

ATAC RESOURCES LTD

RAU PROJECT

ENVIRONMENTAL DATA UPDATE

October and December, 2012

October and December 2012 – Rau Project Environmental Data Update

At the request of ATAC Resources, water quality monitoring frequency was increased to monthly at stations monitoring the Tiger Zone and potential waste rock storage areas.

Existing Stations RAU #9, RAU #4 and RAU #3 as well as three new sites at Stations RAU #11, RAU #12 and RAU #13 (see attached site map) and the Beaver River receiving waters at Station RAU #10 were increased to monthly.

ATAC Resources also requested water level data logger installations at the new sites.

All other existing stations will remain at a quarterly monitoring frequency.

Stations are on the attached site map.

The October and December 2012 surveys were monthly surveys.

Data Collection

Water quality data at all monthly sites consisted of samples for Routine Chemistry, Total Metals, Dissolved Metals, TOC and Ammonia.

Water quality samples were collected according to laboratory specifications and preserved as required.

Hydrology data collection consisted of water level data logger downloads and stream flow volume measurements at monthly Stations RAU #3, 4, 9, 11, 12 and 13 and at quarterly Station RAU#1.

All water level data loggers were removed in October at end of open water season.

The RAU airstrip weather station was downloaded.

A logger status report for all water level loggers is attached in Appendix 2.

Data Results

October Hydrology

On October 9, RAU sites were under low stage flow conditions with formation of shore ice at all sites and anchor / slush ice at Station RAU#1.

October 2012 flow volumes are generally 65-80% of October 2011 measured volumes. The exception is RAU#9 having twice the October 2011 volumes, the equivalent of May 2012 flows.

Flows have decreased 64-88% from September 2012 volumes, again with RAU #9 being the exception.

Flow measurement results are listed in Table 1 with Routine Chemistry.

A summary of stream flow volumes from March 2010 to November 2012 are listed in Table 7.

All water level data loggers were downloaded, removed for end of open water season and level surveyed with results to be reported at end of open water season.

Flow volume measurement calculation sheets are attached in Appendix 2.

December Hydrology

All monthly stations were under complete ice cover.

Station RAU#11 had ice to the channel invert with no flowing surface water.

Station RAU#9 below the confluence of RAU#11 and RAU#12 had glacial ice to greater than 1 meter depth. Glacial ice formation has not been encountered at this site in previous years.

RAU#3 had 0.65 m ice depth with the downstream station RAU#13 having only 4 cm ice depth.

RAU#4 had ice thickness of 4 cm.

Stream flow volumes were similar to October flows.

Due to limit daylight / work time available, no flow measurements were taken.

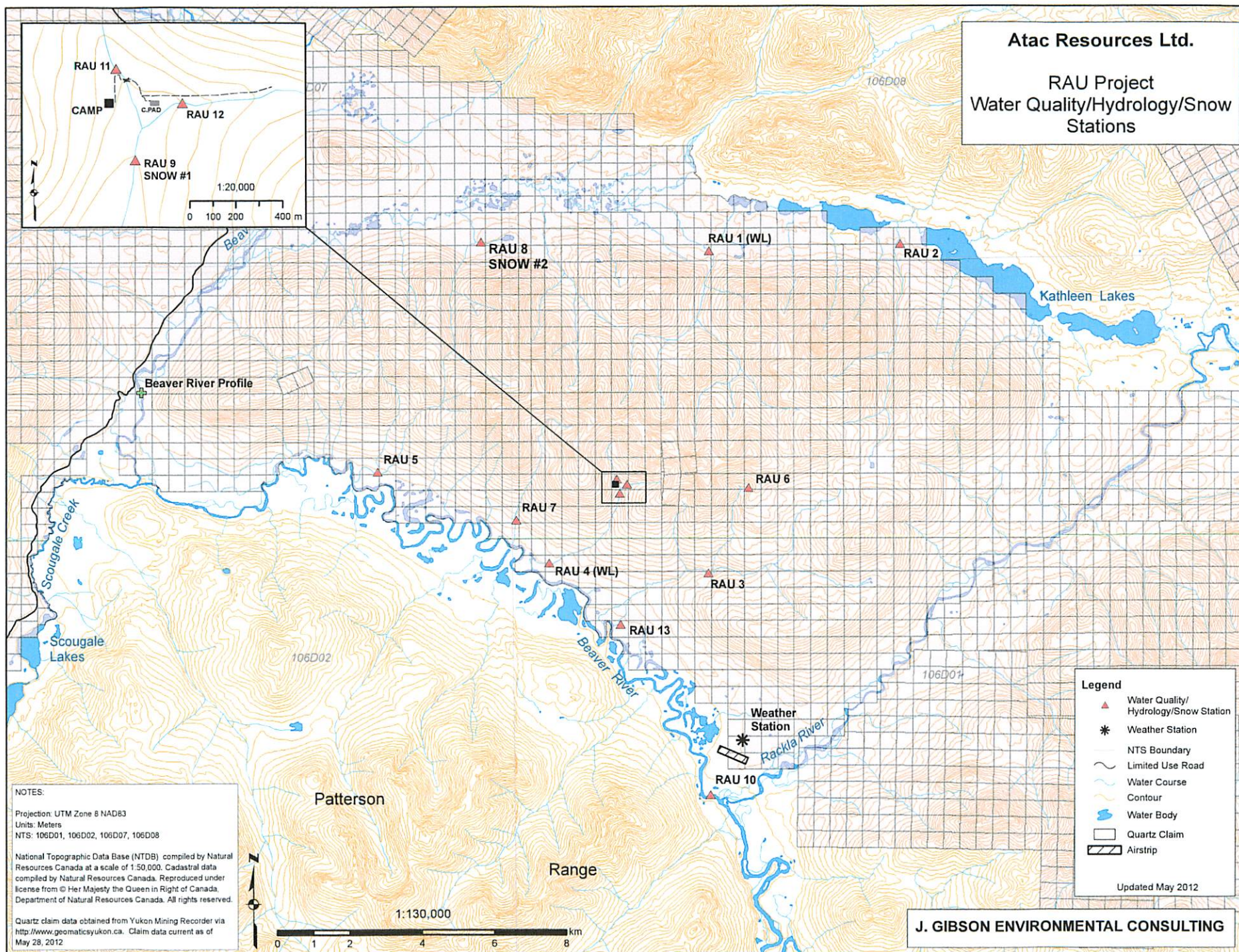
Water Quality

Water quality data for October and December 2012 is listed in the following tables:

Table 1. October (Quarterly Stations) - Routine Chemistry analysis results, field measurements and flow volumes

Atac Resources Ltd.

RAU Project
Water Quality/Hydrology/Snow
Stations



NOTES:

Projection: UTM Zone 8 NAD83
 Units: Meters
 NTS: 106D01, 106D02, 106D07, 106D08

National Topographic Data Base (NTDB) compiled by Natural Resources Canada at a scale of 1:50,000. Cadastral data compiled by Natural Resources Canada. Reproduced under license from © Her Majesty the Queen in Right of Canada, Department of Natural Resources Canada. All rights reserved.

Quartz claim data obtained from Yukon Mining Recorder via <http://www.geomatics.yukon.ca>. Claim data current as of May 28, 2012

October and December 2012 – Rau Project Environmental Data Update

Table 2. October (Quarterly Stations) - Total Metals ICP/MS analysis results

Table 3. October (Quarterly Stations) - Dissolved Metals ICP/MS analysis results

Table 4. December (Quarterly Stations) - Routine Chemistry analysis results, field measurements and flow volumes

Table 5. December (Quarterly Stations) - Total Metals ICP/MS analysis results

Table 6. December (Quarterly Stations) - Dissolved Metals ICP/MS analysis results

Table 7. Flow Measurement Summary – RAU Stations March 2010 to December 2012

Table 8. Camp Drinking Water Supply – Analysis results to October 2012.

Listed with the water quality analysis results are the ***Canadian Water Quality Guideline*** values for the Protection of Aquatic Life for waters with a pH > 6.5 and a total hardness value of > 180 mg/L as CaCO₃.

Also listed are the ***Canadian Drinking Water Guideline*** Maximum Acceptable Concentrations (MAC's) for applicable parameters.

All ***Guideline*** metal values are for total metals.

Analysis values that exceed either ***Guideline*** limit are highlighted in yellow.

Laboratory Analytical Reports for October and November are contained in Appendix 1.

A data summary for each station is on the attached disc.

Water Quality Summary

October

Station RAU #3 exceeds the ***Aquatic Guidelines*** for selenium.

Station RAU#10 exceeds the ***Drinking Water Guidelines*** for manganese.

Station RAU #13 exceeds the ***Aquatic Guidelines*** for iron, selenium and zinc; and exceeds the ***Drinking Water Guidelines*** for iron.

Continued elevated total suspended solids and metals levels are the result of a slough into the creek channel approx. 150 m downstream of Station RAU #3.

Table 1. ATAC Resources - RAU Claims October, 2012.
Routine Chemistry and Field Measurement Results

Parameter	Unit	STATIONS							Detection Limit	DWQ* G.lines	Aquatic** G.lines
		RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7			
Monitoring Frequency		Quarterly	Quarterly	Monthly	Monthly	Quarterly	Not in Use	Quarterly			
pH (field)	ru			8.52	8.15						
pH (lab)	ru			8.04	8.05					6.5-8.5	6.5-9
Electrical Conductivity (lab)	uS/cm	No	No	413	400	No	No	No	1		
Water temperature	C	Sample	Sample	0.5	2	Sample	Sample	Sample			
Flow Volume(field)	cms			0.1282	0.0546						
Organic Carbon Total	mg/L			2.1	0.9				0.5		
Cyanide Total	mg/L			<0.002	<0.002				0.002	0.2	0.005
Phosphorus Total	mg/L			<0.003	0.011				0.003		
Ammonia - N	mg/L			0.07	0.07						1.37-2.2
Nitrate - N	mg/L			0.08	0.33				0.01	10	
Nitrite - N	mg/L			<0.01	<0.01				0.005	1	0.06
T-Alkalinity	mg/L			197	191				5		
Chloride	mg/L			0.2	0.29				0.05	<250	
Sulfate (SO4)	mg/L			37.7	35.2				0.5		
Hardness	mg CaCO3/L			232	226				5	<500	
Total Suspended Solids	mg/L			<2	<2				2		
Total Dissolved Solids	mg/L			250	246				5	<500	

All results and limits in mg/L unless noted otherwise. Nr = no sample/reading

DWQ Guidelines are Maximum Acceptable Concentrations according to
Canadian Drinking Water Quality*

*Aquatic** Guidelines are for protection of aquatic life in waters with pH >6.5 and Hardness as CaCO3 >180 mg/L
Canadian Water Quality Guidelines*

Table 1. ATAC Resources - RAU Claims October, 2012.
Routine Chemistry and Field Measurement Results

Parameter	Unit	STATIONS						Detection Limit	DWQ* G.lines	Aquatic** G.lines
		RAU #8	RAU#9	RAU#10	RAU#11	RAU#12	RAU#13			
Monitoring Frequency		Quarterly	Monthly	Monthly	Monthly	Monthly	Monthly			
pH (field)	ru		8.43	8.29	8.33	8.36	8.36			
pH (lab)	ru		7.9	7.86	7.74	7.91	8.01		6.5-8.5	6.5-9
Electrical Conductivity (lab)	uS/cm	No	366	393	339	372	532	1		
Water temperature	C	Sample	1	2.3	0.9	0.8	0.9			
Flow Volume(field)	cms		0.0188		0.00005	0.0036	0.1864			
Organic Carbon Total	mg/L		0.9	1.1	0.7	0.8	1.6	0.5		
Cyanide Total	mg/L		<0.002	<0.002	<0.002	<0.002	<0.002	0.002	0.2	0.005
Phosphorus Total	mg/L		<0.003	0.016	0.008	<0.003	0.011	0.003		
Ammonia - N	mg/L		0.07	<0.01	0.07	<0.01	0.06			1.37-2.2
Nitrate - N	mg/L		0.33	0.12	0.17	0.42	0.11	0.01	10	
Nitrite - N	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01	0.005	1	0.06
T-Alkalinity	mg/L		180	162	161	178	220	5		
Chloride	mg/L		0.25	0.8	0.3	0.39	4.51	0.05	<250	
Sulfate (SO4)	mg/L		24.4	56.4	25.5	25.4	71	0.5		
Hardness	mg CaCO3/L		208	218	188	209	287	5	<500	
Total Suspended Solids	mg/L		<2	<2	14	<2	6	2		
Total Dissolved Solids	mg/L		218	242	212	230	340	5	<500	

All results and limits in mg/L unless noted otherwis. Nr = no sample/reading

DWQ Guidelines are Maximum Acceptable Concentrations according to*

Canadian Drinking Water Quality

*Aquatic** Guidelines are for protection of aquatic life in waters with pH >6.5 and Hardness as CaCO3 >180 mg/L*

Canadian Water Quality Guidelines

Table 2. ATAC Resources - RAU Claims October, 2012

Total Metals Analysis Results.									Detection	DWQ*	Aquatic**
Parameter	Units	RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7	Limit	G.Lines	G.Lines
Calcium	mg/L			64.5	58				0.05		
Iron	mg/L			0.065	0.04				0.01	0.3	0.3
Magnesium	mg/L			17.6	21.2				0.05		
Manganese	mg/L			0.0103	0.0058				0.005	0.05	
Potassium	mg/L	No	No	1.3	0.8	No	No	No	0.1		
Silicon	mg/L	Sample	Sample	2.78	2.75	Sample	Sample	Sample	0.05		
Sulfur	mg/L								0.1		
Sodium	mg/L			0.9	0.7				0.02	<200	
Titanium	mg/L			0.0899	0.08				0.001		
Aluminum	mg/L			0.008	0.016				0.005		0.1
Antimony	mg/L			0.0002	<0.0001				0.0002	0.006	
Arsenic	mg/L			0.00058	0.00204				0.0002	0.01	
Barium	mg/L			0.103	0.138				0.001	1	
Beryllium	mg/L			<0.00005	<0.00005				0.00004		
Bismuth	mg/L			<0.0001	0.0001				0.001		
Boron	mg/L			0.106	0.026				0.004		
Cadmium	mg/L			0.00005	0.00005				0.00001	0.005	0.0018
Chromium	mg/L			<0.0005	<0.0005				0.0004	0.05	0.002
Cobalt	mg/L			<0.0001	<0.0001				0.00002		
Copper	mg/L			0.0014	0.0007				0.001	1	0.004
Lead	mg/L			<0.0001	<0.0001				0.0001		
Lithium	mg/L			0.0015	0.0012				0.001		
Mercury	mg/L			<0.00001	<0.00001				0.00001	0.001	
Molybdenum	mg/L			0.00355	0.00145				0.0001		
Nickel	mg/L			0.0006	0.0002				0.001		0.15
Selenium	mg/L			0.0013	0.0008				0.0006	0.01	0.001
Silver	mg/L			0.00004	<0.00001				0.00001		0.0001
Strontium	mg/L			0.0852	0.0799				0.001		
Tellurium	mg/L								0.0001		
Thallium	mg/L			<0.00001	<0.00001				0.00001		
Thorium	mg/L			<0.00001	<0.00001				0.0004		
Tin	mg/L			<0.0001	<0.0001				0.0001		
Uranium	mg/L			0.00273	0.00268				0.0004	0.02	
Vanadium	mg/L			<0.0001	<0.0001				0.0001		
Zinc	mg/L			0.0053	0.0134				0.001	<5	0.03
Zirconium	mg/L			<0.0005	<0.0005				0.0001		

nr=no sample or analysis done

Exceeds either Guideline Limit

Table 2. ATAC Resources - RAU Claims October, 2012
Total Metals Analysis Results.

Parameter	Units	RAU #8	RAU#9	RAU#10	RAU #11	RAU#12	RAU#13	Detection Limit	DWQ* G.Lines	Aquatic** G.Lines
Calcium	mg/L		56.7	53.7	51.4	57	83.5	0.05		
Iron	mg/L		0.013	0.1	0.178	0.006	0.546	0.01	0.3	0.3
Magnesium	mg/L	No	16.5	20.8	16.7	15.8	20.9	0.05		
Manganese	mg/L	Sample	0.0059	0.059	0.0105	0.0013	0.0398	0.005	0.05	
Potassium	mg/L		0.7	0.6	0.2	0.9	1.9	0.1		
Silicon	mg/L		2.26	2.29	2.15	2.26	2.92	0.05		
Sulfur	mg/L							0.1		
Sodium	mg/L		0.6	1.9	0.4	0.6	2.9	0.02	<200	
Titanium	mg/L		0.0778	0.0745	0.0741	0.0797	0.12	0.001		
Aluminum	mg/L		0.003	0.012	0.084	0.003	0.056	0.005		0.1
Antimony	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0002	0.006	
Arsenic	mg/L		0.00484	0.00036	0.00033	0.00728	0.00195	0.0002	0.01	
Barium	mg/L		0.184	0.0699	0.307	0.15	0.108	0.001	1	
Beryllium	mg/L		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00004		
Bismuth	mg/L		0.0001	<0.0001	0.0001	0.0001	<0.0001	0.001		
Boron	mg/L		0.014	0.005	0.003	0.003	0.014	0.004		
Cadmium	mg/L		0.00003	0.00004	0.00017	0.00003	0.00069	0.00001	0.005	0.0018
Chromium	mg/L		<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0004	0.05	0.002
Cobalt	mg/L		<0.0001	<0.0001	0.0001	<0.0001	0.0005	0.00002		
Copper	mg/L		0.0004	0.0007	0.0008	0.0002	0.0019	0.001	1	0.004
Lead	mg/L		<0.0001	0.0001	0.0008	<0.0001	0.0001	0.0001		
Lithium	mg/L		<0.0005	0.0033	<0.0005	0.0007	0.004	0.0005		
Mercury	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.001	
Molybdenum	mg/L		0.00171	0.00106	0.00123	0.00214	0.00537	0.0001		
Nickel	mg/L		<0.0002	0.0027	0.0003	<0.0002	0.0261	0.001		0.15
Selenium	mg/L		0.0002	0.0007	0.0004	0.0004	0.0035	0.0006	0.01	0.001
Silver	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001		0.0001
Strontium	mg/L		0.0736	0.168	0.0505	0.0802	0.18	0.001		
Tellurium	mg/L							0.0001		
Thallium	mg/L		<0.00001	0.00001	<0.00001	<0.00001	0.00003	0.00001		
Thorium	mg/L		<0.00001	0.00005	0.00001	<0.00001	0.00002	0.0004		
Tin	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001		
Uranium	mg/L		0.00155	0.00128	0.00122	0.00166	0.00582	0.0004	0.02	
Vanadium	mg/L		<0.0001	<0.0001	0.0002	<0.0001	0.0004	0.0001		
Zinc	mg/L		0.0051	0.0067	0.0178	0.0053	0.117	0.001	<5	0.03
Zirconium	mg/L		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0001		
nr=no sample or analysis done										
								Exceeds either Guideline Limit		

Table 3. ATAC Resources - RAU Claims October, 2012.

Dissolved Metals Analysis Results									Detection
Parameter	Units	RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7	Limit
Calcium	mg/L			64.1	56.5				0.1
Iron	mg/L			0.018	0.005				0.005
Magnesium	mg/L			17.6	20.5				0.1
Manganese	mg/L			0.003	<0.001				0.001
Potassium	mg/L	No	No	1.2	0.8	No	No	No	0.1
Silicon	mg/L	Sample	Sample	2.53	2.41	Sample	Sample	Sample	0.05
Sodium	mg/L			0.8	0.5				0.1
Sulfur	mg/L			16.6	15.8				0.2
Aluminum	mg/L			<0.005	<0.005				0.005
Antimony	mg/L			<0.0002	<0.0002				0.0002
Arsenic	mg/L			0.0008	0.0022				0.0002
Barium	mg/L			0.099	0.127				0.001
Beryllium	mg/L			<0.00004	<0.00004				0.00004
Bismuth	mg/L			<0.001	<0.001				0.001
Boron	mg/L			0.008	<0.004				0.004
Cadmium	mg/L			0.00004	0.00004				0.00001
Chromium	mg/L			0.0017	0.0014				0.0004
Cobalt	mg/L			0.00012	0.0001				0.00002
Copper	mg/L			<0.001	<0.001				0.001
Lead	mg/L			<0.0001	<0.0001				0.0001
Lithium	mg/L			0.001	0.001				0.001
Molybdenum	mg/L			0.00317	0.00124				0.0001
Nickel	mg/L			0.002	0.001				0.001
Selenium	mg/L			0.0012	0.001				0.0006
Silver	mg/L			<0.00001	<0.00001				0.00001
Strontium	mg/L			0.082	0.076				0.001
Titanium	mg/L			<0.010	<0.010				0.01
Tellurium	mg/L			<0.0001	<0.0001				0.0001
Thallium	mg/L			<0.00001	<0.00001				0.00001
Thorium	mg/L			<0.0004	<0.0004				0.0004
Tin	mg/L			0.0014	<0.0001				0.0001
Uranium	mg/L			0.0028	0.0027				0.0004
Vanadium	mg/L			0.00046	0.00043				0.0001
Zinc	mg/L			0.002	0.009				0.001
Zirconium	mg/L			<0.00010	<0.0001				0.0001

Table 3. ATAC Resources - RAU Claims October, 2012.

Dissolved Metals Analysis Results								Detection
Parameter	Units	RAU #8	RAU #9	RAU #10	RAU #11	RAU #12	RAU #13	Limit
Calcium	mg/L		56	53.4	49.2	57.3	80.8	0.1
Iron	mg/L		<0.005	0.052	<0.005	<0.005	0.032	0.005
Magnesium	mg/L		16.6	20.6	15.9	16.1	20.7	0.1
Manganese	mg/L		<0.001	0.125	<0.001	<0.001	0.028	0.001
Potassium	mg/L		0.6	0.6	0.2	0.9	1.7	0.1
Silicon	mg/L	No Sample	2.07	2.13	1.79	2.06	2.54	0.05
Sodium	mg/L		0.4	1.6	0.3	0.4	2.4	0.1
Sulfur	mg/L		11.8	20.5	11.3	10.9	23.7	0.2
Aluminum	mg/L		<0.005	<0.005	<0.005	<0.005	0.012	0.005
Antimony	mg/L		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	mg/L		0.0055	0.0004	<0.0002	0.008	0.0011	0.0002
Barium	mg/L		0.172	0.066	0.275	0.138	0.091	0.001
Beryllium	mg/L		<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Boron	mg/L		<0.004	<0.004	<0.004	<0.004	0.013	0.004
Cadmium	mg/L		0.00003	0.00004	0.00008	0.00001	0.0005	0.00001
Chromium	mg/L		0.0013	0.0009	0.0011	0.0012	0.0012	0.0004
Cobalt	mg/L		0.0001	0.00017	0.00008	0.00008	0.00054	0.00002
Copper	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Lead	mg/L		<0.0001	<0.0001	0.0004	<0.0001	<0.0001	0.0001
Lithium	mg/L		<0.001	0.003	<0.001	<0.001	0.004	0.001
Molybdenum	mg/L		0.00145	0.0008	0.00108	0.00183	0.00473	0.0001
Nickel	mg/L		0.002	0.004	0.001	0.001	0.027	0.001
Selenium	mg/L		<0.0006	<0.0006	<0.0006	<0.0006	0.0038	0.0006
Silver	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001
Strontium	mg/L		0.068	0.158	0.046	0.076	0.166	0.001
Titanium	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	0.01
Tellurium	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Thallium	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	0.00002	0.00001
Thorium	mg/L		<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0004
Tin	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Uranium	mg/L		0.0015	0.0012	0.0012	0.0016	0.0057	0.0004
Vanadium	mg/L		0.0003	0.00023	0.00023	0.00028	0.00038	0.0001
Zinc	mg/L		0.003	0.003	0.006	0.003	0.093	0.001
Zirconium	mg/L		<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	0.0001

Table 4. ATAC Resources - RAU Claims December, 2012.
Routine Chemistry and Field Measurement Results

Parameter	Unit	STATIONS							Detection Limit	DWQ* G.lines	Aquatic** G.lines
		RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7			
Monitoring Frequency		Quarterly	Quarterly	Monthly	Monthly	Quarterly	Not In Use	Quarterly			
pH (field)	ru			7.66	7.91						
pH (lab)	ru			7.54	7.93					6.5-8.5	6.5-9
Electrical Conductivity (lab)	uS/cm	No	No	437	381	No	No	No	1		
Water temperature	C	Sample	Sample	0.1	0.9	Sample	Sample	Sample			
Flow Volume(field)	cms			nr	nr						
Organic Carbon Total	mg/L			1	<0.5				0.5		
Cyanide Total	mg/L			<0.002	<0.002				0.002	0.2	0.005
Phosphorus Total	mg/L			0.006	0.011				0.003		
Ammonia - N	mg/L			<0.01	0.08						1.37-2.2
Nitrate - N	mg/L			0.21	0.35				0.01	10	
Nitrite - N	mg/L			<0.01	<0.01				0.005	1	0.06
T-Alkalinity	mg/L			210	183				5		
Chloride	mg/L			0.11	0.12				0.05	<250	
Sulfate (SO4)	mg/L			38.8	31.6				0.5		
Hardness	mg CaCO3/L			257	225				5	<500	
Total Suspended Solids	mg/L			<2	4				2		
Total Dissolved Solids	mg/L			266	216				5	<500	

All results and limits in mg/L unless noted otherwise. Nr = no sample/reading

DWQ Guidelines are Maximum Acceptable Concentrations according to*

Canadian Drinking Water Quality

*Aquatic** Guidelines are for protection of aquatic life in waters with pH >6.5 and Hardness as CaCO3 >180 mg/L*

Canadian Water Quality Guidelines

Table 4. ATAC Resources - RAU Claims December, 2012.
Routine Chemistry and Field Measurement Results

Parameter	Unit	STATIONS						Detection Limit	DWQ* G.lines	Aquatic** G.lines
		RAU #8	RAU#9	RAU#10	RAU#11	RAU#12	RAU#13			
Monitoring Frequency		Quarterly	Monthly	Monthly	Monthly	Monthly	Monthly			
pH (field)	ru			7.85		7.64	7.66			
pH (lab)	ru			7.75		7.74	7.65		6.5-8.5	6.5-9
Electrical Conductivity (lab)	uS/cm	No	No	410	No	380	689	1		
Water temperature	C	Sample	Sample	1.1	Sample	-0.2	-0.1			
Flow Volume(field)	cms			nr		nr	nr			
Organic Carbon Total	mg/L		glacial	<0.5	ice to	<0.5	0.8	0.5		
Cyanide Total	mg/L		ice	<0.002	invert	<0.002	<0.002	0.002	0.2	0.005
Phosphorus Total	mg/L			0.006		0.014	0.016	0.003		
Ammonia - N	mg/L			0.08		0.1	<0.01			1.37-2.2
Nitrate - N	mg/L			0.18		0.4	0.23	0.01	10	
Nitrite - N	mg/L			<0.01		<0.01	<0.01	0.005	1	0.06
T-Alkalinity	mg/L			176		176	253	5		
Chloride	mg/L			0.74		0.06	8.95	0.05	<250	
Sulfate (SO4)	mg/L			47.3		26.6	112	0.5		
Hardness	mg CaCO3/L			235		212	386	5	<500	
Total Suspended Solids	mg/L			<2		<2	7	2		
Total Dissolved Solids	mg/L			232		208	422	5	<500	

All results and limits in mg/L unless noted otherwise. Nr = no sample/reading

DWQ Guidelines are Maximum Acceptable Concentrations according to*

Canadian Drinking Water Quality

*Aquatic** Guidelines are for protection of aquatic life in waters with pH >6.5 and Hardness as CaCO3 >180 mg/L*

Table 5. ATAC Resources - RAU Claims December, 2012

Total Metals Analysis Results.									Detection	DWQ*	Aquatic**
Parameter	Units	RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7	Limit	G.Lines	G.Lines
Calcium	mg/L			70.6	56.7				0.05		
Iron	mg/L			0.057	0.171				0.01	0.3	0.3
Magnesium	mg/L			20.4	21.9				0.05		
Manganese	mg/L			0.0079	0.0119				0.005	0.05	
Potassium	mg/L	No	No	1.6	0.7	No	No	No	0.1		
Silicon	mg/L	Sample	Sample	3.18	2.97	Sample	Sample	Sample	0.05		
Sulfur	mg/L								0.1		
Sodium	mg/L			1.1	0.5				0.02	<200	
Titanium	mg/L			0.0006	0.0029				0.001		
Aluminum	mg/L			0.018	0.089				0.005		0.1
Antimony	mg/L			0.0001	0.0001				0.0002	0.006	
Arsenic	mg/L			0.0008	0.00214				0.0002	0.01	
Barium	mg/L			0.115	0.14				0.001	1	
Beryllium	mg/L			<0.00005	<0.00005				0.00004		
Bismuth	mg/L			<0.0001	<0.0001				0.001		
Boron	mg/L			0.008	0.002				0.004		
Cadmium	mg/L			0.00005	0.00009				0.00001	0.005	0.0018
Chromium	mg/L			<0.0005	<0.0005				0.0004	0.05	0.002
Cobalt	mg/L			<0.0001	<0.0001				0.00002		
Copper	mg/L			0.0004	0.0004				0.001	1	0.004
Lead	mg/L			<0.0001	0.0007				0.0001		
Lithium	mg/L			0.0016	0.001				0.001		
Mercury	mg/L			<0.0001	<0.0001				0.00001	0.001	
Molybdenum	mg/L			0.00424	0.00119				0.0001		
Nickel	mg/L			0.0006	0.0004				0.001		0.15
Selenium	mg/L			0.0019	0.0007				0.0006	0.01	0.001
Silver	mg/L			<0.00005	<0.00005				0.00001		0.0001
Strontium	mg/L			0.0933	0.0751				0.001		
Tellurium	mg/L								0.0001		
Thallium	mg/L			<0.00001	<0.00001				0.00001		
Thorium	mg/L			<0.00001	<0.00001				0.0004		
Tin	mg/L			<0.0001	<0.0001				0.0001		
Uranium	mg/L			0.0034	0.0026				0.0004	0.02	
Vanadium	mg/L			0.0001	0.0004				0.0001		
Zinc	mg/L			0.0022	0.0147				0.001	<5	0.03
Zirconium	mg/L			<0.0005	<0.0005				0.0001		

nr=no sample or analysis done

Exceeds either Guideline Limit

Table 5. ATAC Resources - RAU Claims December, 2012
Total Metals Analysis Results.

Parameter	Units	RAU #8	RAU#9	RAU#10	RAU #11	RAU#12	RAU#13	Detection Limit	DWQ* G.Lines	Aquatic** G.Lines
Calcium	mg/L			56.1		58	109	0.05		
Iron	mg/L			0.014		0.008	0.902	0.01	0.3	0.3
Magnesium	mg/L			23.6		16.4	26.7	0.05		
Manganese	mg/L	No	No	0.0015	No	0.0021	0.0752	0.005	0.05	
Potassium	mg/L	Sample	Sample	0.6	Sample	0.9	2.7	0.1		
Silicon	mg/L			2.83		2.36	3.48	0.05		
Sulfur	mg/L		glacial		ice to			0.1		
Sodium	mg/L		ice	2.4	invert	0.4	6.2	0.02	<200	
Titanium	mg/L			<0.0005		<0.0005	0.0015	0.001		
Aluminum	mg/L			<0.005		<0.005	0.062	0.005		0.1
Antimony	mg/L			<0.0001		<0.0001	0.0003	0.0002	0.006	
Arsenic	mg/L			0.0001		0.00736	0.00167	0.0002	0.01	
Barium	mg/L			0.0893		0.145	0.103	0.001	1	
Beryllium	mg/L			<0.00005		<0.00005	0.00006	0.00004		
Bismuth	mg/L			<0.0001		<0.0001	<0.0001	0.001		
Boron	mg/L			0.004		<0.002	0.026	0.004		
Cadmium	mg/L			0.00001		0.00002	0.00119	0.00001	0.005	0.0018
Chromium	mg/L			<0.0005		<0.0005	<0.0005	0.0004	0.05	0.002
Cobalt	mg/L			<0.0001		<0.0001	0.0008	0.00002		
Copper	mg/L			0.0002		0.0002	0.0027	0.001	1	0.004
Lead	mg/L			<0.0001		<0.0001	0.0001	0.0001		
Lithium	mg/L			0.0026		0.0006	0.0075	0.0005		
Mercury	mg/L			<0.0001		<0.0001	<0.0001	0.00001	0.001	
Molybdenum	mg/L			0.00102		0.00229	0.00856	0.0001		
Nickel	mg/L			0.0003		<0.0002	0.0545	0.001		0.15
Selenium	mg/L			0.0006		0.0003	0.0066	0.0006	0.01	0.001
Silver	mg/L			<0.00005		<0.00005	<0.00005	0.00001		0.0001
Strontium	mg/L			0.154		0.0817	0.311	0.001		
Tellurium	mg/L							0.0001		
Thallium	mg/L			<0.00001		<0.00001	0.00005	0.00001		
Thorium	mg/L			<0.00001		<0.00001	0.00002	0.0004		
Tin	mg/L			<0.0001		<0.0001	<0.0001	0.0001		
Uranium	mg/L			0.00121		0.00177	0.0112	0.0004	0.02	
Vanadium	mg/L			<0.0001		<0.0001	0.0007	0.0001		
Zinc	mg/L			<0.0005		0.0032	0.235	0.001	<5	0.03
Zirconium	mg/L			<0.0005		<0.0005	<0.0005	0.0001		
nr=no sample or analysis done						Exceeds either Guideline Limit				

Table 6. ATAC Resources - RAU Claims December, 2012.

Dissolved Metals Analysis Results									Detection
Parameter	Units	RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7	Limit
Calcium	mg/L			69	54.9				0.1
Iron	mg/L			0.012	0.007				0.005
Magnesium	mg/L			20.6	21.4				0.1
Manganese	mg/L			0.004	0.003				0.001
Potassium	mg/L	No	No	1.6	0.8	No	No	No	0.1
Silicon	mg/L	Sample	Sample	2.87	2.59	Sample	Sample	Sample	0.05
Sodium	mg/L			1.2	0.5				0.1
Sulfur	mg/L			12.4	10.2				0.2
Aluminum	mg/L			<0.005	<0.005				0.005
Antimony	mg/L			0.0002	<0.0002				0.0002
Arsenic	mg/L			0.0007	0.0018				0.0002
Barium	mg/L			0.112	0.123				0.001
Beryllium	mg/L			<0.00004	<0.00004				0.00004
Bismuth	mg/L			<0.001	<0.001				0.001
Boron	mg/L			0.01	<0.004				0.004
Cadmium	mg/L			0.00006	0.00005				0.00001
Chromium	mg/L			0.0016	0.0014				0.0004
Cobalt	mg/L			0.0001	0.00009				0.00002
Copper	mg/L			<0.001	<0.001				0.001
Lead	mg/L			<0.0001	<0.0001				0.0001
Lithium	mg/L			0.002	<0.001				0.001
Molybdenum	mg/L			0.00386	0.0011				0.0001
Nickel	mg/L			0.001	<0.001				0.001
Selenium	mg/L			0.0019	<0.0006				0.0006
Silver	mg/L			<0.00001	<0.00001				0.00001
Strontium	mg/L			0.098	0.075				0.001
Titanium	mg/L			<0.010	<0.010				0.01
Tellurium	mg/L			<0.0001	<0.0001				0.0001
Thallium	mg/L			<0.00001	<0.00001				0.00001
Thorium	mg/L			<0.0004	<0.0004				0.0004
Tin	mg/L			<0.0001	<0.0001				0.0001
Uranium	mg/L			0.0038	0.0029				0.0004
Vanadium	mg/L			0.00045	0.00043				0.0001
Zinc	mg/L			0.004	0.01				0.001
Zirconium	mg/L			<0.00010	<0.0001				0.0001

Table 6. ATAC Resources - RAU Claims December, 2012.

Dissolved Metals Analysis Results								Detection
Parameter	Units	RAU #8	RAU #9	RAU #10	RAU #11	RAU #12	RAU #13	Limit
Calcium	mg/L			55.6		57.8	110	0.1
Iron	mg/L			0.009		<0.005	0.027	0.005
Magnesium	mg/L			23.4		16.5	27.3	0.1
Manganese	mg/L			<0.001		<0.001	0.062	0.001
Potassium	mg/L			0.7		0.9	2.5	0.1
Silicon	mg/L	No	No	2.61	No	2.18	3.13	0.05
Sodium	mg/L	Sample	Sample	2.2	Sample	0.5	5.7	0.1
Sulfur	mg/L			15.7		8.6	35.9	0.2
Aluminum	mg/L		glacial	<0.005	ice to	<0.005	0.007	0.005
Antimony	mg/L		ice	<0.0002	invert	<0.0002	0.0002	0.0002
Arsenic	mg/L			<0.0002		0.0078	0.0006	0.0002
Barium	mg/L			0.088		0.148	0.096	0.001
Beryllium	mg/L			<0.00004		<0.00004	<0.00004	0.00004
Bismuth	mg/L			<0.001		<0.001	<0.001	0.001
Boron	mg/L			<0.004		<0.004	0.025	0.004
Cadmium	mg/L			0.00002		0.00002	0.00099	0.00001
Chromium	mg/L			0.0013		0.0016	0.0026	0.0004
Cobalt	mg/L			0.00006		0.0002	0.00093	0.00002
Copper	mg/L			<0.001		<0.001	<0.001	0.001
Lead	mg/L			<0.0001		<0.0001	<0.0001	0.0001
Lithium	mg/L			0.003		<0.001	0.008	0.001
Molybdenum	mg/L			0.0009		0.00205	0.00772	0.0001
Nickel	mg/L			<0.001		<0.001	0.052	0.001
Selenium	mg/L			<0.0006		<0.0006	0.0083	0.0006
Silver	mg/L			<0.00001		<0.00001	<0.00001	0.00001
Strontium	mg/L			0.158		0.086	0.319	0.001
Titanium	mg/L			<0.010		<0.010	<0.010	0.01
Tellurium	mg/L			<0.0001		<0.0001	<0.0001	0.0001
Thallium	mg/L			<0.00001		<0.00001	0.00005	0.00001
Thorium	mg/L			<0.0004		<0.0004	<0.0004	0.0004
Tin	mg/L			<0.0001		<0.0001	<0.0001	0.0001
Uranium	mg/L			0.0013		0.002	0.0123	0.0004
Vanadium	mg/L			0.0003		0.00044	0.00078	0.0001
Zinc	mg/L			0.003		0.004	0.201	0.001
Zirconium	mg/L			<0.0001		<0.0001	0.00013	0.0001

Table 7. ATAC RESOURCES - Summary of Rau Project Station Flow Volumes 2010-2012
(Cubic meters per second)

Station	Date																	
	Mar-10	Jun-10	Jul-10	10-Sep	Mar-11	May-11 May-03	May-11 May-28	Jul-11	Aug-11	Oct-11	Mar-12 €	Apr-12	May-12	Jun-12	Jul-12	Sep-12	Oct-12	Dec-12
Rau #1	nr	0.536	0.51	0.18	0.059	0.046	1.084 1.153	0.626	0.443	0.261	0.01	nr	0.5253	0.6291	0.3773	0.2533	0.1604	nr
Rau #2	nr	0.281	0.20	0.064	nr	nr	0.815	0.411	0.166	0.091	nr	nr	nr	nr	nr	0.0977	nr	nr
Rau #3	nr	0.449	0.418	0.187	nr	nr	0.774	0.485	0.317	nr	0.02		nr	0.4218	0.3497	0.185	0.1282	nr
Rau #4	nr	nr	0.088	0.068	0.004	0.032	0.093 0.093	0.072	0.081	0.064	0.008	0.0473	0.0976	0.1152	0.0895	0.062	0.0546	0.05 e
Rau #5	nr	.06(E)	0.024	0.018	nr	nr	0.036	0.039	0.034	0.018	0.0	nr	0.0728	nr	nr	0.034	nr	nr
Rau #6	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
Rau #7	nr	0.058	0.029	0.018	0.008	0.011	0.069	0.046	0.035	0.031	0.006	nr	0.0229	nr	nr	0.023	nr	nr
Rau #8	nr	0.326	0.298	0.104	0.006	0.04	0.371	0.413	0.313	0.137	0.005	nr	0.1557	nr	nr	0.179	nr	nr
Rau #9	.015 (E)	0.039	0.017	0.019	0.002	0.001 E	0.031	0.021	0.033	0.009	0.002	0.0052	0.0186	0.0463	0.0199	0.0064	0.0188	glacial ice
Rau #10	4.753	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	12.31	nr	nr	nr	nr	nr	nr
Rau #11												<0.0001	<0.0001	0.0354	0.0092	0.0009	<0.0005	dry
Rau #12												0.00086	0.0045	0.0103	0.0076	0.0045	0.0036	0.04 e
Rau #13												0.0784	0.5546	0.474	0.3597	0.233	0.1864	0.10e

e=estimated flow volume

Table 8. RAU Claims - Camp Drinking Water Supply

Parameter		Jul-10	May-11	Jul-11	Aug-11	Oct-11	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Sep-12	Oct-12	DWQ*
		Rau#9	May-28	Rau#9	Rau#9	Rau#9	Rau#9	Rau#11	Rau#11	Rau#11	Rau#11	Rau#11	Rau#11	MAC's
pH	ru	8.26	8.2	8.2	8.23	8.09	8.12	7.5	6.54	8.22	8.11	7.87	7.74	6 to 8.5
Conductivity	uS/cm	356	286	315	327	358	345	153	10	303	329	297	339	
Chloride	mg/L	0.37	0.36	0.14	<0.5	<0.5	<0.5	1.5	0.08	0.12	0.08	<0.50	0.3	<250
Nitrate	mg/L	0.15	0.3	0.37	0.24	0.3	0.36	0.33	<0.01	0.2	0.14	0.13	0.17	1
Nitrite	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	10
T. Diss. Solids	mg/L	220	142	174	196	198	162	122	26	176	166	166	212	500
T. Susp Solids	mg/L	<2	<2	<2	<2	<2	<2	23	<2	<2	<2	<2	<2	
Hardness	mg/L	204	165	187	212	219	195	83	8	166	174	176	188	<500
Alkalinity total	mg/L	179	150	168	175	178	183	80	<5	160	162	160	161	
Total Metals														
Aluminum	mg/L	0.057	0.011	0.012	0.008	<0.005	0.054	0.108	0.005	<0.005	<0.005	0.003	0.084	
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0001	<0.0001	0.006
Arsenic	mg/L	0.0038	0.0048	0.0028	0.0032	0.0043	0.0106	0.0008	<0.0002	<0.0002	0.0003	0.00019	0.00033	0.01
Barium	mg/L	0.214	0.148	0.209	0.224	0.189	0.156	0.128	0.007	0.275	0.296	0.304	0.307	1
Boron	mg/L	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.002	0.003	5
Cadmium	mg/L	0.00004	0.00002	0.00002	0.00002	0.00003	0.00003	0.00044	0.00002	<0.00001	0.00006	0.00006	0.00017	0.005
Calcium	mg/L	55.2	43.2	49.3	56.2	59	54.6	23.4	1.55	41.7	44	48.5	51.4	
Chromium	mg/L	0.0007	0.0008	0.0007	0.0009	0.0005	<0.0004	0.0009	<0.0004	<0.0004	<0.0004	<0.0005	0.0006	0.05
Cobalt	mg/L	0.00006	0.00004	0.00008	0.00004	0.00005	0.00014	0.00019	<0.00002	0.00004	0.00005	<0.0001	0.0001	
Copper	mg/L	<0.001	<0.001	<0.001	<0.001	0.024	<0.001	0.003	<0.001	<0.001	<0.001	0.0002	0.0008	1
Iron	mg/L	0.096	0.014	0.012	0.069	0.041	0.303	0.195	0.012	<0.01	<0.01	0.01	0.178	0.3
Lead	mg/L	0.0003	<0.0001	<0.0001	<0.0001	0.0005	0.0003	0.0009	0.0002	<0.0001	<0.0001	<0.0001	0.0008	0.01
Lithium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	
Magnesium	mg/L	16	12	15.6	16.9	17.4	16.4	6.97	0.33	15	15.7	16.4	16.7	
Manganese	mg/L	0.0052	<0.005	<0.005	<0.005	0.008	0.042	0.014	<0.005	<0.005	<0.005	0.0006	0.0105	0.05
Mercury	mg/L									<0.00001	<0.00001	<0.00001	<0.00001	0.001
Molybdenum	mg/L	0.0014	0.0014	0.0014	0.0016	0.0015	0.0018	0.0003	<0.0001	0.0012	0.0012	0.00126	0.00123	
Sulfur	mg/L	6.9	5	6.6	7.2	7.6	7.9	2.1	<0.1	5.6	6.5	7.2		
Selenium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0002	0.0004	0.01
Strontium	mg/L	0.068	0.061	0.057	0.064	0.069	0.079	0.025	0.002	0.039	0.045	0.045	0.0505	
Silicon	mg/L	1.99	1.54	1.82	1.84	1.85	1.99	1.42	0.11	1.61	1.64	1.98	2.15	
Sodium	mg/L	0.29	0.27	0.3	0.3	0.58	0.38	0.66	0.13	0.4	0.52	0.3	0.4	<200
Titanium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.008	<0.001	<0.001	0.002	0.0651	0.0741	
Uranium	mg/L	0.0016	0.0013	0.0015	0.0015	0.0015	0.0019	<0.0004	<0.0004	0.0014	0.0014	0.00121	0.00122	0.02
Zinc	mg/L	0.006	0.003	0.004	0.004	0.017	0.008	0.08	0.004	0.003	0.006	0.0048	0.0178	<5

DWQ* = Canadian Drinking Water Quality Guideline

MAC = Maximum Acceptable Concentration

October and December 2012 – Rau Project Environmental Data Update

Stations RAU #4, #9, #11 and #12 met all ***Guideline*** limits.

December

Station RAU #3 exceeds the ***Aquatic Guidelines*** for selenium.

Station RAU #13 exceeds the ***Aquatic Guidelines*** for iron, selenium and zinc; and exceeds the ***Drinking Water Guidelines*** for iron.

Continued elevated total suspended solids and metals levels are the result of a slough into the creek channel approx. 150 m downstream of Station RAU #3.

Drinking Water Supply

Station RAU #11 is the Rau Camp freshwater supply source. Flow volumes at the acquisition point were estimated at less than 0.5 liters per second.

The Rau exploration camp was not in operation.

The analysis results to October 2012 are listed in Table 8.

All parameters tested have concentrations below the ***Drinking Water Quality Guideline (December 2010)*** Maximum Acceptable Concentration.

Weather Station Data Logger

The weather station / data logger on October 9, 2012 had been damaged by moose. Field repairs were done to make it operational and data was downloaded. Replacement parts are needed for the anemometer and solar radiation sensor and will be installed when warmer weather permits.

Appendix #1

Laboratory Analytical Reports

October 2012 (Water Quality-Monthly)

December 2012 (Water Quality – Monthly)

Exova
#104, 19575-55 A Ave.
Surrey, British Columbia
V3S 8P8, Canada

T: +1 (604) 514-3322
F: +1 (604) 514-3323
E: Surrey@exova.com
W: www.exova.com



Report Transmission Cover Page

Bill To:	J. Gibson & Associates	Project:		Lot ID:	899106
Report To:	J. Gibson & Associates	ID:	ATAC Resources	Control Number:	A244832
	Box 20913	Name:	RAU Project	Date Received:	Oct 12, 2012
	Whitehorse, YT, Canada	Location:		Date Reported:	Oct 18, 2012
	Y1A 6P2	LSD:		Report Number:	1774413
Attn:	John Gibson	P.O.:			
Sampled By:	J.Gibson	Acct code:			
Company:					

Contact & Affiliation	Address	Delivery Commitments
John Gibson	, Box 20913	On [Lot Verification] send
J. Gibson & Associates	Whitehorse, Yukon Territory Y1A 6P2	(COA) by Email - Single Report
	Phone: (867) 633-4522	On [Report Approval] send
	Fax: (867) 668-6895	(COC, Test Report) by Email - Multiple Reports
	Email: ludditegibson@gmail.com	On [Report Approval] send
		(Test Report) by Email - Multiple Reports
		On [Lot Approval and Final Test Report Approval] send
		(Invoice) by Email - Single Report
		On [Lot Creation] send
		(COR) by Email - Single Report

Notes To Clients:

- pH analysis was performed past the recommended holding time of 15 minutes from sample collection.

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Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	899106-1	899106-2	899106-3	
		Sample Date	Oct 09, 2012	Oct 09, 2012	Oct 09, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU #3 / Surface	RAU #4 / Surface	RAU #9 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	2.1	0.9	0.9	0.5
Cyanide	Total	mg/L	<0.002	<0.002	<0.002	0.002
Phosphorus	Total	mg/L	<0.003	0.011	<0.003	0.003
Ammonia - N		mg/L	0.07	0.07	0.07	.01
Metals Dissolved						
Sulfur	Dissolved	mg/L	16.6	15.8	11.8	0.2
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0008	0.0022	0.0055	0.0002
Barium	Dissolved	mg/L	0.099	0.127	0.172	0.001
Beryllium	Dissolved	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Dissolved	mg/L	0.008	<0.004	<0.004	0.004
Cadmium	Dissolved	mg/L	0.00004	0.00004	0.00003	0.00001
Chromium	Dissolved	mg/L	0.0017	0.0014	0.0013	0.0004
Cobalt	Dissolved	mg/L	0.00012	0.00010	0.00010	0.00002
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	0.001	0.001	<0.001	0.001
Molybdenum	Dissolved	mg/L	0.00317	0.00124	0.00145	0.0001
Nickel	Dissolved	mg/L	0.002	0.001	0.002	0.001
Selenium	Dissolved	mg/L	0.0012	0.0010	<0.0006	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Titanium	Dissolved	mg/L	<0.010	<0.010	<0.010	0.01
Strontium	Dissolved	mg/L	0.082	0.076	0.068	0.001
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L	0.0014	<0.0001	<0.0001	0.0001
Uranium	Dissolved	mg/L	0.0028	0.0027	0.0015	0.0004
Vanadium	Dissolved	mg/L	0.00046	0.00043	0.00030	0.0001
Zinc	Dissolved	mg/L	0.002	0.009	0.003	0.001
Zirconium	Dissolved	mg/L	<0.00010	<0.0001	<0.00010	0.0001
Metals Total						
Mercury	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Aluminum	Total	mg/L	0.008	0.016	0.003	0.001



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	899106-1	899106-2	899106-3	
		Sample Date	Oct 09, 2012	Oct 09, 2012	Oct 09, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU #3 / Surface	RAU #4 / Surface	RAU #9 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Antimony	Total	mg/L	0.0002	<0.0001	<0.0001	0.0001
Arsenic	Total	mg/L	0.00058	0.00204	0.00484	0.00005
Barium	Total	mg/L	0.103	0.138	0.184	0.00005
Beryllium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	0.0001	0.0001	0.0001
Boron	Total	mg/L	0.106	0.026	0.014	.002
Cadmium	Total	mg/L	0.00005	0.00005	0.00003	0.00001
Calcium	Total	mg/L	64.5	58.0	56.7	0.05
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper	Total	mg/L	0.0014	0.0007	0.0004	0.0001
Iron	Total	mg/L	0.065	0.040	0.013	0.002
Lead	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Total	mg/L	0.0015	0.0012	<0.0005	0.0005
Magnesium	Total	mg/L	17.6	21.2	16.5	0.04
Manganese	Total	mg/L	0.0103	0.0058	0.0059	0.0002
Molybdenum	Total	mg/L	0.00355	0.00145	0.00171	0.00005
Nickel	Total	mg/L	0.0006	0.0002	<0.0002	0.0002
Potassium	Total	mg/L	1.3	0.8	0.7	0.1
Selenium	Total	mg/L	0.0013	0.0008	0.0002	0.0001
Silicon	Total	mg/L	2.78	2.75	2.26	0.02
Silver	Total	mg/L	0.00004	<0.00001	<0.00001	0.00001
Sodium	Total	mg/L	0.9	0.7	0.6	0.1
Strontium	Total	mg/L	0.0852	0.0799	0.0736	0.0001
Thallium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Titanium	Total	mg/L	0.0899	0.0800	0.0778	0.0005
Uranium	Total	mg/L	0.00273	0.00268	0.00155	0.00001
Vanadium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Zinc	Total	mg/L	0.0053	0.0134	0.0051	0.0005
Zirconium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	<2	2
Solids	Total Dissolved	mg/L	250	246	218	5



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	899106-1	899106-2	899106-3	
		Sample Date	Oct 09, 2012	Oct 09, 2012	Oct 09, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU #3 / Surface	RAU #4 / Surface	RAU #9 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Routine Water						
pH	at 25 °C		8.04	8.05	7.90	
Electrical Conductivity		µS/cm at 25 C	413	400	366	1
Calcium	Dissolved	mg/L	64.1	56.5	56.0	0.1
Iron	Dissolved	mg/L	0.018	0.005	<0.005	0.005
Magnesium	Dissolved	mg/L	17.6	20.5	16.6	0.1
Manganese	Dissolved	mg/L	0.003	<0.001	<0.001	0.001
Potassium	Dissolved	mg/L	1.2	0.8	0.6	0.1
Silicon	Dissolved	mg/L	2.53	2.41	2.07	0.05
Sodium	Dissolved	mg/L	0.8	0.5	0.4	0.1
Bicarbonate		mg/L	240	233	219	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	197	191	180	5
Chloride	Dissolved	mg/L	0.20	0.29	0.25	0.05
Nitrate - N	Dissolved	mg/L	0.08	0.33	0.33	0.01
Nitrite - N	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Sulfate (SO4)	Dissolved	mg/L	37.7	35.2	24.4	0.5
Hardness	as CaCO3	mg/L	232	226	208	5
Hardness	Total	mg CaCO3/L	241	230	211	1

Analytical Report

Bill To: J. Gibson & Associates
Report To: J. Gibson & Associates
Box 20913
Whitehorse, YT, Canada
Y1A 6P2
Attn: John Gibson
Sampled By: J. Gibson
Company:

Project:
ID: ATAC Resources
Name: RAU Project
Location:
LSD:
P.O.:
Acct code:

Lot ID: **899106**
Control Number: A244832
Date Received: Oct 12, 2012
Date Reported: Oct 18, 2012
Report Number: 1774413

		Reference Number	899106-4	899106-5	899106-6	
		Sample Date	Oct 09, 2012	Oct 09, 2012	Oct 09, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU #10 / Surface	RAU #11 / Surface	RAU #12 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	1.1	0.7	0.8	0.5
Cyanide	Total	mg/L	<0.002	<0.002	<0.002	0.002
Phosphorus	Total	mg/L	0.016	0.008	<0.003	0.003
Ammonia - N		mg/L	<0.01	0.07	<0.01	.01
Metals Dissolved						
Sulfur	Dissolved	mg/L	20.5	11.3	10.9	0.2
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0004	<0.0002	0.0080	0.0002
Barium	Dissolved	mg/L	0.066	0.275	0.138	0.001
Beryllium	Dissolved	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Dissolved	mg/L	<0.004	<0.004	<0.004	0.004
Cadmium	Dissolved	mg/L	0.00004	0.00008	0.00001	0.00001
Chromium	Dissolved	mg/L	0.0009	0.0011	0.0012	0.0004
Cobalt	Dissolved	mg/L	0.00017	0.00008	0.00008	0.00002
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	<0.0001	0.0004	<0.0001	0.0001
Lithium	Dissolved	mg/L	0.003	<0.001	<0.001	0.001
Molybdenum	Dissolved	mg/L	0.00080	0.00108	0.00183	0.0001
Nickel	Dissolved	mg/L	0.004	0.001	0.001	0.001
Selenium	Dissolved	mg/L	<0.0006	<0.0006	<0.0006	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Titanium	Dissolved	mg/L	<0.010	<0.010	<0.010	0.01
Strontium	Dissolved	mg/L	0.158	0.046	0.076	0.001
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Dissolved	mg/L	0.0012	0.0012	0.0016	0.0004
Vanadium	Dissolved	mg/L	0.00023	0.00023	0.00028	0.0001
Zinc	Dissolved	mg/L	0.003	0.006	0.003	0.001
Zirconium	Dissolved	mg/L	<0.0001	<0.00010	<0.00010	0.0001
Metals Total						
Mercury	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Aluminum	Total	mg/L	0.012	0.084	0.003	0.001



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	899106-4	899106-5	899106-6	
		Sample Date	Oct 09, 2012	Oct 09, 2012	Oct 09, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU #10 / Surface	RAU #11 / Surface	RAU #12 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Antimony	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Arsenic	Total	mg/L	0.00036	0.00033	0.00728	0.00005
Barium	Total	mg/L	0.0699	0.307	0.150	0.00005
Beryllium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	0.0001	0.0001	0.0001
Boron	Total	mg/L	0.005	0.003	0.003	.002
Cadmium	Total	mg/L	0.00004	0.00017	0.00003	0.00001
Calcium	Total	mg/L	53.7	51.4	57.0	0.05
Chromium	Total	mg/L	<0.0005	0.0006	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	0.0001	<0.0001	0.0001
Copper	Total	mg/L	0.0007	0.0008	0.0002	0.0001
Iron	Total	mg/L	0.100	0.178	0.006	0.002
Lead	Total	mg/L	0.0001	0.0008	<0.0001	0.0001
Lithium	Total	mg/L	0.0033	<0.0005	0.0007	0.0005
Magnesium	Total	mg/L	20.8	16.7	15.8	0.04
Manganese	Total	mg/L	0.0590	0.0105	0.0013	0.0002
Molybdenum	Total	mg/L	0.00106	0.00123	0.00214	0.00005
Nickel	Total	mg/L	0.0027	0.0003	<0.0002	0.0002
Potassium	Total	mg/L	0.6	0.2	0.9	0.1
Selenium	Total	mg/L	0.0007	0.0004	0.0004	0.0001
Silicon	Total	mg/L	2.29	2.15	2.26	0.02
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Sodium	Total	mg/L	1.9	0.4	0.6	0.1
Strontium	Total	mg/L	0.168	0.0505	0.0802	0.0001
Thallium	Total	mg/L	0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	0.00005	0.00001	<0.00001	0.00001
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Titanium	Total	mg/L	0.0745	0.0741	0.0797	0.0005
Uranium	Total	mg/L	0.00128	0.00122	0.00166	0.00001
Vanadium	Total	mg/L	<0.0001	0.0002	<0.0001	0.0001
Zinc	Total	mg/L	0.0067	0.0178	0.0053	0.0005
Zirconium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	14	<2	2
Solids	Total Dissolved	mg/L	242	212	230	5



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	899106-4	899106-5	899106-6	
		Sample Date	Oct 09, 2012	Oct 09, 2012	Oct 09, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU #10 / Surface	RAU #11 / Surface	RAU #12 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Routine Water						
pH	at 25 °C		7.86	7.74	7.91	
Electrical Conductivity		µS/cm at 25 C	393	339	372	1
Calcium	Dissolved	mg/L	53.4	49.2	57.3	0.1
Iron	Dissolved	mg/L	0.052	<0.005	<0.005	0.005
Magnesium	Dissolved	mg/L	20.6	15.9	16.1	0.1
Manganese	Dissolved	mg/L	0.125	<0.001	<0.001	0.001
Potassium	Dissolved	mg/L	0.6	0.2	0.9	0.1
Silicon	Dissolved	mg/L	2.13	1.79	2.06	0.05
Sodium	Dissolved	mg/L	1.6	0.3	0.4	0.1
Bicarbonate		mg/L	198	196	218	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	162	161	178	5
Chloride	Dissolved	mg/L	0.80	0.30	0.39	0.05
Nitrate - N	Dissolved	mg/L	0.12	0.17	0.42	0.01
Nitrite - N	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Sulfate (SO4)	Dissolved	mg/L	56.4	25.5	25.4	0.5
Hardness	as CaCO3	mg/L	218	188	209	5
Hardness	Total	mg CaCO3/L	220	187	210	1



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

Reference Number 899106-7
 Sample Date Oct 09, 2012
 Sample Time NA
 Sample Location
 Sample Description RAU #13 / Surface
 Matrix Water

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters					
Organic Carbon	Total Nonpurgeable	mg/L	1.6		0.5
Cyanide	Total	mg/L	<0.002		0.002
Phosphorus	Total	mg/L	0.011		0.003
Ammonia - N		mg/L	0.06		.01
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	6		2
Solids	Total Dissolved	mg/L	340		5

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	899106-7	899106-8	
		Sample Date	Oct 09, 2012	Oct 09, 2012	
		Sample Time	NA	NA	
		Sample Location			
		Sample Description	RAU #13 / Surface	RAU #13 Duplicate / Surface	
		Matrix	Water	Water	
Analyte		Units	Results	Results	Nominal Detection Limit
Metals Dissolved					
Sulfur	Dissolved	mg/L	23.7	23.5	0.2
Aluminum	Dissolved	mg/L	0.012	0.017	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0011	0.0014	0.0002
Barium	Dissolved	mg/L	0.091	0.104	0.001
Beryllium	Dissolved	mg/L	<0.00004	<0.00004	0.00004
Bismuth	Dissolved	mg/L	<0.001	<0.001	0.001
Boron	Dissolved	mg/L	0.013	0.012	0.004
Cadmium	Dissolved	mg/L	0.00050	0.00058	0.00001
Chromium	Dissolved	mg/L	0.0012	0.0011	0.0004
Cobalt	Dissolved	mg/L	0.00054	0.00051	0.00002
Copper	Dissolved	mg/L	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	<0.0001	0.0008	0.0001
Lithium	Dissolved	mg/L	0.004	0.004	0.001
Molybdenum	Dissolved	mg/L	0.00473	0.00474	0.0001
Nickel	Dissolved	mg/L	0.027	0.026	0.001
Selenium	Dissolved	mg/L	0.0038	0.0043	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	0.00001
Titanium	Dissolved	mg/L	<0.010	<0.010	0.01
Strontium	Dissolved	mg/L	0.166	0.168	0.001
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	0.00002	0.00002	0.00001
Thorium	Dissolved	mg/L	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L	<0.0001	0.0006	0.0001
Uranium	Dissolved	mg/L	0.0057	0.0058	0.0004
Vanadium	Dissolved	mg/L	0.00038	0.00038	0.0001
Zinc	Dissolved	mg/L	0.093	0.103	0.001
Zirconium	Dissolved	mg/L	<0.00010	<0.00010	0.0001
Metals Total					
Mercury	Total	mg/L	<0.00001		0.00001
Aluminum	Total	mg/L	0.056	0.055	0.001
Antimony	Total	mg/L	0.0002	0.0002	0.0001
Arsenic	Total	mg/L	0.00195	0.00194	0.00005
Barium	Total	mg/L	0.108	0.100	0.00005
Beryllium	Total	mg/L	<0.00005	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	<0.0001	0.0001

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number		899106-7		899106-8	
		Sample Date		Oct 09, 2012		Oct 09, 2012	
		Sample Time		NA		NA	
		Sample Location					
		Sample Description		RAU #13 / Surface		RAU #13 Duplicate / Surface	
		Matrix		Water		Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit	
Metals Total - Continued							
Boron	Total	mg/L	0.014	0.012		.002	
Cadmium	Total	mg/L	0.00069	0.00068		0.00001	
Calcium	Total	mg/L	83.5	82.5		0.05	
Chromium	Total	mg/L	<0.0005	<0.0005		0.0005	
Cobalt	Total	mg/L	0.0005	0.0004		0.0001	
Copper	Total	mg/L	0.0019	0.0026		0.0001	
Iron	Total	mg/L	0.546	0.550		0.002	
Lead	Total	mg/L	0.0001	0.0002		0.0001	
Lithium	Total	mg/L	0.0040	0.0040		0.0005	
Magnesium	Total	mg/L	20.9	20.7		0.04	
Manganese	Total	mg/L	0.0398	0.0385		0.0002	
Molybdenum	Total	mg/L	0.00537	0.00526		0.00005	
Nickel	Total	mg/L	0.0261	0.0255		0.0002	
Potassium	Total	mg/L	1.9	1.8		0.1	
Selenium	Total	mg/L	0.0035	0.0035		0.0001	
Silicon	Total	mg/L	2.92	2.88		0.02	
Silver	Total	mg/L	<0.00001	<0.00001		0.00001	
Sodium	Total	mg/L	2.9	2.8		0.1	
Strontium	Total	mg/L	0.180	0.175		0.0001	
Thallium	Total	mg/L	0.00003	0.00003		0.00001	
Thorium	Total	mg/L	0.00002	0.00002		0.00001	
Tin	Total	mg/L	<0.0001	<0.0001		0.0001	
Titanium	Total	mg/L	0.120	0.119		0.0005	
Uranium	Total	mg/L	0.00582	0.00596		0.00001	
Vanadium	Total	mg/L	0.0004	0.0004		0.0001	
Zinc	Total	mg/L	0.117	0.119		0.0005	
Zirconium	Total	mg/L	<0.0005	<0.0005		0.0005	
Routine Water							
pH	at 25 °C		8.01				
Electrical Conductivity		µS/cm at 25 C	532			1	
Calcium	Dissolved	mg/L	80.8	82.1		0.1	
Iron	Dissolved	mg/L	0.032	0.035		0.005	
Magnesium	Dissolved	mg/L	20.7	20.6		0.1	
Manganese	Dissolved	mg/L	0.028	0.027		0.001	
Potassium	Dissolved	mg/L	1.7	1.7		0.1	
Silicon	Dissolved	mg/L	2.54	2.55		0.05	

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J. Gibson	Acct code:	
Company:		

		Reference Number	899106-7	899106-8		
		Sample Date	Oct 09, 2012	Oct 09, 2012		
		Sample Time	NA	NA		
		Sample Location				
		Sample Description	RAU #13 / Surface	RAU #13 Duplicate / Surface		
		Matrix	Water	Water		
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	2.4	2.4		0.1
Bicarbonate		mg/L	268			5
Carbonate		mg/L	<6			6
Hydroxide		mg/L	<5			5
T-Alkalinity	as CaCO3	mg/L	220			5
Chloride	Dissolved	mg/L	4.51			0.05
Nitrate - N	Dissolved	mg/L	0.11			0.01
Nitrite - N	Dissolved	mg/L	<0.01			0.01
Sulfate (SO4)	Dissolved	mg/L	71.0			0.5
Hardness	as CaCO3	mg/L	287	290		5
Hardness	Total	mg CaCO3/L	291			1

Approved by: 
 Mathieu Simoneau
 Operations Manager

Methodology and Notes

Bill To: J. Gibson & Associates	Project:	Lot ID: 899106
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A244832
Box 20913	Name: RAU Project	Date Received: Oct 12, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Oct 18, 2012
Y1A 6P2	LSD:	Report Number: 1774413
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Alk, pH, EC, Turb in water (Surrey)	APHA	* Alkalinity - Titration Method, 2320 B	12-Oct-12	Exova Surrey
Alk, pH, EC, Turb in water (Surrey)	APHA	* Conductivity, 2510 B	12-Oct-12	Exova Surrey
Alk, pH, EC, Turb in water (Surrey)	APHA	* pH - Electrometric Method, 4500-H+ B	12-Oct-12	Exova Surrey
Ammonia-N in Water (Surrey)	APHA	* Flow Injection Analysis, 4500-NH3 H	16-Oct-12	Exova Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	15-Oct-12	Exova Surrey
BC ICP-MS Total Metals in Water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	16-Oct-12	Exova Edmonton
BC Trace Total Metals in Water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	16-Oct-12	Exova Edmonton
Carbon Organic (Total) in water (TOC)	APHA	High-Temperature Combustion Method, 5310 B	15-Oct-12	Exova Edmonton
Cyanide (Total) in water	US EPA	* US EPA method, 335.3	16-Oct-12	Exova Edmonton
Mercury Low Level (Total) in water (Surrey)	EPA	* Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	16-Oct-12	Exova Surrey
Metals SemiTrace (Dissolved) in water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	16-Oct-12	Exova Surrey
Phosphorus - total (low level) - Surrey	APHA	* Preliminary Acid Hydrolysis, Ascorbic Acid Reduction Method, 4500-P B,E	16-Oct-12	Exova Surrey
Solids Dissolved (Total, Fixed and Volatile) - Surrey	APHA	* Total Dissolved Solids Dried at 180 C, 2540 C	16-Oct-12	Exova Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	15-Oct-12	Exova Surrey
Trace Metals (dissolved) in Water (Surrey)	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	16-Oct-12	Exova Surrey
Trace Metals (dissolved) in Water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	16-Oct-12	Exova Surrey

* Reference Method Modified

References

APHA	Standard Methods for the Examination of Water and Wastewater
US EPA	US Environmental Protection Agency Test Methods

Comments:

- pH analysis was performed past the recommended holding time of 15 minutes from sample collection.

Exova
#104, 19575-55 A Ave.
Surrey, British Columbia
V3S 8P8, Canada

T: +1 (604) 514-3322
F: +1 (604) 514-3323
E: Surrey@exova.com
W: www.exova.com



Methodology and Notes

Bill To:	J. Gibson & Associates	Project:		Lot ID:	899106
Report To:	J. Gibson & Associates	ID:	ATAC Resources	Control Number:	A244832
	Box 20913	Name:	RAU Project	Date Received:	Oct 12, 2012
	Whitehorse, YT, Canada	Location:		Date Reported:	Oct 18, 2012
	Y1A 6P2	LSD:		Report Number:	1774413
Attn:	John Gibson	P.O.:			
Sampled By:	J.Gibson	Acct code:			
Company:					

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.

Exova
#104, 19575-55 A Ave.
Surrey, British Columbia
V3S 8P8, Canada

T: +1 (604) 514-3322
F: +1 (604) 514-3323
E: Surrey@exova.com
W: www.exova.com



Report Transmission Cover Page

Bill To:	J. Gibson & Associates	Project:		Lot ID:	911319
Report To:	J. Gibson & Associates	ID:	ATAC resources	Control Number:	A244804
	Box 20913	Name:	RAU Project	Date Received:	Dec 14, 2012
	Whitehorse, YT, Canada	Location:		Date Reported:	Dec 20, 2012
	Y1A 6P2	LSD:		Report Number:	1793261
Attn:	John Gibson	P.O.:			
Sampled By:	J.Gibson	Acct code:			
Company:					

Contact & Affiliation	Address	Delivery Commitments
John Gibson	, Box 20913	On [Lot Verification] send
J. Gibson & Associates	Whitehorse, Yukon Territory Y1A 6P2	(COA) by Email - Single Report
	Phone: (867) 633-4522	On [Report Approval] send
	Fax: (867) 668-6895	(COC, Test Report) by Email - Merge Reports
	Email: ludditegibson@gmail.com	On [Report Approval] send
		(Test Report) by Email - Single Report
		On [Lot Approval and Final Test Report Approval] send
		(Invoice) by Email - Single Report
		On [Lot Creation] send
		(COR) by Email - Single Report

Notes To Clients:

- Analysis was performed on samples 911319-1to5 that exceeded the recommended holding time for nitrite/nitrate anions analysis.

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 911319
Report To: J. Gibson & Associates	ID: ATAC resources	Control Number: A244804
Box 20913	Name: RAU Project	Date Received: Dec 14, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Dec 20, 2012
Y1A 6P2	LSD:	Report Number: 1793261
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	911319-1	911319-2	911319-3	
		Sample Date	Dec 11, 2012	Dec 11, 2012	Dec 11, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU # 3 / Surface	RAU # 4 / Surface	RAU # 10 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	1	<0.5	<0.5	0.5
Cyanide	Total	mg/L	<0.002	<0.002	<0.002	0.002
Phosphorus	Total	mg/L	0.006	0.011	0.006	0.003
Ammonia - N		mg/L	<0.01	0.08	0.08	.01
Metals Dissolved						
Sulfur	Dissolved	mg/L	12.4	10.2	15.7	0.2
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0007	0.0018	<0.0002	0.0002
Barium	Dissolved	mg/L	0.112	0.123	0.088	0.001
Beryllium	Dissolved	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Dissolved	mg/L	0.01	<0.004	<0.004	0.004
Cadmium	Dissolved	mg/L	0.00006	0.00005	0.00002	0.00001
Chromium	Dissolved	mg/L	0.0016	0.0014	0.0013	0.0004
Cobalt	Dissolved	mg/L	0.00010	0.00009	0.00006	0.00002
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	0.002	<0.001	0.003	0.001
Molybdenum	Dissolved	mg/L	0.00386	0.00110	0.00090	0.0001
Nickel	Dissolved	mg/L	0.001	<0.001	<0.001	0.001
Selenium	Dissolved	mg/L	0.0019	<0.0006	<0.0006	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Titanium	Dissolved	mg/L	<0.010	<0.010	<0.010	0.01
Strontium	Dissolved	mg/L	0.098	0.075	0.158	0.001
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Dissolved	mg/L	0.0038	0.0029	0.0013	0.0004
Vanadium	Dissolved	mg/L	0.00045	0.00043	0.00030	0.0001
Zinc	Dissolved	mg/L	0.004	0.01	0.003	0.001
Zirconium	Dissolved	mg/L	<0.00010	<0.0001	<0.0001	0.0001
Metals Total						
Mercury	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Aluminum	Total	mg/L	0.018	0.089	<0.005	0.005



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 911319
Report To: J. Gibson & Associates	ID: ATAC resources	Control Number: A244804
Box 20913	Name: RAU Project	Date Received: Dec 14, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Dec 20, 2012
Y1A 6P2	LSD:	Report Number: 1793261
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	911319-1	911319-2	911319-3	
		Sample Date	Dec 11, 2012	Dec 11, 2012	Dec 11, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU # 3 / Surface	RAU # 4 / Surface	RAU # 10 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Antimony	Total	mg/L	0.0001	0.0001	<0.0001	0.0001
Arsenic	Total	mg/L	0.00080	0.00214	0.00010	0.00005
Barium	Total	mg/L	0.115	0.140	0.0893	0.00005
Beryllium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Boron	Total	mg/L	0.008	0.002	0.004	.002
Cadmium	Total	mg/L	0.00005	0.00009	0.00001	0.00001
Calcium	Total	mg/L	70.6	56.7	56.1	0.05
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper	Total	mg/L	0.0004	0.0004	0.0002	0.0001
Iron	Total	mg/L	0.057	0.171	0.014	0.002
Lead	Total	mg/L	<0.0001	0.0007	<0.0001	0.0001
Lithium	Total	mg/L	0.0016	0.0010	0.0026	0.0005
Magnesium	Total	mg/L	20.4	21.9	23.6	0.04
Manganese	Total	mg/L	0.0079	0.0119	0.0015	0.001
Molybdenum	Total	mg/L	0.00424	0.00119	0.00102	0.00005
Nickel	Total	mg/L	0.0006	0.0004	0.0003	0.0002
Potassium	Total	mg/L	1.6	0.7	0.6	0.1
Selenium	Total	mg/L	0.0019	0.0007	0.0006	0.0001
Silicon	Total	mg/L	3.18	2.97	2.83	0.02
Silver	Total	mg/L	<0.00005	<0.00005	<0.00005	0.0005
Sodium	Total	mg/L	1.1	0.5	2.4	0.1
Strontium	Total	mg/L	0.0933	0.0751	0.154	0.0001
Thallium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Titanium	Total	mg/L	0.0006	0.0029	<0.0005	0.0005
Uranium	Total	mg/L	0.00340	0.00260	0.00121	0.00001
Vanadium	Total	mg/L	0.0001	0.0004	<0.0001	0.0001
Zinc	Total	mg/L	0.0022	0.0147	<0.0005	0.0005
Zirconium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Hardness	as CaCO3	mg/L	260	232	238	1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	4	<2	2
Solids	Total Dissolved	mg/L	266	216	232	5

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 911319
Report To: J. Gibson & Associates	ID: ATAC resources	Control Number: A244804
Box 20913	Name: RAU Project	Date Received: Dec 14, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Dec 20, 2012
Y1A 6P2	LSD:	Report Number: 1793261
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	911319-1	911319-2	911319-3	
		Sample Date	Dec 11, 2012	Dec 11, 2012	Dec 11, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	RAU # 3 / Surface	RAU # 4 / Surface	RAU # 10 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Routine Water						
pH	at 25 °C		7.54	7.93	7.75	
Electrical Conductivity		µS/cm at 25 C	437	381	410	1
Calcium	Dissolved	mg/L	69.0	54.9	55.6	0.1
Iron	Dissolved	mg/L	0.012	0.007	0.009	0.005
Magnesium	Dissolved	mg/L	20.6	21.4	23.4	0.1
Manganese	Dissolved	mg/L	0.004	0.003	<0.001	0.001
Potassium	Dissolved	mg/L	1.6	0.8	0.7	0.1
Silicon	Dissolved	mg/L	2.87	2.59	2.61	0.05
Sodium	Dissolved	mg/L	1.2	0.5	2.2	0.1
Bicarbonate		mg/L	256	224	214	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	210	183	176	5
Chloride	Dissolved	mg/L	0.11	0.12	0.74	0.05
Nitrate - N	Dissolved	mg/L	0.21	0.35	0.18	0.01
Nitrite - N	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Sulfate (SO4)	Dissolved	mg/L	38.8	31.6	47.3	0.5
Hardness	as CaCO3	mg/L	257	225	235	5



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 911319
Report To: J. Gibson & Associates	ID: ATAC resources	Control Number: A244804
Box 20913	Name: RAU Project	Date Received: Dec 14, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Dec 20, 2012
Y1A 6P2	LSD:	Report Number: 1793261
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	911319-4	911319-5	
		Sample Date	Dec 11, 2012	Dec 11, 2012	
		Sample Time	NA	NA	
		Sample Location			
		Sample Description	RAU # 12 / Surface	RAU # 13 / Surface	
		Matrix	Water	Water	
Analyte		Units	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters					
Organic Carbon	Total Nonpurgeable	mg/L	<0.5	0.8	0.5
Cyanide	Total	mg/L	<0.002	<0.002	0.002
Phosphorus	Total	mg/L	0.014	0.016	0.003
Ammonia - N		mg/L	0.10	<0.01	.01
Metals Dissolved					
Sulfur	Dissolved	mg/L	8.6	35.9	0.2
Aluminum	Dissolved	mg/L	<0.005	0.007	0.005
Antimony	Dissolved	mg/L	<0.0002	0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0078	0.0006	0.0002
Barium	Dissolved	mg/L	0.148	0.096	0.001
Beryllium	Dissolved	mg/L	<0.00004	<0.00004	0.00004
Bismuth	Dissolved	mg/L	<0.001	<0.001	0.001
Boron	Dissolved	mg/L	<0.004	0.025	0.004
Cadmium	Dissolved	mg/L	0.00002	0.00099	0.00001
Chromium	Dissolved	mg/L	0.0016	0.0026	0.0004
Cobalt	Dissolved	mg/L	0.00020	0.00093	0.00002
Copper	Dissolved	mg/L	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	<0.001	0.008	0.001
Molybdenum	Dissolved	mg/L	0.00205	0.00772	0.0001
Nickel	Dissolved	mg/L	<0.001	0.052	0.001
Selenium	Dissolved	mg/L	<0.0006	0.0083	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	0.00001
Titanium	Dissolved	mg/L	<0.010	<0.010	0.01
Strontium	Dissolved	mg/L	0.086	0.319	0.001
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	0.00005	0.00001
Thorium	Dissolved	mg/L	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L	<0.0001	<0.0001	0.0001
Uranium	Dissolved	mg/L	0.0020	0.0123	0.0004
Vanadium	Dissolved	mg/L	0.00044	0.00078	0.0001
Zinc	Dissolved	mg/L	0.004	0.201	0.001
Zirconium	Dissolved	mg/L	<0.0001	0.00013	0.0001
Metals Total					
Mercury	Total	mg/L	<0.0001	<0.0001	0.0001
Aluminum	Total	mg/L	<0.005	0.062	0.005



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 911319
Report To: J. Gibson & Associates	ID: ATAC resources	Control Number: A244804
Box 20913	Name: RAU Project	Date Received: Dec 14, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Dec 20, 2012
Y1A 6P2	LSD:	Report Number: 1793261
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	911319-4	911319-5	
		Sample Date	Dec 11, 2012	Dec 11, 2012	
		Sample Time	NA	NA	
		Sample Location			
		Sample Description	RAU # 12 / Surface	RAU # 13 / Surface	
		Matrix	Water	Water	
Analyte		Units	Results	Results	Nominal Detection Limit
Metals Total - Continued					
Antimony	Total	mg/L	<0.0001	0.0003	0.0001
Arsenic	Total	mg/L	0.00736	0.00167	0.00005
Barium	Total	mg/L	0.145	0.103	0.00005
Beryllium	Total	mg/L	<0.00005	0.00006	0.00005
Bismuth	Total	mg/L	<0.0001	<0.0001	0.0001
Boron	Total	mg/L	<0.002	0.026	.002
Cadmium	Total	mg/L	0.00002	0.00119	0.00001
Calcium	Total	mg/L	58.0	109	0.05
Chromium	Total	mg/L	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	0.0008	0.0001
Copper	Total	mg/L	0.0002	0.0027	0.0001
Iron	Total	mg/L	0.008	0.902	0.002
Lead	Total	mg/L	<0.0001	0.0001	0.0001
Lithium	Total	mg/L	0.0006	0.0075	0.0005
Magnesium	Total	mg/L	16.4	26.7	0.04
Manganese	Total	mg/L	0.0021	0.0752	0.001
Molybdenum	Total	mg/L	0.00229	0.00856	0.00005
Nickel	Total	mg/L	<0.0002	0.0545	0.0002
Potassium	Total	mg/L	0.9	2.7	0.1
Selenium	Total	mg/L	0.0003	0.0066	0.0001
Silicon	Total	mg/L	2.36	3.48	0.02
Silver	Total	mg/L	<0.00005	<0.00005	0.0005
Sodium	Total	mg/L	0.4	6.2	0.1
Strontium	Total	mg/L	0.0817	0.311	0.0001
Thallium	Total	mg/L	<0.00001	0.00005	0.00001
Thorium	Total	mg/L	<0.00001	0.00002	0.00001
Tin	Total	mg/L	<0.0001	<0.0001	0.0001
Titanium	Total	mg/L	<0.0005	0.0015	0.0005
Uranium	Total	mg/L	0.00177	0.0112	0.00001
Vanadium	Total	mg/L	<0.0001	0.0007	0.0001
Zinc	Total	mg/L	0.0032	0.235	0.0005
Zirconium	Total	mg/L	<0.0005	<0.0005	0.0005
Hardness	as CaCO3	mg/L	212	383	1
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	<2	7	2
Solids	Total Dissolved	mg/L	208	422	5



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 911319
Report To: J. Gibson & Associates	ID: ATAC resources	Control Number: A244804
Box 20913	Name: RAU Project	Date Received: Dec 14, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Dec 20, 2012
Y1A 6P2	LSD:	Report Number: 1793261
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

		Reference Number	911319-4	911319-5		
		Sample Date	Dec 11, 2012	Dec 11, 2012		
		Sample Time	NA	NA		
		Sample Location				
		Sample Description	RAU # 12 / Surface	RAU # 13 / Surface		
		Matrix	Water	Water		
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Routine Water						
pH	at 25 °C		7.74	7.65		
Electrical Conductivity		µS/cm at 25 C	380	689		1
Calcium	Dissolved	mg/L	57.8	110		0.1
Iron	Dissolved	mg/L	<0.005	0.027		0.005
Magnesium	Dissolved	mg/L	16.5	27.3		0.1
Manganese	Dissolved	mg/L	<0.001	0.062		0.001
Potassium	Dissolved	mg/L	0.9	2.5		0.1
Silicon	Dissolved	mg/L	2.18	3.13		0.05
Sodium	Dissolved	mg/L	0.5	5.7		0.1
Bicarbonate		mg/L	215	308		5
Carbonate		mg/L	<6	<6		6
Hydroxide		mg/L	<5	<5		5
T-Alkalinity	as CaCO3	mg/L	176	253		5
Chloride	Dissolved	mg/L	0.06	8.95		0.05
Nitrate - N	Dissolved	mg/L	0.40	0.23		0.01
Nitrite - N	Dissolved	mg/L	<0.01	<0.01		0.01
Sulfate (SO4)	Dissolved	mg/L	26.6	112		0.5
Hardness	as CaCO3	mg/L	212	386		5

Approved by: 
 Mathieu Simoneau
 Operations Manager

Methodology and Notes

Bill To: J. Gibson & Associates	Project:	Lot ID: 911319
Report To: J. Gibson & Associates	ID: ATAC resources	Control Number: A244804
Box 20913	Name: RAU Project	Date Received: Dec 14, 2012
Whitehorse, YT, Canada	Location:	Date Reported: Dec 20, 2012
Y1A 6P2	LSD:	Report Number: 1793261
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company:		

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Alk, pH, EC, Turb in water (Surrey)	APHA	* Alkalinity - Titration Method, 2320 B	15-Dec-12	Exova Surrey
Alk, pH, EC, Turb in water (Surrey)	APHA	* Conductivity, 2510 B	15-Dec-12	Exova Surrey
Alk, pH, EC, Turb in water (Surrey)	APHA	* pH - Electrometric Method, 4500-H+ B	15-Dec-12	Exova Surrey
Ammonia-N in Water (Surrey)	APHA	* Flow Injection Analysis, 4500-NH3 H	18-Dec-12	Exova Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	15-Dec-12	Exova Surrey
BC ICP-MS Total Metals in Water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	18-Dec-12	Exova Edmonton
BC Trace Total Metals in Water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	18-Dec-12	Exova Edmonton
Carbon Organic (Total) in water (TOC)	APHA	High-Temperature Combustion Method, 5310 B	17-Dec-12	Exova Edmonton
Cyanide (Total) in water	US EPA	* US EPA method, 335.3	20-Dec-12	Exova Edmonton
Mercury (Total) in water	US EPA	* Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	19-Dec-12	Exova Edmonton
Metals SemiTrace (Dissolved) in water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	17-Dec-12	Exova Surrey
Phosphorus - total (low level) - Surrey	APHA	* Preliminary Acid Hydrolysis, Ascorbic Acid Reduction Method, 4500-P B,E	17-Dec-12	Exova Surrey
Solids Dissolved (Total, Fixed and Volatile) - Surrey	APHA	* Total Dissolved Solids Dried at 180 C, 2540 C	15-Dec-12	Exova Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	15-Dec-12	Exova Surrey
Trace Metals (dissolved) in Water (Surrey)	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	17-Dec-12	Exova Surrey
Trace Metals (dissolved) in Water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	17-Dec-12	Exova Surrey

* Reference Method Modified

References

APHA Standard Methods for the Examination of Water and Wastewater
US EPA US Environmental Protection Agency Test Methods

Comments:

- Analysis was performed on samples 911319-1to5 that exceeded the recommended holding time for nitrite/nitrate anions analysis.

Exova
#104, 19575-55 A Ave.
Surrey, British Columbia
V3S 8P8, Canada

T: +1 (604) 514-3322
F: +1 (604) 514-3323
E: Surrey@exova.com
W: www.exova.com



Methodology and Notes

Bill To:	J. Gibson & Associates	Project:		Lot ID:	911319
Report To:	J. Gibson & Associates	ID:	ATAC resources	Control Number:	A244804
	Box 20913	Name:	RAU Project	Date Received:	Dec 14, 2012
	Whitehorse, YT, Canada	Location:		Date Reported:	Dec 20, 2012
	Y1A 6P2	LSD:		Report Number:	1793261
Attn:	John Gibson	P.O.:			
Sampled By:	J.Gibson	Acct code:			
Company:					

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.



COC

Environmental Sample Information Sheet

4a: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Exova location and proper sampling protocol

www.exova.com

Billing Address:		Copy of Report:		Copy of Report To:		Copy of Invoice:	
Company: Address:		QA/QC Report <input type="checkbox"/>		Company: Address:		Send invoice to this address for approval <input type="checkbox"/>	
J. Gibson & Associates Box 20111 20913 Whitehorse, YT Y1A 7A2 6P2		Report Result: e-mail <input type="checkbox"/> Results Online <input type="checkbox"/> Fax <input type="checkbox"/> Mail <input type="checkbox"/>		Attention: Phone: Fax: Cell: e-mail:		Report Result: e-mail <input type="checkbox"/> Results Online <input type="checkbox"/> Fax <input type="checkbox"/> Mail <input type="checkbox"/>	
Attention: Phone: John Gibson Fax: (867)633-4522 Cell: (867)668-6895 e-mail:							

Information to be included on Report and Invoice Project ID: <u>ATAC RESOURCES</u> Project Name: <u>RAH PROJECT</u> Project Location: Legal Location: PO#: Proj. Acct. Code: Agreement ID: <u>6646</u>		PRIORITY Please contact laboratory prior to submitting any RUSH samples. Upon filling out this section, client accepts that surcharges will be applied to this analysis. If not all samples require RUSH, please indicate in special instructions.		Sample Custody (Please Print) Sampled by: <u>J Gibson</u> Company _____ Signature <u>JG</u> I authorize Exova to proceed with the work indicated on this form: Date: <u>Dec 14 2012</u> Time: <u>6:50</u> Received by: _____ Date: _____ Waybill #: _____ Company: _____	
--	--	--	--	---	--

Special Instructions / Comments

Special Instructions / Comments
RCHG11 = PH, Fe , N_2 , N_3 , TP, TANK, CL, SO₄ HARDT, TSS, TDS,
DSS METALS FIELD FILTERED, METALS + NITRIC
TOC + HCL, TCN + NaOH, NH₄ SULFURIC

Please indicate which regulations you are required to meet:

 Health Canada Drinking Water Quality

Alberta Tier 1

Other:

[illegible]

NOTE: All hazardous samples must be labeled according to WHMIS guidelines.

Page 1 of 1

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Appendix 2

DATA LOGGER STATUS

October, 2012

Stream Flow Volume Calculations

October. 2012

Atac Resources - Water Level Elevation Surveys**Station: RAU #1 - Oct 9, 2012**

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		100.322	0.322	
BM#2	0.685			99.637
Top Staff Gauge	0.759			99.563
Reset				
Top Staff Gauge		100.33	0.767	
BM#1	0.331			99.999

Station: RAU #11 - Sept 7, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		101.772	1.772	
BM#2	1.576			100.196
Top Staff Gauge	1.518			100.254
Reset				
Top Staff Gauge		101.778	1.524	
BM#1	10.777			100.001

Station: RAU #13 - Sept 7, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		100.993	0.993	
BM#2	1.378			99.615
Top Staff Gauge	1.853			99.140
Reset				
Top Staff Gauge		100.985	1.845	
BM#1	0.984			100.001

Station: RAU #4 - Sept 7, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		100.799	0.799	
BM#2	1.027			99.772
Top Staff Gauge	0.830			99.969
Reset				
Top Staff Gauge		100.789	0.82	
BM#1	0.790			99.999

Station: RAU #12 - Sept 7, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		101.206	1.206	
BM#2	1.896			99.31
Top Staff Gauge	1.344			99.862
Reset				
Top Staff Gauge		101.209	1.347	
BM#1	1.208			100.001

Data Logger Status

Site: Atac Resources - RAU Property

Date: October 9, 2012

WATER LEVEL AND BARO LOGGERS PULLED -END OF OPEN WATER SEASON

	RAU#1 WL and BARO	RAU#4 WL and BARO	RAU#11 WL and BARO	RAU#12 WL	RAU#13 WL
Saved As:	RauWL#1oct9.hobo RauWL#1Boct9.hobo	RauWL4oct9.hobo RauWLB4oct9.hobo	Rau11WLoct9.hobo Rau11Boct9.hobo	Rau12WLoct9.hobo	Rau13WLoct9.hobo
Battery	76.33 V???	Good 3.46V	Good 3.48 V	Good 3.51V	Good
Memory Used	Both"logger Full" reading		WL= Baro=		
Sample Interval	15 minutes	15 minutes	15 minutes	15 minutes	1 second?
Current Status	Launched and Logging	Launched and Logging	L+L Baro = L+L	L+L No Baro logger	L + L
Current readings					
WL logger	AP=24.047 at 1620 hrs Temp=274.404 76.33	AP= Temp= Volts=	AP=89.786 Temp=6.064 Volts=3.48	AP=90.373 Temp=4.623 Volts=3.51	AP= Temp= Volts=
Baro	AP=92.954 Temp=9.176 Volts=23.99	AP=94.359 Temp=4.207 Volts=3.46	AP= Temp= Volts=		
Survey Water level		SG=0.216 at	SG=0.000 m	SG=0.145 at 1230	SG=0.202
Flow (cms)	SG= 0.046 m at 1620 hrs 0.1604	SG=0.220 at 0.0546	SG dry estimate<0.5 l/s	SG=0.148 at 1215 0.0036	0.186

RAUWeather

Saved as:	RauWeatherOCT9dtf
Memory Used	
Battery	100%
	Wrap around enabled
	Wrap count 0
Sample Interval	4m 0 s
Logging Interval	0h 15m 0s
Current Status	Launched+ Logging
	DAMAGED BY MOOSE
Current readings	
Srad	error
Temp	1.153
RH	37.7
Dew Point	-11.7
Wind Speed	0 error
Gust Speed	1.48 error
Wind Direction	71.6 error
	logging on departure
	with "red flashing"

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 09-Oct-12
1620 hrs

Site: RAU#1

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.6	0	0.1	0	0	0
0.8	0.09	0.2	0.069	0.018	0.0012
1	0.12	0.2	0.423	0.024	0.0102
1.2	0.22	0.2	0.288	0.044	0.0127
1.4	0.24	0.2	0.615	0.048	0.0295
1.6	0.32	0.2	0.288	0.064	0.0184
1.8	0.28	0.2	0.155	0.056	0.0087
2	0.26	0.2	0.096	0.052	0.0050
2.2	0.3	0.2	0.112	0.060	0.0067
2.4	0.28	0.2	0.331	0.056	0.0185
2.6	0.2	0.2	0.541	0.040	0.0216
2.8	0.2	0.2	0.398	0.040	0.0159
3	0.1	0.2	0.308	0.020	0.0062
3.2	0.06	0.2	0.35	0.012	0.0042
3.4	0.04	0.3	0.126	0.012	0.0015
3.8	0	0.2	0	0.000	0.0000

3.2 3.2 0.1604

All velocity readings at 0.6 depth

Staff Gauge 0.046 m at 1620 hrs
0.046 @ 1649 hrs

Data logger reading: AbsPress= 24.047

Channel under ice? minor shore ice, slush ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 09-Oct-12

Site: RAU#3

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.44	0	0.08	0	0	0
1.6	0.26	0.18	0.155	0.047	0.0073
1.8	0.26	0.2	0.182	0.052	0.0095
2	0.29	0.2	0.142	0.058	0.0082
2.2	0.32	0.175	0.17	0.056	0.0095
2.35	0.3	0.15	0.133	0.045	0.0060
2.5	0.31	0.125	0.158	0.039	0.0061
2.6	0.3	0.1	0.212	0.030	0.0064
2.7	0.31	0.1	0.231	0.031	0.0072
2.8	0.26	0.1	0.266	0.026	0.0069
2.9	0.26	0.1	0.277	0.026	0.0072
3	0.26	0.1	0.315	0.026	0.0082
3.1	0.25	0.1	0.315	0.025	0.0079
3.2	0.19	0.1	0.588	0.019	0.0112
3.3	0.19	0.15	0.231	0.029	0.0066
3.5	0.17	0.2	0.391	0.034	0.0133
3.7	0.14	0.185	0.266	0.026	0.0069
3.87	0	0.085	0	0.000	0.0000

2.43

2.43

0.1282

All velocity readings at 0.6 depth

Staff Gauge No SG

Data logger reading: no logger

Channel under ice? Minor shore ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 9 Oct,2012

Site: RAU#4

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.93	0	0.085	0	0	0
1.1	0.1	0.135	0.266	0.014	0.0036
1.2	0.13	0.1	0.331	0.013	0.0043
1.3	0.15	0.1	0.415	0.015	0.0062
1.4	0.2	0.1	0.467	0.020	0.0093
1.5	0.16	0.1	0.396	0.016	0.0063
1.6	0.14	0.1	0.456	0.014	0.0064
1.7	0.1	0.1	0.355	0.010	0.0036
1.8	0.12	0.1	0.495	0.012	0.0059
1.9	0.08	0.1	0.29	0.008	0.0023
2	0.08	0.1	0.371	0.008	0.0030
2.1	0.07	0.1	0.328	0.007	0.0023
2.2	0.04	0.1	0.191	0.004	0.0008
2.3	0.04	0.1	0.136	0.004	0.0005
2.4	0	0.05	0	0.000	0.0000

1.47 1.47 0.0546

All velocity readings at 0.6 depth

SG=0.216 m
0.220 m

Logger:

Channel under ice? no channel ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 9 Oct,2012

Site: RAU#9

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.5	0	0.05	0	0	0
1.6	0.12	0.1	0.131	0.012	0.0016
1.7	0.1	0.1	0.406	0.010	0.0041
1.8	0.12	0.1	0.615	0.012	0.0074
1.9	0.15	0.1	0.176	0.015	0.0026
2	0.13	0.1	0.136	0.013	0.0018
2.1	0.08	0.1	0.17	0.008	0.0014
2.2	0	0.05	0	0.000	0.0000

0.7 0.7 **0.0188**

All velocity readings at 0.6 depth

SG=no SG

Logger: No logger

Channel under ice? Minor shore ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** 9 Oct,2012
1230 hrs

Site: RAU#12

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
3	0	0.05	0	0	0
3.1	0.05	0.1	0.026	0.005	0.0001
3.2	0.05	0.1	0.07	0.005	0.0004
3.3	0.06	0.1	0.057	0.006	0.0003
3.4	0.08	0.1	0.066	0.008	0.0005
3.5	0.09	0.1	0.084	0.009	0.0008
3.6	0.1	0.1	0.079	0.010	0.0008
3.7	0.11	0.1	0.051	0.011	0.0006
3.8	0.04	0.1	0.043	0.004	0.0002
3.9	0	0.05	0	0.000	0.0000

0.9 0.9 **0.0036**

All velocity readings at 0.6 depth

SG=0.148 m@1215 hrs
0.145 m @ 1230

Logger: AP=90.373

Channel under ice? minor shore ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations**Project: Atac Resources - Rau****Date: Oct 9,2012****Site: RAU#13**

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.6	0	0.15	0	0	0
0.9	0.3	0.2	0.451	0.060	0.0271
1	0.5	0.1	0.508	0.050	0.0254
1.1	0.28	0.1	0.472	0.028	0.0132
1.2	0.28	0.1	0.495	0.028	0.0139
1.3	0.27	0.1	0.451	0.027	0.0122
1.4	0.28	0.1	0.442	0.028	0.0124
1.5	0.27	0.1	0.423	0.027	0.0114
1.6	0.28	0.1	0.398	0.028	0.0111
1.7	0.26	0.1	0.415	0.026	0.0108
1.8	0.24	0.1	0.369	0.024	0.0089
1.9	0.22	0.1	0.323	0.022	0.0071
2	0.21	0.1	0.301	0.021	0.0063
2.1	0.2	0.1	0.288	0.020	0.0058
2.2	0.18	0.1	0.277	0.018	0.0050
2.3	0.16	0.1	0.242	0.016	0.0039
2.4	0.13	0.1	0.247	0.013	0.0032
2.5	0.12	0.1	0.222	0.012	0.0027
2.6	0.1	0.1	0.162	0.010	0.0016
2.7	0.08	0.1	0.162	0.008	0.0013
2.8	0.08	0.1	0.142	0.008	0.0011
2.9	0.08	0.1	0.122	0.008	0.0010
3	0.07	0.1	0.07	0.007	0.0005
3.1	0.07	0.1	0.089	0.007	0.0006
3.2	0	0.05	0	0.000	0.0000
2.6		2.6			0.1864

All velocity readings at 0.6 depth

Staff Gauge 0.202 m

Data logger reading: no reading

Channel under ice? no channel ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: R.Gibson