0.1	<0.1	ug/L	20051019.R13B
Strontium	1	25	ug/L	20051019.R13B
Thallium	0.1	<0.1	ug/L	20051019.R13B
Thorium	1	<1	ug/L	20051019.R13B
Tin	1	<1	ug/L	20051019.R13B
Titanium	1	2	ug/L	20051019.R13B
Tungsten	1	<1	ug/L	20051019.R13B
Uranium	1	<1	ug/L	20051019.R13B
Vanadium	1	<1	ug/L	20051019.R13B
Yttrium	1	<1	ug/L	20051019.R13B
Zinc	1	7	ug/L	20051019.R13B
Zirconium	1	<1	ug/L	20051019.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.91	pH	20051019.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20051021.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.46	mg/L	20051024.R58A

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Work Order: 20368

Sample Name: UM SW-3

Date: 10/18/2005

Matrix: Water

Lab #: 76677

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.03	mg/L	20051024.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20051021.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.98	NTU	20051018.R21B

Sample Name: UM SW-3A

Date: 10/18/2005

Matrix: Water

Lab #: 76678

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20051024.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.02	mg/L	20051020.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.4	mg/L	20051021.R5A
Fluoride	0.01	<0.01	mg/L	20051021.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20051021.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20051021.R5A
Sulfate	0.2	1.7	mg/L	20051021.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	30	TCU	20051018.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	38	µS/cm	20051019.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	7.9	mg/L	20051019.R55B

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	11.9	mg/L	20051019.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	121	ug/L	20051019.R13B
Antimony	1	<1	ug/L	20051019.R13B
Arsenic	1	<1	ug/L	20051019.R13B

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Work Order: 20368

Sample Name: UM SW-3A

Date: 10/18/2005

Matrix: Water

Lab #: 76678

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Barium	1	15	ug/L	20051019.R13B
Beryllium	1	<1	ug/L	20051019.R13B
Bismuth	1	<1	ug/L	20051019.R13B
Boron	2	<2	ug/L	20051019.R13B
Cadmium	0.1	0.21	ug/L	20051019.R13B
Calcium	50	3700	ug/L	20051019.R13B
Cerium	1	<1	ug/L	20051019.R13B
Cesium	1	<1	ug/L	20051019.R13B
Chromium	1	<1	ug/L	20051019.R13B
Cobalt	0.1	10.7	ug/L	20051019.R13B
Copper	1	3.7	ug/L	20051019.R13B
Europium	1	<1	ug/L	20051019.R13B
Gallium	1	<1	ug/L	20051019.R13B
Iron	20	450	ug/L	20051019.R13B
Lanthanum	1	<1	ug/L	20051019.R13B
Lead	1	<1	ug/L	20051019.R13B
Lithium	5	<5	ug/L	20051019.R13B
Magnesium	4	628	ug/L	20051019.R13B
Manganese	1	274	ug/L	20051019.R13B
Mercury	0.1	<0.1	ug/L	20051019.R13B
Molybdenum	1	<1	ug/L	20051019.R13B
Nickel	1	15	ug/L	20051019.R13B
Niobium	1	<1	ug/L	20051019.R13B
Phosphorus	50	<50	ug/L	20051019.R13B
Rubidium	1	2	ug/L	20051019.R13B
Scandium	1	<1	ug/L	20051019.R13B
Selenium	1	<1	ug/L	20051019.R13B
Silver	0.1	<0.1	ug/L	20051019.R13B
Strontium	1	14	ug/L	20051019.R13B
Thallium	0.1	<0.1	ug/L	20051019.R13B
Thorium	1	<1	ug/L	20051019.R13B
Tin	1	<1	ug/L	20051019.R13B
Titanium	1	<1	ug/L	20051019.R13B
Tungsten	1	<1	ug/L	20051019.R13B
Uranium	1	<1	ug/L	20051019.R13B
Vanadium	1	<1	ug/L	20051019.R13B
Yttrium	1	<1	ug/L	20051019.R13B
Zinc	1	11	ug/L	20051019.R13B
Zirconium	1	<1	ug/L	20051019.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.40	pH	20051019.R2A

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Ursa Major Minerals Inc

Work Order: 20368

Sample Name: UM SW-3A

Date: 10/18/2005

Matrix: Water

Lab #: 76678

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	45	mg/L	20051021.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.43	mg/L	20051024.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.031	mg/L	20051024.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20051021.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.39	NTU	20051018.R21B

Sample Name: UM SW-5

Date: 10/18/2005

Matrix: Water

Lab #: 76679

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	<10	mg/L	20051024.R69A

Ammonia FIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.04	mg/L	20051020.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.24	mg/L	20051021.R5A
Fluoride	0.01	<0.01	mg/L	20051021.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20051021.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20051021.R5A
Sulfate	0.2	10	mg/L	20051021.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	11	TCU	20051018.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	34	µS/cm	20051019.R12A

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	3.9	mg/L	20051019.R55B

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Work Order: 20368

Sample Name: UM SW-5

Date: 10/18/2005

Matrix: Water

Lab #: 76679

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	7.9	mg/L	20051019.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	53	ug/L	20051019.R13B
Antimony	1	<1	ug/L	20051019.R13B
Arsenic	1	<1	ug/L	20051019.R13B
Barium	1	22	ug/L	20051019.R13B
Beryllium	1	<1	ug/L	20051019.R13B
Bismuth	1	<1	ug/L	20051019.R13B
Boron	2	4.3	ug/L	20051019.R13B
Cadmium	0.1	0.27	ug/L	20051019.R13B
Calcium	50	2100	ug/L	20051019.R13B
Cerium	1	<1	ug/L	20051019.R13B
Cesium	1	<1	ug/L	20051019.R13B
Chromium	1	<1	ug/L	20051019.R13B
Cobalt	0.1	4.5	ug/L	20051019.R13B
Copper	1	<1	ug/L	20051019.R13B
Europium	1	<1	ug/L	20051019.R13B
Gallium	1	<1	ug/L	20051019.R13B
Iron	20	<20	ug/L	20051019.R13B
Lanthanum	1	<1	ug/L	20051019.R13B
Lead	1	<1	ug/L	20051019.R13B
Lithium	5	<5	ug/L	20051019.R13B
Magnesium	4	641	ug/L	20051019.R13B
Manganese	1	194	ug/L	20051019.R13B
Mercury	0.1	<0.1	ug/L	20051019.R13B
Molybdenum	1	<1	ug/L	20051019.R13B
Nickel	1	5.4	ug/L	20051019.R13B
Niobium	1	<1	ug/L	20051019.R13B
Phosphorus	50	<50	ug/L	20051019.R13B
Rubidium	1	1.7	ug/L	20051019.R13B
Scandium	1	<1	ug/L	20051019.R13B
Selenium	1	<1	ug/L	20051019.R13B
Silver	0.1	<0.1	ug/L	20051019.R13B
Strontium	1	18	ug/L	20051019.R13B
Thallium	0.1	<0.1	ug/L	20051019.R13B
Thorium	1	<1	ug/L	20051019.R13B
Tin	1	<1	ug/L	20051019.R13B
Titanium	1	<1	ug/L	20051019.R13B
Tungsten	1	<1	ug/L	20051019.R13B
Uranium	1	<1	ug/L	20051019.R13B
Vanadium	1	<1	ug/L	20051019.R13B
Yttrium	1	<1	ug/L	20051019.R13B
Zinc	1	23	ug/L	20051019.R13B

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Work Order: 20368

Sample Name: UM SW-5

Date: 10/18/2005

Matrix: Water

Lab #: 76679

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Zirconium	1	<1	ug/L	20051019.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.39	pH	20051019.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20051021.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.53	mg/L	20051024.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.032	mg/L	20051024.R23A

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20051021.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	1.3	NTU	20051018.R21B

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected

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Work Order: 20368

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	220	210	180	20051024.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	mg/L	10	<10	<10	20051024.R69A

AmmoniaFIA

500 ppb HN ₃						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.557	0.4	20051020.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20051020.R42A

Anions Water

10 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.7	8	20051021.R5A
Chloride	0.2	mg/L	12	9.6	8	20051021.R5A
Fluoride	0.01	mg/L	12	11	9	20051021.R5A
Nitrate (as N)	0.1	mg/L	12	11.2	8	20051021.R5A
Nitrite (as N)	0.05	mg/L	12	10.2	8	20051021.R5A
Phosphate	0.3	mg/L	12	10	8	20051021.R5A
Sulfate	0.2	mg/L	12	10	8	20051021.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20051021.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20051021.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20051021.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20051021.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20051021.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20051021.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20051021.R5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	80	75	60	20051018.R26A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID

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Work Order: 20368

Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20051018.R26A

CONDWATER

100 µS Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	110	110	90	20051019.R12A

DOC Water

20 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	20	18	20051019.R55B

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20051019.R55B

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	484	400	20051019.R13B
Arsenic	1	ug/L	120	88	80	20051019.R13B
Barium	1	ug/L	120	89	80	20051019.R13B
Beryllium	1	ug/L	125	90	75	20051019.R13B
Boron	2	ug/L	125	92	75	20051019.R13B
Cadmium	1	ug/L	120	97	80	20051019.R13B
Calcium	50	ug/L	1200	840	800	20051019.R13B
Chromium	1	ug/L	120	85	80	20051019.R13B
Cobalt	1	ug/L	120	88	80	20051019.R13B
Copper	1	ug/L	120	87	80	20051019.R13B
Iron	20	ug/L	600	430	400	20051019.R13B
Lead	1	ug/L	120	95	80	20051019.R13B
Magnesium	4	ug/L	1200	934	800	20051019.R13B
Manganese	1	ug/L	120	85	80	20051019.R13B
Molybdenum	1	ug/L	120	81	80	20051019.R13B
Nickel	1	ug/L	120	91	80	20051019.R13B
Selenium	1	ug/L	120	95	80	20051019.R13B
Thallium	1	ug/L	120	99	80	20051019.R13B
Vanadium	1	ug/L	120	86	80	20051019.R13B
Zinc	1	ug/L	120	87	80	20051019.R13B

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	88	80	20051019.R13B



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ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20051019.R13B
Antimony	1	ug/L	5	<1	<1	20051019.R13B
Arsenic	1	ug/L	5	<1	<1	20051019.R13B
Barium	1	ug/L	5	<1	<1	20051019.R13B
Beryllium	1	ug/L	5	<1	<1	20051019.R13B
Bismuth	1	ug/L	5	<1	<1	20051019.R13B
Boron	2	ug/L	5	<2	<2	20051019.R13B
Cadmium	1	ug/L	5	<1	<1	20051019.R13B
Calcium	50	ug/L	<50	<50	<50	20051019.R13B
Cerium	1	ug/L	5	<1	<1	20051019.R13B
Cesium	1	ug/L	5	<1	<1	20051019.R13B
Chromium	1	ug/L	5	<1	<1	20051019.R13B
Cobalt	1	ug/L	5	<1	<1	20051019.R13B
Copper	1	ug/L	5	<1	<1	20051019.R13B
Europium	1	ug/L	5	<1	<1	20051019.R13B
Gallium	1	ug/L	5	<1	<1	20051019.R13B
Iron	20	ug/L	<20	<20	<20	20051019.R13B
Lanthanum	1	ug/L	5	<1	<1	20051019.R13B
Lead	1	ug/L	5	<1	<1	20051019.R13B
Lithium	1	ug/L	5	<1	<1	20051019.R13B
Magnesium	4	ug/L	20	<4	<4	20051019.R13B
Manganese	1	ug/L	5	<1	<1	20051019.R13B
Mercury	1	ug/L	5	<1	<1	20051019.R13B
Molybdenum	1	ug/L	5	<1	<1	20051019.R13B
Nickel	1	ug/L	5	<1	<1	20051019.R13B
Niobium	1	ug/L	5	<1	<1	20051019.R13B
Phosphorus	20	ug/L	<20	<20	<20	20051019.R13B
Rubidium	1	ug/L	5	<1	<1	20051019.R13B
Scandium	1	ug/L	5	<1	<1	20051019.R13B
Selenium	1	ug/L	5	<1	<1	20051019.R13B
Silver	5	ug/L	5	<5	<5	20051019.R13B
Strontium	1	ug/L	5	<1	<1	20051019.R13B
Thallium	1	ug/L	5	<1	<1	20051019.R13B
Thorium	1	ug/L	5	<1	<1	20051019.R13B
Tin	1	ug/L	5	<1	<1	20051019.R13B
Titanium	1	ug/L	5	<1	<1	20051019.R13B
Tungsten	1	ug/L	5	<1	<1	20051019.R13B
Uranium	1	ug/L	5	<1	<1	20051019.R13B
Vanadium	1	ug/L	5	<1	<1	20051019.R13B
Yttrium	1	ug/L	5	<1	<1	20051019.R13B
Zinc	1	ug/L	5	<1	<1	20051019.R13B
Zirconium	1	ug/L	5	<1	<1	20051019.R13B

pHWATER

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pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	6.93	6.9	20051019.R2A

TDS						
200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	220	160	20051021.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	<30	<30	<30	20051021.R27B

TKN Water						
Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20051024.R58A

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20051024.R58A

TP Water						
50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.06	0.049	0.04	20051024.R23A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20051024.R23A

TSS						
160 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	192	190	128	20051021.R27A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20051021.R27A

Turbidity						
1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.95	0.91	0.85	20051018.R21B

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Turbidity

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20051018.R21B

UCL Upper Control Limit

LCL Lower Control Limit

AL-105

Field notes collected by Bill Dillabough on Nov. 2, 2005.
All temp. readings in degrees Celsius. Date recorded m/d/y

Station #	Date & Time	Air Temperature	Water Temperature	D/O mg/L	Record of Samples	
UM SW-2	11/2/2005 10:25	4	7	4.5	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Light flow, clear water
UM-SW-6	11/2/2005 9:30	1	5	11	2- 500ml G/C 1- 200ml Metals 2- 50ml P/A	Good flow of water, slightly stained, UTM NAD 83 0436111 E - 5134917 N

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Analytical Report

Client:	Richard Sutcliffe	Work Order Number:	20785
Company:	Ursa Major Minerals Inc	Date Order Received:	11/3/2005
Address:	8 King Street East Suite 1300 Toronto, ON, M5C 1B5	Regulation:	None
Phone:	(416) 864-0615	PO #:	
Fax:	(416) 864-0620	Project #:	U-03
Email:	rsutcliffe@bellnet.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
UM SW-2	78466	Water		11/2/2005	10:25
UM SW-6	78467	Water		11/2/2005	9:30



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Work Order: 20785

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
Colour	Determination of Colour by Spectrophotometry Instrument group: Phillips PU 8610	Mod. APHA-2120
CONDWATER	Determination of conductivity in water Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-2510
DOC Water	Determination of Dissolved Organic Carbon in Water Instrument group: Dohrman TOC Analyzer	Mod. APHA-5310
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Denver Analytical Balance	Mod. APHA-2540
TKN Water	Determination of Total Kjeldahl Nitrogen in Waters Instrument group: Skalar San++ FIA	APHA-4500-N-B
TP Water	Determination of Total Phosphorus by FIA/UV Digestion Instrument group: Skalar San++ FIA	Mod. APHA-4500
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Denver Analytical Balance	Mod. APHA-2540
Turbidity	Determination of Turbidity by Nephelometry Instrument group: Hach Ratio Nephelometer	Mod. APHA-2130
Sample Notes:	Metals samples were field preserved with nitric acid.	



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Work Order: 20785

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Dr. Xiaojing Li
Inorganic Section Head



TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc

Work Order: 20785

Sample Data:

Sample Name: UM SW-2

Date: 11/2/2005

Matrix: Water

Lab #: 78466

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20051107.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.06	mg/L	20051109.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.4	mg/L	20051110.R5A
Fluoride	0.01	<0.01	mg/L	20051110.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20051110.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20051110.R5A
Sulfate	0.2	7.1	mg/L	20051110.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	<4	TCU	20051103.R26A
True Colour	4	<4	TCU	20051103.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	28	µS/cm	20051103.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	4.1	mg/L	20051104.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	7.4	mg/L	20051111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	268	ug/L	20051111.R13B
Antimony	1	<1	ug/L	20051111.R13B
Arsenic	1	<1	ug/L	20051111.R13B
Barium	1	18	ug/L	20051111.R13B
Beryllium	1	<1	ug/L	20051111.R13B
Bismuth	1	<1	ug/L	20051111.R13B
Boron	2	4.5	ug/L	20051111.R13B
Cadmium	0.1	0.25	ug/L	20051111.R13B
Calcium	50	2200	ug/L	20051111.R13B
Cerium	1	<1	ug/L	20051111.R13B
Cesium	1	<1	ug/L	20051111.R13B
Chromium	1	<1	ug/L	20051111.R13B
Cobalt	0.1	7.7	ug/L	20051111.R13B
Copper	1	<1	ug/L	20051111.R13B

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ALAN



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Ursa Major Minerals Inc

Work Order: 20785

Sample Name: UM SW-2

Date: 11/2/2005

Matrix: Water

Lab #: 78466

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Europium	1	<1	ug/L	20051111.R13B
Gallium	1	<1	ug/L	20051111.R13B
Iron	20	<20	ug/L	20051111.R13B
Lanthanum	1	<1	ug/L	20051111.R13B
Lead	1	<1	ug/L	20051111.R13B
Lithium	5	<5	ug/L	20051111.R13B
Magnesium	4	468	ug/L	20051111.R13B
Manganese	1	112	ug/L	20051111.R13B
Mercury	0.1	<0.1	ug/L	20051111.R13B
Molybdenum	1	<1	ug/L	20051111.R13B
Nickel	1	6.4	ug/L	20051111.R13B
Niobium	1	<1	ug/L	20051111.R13B
Rubidium	1	<1	ug/L	20051111.R13B
Scandium	1	<1	ug/L	20051111.R13B
Selenium	1	<1	ug/L	20051111.R13B
Silver	0.1	<0.1	ug/L	20051111.R13B
Strontium	1	11	ug/L	20051111.R13B
Thallium	0.1	<0.1	ug/L	20051111.R13B
Thorium	1	<1	ug/L	20051111.R13B
Tin	1	<1	ug/L	20051111.R13B
Titanium	1	<1	ug/L	20051111.R13B
Tungsten	1	<1	ug/L	20051111.R13B
Uranium	1	<1	ug/L	20051111.R13B
Vanadium	1	<1	ug/L	20051111.R13B
Yttrium	1	<1	ug/L	20051111.R13B
Zinc	1	21	ug/L	20051111.R13B
Zirconium	1	<1	ug/L	20051111.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.32	pH	20051103.R2C

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20051110.R27B
Total Dissolved Solids	30	<30	mg/L	20051110.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.057	mg/L	20051107.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.043	mg/L	20051108.R23B

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Work Order: 20785

Sample Name: UM SW-2

Date: 11/2/2005

Matrix: Water

Lab #: 78466

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20051110.R27A
Total Suspended Solids	6	<6	mg/L	20051110.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	<0.2	NTU	20051103.R21B
Turbidity	0.2	<0.2	NTU	20051103.R21B

Sample Name: UM SW-6

Date: 11/2/2005

Matrix: Water

Lab #: 78467

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20051107.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.054	mg/L	20051109.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.63	mg/L	20051110.R5A
Fluoride	0.01	0.014	mg/L	20051110.R5A
Nitrate (as N)	0.1	<0.1	mg/L	20051110.R5A
Nitrite (as N)	0.05	<0.05	mg/L	20051110.R5A
Sulfate	0.2	11	mg/L	20051110.R5A

Colour				
Parameter	MDL	Result	Units	QAQCID
True Colour	4	83	TCU	20051103.R26A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	43	µS/cm	20051103.R12B
Conductivity	2	43	µS/cm	20051103.R12B

DOC Water				
Parameter	MDL	Result	Units	QAQCID
Dissolved Organic Carbon	0.4	17	mg/L	20051104.R55A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	15.2	mg/L	20051111.R90B

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	423	ug/L	20051111.R13B
Antimony	1	<1	ug/L	20051111.R13B
Arsenic	1	<1	ug/L	20051111.R13B

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Work Order: 20785

Sample Name: UM SW-6

Date: 11/2/2005

Matrix: Water

Lab #: 78467

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Barium	1	20	ug/L	20051111.R13B
Beryllium	1	<1	ug/L	20051111.R13B
Bismuth	1	<1	ug/L	20051111.R13B
Boron	2	5.4	ug/L	20051111.R13B
Cadmium	0.1	0.17	ug/L	20051111.R13B
Calcium	50	3800	ug/L	20051111.R13B
Cerium	1	<1	ug/L	20051111.R13B
Cesium	1	<1	ug/L	20051111.R13B
Chromium	1	<1	ug/L	20051111.R13B
Cobalt	0.1	3.4	ug/L	20051111.R13B
Copper	1	1.9	ug/L	20051111.R13B
Europium	1	<1	ug/L	20051111.R13B
Gallium	1	<1	ug/L	20051111.R13B
Iron	20	390	ug/L	20051111.R13B
Lanthanum	1	<1	ug/L	20051111.R13B
Lead	1	<1	ug/L	20051111.R13B
Lithium	5	<5	ug/L	20051111.R13B
Magnesium	4	1410	ug/L	20051111.R13B
Manganese	1	97	ug/L	20051111.R13B
Mercury	0.1	<0.1	ug/L	20051111.R13B
Molybdenum	1	<1	ug/L	20051111.R13B
Nickel	1	7.2	ug/L	20051111.R13B
Niobium	1	<1	ug/L	20051111.R13B
Rubidium	1	1.1	ug/L	20051111.R13B
Scandium	1	<1	ug/L	20051111.R13B
Selenium	1	<1	ug/L	20051111.R13B
Silver	0.1	<0.1	ug/L	20051111.R13B
Strontium	1	24	ug/L	20051111.R13B
Thallium	0.1	<0.1	ug/L	20051111.R13B
Thorium	1	<1	ug/L	20051111.R13B
Tin	1	<1	ug/L	20051111.R13B
Titanium	1	3.8	ug/L	20051111.R13B
Tungsten	1	<1	ug/L	20051111.R13B
Uranium	1	<1	ug/L	20051111.R13B
Vanadium	1	<1	ug/L	20051111.R13B
Yttrium	1	<1	ug/L	20051111.R13B
Zinc	1	31	ug/L	20051111.R13B
Zirconium	1	<1	ug/L	20051111.R13B

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.12	pH	20051103.R2C
pH	N/A	4.31	pH	20051103.R2C

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Ursa Major Minerals Inc

Work Order: 20785

Sample Name: UM SW-6

Date: 11/2/2005

Matrix: Water

Lab #: 78467

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	70	mg/L	20051110.R27B

TKN Water				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.05	0.26	mg/L	20051107.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.036	mg/L	20051108.R23B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	<6	mg/L	20051110.R27A

Turbidity				
Parameter	MDL	Result	Units	QAQCID
Turbidity	0.2	0.69	NTU	20051103.R21B

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



TESTMARK Laboratories Ltd.

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Ursa Major Minerals Inc

Work Order: 2 785

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	210	180	20051107.F.69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	10	<10	<10	20051107.F.39A

Ammonia FIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.514	0.4	20051109.R.42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20051109.R.2A

Anions Water

10 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.9	8	20051110.F.5A
Chloride	0.2	mg/L	12	10	8	20051110.R.5A
Fluoride	0.01	mg/L	12	11.2	9	20051110.F.5A
Nitrate (as N)	0.1	mg/L	12	11.1	8	20051110.R.5A
Nitrite (as N)	0.05	mg/L	12	10.4	8	20051110.R.5A
Phosphate	0.3	mg/L	12	10	8	20051110.R.5A
Sulfate	0.2	mg/L	12	10	8	20051110.R.5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20051110.R.5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20051110.R.5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20051110.R.5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20051110.R.5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20051110.R.5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20051110.R.5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20051110.R.5A

Colour

70 TCU						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	80	67	60	20051103.R.26A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID

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Colour

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
True Colour	4	TCU	<4	<4	<4	20051103.R26A

CONDWATER

100 µS Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	110	100	90	20051103.R12B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20051103.R12B

DOC Water

20 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	22	22	18	20051104.R55A

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Dissolved Organic Carbon	0.4	mg/L	0.4	<0.4	<0.4	20051104.R55A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	524	400	20051111.R13B
Arsenic	1	ug/L	120	115	80	20051111.R13B
Barium	1	ug/L	120	108	80	20051111.R13B
Beryllium	1	ug/L	125	111	75	20051111.R13B
Boron	2	ug/L	125	89	75	20051111.R13B
Cadmium	1	ug/L	120	100	80	20051111.R13B
Calcium	50	ug/L	1200	970	800	20051111.R13B
Chromium	1	ug/L	120	112	80	20051111.R13B
Cobalt	1	ug/L	120	109	80	20051111.R13B
Copper	1	ug/L	120	113	80	20051111.R13B
Iron	20	ug/L	600	480	400	20051111.R13B
Lead	1	ug/L	120	101	80	20051111.R13B
Magnesium	4	ug/L	1200	1060	800	20051111.R13B
Manganese	1	ug/L	120	113	80	20051111.R13B
Molybdenum	1	ug/L	120	83	80	20051111.R13B
Nickel	1	ug/L	120	107	80	20051111.R13B
Selenium	1	ug/L	120	112	80	20051111.R13B
Thallium	1	ug/L	120	100	80	20051111.R13B
Vanadium	1	ug/L	120	110	80	20051111.R13B
Zinc	1	ug/L	120	113	80	20051111.R13B

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ICPMS Water

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	110	80	20051111.R13B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20051111.R13B
Antimony	1	ug/L	5	<1	<1	20051111.R13B
Arsenic	1	ug/L	5	<1	<1	20051111.R13B
Barium	1	ug/L	5	<1	<1	20051111.R13B
Beryllium	1	ug/L	5	<1	<1	20051111.R13B
Bismuth	1	ug/L	5	<1	<1	20051111.R13B
Boron	2	ug/L	5	<2	<2	20051111.R13B
Cadmium	1	ug/L	5	<1	<1	20051111.R13B
Calcium	50	ug/L	<50	<50	<50	20051111.R13B
Cerium	1	ug/L	5	<1	<1	20051111.R13B
Cesium	1	ug/L	5	<1	<1	20051111.R13B
Chromium	1	ug/L	5	<1	<1	20051111.R13B
Cobalt	1	ug/L	5	<1	<1	20051111.R13B
Copper	1	ug/L	5	<1	<1	20051111.R13B
Europium	1	ug/L	5	<1	<1	20051111.R13B
Gallium	1	ug/L	5	<1	<1	20051111.R13B
Iron	20	ug/L	<20	<20	<20	20051111.R13B
Lanthanum	1	ug/L	5	<1	<1	20051111.R13B
Lead	1	ug/L	5	<1	<1	20051111.R13B
Lithium	1	ug/L	5	<1	<1	20051111.R13B
Magnesium	4	ug/L	20	<4	<4	20051111.R13B
Manganese	1	ug/L	5	<1	<1	20051111.R13B
Mercury	1	ug/L	5	<1	<1	20051111.R13B
Molybdenum	1	ug/L	5	<1	<1	20051111.R13B
Nickel	1	ug/L	5	<1	<1	20051111.R13B
Niobium	1	ug/L	5	<1	<1	20051111.R13B
Phosphorus	20	ug/L	<20	<20	<20	20051111.R13B
Rubidium	1	ug/L	5	<1	<1	20051111.R13B
Scandium	1	ug/L	5	<1	<1	20051111.R13B
Selenium	1	ug/L	5	<1	<1	20051111.R13B
Silver	5	ug/L	5	<5	<5	20051111.R13B
Strontium	1	ug/L	5	<1	<1	20051111.R13B
Thallium	1	ug/L	5	<1	<1	20051111.R13B
Thorium	1	ug/L	5	<1	<1	20051111.R13B
Tin	1	ug/L	5	<1	<1	20051111.R13B
Titanium	1	ug/L	5	<1	<1	20051111.R13B
Tungsten	1	ug/L	5	<1	<1	20051111.R13B
Uranium	1	ug/L	5	<1	<1	20051111.R13B
Vanadium	1	ug/L	5	<1	<1	20051111.R13B
Yttrium	1	ug/L	5	<1	<1	20051111.R13B
Zinc	1	ug/L	5	<1	<1	20051111.R13B
Zirconium	1	ug/L	5	<1	<1	20051111.R13B

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ICPMS Water

Blank

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	6.90	6.9	20051103.R27C

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	200	160	20051110.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	<30	<30	<30	20051110.R27B

TKN Water

Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	1.2	1.1	0.8	20051107.R58A

Method Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.05	mg/L	0.05	<0.05	<0.05	20051107.R58A

TP Water

50 ppb						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.06	0.049	0.04	20051108.R23B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20051108.R23B

TSS

160 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	192	170	128	20051110.R27A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20051110.R27A

Turbidity

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1 NTU Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.85	0.82	0.75	20051103.R21B

Turbidity Water						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Turbidity	0.2	NTU	0.2	<0.2	<0.2	20051103.R21B

UCL Upper Control Limit

LCL Lower Control Limit

APPENDIX A2
FLOW MONITORING RECORDS

- Table A2.1 8 pages

TABLE A2.1

**URSA MAJOR MINERALS INCORPORATED
SHAKESPEARE PROJECT**

ENVIRONMENTAL BASELINE REPORT FOR FEASIBILITY STUDY

DAILY AVERAGE FLOW MONITORING DATA

Date	Average Depth (mm)	Average Temp. (°C)	Average Velocity (mm/sec)	Area (cm ²)	Flow (L/sec)	Flow (m ³ /sec)
18-Aug-04	7.25	18.39	0.00	140.00	0.00	0.00000
19-Aug-04	3.88	13.92	0.00	140.00	0.00	0.00000
20-Aug-04	0.67	12.97	0.00	140.00	0.00	0.00000
21-Aug-04	0.00	11.91	0.00	140.00	0.00	0.00000
22-Aug-04	0.29	12.29	0.00	140.00	0.00	0.00000
23-Aug-04	6.88	14.08	0.00	140.00	0.00	0.00000
24-Aug-04	0.00	12.81	0.00	140.00	0.00	0.00000
25-Aug-04	0.00	14.55	0.00	140.00	0.00	0.00000
26-Aug-04	4.58	17.27	0.00	140.00	0.00	0.00000
27-Aug-04	9.08	18.83	0.00	140.00	0.00	0.00000
28-Aug-04	7.17	16.76	0.00	140.00	0.00	0.00000
29-Aug-04	9.42	15.16	0.00	140.00	0.00	0.00000
30-Aug-04	5.46	14.75	0.00	140.00	0.00	0.00000
31-Aug-04	0.00	15.23	0.00	140.00	0.00	0.00000
min	0.00	11.91	0.00	140.00	0.00	0.00000
max	9.42	18.83	0.00	140.00	0.00	0.00000
mean	3.90	14.92	0.00	140.00	0.00	0.00000
1-Sep-04	0.38	13.84	0.00	140.00	0.00	0.00000
2-Sep-04	0.00	13.39	0.00	140.00	0.00	0.00000
3-Sep-04	0.00	16.38	0.00	140.00	0.00	0.00000
4-Sep-04	0.04	16.11	0.00	140.00	0.00	0.00000
5-Sep-04	11.08	16.66	0.00	140.00	0.00	0.00000
6-Sep-04	5.02	17.46	41.25	140.00	0.57	0.00057
7-Sep-04	52.46	17.16	44.25	140.00	0.62	0.00062
8-Sep-04	39.92	15.39	39.00	140.00	0.55	0.00055
9-Sep-04	31.08	14.31	20.50	140.00	0.29	0.00029
10-Sep-04	17.38	12.54	0.00	140.00	0.00	0.00000
11-Sep-04	0.63	14.38	0.00	140.00	0.00	0.00000
12-Sep-04	0.00	14.33	0.00	140.00	0.00	0.00000
13-Sep-04	0.00	14.29	0.00	140.00	0.00	0.00000
14-Sep-04	0.00	16.54	0.00	140.00	0.00	0.00000
15-Sep-04	0.00	18.44	0.00	140.00	0.00	0.00000
16-Sep-04	12.58	17.60	0.00	140.00	0.00	0.00000
17-Sep-04	2.13	12.18	0.00	140.00	0.00	0.00000
18-Sep-04	0.00	10.27	0.00	140.00	0.00	0.00000
19-Sep-04	0.00	10.19	0.00	140.00	0.00	0.00000
20-Sep-04	0.00	12.38	0.00	140.00	0.00	0.00000
21-Sep-04	0.00	12.86	0.00	140.00	0.00	0.00000
22-Sep-04	0.00	13.97	0.00	140.00	0.00	0.00000
23-Sep-04	0.00	14.83	0.00	140.00	0.00	0.00000
24-Sep-04	0.00	15.18	0.00	140.00	0.00	0.00000
25-Sep-04	0.00	13.45	0.00	140.00	0.00	0.00000
26-Sep-04	0.00	12.48	0.00	140.00	0.00	0.00000
27-Sep-04	0.00	12.74	0.00	140.00	0.00	0.00000
28-Sep-04	0.00	10.73	0.00	140.00	0.00	0.00000
29-Sep-04	0.00	8.11	0.00	140.00	0.00	0.00000
30-Sep-04	0.00	8.66	0.00	140.00	0.00	0.00000
min	0.00	8.11	0.00	140.00	0.00	0.00000
max	52.46	18.44	44.25	140.00	0.62	0.00062
mean	5.76	13.89	4.83	140.00	0.07	0.00007
1-Oct-04	0.00	10.00	0.00	140.00	0.00	0.00000
2-Oct-04	7.88	10.64	0.00	140.00	0.00	0.00000
3-Oct-04	2.50	8.26	0.00	140.00	0.00	0.00000
4-Oct-04	13.63	8.52	5.25	140.00	0.00	0.00000
5-Oct-04	0.29	6.95	0.00	140.00	0.00	0.00000
6-Oct-04	0.00	8.27	0.00	140.00	0.00	0.00000
7-Oct-04	0.00	9.31	0.00	140.00	0.00	0.00000
8-Oct-04	36.83	10.67	84.46	140.00	1.18	0.00118
9-Oct-04	79.25	11.25	312.71	400.00	12.48	0.01248
10-Oct-04	72.58	9.22	83.96	400.00	3.30	0.00330
11-Oct-04	59.29	8.27	77.88	140.00	1.00	0.00100
12-Oct-04	33.75	6.80	117.29	140.00	1.60	0.00160
13-Oct-04	24.25	7.52	57.71	140.00	0.80	0.00080
14-Oct-04	30.46	8.70	59.04	140.00	0.83	0.00083
15-Oct-04	43.50	9.03	49.79	140.00	0.69	0.00069
16-Oct-04	74.13	9.35	242.88	400.00	9.68	0.00968

TABLE A2.1

**URSA MAJOR MINERALS INCORPORATED
SHAKESPEARE PROJECT**

ENVIRONMENTAL BASELINE REPORT FOR FEASIBILITY STUDY

DAILY AVERAGE FLOW MONITORING DATA

Date	Average Depth (mm)	Average Temp. (°C)	Average Velocity (mm/sec)	Area (cm ²)	Flow (L/sec)	Flow (m ³ /sec)
17-Oct-04	76.04	7.18	288.04	400.00	11.52	0.01152
18-Oct-04	68.75	4.60	270.92	400.00	10.80	0.01080
19-Oct-04	65.00	3.86	257.67	400.00	10.28	0.01028
20-Oct-04	60.38	4.26	264.88	400.00	10.56	0.01056
21-Oct-04	57.33	6.51	182.67	140.00	2.55	0.00255
22-Oct-04	50.92	5.83	94.63	140.00	1.32	0.00132
23-Oct-04	54.13	7.97	62.54	140.00	0.87	0.00087
24-Oct-04	114.46	8.48	390.38	400.00	15.60	0.01560
25-Oct-04	117.00	9.21	375.92	400.00	15.00	0.01500
26-Oct-04	109.92	7.92	362.71	400.00	14.48	0.01448
27-Oct-04	101.50	7.21	369.53	400.00	14.76	0.01476
28-Oct-04	90.42	5.83	390.29	400.00	15.60	0.01560
29-Oct-04	86.75	6.71	352.17	400.00	14.08	0.01408
30-Oct-04	159.00	9.00	559.92	700.00	39.13	0.03913
31-Oct-04	226.13	8.60	923.25	1050.00	96.90	0.09690
min	0.00	3.86	0.00	140.00	0.00	0.00000
max	226.13	11.25	923.25	1050.00	96.90	0.09690
mean	61.81	7.93	201.18	296.45	9.84	0.00984
1-Nov-04	185.21	6.12	849.58	1050.00	89.00	0.08900
2-Nov-04	152.88	5.01	835.71	700.00	58.45	0.05845
3-Nov-04	135.08	4.29	734.21	400.00	29.36	0.02936
4-Nov-04	124.38	4.19	639.75	400.00	25.56	0.02556
5-Nov-04	122.79	4.23	599.83	400.00	23.96	0.02396
6-Nov-04	113.58	4.97	598.04	400.00	23.92	0.02392
7-Nov-04	105.38	4.42	560.67	400.00	22.40	0.02240
8-Nov-04	93.96	2.07	558.42	400.00	22.32	0.02232
9-Nov-04	79.96	1.07	609.79	400.00	24.36	0.02436
10-Nov-04	78.13	2.83	539.00	400.00	21.56	0.02156
11-Nov-04	91.54	2.23	618.13	400.00	25.00	0.02500
12-Nov-04	85.50	0.71	589.21	400.00	24.00	0.02400
13-Nov-04	76.96	0.45	579.50	400.00	23.00	0.02300
14-Nov-04	71.88	0.77	585.75	400.00	23.00	0.02300
15-Nov-04	69.75	1.21	599.25	400.00	24.00	0.02400
16-Nov-04	70.25	2.23	586.96	400.00	23.00	0.02300
17-Nov-04	71.17	3.43	617.25	400.00	25.00	0.02500
18-Nov-04	74.50	4.51	581.83	400.00	23.00	0.02300
19-Nov-04	72.92	2.49	567.71	400.00	23.00	0.02300
20-Nov-04	80.13	2.77	541.58	400.00	22.00	0.02200
21-Nov-04	91.63	3.39	503.96	400.00	20.00	0.02000
22-Nov-04	88.79	1.65	509.83	400.00	20.00	0.02000
23-Nov-04	85.67	2.58	495.54	400.00	20.00	0.02000
24-Nov-04	77.71	1.40	554.00	400.00	22.00	0.02200
25-Nov-04	69.58	0.29	572.67	400.00	23.00	0.02300
26-Nov-04	62.96	0.05	603.63	400.00	24.00	0.02400
27-Nov-04	87.08	0.07	606.50	400.00	24.00	0.02400
28-Nov-04	337.08	0.83	1232.88	2300.00	284.00	0.28400
29-Nov-04	270.71	1.14	1135.96	1700.00	193.00	0.19300
30-Nov-04	188.79	0.84	783.21	1050.00	82.00	0.08200
min	62.96	0.05	495.54	400.00	20.00	0.02000
max	337.08	6.12	1232.88	2300.00	284.00	0.28400
mean	110.53	2.41	646.34	560.00	42.93	0.04293
1-Dec-04	166.00	0.89	866.00	1050.00	91.00	0.09100
2-Dec-04	148.00	0.42	751.00	700.00	53.00	0.05300
3-Dec-04	154.00	0.04	624.00	1050.00	66.00	0.06600
4-Dec-04	130.00	0.10	613.00	400.00	25.00	0.02500
5-Dec-04	130.00	0.04	553.00	400.00	22.00	0.02200
6-Dec-04	123.00	0.03	479.00	400.00	19.00	0.01900
7-Dec-04	114.00	0.02	484.00	400.00	19.00	0.01900
8-Dec-04	110.00	0.07	485.00	400.00	19.00	0.01900
9-Dec-04	104.00	0.14	520.00	400.00	21.00	0.02100
10-Dec-04	105.00	0.15	513.00	400.00	21.00	0.02100
11-Dec-04	103.00	0.14	508.00	400.00	20.00	0.02000
12-Dec-04	97.00	0.12	523.00	400.00	21.00	0.02100
13-Dec-04	91.00	0.16	530.00	400.00	21.00	0.02100
14-Dec-04	83.00	0.09	488.00	400.00	19.00	0.01900
15-Dec-04	79.00	0.10	510.00	400.00	20.00	0.02000

TABLE A2.1

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SHAKESPEARE PROJECT**

ENVIRONMENTAL BASELINE REPORT FOR FEASIBILITY STUDY

DAILY AVERAGE FLOW MONITORING DATA

Date	Average Depth (mm)	Average Temp. (°C)	Average Velocity (mm/sec)	Area (cm ²)	Flow (L/sec)	Flow (m ³ /sec)
14-Feb-05	73.25	0.02	345.67	263.54	9.63	0.00963
15-Feb-05	102.71	0.02	524.54	427.67	22.53	0.02253
16-Feb-05	87.25	0.08	510.67	336.38	17.23	0.01723
17-Feb-05	81.88	0.09	512.29	307.25	15.76	0.01576
18-Feb-05	75.63	0.03	461.21	272.88	12.63	0.01263
19-Feb-05	70.79	0.02	347.83	247.71	8.66	0.00866
20-Feb-05	66.79	0.02	314.42	227.46	7.17	0.00717
21-Feb-05	65.29	0.02	304.71	221.00	6.75	0.00675
22-Feb-05	63.33	0.02	317.58	210.54	6.72	0.00672
23-Feb-05	58.08	0.02	318.46	185.13	5.92	0.00592
24-Feb-05	50.58	0.02	311.25	151.29	4.71	0.00471
25-Feb-05	48.21	0.02	334.54	140.88	4.74	0.00474
26-Feb-05	43.71	0.02	336.54	121.63	4.10	0.00410
27-Feb-05	39.50	0.02	255.21	104.71	2.69	0.00269
28-Feb-05	36.58	0.02	277.00	93.83	2.62	0.00262
min	36.58	0.02	255.21	93.83	2.62	0.00262
max	102.71	0.15	524.54	427.67	22.53	0.02253
mean	64.35	0.06	383.74	220.11	8.99	0.00899
1-Mar-05	35.79	0.02	305.67	91.08	2.81	0.00281
2-Mar-05	35.42	0.02	299.00	89.00	2.68	0.00268
3-Mar-05	32.83	0.02	292.67	80.00	2.36	0.00236
4-Mar-05	31.50	0.04	276.33	74.96	2.09	0.00209
5-Mar-05	29.92	0.05	290.00	69.50	2.04	0.00204
6-Mar-05	29.21	0.08	271.08	67.96	1.86	0.00186
7-Mar-05	29.92	0.09	295.17	69.96	2.08	0.00208
8-Mar-05	28.42	0.07	280.83	64.83	1.84	0.00184
9-Mar-05	26.29	0.02	239.96	57.29	1.43	0.00143
10-Mar-05	23.00	0.02	57.21	46.83	0.31	0.00031
11-Mar-05	22.08	0.02	25.63	44.63	0.14	0.00014
12-Mar-05	21.08	0.05	18.13	41.71	0.10	0.00010
13-Mar-05	19.38	0.09	0.00	36.46	0.00	0.00000
14-Mar-05	18.88	0.07	0.00	35.29	0.00	0.00000
15-Mar-05	18.63	0.05	0.00	34.00	0.00	0.00000
16-Mar-05	20.38	0.05	16.92	39.75	0.09	0.00009
17-Mar-05	18.54	0.07	0.00	34.21	0.00	0.00000
18-Mar-05	19.17	0.08	0.00	35.75	0.00	0.00000
19-Mar-05	19.92	0.07	0.00	37.75	0.00	0.00000
20-Mar-05	19.83	0.09	0.00	37.58	0.00	0.00000
21-Mar-05	22.25	0.09	60.46	45.08	0.34	0.00034
22-Mar-05	27.76	0.08	288.35	62.80	2.01	0.00201
23-Mar-05	44.88	0.02	413.08	127.13	5.28	0.00528
24-Mar-05	56.96	0.02	437.46	180.58	7.95	0.00795
25-Mar-05	66.50	0.02	501.13	226.00	11.36	0.01136
26-Mar-05	71.79	0.02	515.29	253.46	13.14	0.01314
27-Mar-05	81.38	0.02	569.58	305.33	17.41	0.01741
28-Mar-05	31.98	0.05	189.86	84.53	2.89	0.00289
29-Mar-05	32.01	0.05	186.26	84.93	2.93	0.00293
30-Mar-05	32.09	0.05	181.93	85.58	2.96	0.00296
31-Mar-05	32.21	0.05	178.22	86.31	3.01	0.00301
min	18.54	0.02	0.00	34.00	0.00	0.00000
max	81.38	0.09	569.58	305.33	17.41	0.01741
mean	32.26	0.05	199.68	84.85	2.87	0.00287
1-Apr-05	617.42	0.02	579.92	5092.33	295.86	0.29586
2-Apr-05	557.46	0.02	653.96	4502.42	295.77	0.29577
3-Apr-05	396.25	0.02	620.71	2901.71	180.33	0.18033
4-Apr-05	327.83	0.02	662.50	2243.96	150.20	0.15020
5-Apr-05	291.38	0.02	819.33	1907.75	156.06	0.15606
6-Apr-05	256.04	0.06	968.58	1595.33	156.34	0.15634
7-Apr-05	424.00	0.56	512.25	3177.42	151.67	0.15167
8-Apr-05	368.79	1.08	232.13	2636.50	59.82	0.05982
9-Apr-05	315.75	1.74	306.42	2131.50	65.28	0.06528
10-Apr-05	293.63	2.20	311.17	1927.21	59.99	0.05999
11-Apr-05	274.29	2.73	279.83	1752.63	49.26	0.04926
12-Apr-05	257.00	3.28	242.29	1599.71	38.57	0.03857
13-Apr-05	243.71	3.94	367.04	1485.21	54.60	0.05460
14-Apr-05	234.04	4.78	315.88	1402.13	44.38	0.04438

TABLE A2.1

**URSA MAJOR MINERALS INCORPORATED
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DAILY AVERAGE FLOW MONITORING DATA

Date	Average Depth (mm)	Average Temp. (°C)	Average Velocity (mm/sec)	Area (cm ²)	Flow (L/sec)	Flow (m ³ /sec)
15-Apr-05	223.17	5.16	282.25	1309.67	37.08	0.03708
16-Apr-05	213.13	5.61	279.83	1228.50	34.44	0.03444
17-Apr-05	211.46	7.60	284.25	1214.17	34.58	0.03458
18-Apr-05	206.96	8.28	293.21	1177.71	34.59	0.03459
19-Apr-05	204.08	9.98	312.96	1154.21	36.19	0.03619
20-Apr-05	227.08	8.79	309.46	1345.17	41.70	0.04170
21-Apr-05	514.46	7.26	276.38	3335.79	86.95	0.08695
22-Apr-05	986.25	7.14	331.38	4313.00	145.94	0.14594
23-Apr-05	1694.17	4.87	278.00	6497.58	177.91	0.17791
24-Apr-05	2104.75	2.00	270.29	7854.00	212.60	0.21260
25-Apr-05	2109.67	2.63	313.38	7854.00	246.49	0.24649
26-Apr-05	2113.88	3.08	328.67	7854.00	258.47	0.25847
27-Apr-05	2121.42	4.37	563.00	7854.00	442.52	0.44252
28-Apr-05	2110.71	5.14	719.54	7854.00	565.48	0.56548
29-Apr-05	2026.17	5.81	538.75	7854.00	423.46	0.42346
30-Apr-05	1250.71	6.73	419.67	6158.96	260.77	0.26077
min	204.08	0.02	232.13	1154.21	34.44	0.03444
max	2121.42	9.98	968.58	7854.00	565.48	0.56548
mean	772.52	3.83	422.43	3640.48	159.91	0.15991
1-May-05	314.21	6.80	378.29	2117.21	80.31	0.08031
2-May-05	286.79	6.03	315.46	1865.58	59.01	0.05901
3-May-05	269.50	5.39	291.08	1709.92	49.87	0.04987
4-May-05	249.50	6.90	293.92	1535.38	45.13	0.04513
5-May-05	204.04	8.48	331.22	1162.43	37.70	0.03770
6-May-05	155.71	9.09	398.25	783.25	31.27	0.03127
7-May-05	150.04	11.10	381.42	742.00	28.38	0.02838
8-May-05	139.00	11.73	386.13	664.08	25.67	0.02567
9-May-05	131.58	12.67	394.75	613.33	24.27	0.02427
10-May-05	131.33	13.94	399.50	611.92	24.50	0.02450
11-May-05	125.63	12.46	429.25	573.25	24.63	0.02463
12-May-05	115.63	9.71	411.88	507.83	20.93	0.02093
13-May-05	112.67	7.71	418.75	489.54	20.53	0.02053
14-May-05	121.42	7.94	439.13	546.04	24.04	0.02404
15-May-05	119.96	8.18	428.50	536.83	23.11	0.02311
16-May-05	119.58	8.87	438.83	533.58	23.48	0.02348
17-May-05	111.92	10.09	450.71	485.04	21.87	0.02187
18-May-05	104.54	11.58	458.00	438.92	20.12	0.02012
19-May-05	98.67	12.74	503.46	403.25	20.32	0.02032
20-May-05	98.22	13.26	490.38	377.33	18.51	0.01851
21-May-05	94.29	14.91	429.21	358.54	15.55	0.01555
22-May-05	91.17	15.58	99.13	327.42	3.26	0.00326
23-May-05	81.25	12.95	105.13	303.33	3.20	0.00320
24-May-05	77.71	15.14	118.42	284.08	3.38	0.00338
25-May-05	72.29	17.24	130.38	255.38	3.34	0.00334
26-May-05	67.04	17.65	135.13	228.92	3.12	0.00312
27-May-05	63.83	18.57	118.75	212.75	2.55	0.00255
28-May-05	60.58	16.25	113.58	196.92	2.25	0.00225
29-May-05	60.50	15.26	113.42	196.92	2.25	0.00225
30-May-05	76.13	15.12	123.04	278.58	3.45	0.00345
31-May-05	84.17	16.42	121.08	320.54	3.89	0.00389
min	0.06	5.39	0.10	196.92	2.25	0.00225
max	0.31	18.57	0.50	2117.21	80.31	0.08031
mean	0.13	11.93	0.31	634.20	21.61	0.02161
1-Jun-05	67.83	18.03	123.50	232.67	2.88	0.00288
2-Jun-05	60.42	18.54	128.54	196.88	2.54	0.00254
3-Jun-05	53.54	19.29	121.17	164.88	2.01	0.00201
4-Jun-05	44.71	19.27	137.67	126.17	1.76	0.00176
5-Jun-05	63.21	19.43	217.75	229.04	7.55	0.00755
6-Jun-05	92.00	18.54	357.75	366.21	13.79	0.01379
7-Jun-05	72.79	19.11	124.92	258.38	3.20	0.00320
8-Jun-05	54.75	18.63	107.54	170.29	1.92	0.00192
9-Jun-05	37.33	20.19	85.46	97.08	0.82	0.00082
10-Jun-05	25.33	22.45	73.71	54.71	0.47	0.00047
11-Jun-05	19.54	23.51	7.54	37.25	0.04	0.00004
12-Jun-05	17.96	22.73	0.00	33.00	0.00	0.00000
13-Jun-05	23.83	21.55	42.71	50.08	0.26	0.00026

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DAILY AVERAGE FLOW MONITORING DATA

Date	Average Depth (mm)	Average Temp. (°C)	Average Velocity (mm/sec)	Area (cm ²)	Flow (L/sec)	Flow (m ³ /sec)
14-Jun-05	28.54	22.14	86.21	65.46	0.61	0.00061
15-Jun-05	40.88	19.46	97.96	113.17	1.21	0.00121
16-Jun-05	15.54	16.27	0.00	26.79	0.00	0.00000
17-Jun-05	10.21	15.50	0.00	14.38	0.00	0.00000
18-Jun-05	8.92	15.49	0.00	12.63	0.00	0.00000
19-Jun-05	9.08	15.79	0.00	11.96	0.00	0.00000
20-Jun-05	8.21	16.85	0.00	10.42	0.00	0.00000
21-Jun-05	12.75	19.18	0.00	20.25	0.00	0.00000
22-Jun-05	23.46	17.76	55.50	49.75	0.34	0.00034
23-Jun-05	5.00	16.33	0.00	5.75	0.00	0.00000
24-Jun-05	7.17	20.42	4.00	11.75	0.02	0.00002
25-Jun-05	0.17	19.99	0.00	0.08	0.00	0.00000
26-Jun-05	0.00	17.98	0.00	0.00	0.00	0.00000
27-Jun-05	0.00	17.84	0.00	0.00	0.00	0.00000
28-Jun-05	0.00	19.70	0.00	0.00	0.00	0.00000
29-Jun-05	0.00	18.50	0.00	0.00	0.00	0.00000
30-Jun-05	0.00	18.51	0.00	0.00	0.00	0.00000
min	0.00	15.49	0.00	0.00	0.00	0.00000
max	0.09	23.51	0.36	366.21	13.79	0.01379
mean	0.03	18.97	0.06	78.63	1.31	0.00131
1-Jul-05	0.67	17.02	0.00	0.58	0.00	0.00000
2-Jul-05	0.00	14.36	0.00	0.00	0.00	0.00000
3-Jul-05	0.00	15.08	0.00	0.00	0.00	0.00000
4-Jul-05	0.29	14.88	0.00	0.29	0.00	0.00000
5-Jul-05	75.63	17.38	235.88	302.79	10.54	0.01054
6-Jul-05	14.17	16.33	26.63	28.25	0.18	0.00018
7-Jul-05	0.00	15.31	0.00	0.00	0.00	0.00000
8-Jul-05	0.00	15.89	0.00	0.00	0.00	0.00000
9-Jul-05	0.00	16.36	0.00	0.00	0.00	0.00000
10-Jul-05	0.00	18.48	0.00	0.00	0.00	0.00000
11-Jul-05	0.00	19.70	0.00	0.00	0.00	0.00000
12-Jul-05	0.00	20.06	0.00	0.00	0.00	0.00000
13-Jul-05	0.00	19.22	0.00	0.00	0.00	0.00000
14-Jul-05	0.00	18.61	0.00	0.00	0.00	0.00000
15-Jul-05	0.00	17.76	0.00	0.00	0.00	0.00000
16-Jul-05	0.00	19.43	0.00	0.00	0.00	0.00000
17-Jul-05	0.00	19.65	0.00	0.00	0.00	0.00000
18-Jul-05	6.88	20.72	1.42	10.54	0.01	0.00001
19-Jul-05	2.63	19.35	0.00	3.33	0.00	0.00000
20-Jul-05	0.00	17.20	0.00	0.00	0.00	0.00000
21-Jul-05	0.00	19.04	0.00	0.00	0.00	0.00000
22-Jul-05	0.00	18.01	0.00	0.00	0.00	0.00000
23-Jul-05	0.00	17.33	0.00	0.00	0.00	0.00000
24-Jul-05	0.00	16.83	0.00	0.00	0.00	0.00000
25-Jul-05	0.00	18.38	0.00	0.00	0.00	0.00000
26-Jul-05	0.00	16.73	0.00	0.00	0.00	0.00000
27-Jul-05	0.00	15.11	0.00	0.00	0.00	0.00000
28-Jul-05	0.00	14.24	0.00	0.00	0.00	0.00000
29-Jul-05	8.54	15.57	13.46	17.38	0.11	0.00011
30-Jul-05	0.00	14.65	0.00	0.00	0.00	0.00000
31-Jul-05	4.25	14.44	0.00	5.96	0.00	0.00000
min	0.00	14.24	0.00	0.00	0.00	0.00000
max	0.08	20.72	0.24	302.79	10.54	0.01054
mean	0.00	17.20	0.01	11.91	0.35	0.00035
1-Aug-05	2.83	17.59	0.00	4.04	0.00	0.00000
2-Aug-05	0.00	18.01	0.00	0.00	0.00	0.00000
3-Aug-05	0.00	19.66	0.00	0.00	0.00	0.00000
4-Aug-05	1.83	19.58	0.00	1.58	0.00	0.00000
5-Aug-05	0.50	17.56	0.00	0.29	0.00	0.00000
6-Aug-05	0.00	16.38	0.00	0.00	0.00	0.00000
7-Aug-05	0.00	17.45	0.00	0.00	0.00	0.00000
8-Aug-05	0.00	18.14	0.00	0.00	0.00	0.00000
9-Aug-05	33.67	19.19	114.96	160.71	7.63	0.00763
10-Aug-05	164.71	20.70	396.71	876.21	38.28	0.03828
11-Aug-05	44.25	19.16	73.58	128.17	1.01	0.00101
12-Aug-05	31.13	17.60	62.29	73.96	0.47	0.00047

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Date	Average Depth (mm)	Average Temp. (°C)	Average Velocity (mm/sec)	Area (cm ²)	Flow (L/sec)	Flow (m ³ /sec)
13-Aug-05	27.21	17.50	56.67	62.50	0.38	0.00038
14-Aug-05	39.63	17.44	71.13	108.13	0.83	0.00083
15-Aug-05	66.54	16.49	94.13	231.13	2.24	0.00224
16-Aug-05	38.71	16.98	73.54	101.08	0.75	0.00075
17-Aug-05	34.96	16.12	72.38	86.79	0.64	0.00064
18-Aug-05	24.92	15.62	58.04	53.08	0.31	0.00031
19-Aug-05	35.00	15.75	64.13	92.04	0.65	0.00065
20-Aug-05	27.75	16.05	59.75	62.63	0.39	0.00039
21-Aug-05	24.29	16.15	48.46	51.21	0.25	0.00025
22-Aug-05	24.04	15.88	51.46	50.29	0.26	0.00026
23-Aug-05	47.33	15.42	73.25	145.25	1.16	0.00116
24-Aug-05	23.92	14.22	54.92	49.75	0.27	0.00027
25-Aug-05	24.29	13.83	52.67	51.04	0.27	0.00027
26-Aug-05	23.29	13.99	47.38	47.88	0.23	0.00023
27-Aug-05	28.75	15.30	51.25	69.63	0.43	0.00043
28-Aug-05	34.33	17.14	64.08	88.13	0.61	0.00061
29-Aug-05	32.00	16.36	60.67	76.92	0.48	0.00048
30-Aug-05	36.63	16.87	70.38	92.42	0.65	0.00065
31-Aug-05	30.75	16.27	58.88	72.92	0.46	0.00046
min	0.00	13.83	0.00	0.00	0.00	0.00000
max	0.16	20.70	0.40	876.21	38.28	0.03828
mean	0.03	16.92	0.06	91.54	1.89	0.00189
1-Sep-05	22.63	15.26	40.71	46.25	0.19	0.00019
2-Sep-05	23.71	15.20	46.63	49.54	0.24	0.00024
3-Sep-05	26.54	15.09	53.13	58.83	0.34	0.00034
4-Sep-05	35.00	12.81	79.00	87.00	0.69	0.00069
5-Sep-05	35.00	13.05	79.00	87.00	0.69	0.00069
6-Sep-05	35.00	14.53	79.00	87.00	0.69	0.00069
7-Sep-05	35.00	16.48	79.00	87.00	0.69	0.00069
8-Sep-05	35.00	14.94	79.00	87.00	0.69	0.00069
9-Sep-05	35.00	12.60	79.00	87.00	0.69	0.00069
10-Sep-05	35.00	12.70	79.00	87.00	0.69	0.00069
11-Sep-05	35.00	15.58	79.00	87.00	0.69	0.00069
12-Sep-05	35.00	17.83	79.00	87.00	0.69	0.00069
13-Sep-05	35.00	17.60	79.00	87.00	0.69	0.00069
14-Sep-05	35.00	17.30	79.00	87.00	0.69	0.00069
15-Sep-05	35.00	13.24	79.00	87.00	0.69	0.00069
16-Sep-05	35.00	12.71	79.00	87.00	0.69	0.00069
17-Sep-05	35.00	12.48	79.00	87.00	0.69	0.00069
18-Sep-05	35.00	14.04	79.00	87.00	0.69	0.00069
19-Sep-05	43.88	14.43	101.71	136.33	2.61	0.00261
20-Sep-05	80.79	15.35	187.83	335.79	10.13	0.01013
21-Sep-05	34.71	14.61	63.08	91.13	0.65	0.00065
22-Sep-05	31.92	15.38	62.79	76.63	0.49	0.00049
23-Sep-05	46.00	12.21	75.08	136.83	1.12	0.00112
24-Sep-05	39.88	10.22	69.83	111.75	0.84	0.00084
25-Sep-05	26.08	12.53	55.13	57.08	0.32	0.00032
26-Sep-05	95.25	13.25	199.13	391.79	9.44	0.00944
27-Sep-05	93.63	11.04	163.13	240.50	4.35	0.00435
28-Sep-05	93.63	12.25	148.79	136.33	1.97	0.00197
29-Sep-05	133.74	11.22	299.04	641.61	19.58	0.01958
30-Sep-05	103.25	10.36	196.13	206.50	4.44	0.00444
min	0.02	10.22	0.04	46.25	0.19	0.00019
max	0.13	17.83	0.30	641.61	19.58	0.01958
mean	0.05	13.88	0.10	134.06	2.23	0.00223
1-Oct-05	91.88	11.85	170.29	104.75	1.75	0.00175
2-Oct-05	28.83	12.16	57.58	66.33	0.40	0.00040
3-Oct-05	24.38	12.85	48.88	51.58	0.26	0.00026
4-Oct-05	55.25	14.99	91.08	150.79	1.64	0.00164
5-Oct-05	77.58	16.38	113.83	248.21	2.78	0.00278
6-Oct-05	65.88	15.15	87.00	226.08	2.00	0.00200
7-Oct-05	59.21	10.13	83.08	195.25	1.65	0.00165
8-Oct-05	64.96	6.92	88.17	221.88	1.99	0.00199
9-Oct-05	61.83	6.59	87.63	208.00	1.88	0.00188
10-Oct-05	50.71	6.98	76.33	158.29	1.29	0.00129
11-Oct-05	70.00	9.90	91.21	245.00	2.23	0.00223

TABLE A2.1

**URSA MAJOR MINERALS INCORPORATED
SHAKESPEARE PROJECT**

ENVIRONMENTAL BASELINE REPORT FOR FEASIBILITY STUDY

DAILY AVERAGE FLOW MONITORING DATA

Date	Average Depth (mm)	Average Temp. (°C)	Average Velocity (mm/sec)	Area (cm ²)	Flow (L/sec)	Flow (m ³ /sec)
12-Oct-05	58.63	8.96	87.29	194.42	1.79	0.00179
13-Oct-05	50.92	10.78	78.46	159.54	1.34	0.00134
14-Oct-05	67.33	11.91	86.75	232.67	2.03	0.00203
15-Oct-05	73.50	11.05	98.92	263.50	2.62	0.00262
16-Oct-05	70.00	9.62	87.92	245.00	2.15	0.00215
17-Oct-05	56.54	8.26	80.42	182.92	1.51	0.00151
18-Oct-05	66.00	9.45	84.38	226.50	1.92	0.00192
19-Oct-05	70.63	8.31	124.79	241.58	4.45	0.00445
20-Oct-05	23.21	5.91	44.38	47.67	0.21	0.00021
21-Oct-05	23.38	4.16	47.75	48.21	0.23	0.00023
22-Oct-05	23.54	4.06	46.50	48.92	0.23	0.00023
23-Oct-05	74.46	5.33	128.67	150.00	2.36	0.00236
24-Oct-05	88.38	6.01	138.04	182.33	2.39	0.00239
25-Oct-05	77.88	5.24	120.46	274.33	3.29	0.00329
26-Oct-05	74.08	3.87	103.04	266.58	2.76	0.00276
27-Oct-05	70.29	4.12	92.50	246.54	2.28	0.00228
28-Oct-05	64.67	2.86	85.79	220.33	1.91	0.00191
29-Oct-05	45.75	3.51	77.46	133.17	1.07	0.00107
30-Oct-05	45.88	4.30	77.17	133.58	1.06	0.00106
31-Oct-05	67.92	6.86	91.63	235.75	2.19	0.00219
min	0.00	14.36	0.00	0.00	0.00	0.00000
max	0.08	20.72	0.24	302.79	10.54	0.01054
mean	0.00	17.56	0.01	12.81	0.40	0.00040
1-Nov-05	43.71	7.35	68.96	133.25	1.13	0.00113
2-Nov-05	82.46	4.14	132.21	169.75	2.35	0.00235
3-Nov-05	89.25	5.58	147.42	174.67	2.45	0.00245
4-Nov-05	91.00	4.67	145.63	185.08	2.66	0.00266
5-Nov-05	84.88	4.58	139.75	213.00	2.88	0.00288
6-Nov-05	100.63	4.30	198.46	409.75	9.16	0.00916
7-Nov-05	119.00	3.73	260.38	532.00	13.85	0.01385
8-Nov-05	119.00	3.79	262.33	532.00	13.96	0.01396
9-Nov-05	164.04	3.81	366.88	868.33	36.10	0.03610
10-Nov-05	284.38	3.25	580.54	1859.38	108.37	0.10837
11-Nov-05	227.29	2.49	501.58	1355.13	68.91	0.06891
12-Nov-05	141.00	2.56	372.63	690.29	26.76	0.02676
13-Nov-05	311.96	4.94	664.96	2136.25	153.01	0.15301
14-Nov-05	339.58	4.20	676.25	2356.25	159.72	0.15972
15-Nov-05	357.08	3.17	773.17	2520.83	195.11	0.19511
min	0.04	2.49	0.07	133.25	1.13	0.00113
max	0.36	7.35	0.77	2520.83	195.11	0.19511
mean	0.17	4.17	0.35	942.40	53.10	0.05310

I:\101-00222-1\Assignment\Report\Report 2, Rev 0\Appendices\Appendix A - SW, Flow and GW\Appendix A2\Daily Average Summary.xls

13-Dec-05

Notes:

1. August 2004 to January 2005 raw data was provided by NAR Environmental Consultants Inc. (NAR), flows were estimated by Knight Piésold Ltd.
2. January to November 2005 data was provided by NAR.
3. Flow monitoring data are based on automatic instrumentation in the field. Data collection is ongoing.
4. Depths from August 10, 2005 to November 15, 2005 were extrapolated by NAR from historical velocity readings.
5. Daily data presented in table is an average of hourly readings taken throughout each day.

APPENDIX A3
GROUNDWATER QUALITY RESULTS

- Field Notes and Laboratory Results 49 pages

Well ID.: MU-05-01 Sampled by: AK
 Date: (yy/mm/dd) Aug 2, 05 Time: 12:30 a.m. / p.m.

Weather: temp. (°C) 26°C overcast _____ other _____
 precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>1.94</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>17.6</u>
B. Depth to Well Bottom from Top of Ground	<u>8.72</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>53</u>
C. Stickup	<u>1.00</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>53</u>
Volume purged (L)	<u>by at 440.</u>

FIELD PARAMETERS

Reading	
pH	<u>8.22</u>
Conductivity (µs/cm)	<u>310</u>
Temperature (°C)	<u>17.8</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK

Well ID.: Mw-05-02 Sampled by: AK.
Date: (yy/mm/dd) Aug 2, 05 Time: 7:00 a.m. / (p.m.)

Weather: temp. (°C) 27°C overcast _____ other _____
precipitation _____ (sun) _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>4.9</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>50</u>
B. Depth to Well Bottom from Top of Ground	<u>31.30</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>150</u>
C. Stickup	<u>1.30</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>150</u>
Volume purged (L)	<u>150 ✓</u>

FIELD PARAMETERS

Reading	
pH	<u>7.91</u>
Conductivity (µs/cm)	<u>220</u>
Temperature (°C)	<u>12.3</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO ₃	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO ₃	

SIGNATURE: AK.

Well ID.: MW-05-03 Sampled by: AK
Date: (yy/mm/dd) Aug 2, 05 Time: 3:15 a.m. p.m.

Weather: temp. (°C) 27°C overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>3.60</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>6.9</u>
B. Depth to Well Bottom from Top of Ground	<u>8.50</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>20.6</u>
C. Stickup	<u>1.5</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>21</u>
Volume purged (L)	<u>21</u> ✓

FIELD PARAMETERS

Reading	
pH	<u>8.22</u>
Conductivity (µs/cm)	<u>180</u>
Temperature (°C)	<u>16.1</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK

Well ID.: MW-05-04 Sampled by: AL.
Date: (yy/mm/dd) Aug 3, 05 Time: 9:30 a.m. / p.m.

Weather: temp. (°C) 27°C overcast _____ other _____
precipitation _____ (sun) _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>1.61</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>16.7</u>
B. Depth to Well Bottom from Top of Ground	<u>9.88</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>50.2</u>
C. Stickup	<u>1.5</u>		

WELL PURGING

PURGE DATE / TIME: ADONE

Volume to purge (L) = 3 x volume of standing water	<u>51</u>
Volume purged (L)	<u>51</u> ✓

FIELD PARAMETERS

Reading	
pH	<u>7.26</u>
Conductivity (µs/cm)	<u>050</u>
Temperature (°C)	<u>17.2</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

MW-05-04 A. @ 9:35 am

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: AL.

SAMPLING RECORD SHEET

P/A

101-22211

Well ID.: MW-05-05 Sampled by: AK
 Date: (yy/mm/dd) Aus 2,05 Time: 4:10 a.m. / (p.m.)

Weather: temp. (°C) 27°C overcast _____ other _____
 precipitation _____ (sun) _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>3.6</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>8.9</u>
B. Depth to Well Bottom from Top of Ground	<u>10.0</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>26.7</u>
C. Stickup	<u>2.0</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>27</u>
Volume purged (L)	<u>27 ✓</u>

FIELD PARAMETERS

Reading	
pH	<u>6.60</u>
Conductivity (µs/cm)	<u>027</u>
Temperature (°C)	<u>11.7</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____ AK

Well ID.: MW-05-06 Sampled by: AK.
Date: (yy/mm/dd) Aug 3, 05 Time: 3:00 a.m. / p.m.

Weather: temp. (°C) 28°C overcast _____ other _____
precipitation _____ (sun) _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>10.25</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>82.81</u>
B. Depth to Well Bottom from Top of Ground	<u>51.20</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>250</u>
C. Stickup	<u>2.0m</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>250</u>
Volume purged (L)	<u>90 L.</u>

x Pump required.
- only 1 well vol removed.
- High recharge rate.

FIELD PARAMETERS

Reading	
pH	<u>6.88</u>
Conductivity (µs/cm)	<u>030</u>
Temperature (°C)	<u>14.4</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK.

Well ID: MW-05-07 Sampled by: AK

Date: (yy/mm/dd) Aug 2, 2011 Time: 11:30 a.m. / p.m.

Weather: temp. (°C) 25°C overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>3.55</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>8.9</u>
B. Depth to Well Bottom from Top of Ground	<u>8.70</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>27</u>
C. Stickup	<u>0.77</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>27</u>
Volume purged (L)	<u>27</u> ✓

FIELD PARAMETERS

Reading	
pH	<u>8.20</u>
Conductivity (µs/cm)	<u>055</u>
Temperature (°C)	<u>11.3</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AL

Well ID.: MW-05-08 Sampled by: AK
Date: (yy/mm/dd) Aug 3, 05 Time: 10:00 a.m. / p.m.

Weather: temp. (°C) 28°C overcast other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>0.45</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>14.6</u>
B. Depth to Well Bottom from Top of Ground	<u>8.65</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>49.8</u>
C. Stickup			

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>50'</u>
Volume purged (L)	<u>Dry at 20L.</u>

FIELD PARAMETERS

Reading		Sample Description	
pH	<u>6.87</u>	Turbidity	
Conductivity (µs/cm)	<u>075</u>	Colour	
Temperature (°C)	<u>16.9</u>	Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: AK.

Well ID.: MW-05-09 Sampled by: AK
Date: (yy/mm/dd) Aug 3, 05 Time: 12:00 a.m. / p.m.

Weather: temp. (°C) 20°C overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>1.16</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>15.8</u>
B. Depth to Well Bottom from Top of Ground	<u>9.00</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>47.6</u>
C. Stickup			

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>48</u>
Volume purged (L)	<u>48</u> ✓

FIELD PARAMETERS

Reading		Sample Description	
pH	<u>7.05</u>	Turbidity	
Conductivity (µs/cm)	<u>135</u>	Colour	
Temperature (°C)	<u>10.5</u>	Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: AK



TESTMARK Laboratories Ltd.

Committed to Quality and Service

Analytical Report

Client: Steve Aiken
Company: Knight Piesold
Address: 34 Commerce Crescent
North Bay, ON, P1B 8G8
Phone: (705) 476-2165
Fax: (705) 474-8095
Email: saiken@knightpiesold.com

Work Order Number: 18651
Date Order Received: 8/5/2005
Regulation: ODWS
PO #:
Project #: 101-00222/1

**Analyses were performed on the following samples submitted with your order.
The results relate only to the items tested.**

Sample Name	Lab #	Matrix	Comments	Date Collected	Time Collected
MW-05-07	71332	Water		8/2/2005	11:30
MW-05-01	71333	Water		8/2/2005	12:30
MW-05-02	71334	Water		8/2/2005	14:00
MW-05-03	71335	Water		8/2/2005	15:15
MW-05-05	71336	Water		8/2/2005	16:00
MW-05-04	71337	Water		8/3/2005	9:30
MW-05-04A	71338	Water		8/3/2005	9:35
MW-05-08	71339	Water		8/3/2005	10:00
MW-05-09	71340	Water		8/3/2005	12:00
MW-05-06	71341	Water		8/3/2005	15:00

A3-10



TESTMARK Laboratories Ltd.

Committed to Quality and Service

Knight Piesold

Work Order: 18651

The following instrumentation and references methods were used for your sample(s)

Method Name	Description	Reference
ACIDITY	Determination of acidity Instrument group: Fisher Scientific Model 915 pH Meter	Mod. APHA-2310
Alk by FIA	Determination of m-Alkalinity by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. EPA 310.2
AmmoniaFIA	Determination of Ammonia/Ammonium by Flow Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex DX300 HPIC	Mod. SW846-9056
CN Water FIA	Determination of Cyanide in Water by Flow Injection Analysis Instrument group: Skalar San++ FIA	Mod. APHA-4500
CONDWATER	Determination of conductivity in water Instrument group: Orion Conductivity Meter	Mod. APHA-2510
Hardness	Determination of Total Hardness Instrument group: Calculation	Mod. APHA-2340B
ICPMS Water	Determination of Metals in Water by ICP/MS Instrument group: Perkin Elmer Elan 5000	Mod. SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Radiometer Meterlab Ion 450	Mod. APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540
TSS	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Analytical Balance	Mod. APHA-2540

This report has been approved by:

Dr. Xiaojing Li
Laboratory Director

Dr. John D. Scollard
Biological Section Head



TESTMARK Laboratories Ltd.

Committed to Quality and Service

Knight Piesold

Work Order: 18651

Sample Data:

Sample Name: MW-05-07

Date: 8/2/2005

Matrix: Water

Lab #: 71332

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	20	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	37	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.017	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	6.8	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	100	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	32.8	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	17	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	9080	ug/L	20050808.R13C
Copper	1	2.5	ug/L	20050808.R13C
Iron	20	200	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	2460	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	1.8	ug/L	20050808.R13C
Nickel	1	15	ug/L	20050808.R13C
Zinc	1	11	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.60	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	59	mg/L	20050810.R27B

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-07

Date: 8/2/2005

Matrix: Water

Lab #: 71332

TDS				
Parameter	MDL	Result	Units	QAQCID
TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	60	21400	mg/L	20050810.R27A

Sample Name: MW-05-01

Date: 8/2/2005

Matrix: Water

Lab #: 71333

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	2.5	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	170	mg/L	20050808.R69A
M-Alkalinity as CaCO ₃ (pH 4.5)	10	170	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.324	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	4.3	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	340	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	144	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	36	ug/L	20050808.R13C
Arsenic	1	12	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	45700	ug/L	20050808.R13C
Copper	1	3.4	ug/L	20050808.R13C
Iron	20	89	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	7240	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	7.4	ug/L	20050808.R13C

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-01

Date: 8/2/2005

Matrix: Water

Lab #: 71333

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Nickel	1	2.4	ug/L	20050808.R13C
Zinc	1	7	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	8.35	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	300	320	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	60	36900	mg/L	20050810.R27A

Sample Name: MW-05-02

Date: 8/2/2005

Matrix: Water

Lab #: 71334

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	8.8	mg/L	20050811.R24A
Acidity	1	7.5	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	110	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.055	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	12	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	253	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	142	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	1.6	ug/L	20050808.R13C

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-02

Date: 8/2/2005

Matrix: Water

Lab #: 71334

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Arsenic	1	14	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	48000	ug/L	20050808.R13C
Copper	1	<1	ug/L	20050808.R13C
Iron	20	<20	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	5380	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	7	ug/L	20050808.R13C
Zinc	1	5.8	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.39	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	160	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	6	32	mg/L	20050810.R27A

Sample Name: MW-05-03

Date: 8/2/2005

Matrix: Water

Lab #: 71335

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	3.8	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	110	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.355	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	13	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A



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Knight Piesold

Work Order: 18651

Sample Name: MW-05-03

Date: 8/2/2005

Matrix: Water

Lab #: 71335

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	241	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	50.2	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminium	1	40	ug/L	20050808.R13C
Arsenic	1	8	ug/L	20050808.R13C
Cadmium	0.1	0.14	ug/L	20050808.R13C
Calcium	50	14500	ug/L	20050808.R13C
Copper	1	1.5	ug/L	20050808.R13C
Iron	20	<20	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	3380	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	51	ug/L	20050808.R13C
Nickel	1	2.4	ug/L	20050808.R13C
Zinc	1	2.5	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.85	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	300	490	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	60	10600	mg/L	20050810.R27A

Sample Name: MW-05-05

Date: 8/2/2005

Matrix: Water

Lab #: 71336

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	21	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	<10	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.035	mg/L	20050805.R42A

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-05

Date: 8/2/2005

Matrix: Water

Lab #: 71336

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	8	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	25	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	5.6	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	347	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	0.15	ug/L	20050808.R13C
Calcium	50	1400	ug/L	20050808.R13C
Copper	1	17	ug/L	20050808.R13C
Iron	20	130	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	499	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	1.3	ug/L	20050808.R13C
Nickel	1	15	ug/L	20050808.R13C
Zinc	1	14	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	4.91	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	<50	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	720	mg/L	20050810.R27A

Sample Name: MW-05-04

Date: 8/3/2005

Matrix: Water

Lab #: 71337

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	18	mg/L	20050811.R24A



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Work Order: 18651

Sample Name: MW-05-04

Date: 8/3/2005

Matrix: Water

Lab #: 71337

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	14	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.033	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	11	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	49	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO3)	0.1	17.3	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	7.5	ug/L	20050808.R13C
Arsenic	1	1.6	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	3700	ug/L	20050808.R13C
Copper	1	2.4	ug/L	20050808.R13C
Iron	20	1500	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	1970	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	6	ug/L	20050808.R13C
Zinc	1	14	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.81	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	100	130	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	30	1100	mg/L	20050810.R27A

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-04A

Date: 8/3/2005

Matrix: Water

Lab #: 71338

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	20	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	14	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.082	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	11	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	46	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	14.9	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	3.3	ug/L	20050808.R13C
Arsenic	1	1.5	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	3100	ug/L	20050808.R13C
Copper	1	<1	ug/L	20050808.R13C
Iron	20	1400	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	1740	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	5.1	ug/L	20050808.R13C
Zinc	1	8.3	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.75	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	30	<30	mg/L	20050810.R27B

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-04A

Date: 8/3/2005

Matrix: Water

Lab #: 71338

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	30	1000	mg/L	20050810.R27A

Sample Name: MW-05-08

Date: 8/3/2005

Matrix: Water

Lab #: 71339

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	11	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	27	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.064	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	7.1	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	71	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	27.6	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	8.5	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	0.25	ug/L	20050808.R13C
Calcium	50	7340	ug/L	20050808.R13C
Copper	1	3.4	ug/L	20050808.R13C
Iron	20	1500	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	2250	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	9.1	ug/L	20050808.R13C
Zinc	1	83	ug/L	20050808.R13C

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Knight Piesold

Work Order: 18651

Sample Name: MW-05-08

Date: 8/3/2005

Matrix: Water

Lab #: 71339

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.43	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	60	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	830	mg/L	20050810.R27A

Sample Name: MW-05-09

Date: 8/3/2005

Matrix: Water

Lab #: 71340

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	10	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	80	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.1	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	11	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	150	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	61.9	mg/L	20050808.R90C

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	3.8	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	17900	ug/L	20050808.R13C
Copper	1	1.7	ug/L	20050808.R13C
Iron	20	320	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C

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Work Order: 18651

Sample Name: MW-05-09

Date: 8/3/2005

Matrix: Water

Lab #: 71340

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Magnesium	4	4180	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	1.7	ug/L	20050808.R13C
Zinc	1	7.5	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	6.94	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	80	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	600	mg/L	20050810.R27A

Sample Name: MW-05-06

Date: 8/3/2005

Matrix: Water

Lab #: 71341

ACIDITY				
Parameter	MDL	Result	Units	QAQCID
Acidity	1	10	mg/L	20050811.R24A

Alk by FIA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	10	12	mg/L	20050808.R69A

AmmoniaFIA				
Parameter	MDL	Result	Units	QAQCID
Ammonia (as N)	0.002	0.025	mg/L	20050805.R42A

Anions Water				
Parameter	MDL	Result	Units	QAQCID
Sulfate	0.2	9	mg/L	20050809.R5A

CN Water FIA				
Parameter	MDL	Result	Units	QAQCID
Total Cyanide	0.001	<0.001	mg/L	20050809.R43A

CONDWATER				
Parameter	MDL	Result	Units	QAQCID
Conductivity	2	48	µS/cm	20050805.R12A

Hardness				
Parameter	MDL	Result	Units	QAQCID
Total Hardness (as CaCO ₃)	0.1	15.7	mg/L	20050808.R90C



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Knight Piesold

Work Order: 18651

Sample Name: MW-05-06

Date: 8/3/2005

Matrix: Water

Lab #: 71341

ICPMS Water				
Parameter	MDL	Result	Units	QAQCID
Aluminum	1	17	ug/L	20050808.R13C
Arsenic	1	<1	ug/L	20050808.R13C
Cadmium	0.1	<0.1	ug/L	20050808.R13C
Calcium	50	3600	ug/L	20050808.R13C
Copper	1	14	ug/L	20050808.R13C
Iron	20	<20	ug/L	20050808.R13C
Lead	1	<1	ug/L	20050808.R13C
Magnesium	4	1640	ug/L	20050808.R13C
Mercury	0.1	<0.1	ug/L	20050808.R13C
Molybdenum	1	<1	ug/L	20050808.R13C
Nickel	1	15	ug/L	20050808.R13C
Zinc	1	17	ug/L	20050808.R13C

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	5.97	pH	20050805.R2A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	50	64	mg/L	20050810.R27B

TSS				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	10	280	mg/L	20050810.R27A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC To numerous to count

ND Not detected



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Knight Piesold

Work Order: 18651

Quality Control Data:

Alk by FIA

200 mg/L Check Std.						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	220	200	180	20050808.R69A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO3 (pH 4.5)	10	mg/L	10	<10	<10	20050808.R69A

AmmoniaFIA

500 ppb HN3						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.6	0.526	0.4	20050805.R42A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Ammonia (as N)	0.002	mg/L	0.02	<0.002	<0.002	20050805.R42A

Anions Water

10 ppm Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	12	9.1	8	20050809.R5A
Chloride	0.2	mg/L	12	9.6	8	20050809.R5A
Fluoride	0.01	mg/L	12	10.5	9	20050809.R5A
Nitrate (as N)	0.1	mg/L	12	11.1	8	20050809.R5A
Nitrite (as N)	0.05	mg/L	12	10.3	8	20050809.R5A
Phosphate	0.3	mg/L	12	11	8	20050809.R5A
Sulfate	0.2	mg/L	12	9.5	8	20050809.R5A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Bromide	0.1	mg/L	<0.1	<0.1	<0.1	20050809.R5A
Chloride	0.2	mg/L	<0.2	<0.2	<0.2	20050809.R5A
Fluoride	0.01	mg/L	<0.01	<0.01	<0.01	20050809.R5A
Nitrate (as N)	0.1	mg/L	<0.1	<0.1	<0.1	20050809.R5A
Nitrite (as N)	0.05	mg/L	<0.05	<0.05	<0.05	20050809.R5A
Phosphate	0.3	mg/L	<0.3	<0.3	<0.3	20050809.R5A
Sulfate	0.2	mg/L	<0.2	<0.2	<0.2	20050809.R5A

CN Water FIA

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Free Cyanide	0.002	mg/L	<0.002	<0.002	<0.002	20050809.R43A
Total Cyanide	0.002	mg/L	<0.002	<0.002	<0.002	20050809.R43A



TESTMARK Laboratories Ltd.

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Knight Piesold

Work Order: 18651

CN Water FIA

Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Free Cyanide	0.002	mg/L	0.06	0.043	0.04	20050809.R43A
Total Cyanide	0.002	mg/L	0.06	0.048	0.04	20050809.R43A

CONDWATER

100 µS Blank Spike						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	104	100	96	20050805.R12A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Conductivity	2	µS/cm	2	<2	<2	20050805.R12A

ICPMS Water

100 ppb (1011)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	600	540	400	20050808.R13C
Arsenic	1	ug/L	120	91	80	20050808.R13C
Barium	1	ug/L	120	100	80	20050808.R13C
Beryllium	1	ug/L	125	98	75	20050808.R13C
Boron	2	ug/L	125	100	75	20050808.R13C
Cadmium	1	ug/L	120	90	80	20050808.R13C
Calcium	50	ug/L	1200	950	800	20050808.R13C
Chromium	1	ug/L	120	98	80	20050808.R13C
Cobalt	1	ug/L	120	99	80	20050808.R13C
Copper	1	ug/L	120	94	80	20050808.R13C
Iron	20	ug/L	600	480	400	20050808.R13C
Lead	1	ug/L	120	100	80	20050808.R13C
Magnesium	4	ug/L	1200	1080	800	20050808.R13C
Manganese	1	ug/L	120	91	80	20050808.R13C
Molybdenum	1	ug/L	120	104	80	20050808.R13C
Nickel	1	ug/L	120	99	80	20050808.R13C
Selenium	1	ug/L	120	98	80	20050808.R13C
Thallium	1	ug/L	120	99	80	20050808.R13C
Vanadium	1	ug/L	120	99	80	20050808.R13C
Zinc	1	ug/L	120	92	80	20050808.R13C

100 ppb P						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Phosphorus	20	ug/L	120	120	80	20050808.R13C

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Aluminum	1	ug/L	5	<1	<1	20050808.R13C
Antimony	1	ug/L	5	<1	<1	20050808.R13C
Arsenic	1	ug/L	5	<1	<1	20050808.R13C

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8/12/2005

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Knight Piesold

Work Order: 18651

ICPMS Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Barium	1	ug/L	5	<1	<1	20050808.R13C
Beryllium	1	ug/L	5	<1	<1	20050808.R13C
Bismuth	1	ug/L	5	<1	<1	20050808.R13C
Boron	2	ug/L	5	<2	<2	20050808.R13C
Cadmium	1	ug/L	5	<1	<1	20050808.R13C
Calcium	50	ug/L	<50	<50	<50	20050808.R13C
Cerium	1	ug/L	5	<1	<1	20050808.R13C
Cesium	1	ug/L	5	<1	<1	20050808.R13C
Chromium	1	ug/L	5	<1	<1	20050808.R13C
Cobalt	1	ug/L	5	<1	<1	20050808.R13C
Copper	1	ug/L	5	<1	<1	20050808.R13C
Europium	1	ug/L	5	<1	<1	20050808.R13C
Gallium	1	ug/L	5	<1	<1	20050808.R13C
Iron	20	ug/L	<20	<20	<20	20050808.R13C
Lanthanum	1	ug/L	5	<1	<1	20050808.R13C
Lead	1	ug/L	5	<1	<1	20050808.R13C
Lithium	1	ug/L	5	<1	<1	20050808.R13C
Magnesium	4	ug/L	20	<4	<4	20050808.R13C
Manganese	1	ug/L	5	<1	<1	20050808.R13C
Mercury	1	ug/L	5	<1	<1	20050808.R13C
Molybdenum	1	ug/L	5	<1	<1	20050808.R13C
Nickel	1	ug/L	5	<1	<1	20050808.R13C
Niobium	1	ug/L	5	<1	<1	20050808.R13C
Phosphorus	20	ug/L	<20	<20	<20	20050808.R13C
Rubidium	1	ug/L	5	<1	<1	20050808.R13C
Scandium	1	ug/L	5	<1	<1	20050808.R13C
Selenium	1	ug/L	5	<1	<1	20050808.R13C
Silver	5	ug/L	5	<5	<5	20050808.R13C
Strontium	1	ug/L	5	<1	<1	20050808.R13C
Thallium	1	ug/L	5	<1	<1	20050808.R13C
Thorium	1	ug/L	5	<1	<1	20050808.R13C
Tin	1	ug/L	5	<1	<1	20050808.R13C
Titanium	1	ug/L	5	<1	<1	20050808.R13C
Tungsten	1	ug/L	5	<1	<1	20050808.R13C
Uranium	1	ug/L	5	<1	<1	20050808.R13C
Vanadium	1	ug/L	5	<1	<1	20050808.R13C
Yttrium	1	ug/L	5	<1	<1	20050808.R13C
Zinc	1	ug/L	5	<1	<1	20050808.R13C
Zirconium	1	ug/L	5	<1	<1	20050808.R13C

pHWATER

pH 7						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.1	7.02	6.9	20050805.R2A

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8/12/2005

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Knight Piesold

Work Order: 18651

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	240	160	160	20050810.R27B

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	30	mg/L	<30	<30	<30	20050810.R27B

TSS

160 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	192	170	128	20050810.R27A

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	3	mg/L	<3	<3	<3	20050810.R27A

UCL Upper Control Limit

LCL Lower Control Limit

A3-27

Well ID.: MW-05-01 Sampled by: AK
 Date: (yy/mm/dd) Sept 20, 05 Time: 12:50 a.m. / (p.m.)

Weather: temp. (°C) 20 overcast _____ other _____
 precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>2.10</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>13.7</u>
B. Depth to Well Bottom from Top of Ground	<u>7.84</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>41.1</u>
C. Stickup	<u>1.03</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>42</u>
Volume purged (L)	<u>42 ✓</u>

FIELD PARAMETERS

Reading	
pH	<u>8.37</u>
Conductivity (µs/cm)	<u>358</u>
Temperature (°C)	<u>10.2</u>

Sample Description	
Turbidity	<u>— Heavy susp. sals.</u>
Colour	<u>— slightly brown</u>
Odour	<u>—</u>

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: Sept 20, 05 @ 12:50 pm

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: AK

Well ID.: MW-05-02 Sampled by: AK
 Date: (yy/mm/dd) Sept 20, 05 Time: 3:00 a.m. / (p.m.)

Weather: temp. (°C) 24 overcast _____ other _____
 precipitation _____ (sun) _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>4.83</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>52.7</u>
B. Depth to Well Bottom from Top of Ground	<u>29.81</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>158</u>
C. Stickup	<u>1.07</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>158</u>
Volume purged (L)	<u>160</u> ✓

FIELD PARAMETERS

Reading		Sample Description	
pH	<u>7.48</u>	Turbidity	<u>—</u>
Conductivity (µs/cm)	<u>250</u>	Colour	<u>—</u>
Temperature (°C)	<u>11.6</u>	Odour	<u>—</u>

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: A Kolth

Well ID.: MW-05-03 Sampled by: AK
 Date: (yy/mm/dd) Sept 20, 05 Time: 3:30 a.m. / ~~p.m.~~

Weather: temp. (°C) 22 overcast _____ other _____
 precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>3.66</u>	D. 1 Well Volume (L) for a 2"ø well = (B+C-A)*2.024 =	<u>10.12</u>
B. Depth to Well Bottom from Top of Ground	<u>7.63</u>	E. 3 Well Volumes (L) for 2"ø well = 3 x D =	<u>30.4</u>
C. Stickup	<u>1.03</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>31</u>
Volume purged (L)	<u>31 ✓</u>

FIELD PARAMETERS

Reading	
pH	<u>8.66</u>
Conductivity (µs/cm)	<u>205</u>
Temperature (°C)	<u>12.8</u>

Sample Description	
Turbidity	<u>muddy</u>
Colour	<u>Brown/Grey</u>
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: A 16/05/05

Well ID.: mb-05-04 Sampled by: AK
Date: (yy/mm/dd) Sept 21, 05 Time: 8:30 a.m. / p.m.

Weather: temp. (°C) 17 overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>1.55</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>16.9</u>
B. Depth to Well Bottom from Top of Ground	<u>8.77</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>50.8</u>
C. Stickup	<u>1.14</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>51</u>
Volume purged (L)	<u>51</u> ✓

FIELD PARAMETERS

Reading	
pH	<u>6.50</u>
Conductivity (µs/cm)	<u>055</u>
Temperature (°C)	<u>9.7</u>

Sample Description	
Turbidity	---
Colour	---
Odour	---

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

A. Elliott

Well ID.: MW-05-05 Sampled by: AK
Date: (yy/mm/dd) Sept 20, 05 Time: 4:30 a.m. / p.m.

Weather: temp. (°C) 22 overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>3.36</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>13.5</u>
B. Depth to Well Bottom from Top of Ground	<u>8.85</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>40.4</u>
C. Stickup	<u>1.16</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>41</u>
Volume purged (L)	<u>41</u> ✓

* well tag installed on this well

FIELD PARAMETERS

Reading	
pH	<u>5.84</u>
Conductivity (µs/cm)	<u>020</u>
Temperature (°C)	<u>12.2</u>

Sample Description	
Turbidity	
Colour	<u>Gypsum / orange colour.</u>
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: A. Kelly

Well ID.: MW-05-06 Sampled by: AK
 Date: (yy/mm/dd) Sept 20, 05 Time: 2:00 a.m. p.m.

Weather: temp. (°C) 23 overcast _____ other _____
 precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	10.50	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	80.1
B. Depth to Well Bottom from Top of Ground	48.77	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	240
C. Stickup	1.32		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	240
Volume purged (L)	240 ✓

- no protective casing.
 - drill casing around bottom
 - lots of water / quick recovery.

FIELD PARAMETERS

Reading	
pH	6.10
Conductivity (µs/cm)	045
Temperature (°C)	12.5

Sample Description	
Turbidity	NONE
Colour	NONE
Odour	NONE

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

* Dup → MW-05-06A @ 2:10 pm

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK

Well ID.: MW-05-07 Sampled by: AK
Date: (yy/mm/dd) Sept 20, 05 Time: 11:30 a.m.

Weather: temp. (°C) 20 overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>3.92</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>9.7</u>
B. Depth to Well Bottom from Top of Ground	<u>7.90</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>29</u>
C. Stickup	<u>0.80</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>29</u>
Volume purged (L)	<u>30 ✓</u>

FIELD PARAMETERS

Reading	
pH	<u>7.40</u>
Conductivity (µs/cm)	<u>099</u>
Temperature (°C)	<u>8.9</u>

Sample Description	
Turbidity	<u>—</u>
Colour	<u>Grey / orange</u>
Odour	<u>—</u>

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK

Well ID.: MW-05-08 Sampled by: AK
 Date: (yy/mm/dd) sept 21, 05 Time: 9:00 (a.m.)/p.m.

Weather: temp. (°C) 15 overcast _____ other _____
 precipitation _____ (sun) _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>0</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>18.8</u>
B. Depth to Well Bottom from Top of Ground	<u>8.53</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>56</u>
C. Stickup	<u>0.75</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>56</u>
Volume purged (L)	<u>56</u>

x ~~slightly~~ slightly artesian condition.
 x water ponding around base of well.

FIELD PARAMETERS

Reading	
pH	<u>6.70</u>
Conductivity (µs/cm)	<u>061</u>
Temperature (°C)	<u>11.0</u>

Sample Description	
Turbidity	<u>—</u>
Colour	<u>—</u>
Odour	<u>—</u>

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK

Well ID.: Mw-05-09 Sampled by: AK
Date: (yy/mm/dd) sept 21, 05 Time: 1:30 a.m. (p.m)

Weather: temp. (°C) 23 overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>2.61</u>	D. 1 Well Volume (L) for a 2"ø well = (B+C-A)*2.024 =	<u>12.6</u>
B. Depth to Well Bottom from Top of Ground	<u>7.93</u>	E. 3 Well Volumes (L) for 2"ø well = 3 x D =	<u>37.8</u>
C. Stickup	<u>0.91</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>38</u>
Volume purged (L)	<u>40 ✓</u>

FIELD PARAMETERS

Reading	
pH	<u>7.18</u>
Conductivity (µs/cm)	<u>144</u>
Temperature (°C)	<u>13.8</u>

Sample Description	
Turbidity	<u>—</u>
Colour	<u>—</u>
Odour	<u>—</u>

SAMPLING, FILTRATION AND PRESERVATION

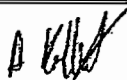
SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO ₃	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO ₃	

SIGNATURE: 

Well ID.: MW-05-11 Sampled by: AL
 Date: (yy/mm/dd) sept 22, 05 Time: 9:30 a.m./p.m.

Weather: temp. (°C) 13 overcast _____ other _____
 precipitation light sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>1.62</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>14.2</u>
B. Depth to Well Bottom from Top of Ground	<u>7.62</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>42.6</u>
C. Stickup	<u>1.03</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>43</u>
Volume purged (L)	<u>43</u> ✓

FIELD PARAMETERS

Reading	
pH	<u>6.24</u>
Conductivity (µs/cm)	<u>057</u>
Temperature (°C)	<u>12.1</u>

Sample Description	
Turbidity	<u>milky / susp. sols.</u>
Colour	<u>brown / black sedi.</u>
Odour	_____

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

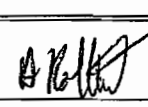
Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____



Well ID.: MW-05-12 Sampled by: AK.
Date: (yy/mm/dd) sept 22, 05 Time: 10:30 a.m. p.m.

Weather: temp. (°C) 15 overcast _____ other _____
 precipitation light. sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>1.78</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>14.7</u>
B. Depth to Well Bottom from Top of Ground	<u>8.23</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>44.1</u>
C. Stickup	<u>0.82</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>45</u>
Volume purged (L)	<u>45</u> ✓

- water came clear while purging and draining for rising head test.
- completed RH Test.

FIELD PARAMETERS

Reading	
pH	<u>6.59</u>
Conductivity (µs/cm)	<u>147</u>
Temperature (°C)	<u>11.2</u>

Sample Description	
Turbidity	<u>Minimal</u>
Colour	<u>slight Brown</u>
Odour	<u>—</u>

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: AK.

Well ID.: MW-05-13 Sampled by: AK
 Date: (yy/mm/dd) Sept 22, 05 Time: 9:00 a.m. p.m.

Weather: temp. (°C) 12 overcast _____ other _____
~~precipitation~~ light sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>1.26</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>16.8</u>
B. Depth to Well Bottom from Top of Ground	<u>8.53</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>50.5</u>
C. Stickup	<u>1.04</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>51</u>
Volume purged (L)	<u>51</u> ✓

- well expected to have no frost in winter due to insulation in muskies (swamp)

FIELD PARAMETERS

Reading	
pH	<u>7.15</u>
Conductivity (µs/cm)	<u>092</u>
Temperature (°C)	<u>11.5</u>

Sample Description	
Turbidity	<u>minimal</u>
Colour	<u>brwn. / grey</u>
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK

Well ID.: MW-05-14 Sampled by: AK
Date: (yy/mm/dd) Sept 21, 05 Time: 2:30 a.m. / p.m.

Weather: temp. (°C) 24 overcast _____ other _____
precipitation _____ (sun) _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>4.13</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>11.8</u>
B. Depth to Well Bottom from Top of Ground	<u>8.84</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>35.5</u>
C. Stickup	<u>1.13</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>36</u>
Volume purged (L)	<u>36 ✓</u>

- KH Test completed.

FIELD PARAMETERS

Reading	
pH	<u>6.72</u>
Conductivity (µs/cm)	<u>061</u>
Temperature (°C)	<u>13.8</u>

Sample Description	
Turbidity	<u>—</u>
Colour	<u>Grey.</u>
Odour	<u>—</u>

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

A. Kellner

Well ID.: MW-05-15 Sampled by: AK.
 Date: (yy/mm/dd) Sept 21, 05 Time: 12:30 a.m. / (p.m.)

Weather: temp. (°C) 23 overcast _____ other _____
 precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>14.85</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>7.6</u>
B. Depth to Well Bottom from Top of Ground	<u>19.66</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>22.8</u>
C. Stickup	<u>1.06</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>23</u>
Volume purged (L)	<u>23</u> ✓

- Developed (Water Clear)
 - RH test completed.

FIELD PARAMETERS

Reading	
pH	<u>6.22</u>
Conductivity (µs/cm)	<u>105</u>
Temperature (°C)	<u>12.2</u>

Sample Description	
Turbidity	<u>NONE</u>
Colour	<u>NONE</u>
Odour	<u>NONE</u>

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK

Well ID.: mw-05-16 Sampled by: AKC
Date: (yy/mm/dd) sept 21, 05 Time: 11:30 a.m. / p.m.

Weather: temp. (°C) 22 overcast _____ other _____
precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	<u>4.31</u>	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	<u>10.6</u>
B. Depth to Well Bottom from Top of Ground	<u>8.69</u>	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	<u>31.9</u>
C. Stickup	<u>0.87</u>		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	<u>32</u>
Volume purged (L)	<u>32✓</u>

- Developed.
- PH Test completed.

FIELD PARAMETERS

Reading	
pH	<u>6.47</u>
Conductivity (µs/cm)	<u>070</u>
Temperature (°C)	<u>13.8</u>

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

* Dup → mw-05-16A @ 11:45

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

A KAC

Well ID.: Mw-05-17 Sampled by: AK
 Date: (yy/mm/dd) sept 21, 05 Time: 10:00 a.m. / p.m.

Weather: temp. (°C) 18 overcast _____ other _____
 precipitation _____ sun _____

GROUNDWATER LEVEL AND WELL VOLUME

Item	Depth (m)	Item	Volume (L)
A. Depth to Water from Top of Pipe	5.90	D. 1 Well Volume (L) for a 2"Ø well = (B+C-A)*2.024 =	8.4
B. Depth to Well Bottom from Top of Ground	8.83	E. 3 Well Volumes (L) for 2"Ø well = 3 x D =	25.1
C. Stickup	1.20		

WELL PURGING

PURGE DATE / TIME: _____

Volume to purge (L) = 3 x volume of standing water	25
Volume purged (L)	25 ✓

* casing not installed
 * tubing / cement / casing / had saw all left on ground from when it was installed.
 * RH test done.

FIELD PARAMETERS

* well was developed.
 * water remained murky to fine susp. solids.

Reading	
pH	6.09
Conductivity (µs/cm)	040
Temperature (°C)	13.3

Sample Description	
Turbidity	
Colour	
Odour	

SAMPLING, FILTRATION AND PRESERVATION

SAMPLE DATE / TIME: _____

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

QUALITY CONTROL SAMPLES

Please check the QC samples collected: None Duplicate Field Blank Equipment Blank

Parameter	Sample Volume	Filtration	Preservative	Comments
General Parameters	2 - 500 ml containers	Not required	Not required.	
Dissolved Metals	1 - 250 ml container	0.45 micron filter	HNO3	

SIGNATURE: _____

AK



SGS Lakefield Research Limited
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Lakefield - Ontario - K0L 2H0
Phone: 705-652-2038 FAX: 705-652-6441

Project : NB101-00222/1

Knight Piesold

Attn : Steve Aiken saiken@knightpiesold.com; cduval@knightpiesold.com

Tuesday, October 04, 2005

34 Commerce Cres. PO Box 10, North Bay
, P1B 8G8
Phone: 705-476-2165, Fax:pdf, excel

Date Rec. : 23 September 2005
LR Report: CA10433-SEP05
Reference: CofC:2791127910

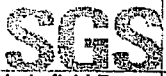
Copy: #1

CERTIFICATE OF ANALYSIS

Final Report*

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: GRW MW-05-01	6: GRW MW-05-02	7: GRW MW-05-03	8: GRW MW-05-05	9: GRW MW-05-06	10: GRW MW-05-08A	11: GRW MW-05-07
Sample Date & Time			21-Sep-05 12:50	21-Sep-05 15:00	21-Sep-05 15:30	21-Sep-05 16:30	21-Sep-05 14:00	21-Sep-05 14:10	21-Sep-05 12:30
Temperature [°C]	—	—	17.7	17.7	17.7	17.7	17.7	17.7	17.7
Alkalinity [mg/L as CaCO3]	27-Sep-05	13:42	291	120	210	< 2	9	10	44
Acidity [mg/L as CaCO3]	27-Sep-05	13:42	< 2	< 2	< 2	12	< 2	< 2	< 2
Conductivity [uS/cm]	27-Sep-05	13:42	320	250	230	29	46	47	100
pH [no unit]	27-Sep-05	13:42	8.38	7.44	8.13	5.17	6.11	6.01	6.93
Solids (Total Dissolved) [mg/L]	29-Sep-05	09:52	220	169	146	43	< 30	< 30	69
Tot. Suspended Solids [mg/L]	29-Sep-05	08:26	44000	< 2	18700	916	12	18	28500
Sulphate [mg/L]	28-Sep-05	12:16	11	11	11	7.4	9.3	9.3	7.0
Ammonia+Ammonium (N) [mg/L]	26-Sep-05	18:03	0.7	0.2	0.4	0.2	0.3	0.2	0.2
Cyanide [mg/L]	26-Sep-05	08:20	< 0.006	< 0.002	< 0.006	< 0.002	< 0.002	< 0.002	< 0.002
Mercury [ug/L]	27-Sep-05	14:43	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1
Hardness [mg/L as CaCO3]	28-Sep-05	07:26	129	131	87.3	7.00	16.7	16.8	29.1
Silver [mg/L]	28-Sep-05	12:51	< 0.0001	< 0.0001	< 0.0001	0.0014	< 0.0001	< 0.0001	< 0.0001
Aluminum [mg/L]	28-Sep-05	12:51	0.006	< 0.004	0.015	0.191	0.031	0.030	0.018
Arsenic [mg/L]	28-Sep-05	12:51	0.009	0.008	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Barium [mg/L]	28-Sep-05	12:51	0.030	0.004	0.019	0.015	0.007	0.007	0.005
Beryllium [mg/L]	28-Sep-05	12:51	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Boron [mg/L]	28-Sep-05	12:51	0.044	0.020	0.039	< 0.005	< 0.005	< 0.005	0.005
Bismuth [mg/L]	28-Sep-05	12:51	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Calcium [mg/L]	28-Sep-05	07:25	38.9	43.5	25.7	1.73	3.82	3.85	7.87
Cadmium [mg/L]	28-Sep-05	12:51	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Cobalt [mg/L]	28-Sep-05	12:51	< 0.0003	0.0011	< 0.0003	0.0090	0.0116	0.0118	0.0036
Chromium [mg/L]	28-Sep-05	12:51	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

A3-44



SGS Lakefield Research Limited
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 Phone: 705-652-2038 FAX: 705-652-6441

Project : NB101-00222/1
 LR Report : CA10433-SEP05

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: GRW MW-05-01	6: GRW MW-05-02	7: GRW MW-05-03	8: GRW MW-05-05	9: GRW MW-05-06	10: GRW MW-05-06A	11: GRW MW-05-07
Copper [mg/L]	28-Sep-05	12:51	0.0013	< 0.0008	< 0.0008	0.0186	0.0113	0.0104	0.0025
Iron [mg/L]	28-Sep-05	07:25	< 0.02	0.43	0.03	0.04	0.06	0.05	0.13
Potassium [mg/L]	28-Sep-05	07:25	1.14	1.20	1.79	0.62	1.05	1.05	0.81
Lithium [mg/L]	28-Sep-05	07:25	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Magnesium [mg/L]	28-Sep-05	07:25	7.72	5.44	5.59	0.652	1.73	1.75	2.31
Manganese [mg/L]	28-Sep-05	12:51	0.0488	0.141	0.0455	0.0468	0.0281	0.0287	0.451
Molybdenum [mg/L]	28-Sep-05	12:51	0.0116	0.0011	0.0148	< 0.0003	< 0.0003	< 0.0003	0.0014
Sodium [mg/L]	28-Sep-05	07:25	25.3	3.46	18.7	0.87	0.81	0.80	1.75
Nickel [mg/L]	28-Sep-05	12:51	0.002	0.008	0.002	0.014	0.019	0.017	0.018
Lead [mg/L]	28-Sep-05	12:51	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Antimony [mg/L]	28-Sep-05	12:51	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Selenium [mg/L]	28-Sep-05	12:51	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tin [mg/L]	28-Sep-05	12:51	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Strontium [mg/L]	28-Sep-05	07:25	0.174	0.0722	0.115	0.0105	0.0129	0.0130	0.0298
Titanium [mg/L]	28-Sep-05	12:51	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Thallium [mg/L]	28-Sep-05	12:51	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	28-Sep-05	12:51	0.0147	0.0008	0.0023	0.0008	0.0002	< 0.0002	< 0.0002
Vanadium [mg/L]	28-Sep-05	12:51	0.0040	0.0020	0.0020	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Yttrium [mg/L]	28-Sep-05	12:51	< 0.0001	< 0.0001	< 0.0001	0.0004	0.0002	0.0002	0.0002
Tungsten [mg/L]	28-Sep-05	12:51	0.0019	0.0018	0.0024	0.0079	0.0073	0.0076	0.109
Zinc [mg/L]	28-Sep-05	12:51	0.003	< 0.001	0.002	0.014	0.009	0.010	0.015

A 3-45

Brian Graham B.Sc.
 Project Coordinator
 Environmental Services, Analytical



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Project : NB101-00222/1

Tuesday, October 04, 2005

Date Rec. : 23 September 2005
LR Report: CA10433-SEP05
Reference: CofC:2791127910

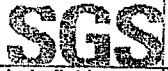
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CERTIFICATE OF ANALYSIS

Final Report*

Analysis	12: GRW MW-05-04	13: GRW MW-05-08	14: GRW MW-05-09	16: GRW MW-05-14	16: GRW MW-05-15	17: GRW MW-05-16	18: GRW MW-05-16A	19: GRW MW-05-17
Sample Date & Time	21-Sep-05 08:30	21-Sep-05 09:00	21-Sep-05 13:30	21-Sep-05 14:30	21-Sep-05 12:30	21-Sep-05 11:30	21-Sep-05 11:45	21-Sep-05 10:00
Temperature [°C]	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
Alkalinity [mg/L as CaCO3]	12	31	68	8	24	14	7	11
Acidity [mg/L as CaCO3]	< 2	< 2	< 2	< 2	< 2	19	14	9
Conductivity [uS/cm]	51	76	150	70	110	81	65	53
pH [no unit]	5.97	6.61	7.18	5.96	6.16	6.00	5.49	5.92
Solids (Total Dissolved) [mg/L]	43	< 30	91	97	249	74	83	63
Tot. Suspended Solids [mg/L]	986	136	54	1980	7	2680	727	5900
Sulphate [mg/L]	9.5	6.3	9.8	18	27	11	11	10
Ammonia+Ammonium (N) [mg/L]	0.2	0.4	0.2	< 0.1	0.2	0.4	0.4	0.4
Cyanide [mg/L]	< 0.006	< 0.002	< 0.002	< 0.002	< 0.002	< 0.006	< 0.006	< 0.006
Mercury [ug/L]	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1
Hardness [mg/L as CaCO3]	18.8	30.5	73.6	13.0	2.31	14.9	15.2	14.6
Silver [mg/L]	< 0.0001	< 0.0001	< 0.0001	0.0001	0.0003	< 0.0001	< 0.0001	< 0.0001
Aluminum [mg/L]	0.019	0.004	< 0.004	0.094	4.67	0.024	0.018	0.047
Arsenic [mg/L]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Barium [mg/L]	0.005	0.004	0.008	0.015	0.017	0.010	0.010	0.004
Beryllium [mg/L]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Boron [mg/L]	0.005	0.006	< 0.005	0.015	0.005	0.006	0.006	0.005
Bismuth [mg/L]	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Calcium [mg/L]	4.04	8.30	22.7	3.51	0.60	4.00	4.09	3.99
Cadmium [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0002	0.0002
Cobalt [mg/L]	0.0063	0.0244	0.0004	0.0184	0.0045	0.0114	0.0127	0.0414
Chromium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001


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Project : NB101-00222/1
 LR Report : CA10433-SEP05

Analysis	12: GRW MW-05-04	13: GRW MW-05-08	14: GRW MW-05-09	15: GRW MW-05-14	16: GRW MW-05-15	17: GRW MW-05-16	18: GRW MW-05-16A	19: GRW MW-05-17
Copper [mg/L]	0.0017	0.0012	< 0.0008	0.0180	0.0154	0.0045	0.0026	0.0070
Iron [mg/L]	2.09	1.61	0.44	0.92	0.80	5.26	4.96	0.95
Potassium [mg/L]	0.76	1.40	1.71	3.54	1.49	2.18	2.21	1.52
Lithium [mg/L]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Magnesium [mg/L]	2.12	2.38	4.10	1.02	0.198	1.20	1.22	1.14
Manganese [mg/L]	0.127	0.186	0.378	0.0692	0.0421	0.273	0.301	0.354
Molybdenum [mg/L]	< 0.0003	0.0010	0.0007	0.0022	0.0005	0.0004	0.0005	0.0008
Sodium [mg/L]	0.87	1.12	1.86	4.14	21.9	4.33	4.43	1.03
Nickel [mg/L]	0.006	0.009	0.002	0.030	0.010	0.012	0.013	0.023
Lead [mg/L]	< 0.0002	< 0.0002	< 0.0002	0.0002	0.0051	< 0.0002	< 0.0002	0.0002
Antimony [mg/L]	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Selenium [mg/L]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tin [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Strontium [mg/L]	0.0117	0.0211	0.0415	0.0210	0.0049	0.0333	0.0343	0.0176
Titanium [mg/L]	< 0.003	< 0.003	< 0.003	< 0.003	0.005	< 0.003	< 0.003	< 0.003
Thallium [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	0.0005	< 0.0002	0.0017	0.0006	0.0899	0.0004	0.0003	0.0002
Vanadium [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Yttrium [mg/L]	< 0.0001	< 0.0001	0.0002	0.0005	0.0082	0.0005	0.0005	0.0003
Tungsten [mg/L]	0.0017	0.0047	0.0007	0.133	0.0416	0.0165	0.0188	0.0018
Zinc [mg/L]	0.012	0.037	0.002	0.035	0.021	0.051	0.051	0.069


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N 2 - 108



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Project : NB101-00222/1

Knight Piesold

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Tuesday, October 04, 2005

Date Rec. : 26 September 2005

LR Report: CA10450-SEP05

Reference: CofC:27909

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: GRW MW-05-11	6: GRW MW-05-12	7: GRW MW-05-13
Sample Date & Time			22-Sep-05 09:30	22-Sep-05 10:30	22-Sep-05 09:00
Temperature [°C]	---	---	21.8	21.8	21.8
Alkalinity [mg/L as CaCO3]	03-Oct-05	08:39	18	49	42
Acidity [mg/L as CaCO3]	03-Oct-05	08:39	< 2	< 2	< 2
Conductivity [uS/cm]	30-Sep-05	09:15	65	98	92
pH [no unit]	03-Oct-05	08:39	6.38	6.54	7.14
Solids (Total Dissolved) [mg/L]	03-Oct-05	09:37	97	120	160
Tot. Suspended Solids [mg/L]	29-Sep-05	08:26	3210	328	2540
Sulphate [mg/L]	30-Sep-05	13:17	11	1.1	5.6
Ammonia+Ammonium (N) [mg/L]	27-Sep-05	16:06	0.5	0.7	0.2
Cyanide [mg/L]	27-Sep-05	16:04	< 0.006	< 0.006	< 0.006
Mercury [mg/L]	29-Sep-05	07:56	< 0.0001	< 0.0001	< 0.0001
Hardness [mg/L as CaCO3]	28-Sep-05	13:58	13.8	47.6	35.1
Silver [mg/L]	03-Oct-05	09:25	< 0.0001	< 0.0001	< 0.0001
Aluminum [mg/L]	03-Oct-05	09:25	0.080	0.127	< 0.004
Arsenic [mg/L]	03-Oct-05	09:25	< 0.005	< 0.005	< 0.005
Barium [mg/L]	03-Oct-05	09:25	0.005	0.018	0.008
Beryllium [mg/L]	03-Oct-05	09:25	< 0.005	< 0.005	< 0.005
Boron [mg/L]	03-Oct-05	09:25	0.007	0.007	0.007
Bismuth [mg/L]	03-Oct-05	09:25	< 0.0003	< 0.0003	< 0.0003
Calcium [mg/L]	28-Sep-05	13:57	3.32	12.4	9.97
Cadmium [mg/L]	03-Oct-05	09:25	< 0.0001	< 0.0001	< 0.0001
Cobalt [mg/L]	03-Oct-05	09:25	0.0038	0.0005	0.0011
Chromium [mg/L]	03-Oct-05	09:25	< 0.001	0.001	< 0.001
Copper [mg/L]	03-Oct-05	09:25	0.0036	< 0.0008	< 0.0008
Iron [mg/L]	28-Sep-05	13:57	0.09	10.4	2.31
Potassium [mg/L]	28-Sep-05	13:57	0.69	2.01	2.68
Lithium [mg/L]	28-Sep-05	13:57	< 0.005	< 0.005	< 0.005
Magnesium [mg/L]	28-Sep-05	13:57	1.34	4.05	2.49
Manganese [mg/L]	03-Oct-05	09:25	0.0601	0.177	0.201
Molydenum [mg/L]	03-Oct-05	09:25	0.0004	0.0006	0.0015
Sodium [mg/L]	28-Sep-05	13:57	6.41	1.97	1.79
Nickel [mg/L]	03-Oct-05	09:25	0.003	< 0.001	0.002

OnLine LIMS



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Project : NB101-00222/1
LR Report : CA10450-SEP05

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: GRW MW-05-11	6: GRW MW-05-12	7: GRW MW-05-13
Lead [mg/L]	03-Oct-05	09:25	< 0.0002	< 0.0002	< 0.0002
Antimony [mg/L]	03-Oct-05	09:25	< 0.0004	< 0.0004	< 0.0004
Selenium [mg/L]	03-Oct-05	09:26	< 0.005	< 0.005	< 0.005
Tin [mg/L]	03-Oct-05	09:26	< 0.001	< 0.001	< 0.001
Strontium [mg/L]	28-Sep-05	13:57	0.0226	0.0382	0.0364
Titanium [mg/L]	03-Oct-05	09:28	< 0.003	< 0.003	< 0.003
Thallium [mg/L]	03-Oct-05	09:26	< 0.0002	< 0.0002	< 0.0002
Uranium [mg/L]	03-Oct-05	09:26	< 0.0002	0.0005	< 0.0002
Vanadium [mg/L]	03-Oct-05	09:26	< 0.0009	0.0019	< 0.0009
Yttrium [mg/L]	03-Oct-05	09:26	0.0002	0.0006	< 0.0001
Tungsten [mg/L]	03-Oct-05	09:26	0.0232	0.0018	0.0020
Zinc [mg/L]	03-Oct-05	09:26	0.031	0.003	0.018

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