

ATAC RESOURCES LTD

RAU PROJECT

ENVIRONMENTAL DATA UPDATE

April and May, 2012

April and May 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 loggers be installed at the new sites.

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

April 28 Survey

Water quality monitoring began at monthly stations (RAU #4, 9, 10, 11, 12, 13) on April 28. Monthly station RAU #3 could not be safely accessed. This site will be moved upstream in May of 2012.

All stations not in the Beaver River valley remained under heavy snow conditions.

The weather station logger at the airstrip was checked – operational and logging.

Water quality data collection consisted of samples for total metals, dissolved metals, total organic carbon and routine chemistry.

There were no Quality Control samples taken during this survey.

Hydrology data collection consisted of stream flow volume measurements at Stations RAU #4, 9, 12 and 13.

Station RAU#9 had a flow estimated at <0.0001 liters per second.

A flow measurement of the Beaver River was done at an open water section upstream of tributary RAU #5.

A snow pack survey was done at Snow Site #1 (RAU #9).

May 12-15 Survey

Monthly / quarterly water quality sampling was done at all RAU stations. Quality control samples (total and dissolved metal duplicates) were taken at Station RAU#12.

Station RAU#3 was relocated upstream to below the confluence of the main stem channel and RAU#6 / old camp tributary (see locations map).

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Water level data loggers were re-installed at existing stations RAU #4 and RAU #1. New logger installations were completed at stations RAU#11, RAU#12 and RAU#13. All water level installation are equipped with staff gauges and two bench marks for survey level checks.

The RAU airstrip weather station was downloaded. A logger status report is attached in Appendix 2.

Data Results

Hydrology

On April 28 all RAU sites remained under winter or early freshet flow conditions. South facing streams in the main Beaver River valley were partially ice covered to fully open and showing signs of snow melt input. Streams on north facing slopes were under full winter ice and snow conditions.

On May 12-15, lower elevations had less than 20% snow cover while upper elevations / north and northwest facing slopes had 50-80% snow cover. An estimated 50% of the snow depth had either consolidated or runoff as snowmelt. All stream channels were ice free with snow melt / runoff input.

Flow measurement results for April and May are listed in Table 1 and 4 with Routine Chemistry. A summary of stream flow volumes from August 2008 to May 2012 are listed in Table 7.

Station RAU #11 logger installation was made “dry”. There was no channel flow during the survey dates.

The Beaver River was in early freshet flow stage with increased volume and turbidity.

Water level data logger results will be reported at end of open water season.

Flow volume measurement calculation sheets are attached in Appendix 2.

Snow Pack Survey Data

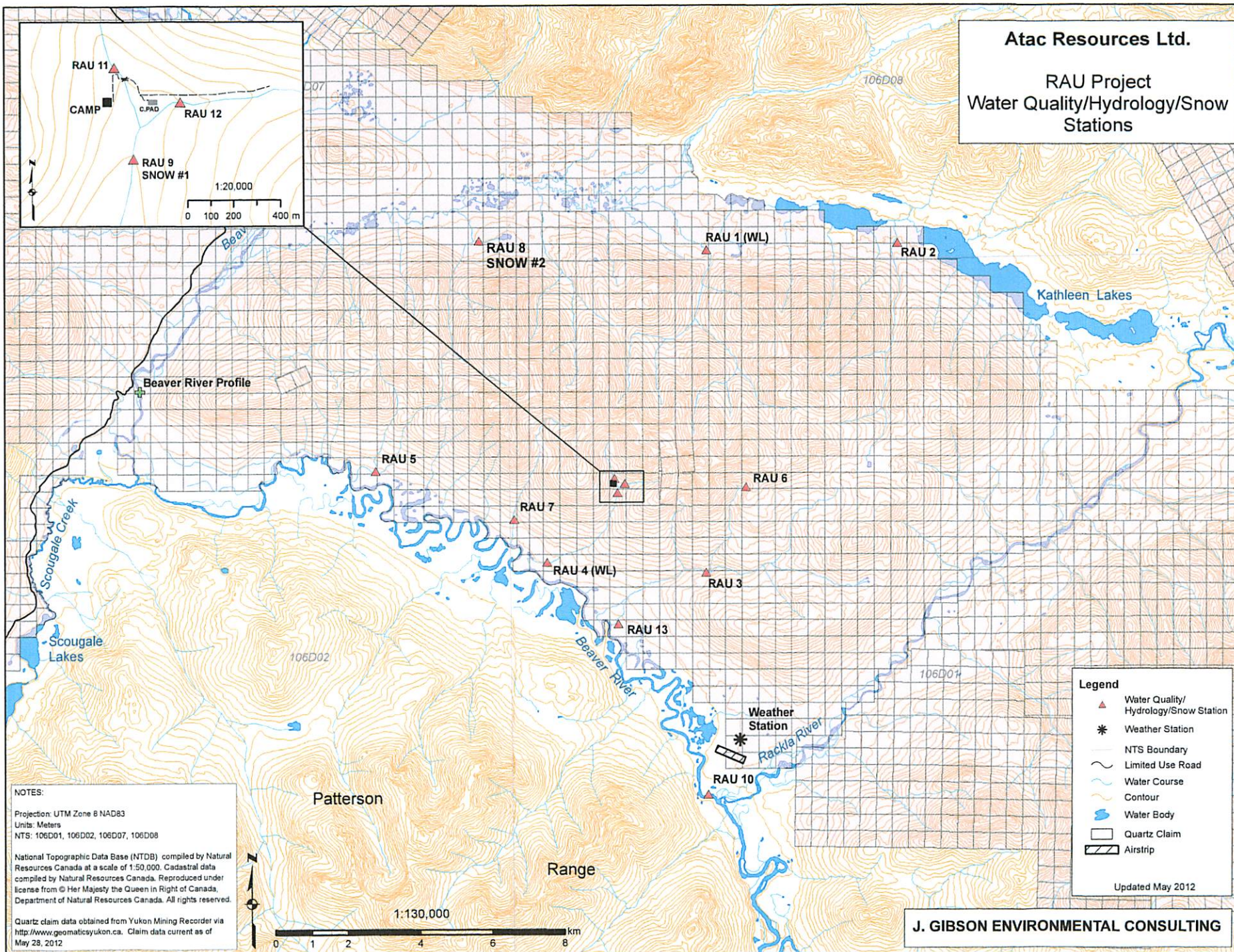
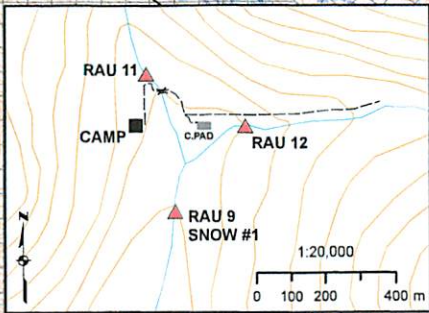
A snow pack survey was done at Snow Site #1 / RAU#9 on April 28.

Snow depths only at Snow Site #1 were measured on May 12. Survey results are listed in Table 10. Snow Site #2 was clear of snow on May 12.

Snow data calculation sheets are attached in Appendix 2.

Atac Resources Ltd.

RAU Project
Water Quality/Hydrology/Snow
Stations



April and May 2012 – Rau Project Environmental Data Update

Water Quality

Water quality data is listed in the following tables:

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

Table 2. April (Monthly Stations) - Total Metals ICP/MS analysis results

Table 3. April (Monthly Stations) - Dissolved Metals ICP/MS analysis results

Table 4. May (Monthly and Quarterly Stations) – Routine Chemistry analysis results, field measurements and flow volumes

Table 5. May (Monthly and Quarterly Stations) – Total Metals ICP/MS analysis results

Table 6. May (Monthly and Quarterly Stations) – Dissolved Metals ICP/MS analysis Results

Table 7. Flow Measurement Summary – RAU Station August 2008 to May 2012

Table 8. RAU Camp Drinking Water Supply at Station RAU#9 / RAU#11.

Table 9 Snow Survey Data 2012

Table 10. Quality Control sample results. Station RAU#12 May, 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 April and May are contained in Appendix 1.

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

Table 1. ATAC Resources - RAU Claims, April 28, 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			
pH (field)	ru				7.84						
pH (lab)	ru	<i>Not</i>	<i>Not</i>	<i>Not</i>	8.23	<i>Not</i>	<i>Not</i>	<i>Not</i>		6.5-8.5	6.5-9
Conductivity (lab)	uS/cm	<i>Sampled</i>	<i>Sampled</i>	<i>Sampled</i>	343	<i>Sampled</i>	<i>Sampled</i>	<i>Sampled</i>	1		
Water temperature	C				1.9						
Flow Volume(field)	cms				0.0473						
Ammonia -N	mg/L				<0.01				0.01		1.37-2.2
OrthoPhosphate - T	mg/L								0.01		
Chloride	mg/L				<0.5				0.02	<250	
Nitrate - N	mg/L				0.23				0.01	10	
Nitrite - N	mg/L				<0.005				0.005	1	0.06
Sulphate (S04)	mg/L				32				0.05		
T.Suspended Solids	mg/L				<5				1		
T.Dissolved Solids	mg/L				230				5	500	
Hardness (as CaCO3)	mg/L				204				1	<500	
Alkalinity (as CaCO3)	mg/L				179				5		
Organic Carbon-Total	mg/L				3.8				0.5		
Cyanide - Total	mg/L								0.001	0.2	0.005

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 1. ATAC Resources - RAU Claims, April 28, 2012.

Routine Chemistry and Field Measurement Results

STATIONS

Parameter	Unit	RAU #8	RAU#9	RAU#10	RAU#11	RAU#12	RAU#13	Detection Limit	DWQ* G.lines	Aquatic** G.lines
pH (field)	ru		7.98	7.88	8.67	7.9	7.86			
pH (lab)	ru	<i>Not</i>	8.14	8.11	7.5	8.14	8.09		6.5-8.5	6.5-9
Conductivity (lab)	uS/cm	<i>Sampled</i>	296	351	153	334	460	1		
Water temperature	C		1.4	1.6	0.0	1.5	1.4			
Flow Volume(field)	cms		0.0052	12.307	<0.0001	0.0086	0.0784			
Ammonia -N	mg/L		<0.01	<0.01	0.08	<0.01	<0.01	0.01		1.37-2.2
OrthoPhosphate - T	mg/L		nr	nr	nr	nr	nr	0.01		
Chloride	mg/L		0.5	1.1	1.5	<0.5	5.7	0.02	<250	
Nitrate - N	mg/L		0.32	0.12	0.33	0.34	0.18	0.01	10	
Nitrite - N	mg/L		<0.005	<0.005	<0.005	<0.005	<0.005	0.005	1	0.06
Sulphate (S04)	mg/L		25	48	6	25	68	0.05		
T.Suspended Solids	mg/L		<2	4	23	<2	4	1		
T.Dissolved Solids	mg/L		206	226	122	202	308	5	500	
Hardness (as CaCO3)	mg/L		194	202	83	198	264	1	<500	
Alkalinity (as CaCO3)	mg/L		179	160	80	180	204	5		
Organic Carbon-Total	mg/L		1.1	2.5	23	1.1	3.2	0.5		
Cyanide - Total	mg/L		nr	nr	nr	nr	nr	0.001	0.2	0.005

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, April 28, 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
Aluminum	mg/L				<0.005				0.005		0.1
Antimony	mg/L				<0.0002				0.0002	0.006	
Arsenic	mg/L	<i>Not</i>	<i>Not</i>	<i>Not</i>	0.0018	<i>Not</i>	<i>Not</i>	<i>Not</i>	0.0002	0.01	
Barium	mg/L	<i>Sampled</i>	<i>Sampled</i>	<i>Sampled</i>	0.115	<i>Sampled</i>	<i>Sampled</i>	<i>Sampled</i>	0.001	1	
Beryllium	mg/L				<0.00004				0.00004		
Bismuth	mg/L				<0.001				0.001		
Boron	mg/L				0.022				0.005	5	
Cadmium	mg/L				0.00003				0.00001	0.005	0.0018
Calcium	mg/L				49.7				0.05		
Chromium	mg/L				<0.0004				0.0004	0.05	0.002
Cobalt	mg/L				0.00006				0.00002		
Copper	mg/L				<0.001				0.001	1	0.004
Iron	mg/L				0.012				0.01	0.3	0.3
Lead	mg/L				<0.0001				0.0001	0.01	0.007
Lithium	mg/L				0.001				0.001		
Magnesium	mg/L				18.8				0.05		
Manganese	mg/L				<0.005				0.005	0.05	
Molybdenum	mg/L				0.0013				0.00002		
Nickel	mg/L				<0.001				0.001		0.15
Potassium	mg/L				0.8				0.1		
Sulfur	mg/L				9.7				0.1		
Selenium	mg/L				<0.0006				0.0006	0.01	0.001
Strontium	mg/L				0.079				0.001		
Silver	mg/L				<0.00001				0.00001		0.0001
Silicon	mg/L				2.1				0.05		
Sodium	mg/L				0.47				0.02	<200	
Thallium	mg/L				<0.00001				0.00001		
Tin	mg/L				0.0008				0.0001		
Titanium	mg/L				<0.001				0.0004		
Uranium	mg/L				0.003				0.0004	0.02	
Vanadium	mg/L				0.0001				0.0001		
Zinc	mg/L				0.01				0.001	<5	0.03
Mercury	ug/L				nr				0.01	1	0.1

nr=no sample or analysis done

Exceeds either Guideline Limit

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Table 2. ATAC Resources - RAU Claims, April 28, 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
Aluminum	mg/L		<0.005	0.11	0.108	<0.005	0.027	0.005		0.1
Antimony	mg/L	Not	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.006	
Arsenic	mg/L	Sampled	0.0067	0.0004	0.0008	0.0083	0.0026	0.0002	0.01	
Barium	mg/L		0.139	0.063	0.128	0.144	0.083	0.001	1	
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		0.007	<0.005	0.006	<0.005	0.019	0.005	5	
Cadmium	mg/L		<0.00001	0.00004	0.00044	<0.00001	0.00044	0.00001	0.005	0.0018
Calcium	mg/L		51.4	48.8	23.4	51.1	74.4	0.05		
Chromium	mg/L		<0.0004	<0.0004	0.0009	<0.0004	<0.0004	0.0004	0.05	0.002
Cobalt	mg/L		0.00006	0.00015	0.00019	0.00005	0.00037	0.00002		
Copper	mg/L		<0.001	<0.001	0.003	<0.001	0.002	0.001	1	0.004
Iron	mg/L		0.014	0.077	0.195	<0.01	0.426	0.01	0.3	0.3
Lead	mg/L		<0.0001	0.0001	0.0009	<0.0001	<0.0001	0.0001	0.01	0.007
Lithium	mg/L		<0.001	0.003	<0.001	<0.001	0.005	0.001		
Magnesium	mg/L		15.3	19.2	6.97	14.9	18.4	0.05		
Manganese	mg/L		<0.005	0.01	0.014	<0.005	0.029	0.005	0.05	
Molybdenum	mg/L		0.0019	0.0008	0.0003	0.0023	0.0054	0.00002		
Nickel	mg/L		<0.001	0.004	0.003	<0.001	0.025	0.001		0.15
Potassium	mg/L		0.9	0.7	5.3	0.9	2	0.1		
Sulfur	mg/L		7.5	14.2	2.1	7.7	20.2	0.1		
Selenium	mg/L		<0.0006	<0.0006	<0.0006	<0.0006	0.002	0.0006	0.01	0.001
Strontium	mg/L		0.078	0.175	0.025	0.084	0.191	0.001		
Silver	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001		0.0001
Silicon	mg/L		1.91	2.06	1.42	1.93	2.32	0.05		
Sodium	mg/L		0.42	2.24	0.66	0.37	3.26	0.02	<200	
Thallium	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	0.00002	0.00001		
Tin	mg/L		<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001		
Titanium	mg/L		0.005	0.004	0.008	0.006	0.008	0.0004		
Uranium	mg/L		0.0019	0.0014	<0.0004	0.0021	0.0074	0.0004	0.02	
Vanadium	mg/L		<0.0001	<0.0001	0.0004	<0.0001	0.0005	0.0001		
Zinc	mg/L		0.003	0.01	0.08	0.003	0.09	0.001	<5	0.03
Mercury	ug/L		nr	nr	nr	nr	nr	0.01	1	0.1

nr=no sample or analysis done

Exceeds either Guideline Limit

Table 3. ATAC Resources - RAU Claims, April 28, 2012.

Dissolved Metals Analysis Results									Detection
Parameter	Units	RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7	Limit
Aluminum	mg/L				<0.005				0.005
Antimony	mg/L				0.0002				0.0002
Arsenic	mg/L	<i>Not</i>	<i>Not</i>	<i>Not</i>	0.0017	<i>Not</i>	<i>Not</i>	<i>Not</i>	0.0002
Barium	mg/L	<i>Sampled</i>	<i>Sampled</i>	<i>Sampled</i>	0.11	<i>Sampled</i>	<i>Sampled</i>	<i>Sampled</i>	0.001
Beryllium	mg/L				<0.00004				0.00004
Bismuth	mg/L				<0.001				0.001
Boron	mg/L				<0.004				0.004
Cadmium	mg/L				0.00003				0.00001
Calcium	mg/L				50.5				0.1
Chromium	mg/L				0.0009				0.0004
Cobalt	mg/L				0.00006				0.00002
Copper	mg/L				<0.001				0.005
Iron	mg/L				0.006				0.01
Lead	mg/L				<0.0001				0.0001
Lithium	mg/L				0.001				0.001
Magnesium	mg/L				19				0.1
Manganese	mg/L				<0.001				0.001
Molybdenum	mg/L				0.0012				0.0001
Nickel	mg/L				<0.001				0.001
Potassium	mg/L				0.6				0.1
Sulfur	mg/L				9.5				0.2
Selenium	mg/L				<0.0006				0.0006
Strontium	mg/L				0.074				0.001
Silver	mg/L				<0.00001				0.00001
Silicon	mg/L				2.08				0.05
Sodium	mg/L				0.5				0.1
Thallium	mg/L				<0.00001				0.00001
Tin	mg/L				0.0001				0.0001
Titanium	mg/L				<0.01				0.01
Uranium	mg/L				0.0029				0.0004
Vanadium	mg/L				0.0003				0.0001
Zinc	mg/L				0.01				0.001

Table 3. ATAC Resources - RAU Claims, April 28, 2012.

Dissolved Metals Analysis Results								Detection
Parameter	Units	RAU #8	RAU #9	RAU #10	RAU #11	RAU #12	RAU #13	Limit
Aluminum	mg/L	Not Sampled	<0.005	<0.005	<0.005	<0.005	0.01	0.005
Antimony	mg/L		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	mg/L		0.0071	0.0003	0.0006	0.0079	0.0018	0.0002
Barium	mg/L		0.146	0.059	0.108	0.132	0.08	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	0.016	0.004
Cadmium	mg/L		0.00001	0.00003	0.0002	0.00002	0.00039	0.00001
Calcium	mg/L		52.2	49.2	22.2	53.4	74.9	0.1
Chromium	mg/L		0.001	0.0008	0.0005	0.0009	0.001	0.0004
Cobalt	mg/L		0.00006	0.00011	0.00006	0.00004	0.00033	0.00002
Copper	mg/L		<0.001	<0.001	0.002	<0.001	0.001	0.005
Iron	mg/L		0.014	0.031	0.019	0.014	0.172	0.01
Lead	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Lithium	mg/L		<0.001	0.003	<0.001	<0.001	0.005	0.001
Magnesium	mg/L		15.5	19.3	6.7	15.6	18.6	0.1
Manganese	mg/L		<0.001	0.006	<0.001	<0.001	0.025	0.001
Molybdenum	mg/L		0.0019	0.0008	0.0002	0.0019	0.0051	0.0001
Nickel	mg/L		<0.001	0.004	<0.001	<0.001	0.023	0.001
Potassium	mg/L		0.7	0.6	4.8	0.5	1.9	0.1
Sulfur	mg/L		7.2	14.1	2	7.3	19.7	0.2
Selenium	mg/L		<0.0006	<0.0006	<0.0006	<0.0006	0.002	0.0006
Strontium	mg/L		0.079	0.168	0.022	0.077	0.185	0.001
Silver	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001
Silicon	mg/L		1.92	2.06	1.29	1.91	2.26	0.05
Sodium	mg/L		0.4	2.1	0.4	0.4	3.1	0.1
Thallium	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	0.00002	0.00001
Tin	mg/L		<0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0001
Titanium	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Uranium	mg/L		0.0019	0.0013	<0.0004	0.0019	0.0072	0.0004
Vanadium	mg/L		0.0003	0.0002	0.0002	0.0002	0.0005	0.0001
Zinc	mg/L		0.008	0.016	0.063	0.003	0.078	0.001

Table 4. ATAC Resources - RAU Claims, May, 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			
pH (field)	ru	7.83	7.83	8.06	8.56	7.87		8.03			
pH (lab)	ru	7.58	7.58	7.86	8.09	7.88	No	8.1		6.5-8.5	6.5-9
Conductivity (lab)	uS/cm	129	152	206	354	447	Sample	366	1		
Water temperature	C	0.7	0.3	0.4	2.1	0.7		2.6			
Flow Volume(field)	cms	0.525	nr	nr	0.098	0.073		0.023			
Ammonia -N	mg/L	<0.01	0.06	0.04	0.05	0.06		<0.01	0.01		1.37-2.2
OrthoPhosphate - T	mg/L	0.002	<0.002	<0.002	0.003	0.005		<0.002	0.002		
Chloride	mg/L	<0.5	<0.5	<0.5	0.13	0.7		0.14	0.02	<250	
Nitrate - N	mg/L	0.1	0.19	0.08	0.38	0.17		0.43	0.01	10	
Nitrite - N	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	0.005	1	0.06
Sulphate (S04)	mg/L	11	22	15	32.7	37		33.4	0.05		
T.Suspended Solids	mg/L	14	28	18	6	116		19	1		
T.Dissolved Solids	mg/L	126	140	162	248	306		248	5	500	
Hardness (as CaCO3)	mg/L	68	80	110	201	260		202	1	<500	
Alkalinity (as CaCO3)	mg/L	53	55	96	166	219		173	5		
Organic Carbon-Total	mg/L	15	15	12	5.3	7.9		2.5	0.5		
Cyanide - Total	mg/L	nr	nr	nr	nr	nr		nr	0.001	0.2	0.005

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 4. ATAC Resources - RAU Claims, May, 2012.

Routine Chemistry and Field Measurement Results

STATIONS

Parameter	Unit	RAU #8	RAU#9	RAU#10	RAU#11	RAU#12	RAU#13	Detection Limit	DWQ* G.lines	Aquatic** G.lines
pH (field)	ru	7.64	8.17	7.68	7.08	8.35	8.06			
pH (lab)	ru	7.59	7.92	7.78	6.54	7.89	7.75		6.5-8.5	6.5-9
Conductivity (lab)	uS/cm	166	334	251	10	350	260	1		
Water temperature	C	5.8	1.3	7	0.6	1.1	1.9			
Flow Volume(field)	cms	0.156	0.019	nr	<0.0001	0.0045	0.555			
Ammonia -N	mg/L	<0.01	0.06	<0.01	0.06	<0.01	0.06	0.01		1.37-2.2
OrthoPhosphate - T	mg/L	<0.002	0.002	0.003	<0.002	<0.002	0.003	0.01		
Chloride	mg/L	<0.5	0.11	0.8	0.08	0.12	1.4	0.02	<250	
Nitrate - N	mg/L	0.02	0.31	0.06	<0.01	0.41	0.12	0.01	10	
Nitrite - N	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.005	1	0.06
Sulphate (S04)	mg/L	12	18.9	25	<0.5	21.5	26	0.05		
T.Suspended Solids	mg/L	<2	<2	22	<2	<2	86	1		
T.Dissolved Solids	mg/L	142	236	184	28	230	192	5	500	
Hardness (as CaCO3)	mg/L	89	179	130	8	187	139	1	<500	
Alkalinity (as CaCO3)	mg/L	74	162	103	<5	168	109	5		
Organic Carbon-Total	mg/L	9.4	2.6	8	3.4	1.5	11.2	0.5		
Cyanide - Total	mg/L	nr	nr	nr	nr	nr	nr	0.001	0.2	0.005

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 5. ATAC Resources - RAU Claims, May, 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
Aluminum	mg/L	0.078	0.108	0.037	0.062	0.062	No Sample	0.08	0.005		0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	0.0006		<0.0002	0.0002	0.006	
Arsenic	mg/L	0.0002	0.0012	0.0006	0.0021	0.0006		0.0004	0.0002	0.01	
Barium	mg/L	0.033	0.034	0.057	0.109	0.103		0.155	0.001	1	
Beryllium	mg/L	<0.00004	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	0.001		
Boron	mg/L	<0.005	<0.005	0.005	<0.005	<0.005		<0.005	0.005	5	
Cadmium	mg/L	0.0001	0.0001	0.00009	0.00003	0.00067		0.00003	0.00001	0.005	0.0018
Calcium	mg/L	23.5	22.1	31.6	52.7	66.1		46.9	0.05		
Chromium	mg/L	0.0004	<0.0004	<0.0004	0.0004	<0.0004		0.0006	0.0004	0.05	0.002
Cobalt	mg/L	0.00013	0.00204	0.00011	0.00014	0.00027	No Sample	0.00014	0.00002		
Copper	mg/L	0.001	0.002	0.002	<0.001	0.002		<0.001	0.001	1	0.004
Iron	mg/L	0.132	1.09	0.219	0.168	0.202		0.123	0.01	0.3	0.3
Lead	mg/L	0.0002	0.0005	0.0002	0.0002	0.0004		0.0006	0.0001	0.01	0.007
Lithium	mg/L	0.001	0.003	<0.001	0.001	0.002		<0.001	0.001		
Magnesium	mg/L	3.6	6.92	8.65	19.6	24.9		25	0.05		
Manganese	mg/L	0.018	0.57	0.032	0.008	0.021		0.006	0.005	0.05	
Molybdenum	mg/L	0.0006	0.0002	0.0016	0.0013	0.0054		0.0002	0.00002		
Nickel	mg/L	0.002	0.004	0.002	0.001	0.015		0.001	0.001		0.15
Potassium	mg/L	0.6	0.6	1.1	1	1.1		0.4	0.1		
Sulfur	mg/L	3.7	6.8	5	9.8	11.7	No Sample	10.6	0.1		
Selenium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	0.003		<0.0006	0.0006	0.01	0.001
Strontium	mg/L	0.045	0.044	0.037	0.072	0.151		0.043	0.001		
Silver	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.00001	0.00001		0.0001
Silicon	mg/L	1.32	1.76	1.61	2.3	2.7		2.12	0.05		
Sodium	mg/L	0.46	0.77	0.41	0.51	0.68		0.4	0.02	<200	
Thallium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0.00003		<0.00001	0.00001		
Tin	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	0.0001		
Titanium	mg/L	0.002	<0.001	<0.001	0.004	0.004		0.004	0.0004		
Uranium	mg/L	0.0004	<0.0004	0.0013	0.0028	0.0103		0.0017	0.0004	0.02	
Vanadium	mg/L	0.0004	0.0005	0.0003	0.0004	0.001	No Sample	0.0005	0.0001		
Zinc	mg/L	0.007	0.012	0.004	0.011	0.078		0.011	0.001	<5	0.03
Mercury	ug/L	nr	nr	nr	nr	nr		nr	0.01	1	0.1

nr=no sample or analysis done

Exceeds either Guideline Limit

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Table 5. ATAC Resources - RAU Claims, May, 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
Aluminum	mg/L	0.015	<0.005	0.095	0.005	<0.005	0.026	0.005		0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0002	0.006	
Arsenic	mg/L	<0.0002	0.0056	0.0004	<0.0002	0.0066	0.0028	0.0002	0.01	
Barium	mg/L	0.063	0.13	0.047	0.007	0.132	0.069	0.001	1	
Beryllium	mg/L	<0.00004	<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	0.001		
Boron	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.005	5	
Cadmium	mg/L	0.00011	<0.00001	0.00002	0.00002	<0.00001	0.00038	0.00001	0.005	0.0018
Calcium	mg/L	22.4	47.5	34	1.55	52.6	41.3	0.05		
Chromium	mg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0006	0.0004	0.05	0.002
Cobalt	mg/L	0.00006	0.00005	0.00029	<0.00002	0.00005	0.00053	0.00002		
Copper	mg/L	<0.001	<0.001	0.002	<0.001	<0.001	0.004	0.001	1	0.004
Iron	mg/L	0.05	<0.01	0.342	0.012	<0.01	0.765	0.01	0.3	0.3
Lead	mg/L	0.0002	<0.0001	0.0005	0.0002	<0.0001	0.001	0.0001	0.01	0.007
Lithium	mg/L	<0.001	<0.001	0.002	<0.001	<0.001	0.002	0.001		
Magnesium	mg/L	8.08	14.4	13.1	0.33	15.7	11.1	0.05		
Manganese	mg/L	0.006	<0.005	0.036	<0.005	<0.005	0.054	0.005	0.05	
Molybdenum	mg/L	0.0003	0.0016	0.0006	<0.0001	0.002	0.0021	0.00002		
Nickel	mg/L	0.002	<0.001	0.003	<0.001	0.001	0.012	0.001		0.15
Potassium	mg/L	0.3	0.9	0.8	0.4	1	1.4	0.1		
Sulfur	mg/L	4	6.3	8.1	<0.1	6.9	8.2	0.1		
Selenium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0006	0.01	0.001
Strontium	mg/L	0.024	0.063	0.1	0.002	0.072	0.068	0.001		
Silver	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001		0.0001
Silicon	mg/L	0.8	2.04	1.76	0.11	2.1	1.95	0.05		
Sodium	mg/L	0.21	0.31	1.18	0.13	0.4	0.94	0.02	<200	
Thallium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00002	0.00001		
Tin	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001		
Titanium	mg/L	<0.001	<0.001	0.004	<0.001	<0.001	0.003	0.0004		
Uranium	mg/L	0.0017	0.0014	0.0008	<0.0004	0.0017	0.0022	0.0004	0.02	
Vanadium	mg/L	0.0002	<0.0001	0.0005	<0.0001	<0.0001	0.0013	0.0001		
Zinc	mg/L	0.031	0.004	0.005	0.004	0.003	0.045	0.001	<5	0.03
Mercury	ug/L	nr	nr	nr	nr	nr	nr	0.01	1	0.1

nr=no sample or analysis done

Exceeds either Guideline Limit

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

Dissolved Metals Analysis Results									Detection
Parameter	Units	RAU #1	RAU #2	RAU #3	RAU #4	RAU #5	RAU #6	RAU #7	Limit
Aluminum	mg/L	0.03	0.066	0.011	<0.005	<0.005	No Sample	<0.005	0.005
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	0.0006		<0.0002	0.0002
Arsenic	mg/L	0.0002	0.0003	0.0004	0.0017	0.0005		0.0002	0.0002
Barium	mg/L	0.029	0.021	0.054	0.102	0.097		0.143	0.001
Beryllium	mg/L	<0.00004	<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	0.001
Boron	mg/L	<0.004	<0.004	0.004	<0.004	<0.004		<0.004	0.004
Cadmium	mg/L	0.00006	0.00001	0.00004	0.00002	0.0005		<0.00001	0.00001
Calcium	mg/L	21.9	21	31.6	49.9	64.1		43.1	0.1
Chromium	mg/L	0.0006	0.0006	0.0008	0.0013	0.0014		0.0012	0.0004
Cobalt	mg/L	<0.00002	0.00035	<0.00002	<0.00002	0.00003		<0.00002	0.00002
Copper	mg/L	<0.001	0.002	0.001	<0.001	0.001		<0.001	0.005
Iron	mg/L	0.044	0.185	0.08	0.02	0.033		<0.005	0.005
Lead	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	0.0001
Lithium	mg/L	<0.001	0.002	<0.001	0.001	0.002		<0.001	0.001
Magnesium	mg/L	3.2	6.6	8.6	18.5	24.2		23	0.1
Manganese	mg/L	0.007	0.102	0.006	0.001	0.008		<0.001	0.001
Molybdenum	mg/L	0.0006	0.0002	0.0014	0.0012	0.0051		0.0003	0.0001
Nickel	mg/L	0.001	0.002	0.001	<0.001	0.012		<0.001	0.001
Potassium	mg/L	0.5	0.6	1.2	1	1		0.3	0.1
Sulfur	mg/L	3.4	6.5	4.9	10.3	11.7		10.4	0.2
Selenium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	0.0037		<0.0006	0.0006
Strontium	mg/L	0.043	0.04	0.037	0.068	0.141		0.04	0.001
Silver	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.00001	0.00001
Silicon	mg/L	1.19	1.6	1.49	2.13	2.47		1.9	0.05
Sodium	mg/L	0.4	0.7	0.4	0.4	0.6		0.3	0.1
Thallium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0.00002		<0.00001	0.00001
Tin	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	0.0001
Titanium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	0.01
Uranium	mg/L	0.0004	<0.0004	0.0013	0.0026	0.0097		0.0016	0.0004
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0004	0.0007		0.0004	0.0001
Zinc	mg/L	0.004	0.004	0.002	0.006	0.062		0.003	0.001

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

Dissolved Metals Analysis Results								Detection
Parameter	Units	RAU #8	RAU #9	RAU #10	RAU #11	RAU #12	RAU #13	Limit
Aluminum	mg/L	0.006	<0.005	0.016	<0.005	<0.005	0.021	0.005
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	mg/L	<0.0002	0.0056	0.0003	<0.0002	0.0071	0.0016	0.0002
Barium	mg/L	0.063	0.134	0.042	0.011	0.13	0.051	0.001
Beryllium	mg/L	<0.00004	<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	0.001
Boron	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	0.006	0.004
Cadmium	mg/L	0.00006	<0.00001	0.00001	<0.00001	<0.00001	0.00013	0.00001
Calcium	mg/L	22.4	47.9	32	2.5	50.3	38.8	0.1
Chromium	mg/L	0.0009	0.0012	0.0009	<0.0004	0.0011	0.0009	0.0004
Cobalt	mg/L	<0.00002	<0.00002	0.00007	<0.00002	<0.00002	0.00006	0.00002
Copper	mg/L	<0.001	<0.001	0.001	<0.001	<0.001	0.002	0.005
Iron	mg/L	0.032	<0.005	0.092	<0.005	<0.005	0.145	0.01
Lead	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001
Lithium	mg/L	<0.001	<0.001	0.002	<0.001	<0.001	0.002	0.001
Magnesium	mg/L	8	14.4	12.3	0.6	15	10.2	0.1
Manganese	mg/L	0.002	0.002	0.014	0.002	<0.001	0.012	0.001
Molybdenum	mg/L	0.0003	0.0015	0.0006	<0.0001	0.0019	0.002	0.0001
Nickel	mg/L	0.002	<0.001	0.002	<0.001	<0.001	0.008	0.001
Potassium	mg/L	0.3	0.9	0.6	0.5	0.9	1.4	0.1
Sulfur	mg/L	4	6	7.9	<0.2	6.7	7.8	0.2
Selenium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0007	0.0006
Strontium	mg/L	0.023	0.063	0.096	0.003	0.07	0.064	0.001
Silver	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001
Silicon	mg/L	0.77	1.92	1.57	0.16	1.97	1.6	0.05
Sodium	mg/L	0.2	0.3	1.1	<0.1	0.3	0.9	0.1
Thallium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001
Tin	mg/L	<0.0001	<0.0001	0.0006	<0.0001	<0.0001	<0.0001	0.0001
Titanium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Uranium	mg/L	0.0016	0.0013	0.0007	<0.0004	0.0016	0.002	0.0004
Vanadium	mg/L	0.0002	0.0003	0.0003	<0.0001	0.0003	0.0004	0.0001
Zinc	mg/L	0.031	0.002	0.002	0.003	0.004	0.025	0.001

Table 7. ATAC RESOURCES - Summary of Rau Project Stations Flow Volumes 2008-2012
(Cubic meters per second)

Station	Date																	
	Aug-08	Oct-08	Jun-09	Jul-09	Oct-09	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
Rau #1	0.502	0.734	0.747	0.129	0.147	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
Rau #2	0.234	0.43	0.287	0.053	nr	nr	0.281	0.20	0.064	nr	nr	0.815	0.411	0.166	0.091	nr	nr	nr
Rau #3	0.493	0.69	0.461	0.129	0.192	nr	0.449	0.418	0.187	nr	nr	0.774	0.485	0.317	nr	0.02		nr
Rau #4	0.043	nr	0.066	0.069	0.079	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
Rau #5	0.038	nr	0.023	0.022	nr	nr	.06(E)	0.024	0.018	nr	nr	0.036	0.039	0.034	0.018	0.0		0.0728
Rau #6	.025 (E)	nr	.01 (E)	0.003	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
Rau #7	0.027	0.042	0.039	0.017	0.024	nr	0.058	0.029	0.018	0.008	0.011	0.069	0.046	0.035	0.031	0.006		0.0229
Rau #8	0.074	nr	0.374	0.087	0.108	nr	0.326	0.298	0.104	0.006	0.04	0.371	0.413	0.313	0.137	0.005		0.1557
Rau #9	nr	nr	nr	0.019	nr	.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
Rau #10	nr	nr	nr	11.85	nr	4.753	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	12.31	nr
Rau #11																	<0.0001	<0.0001
Rau #12																	0.00086	0.0045
Rau #13																	0.0784	0.5546

(E) = estimated flow

Table 8. RAU Claims - Camp Drinking Water Supply

Parameter		Jul-10	Jul-10 Dup	May-11 May-03	May-11 May-28	Jul-11	Jul-11 Dup	Aug-11	Oct-11	Mar-12	Apr-12 Rau#11	May-12 Rau#11	Detection Limit	DWQ* MAC's
pH	ru	8.26		8.1	8.2	8.2		8.23	8.09	8.12	7.5	6.54		6 to 8.5
Conductivity	uS/cm	356		344	286	315		327	358	345	153	10	1	
Chloride	mg/L	0.37		0.59	0.36	0.14		<0.5	<0.5	<0.5	1.5	0.08	0.02	<250
Nitrate	mg/L	0.15		0.24	0.3	0.37		0.24	0.3	0.36	0.33	<0.01	0.01	1
Nitrite	mg/L	<0.005		<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	0.005	10
T.Diss.Solids	mg/L	220		202	142	174		196	198	162	122	26	5	500
T.Susp Solids	mg/L	<2		<2	<2	<2		<2	<2	<2	23	<2	1	
Turbidity	NTU	2.7						0.11					0.02	
Hardness	mg/L	204	189	174	165	187		212	219	195	83	8	1	<500
Alkalinity total	mg/L	179		179	150	168		175	178	183	80	<5	5	
Total Metals														
Aluminum	mg/L	0.057	0.058	0.024	0.011	0.012	0.014	0.008	<0.005	0.054	0.108	0.005	0.005	
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0002	0.006
Arsenic	mg/L	0.0038	0.0038	0.0066	0.0048	0.0028	0.0028	0.0032	0.0043	0.0106	0.0008	<0.0002	0.0002	0.01
Barium	mg/L	0.214	0.209	0.161	0.148	0.209	0.206	0.224	0.189	0.156	0.128	0.007	0.001	1
Boron	mg/L	0.006	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	0.004	5
Cadmium	mg/L	0.00004	0.00002	0.00001	0.00002	0.00002	0.00002	0.00002	0.00003	0.00003	0.00044	0.00002	0.00001	0.005
Calcium	mg/L	55.2	52.5	56.4	43.2	49.3	49.1	56.2	59	54.6	23.4	1.55	0.05	
Chromium	mg/L	0.0007	0.0005	0.0004	0.0008	0.0007	0.0007	0.0009	0.0005	<0.0004	0.0009	<0.0004	0.0004	0.05
Cobalt	mg/L	0.00006	0.00006	0.00005	0.00004	0.00008	0.00008	0.00004	0.00005	0.00014	0.00019	<0.00002	0.00002	
Copper	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.024	<0.001	0.003	<0.001	0.001	1
Iron	mg/L	0.096	0.1	0.039	0.014	0.012	0.01	0.069	0.041	0.303	0.195	0.012	0.01	0.3
Lead	mg/L	0.0003	0.0002	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0003	0.0009	0.0002	0.0001	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	<0.001	0.001	
Magnesium	mg/L	16	15.2	16.4	12	15.6	15.5	16.9	17.4	16.4	6.97	0.33	0.05	
Manganese	mg/L	0.0052	0.0052	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	0.042	0.014	<0.005	0.0002	0.05
Molybdenum	mg/L	0.0014	0.0014	0.0017	0.0014	0.0014	0.0014	0.0016	0.0015	0.0018	0.0003	<0.0001	0.0001	
Sulfur	mg/L	6.9	6.5	8.4	5	6.6	6.6	7.2	7.6	7.9	2.1	<0.1	0.1	
Selenium	mg/L	<0.0006	<0.0006	0.0009	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0006	0.01
Strontium	mg/L	0.068	0.068	0.077	0.061	0.057	0.055	0.064	0.069	0.079	0.025	0.002	0.001	
Silicon	mg/L	1.99	1.95	2.12	1.54	1.82	1.8	1.84	1.85	1.99	1.42	0.11	0.05	
Sodium	mg/L	0.29	0.26	0.45	0.27	0.3	0.28	0.3	0.58	0.38	0.66	0.13	0.02	<200
Titanium	mg/L	0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.008	<0.001	0.001	
Uranium	mg/L	0.0016	0.0016	0.0015	0.0013	0.0015	0.0015	0.0015	0.0015	0.0019	<0.0004	<0.0004	0.0004	0.02
Zinc	mg/L	0.006	0.005	0.003	0.003	0.004	0.004	0.004	0.017	0.008	0.08	0.004	0.001	<5

DWQ* = Canadian Drinking Water Quality Guideline

MAC = Maximum Acceptable Concentration

Table 9. ATAC RESOURCES/RAU Claims - Snow Survey Data 2012

Measurement	Snow Site #1 at RAU #9			Snow Site #2 at RAU #8		
	12-Mar-12	28-Apr-12	12-May-12	12-Mar-12	28-Apr-12	12-May-12
Snow Depth (cm)	117	73.6	47.2	87.1	No Survey	No Snow on 10 of 10 sites
Snow Density (%)	24.3	27.9		21.0		
Snow Water Equiv.(mm)	285	205	Snow on 10 of 10 sites	183		
Air temp °C	15	9		-12		
# measurements within 5 % mean density	10 of 10	9 of 10		10 of 10		●

Note: Values are mean of 10 measurements per site

**Table 10. Quality Control Samples May 2012, Rau Claims
Total and Dissolved Metals Analysis - Duplicate Samples**

Parameter	Units	RAU #12	RAU #12 Duplicate	RAU #12	RAU #12 Duplicate
		Total Metals		Dissolved Metals	
Aluminum	mg/L	<0.005	<0.005	<0.005	<0.005
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.0002
Arsenic	mg/L	0.0066	0.0067	0.0071	0.0069
Barium	mg/L	0.132	0.134	0.13	0.13
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	<0.005	<0.005	<0.004	<0.004
Cadmium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001
Calcium	mg/L	52.6	54.2	50.3	50.4
Chromium	mg/L	<0.0004	<0.0004	0.0011	0.001
Cobalt	mg/L	0.00005	0.00005	<0.00002	<0.00002
Copper	mg/L	<0.001	<0.001	<0.001	<0.001
Iron	mg/L	<0.01	<0.01	<0.005	<0.005
Lead	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Lithium	mg/L	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/L	15.7	16.1	15	15
Manganese	mg/L	<0.005	<0.005	<0.001	<0.001
Molybdenum	mg/L	0.002	0.002	0.0019	0.0019
Nickel	mg/L	0.001	<0.001	<0.001	<0.001
Potassium	mg/L	1	1	0.9	1
Sulfur	mg/L	6.9	7	6.7	6.9
Selenium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006
Strontium	mg/L	0.072	0.072	0.07	0.069
Silver	mg/L	<0.00001	<0.00001	<0.00001	<0.00001
Silicon	mg/L	2.1	2.08	1.97	1.96
Sodium	mg/L	0.4	0.36	0.3	0.3
Thallium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001
Tin	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Titanium	mg/L	<0.001	<0.001	<0.01	<0.01
Uranium	mg/L	0.0017	0.0017	0.0016	0.0016
Vanadium	mg/L	<0.0001	<0.0001	0.0003	0.0002
Zinc	mg/L	0.003	0.004	0.004	0.004

Denote >10% variation between samples

Water Quality Summary

April 28

Station RAU #10 (Beaver River receiving waters) exceeds the *Aquatic Guidelines* for aluminum.

Station RAU #11 exceeds the *Aquatic Guidelines* for aluminum and zinc

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

May 12-15

Station RAU #2 exceeds the *Aquatic Guidelines* for aluminum and iron as well as *Drinking Water Guidelines* for manganese.

Station RAU #5 exceeds the *Aquatic Guidelines* for selenium and total zinc.

Station RAU #8 exceeds the *Aquatic Guidelines* for zinc.

Station RAU #10 exceeds the *Aquatic Guidelines* and *Drinking Water Guidelines* for iron.

Station RAU #13 exceeds or equals the *Drinking Water Guidelines* iron and the Aquatic Guidelines for copper, iron and zinc.

Stations RAU #1, #3, #4, #9 and #11 met all *Guideline* limits.

Drinking Water Supply

With the addition of Station RAU #11, it now becomes the Rau Camp freshwater supply. The Rau exploration camp was opened in early May.

Stream flow volume at RAU #11 was limited to less than 0.1 liters per second on both April and May surveys. Water quality samples were obtained from the creek reservoir located upstream of the bridge. Sampled flows were seepage refill of the reservoir.

The April and May, 2012 analysis results are listed in Table 8.

April and May 2012 – Rau Project Environmental Data Update

All parameters tested with the exception of total aluminum and total zinc in April have concentrations below the ***Drinking Water Quality Guideline (December 2010)*** Maximum Acceptable Concentration.

Total arsenic levels measured in March 2012 at Station RAU #9 at just above Guideline concentrations are below MAC levels in April and May.

Both total arsenic and total iron are slightly above Guideline MAC limits and require a confirmation sample / analysis in the near future.

Iron is of no health risk to users.

Arsenic concentrations were measured at 0.0106 mg/L against a previous maximum level of 0.0066 mg/l in May of 2011.

Weather Station Data Logger

The weather station / data logger was downloaded at 1150 hrs on May 15, 2012.

All logger systems were functioning. A download summary/status is attached in Appendix 2.

Appendix #1

Laboratory Analytical Reports

April 28, 2012

May 12-15, 2012

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

Bill To: J. Gibson & Associates	Project:	Lot ID: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
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 - Multiple Reports
	Phone: (867) 633-4522	On [Report Approval] send
	Fax: (867) 668-6895	(COC, Test Report) by Email - Merge Reports
	Email: luditegibson@yahoo.ca	On [Lot Approval and Final Test Report Approval] send
		(Invoice) by Email - Single Report

Notes To Clients:

- Analysis was performed on samples 867597-1 to 6 that exceeded the recommended holding time for Water Nitrate analysis.
- Some total metal results were less than dissolved metal results for lot 867597. The results were verified and are within expected measurement uncertainty.
- 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: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
Attn: John Gibson	P.O.:	
Sampled By: J. Gibson	Acct code:	
Company:		

		Reference Number	867597-1	867597-2	867597-3	
		Sample Date	Apr 28, 2012	Apr 28, 2012	Apr 28, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Rau #4 / Surface	Rau #9 / Surface	Rau #11 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	3.8	1.1	23.0	0.5
Ammonia - N		mg/L	<0.01	<0.01	0.08	
Nitrate - N		mg/L	0.23	0.32	0.33	0.01
Nitrite - N		mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
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	0.0017	0.0071	0.0006	0.0002
Barium	Dissolved	mg/L	0.110	0.146	0.108	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	0.00003	0.00001	0.00020	0.00001
Chromium	Dissolved	mg/L	0.0009	0.0010	0.0005	0.0004
Cobalt	Dissolved	mg/L	0.00006	0.00006	0.00006	0.00002
Copper	Dissolved	mg/L	<0.001	<0.001	0.002	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	0.0012	0.0019	0.0002	0.0001
Nickel	Dissolved	mg/L	<0.001	<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
Strontium	Dissolved	mg/L	0.074	0.079	0.022	0.001
Sulfur	Dissolved	mg/L	9.5	7.2	2.0	0.2
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
Titanium	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Uranium	Dissolved	mg/L	0.0029	0.0019	<0.0004	0.0004
Vanadium	Dissolved	mg/L	0.0003	0.0003	0.0002	0.0001
Zinc	Dissolved	mg/L	0.010	0.008	0.063	0.001
Zirconium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Metals Total						
Calcium	Total	mg/L	49.7	51.4	23.4	0.05
Iron	Total	mg/L	0.012	0.014	0.195	0.01



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
Attn: John Gibson	P.O.:	
Sampled By: J. Gibson	Acct code:	
Company:		

		Reference Number	867597-1	867597-2	867597-3	
		Sample Date	Apr 28, 2012	Apr 28, 2012	Apr 28, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Rau #4 / Surface	Rau #9 / Surface	Rau #11 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Magnesium	Total	mg/L	18.8	15.3	6.97	0.05
Manganese	Total	mg/L	<0.005	<0.005	0.014	0.005
Phosphorus	Total	mg/L	<0.01	0.010	0.110	0.01
Potassium	Total	mg/L	0.8	0.9	5.3	0.1
Silicon	Total	mg/L	2.10	1.91	1.42	0.05
Sulfur	Total	mg/L	9.7	7.5	2.1	0.1
Sodium	Total	mg/L	0.47	0.42	0.66	0.02
Titanium	Total	mg/L	<0.001	0.005	0.008	0.001
Aluminum	Total	mg/L	<0.005	<0.005	0.108	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0018	0.0067	0.0008	0.0002
Barium	Total	mg/L	0.115	0.139	0.128	0.001
Beryllium	Total	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Total	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Total	mg/L	0.022	0.007	0.006	0.004
Cadmium	Total	mg/L	0.00003	<0.00001	0.00044	0.00001
Chromium	Total	mg/L	<0.0004	<0.0004	0.0009	0.0004
Cobalt	Total	mg/L	0.00006	0.00006	0.00019	0.00002
Copper	Total	mg/L	<0.001	<0.001	0.003	0.001
Lead	Total	mg/L	<0.0001	<0.0001	0.0009	0.0001
Lithium	Total	mg/L	0.001	<0.001	<0.001	0.001
Molybdenum	Total	mg/L	0.0013	0.0019	0.0003	0.0001
Nickel	Total	mg/L	<0.001	<0.001	0.003	0.001
Selenium	Total	mg/L	<0.0006	<0.0006	<0.0006	0.0006
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.079	0.078	0.025	0.001
Tellurium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Total	mg/L	0.0008	<0.0001	0.0001	0.0001
Uranium	Total	mg/L	0.0030	0.0019	<0.0004	0.0004
Vanadium	Total	mg/L	0.0001	<0.0001	0.0004	0.0001
Zinc	Total	mg/L	0.01	0.003	0.080	0.001
Zirconium	Total	mg/L	0.0001	<0.0001	0.0003	0.0001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<5	<2	23	2



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
Attn: John Gibson	P.O.:	
Sampled By: J. Gibson	Acct code:	
Company:		

		Reference Number	867597-1	867597-2	867597-3	
		Sample Date	Apr 28, 2012	Apr 28, 2012	Apr 28, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Rau #4 / Surface	Rau #9 / Surface	Rau #11 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Physical and Aggregate Properties - Continued						
Solids	Total Dissolved	mg/L	230	206	122	5
Routine Water						
pH	at 25 °C		8.23	8.14	7.50	
Electrical Conductivity		µS/cm at 25 C	343	296	153	1
Calcium	Dissolved	mg/L	50.5	52.2	22.2	0.1
Iron	Dissolved	mg/L	0.006	0.014	0.019	0.005
Magnesium	Dissolved	mg/L	19.0	15.5	6.7	0.1
Manganese	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Phosphorus	Dissolved	mg/L	<0.01	0.01	0.06	0.01
Potassium	Dissolved	mg/L	0.6	0.7	4.8	0.1
Silicon	Dissolved	mg/L	2.08	1.92	1.29	0.05
Sodium	Dissolved	mg/L	0.5	0.4	0.4	0.1
Bicarbonate		mg/L	219	218	98	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	179	179	80	5
Chloride	Dissolved	mg/L	<0.5	0.5	1.5	0.05
Sulfate (SO4)	Dissolved	mg/L	32	25	6	0.5
Hardness	as CaCO3	mg/L	204	194	83	5
Hardness	Total	mg CaCO3/L	201	191	87.0	1



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
Attn: John Gibson	P.O.:	
Sampled By: J. Gibson	Acct code:	
Company:		

		Reference Number	867597-4	867597-5	867597-6	
		Sample Date	Apr 28, 2012	Apr 28, 2012	Apr 28, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Rau #12 / Surface	Rau #13 / 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	1.1	3.2	2.5	0.5
Ammonia - N		mg/L	<0.01	<0.01	<0.01	
Nitrate - N		mg/L	0.34	0.18	0.12	0.01
Nitrite - N		mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Aluminum	Dissolved	mg/L	<0.005	0.010	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0079	0.0018	0.0003	0.0002
Barium	Dissolved	mg/L	0.132	0.080	0.059	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	0.016	<0.004	0.004
Cadmium	Dissolved	mg/L	0.00002	0.00039	0.00003	0.00001
Chromium	Dissolved	mg/L	0.0009	0.001	0.0008	0.0004
Cobalt	Dissolved	mg/L	0.00004	0.00033	0.00011	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	0.005	0.003	0.001
Molybdenum	Dissolved	mg/L	0.0019	0.0051	0.0008	0.0001
Nickel	Dissolved	mg/L	<0.001	0.023	0.004	0.001
Selenium	Dissolved	mg/L	<0.0006	0.0020	<0.0006	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Dissolved	mg/L	0.077	0.185	0.168	0.001
Sulfur	Dissolved	mg/L	7.3	19.7	14.1	0.2
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	0.00002	<0.00001	0.00001
Thorium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L	<0.0001	<0.0001	0.0002	0.0001
Titanium	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Uranium	Dissolved	mg/L	0.0019	0.0072	0.0013	0.0004
Vanadium	Dissolved	mg/L	0.0002	0.0005	0.0002	0.0001
Zinc	Dissolved	mg/L	0.003	0.078	0.016	0.001
Zirconium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Metals Total						
Calcium	Total	mg/L	51.1	74.4	48.8	0.05
Iron	Total	mg/L	<0.01	0.426	0.077	0.01



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
Attn: John Gibson	P.O.:	
Sampled By: J. Gibson	Acct code:	
Company:		

		Reference Number	867597-4	867597-5	867597-6	
		Sample Date	Apr 28, 2012	Apr 28, 2012	Apr 28, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Rau #12 / Surface	Rau #13 / Surface	Rau #10 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Magnesium	Total	mg/L	14.9	18.4	19.2	0.05
Manganese	Total	mg/L	<0.005	0.029	0.010	0.005
Phosphorus	Total	mg/L	<0.01	0.014	0.017	0.01
Potassium	Total	mg/L	0.9	2.0	0.7	0.1
Silicon	Total	mg/L	1.93	2.32	2.06	0.05
Sulfur	Total	mg/L	7.7	20.2	14.2	0.1
Sodium	Total	mg/L	0.37	3.26	2.24	0.02
Titanium	Total	mg/L	0.006	0.008	0.004	0.001
Aluminum	Total	mg/L	<0.005	0.027	0.011	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0083	0.0026	0.0004	0.0002
Barium	Total	mg/L	0.144	0.083	0.063	0.001
Beryllium	Total	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Total	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Total	mg/L	<0.005	0.019	<0.005	0.004
Cadmium	Total	mg/L	<0.00001	0.00044	0.00004	0.00001
Chromium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Cobalt	Total	mg/L	0.00005	0.00037	0.00015	0.00002
Copper	Total	mg/L	<0.001	0.002	<0.001	0.001
Lead	Total	mg/L	<0.0001	<0.0001	0.0001	0.0001
Lithium	Total	mg/L	<0.001	0.005	0.003	0.001
Molybdenum	Total	mg/L	0.0023	0.0054	0.0008	0.0001
Nickel	Total	mg/L	<0.001	0.025	0.004	0.001
Selenium	Total	mg/L	<0.0006	0.0020	<0.0006	0.0006
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.084	0.191	0.175	0.001
Tellurium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Total	mg/L	<0.00001	0.00002	<0.00001	0.00001
Thorium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Total	mg/L	0.0021	0.0074	0.0014	0.0004
Vanadium	Total	mg/L	<0.0001	0.0005	<0.0001	0.0001
Zinc	Total	mg/L	0.003	0.090	0.010	0.001
Zirconium	Total	mg/L	<0.0001	0.0002	<0.0001	0.0001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	4	4	2

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
Attn: John Gibson	P.O.:	
Sampled By: J. Gibson	Acct code:	
Company:		

		Reference Number	867597-4	867597-5	867597-6	
		Sample Date	Apr 28, 2012	Apr 28, 2012	Apr 28, 2012	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Rau #12 / Surface	Rau #13 / Surface	Rau #10 / Surface	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Physical and Aggregate Properties - Continued						
Solids	Total Dissolved	mg/L	202	308	226	5
Routine Water						
pH	at 25 °C		8.14	8.09	8.11	
Electrical Conductivity		µS/cm at 25 C	334	460	351	1
Calcium	Dissolved	mg/L	53.4	74.9	49.2	0.1
Iron	Dissolved	mg/L	0.014	0.172	0.031	0.005
Magnesium	Dissolved	mg/L	15.6	18.6	19.3	0.1
Manganese	Dissolved	mg/L	<0.001	0.025	0.006	0.001
Phosphorus	Dissolved	mg/L	0.01	<0.01	0.01	0.01
Potassium	Dissolved	mg/L	0.5	1.9	0.6	0.1
Silicon	Dissolved	mg/L	1.91	2.26	2.06	0.05
Sodium	Dissolved	mg/L	0.4	3.1	2.1	0.1
Bicarbonate		mg/L	220	248	195	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	180	204	160	5
Chloride	Dissolved	mg/L	<0.5	5.7	1.1	0.05
Sulfate (SO4)	Dissolved	mg/L	25	68	48	0.5
Hardness	as CaCO3	mg/L	198	264	202	5
Hardness	Total	mg CaCO3/L	189	262	201	1

Approved by: 
Mathieu Simoneau
Operations Manager

Methodology and Notes

Bill To: J. Gibson & Associates	Project:	Lot ID: 867597
Report To: J. Gibson & Associates	ID: ATAC Resources	Control Number: A216782
Box 20913	Name: Rau Project	Date Received: Apr 30, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 4, 2012
Y1A 6P2	LSD:	Report Number: 1732930
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	APHA	* Alkalinity - Titration Method, 2320 B	30-Apr-12	Exova Surrey
Alk, pH, EC, Turb in water	APHA	* Conductivity, 2510 B	30-Apr-12	Exova Surrey
Alk, pH, EC, Turb in water	APHA	* pH - Electrometric Method, 4500-H+ B	30-Apr-12	Exova Surrey
Ammonia-N in Water	APHA	* Titrametric, 4500-NH3 C	01-May-12	Exova Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	01-May-12	Exova Surrey
Carbon Organic (Total) in water (TOC)	APHA	High-Temperature Combustion Method, 5310 B	01-May-12	Exova Edmonton
Metals SemiTrace (Dissolved) in water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	01-May-12	Exova Surrey
Metals SemiTrace (Total) in Water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	01-May-12	Exova Surrey
Nitrogen - nitrite+nitrate-N	APHA	* Automated Cadmium Reduction Method, 4500-NO3- F	01-May-12	Exova Surrey
Solids Dissolved (Total, Fixed and Volatile)2	APHA	* Total Dissolved Solids Dried at 180 C, 2540 C	01-May-12	Exova Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	01-May-12	Exova Surrey
Trace Metals (dissolved) in Water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	01-May-12	Exova Surrey
Trace Metals (dissolved) in Water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	01-May-12	Exova Surrey
Trace Metals (Total) in Water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	01-May-12	Exova Surrey
Trace Metals (Total) in Water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	01-May-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 867597-1 to 6 that exceeded the recommended holding time for Water Nitrate analysis.
- Some total metal results were less than dissolved metal results for lot 867597. The results were verified and are within expected measurement uncertainty.
- pH analysis was performed past the recommended holding time of 15 minutes from sample collection.

Methodology and Notes

Bill To:	J. Gibson & Associates	Project:		Lot ID:	867597
Report To:	J. Gibson & Associates	ID:	ATAC Resources	Control Number:	A216782
	Box 20913	Name:	Rau Project	Date Received:	Apr 30, 2012
	Whitehorse, YT, Canada	Location:		Date Reported:	May 4, 2012
	Y1A 6P2	LSD:		Report Number:	1732930
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

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

Information to be included on Report and Invoice	PRIORITY Please contact laboratory prior to submitting any RUSH samples.	Sample Custody (Please Print) Sampled by: <u>JG/Bsan</u> Company _____ Signature <u>JGh</u>
Project ID: <u>ATAC RESOURCES</u> Project Name: <u>RAU PROJECT</u> Project Location: Legal Location: PO#:	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:	I authorize Exova to proceed with the work indicated on this form: Date: <u>Apr 29/12</u> Initial: <u>JG</u>
Proj. Acct. Code: <u>6646</u> Agreement ID:	Date Required: _____ Signature: _____	Received by: _____ Sample Temp. _____ Waybill #: <u>2102 0 f 8</u> Date: <u>APR 30 2012</u> Company _____ Time _____

Special Instructions / Comments

Special Instructions / Comments
RCH₆M = PH₃, EC, CL, N₂, N₃, SO₄, TSS, TDS, HARDT, ALKT, TP

Metals & Nitric, TW23 field filtered

TOC & Hcl

Please indicate which regulations you are required to meet:

$\text{NH}_4 + \text{Sulfuric}$

<input type="checkbox"/>	Health Canada Drinking Water Quality
<input type="checkbox"/>	Alberta Tier 1
<input type="checkbox"/>	Other:

[illegible]

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

Page of

DATA LOGGER STATUS

May, 2012

Stream Flow Volume Calculations

April and May. 2012

Snow Survey Notes

April and May. 2012

Data Logger Status

Site: Atac Resources - RAU Property

Date: May 12 to 15, 2012

	RAU#1 WL and BARO	RAU#4 WL and BARO	RAU#11 WL and BARO	RAU#12 WL	RAU#13 WL
Time	13-May-12	13-May-12	12-May-12	14-May-12	13-May-12
Saved As:	n/a	n/a	n/a	n/a	n/a
Battery	100%	100%	100%	100%	100%
Memory Used	0%	0%	0%	0%	0%
Sample Interval	15 minutes	15 minutes	15 minutes	15 minutes	15 minutes
Current Status	Launched and Logging	Launched and Logging	Launched and Logging	Launched and Logging	Launched and Logging
Current readings					
Survey Water level	0.102 m at 1520 hr 98.645	0.186 m at 1040 hr 99.135	TSG=100.248 m 99.248	0.157 m at 0830 hr 99.008	0.186 m at 1228 hr 100.195
Flow (cms)	0.5253	0.0976	<0.0001 (nil) Creek Dry	0.0045	0.5546

RAUWeather

Time	1140 hrs 15-May-12
Saved as:	Rauweathermay152012.dtf
Memory Used	
Battery	100%
	Wrap around enabled
	Wrap count 0
Sample Interval	4m 0 s
Logging Interval	0h 15m 0s
Current Status	Launched+ Logging relay open
Current readings	
Srad	356.9
Temp	7.091
RH	69.700
Dew Point	1.9
Wind Speed	1.11
Gust Speed	2.6
Wind Direction	314.5

logging on departure

Atac Resources - Water Level Elevation Surveys**Station: RAU #1 - May 13, 2012**

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		100.327	0.327	
BM#2	0.678			99.649
Top Staff Gauge	0.780			99.547
Reset				
Top Staff Gauge		100.346	0.799	
BM#1	0.346			100.000

Station: RAU #11 - May 12, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		100.695	0.695	
BM#2	0.540			100.155
Top Staff Gauge	0.447			100.248
Reset				
Top Staff Gauge		100.731	0.483	
BM#1	0.732			99.999

Station: RAU #13 - May 13, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		101.015	1.015	
BM#2	1.393			99.642
Top Staff Gauge	1.795			99.220
Reset				
Top Staff Gauge		101.008	1.788	
BM#1	1.008			100.000

Station: RAU #4 - May 13, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		100.801	0.801	
BM#2	0.996			99.805
Top Staff Gauge	0.852			99.949
Reset				
Top Staff Gauge		100.794	0.845	
BM#1	0.794			100.000

Station: RAU #12 - May 14, 2012

<i>Point</i>	<i>FS (m)</i>	<i>HI (m)</i>	<i>BS (m)</i>	<i>Elevation (m)</i>
BM#1				100.000
		100.945	0.945	
BM#2	1.628			99.317
Top Staff Gauge	1.094			99.851
Reset				
Top Staff Gauge		100.971	1.120	
BM#1	0.972			99.999

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** 28-Apr-12
1310 hrs

Site: RAU#4

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.81	0	0.045	0	0	0
0.9	0.1	0.095	0.196	0.010	0.0019
1	0.1	0.1	0.301	0.010	0.0030
1.1	0.13	0.1	0.508	0.013	0.0066
1.2	0.14	0.1	0.398	0.014	0.0056
1.3	0.14	0.1	0.462	0.014	0.0065
1.4	0.15	0.1	0.398	0.015	0.0060
1.5	0.16	0.1	0.462	0.016	0.0074
1.6	0.12	0.1	0.363	0.012	0.0044
1.7	0.06	0.1	0.266	0.006	0.0016
1.8	0.07	0.1	0.212	0.007	0.0015
1.9	0.06	0.1	0.383	0.006	0.0023
2	0.07	0.14	0.069	0.010	0.0007
2.18	0	0.09	0	0.000	0.0000

1.37 1.37 0.0473

All velocity readings at 0.6 depth

No Staff Gauge

Survey WL: no survey

Data logger reading:

Channel under ice? partial ice cover

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 28-Apr-12
1140 hrs

Site: RAU#9

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.74	0	0.08	0	0	0
0.9	0.13	0.13	0.052	0.017	0.0009
1	0.14	0.1	0.032	0.014	0.0004
1.1	0.15	0.1	0.016	0.015	0.0002
1.2	0.09	0.1	0.039	0.009	0.0004
1.3	0.07	0.1	0.065	0.007	0.0005
1.4	0.06	0.1	0.076	0.006	0.0005
1.5	0.06	0.1	0.093	0.006	0.0006
1.6	0.13	0.1	0.081	0.013	0.0011
1.7	0.08	0.07	0.136	0.006	0.0008
1.74	0	0.02	0	0.000	0.0000

1	1	0.0052
---	---	--------

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: no logger

Channel under ice? ice cover - removed

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 28-Apr-12
1130 hrs

Site: RAU#12

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.51	0	0.045	0	0	0
0.6	0.08	0.095	0	0.008	0.0000
0.7	0.09	0.1	0.179	0.009	0.0016
0.8	0.1	0.1	0.391	0.010	0.0039
0.9	0.09	0.095	0.363	0.009	0.0031
0.99	0	0.045	0	0.000	0.0000

0.48	0.48	0.0086
------	------	--------

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading:

Channel under ice? ice cover - removed

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 28-Apr-12
1500 hrs

Site: RAU#13

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.38	0	0.16	0	0	0
0.7	0.04	0.31	0.166	0.012	0.0021
1	0.06	0.3	0	0.018	0.0000
1.3	0.06	0.25	0.231	0.015	0.0035
1.5	0.09	0.15	0.406	0.014	0.0055
1.6	0.1	0.1	0.093	0.010	0.0009
1.7	0.11	0.1	0.142	0.011	0.0016
1.8	0.12	0.1	0.266	0.012	0.0032
1.9	0.12	0.1	0.432	0.012	0.0052
2	0.15	0.1	0.282	0.015	0.0042
2.1	0.16	0.1	0.769	0.016	0.0123
2.2	0.16	0.1	0.676	0.016	0.0108
2.3	0.15	0.1	0.825	0.015	0.0124
2.4	0.14	0.1	0.391	0.014	0.0055
2.5	0.11	0.1	0.266	0.011	0.0029
2.6	0.1	0.1	0.331	0.010	0.0033
2.7	0.11	0.15	0.308	0.017	0.0051
2.9	0	0.1	0	0.000	0.0000

2.52

2.52

0.0784

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: no logger

Channel under ice? Ice cover removed

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** Apr28,2012
1445 hrs

Site: Beaver River u/s Rau #5

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
25.7	0	0.55	0	0	0
24.6	0.22	1.35	0.472	0.297	0.1402
23	0.3	1.8	0.825	0.540	0.4455
21	0.38	2	0.845	0.760	0.6422
19	0.47	2	0.863	0.940	0.8112
17	0.55	2	0.786	1.100	0.8646
15	0.59	1.75	0.966	1.033	0.9974
13.5	0.62	1.5	0.966	0.930	0.8984
12	0.76	1.5	0.966	1.140	1.1012
10.5	0.77	1.5	0.966	1.155	1.1157
9	0.72	1.25	0.966	0.900	0.8694
8	0.63	1	0.966	0.630	0.6086
7	0.62	1	0.805	0.620	0.4991
6	0.65	1	1.014	0.650	0.6591
5	0.67	1	0.825	0.670	0.5528
4	0.67	1	0.845	0.670	0.5662
3	0.63	1	0.902	0.63	0.5683
2	0.65	1	0.863	0.65	0.5610
1	0.63	0.895	0.72	0.56	0.4060
0.21	0	0.395	0	0	0.0000
25.49		25.49			12.307

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading:

Channel under ice? no ice cover on x-section

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** 13-May-12
1520 hrs

Site: RAU#1

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.8	0	0.1	0	0	0
1	0.24	0.25	0.095	0.060	0.0057
1.3	0.12	0.35	0.182	0.042	0.0076
1.7	0.21	0.35	0.805	0.074	0.0592
2	0.26	0.3	0.966	0.078	0.0753
2.3	0.24	0.3	1.104	0.072	0.0795
2.6	0.24	0.3	0.644	0.072	0.0464
2.9	0.26	0.25	0.521	0.065	0.0339
3.1	0.12	0.25	1.061	0.030	0.0318
3.4	0.24	0.3	0.564	0.072	0.0406
3.7	0.16	0.3	0.825	0.048	0.0396
4	0.15	0.3	0.644	0.045	0.0290
4.3	0.14	0.3	0.676	0.042	0.0284
4.6	0.14	0.3	0.288	0.042	0.0121
4.9	0.14	0.3	0.644	0.042	0.0270
5.2	0.13	0.23	0.308	0.030	0.0092
5.36	0	0.08	0	0.000	0.0000

4.56 4.56 **0.5253**

All velocity readings at 0.6 depth

Staff Gauge 0.102m at 1520 hrs
0.104 m

Data logger reading: installed 1500 hrs

Channel under ice? no channel ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** 13-May-12
1028 hrs

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	0.15	0.135	0.564	0.020	0.0114
1.2	0.14	0.1	0.752	0.014	0.0105
1.3	0.13	0.1	0.786	0.013	0.0102
1.4	0.16	0.1	0.615	0.016	0.0098
1.5	0.19	0.1	0.531	0.019	0.0101
1.6	0.19	0.1	0.462	0.019	0.0088
1.7	0.18	0.1	0.552	0.018	0.0099
1.8	0.11	0.1	0.495	0.011	0.0054
1.9	0.1	0.1	0.508	0.010	0.0051
2	0.11	0.1	0.495	0.011	0.0054
2.1	0.1	0.1	0.564	0.010	0.0056
2.2	0.09	0.1	0.124	0.009	0.0011
2.3	0.09	0.11	0.415	0.010	0.0041
2.42	0	0.06	0	0.000	0.0000

1.49 1.49 **0.0976**

All velocity readings at 0.6 depth

Staff Gauge 0.185 m
0.186 m

Data logger reading: logger installed

Channel under ice? no ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** May 14,2012
1615 hrs

Site: RAU#5

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.88	0	0.06	0	0	0
1	0.31	0.11	0.277	0.034	0.0094
1.1	0.29	0.1	0.282	0.029	0.0082
1.2	0.25	0.1	0.331	0.025	0.0083
1.3	0.29	0.1	0.323	0.029	0.0094
1.4	0.27	0.1	0.357	0.027	0.0096
1.5	0.26	0.1	0.323	0.026	0.0084
1.6	0.25	0.1	0.231	0.025	0.0058
1.7	0.26	0.1	0.288	0.026	0.0075
1.8	0.3	0.095	0.217	0.029	0.0062
1.89	0	0.045	0	0.000	0.0000

1.01 1.01 **0.0728**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? partial glacial ice cover remains

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau

Date: 14-May-12
1520 hrs

Site: RAU#7

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.51	0	0.045	0	0	0
0.6	0.09	0.095	0.155	0.009	0.0013
0.7	0.1	0.1	0.204	0.010	0.0020
0.8	0.18	0.1	0.406	0.018	0.0073
0.9	0.14	0.1	0.376	0.014	0.0053
1	0.14	0.1	0.339	0.014	0.0047
1.1	0.17	0.08	0.166	0.014	0.0023
1.16	0	0.03	0	0.000	0.0000

0.65	0.65	0.0229
------	------	--------

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: no logger

Channel under ice? no ice cover

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** 13-May-12
1545 hrs

Site: RAU#8

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
2.02	0	0.04	0	0	0
2.1	0.18	0.09	0.196	0.016	0.0032
2.2	0.18	0.1	0.391	0.018	0.0070
2.3	0.19	0.1	0.495	0.019	0.0094
2.4	0.2	0.1	0.564	0.020	0.0113
2.5	0.19	0.1	0.531	0.019	0.0101
2.6	0.23	0.1	0.644	0.023	0.0148
2.7	0.25	0.1	0.769	0.025	0.0192
2.8	0.26	0.1	0.786	0.026	0.0204
2.9	0.28	0.1	0.825	0.028	0.0231
3	0.26	0.1	0.825	0.026	0.0215
3.1	0.24	0.085	0.769	0.020	0.0157
3.17	0	0.035	0	0.000	0.0000

-2.02 1.15 **0.1557**

All velocity readings at 0.6 depth

No SG

no Logger

Channel under ice? no channel ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** May 14,2012
950 hrs

Site: RAU#9

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.33	0	0.035	0	0	0
1.4	0.1	0.085	0.131	0.009	0.0011
1.5	0.12	0.1	0.085	0.012	0.0010
1.6	0.14	0.1	0	0.014	0.0000
1.7	0.15	0.1	0.027	0.015	0.0004
1.8	0.16	0.1	0.204	0.016	0.0033
1.9	0.16	0.1	0.093	0.016	0.0015
2	0.14	0.1	0.451	0.014	0.0063
2.1	0.14	0.08	0.442	0.011	0.0050
2.16	0	0.03	0	0.000	0.0000

0.83 0.83 **0.0186**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: no logger

Channel under ice? no ice cover

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** 14-May-12
0900 hrs

Site: RAU#12

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.36	0	0.045	0	0	0
1.45	0.09	0.095	0	0.009	0.0000
1.55	0.1	0.1	0.025	0.010	0.0003
1.65	0.07	0.1	0.038	0.007	0.0003
1.75	0.07	0.1	0.034	0.007	0.0002
1.85	0.08	0.1	0.074	0.008	0.0006
1.95	0.1	0.1	0.078	0.010	0.0008
2.05	0.13	0.1	0.083	0.013	0.0011
2.15	0.08	0.1	0.08	0.008	0.0006
2.25	0.06	0.11	0.093	0.007	0.0006
2.37	0	0.06	0	0.000	0.0000

1.01 1.01 **0.0045**

All velocity readings at 0.6 depth

Staff Gauge 0.157 at 0900
0.156 at 0930

Data logger reading: logger installed

Channel under ice? no ice cover

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: Atac Resources - Rau **Date:** 13-May-12
1230 hrs

Site: RAU#13

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.94	0	0.13	0	0	0
1.2	0.21	0.33	0.108	0.069	0.0075
1.6	0.25	0.3	0.061	0.075	0.0046
1.8	0.25	0.2	0.423	0.050	0.0212
2	0.28	0.2	0.752	0.056	0.0421
2.2	0.3	0.2	0.944	0.060	0.0566
2.4	0.34	0.2	1.014	0.068	0.0690
2.6	0.37	0.15	1.082	0.056	0.0601
2.7	0.4	0.1	1.127	0.040	0.0451
2.8	0.39	0.1	1.082	0.039	0.0422
2.9	0.38	0.1	0.882	0.038	0.0335
3	0.38	0.1	0.902	0.038	0.0343
3.1	0.38	0.1	0.922	0.038	0.0350
3.2	0.36	0.125	0.944	0.045	0.0425
3.35	0.35	0.15	0.786	0.053	0.0413
3.5	0.19	0.2	0.406	0.038	0.0154
3.75	0.06	0.295	0.248	0.018	0.0044
4.09	0	0.17	0	0.000	0.0000

3.15 3.15 **0.5546**

All velocity readings at 0.6 depth

Staff Gauge 0.186m
0.187 m

Data logger reading: in no logger

Channel under ice? no channel ice

Method: Price Velocity meter/ TS Wading Rod

Measurement By: J.Gibson

**ATAC RESOURCES - RAU PROJECT
Snow Survey Results -April 2012**

Snow Survey Calculations

Project: ATAC

**Date: 28-Apr-12
1400 hrs**

**Course # : RAU Snow #1
at Water RAU #9**

Measured by: J.Gibson

Station #	Snow Depth (cm)	Core Length (cm)	WGT Tube before Sampling	WGT Tube and Core	Snow Water Equiv.	Density %
1	85	52	24	49	25	29
2	65	43	24	43	19	29
3	81	47	24	47	23	28.4
4	74	45	24	44	20	27
5	77	41	24	43	19	24.7
6	81	47	24	46	22	27.2
7	72	39	25	42	17	23.6
8	65	43	24	46	21	32.3
9	71	38	24	44	20	28.2
10	65	38	24	43	19	29.2
Total	736	433			205	278.6
Coverage	73.6	43.3				27.9

Core length / Snow Depth = 59%

Density Range 23.6 to 32.3 = 8.7%

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Report Transmission Cover Page

Bill To:	J. Gibson & Associates	Project:		Lot ID:	871423
Report To:	J. Gibson & Associates	ID:	Atac Resources	Control Number:	A216785
	Box 20913	Name:	RAU Project	Date Received:	May 22, 2012
	Whitehorse, YT, Canada	Location:		Date Reported:	May 28, 2012
	Y1A 6P2	LSD:		Report Number:	1738511
Attn:	John Gibson	P.O.:			
Sampled By:	J.Gibson	Acct code:			
Company:	J.Gibson				

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

Notes To Clients:

- Some total metal results were less than dissolved metal results for lot 871423. The results were verified and are within expected measurement uncertainty.
- Analysis was performed on samples 871423-1 to 12 that exceeded the recommended holding time for Water Nitrate analysis.
- pH analysis was performed past the recommended holding time of 15 minutes from sample collection.

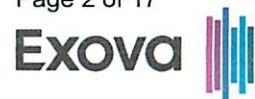
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Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-1	871423-2	871423-3	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #1 / Surface / Samples were collected May 13/14	RAU #2 / Surface / Samples were collected May 13/14	RAU #3 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	15	15	12	0.5
Orthophosphate-P	Dissolved	mg/L	0.002	<0.002	<0.002	0.002
Ammonia - N		mg/L	<0.01	0.06	0.04	
Nitrate - N		mg/L	0.10	0.19	0.08	0.01
Nitrite - N		mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Aluminum	Dissolved	mg/L	0.030	0.066	0.011	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0002	0.0003	0.0004	0.0002
Barium	Dissolved	mg/L	0.029	0.021	0.054	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	0.00006	0.00001	0.00004	0.00001
Chromium	Dissolved	mg/L	0.0006	0.0006	0.0008	0.0004
Cobalt	Dissolved	mg/L	<0.00002	0.00035	<0.00002	0.00002
Copper	Dissolved	mg/L	<0.001	0.002	0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	<0.001	0.002	<0.001	0.001
Molybdenum	Dissolved	mg/L	0.0006	0.0002	0.0014	0.0001
Nickel	Dissolved	mg/L	0.001	0.002	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
Strontium	Dissolved	mg/L	0.043	0.040	0.037	0.001
Sulfur	Dissolved	mg/L	3.4	6.5	4.9	0.2
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
Titanium	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Uranium	Dissolved	mg/L	0.0004	<0.0004	0.0013	0.0004
Vanadium	Dissolved	mg/L	0.0002	0.0002	0.0002	0.0001
Zinc	Dissolved	mg/L	0.004	0.004	0.002	0.001
Zirconium	Dissolved	mg/L	0.0001	0.0001	<0.0001	0.0001



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-1	871423-2	871423-3	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #1 / Surface / Samples were collected May 13/14	RAU #2 / Surface / Samples were collected May 13/14	RAU #3 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total						
Calcium	Total	mg/L	23.5	22.1	31.6	0.05
Iron	Total	mg/L	0.132	1.09	0.219	0.01
Magnesium	Total	mg/L	3.60	6.92	8.65	0.05
Manganese	Total	mg/L	0.018	0.570	0.032	0.005
Phosphorus	Total	mg/L	0.020	0.027	0.016	0.01
Potassium	Total	mg/L	0.6	0.6	1.1	0.1
Silicon	Total	mg/L	1.32	1.76	1.61	0.05
Sulfur	Total	mg/L	3.7	6.8	5.0	0.1
Sodium	Total	mg/L	0.46	0.77	0.41	0.02
Titanium	Total	mg/L	0.002	<0.001	<0.001	0.001
Aluminum	Total	mg/L	0.078	0.108	0.037	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0002	0.0012	0.0006	0.0002
Barium	Total	mg/L	0.033	0.034	0.057	0.001
Beryllium	Total	mg/L	<0.00004	0.00004	<0.00004	0.00004
Bismuth	Total	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Total	mg/L	<0.005	<0.005	0.005	0.004
Cadmium	Total	mg/L	0.00010	0.00010	0.00009	0.00001
Chromium	Total	mg/L	0.0004	<0.0004	<0.0004	0.0004
Cobalt	Total	mg/L	0.00013	0.00204	0.00011	0.00002
Copper	Total	mg/L	0.001	0.002	0.002	0.001
Lead	Total	mg/L	0.0002	0.0005	0.0002	0.0001
Lithium	Total	mg/L	0.001	0.003	<0.001	0.001
Molybdenum	Total	mg/L	0.0006	0.0002	0.0016	0.0001
Nickel	Total	mg/L	0.002	0.004	0.002	0.001
Selenium	Total	mg/L	<0.0006	<0.0006	<0.0006	0.0006
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.045	0.044	0.037	0.001
Tellurium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Total	mg/L	0.0004	<0.0004	0.0013	0.0004
Vanadium	Total	mg/L	0.0004	0.0005	0.0003	0.0001
Zinc	Total	mg/L	0.007	0.012	0.004	0.001



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-1	871423-2	871423-3	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #1 / Surface / Samples were collected May 13/14	RAU #2 / Surface / Samples were collected May 13/14	RAU #3 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Zirconium	Total	mg/L	0.0004	0.0003	0.0002	0.0001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	14	28	18	2
Solids	Total Dissolved	mg/L	126	140	162	5
Routine Water						
pH	at 25 °C		7.58	7.58	7.86	
Electrical Conductivity		µS/cm at 25 C	129	152	206	1
Calcium	Dissolved	mg/L	21.9	21.0	31.6	0.1
Iron	Dissolved	mg/L	0.044	0.185	0.080	0.005
Magnesium	Dissolved	mg/L	3.2	6.6	8.6	0.1
Manganese	Dissolved	mg/L	0.007	0.102	0.006	0.001
Phosphorus	Dissolved	mg/L	<0.01	0.01	<0.01	0.01
Potassium	Dissolved	mg/L	0.5	0.6	1.2	0.1
Silicon	Dissolved	mg/L	1.19	1.60	1.49	0.05
Sodium	Dissolved	mg/L	0.4	0.7	0.4	0.1
Bicarbonate		mg/L	64	67	117	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO ₃	mg/L	53	55	96	5
Chloride	Dissolved	mg/L	<0.5	<0.5	<0.5	0.05
Sulfate (SO ₄)	Dissolved	mg/L	11	22	15	0.5
Hardness	as CaCO ₃	mg/L	68	80	110	5
Hardness	Total	mg CaCO ₃ /L	73.5	83.6	114	1



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-4	871423-5	871423-6	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #4 / Surface / Samples were collected May 13/14	RAU #5 / Surface / Samples were collected May 13/14	RAU #7 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	5.3	7.9	2.5	0.5
Orthophosphate-P	Dissolved	mg/L	0.003	0.005	<0.002	0.002
Ammonia - N		mg/L	0.05	0.06	<0.01	
Nitrate - N		mg/L	0.38	0.17	0.43	0.01
Nitrite - N		mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	0.0006	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0017	0.0005	0.0002	0.0002
Barium	Dissolved	mg/L	0.102	0.097	0.143	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	0.00002	0.00050	<0.00001	0.00001
Chromium	Dissolved	mg/L	0.0013	0.0014	0.0012	0.0004
Cobalt	Dissolved	mg/L	<0.00002	0.00003	<0.00002	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	0.002	<0.001	0.001
Molybdenum	Dissolved	mg/L	0.0012	0.0051	0.0003	0.0001
Nickel	Dissolved	mg/L	<0.001	0.012	<0.001	0.001
Selenium	Dissolved	mg/L	<0.0006	0.0037	<0.0006	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Dissolved	mg/L	0.068	0.141	0.040	0.001
Sulfur	Dissolved	mg/L	10.3	11.7	10.4	0.2
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	0.00002	<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
Titanium	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Uranium	Dissolved	mg/L	0.0026	0.0097	0.0016	0.0004
Vanadium	Dissolved	mg/L	0.0004	0.0007	0.0004	0.0001
Zinc	Dissolved	mg/L	0.006	0.062	0.003	0.001
Zirconium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-4	871423-5	871423-6	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #4 / Surface / Samples were collected May 13/14	RAU #5 / Surface / Samples were collected May 13/14	RAU #7 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total						
Calcium	Total	mg/L	52.7	66.1	46.9	0.05
Iron	Total	mg/L	0.168	0.202	0.123	0.01
Magnesium	Total	mg/L	19.6	24.9	25.0	0.05
Manganese	Total	mg/L	0.008	0.021	0.006	0.005
Phosphorus	Total	mg/L	0.015	0.026	<0.01	0.01
Potassium	Total	mg/L	1.0	1.1	0.4	0.1
Silicon	Total	mg/L	2.30	2.70	2.12	0.05
Sulfur	Total	mg/L	9.8	11.7	10.6	0.1
Sodium	Total	mg/L	0.51	0.68	0.40	0.02
Titanium	Total	mg/L	0.004	0.004	0.004	0.001
Aluminum	Total	mg/L	0.062	0.062	0.080	0.005
Antimony	Total	mg/L	<0.0002	0.0006	<0.0002	0.0002
Arsenic	Total	mg/L	0.0021	0.0006	0.0004	0.0002
Barium	Total	mg/L	0.109	0.103	0.155	0.001
Beryllium	Total	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Total	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Total	mg/L	<0.005	<0.005	<0.005	0.004
Cadmium	Total	mg/L	0.00003	0.00067	0.00003	0.00001
Chromium	Total	mg/L	0.0004	<0.0004	0.0006	0.0004
Cobalt	Total	mg/L	0.00014	0.00027	0.00014	0.00002
Copper	Total	mg/L	<0.001	0.002	<0.001	0.001
Lead	Total	mg/L	0.0002	0.0004	0.0006	0.0001
Lithium	Total	mg/L	0.001	0.002	<0.001	0.001
Molybdenum	Total	mg/L	0.0013	0.0054	0.0002	0.0001
Nickel	Total	mg/L	0.001	0.015	0.001	0.001
Selenium	Total	mg/L	<0.0006	0.0030	<0.0006	0.0006
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.072	0.151	0.043	0.001
Tellurium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Total	mg/L	<0.00001	0.00003	<0.00001	0.00001
Thorium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Total	mg/L	0.0028	0.0103	0.0017	0.0004
Vanadium	Total	mg/L	0.0004	0.001	0.0005	0.0001
Zinc	Total	mg/L	0.011	0.078	0.011	0.001

Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-4	871423-5	871423-6	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #4 / Surface / Samples were collected May 13/14	RAU #5 / Surface / Samples were collected May 13/14	RAU #7 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Zirconium	Total	mg/L	<0.0001	0.0002	<0.0001	0.0001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	6	116	19	2
Solids	Total Dissolved	mg/L	248	306	248	5
Routine Water						
pH	at 25 °C		8.09	7.88	8.10	
Electrical Conductivity		µS/cm at 25 C	354	447	366	1
Calcium	Dissolved	mg/L	49.9	64.1	43.1	0.1
Iron	Dissolved	mg/L	0.020	0.033	<0.005	0.005
Magnesium	Dissolved	mg/L	18.5	24.2	23.0	0.1
Manganese	Dissolved	mg/L	0.001	0.008	<0.001	0.001
Phosphorus	Dissolved	mg/L	<0.01	0.02	<0.01	0.01
Potassium	Dissolved	mg/L	1	1.0	0.3	0.1
Silicon	Dissolved	mg/L	2.13	2.47	1.90	0.05
Sodium	Dissolved	mg/L	0.4	0.6	0.3	0.1
Bicarbonate		mg/L	203	267	211	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	166	219	173	5
Chloride	Dissolved	mg/L	0.13	0.7	0.14	0.05
Sulfate (SO4)	Dissolved	mg/L	32.7	37	33.4	0.5
Hardness	as CaCO3	mg/L	201	260	202	5
Hardness	Total	mg CaCO3/L	212	268	220	1



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-7	871423-8	871423-9	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #8 / Surface / Samples were collected May 13/14	RAU #9 / Surface / Samples were collected May 13/14	RAU #10 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	9.4	2.6	8.0	0.5
Orthophosphate-P	Dissolved	mg/L	<0.002	0.002	0.003	0.002
Ammonia - N		mg/L	<0.01	0.06	<0.01	
Nitrate - N		mg/L	0.02	0.31	0.06	0.01
Nitrite - N		mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Aluminum	Dissolved	mg/L	0.006	<0.005	0.016	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	<0.0002	0.0056	0.0003	0.0002
Barium	Dissolved	mg/L	0.063	0.134	0.042	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	0.00006	<0.00001	0.00001	0.00001
Chromium	Dissolved	mg/L	0.0009	0.0012	0.0009	0.0004
Cobalt	Dissolved	mg/L	<0.00002	<0.00002	0.00007	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	0.002	0.001
Molybdenum	Dissolved	mg/L	0.0003	0.0015	0.0006	0.0001
Nickel	Dissolved	mg/L	0.002	<0.001	0.002	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
Strontium	Dissolved	mg/L	0.023	0.063	0.096	0.001
Sulfur	Dissolved	mg/L	4.0	6.0	7.9	0.2
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	0.0006	0.0001
Titanium	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Uranium	Dissolved	mg/L	0.0016	0.0013	0.0007	0.0004
Vanadium	Dissolved	mg/L	0.0002	0.0003	0.0003	0.0001
Zinc	Dissolved	mg/L	0.031	0.002	0.002	0.001
Zirconium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001



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: J.Gibson

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

Lot ID: **871423**
Control Number: A216785
Date Received: May 22, 2012
Date Reported: May 28, 2012
Report Number: 1738511

		Reference Number	871423-7	871423-8	871423-9	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #8 / Surface / Samples were collected May 13/14	RAU #9 / Surface / Samples were collected May 13/14	RAU #10 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total						
Calcium	Total	mg/L	22.4	47.5	34.0	0.05
Iron	Total	mg/L	0.050	<0.01	0.342	0.01
Magnesium	Total	mg/L	8.08	14.4	13.1	0.05
Manganese	Total	mg/L	0.006	<0.005	0.036	0.005
Phosphorus	Total	mg/L	<0.01	<0.01	0.024	0.01
Potassium	Total	mg/L	0.3	0.9	0.8	0.1
Silicon	Total	mg/L	0.80	2.04	1.76	0.05
Sulfur	Total	mg/L	4.0	6.3	8.1	0.1
Sodium	Total	mg/L	0.21	0.31	1.18	0.02
Titanium	Total	mg/L	<0.001	<0.001	0.004	0.001
Aluminum	Total	mg/L	0.015	<0.005	0.095	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	<0.0002	0.0056	0.0004	0.0002
Barium	Total	mg/L	0.063	0.130	0.047	0.001
Beryllium	Total	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Total	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Total	mg/L	<0.005	<0.005	<0.005	0.004
Cadmium	Total	mg/L	0.00011	<0.00001	0.00002	0.00001
Chromium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Cobalt	Total	mg/L	0.00006	0.00005	0.00029	0.00002
Copper	Total	mg/L	<0.001	<0.001	0.002	0.001
Lead	Total	mg/L	0.0002	<0.0001	0.0005	0.0001
Lithium	Total	mg/L	<0.001	<0.001	0.002	0.001
Molybdenum	Total	mg/L	0.0003	0.0016	0.0006	0.0001
Nickel	Total	mg/L	0.002	<0.001	0.003	0.001
Selenium	Total	mg/L	<0.0006	<0.0006	<0.0006	0.0006
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.024	0.063	0.10	0.001
Tellurium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Total	mg/L	0.0017	0.0014	0.0008	0.0004
Vanadium	Total	mg/L	0.0002	<0.0001	0.0005	0.0001
Zinc	Total	mg/L	0.031	0.004	0.005	0.001



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-7	871423-8	871423-9	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #8 / Surface / Samples were collected May 13/14	RAU #9 / Surface / Samples were collected May 13/14	RAU #10 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Zirconium	Total	mg/L	<0.0001	<0.0001	0.0001	0.0001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	22	2
Solids	Total Dissolved	mg/L	142	236	184	5
Routine Water						
pH	at 25 °C		7.59	7.92	7.78	
Electrical Conductivity		µS/cm at 25 C	166	334	251	1
Calcium	Dissolved	mg/L	22.4	47.9	32.0	0.1
Iron	Dissolved	mg/L	0.032	<0.005	0.092	0.005
Magnesium	Dissolved	mg/L	8.0	14.4	12.3	0.1
Manganese	Dissolved	mg/L	0.002	0.002	0.014	0.001
Phosphorus	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Potassium	Dissolved	mg/L	0.3	0.9	0.6	0.1
Silicon	Dissolved	mg/L	0.77	1.92	1.57	0.05
Sodium	Dissolved	mg/L	0.2	0.3	1.1	0.1
Bicarbonate		mg/L	91	198	126	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	74	162	103	5
Chloride	Dissolved	mg/L	<0.5	0.11	0.8	0.05
Sulfate (SO4)	Dissolved	mg/L	12	18.9	25	0.5
Hardness	as CaCO3	mg/L	89	179	130	5
Hardness	Total	mg CaCO3/L	89.3	178	139	1



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-10	871423-11	871423-12	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #11 / Surface / Samples were collected May 13/14	RAU #12 / Surface / Samples were collected May 13/14	RAU #13 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	3.4	1.5	11.2	0.5
Orthophosphate-P	Dissolved	mg/L	<0.002	<0.002	0.003	0.002
Ammonia - N		mg/L	0.06	<0.01	0.06	
Nitrate - N		mg/L	<0.01	0.41	0.12	0.01
Nitrite - N		mg/L	<0.005	<0.005	0.005	0.005
Metals Dissolved						
Aluminum	Dissolved	mg/L	<0.005	<0.005	0.021	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	<0.0002	0.0071	0.0016	0.0002
Barium	Dissolved	mg/L	0.011	0.130	0.051	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	0.006	0.004
Cadmium	Dissolved	mg/L	<0.00001	<0.00001	0.00013	0.00001
Chromium	Dissolved	mg/L	<0.0004	0.0011	0.0009	0.0004
Cobalt	Dissolved	mg/L	<0.00002	<0.00002	0.00006	0.00002
Copper	Dissolved	mg/L	<0.001	<0.001	0.002	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	<0.001	<0.001	0.002	0.001
Molybdenum	Dissolved	mg/L	<0.0001	0.0019	0.0020	0.0001
Nickel	Dissolved	mg/L	<0.001	<0.001	0.008	0.001
Selenium	Dissolved	mg/L	<0.0006	<0.0006	0.0007	0.0006
Silver	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Dissolved	mg/L	0.003	0.070	0.064	0.001
Sulfur	Dissolved	mg/L	<0.2	6.7	7.8	0.2
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
Titanium	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Uranium	Dissolved	mg/L	<0.0004	0.0016	0.0020	0.0004
Vanadium	Dissolved	mg/L	<0.0001	0.0003	0.0004	0.0001
Zinc	Dissolved	mg/L	0.003	0.004	0.025	0.001
Zirconium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001

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: J.Gibson

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

Lot ID: **871423**
Control Number: A216785
Date Received: May 22, 2012
Date Reported: May 28, 2012
Report Number: 1738511

		Reference Number	871423-10	871423-11	871423-12	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #11 / Surface / Samples were collected May 13/14	RAU #12 / Surface / Samples were collected May 13/14	RAU #13 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total						
Calcium	Total	mg/L	1.55	52.6	41.3	0.05
Iron	Total	mg/L	0.012	<0.01	0.765	0.01
Magnesium	Total	mg/L	0.33	15.7	11.1	0.05
Manganese	Total	mg/L	<0.005	<0.005	0.054	0.005
Phosphorus	Total	mg/L	<0.01	<0.01	0.063	0.01
Potassium	Total	mg/L	0.4	1.0	1.4	0.1
Silicon	Total	mg/L	0.11	2.10	1.95	0.05
Sulfur	Total	mg/L	<0.1	6.9	8.2	0.1
Sodium	Total	mg/L	0.13	0.40	0.94	0.02
Titanium	Total	mg/L	<0.001	<0.001	0.003	0.001
Aluminum	Total	mg/L	0.005	<0.005	0.026	0.005
Antimony	Total	mg/L	0.0004	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	<0.0002	0.0066	0.0028	0.0002
Barium	Total	mg/L	0.007	0.132	0.069	0.001
Beryllium	Total	mg/L	<0.00004	<0.00004	<0.00004	0.00004
Bismuth	Total	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Total	mg/L	<0.005	<0.005	0.006	0.004
Cadmium	Total	mg/L	0.00002	<0.00001	0.00038	0.00001
Chromium	Total	mg/L	<0.0004	<0.0004	0.0006	0.0004
Cobalt	Total	mg/L	<0.00002	0.00005	0.00053	0.00002
Copper	Total	mg/L	<0.001	<0.001	0.004	0.001
Lead	Total	mg/L	0.0002	<0.0001	0.0010	0.0001
Lithium	Total	mg/L	<0.001	<0.001	0.002	0.001
Molybdenum	Total	mg/L	<0.0001	0.0020	0.0021	0.0001
Nickel	Total	mg/L	<0.001	0.001	0.012	0.001
Selenium	Total	mg/L	<0.0006	<0.0006	<0.0006	0.0006
Silver	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.002	0.072	0.068	0.001
Tellurium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Total	mg/L	<0.00001	<0.00001	0.00002	0.00001
Thorium	Total	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Total	mg/L	<0.0004	0.0017	0.0022	0.0004
Vanadium	Total	mg/L	<0.0001	<0.0001	0.0013	0.0001
Zinc	Total	mg/L	0.004	0.003	0.045	0.001



Analytical Report

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

		Reference Number	871423-10	871423-11	871423-12	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	RAU #11 / Surface / Samples were collected May 13/14	RAU #12 / Surface / Samples were collected May 13/14	RAU #13 / Surface / Samples were collected May 13/14	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Zirconium	Total	mg/L	<0.0001	<0.0001	0.0002	0.0001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	86	2
Solids	Total Dissolved	mg/L	28	230	192	5
Routine Water						
pH	at 25 °C		6.54	7.89	7.75	
Electrical Conductivity		µS/cm at 25 C	10	350	260	1
Calcium	Dissolved	mg/L	2.5	50.3	38.8	0.1
Iron	Dissolved	mg/L	<0.005	<0.005	0.145	0.005
Magnesium	Dissolved	mg/L	0.6	15.0	10.2	0.1
Manganese	Dissolved	mg/L	0.002	<0.001	0.012	0.001
Phosphorus	Dissolved	mg/L	<0.01	<0.01	0.01	0.01
Potassium	Dissolved	mg/L	0.5	0.9	1.4	0.1
Silicon	Dissolved	mg/L	0.16	1.97	1.60	0.05
Sodium	Dissolved	mg/L	<0.1	0.3	0.9	0.1
Bicarbonate		mg/L	<5	205	133	5
Carbonate		mg/L	<6	<6	<6	6
Hydroxide		mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO ₃	mg/L	<5	168	109	5
Chloride	Dissolved	mg/L	0.08	0.12	1.4	0.05
Sulfate (SO ₄)	Dissolved	mg/L	<0.5	21.5	26	0.5
Hardness	as CaCO ₃	mg/L	8	187	139	5
Hardness	Total	mg CaCO ₃ /L	5.2	196	149	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: J.Gibson

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

Lot ID: **871423**
 Control Number: A216785
 Date Received: May 22, 2012
 Date Reported: May 28, 2012
 Report Number: 1738511

Reference Number 871423-13
 Sample Date
 Sample Time
 Sample Location
 Sample Description RAU #12 - Duplicate
 / Surface / Samples
 were collected May
 13/14
 Matrix Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Dissolved						
Aluminum	Dissolved	mg/L	<0.005			0.005
Antimony	Dissolved	mg/L	<0.0002			0.0002
Arsenic	Dissolved	mg/L	0.0069			0.0002
Barium	Dissolved	mg/L	0.130			0.001
Beryllium	Dissolved	mg/L	<0.00004			0.00004
Bismuth	Dissolved	mg/L	<0.001			0.001
Boron	Dissolved	mg/L	<0.004			0.004
Cadmium	Dissolved	mg/L	<0.00001			0.00001
Chromium	Dissolved	mg/L	0.001			0.0004
Cobalt	Dissolved	mg/L	<0.00002			0.00002
Copper	Dissolved	mg/L	<0.001			0.001
Lead	Dissolved	mg/L	<0.0001			0.0001
Lithium	Dissolved	mg/L	<0.001			0.001
Molybdenum	Dissolved	mg/L	0.0019			0.0001
Nickel	Dissolved	mg/L	<0.001			0.001
Selenium	Dissolved	mg/L	<0.0006			0.0006
Silver	Dissolved	mg/L	<0.00001			0.00001
Strontium	Dissolved	mg/L	0.069			0.001
Sulfur	Dissolved	mg/L	6.9			0.2
Tellurium	Dissolved	mg/L	<0.0001			0.0001
Thallium	Dissolved	mg/L	<0.00001			0.00001
Thorium	Dissolved	mg/L	<0.0004			0.0004
Tin	Dissolved	mg/L	<0.0001			0.0001
Titanium	Dissolved	mg/L	<0.01			0.01
Uranium	Dissolved	mg/L	0.0016			0.0004
Vanadium	Dissolved	mg/L	0.0002			0.0001
Zinc	Dissolved	mg/L	0.004			0.001
Zirconium	Dissolved	mg/L	<0.0001			0.0001
Metals Total						
Calcium	Total	mg/L	54.2			0.05
Iron	Total	mg/L	<0.01			0.01
Magnesium	Total	mg/L	16.1			0.05
Manganese	Total	mg/L	<0.005			0.005
Phosphorus	Total	mg/L	<0.01			0.01



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: J. Gibson

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

Lot ID: **871423**
 Control Number: A216785
 Date Received: May 22, 2012
 Date Reported: May 28, 2012
 Report Number: 1738511

Reference Number 871423-13
 Sample Date
 Sample Time
 Sample Location
 Sample Description RAU #12 - Duplicate
 / Surface / Samples
 were collected May
 13/14
 Matrix Water

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued					
Potassium Total	mg/L	1.0			0.1
Silicon Total	mg/L	2.08			0.05
Sulfur Total	mg/L	7.0			0.1
Sodium Total	mg/L	0.36			0.02
Titanium Total	mg/L	<0.001			0.001
Aluminum Total	mg/L	<0.005			0.005
Antimony Total	mg/L	<0.0002			0.0002
Arsenic Total	mg/L	0.0067			0.0002
Barium Total	mg/L	0.134			0.001
Beryllium Total	mg/L	<0.00004			0.00004
Bismuth Total	mg/L	<0.001			0.001
Boron Total	mg/L	<0.005			0.004
Cadmium Total	mg/L	<0.00001			0.00001
Chromium Total	mg/L	<0.0004			0.0004
Cobalt Total	mg/L	0.00005			0.00002
Copper Total	mg/L	<0.001			0.001
Lead Total	mg/L	<0.0001			0.0001
Lithium Total	mg/L	<0.001			0.001
Molybdenum Total	mg/L	0.0020			0.0001
Nickel Total	mg/L	<0.001			0.001
Selenium Total	mg/L	<0.0006			0.0006
Silver Total	mg/L	<0.00001			0.00001
Strontium Total	mg/L	0.072			0.001
Tellurium Total	mg/L	<0.0001			0.0001
Thallium Total	mg/L	<0.00001			0.00001
Thorium Total	mg/L	<0.0004			0.0004
Tin Total	mg/L	<0.0001			0.0001
Uranium Total	mg/L	0.0017			0.0004
Vanadium Total	mg/L	<0.0001			0.0001
Zinc Total	mg/L	0.004			0.001
Zirconium Total	mg/L	<0.0001			0.0001
Routine Water					
Calcium Dissolved	mg/L	50.4			0.1
Iron Dissolved	mg/L	<0.005			0.005

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W: www.exova.com



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: J. Gibson

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

Lot ID: **871423**
Control Number: A216785
Date Received: May 22, 2012
Date Reported: May 28, 2012
Report Number: 1738511

Reference Number 871423-13
Sample Date
Sample Time
Sample Location
Sample Description RAU #12 - Duplicate
/ Surface / Samples
were collected May
13/14
Matrix Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Routine Water - Continued						
Magnesium	Dissolved	mg/L	15.0			0.1
Manganese	Dissolved	mg/L	<0.001			0.001
Phosphorus	Dissolved	mg/L	<0.01			0.01
Potassium	Dissolved	mg/L	1.0			0.1
Silicon	Dissolved	mg/L	1.96			0.05
Sodium	Dissolved	mg/L	0.3			0.1
Hardness	as CaCO3	mg/L	188			5

Approved by: 
Mathieu Simoneau
Operations Manager

Methodology and Notes

Bill To: J. Gibson & Associates	Project:	Lot ID: 871423
Report To: J. Gibson & Associates	ID: Atac Resources	Control Number: A216785
Box 20913	Name: RAU Project	Date Received: May 22, 2012
Whitehorse, YT, Canada	Location:	Date Reported: May 28, 2012
Y1A 6P2	LSD:	Report Number: 1738511
Attn: John Gibson	P.O.:	
Sampled By: J.Gibson	Acct code:	
Company: J.Gibson		

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Alk, pH, EC, Turb in water	APHA	* Alkalinity - Titration Method, 2320 B	22-May-12	Exova Surrey
Alk, pH, EC, Turb in water	APHA	* Conductivity, 2510 B	22-May-12	Exova Surrey
Alk, pH, EC, Turb in water	APHA	* pH - Electrometric Method, 4500-H+ B	22-May-12	Exova Surrey
Ammonia-N in Water	APHA	* Titrametric, 4500-NH3 C	23-May-12	Exova Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	22-May-12	Exova Surrey
Carbon Organic (Total) in water (TOC)	APHA	High-Temperature Combustion Method, 5310 B	25-May-12	Exova Edmonton
Metals SemiTrace (Dissolved) in water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	22-May-12	Exova Surrey
Metals SemiTrace (Total) in Water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	22-May-12	Exova Surrey
Nitrogen - nitrite+nitrate-N	APHA	* Automated Cadmium Reduction Method, 4500-NO3- F	22-May-12	Exova Surrey
Phosphorus - total reactive P (orthophosphate)	APHA	Ascorbic Acid Reduction Method, 4500 -P E	22-May-12	Exova Surrey
Solids Dissolved (Total, Fixed and Volatile)2	APHA	* Total Dissolved Solids Dried at 180 C, 2540 C	23-May-12	Exova Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	23-May-12	Exova Surrey
Trace Metals (dissolved) in Water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	22-May-12	Exova Surrey
Trace Metals (dissolved) in Water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	22-May-12	Exova Surrey
Trace Metals (Total) in Water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	22-May-12	Exova Surrey
Trace Metals (Total) in Water	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	22-May-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:

- Some total metal results were less than dissolved metal results for lot 871423. The results were verified and are within expected measurement uncertainty.
- Analysis was performed on samples 871423-1 to 12 that exceeded the recommended holding time for Water Nitrate analysis.
- pH analysis was performed past the recommended holding time of 15 minutes from sample collection.

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Page 17 of 17

Exova



Methodology and Notes

Bill To:	J. Gibson & Associates	Project:		Lot ID:	871423
Report To:	J. Gibson & Associates	ID:	Atac Resources	Control Number:	A216785
	Box 20913	Name:	RAU Project	Date Received:	May 22, 2012
	Whitehorse, YT, Canada	Location:		Date Reported:	May 28, 2012
	Y1A 6P2	LSD:		Report Number:	1738511
Attn:	John Gibson	P.O.:			
Sampled By:	J.Gibson	Acct code:			
Company:	J.Gibson				

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



LOT: 871423

COC



Control Number A216780

www.exova.com

Environmental Sample Information Sheet

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

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

Information to be included on Report and Invoice

Project ID: **ATAC RESOURCES**
Project Name: **RAU PROJECT**
Project Location:
Legal Location:
PO#:
Proj. Acct. Code: 6646
Agreement ID:

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.

Date Required: _____
Signature: _____

Sample Custody (Please Print)

Sampled by: **J GIBSON**Company: _____ Signature: **JG**

I authorize Exova to proceed with the work indicated on this form:

Date: **May 16/12** Initial: **JG**Received by: **RECEIVED** Sample Temp: **7.0°C**Waybill # **MAY 22 2012** Date: _____

Company: _____ Time: _____

Special Instructions / Comments

R CHEM = PH, EC, OP4, CL, N₂, N₃, SO₄, TS, TDS, HARD, TALK

DIS METALS FIELD FILTER

METALS + NITRIC

Please indicate which regulations you are required to meet:

NH₄ + SULFURIC

TUC + HCL

☐ Health Canada Drinking Water Quality

☐ Alberta Tier 1

☐ Other: _____

	Sample Identification	Location	Depth			Date/Time Sampled	Matrix	Sampling Method	↓	Enter tests above (✓ relevant samples below)									
			IN	CM	M														
1	RAU #1	SURFACE				May 13/12	H ₂ O	Grab	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	RAU #2	↓				↓	↓	↓	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	RAU #3								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	RAU #4								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	RAU #5								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	RAU #6								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	RAU #8								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	RAU #9								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9	RAU #10								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10	RAU #11								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11	RAU #12								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12	RAU #13								5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13	RAU #12 DUPLICATE								2					✓	✓				

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

Page 1 of 1

Table 4. ATAC RESOURCES - Summary of Rau Project Stations Flow Volumes 2008-2012
(Cubic meters per second)

Station	Date																	
	Aug-08	Oct-08	Jun-09	Jul-09	Oct-09	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
Rau #1	0.502	0.734	0.747	0.129	0.147	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
Rau #2	0.234	0.43	0.287	0.053	nr	nr	0.281	0.20	0.084	nr	nr	0.815	0.411	0.166	0.091	nr	nr	nr
Rau #3	0.493	0.69	0.461	0.129	0.192	nr	0.449	0.418	0.187	nr	nr	0.774	0.485	0.317	nr	0.02		nr
Rau #4	0.043	nr	0.066	0.069	0.079	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
Rau #5	0.038	nr	0.023	0.022	nr	nr	.06(E)	0.024	0.018	nr	nr	0.036	0.039	0.034	0.018	0.0		0.0728
Rau #6	.025 (E)	nr	.01 (E)	0.003	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
Rau #7	0.027	0.042	0.039	0.017	0.024	nr	0.058	0.029	0.018	0.008	0.011	0.069	0.046	0.035	0.031	0.006		0.0229
Rau #8	0.074	nr	0.374	0.087	0.108	nr	0.326	0.298	0.104	0.006	0.04	0.371	0.413	0.313	0.137	0.005		0.1557
Rau #9	nr	nr	nr	0.019	nr	.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
Rau #10	nr	nr	nr	11.85	nr	4.753	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	12.31	nr
Rau #11																	<0.0001	<0.0001
Rau #12																	0.00086	0.0045
Rau #13																	0.0784	0.5546

(E) = estimated flow