Rock Haven Resources Ltd.

Klaza Property

Baseline Water Quality / Hydrology Survey

May, 2016

J.Gibson Env. Consulting *Whitehorse, Yukon*

Klaza Property May 2016

Rock Haven Resources Ltd. requested baseline water quality / hydrology surveys be conducted quarterly on the surface waters draining the area of the KLAZA Claims.

The KLAZA Claims are located on tributaries to the Nansen Creek and the Klaza River approx. 75 kilometers east of Carmacks.

All surface waters are tributaries to the Klaza River and the Yukon River.

All sites were accessed by ATV on May 12th and 13th, 2016.

The surface water baseline survey consisted of water quality samples for routine chemistry, total metals, dissolved metals, total organic carbon and total cyanide with field measurements for pH, water temperature and flow volumes.

Groundwater monitoring of wells developed in November 2015 consisted of locating the wells in January for standing water levels, purging and sampling wells with sufficient standing water in May, 2016. Wells were sampled for routine chemistry, total and dissolved metals, total Kjeldahl nitrogen, ionic balance and acidity.

The ONSET / HOBO weather station was downloaded May 13, 2016 and the solar radiation sensor changed.

Sample Locations

Ten potential water quality sample sites were identified for the KLAZA Claims in March 2012.
An additional site was added in July, 2014; Station KZ-11 is located at the effluent discharge point of the "China Creek' placer operation prior to entering the Klaza River.

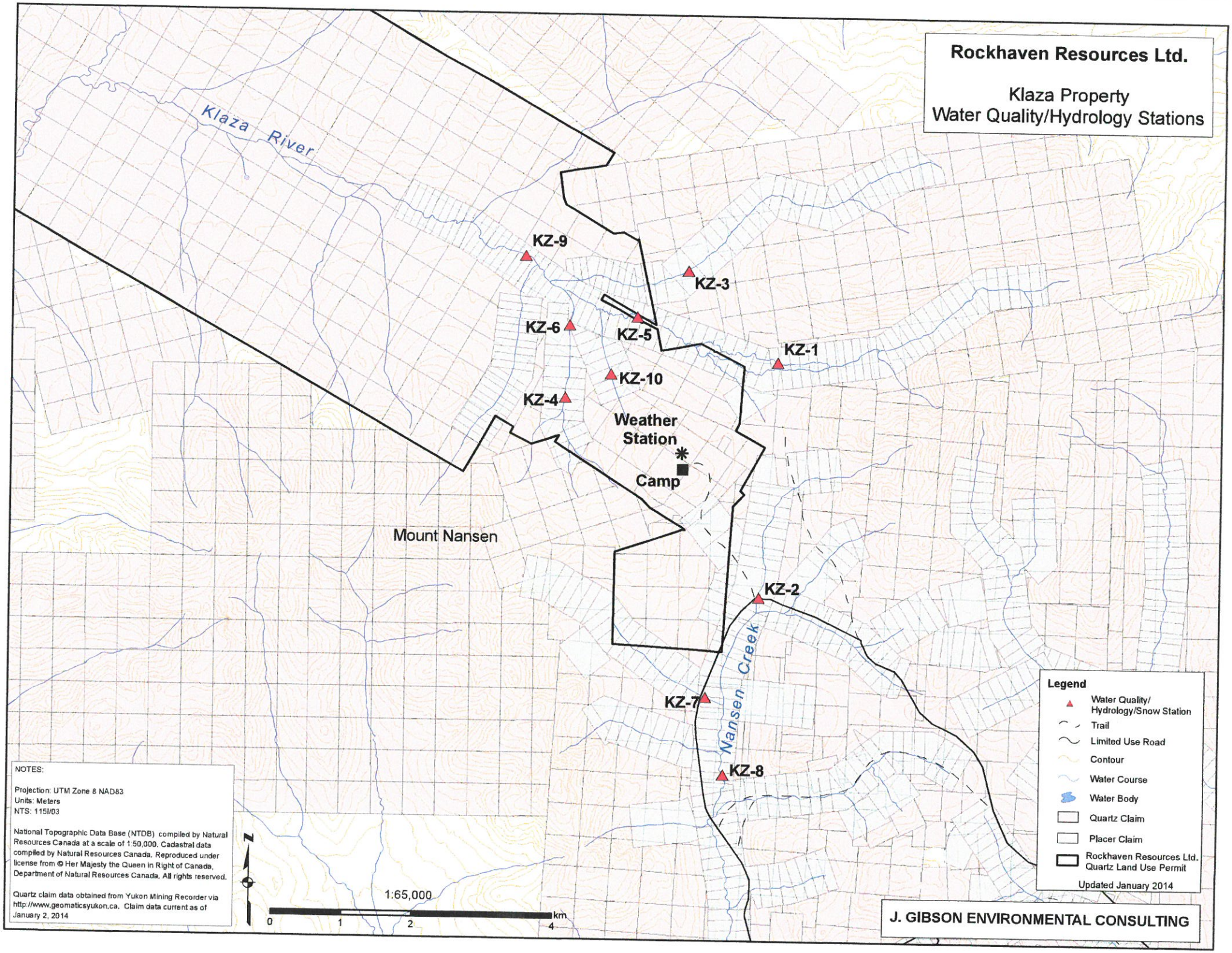
Groundwater Monitoring wells developed in 2015 are also listed.

Surface water sites are on the attached location map.

The Mt Nansen and upper Klaza River are historic placer mining areas.

Main stem Nansen Creek and tributaries as well as Klaza River tributaries have been equipment mined over the past 3 decades.

An abandoned hard rock gold mine is located approximately 5 kilometers to the east of the Klaza Property.


Rockhaven Resources Ltd.
Klaza Property
Water Quality/Hydrology Stations
Klaza River
KZ-9
KZ-3
KZ-6
KZ-5
KZ-1
KZ-10
KZ-4
Weather Station
Camp
Mount Nansen
KZ-2
Nansen Creek
KZ-7
KZ-8
Legend
Water Quality/ Hydrology/Snow Station
Trail
Limited Use Road
Contour
Water Course
Water Body
Quartz Claim
Placer Claim
Rockhaven Resources Ltd. Quartz Land Use Permit
Updated January 2014
NOTES:
Projection: UTM Zone 8 NAD83
Units: Meters
NTS: 115I/03
National Topographic Data Base (NTDB) compiled by Natural Resources Canada at a scale of 1:50,000. Cadastral data compiled by Natural Resources Canada. Reproduced under license from © Her Majesty the Queen in Right of Canada, Department of Natural Resources Canada. All rights reserved.
Quartz claim data obtained from Yukon Mining Recorder via http://www.geomaticsyukon.ca. Claim data current as of January 2, 2014
N
1:65,000
0 1 2 4 km
J. GIBSON ENVIRONMENTAL CONSULTING

In May 2016 placer operators on EF Nansen and China Creek were onsite but not sluicing.

KLAZA Claim sample station designations and coordinates are:

Station #	LAT/LONG Coordinates	
Surface Waters		
KLAZA-1	62.132	137.216
KLAZA-2	62.101	137.218
KLAZA-3	62.143	137.242
KLAZA-4	62.126	137.274
KLAZA-5	62.137	137.255
KLAZA-6	62.135	137.273
KLAZA-7	62.088	137.232
KLAZA-8	62.079	137.226
KLAZA-9	62.144	137.286
KLAZA-10	62.129	137.261
KLAZA -11	no data	
Groundwater Monitoring Wells		
MW15-01	383413 E	6888610 N
MW15-02	383355 E	6890004 N
MW15-03	383056 E	6890592 N
MW15-04	382484 E	6891020 N
MW15-05	381552 E	6890347 N
Thermistor String Well		
GTC15-01	382824 E	6890304 N

Sample Parameters

All surface and groundwater wells stations were sampled for total metals, dissolved metals, routine chemistry. Surface waters had the addition of total organic carbon, total cyanide and total mercury; with groundwater having total Kjeldahl nitrogen, acidity and ionic balance added.

Dissolved metals samples were filtered onsite using disposable 60 ml syringes and 0.45 micron filters. New syringes and filters were used for each station.

Total and dissolved metal samples were preserved with nitric acid immediately after sampling.

Total Organic Carbon samples were preserved with HCL immediately after sampling.

Total cyanide samples were preserved with sodium hydroxide immediately after sampling.

Surface water Quality Control samples were taken at Station KZ-6 on this survey.

Ground water monitoring wells were located, standing water levels were measured and samples taken of the two wells with unfrozen / sufficient standing water, Well MW15-05D and Well MW15-02S. All other wells were dry or remained frozen.

The data loggers in Wells MW15-01 and MW15-05 were not download this survey, MW15-05 as it remains frozen.

Thermistor string measurements were taken at GTC15-01.

All samples were stored in coolers, kept at 4 Celsius and shipped by air cargo to the Exova Canada Inc. laboratory in Surrey B.C. for analysis within recommended holding times.

Field measurements for pH and conductivity were taken with an Oakton PCS TestR 35, water temperatures with a digital thermometer.

Stream flow volumes were measured with a Price Velocity meter and cross sectional area.

Analysis Results

Laboratory analysis and field measurement results are listed in the following tables:

Surface Waters

Table 1. KLAZA Stations Routine Chemistry – laboratory analysis and field Measurements. May 2016.

Table 2. KLAZA Stations Total Metals ICP–MS laboratory analysis results. May 2016.

Table 3. KLAZA Stations Dissolved Metals ICP–MS laboratory analysis results. May 2016.

Table 4. Flow Volume Measurement Summary 2012 – 2016

Table 5. Quality Control Analysis results for Station KZ-6, May 2016

Groundwater Wells

Table 6. Ground water well standing water levels 2016.

Table 7. Thermistor String Measurements 2016

Table 8. Ground water well Routine Chemistry – laboratory analysis and field Measurements. May 2016.

Table 9. Ground water well Total Metals ICP–MS laboratory analysis results. May 2016.

Table 10. Ground water well Dissolved Metals ICP–MS laboratory analysis results. May 2016.

As a guide for reviewing site water quality, the Maximum Acceptable Concentration (MAC) according to ***Canadian Drinking Water Quality*** are listed along with the Aquatic Guidelines for the protection of aquatic life in water with a pH of > 6.5 according to ***CCME – Canadian Water Quality Guidelines.***

All water quality ***Guideline*** concentrations are based on total metal values.

Laboratory Analytical Reports are attached in Appendix 1.

Data Summaries for each surface water station are on the attached disc.

Groundwater Data summaries will be generated when there are three data sets.

Table 1. RockHaven Resources - Klaza Property. Surface Waters Routine Chemistry / Field Measurements May 2016

Parameter	Unit	KZ-1	KZ-2	KZ-3	KZ-4	KZ-5	KZ-6	KZ-7	KZ-8	KZ-9	KZ-10	KZ-11	*DWQ* G.Lines*	*Aquatic** G.Lines*
pH (field)	ru	7.28	8.02	7.00	8.12	7.07	7.45	7.52	7.44	7.71	7.31			
pH (lab)	ru	6.81	6.64	6.29	6.73	6.58	6.89	6.76	6.95	6.68	6.71		*6.5-8.5*	*6.5-9*
Conductivity (lab)	us/cm	36	29	22	44	37	54	59	113	41	39			
Water Temp	C	6.1	4.2	6.5	0.7	6.2	3.7	1.7	3.6	4.2	9.5			
Flow Volume	cms	0.0854	0.0144	0.0955	0.1241	0.1873	nr	0.0847	nr	0.3246	0.0162	No Flow		
Organic Carbon Total	mg/L	13.6	13.1	17.2	14	11.8	13.5	15.5	11	11.2	19	No Sample		
Cyanide Total	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		*0.2*	*0.005*
Phosphorus Total	mg/L	0.012	0.012	0.018	0.037	0.011	0.024	0.033	0.58	0.02	0.016			
Ammonia - N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.03	<0.01	<0.01			*1.37-2.2*
Nitrate - N	mg/L	0.05	0.01	0.01	<0.01	0.02	<0.01	<0.01	0.02	0.03	0.02		*10*	
Nitrite - N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		*1*	*0.06*
T-Alkalinity	mg/L	16	12	7	17	15	22	17	29	17	15			
Chloride	mg/L	0.47	0.15	0.39	0.2	0.18	0.15	0.45	0.15	0.22	0.27		*<250*	
Sulfate (SO4)	mg/L	0.7	<0.5	<0.5	2.3	1.6	2.3	7.4	22.7	1.5	0.5			
Hardness as CaC03	mg/L	20.9	15.9	11.8	24.3	19	25.1	29.9	91.1	21.3	20.7		*<500*	
T.Suspended Solids	mg/L	<2	<2	<2	16	<2	7	10	682	8	6			
T.Dissolved Solids	mg/L	98	<5	38	52	40	<5	26	64	<5	44		*500*	

All results and limits in mg/L unless otherwise noted

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

Aquatic Guidelines for Protection of aquatic life in waters with pH>6.5 and hardness as CaC03>180 mg/L**

indicates concentration equal or exceeds Guidelines

Table 2. RockHaven Resources Klaza Property - Surface Waters Total Metals Analysis Results May 2016.

Parameter	Unit	KZ-1	KZ-2	KZ-3	KZ-4	KZ-5	KZ-6	KZ-7	KZ-8	KZ-9	KZ-10	KZ-11	*DWQ* G.Lines*	*Aquatic** G.Lines*
Calcium	mg/L	6.23	5.12	3.53	7.24	5.47	7.47	8.72	21.5	5.99	5.75			
Iron	mg/L	0.076	0.06	0.187	0.985	0.128	0.594	0.478	26.2	0.204	0.206	No Flow	*0.3*	*0.3*
Magnesium	mg/L	1.29	0.75	0.73	1.52	1.3	1.57	1.96	9.1	1.53	1.53	No Sample		
Manganese	mg/L	0.001	0.002	0.01	0.165	0.002	0.097	0.057	0.396	0.008	0.006		*0.05*	
Potassium	mg/L	0.6	0.9	0.6	0.8	0.6	0.8	0.8	4.6	0.6	0.7			
Silicon	mg/L	2.26	1.63	1.53	2.33	2.56	2.3	2.89	41.8	2.87	1.73			
Sulfur	mg/L	0.4	0.2	0.3	1	0.7	1	2.8	8.5	0.7	0.4			
Sodium	mg/L	0.7	0.38	0.54	0.71	0.91	0.73	1.08	2.95	0.98	0.77		*<200*	
Titanium	mg/L	0.002	0.002	0.002	0.013	0.001	0.009	0.015	0.695	0.004	0.004			
Aluminum	mg/L	0.172	0.131	0.306	0.397	0.11	0.268	0.35	15.2	0.183	0.297			
Antimony	mg/L	0.00006	0.00006	0.00003	0.00013	0.00005	0.00014	0.00011	0.00257	0.00007	0.00008		*0.006*	
Arsenic	mg/L	0.0002	0.0006	0.0002	0.0027	0.0003	0.0016	0.0011	0.0541	0.0005	0.0004		*0.01*	
Barium	mg/L	0.0243	0.0329	0.0194	0.0731	0.0301	0.0646	0.0207	0.251	0.0331	0.08			
Beryllium	mg/L	0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	0.00062	<0.00005	0.00006			
Bismuth	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0021	<0.0001	<0.0001			
Boron	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002		*5*	
Cadmium	mg/L	0.00002	0.00004	0.00003	0.00015	0.00002	0.00009	0.00016	0.00167	0.00003	0.00007		*0.005*	*0.0018*
Chromium	mg/L	<0.00005	0.00011	0.0001	0.00037	<0.00005	0.0002	0.00029	0.0137	0.00028	0.00026		*0.05*	*0.002*
Cobalt	mg/L	0.00004	0.00003	0.0001	0.00031	0.00004	0.00019	0.00021	0.0108	0.00007	0.00005			
Copper	mg/L	0.0018	0.0019	0.0015	0.003	0.0014	0.0029	0.0023	0.143	0.0016	0.0037		*1*	*0.004*
Lead	mg/L	0.00005	0.00014	0.00002	0.00162	0.00003	0.00095	0.0019	0.0476	0.00041	0.00022		*0.01*	*0.007*
Lithium	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0098	<0.0005	0.0005			
Mercury	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		*0.001*	*0.1*
Molybdenum	mg/L	0.00006	0.00006	0.00004	0.00027	0.00007	0.0003	0.00014	0.00331	0.00011	0.00012			
Nickel	mg/L	0.0003	0.0002	0.0006	0.0008	0.0004	0.0006	0.0005	0.0101	0.0005	0.0008			*0.15*
Selenium	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	<0.0002		*0.01*	*0.001*
Silver	mg/L	<0.00001	0.00002	<0.00001	0.00004	<0.00001	0.00002	0.00002	0.00086	0.00001	0.00002			*0.0001*
Strontium	mg/L	0.0443	0.0192	0.0246	0.0547	0.0365	0.0556	0.0669	0.2	0.0435	0.0377			
Thallium	mg/L	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00001	0.0003	<0.00001	<0.00001			
Tin	mg/L	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001			
Uranium	mg/L	0.00023	0.00006	0.00007	0.00026	0.00012	0.00027	0.00018	0.00294	0.00017	0.00042		*0.02*	
Vanadium	mg/L	0.00017	0.00011	0.00022	0.00096	0.00014	0.00063	0.00095	0.037	0.00059	0.00037			
Zinc	mg/L	0.0011	0.0021	0.0026	0.0073	0.0021	0.0041	0.0052	0.149	0.0021	0.0072		*<5*	*0.03*
Zirconium	mg/L	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0009	0.0193	0.0002	0.0003			

indicates concentration equal or exceeds Guidelines

Table 3. RockHaven Resources - Klaza Property Surface Waters Dissolved Metals Analysis Results May 2016

Parameter	Unit	KZ-1	KZ-2	KZ-3	KZ-4	KZ-5	KZ-6	KZ-7	KZ-8	KZ-9	KZ-10	KZ-11
Calcium	mg/L	6.2	5.1	3.5	6.9	5.5	7.5	9.8	15.2	6	5.7	
Iron	mg/L	0.067	0.036	0.146	0.196	0.112	0.181	0.252	0.336	0.105	0.143	No Flow
Magnesium	mg/L	1.3	0.7	0.7	1.4	1.3	1.5	1.9	3.8	1.5	1.5	No Sample
Manganese	mg/L	<0.001	<0.001	0.008	0.108	<0.001	0.077	0.052	0.118	0.005	0.004	
Potassium	mg/L	0.5	0.9	0.6	0.7	0.6	0.7	0.9	0.8	0.6	0.7	
Silicon	mg/L	2.22	1.6	1.49	1.81	2.55	1.97	2.65	3.69	2.7	1.58	
Sodium	mg/L	0.7	0.4	0.6	0.7	1	0.7	1.5	1.8	1	0.7	
Sulfur	mg/L	0.4	0.2	0.3	1	0.7	1	2.9	8.2	0.7	0.3	
Aluminum	mg/L	0.168	0.118	0.284	0.093	0.105	0.086	0.26	0.105	0.103	0.215	
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0003	<0.0002	<0.0002	
Arsenic	mg/L	<0.0002	0.0005	<0.0002	0.0009	0.0002	0.0008	0.0009	0.002	0.0003	0.0004	
Barium	mg/L	0.023	0.031	0.019	0.055	0.029	0.056	0.019	0.025	0.03	0.074	
Beryllium	mg/L	<0.00004	<0.00004	0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	0.00006	
Bismuth	mg/L	<0.001	<0.001	<0.001	<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	0.009	<0.004	<0.004	<0.004	
Cadmium	mg/L	0.00002	0.00005	0.00003	0.0001	0.00003	0.00009	0.00019	0.00016	0.00004	0.00007	
Chromium	mg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
Cobalt	mg/L	0.00003	0.00002	0.00007	0.00013	0.00004	0.00009	0.00015	0.00064	0.00004	0.00007	
Copper	mg/L	0.0014	0.0018	0.0028	0.0022	0.0016	0.0024	0.0036	0.0172	0.0015	0.0049	
Lead	mg/L	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0002	0.0011	0.0007	0.0001	0.0002	
Lithium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	
Molybdenum	mg/L	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0002	0.0002	0.001	<0.0001	<0.0001	
Nickel	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	
Selenium	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	
Silver	mg/L	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	0.00003	<0.00001	0.00001	
Strontium	mg/L	0.044	0.02	0.025	0.051	0.038	0.055	0.067	0.144	0.044	0.039	
Titanium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	<0.01	
Tellurium	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Thallium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	
Thorium	mg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
Tin	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	
Uranium	mg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0005	<0.0004	0.0004	
Vanadium	mg/L	0.0002	<0.0001	0.0001	<0.0001	0.0001	0.0001	0.0006	0.0004	0.0002	0.0001	
Zinc	mg/L	0.0019	0.0036	0.0043	0.0043	0.0042	0.0044	0.0195	0.0043	0.0042	0.0081	
Zirconium	mg/L	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0003	0.0001	0.0003	

Table 4. Klaza Project - Flow Volume Measurement Summary 2012-2016

Station	Date														
	Jun-12	Jul-12	Sep-12	Apr-13	Jun-13	Oct-13	Jan-14	Apr-14	Jul-14	Oct-14	Feb-15	May-15	Aug-15	Jan-16	May-16
KZ#1	0.249	0.262	0.085	Dry	0.1308	0.0248	Dry	Dry	0.0466	0.0232	Dry	nr	0.2706	Dry	0.0854
KZ#2	0.073	0.091	0.039	nr	0.0079	nr	Dry	Dry	<0.001	Dry	Dry	nr	0.0093	Dry	0.0144
KZ#3	0.243	0.084	0.073	nr	0.0142	nr	0.007	0.005	0.0077	0.0246	0.003*	nr	0.1005	0.0292	0.0955
KZ#4	0.170	0.250	0.084	Dry	0.0352	nr	nr	nr	0.0041	0.0372	nr	nr	0.0958	Glacial Ice	0.1241
KZ#5	0.328	0.494	0.150	nr	0.0957	nr	0.003	nr	0.0262	0.0316	0.002*	nr	0.2213	0.0035	0.1873
KZ#6	0.209	0.308	0.075	Dry	0.0471	0.06	Dry	Dry	<0.001	0.0367	Dry	nr	nr	Dry	nr
KZ#7	0.233	0.179	0.065	nr	0.0723	0.0423	nr	nr	0.0158	0.01*	Glaciated	nr	0.1391	Glacial Ice	0.0847
KZ#8	0.423	0.437	0.247	nr	0.1600	0.0764	nr	0.07	nr	0.015*	nr	nr	0.1844	nr	nr
KZ#9	1.848	1.146	0.428	0.0206	0.2528	0.2365	0.0765	0.0335	0.0849	0.1684	0.064	nr	0.4566	0.0868	0.3246
KZ#10	0.029	0.009	0.011	Dry	Dry	<0.001	nr	Dry	Dry	Dry	Dry	Dry	0.0014	Dry	0.0162
KZ#11										Dry	Dry	0.001	0.006	Dry	No Flow
	(cms)	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*	*(cms)*

* = slush and/or anchor ice - unable to measure. Volumes estimated.

Table 5. Quality Control Samples - Lab Analysis Results May 2016

Parameter	Unit	Total Metals		Dissolved Metals	
		KZ - 6	KZ-6 Duplicate	KZ - 6	KZ-6 Duplicate
Calcium	mg/L	7.47	7.41	7.5	7.3
Iron	mg/L	0.594	0.603	0.181	0.184
Magnesium	mg/L	1.57	1.56	1.5	1.5
Manganese	mg/L	0.097	0.092	0.077	0.075
Potassium	mg/L	0.8	0.8	0.7	0.7
Silicon	mg/L	2.3	2.32	1.97	1.94
Sulfur	mg/L	1	1	1	1
Sodium	mg/L	0.73	0.75	0.7	0.7
Titanium	mg/L	0.009	0.01	<0.01	<0.01
Aluminum	mg/L	0.268	0.276	0.086	0.085
Antimony	mg/L	0.00014	0.00013	<0.0002	<0.0002
Arsenic	mg/L	0.0016	0.0017	0.0008	0.0008
Barium	mg/L	0.0646	0.0661	0.056	0.056
Beryllium	mg/L	<0.00005	<0.00005	<0.00004	<0.00004
Bismuth	mg/L	<0.0001	<0.0001	<0.001	<0.001
Boron	mg/L	<0.002	<0.002	<0.004	<0.004
Cadmium	mg/L	0.00009	0.0001	0.00009	0.00007
Chromium	mg/L	0.0002	0.0002	<0.0004	<0.0004
Cobalt	mg/L	0.00019	0.0002	0.00009	0.00009
Copper	mg/L	0.0029	0.0029	0.0024	0.0024
Lead	mg/L	0.00095	0.00104	0.0002	0.0002
Lithium	mg/L	<0.0005	<0.0005	<0.001	<0.001
Mercury	mg/L	<0.00001	nr	nr	nr
Molybdenum	mg/L	0.0003	0.0003	0.0002	0.0002
Nickel	mg/L	0.0006	0.0007	<0.001	<0.001
Selenium	mg/L	<0.0002	<0.0002	<0.0006	<0.0006
Silver	mg/L	0.00002	0.00002	0.00001	<0.00001
Strontium	mg/L	0.0556	0.0548	0.055	0.054
Thallium	mg/L	<0.00001	<0.00001	<0.00001	<0.00001
Tin	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Uranium	mg/L	0.00027	0.0003	<0.0004	<0.0004
Vanadium	mg/L	0.00063	0.00073	0.0001	0.0001
Zinc	mg/L	0.0041	0.0043	0.0044	0.0033
Zirconium	mg/L	0.0002	0.0002	0.0001	0.0001

denotes >10% variation between samples

Table 6. Rock Haven Resources - Klaza Project. Groundwater Well Measurements to May 2016.

Well #	Total Drilled Depth (m) Nov-15	Standing Water Level (m) Nov-15	Standing Water Level (m) 02-Jan-16	Standing Water Level (m) 12-May-16	Comments
MW 15-01 D	75.9	18.85	14.61	18.38	Sampled
MW 15-01 S		Dry	5.64	5.64	Dry
MW 15-02 D	66.75	59.83	66.00	66.00	moist at soil contact
MW 15-02 S	5.67	1.23	4.44	4.44	Sampled
MW 15-03 D	33.32	29.14	28.68	29.7	Dry
MW 15-03 S	5.8	2.16	4.95	3.66	not sampled
MW 15-04 D	84.43	14.05	14.1	14.09	Dry/ Frozen
MW 15-04 S		2.16	3.42	3.42	Dry/ Frozen
MW 15-05 D	48.46	13.61	13.81	13.81	Logger Frozen in @ 13.81 m
MW 15-05 S		1.04	2.67	2.67	Dry/ Frozen

Table 7.Rock Haven Resources - Klaza Project. Thermistor String Measurements.

Well # GTC 15-01 Channel #	Nov-15 (k ohm)	Jan-16 (k ohm)	May-16 (k ohm)
1	16.45	16.83	17.53
2	16.52	17.02	17.1
3	16.63	17.91	16.89
4	16.75	16.97	16.88
5	16.77	17.34	16.87
6	16.76	16.88	16.87
7	16.62	16.93	16.76
8	16.56	16.67	16.66
9	16.39	16.48	16.45
10	16.27	16.32	16.31

Note: Thermistor readings require conversion by EBA / Tetra Tech

Table 8 . RockHaven Resources - Klaza Property. Groundwater Wells Routine Chemistry / Field Measurements May 2016

Parameter	Unit	MW15-01D	MW15-01S	MW15-02D	MW15-02S	MW15-03D	MW15-03S	MW15-04D	MW15-04S	MW15-05D	MW15-05S
Total Depth	meters	75.9		66.75	5.67	33.32	5.8	84.43		48.46	
Standing Water Level	meters	18.38	5.65	66.00	4.44	29.7	3.66	14.09	3.42	13.81	2.67
Volume Purged (L)	liters	95	Dry	Dry	10	Dry / Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
pH (field)	ru	7.11			6.58						
pH (lab)	ru	7.29			6.09						
Conductivity (lab)	us/cm	602			266						
Water Temp	C	0.5			0.3						
Organic Carbon Dissolved	mg/L	16.6			3.2						
Phosphorus Total	mg/L	0.1			0.1						
OrthoPhosphate (Diss)		0.02			<0.01						
Ammonia - N	mg/L	0.214			0.042						
Nitrate + Nitrite	mg/L	0.02			1.71						
Sulfate (SO4)	mg/L	126			57.7						
T-Alkalinity	mg/L	201			62						
P-Alkalinity	mg/L	<5			<5						
BiCarbonate	mg/L	245			76						
Carbonate	mg/L	<6			<6						
Chloride	mg/L	<5			<5						
Flouride	mg/L	1.76			<0.01						
T.Hardness as CaC03	mg/L	319			123						
T.Dissolved Solids	mg/L	396			222						
T.Kjeldahl Nitrogen	mg/L	1.45			0.4						
Acidity	mg/L CaCo3	16			30						
Ionic Balance (Diss)	%	99.5			114						

Table 9. RockHaven Resources - Klaza Property. Groundwater Wells Total Metals Analysis May 2016

Parameter	Unit	MW15-01D	MW15-01S	MW15-02D	MW15-02S	MW15-03D	MW15-03S	MW15-04D	MW15-04S	MW15-05D	MW15-05S
		Sampled	Dry	Dry	Sampled	Dry / Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
Calcium	mg/L	96.7			35.8						
Iron	mg/L	1.12			3.14						
Magnesium	mg/L	18.9			8.09						
Manganese	mg/L	1.11			0.253						
Potassium	mg/L	2.8			1.0						
Silicon	mg/L	7.0			14.0						
Sodium	mg/L	16.6			6.93						
Sulfur	mg/L	45.4			21.8						
Aluminum	mg/L	0.485			1.57						
Antimony	mg/L	0.0009			0.00038						
Arsenic	mg/L	0.0033			0.0231						
Barium	mg/L	0.282			0.438						
Beryllium	mg/L	<0.00005			0.00015						
Bismuth	mg/L	<0.0001			0.0001						
Boron	mg/L	0.007			0.002						
Cadmium	mg/L	0.00052			0.00953						
Chromium	mg/L	0.00153			0.00279						
Cobalt	mg/L	0.00073			0.00078						
Copper	mg/L	0.0053			0.0123						
Lead	mg/L	0.00332			0.0165						
Lithium	mg/L	0.0066			0.0026						
Mercury	mg/L	<0.00001			<0.00001						
Molybdenum	mg/L	0.00336			0.00034						
Nickel	mg/L	0.002			0.0042						
Selenium	mg/L	<0.0002			0.0003						
Silver	mg/L	0.00005			0.00177						
Strontium	mg/L	1.80			0.177						
Titanium	mg/L	0.019			0.048						
Tellurium	mg/L	<0.00005			<0.00005						
Thallium	mg/L	0.00001			0.00006						
Thorium	mg/L	0.00005			0.00094						
Tin	mg/L	0.0015			0.0018						
Uranium	mg/L	0.00571			0.0005						
Vanadium	mg/L	0.00163			0.00303						
Zinc	mg/L	0.020			0.310						
Zirconium	mg/L	0.0002			0.0123						

Table 10. RockHaven Resources - Klaza Property. Groundwater Wells Dissolved Metals Analysis May 2016

Parameter	Unit	MW15-01D	MW15-01S	MW15-02D	MW15-02S	MW15-03D	MW15-03S	MW15-04D	MW15-04S	MW15-05D	MW15-05S
		Sampled	Dry	Dry	Sampled	Dry / Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
Calcium	mg/L	88.9			35.7						
Iron	mg/L	0.492			0.497						
Magnesium	mg/L	18.3			8.0						
Manganese	mg/L	1.06			0.181						
Potassium	mg/L	2.7			2.8						
Silicon	mg/L	7.74			9.29						
Sodium	mg/L	15.6			7.0						
Sulfur	mg/L	42.1			21.5						
Aluminum	mg/L	0.669			0.14						
Antimony	mg/L	0.0012			<0.0002						
Arsenic	mg/L	0.0035			0.0045						
Barium	mg/L	0.252			0.362						
Beryllium	mg/L	0.00006			0.00006						
Bismuth	mg/L	<0.001			<0.001						
Boron	mg/L	0.007			<0.004						
Cadmium	mg/L	0.00021			0.00954						
Chromium	mg/L	<0.0004			0.0006						
Cobalt	mg/L	0.0005			0.00033						
Copper	mg/L	0.0012			0.0107						
Lead	mg/L	0.0013			0.0040						
Lithium	mg/L	0.007			0.002						
Molybdenum	mg/L	0.0037			0.0002						
Nickel	mg/L	<0.001			0.004						
Selenium	mg/L	<0.0006			<0.0006						
Silver	mg/L	0.00002			0.00006						
Strontium	mg/L	1.78			0.18						
Titanium	mg/L	0.019			0.183						
Tellurium	mg/L	<0.0001			<0.0001						
Thallium	mg/L	0.00002			0.00002						
Thorium	mg/L	<0.0004			<0.0004						
Tin	mg/L	0.0006			0.0007						
Uranium	mg/L	0.0044			<0.0004						
Vanadium	mg/L	0.0015			0.0005						
Zinc	mg/L	0.0078			5.29						
Zirconium	mg/L	0.0003			0.0009						

Discussion

Hydrology

May 2016 stream flow in Klaza Property channels had volumes reflecting the lower end of freshet. Volumes at most sites were higher than those measured since April 2013.

Station KZ#7 retained some glacial ice.
The diversion channel on upper East Fork Nansen (KZ#8) has been redirected from the right limit to the left limit resulting in a high percentage of flows transiting recently mined areas and setting ponds.
The KZ#8 sample was taken of flows on the left / east limit which during prior years mining operations was the effluent channel. Sample flows were high in sediment.

Table 4 is a summary of flow measurements 2012 -2016. May 12/13, 2016 flow volume calculations are attached in Appendix 2.

Laboratory Analytical Results

Surface Waters

Parameters that equal or exceed either ***Drinking Water or Aquatic Guidelines*** are highlighted in yellow in Tables 1 and 2. All Guideline metals values are Totals.

All Stations had surface water flow and were sampled with the exception of KZ-11. Station KZ-11 is the effluent discharge channel for the placer operation on China Creek. This operation was not sluicing during the survey, therefore no sample was taken.

Stations KZ-1, 2, 5, 9 and 10 meet all ***Drinking Water Guidelines*** and ***Aquatic Guidelines***.

Station KZ-3 exceeds the ***Drinking Water Guidelines*** and the ***Aquatic Guidelines*** for pH.

Stations KZ-4, KZ-6 and KZ-7 exceed the ***Drinking Water Guidelines*** for iron and manganese and the ***Aquatic Guidelines*** for iron.

Station KZ-8 exceeds the ***Drinking Water Guidelines*** for iron, manganese and arsenic; and ***Aquatic Guidelines*** for chromium, copper, lead, selenium, silver and zinc.

All stations sampled reported total cyanide at less than laboratory detection limits (0.002 mg/L).
All stations sampled reported total mercury at less than detection limit (0.00001 mg/L).

Quality Control

Quality Control samples were taken at Station KZ-6. Results are listed in Table 5.

Groundwater Wells

Groundwater wells MW15-01D and MW15-02S were the only wells not dry or frozen in May.
Well MW15-01S and MW15-02D were dry, the remainder of the wells were frozen.
Analysis results and field measurements are listed in Tables 8, 9, and 10.

Thermistor string reading were taken at Well GTC15-01. Results for January and May 2016 are listed in Table 7. Site readings require conversion by EBA / Tetra Tech.

Onset Weather Station

The **Onset / Hobo** weather station installed near camp on June, 2013 was downloaded on May 13, 2016 and the solar radiation sensor was changed.

APPENDIX 1

LABORATORY ANALYTICAL REPORTS

Water Quality Analysis

KLAZA PROPERTY

May, 2016

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Report Transmission Cover Page

Bill To:	J. Gibson & Associates	Project:		Lot ID:	**1137891**
Report To:	J. Gibson & Associates Box 20913 Whitehorse, YT, Canada Y1A 6P2	ID:	Rock Haven Res.	Control Number:	C0049877
		Name:	Klaza	Date Received:	May 16, 2016
		Location:	Surface H2O	Date Reported:	May 20, 2016
		LSD:		Report Number:	2103780
Attn:	John Gibson	P.O.:			
Sampled By:	J. Gibson	Acct code:			
Company:					

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

Notes To Clients:

- An appropriately preserved sample was not received for total phosphorus analysis of samples 1137891-12 and -13. Analysis was performed on unpreserved sample.
- Sample 1137891-8; 5411708 Reduction of analytical volume was necessary for Trace Metals analysis due to matrix effects in sample #1137891-8. Detection limits are adjusted accordingly.
- Sample 1137891-8; 5411708 Reduction of analytical volume was necessary for TP due to matrix effects in sample 1137891-8. Detection limits are adjusted accordingly.
- Sample 1137891-12; 5411712 Reduction of analytical volume was necessary for anions analysis due to matrix effects in sample # 1137891-12. Detection limits are adjusted accordingly.
- Sample 1137891-13; 5411713 Reduction of analytical volume was necessary for Trace Metals analysis due to matrix effects in sample #1137891-13 for Zn. Detection limits are adjusted accordingly.

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Exova

Analytical Report

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

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

			Reference Number	1137891-1	1137891-2	1137891-3	
			Sample Date	May 12, 2016	May 12, 2016	May 12, 2016	
			Sample Time	NA	NA	NA	
			Sample Location				
			Sample Description	KZ-1	KZ-2	KZ-3	
			Matrix	Water	Water	Water	
Analyte		**Units**		**Results**	**Results**	**Results**	Nominal Detection Limit
Inorganic Nonmetallic Parameters							
Organic Carbon	Total Nonpurgeable	mg/L		13.6	13.1	17.2	0.5
Cyanide	Total	mg/L		<0.002	<0.002	<0.002	0.002
Ammonia - N		mg/L		<0.01	<0.01	<0.01	0.01
Phosphorus	Total	mg/L		0.012	0.012	0.018	0.003
Metals Total							
Calcium	Total	mg/L		6.23	5.12	3.53	0.05
Magnesium	Total	mg/L		1.29	0.75	0.73	0.05
Potassium	Total	mg/L		0.6	0.9	0.6	0.1
Silicon	Total	mg/L		2.26	1.63	1.53	0.05
Sulfur	Total	mg/L		0.4	0.2	0.3	0.1
Sodium	Total	mg/L		0.70	0.38	0.54	0.02
Titanium	Total	mg/L		0.002	0.002	0.002	0.001
Mercury	Total	mg/L		<0.00001	<0.00001	<0.00001	0.00001
Physical and Aggregate Properties							
Solids	Total Suspended	mg/L		<2	<2	<2	2
Solids	Total Dissolved	mg/L		98	<5	38	5
Routine Water							
pH - Holding Time				Exceeded	Exceeded	Exceeded	
pH	at 25 °C			6.81	6.64	6.29	
Electrical Conductivity		µS/cm at 25 C		36	29	22	1
Calcium	Dissolved	mg/L		6.2	5.1	3.5	0.1
Iron	Dissolved	mg/L		0.067	0.036	0.146	0.005
Magnesium	Dissolved	mg/L		1.3	0.7	0.7	0.1
Manganese	Dissolved	mg/L		<0.001	<0.001	0.008	0.001
Potassium	Dissolved	mg/L		0.5	0.9	0.6	0.1
Silicon	Dissolved	mg/L		2.22	1.60	1.49	0.05
Sodium	Dissolved	mg/L		0.7	0.4	0.6	0.1
Sulfur	Dissolved	mg/L		0.4	0.2	0.3	0.2
Bicarbonate		mg/L		20	14	<5	5
Carbonate		mg/L		<6	<6	9	6
Hydroxide		mg/L		<5	<5	<5	5
P-Alkalinity	as CaCO3	mg/L		<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L		16	12	7	5
Chloride	Dissolved	mg/L		0.47	0.15	0.39	0.05
Nitrate - N	Dissolved	mg/L		0.05	0.01	0.01	0.01
Nitrite - N	Dissolved	mg/L		<0.01	<0.01	<0.01	0.01

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Analytical Report

Bill To: J. Gibson & Associates
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Attn: John Gibson
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Company:

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

			Reference Number	1137891-1	1137891-2	1137891-3	
			Sample Date	May 12, 2016	May 12, 2016	May 12, 2016	
			Sample Time	NA	NA	NA	
			Sample Location				
			Sample Description	KZ-1	KZ-2	KZ-3	
			Matrix	Water	Water	Water	
Analyte		**Units**		**Results**	**Results**	**Results**	Nominal Detection Limit
Routine Water - Continued							
Sulfate (SO4)	Dissolved	mg/L		0.7	<0.5	<0.5	0.5
Hardness	as CaCO3	mg/L		21	16	10	5
Hardness	Total	mg CaCO3/L		20.9	15.9	11.8	1
Trace Metals Dissolved							
Digestion	Dissolved			Field Filtered	Field Filtered	Field Filtered	
Titanium	Dissolved	mg/L		<0.01	<0.01	<0.01	0.01
Aluminum	Dissolved	mg/L		0.168	0.118	0.284	0.005
Antimony	Dissolved	mg/L		<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L		<0.0002	0.0005	<0.0002	0.0002
Barium	Dissolved	mg/L		0.023	0.031	0.019	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	0.00005	0.00003	0.00001
Chromium	Dissolved	mg/L		<0.0004	<0.0004	<0.0004	0.0004
Cobalt	Dissolved	mg/L		0.00003	0.00002	0.00007	0.00002
Copper	Dissolved	mg/L		0.0014	0.0018	0.0028	0.0002
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		<0.0001	<0.0001	<0.0001	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		0.044	0.020	0.025	0.001
Tellurium	Dissolved	mg/L		<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L		<0.00001	<0.00001	<0.00001	0.00001
Thorium	Dissolved	mg/L		<0.0004	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L		<0.0001	<0.0001	<0.0001	0.0001
Uranium	Dissolved	mg/L		<0.0004	<0.0004	<0.0004	0.0004
Vanadium	Dissolved	mg/L		0.0002	<0.0001	0.0001	0.0001
Zinc	Dissolved	mg/L		0.0019	0.0036	0.0043	0.0005
Zirconium	Dissolved	mg/L		0.0002	0.0001	0.0001	0.0001
Trace Metals Total							
Aluminum	Total	mg/L		0.172	0.131	0.306	0.001
Antimony	Total	mg/L		0.00006	0.00006	0.00003	0.00002
Arsenic	Total	mg/L		0.0002	0.0006	0.0002	0.0001

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Company:

Project:
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Location: Surface H2O
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P.O.:
Acct code:

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		Sample Date	May 12, 2016	May 12, 2016	May 12, 2016	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	KZ-1	KZ-2	KZ-3	
		Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Trace Metals Total - Continued						
Barium	Total	mg/L	0.0243	0.0329	0.0194	0.0001
Beryllium	Total	mg/L	0.00005	<0.00005	0.00006	0.00005
Bismuth	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00002	0.00004	0.00003	0.00001
Chromium	Total	mg/L	<0.00005	0.00011	0.00010	0.00005
Cobalt	Total	mg/L	0.00004	0.00003	0.00010	0.00002
Copper	Total	mg/L	0.0018	0.0019	0.0015	0.0025
Iron	Total	mg/L	0.076	0.060	0.187	0.002
Lead	Total	mg/L	0.00005	0.00014	0.00002	0.00001
Lithium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Manganese	Total	mg/L	0.001	0.002	0.010	0.001
Molybdenum	Total	mg/L	0.00006	0.00006	0.00004	0.00002
Nickel	Total	mg/L	0.0003	0.0002	0.0006	0.0002
Selenium	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Silver	Total	mg/L	<0.00001	0.00002	<0.00001	0.00001
Strontium	Total	mg/L	0.0443	0.0192	0.0246	0.0001
Tellurium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Thallium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.0001	<0.0001	0.0001	0.0001
Uranium	Total	mg/L	0.00023	0.00006	0.00007	0.00001
Vanadium	Total	mg/L	0.00017	0.00011	0.00022	0.00005
Zinc	Total	mg/L	0.0011	0.0021	0.0026	0.0005
Zirconium	Total	mg/L	0.0003	0.0002	0.0002	0.0001

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Analytical Report

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

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

	Reference Number	1137891-4	1137891-5	1137891-6	
	Sample Date	May 13, 2016	May 12, 2016	May 13, 2016	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	KZ-4	KZ-5	KZ-6	
	Matrix	Water	Water	Water	
Analyte	**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Inorganic Nonmetallic Parameters					
Organic Carbon Total Nonpurgeable	mg/L	14.0	11.8	13.5	0.5
Cyanide Total	mg/L	<0.002	<0.002	<0.002	0.002
Ammonia - N	mg/L	<0.01	<0.01	0.02	0.01
Phosphorus Total	mg/L	0.037	0.011	0.024	0.003
Metals Total					
Calcium Total	mg/L	7.24	5.47	7.47	0.05
Magnesium Total	mg/L	1.52	1.30	1.57	0.05
Potassium Total	mg/L	0.8	0.6	0.8	0.1
Silicon Total	mg/L	2.33	2.56	2.30	0.05
Sulfur Total	mg/L	1.0	0.7	1.0	0.1
Sodium Total	mg/L	0.71	0.91	0.73	0.02
Titanium Total	mg/L	0.013	0.001	0.009	0.001
Mercury Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Physical and Aggregate Properties					
Solids Total Suspended	mg/L	16	<2	7	2
Solids Total Dissolved	mg/L	52	40	<5	5
Routine Water					
pH - Holding Time		Exceeded	Exceeded	Exceeded	
pH at 25 °C		6.73	6.58	6.89	
Electrical Conductivity	µS/cm at 25 C	44	37	54	1
Calcium Dissolved	mg/L	6.9	5.5	7.5	0.1
Iron Dissolved	mg/L	0.196	0.112	0.181	0.005
Magnesium Dissolved	mg/L	1.4	1.3	1.5	0.1
Manganese Dissolved	mg/L	0.108	<0.001	0.077	0.001
Potassium Dissolved	mg/L	0.7	0.6	0.7	0.1
Silicon Dissolved	mg/L	1.81	2.55	1.97	0.05
Sodium Dissolved	mg/L	0.7	1	0.7	0.1
Sulfur Dissolved	mg/L	1	0.7	1	0.2
Bicarbonate	mg/L	20	18	27	5
Carbonate	mg/L	<6	<6	<6	6
Hydroxide	mg/L	<5	<5	<5	5
P-Alkalinity as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity as CaCO3	mg/L	17	15	22	5
Chloride Dissolved	mg/L	0.20	0.18	0.15	0.05
Nitrate - N Dissolved	mg/L	<0.01	0.02	<0.01	0.01
Nitrite - N Dissolved	mg/L	<0.01	<0.01	<0.01	0.01

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Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
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Date Reported: May 20, 2016
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		Reference Number	1137891-4	1137891-5	1137891-6	
		Sample Date	May 13, 2016	May 12, 2016	May 13, 2016	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	KZ-4	KZ-5	KZ-6	
		Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Routine Water - Continued						
Sulfate (SO4)	Dissolved	mg/L	2.3	1.6	2.3	0.5
Hardness	as CaCO3	mg/L	23	19	25	5
Hardness	Total	mg CaCO3/L	24.3	19.0	25.1	1
Trace Metals Dissolved						
Digestion	Dissolved		Field Filtered	Field Filtered	Field Filtered	
Titanium	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Aluminum	Dissolved	mg/L	0.093	0.105	0.086	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0009	0.0002	0.0008	0.0002
Barium	Dissolved	mg/L	0.055	0.029	0.056	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	0.00010	0.00003	0.00009	0.00001
Chromium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Cobalt	Dissolved	mg/L	0.00013	0.00004	0.00009	0.00002
Copper	Dissolved	mg/L	0.0022	0.0016	0.0024	0.0002
Lead	Dissolved	mg/L	0.0001	0.0001	0.0002	0.0001
Lithium	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Molybdenum	Dissolved	mg/L	0.0002	<0.0001	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	0.051	0.038	0.055	0.001
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Vanadium	Dissolved	mg/L	<0.0001	0.0001	0.0001	0.0001
Zinc	Dissolved	mg/L	0.0043	0.0042	0.0044	0.0005
Zirconium	Dissolved	mg/L	0.0001	0.0001	0.0001	0.0001
Trace Metals Total						
Aluminum	Total	mg/L	0.397	0.110	0.268	0.001
Antimony	Total	mg/L	0.00013	0.00005	0.00014	0.00002
Arsenic	Total	mg/L	0.0027	0.0003	0.0016	0.0001

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Attn: John Gibson
Sampled By: J. Gibson
Company:

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

	Reference Number	1137891-4	1137891-5	1137891-6	
	Sample Date	May 13, 2016	May 12, 2016	May 13, 2016	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	KZ-4	KZ-5	KZ-6	
	Matrix	Water	Water	Water	
Analyte	**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Trace Metals Total - Continued					
Barium Total	mg/L	0.0731	0.0301	0.0646	0.0001
Beryllium Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Bismuth Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Boron Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium Total	mg/L	0.00015	0.00002	0.00009	0.00001
Chromium Total	mg/L	0.00037	<0.00005	0.00020	0.00005
Cobalt Total	mg/L	0.00031	0.00004	0.00019	0.00002
Copper Total	mg/L	0.0030	0.0014	0.0029	0.0025
Iron Total	mg/L	0.985	0.128	0.594	0.002
Lead Total	mg/L	0.00162	0.00003	0.00095	0.00001
Lithium Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Manganese Total	mg/L	0.165	0.002	0.097	0.001
Molybdenum Total	mg/L	0.00027	0.00007	0.00030	0.00002
Nickel Total	mg/L	0.0008	0.0004	0.0006	0.0002
Selenium Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Silver Total	mg/L	0.00004	<0.00001	0.00002	0.00001
Strontium Total	mg/L	0.0547	0.0365	0.0556	0.0001
Tellurium Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Thallium Total	mg/L	0.00001	<0.00001	<0.00001	0.00001
Thorium Total	mg/L	0.00008	<0.00005	<0.00005	0.00005
Tin Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Uranium Total	mg/L	0.00026	0.00012	0.00027	0.00001
Vanadium Total	mg/L	0.00096	0.00014	0.00063	0.00005
Zinc Total	mg/L	0.0073	0.0021	0.0041	0.0005
Zirconium Total	mg/L	0.0002	0.0002	0.0002	0.0001

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Attn: John Gibson
Sampled By: J. Gibson
Company:

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

	Reference Number	1137891-7	1137891-8	1137891-9	
	Sample Date	May 13, 2016	May 13, 2016	May 13, 2016	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	KZ-7	KZ-8	KZ-9	
	Matrix	Water	Water	Water	
Analyte	**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Inorganic Nonmetallic Parameters					
Organic Carbon Total Nonpurgeable	mg/L	15.5	11.0	11.2	0.5
Cyanide Total	mg/L	<0.002	<0.002	<0.002	0.002
Ammonia - N	mg/L	<0.01	0.03	<0.01	0.01
Phosphorus Total	mg/L	0.033	0.58	0.020	0.003
Metals Total					
Calcium Total	mg/L	8.72	21.5	5.99	0.05
Magnesium Total	mg/L	1.96	9.10	1.53	0.05
Potassium Total	mg/L	0.8	4.6	0.6	0.1
Silicon Total	mg/L	2.89	41.8	2.87	0.05
Sulfur Total	mg/L	2.8	8.5	0.7	0.1
Sodium Total	mg/L	1.08	2.95	0.98	0.02
Titanium Total	mg/L	0.015	0.695	0.004	0.001
Mercury Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Physical and Aggregate Properties					
Solids Total Suspended	mg/L	10	682	8	2
Solids Total Dissolved	mg/L	26	64	<5	5
Routine Water					
pH - Holding Time		Exceeded	Exceeded	Exceeded	
pH at 25 °C		6.76	6.95	6.68	
Electrical Conductivity	µS/cm at 25 C	59	113	41	1
Calcium Dissolved	mg/L	9.8	15.2	6.0	0.1
Iron Dissolved	mg/L	0.252	0.336	0.105	0.005
Magnesium Dissolved	mg/L	1.9	3.8	1.5	0.1
Manganese Dissolved	mg/L	0.052	0.118	0.005	0.001
Potassium Dissolved	mg/L	0.9	0.8	0.6	0.1
Silicon Dissolved	mg/L	2.65	3.69	2.70	0.05
Sodium Dissolved	mg/L	1.5	1.8	1	0.1
Sulfur Dissolved	mg/L	2.9	8.2	0.7	0.2
Bicarbonate	mg/L	21	36	21	5
Carbonate	mg/L	<6	<6	<6	6
Hydroxide	mg/L	<5	<5	<5	5
P-Alkalinity as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity as CaCO3	mg/L	17	29	17	5
Chloride Dissolved	mg/L	0.45	0.15	0.22	0.05
Nitrate - N Dissolved	mg/L	<0.01	0.02	0.03	0.01
Nitrite - N Dissolved	mg/L	<0.01	<0.01	<0.01	0.01

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Sampled By: J. Gibson
Company:

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

	Reference Number	1137891-7	1137891-8	1137891-9	
	Sample Date	May 13, 2016	May 13, 2016	May 13, 2016	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	KZ-7	KZ-8	KZ-9	
	Matrix	Water	Water	Water	
Analyte	**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Routine Water - Continued					
Sulfate (SO4) Dissolved	mg/L	7.4	22.7	1.5	0.5
Hardness as CaCO3	mg/L	33	54	21	5
Hardness Total	mg CaCO3/L	29.9	91.1	21.3	1
Trace Metals Dissolved					
Digestion Dissolved		Field Filtered	Field Filtered	Field Filtered	
Titanium Dissolved	mg/L	0.022	<0.01	<0.01	0.01
Aluminum Dissolved	mg/L	0.260	0.105	0.103	0.005
Antimony Dissolved	mg/L	0.0002	0.0003	<0.0002	0.0002
Arsenic Dissolved	mg/L	0.0009	0.0020	0.0003	0.0002
Barium Dissolved	mg/L	0.019	0.025	0.030	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	0.009	<0.004	<0.004	0.004
Cadmium Dissolved	mg/L	0.00019	0.00016	0.00004	0.00001
Chromium Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Cobalt Dissolved	mg/L	0.00015	0.00064	0.00004	0.00002
Copper Dissolved	mg/L	0.0036	0.0172	0.0015	0.0002
Lead Dissolved	mg/L	0.0011	0.0007	0.0001	0.0001
Lithium Dissolved	mg/L	<0.001	0.001	<0.001	0.001
Molybdenum Dissolved	mg/L	0.0002	0.001	<0.0001	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	0.00003	<0.00001	0.00001
Strontium Dissolved	mg/L	0.067	0.144	0.044	0.001
Tellurium Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Thorium Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Tin Dissolved	mg/L	0.0002	<0.0001	<0.0001	0.0001
Uranium Dissolved	mg/L	<0.0004	0.0005	<0.0004	0.0004
Vanadium Dissolved	mg/L	0.0006	0.0004	0.0002	0.0001
Zinc Dissolved	mg/L	0.0195	0.0043	0.0042	0.0005
Zirconium Dissolved	mg/L	0.0002	0.0003	0.0001	0.0001
Trace Metals Total					
Aluminum Total	mg/L	0.350	15.2	0.183	0.001
Antimony Total	mg/L	0.00011	0.00257	0.00007	0.00002
Arsenic Total	mg/L	0.0011	0.0541	0.0005	0.0001

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Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

	Reference Number	1137891-7	1137891-8	1137891-9	
	Sample Date	May 13, 2016	May 13, 2016	May 13, 2016	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	KZ-7	KZ-8	KZ-9	
	Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Trace Metals Total - Continued						
Barium	Total	mg/L	0.0207	0.251	0.0331	0.0001
Beryllium	Total	mg/L	<0.00005	0.00062	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	0.0021	<0.0001	0.0001
Boron	Total	mg/L	<0.002	0.004	<0.002	0.002
Cadmium	Total	mg/L	0.00016	0.00167	0.00003	0.00001
Chromium	Total	mg/L	0.00029	0.0137	0.00028	0.00005
Cobalt	Total	mg/L	0.00021	0.0108	0.00007	0.00002
Copper	Total	mg/L	0.0023	0.143	0.0016	0.0025
Iron	Total	mg/L	0.478	26.2	0.204	0.002
Lead	Total	mg/L	0.00190	0.0476	0.00041	0.00001
Lithium	Total	mg/L	<0.0005	0.0098	<0.0005	0.0005
Manganese	Total	mg/L	0.057	0.396	0.008	0.001
Molybdenum	Total	mg/L	0.00014	0.00331	0.00011	0.00002
Nickel	Total	mg/L	0.0005	0.0101	0.0005	0.0002
Selenium	Total	mg/L	<0.0002	0.0017	<0.0002	0.0002
Silver	Total	mg/L	0.00002	0.00086	0.00001	0.00001
Strontium	Total	mg/L	0.0669	0.200	0.0435	0.0001
Tellurium	Total	mg/L	<0.00005	0.00014	<0.00005	0.00005
Thallium	Total	mg/L	0.00001	0.00030	<0.00001	0.00001
Thorium	Total	mg/L	<0.00005	0.00350	<0.00005	0.00005
Tin	Total	mg/L	<0.0001	0.0003	<0.0001	0.0001
Uranium	Total	mg/L	0.00018	0.00294	0.00017	0.00001
Vanadium	Total	mg/L	0.00095	0.0370	0.00059	0.00005
Zinc	Total	mg/L	0.0052	0.149	0.0021	0.0005
Zirconium	Total	mg/L	0.0009	0.0193	0.0002	0.0001

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Y1A 6P2
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Sampled By: J. Gibson
Company:

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

		Reference Number	1137891-10	1137891-11	1137891-12	
		Sample Date	May 12, 2016	May 13, 2016	May 12, 2016	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	KZ-10	KZ-6 Duplicate	MW15-01D	
		Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Metals Total						
Calcium	Total	mg/L	5.75	7.41	96.7	0.05
Magnesium	Total	mg/L	1.53	1.56	18.9	0.05
Potassium	Total	mg/L	0.7	0.8	2.8	0.1
Silicon	Total	mg/L	1.73	2.32	7.00	0.05
Sulfur	Total	mg/L	0.4	1.0	45.4	0.1
Sodium	Total	mg/L	0.77	0.75	16.6	0.02
Titanium	Total	mg/L	0.004	0.01	0.019	0.001
Mercury	Total	mg/L	<0.00001		<0.00001	0.00001
Routine Water						
Nitrate and Nitrite - N		mg/L			0.02	0.01
Acidity	titrate to pH of 8.3	mg/L as CaCO3			16	5
pH - Holding Time			Exceeded		Exceeded	
Digestion	Dissolved				Field Filtered	
pH	at 25 °C		6.71		7.29	
Electrical Conductivity		µS/cm at 25 C	39		602	1
Calcium	Dissolved	mg/L	5.7	7.3	88.9	0.1
Iron	Dissolved	mg/L	0.143	0.184		0.005
Magnesium	Dissolved	mg/L	1.5	1.5	18.3	0.1
Manganese	Dissolved	mg/L	0.004	0.075		0.001
Potassium	Dissolved	mg/L	0.7	0.7	2.7	0.1
Silicon	Dissolved	mg/L	1.58	1.94	7.74	0.05
Sodium	Dissolved	mg/L	0.7	0.7	15.6	0.1
Sulfur	Dissolved	mg/L	0.3	1	42.1	0.2
Bicarbonate		mg/L	18		245	5
Carbonate		mg/L	<6		<6	6
Hydroxide		mg/L	<5		<5	5
P-Alkalinity	as CaCO3	mg/L	<5		<5	5
T-Alkalinity	as CaCO3	mg/L	15		201	5
Chloride	Dissolved	mg/L	0.27		3.42	0.05
Fluoride	Dissolved	mg/L			1.76	0.01
Nitrate - N	Dissolved	mg/L	0.02			0.01
Nitrite - N	Dissolved	mg/L	<0.01			0.01
Sulfate (SO4)	Dissolved	mg/L	0.5		126	0.5
Hardness	as CaCO3	mg/L	21	25	297	5
Hardness	Total	mg CaCO3/L	20.7		319	1

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Analytical Report

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Sampled By: J. Gibson
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		Sample Date	May 12, 2016	May 13, 2016	May 12, 2016	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	KZ-10	KZ-6 Duplicate	MW15-01D	
		Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Routine Water - Continued						
Total Dissolved Solids	Calculated Value	mg/L			398	1
Ionic Balance	Dissolved	%			99.5	90-110
Trace Metals Dissolved						
Digestion	Dissolved		Field Filtered	Field Filtered	Field Filtered	
Titanium	Dissolved	mg/L	<0.01	<0.01	0.019	0.01
Aluminum	Dissolved	mg/L	0.215	0.085	0.669	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	0.0012	0.0002
Arsenic	Dissolved	mg/L	0.0004	0.0008	0.0035	0.0002
Barium	Dissolved	mg/L	0.074	0.056	0.252	0.001
Beryllium	Dissolved	mg/L	0.00006	<0.00004	0.00006	0.00004
Bismuth	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Boron	Dissolved	mg/L	<0.004	<0.004	0.007	0.004
Cadmium	Dissolved	mg/L	0.00007	0.00007	0.00021	0.00001
Chromium	Dissolved	mg/L	<0.0004	<0.0004	<0.0004	0.0004
Cobalt	Dissolved	mg/L	0.00007	0.00009	0.00050	0.00002
Copper	Dissolved	mg/L	0.0049	0.0024	0.0012	0.0002
Iron	Dissolved	mg/L			0.492	0.005
Lead	Dissolved	mg/L	0.0002	0.0002	0.0013	0.0001
Lithium	Dissolved	mg/L	<0.001	<0.001	0.007	0.001
Manganese	Dissolved	mg/L			1.06	0.001
Molybdenum	Dissolved	mg/L	<0.0001	0.0002	0.0037	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	0.00002	0.00001
Strontium	Dissolved	mg/L	0.039	0.054	1.780	0.001
Tellurium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Thallium	Dissolved	mg/L	<0.00001	<0.00001	0.00002	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
Uranium	Dissolved	mg/L	0.0004	<0.0004	0.0044	0.0004
Vanadium	Dissolved	mg/L	0.0001	0.0001	0.0015	0.0001
Zinc	Dissolved	mg/L	0.0081	0.0033	0.0078	0.0005
Zirconium	Dissolved	mg/L	0.0003	0.0001	0.0003	0.0001
Trace Metals Total						
Aluminum	Total	mg/L	0.297	0.276	0.485	0.001
Antimony	Total	mg/L	0.00008	0.00013	0.00090	0.00002

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

Project:
ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
Report Number: 2103780

	Reference Number	1137891-10	1137891-11	1137891-12	
	Sample Date	May 12, 2016	May 13, 2016	May 12, 2016	
	Sample Time	NA	NA	NA	
	Sample Location				
	Sample Description	KZ-10	KZ-6 Duplicate	MW15-01D	
	Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Trace Metals Total - Continued						
Arsenic	Total	mg/L	0.0004	0.0017	0.0033	0.0001
Barium	Total	mg/L	0.0800	0.0661	0.282	0.0001
Beryllium	Total	mg/L	0.00006	<0.00005	<0.00005	0.00005
Bismuth	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Boron	Total	mg/L	<0.002	<0.002	0.007	0.002
Cadmium	Total	mg/L	0.00007	0.00010	0.00052	0.00001
Chromium	Total	mg/L	0.00026	0.00020	0.00153	0.00005
Cobalt	Total	mg/L	0.00005	0.00020	0.00073	0.00002
Copper	Total	mg/L	0.0037	0.0029	0.0053	0.0025
Iron	Total	mg/L	0.206	0.603	1.12	0.002
Lead	Total	mg/L	0.00022	0.00104	0.00332	0.00001
Lithium	Total	mg/L	0.0005	<0.0005	0.0066	0.0005
Manganese	Total	mg/L	0.006	0.092	1.11	0.001
Molybdenum	Total	mg/L	0.00012	0.00030	0.00336	0.00002
Nickel	Total	mg/L	0.0008	0.0007	0.0020	0.0002
Selenium	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Silver	Total	mg/L	0.00002	0.00002	0.00005	0.00001
Strontium	Total	mg/L	0.0377	0.0548	1.80	0.0001
Tellurium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Thallium	Total	mg/L	<0.00001	<0.00001	0.00001	0.00001
Thorium	Total	mg/L	0.00007	<0.00005	0.00005	0.00005
Tin	Total	mg/L	<0.0001	<0.0001	0.0015	0.0001
Uranium	Total	mg/L	0.00042	0.00030	0.00571	0.00001
Vanadium	Total	mg/L	0.00037	0.00073	0.00163	0.00005
Zinc	Total	mg/L	0.0072	0.0043	0.0200	0.0005
Zirconium	Total	mg/L	0.0003	0.0002	0.0002	0.0001

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ID: Rock Haven Res.
Name: Klaza
Location: Surface H2O
LSD:
P.O.:
Acct code:

Lot ID: **1137891**
Control Number: C0049877
Date Received: May 16, 2016
Date Reported: May 20, 2016
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		Reference Number	1137891-10	1137891-12	1137891-13	
		Sample Date	May 12, 2016	May 12, 2016	May 13, 2016	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	KZ-10	MW15-01D	MW15-02S	
		Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N		mg/L		0.214	0.042	0.025
Kjeldahl Nitrogen	Total	mg/L		1.45	0.40	0.07
Phosphorus	Total	mg/L		0.10	0.10	0.05
Orthophosphate-P	Dissolved	mg/L		0.02	<0.01	0.01
Organic Carbon	Total Nonpurgeable	mg/L	19.0			0.5
Organic Carbon	Dissolved Nonpurgeable	mg/L		16.6	3.2	0.5
Cyanide	Total	mg/L	<0.002			0.002
Ammonia - N		mg/L	<0.01			0.01
Phosphorus	Total	mg/L	0.016			0.003
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	6			2
Solids	Total Dissolved	mg/L	44	396	222	5

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Reference Number	1137891-13
Sample Date	May 13, 2016
Sample Time	NA
Sample Location	
Sample Description	MW15-02S
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total						
Calcium	Total	mg/L	35.8			0.05
Magnesium	Total	mg/L	8.09			0.05
Potassium	Total	mg/L	1			0.1
Silicon	Total	mg/L	14.0			0.05
Sulfur	Total	mg/L	21.8			0.1
Sodium	Total	mg/L	6.93			0.02
Titanium	Total	mg/L	0.048			0.001
Mercury	Total	mg/L	<0.00001			0.00001
Routine Water						
Nitrate and Nitrite - N		mg/L	1.71			0.01
Acidity	titrate to pH of 8.3	mg/L as CaCO3	30			5
pH - Holding Time			Exceeded			
Digestion	Dissolved		Field Filtered			
pH	at 25 °C		6.09			
Electrical Conductivity		µS/cm at 25 C	266			1
Calcium	Dissolved	mg/L	35.7			0.1
Magnesium	Dissolved	mg/L	8.0			0.1
Potassium	Dissolved	mg/L	2.8			0.1
Silicon	Dissolved	mg/L	9.29			0.05
Sodium	Dissolved	mg/L	7.0			0.1
Sulfur	Dissolved	mg/L	21.5			0.2
Bicarbonate		mg/L	76			5
Carbonate		mg/L	<6			6
Hydroxide		mg/L	<5			5
P-Alkalinity	as CaCO3	mg/L	<5			5
T-Alkalinity	as CaCO3	mg/L	62			5
Chloride	Dissolved	mg/L	0.89			0.05
Fluoride	Dissolved	mg/L	<0.01			0.01
Sulfate (SO4)	Dissolved	mg/L	57.7			0.5
Hardness	as CaCO3	mg/L	120			5
Hardness	Total	mg CaCO3/L	123			1
Total Dissolved Solids	Calculated Value	mg/L	175			1
Ionic Balance	Dissolved	%	114			90-110
Trace Metals Dissolved						
Digestion	Dissolved		Field Filtered			

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Reference Number	1137891-13
Sample Date	May 13, 2016
Sample Time	NA
Sample Location	
Sample Description	MW15-02S
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trace Metals Dissolved - Continued						
Titanium	Dissolved	mg/L	0.183			0.01
Aluminum	Dissolved	mg/L	0.140			0.005
Antimony	Dissolved	mg/L	<0.0002			0.0002
Arsenic	Dissolved	mg/L	0.0045			0.0002
Barium	Dissolved	mg/L	0.362			0.001
Beryllium	Dissolved	mg/L	0.00006			0.00004
Bismuth	Dissolved	mg/L	<0.001			0.001
Boron	Dissolved	mg/L	<0.004			0.004
Cadmium	Dissolved	mg/L	0.00954			0.00001
Chromium	Dissolved	mg/L	0.0006			0.0004
Cobalt	Dissolved	mg/L	0.00033			0.00002
Copper	Dissolved	mg/L	0.0107			0.0002
Iron	Dissolved	mg/L	0.497			0.005
Lead	Dissolved	mg/L	0.0040			0.0001
Lithium	Dissolved	mg/L	0.002			0.001
Manganese	Dissolved	mg/L	0.181			0.001
Molybdenum	Dissolved	mg/L	0.0002			0.0001
Nickel	Dissolved	mg/L	0.004			0.001
Selenium	Dissolved	mg/L	<0.0006			0.0006
Silver	Dissolved	mg/L	0.00006			0.00001
Strontium	Dissolved	mg/L	0.180			0.001
Tellurium	Dissolved	mg/L	<0.0001			0.0001
Thallium	Dissolved	mg/L	0.00002			0.00001
Thorium	Dissolved	mg/L	<0.0004			0.0004
Tin	Dissolved	mg/L	0.0007			0.0001
Uranium	Dissolved	mg/L	<0.0004			0.0004
Vanadium	Dissolved	mg/L	0.0005			0.0001
Zinc	Dissolved	mg/L	5.290			0.0005
Zirconium	Dissolved	mg/L	0.0009			0.0001
Trace Metals Total						
Aluminum	Total	mg/L	1.57			0.001
Antimony	Total	mg/L	0.00038			0.00002
Arsenic	Total	mg/L	0.0231			0.0001
Barium	Total	mg/L	0.438			0.0001
Beryllium	Total	mg/L	0.00015			0.00005
Bismuth	Total	mg/L	0.0001			0.0001

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Reference Number	1137891-13
Sample Date	May 13, 2016
Sample Time	NA
Sample Location	
Sample Description	MW15-02S
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trace Metals Total - Continued						
Boron	Total	mg/L	0.002			0.002
Cadmium	Total	mg/L	0.00953			0.00001
Chromium	Total	mg/L	0.00279			0.00005
Cobalt	Total	mg/L	0.00078			0.00002
Copper	Total	mg/L	0.0123			0.0025
Iron	Total	mg/L	3.14			0.002
Lead	Total	mg/L	0.0165			0.00001
Lithium	Total	mg/L	0.0026			0.0005
Manganese	Total	mg/L	0.253			0.001
Molybdenum	Total	mg/L	0.00034			0.00002
Nickel	Total	mg/L	0.0042			0.0002
Selenium	Total	mg/L	0.0003			0.0002
Silver	Total	mg/L	0.00177			0.00001
Strontium	Total	mg/L	0.177			0.0001
Tellurium	Total	mg/L	<0.00005			0.00005
Thallium	Total	mg/L	0.00006			0.00001
Thorium	Total	mg/L	0.00094			0.00005
Tin	Total	mg/L	0.0018			0.0001
Uranium	Total	mg/L	0.00050			0.00001
Vanadium	Total	mg/L	0.00303			0.00005
Zinc	Total	mg/L	0.310			0.0005
Zirconium	Total	mg/L	0.0123			0.0001

Approved by:

Mathieu Simoneau
Operations Manager

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Methodology and Notes

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		Name:	Klaza	Date Received:	May 16, 2016
		Location:	Surface H2O	Date Reported:	May 20, 2016
		LSD:		Report Number:	2103780
Attn:	John Gibson	P.O.:			
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Company:					

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Acidity in water (Surrey)	APHA	* Acidity - Titration Method, 2310 B	19-May-16	Exova Surrey
Alk, pH, EC, Turb in water (Surrey)	APHA	* Alkalinity - Titration Method, 2320 B	17-May-16	Exova Surrey
Alk, pH, EC, Turb in water (Surrey)	APHA	* Conductivity, 2510 B	17-May-16	Exova Surrey
Alk, pH, EC, Turb in water (Surrey)	APHA	* pH - Electrometric Method, 4500-H+ B	17-May-16	Exova Surrey
Ammonia-N in Water (Surrey)	APHA	* Flow Injection Analysis, 4500-NH3 H	17-May-16	Exova Surrey
Ammonium-N in Water	APHA	* Automated Phenate Method, 4500-NH3 G	19-May-16	Exova Edmonton
Anions (Routine) by Ion Chromatography	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	19-May-16	Exova Edmonton
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	17-May-16	Exova Surrey
Carbon Organic (Dissolved) in water (DOC)	APHA	High-Temperature Combustion Method, 5310 B	19-May-16	Exova Edmonton
Carbon Organic (Total) in water (TOC)	APHA	High-Temperature Combustion Method, 5310 B	18-May-16	Exova Edmonton
Cyanide (Total) in water	US EPA	* US EPA method, 335.3	20-May-16	Exova Edmonton
Filtration of water for dissolved analysis	APHA	* Filtration for Dissolved and Suspended Metals / Total Organic Carbon, 3030 B / 5310 A	18-May-16	Exova Edmonton
Mercury Low Level (Total) in water (Surrey)	EPA	* Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	20-May-16	Exova Surrey
Metals SemiTrace (Dissolved) in water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	16-May-16	Exova Surrey
Metals SemiTrace (Total) in Water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	16-May-16	Exova Surrey
Orthophosphate-P in Water	APHA	* Automated Ascorbic Acid Reduction Method, 4500-P F	18-May-16	Exova Edmonton
Phosphorus - total by Smartchem (Surrey)	APHA	* Persulfate digestion method, 4500-P B5	17-May-16	Exova Surrey
Phosphorus - Total in Water	APHA	* Automated Ascorbic Acid Reduction Method, 4500-P F	18-May-16	Exova Edmonton
Solids Dissolved (Total, Fixed and Volatile) - Surrey	APHA	* Total Dissolved Solids Dried at 180 C, 2540 C	17-May-16	Exova Surrey
Solids Suspended (Total, Fixed and Volatile) - Surrey	APHA	* Total Suspended Solids Dried at 103-105'C, 2540 D	17-May-16	Exova Surrey
Total and Kjeldahl Nitrogen (Total) in Water	ISO	* Water Quality - Determination of nitrogen, ISO/TR 11905-2	18-May-16	Exova Edmonton
Trace Metals (dissolved) in Water (Surrey)	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	16-May-16	Exova Surrey
Trace Metals (dissolved) in Water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	16-May-16	Exova Surrey
Trace Metals (Total) in Water (Surrey)	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	16-May-16	Exova Surrey

Exova
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Surrey, British Columbia
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F: +1 (604) 514-3323
E: Surrey@exova.com
W: www.exova.com

Exova

Methodology and Notes

Bill To:	J. Gibson & Associates	Project:		Lot ID:	**1137891**
Report To:	J. Gibson & Associates	ID:	Rock Haven Res.	Control Number:	C0049877
	Box 20913	Name:	Klaza	Date Received:	May 16, 2016
	Whitehorse, YT, Canada	Location:	Surface H2O	Date Reported:	May 20, 2016
	Y1A 6P2	LSD:		Report Number:	2103780
Attn:	John Gibson	P.O.:			
Sampled By:	J. Gibson	Acct code:			
Company:					

Method Name	Reference	Method	Date Analysis Started	Location
Trace Metals (Total) in Water (Surrey)	US EPA	* Metals & Trace Elements by ICP-AES, 6010C	16-May-16	Exova Surrey

** Reference Method Modified*

References

APHA	Standard Methods for the Examination of Water and Wastewater
EPA	Environmental Protection Agency Test Methods - US
ISO	International Organization for Standardization
US EPA	US Environmental Protection Agency Test Methods

Comments:

- An appropriately preserved sample was not received for total phosphorus analysis of samples 1137891-12 and -13. Analysis was performed on unpreserved sample.
- Sample 1137891-8; 5411708 Reduction of analytical volume was necessary for Trace Metals analysis due to matrix effects in sample #1137891-8. Detection limits are adjusted accordingly.
- Sample 1137891-8; 5411708 Reduction of analytical volume was necessary for TP due to matrix effects in sample 1137891-8. Detection limits are adjusted accordingly.
- Sample 1137891-12; 5411712 Reduction of analytical volume was necessary for anions analysis due to matrix effects in sample # 1137891-12. Detection limits are adjusted accordingly.
- Sample 1137891-13; 5411713 Reduction of analytical volume was necessary for Trace Metals analysis due to matrix effects in sample #1137891-13 for Zn. Detection limits are adjusted accordingly.

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www.exova.com ED 120-02

Invoice to:
Company: JOHN GIBSON
Address:
Attention:
Phone:
Cell:
Fax:
E-mail:
Agreement ID: 6646
Copy of report:

Report To:
Company:
Address:
Attention:
Phone:
Cell:
Fax:
E-mail 1:
E-mail 2:
Copy of invoice:

Report Results		Regulatory Requirement	
E-Mail		HCDWOG	
Mail		Ab Tier 1	
Online		SPIGEC	
Fax		BCCSR	
PDF		Other (list below)	
Excel			
QA/QC			

Project Information
Project ID: ROCK HAVEN RES,
Project Name: KLAZA
Project Location:
Legal Location: SURFACE H_2O
PO/AFE#:
Proj. Acct. Code:
Quote #

Sample Custody (please print)
Sampled by: J GIBSON
Company:

RUSH Priority
- Emergency (contact lab for turnaround and pricing)
- Priority 1-2 working days (100% surcharge)
- Urgent 2-3 working days (50% surcharge)

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Date Required: Signature:

This section for Lab use only
Date/Time/temp: RECEIVED MAY 16 2016

Special Instructions/Comments (please include contact information including ph. # if different from above).
RCHEM = pH, EC, TP, N_2, N_3, TMK, Cl, SO_4, HARDT, TSS, TDS

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time Sampled	Matrix	Sampling Method	Number of Containers	RCHEM	NH4	TOC	TKN	TW24 EW	THg	TW23 EW (F)			Enter tests above (√ relevant samples below)
1	KZ-1				MAY 12	H2O	GRAB	7	✓	✓	✓	✓	✓	✓	✓			
2	KZ-2				"	"	"	7	✓	✓	✓	✓	✓	✓	✓			
3	KZ-3				"	"	"	7	✓	✓	✓	✓	✓	✓	✓			
4	KZ-4				MAY 13			7	✓	✓	✓	✓	✓	✓	✓			
5	KZ-5				MAY 12			7	✓	✓	✓	✓	✓	✓	✓			
6	KZ-6				MAY 13			7	✓	✓	✓	✓	✓	✓	✓			
7	KZ-7				"			7	✓	✓	✓	✓	✓	✓	✓			
8	KZ-8				"			7	✓	✓	✓	✓	✓	✓	✓			
9	KZ-9				"			7	✓	✓	✓	✓	✓	✓	✓			
10	KZ-10				MAY 12			7	✓	✓	✓	✓	✓	✓	✓			
11								7	✓	✓	✓	✓	✓	✓	✓			
12	KZ-6 DUPLICATE				MAY 13			2					✓		✓			
13																		
14	NOTES: TW23 FIELD FILTERED,				METAST NITRIC THg + Ag, DOC + HCL													
15					NH4 + SULFUR													

Indicate in the space allotted any deficiencies by the corresponding number.

1. Indicate any samples that were not packaged well
2. Indicate any samples not received in Exova supplies
3. Indicate any samples that were not clearly labeled
4. Indicate any samples not received within the required hold time or temp.
5. Indicate any missing or extra samples
6. Indicate any samples that were received broken
7. Indicate any samples where sufficient volume was not received
8. Indicate any samples received in an inappropriate container

Submission of this form acknowledges acceptance of Exova's Standard Terms and Conditions (http://www.exova.com/about/terms-and-conditions/)

Lot: 1137891 COC

Shipping: COD Y/ N
and size of coolers
Temp. received: 8 C
Delivery Method:
Waybill:
Received by:

Please indicate any potentially hazardous samples

Page 1 of 2 Control # C 0049877

ED 120-02

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Invoice to:

Company: JOHN GIBSON
Address:
Attention:
Phone:
Cell:
Fax:
E-mail:
Agreement ID: 6646
Copy of report:

Report To:

Company:
Address:
Attention:
Phone:
Cell:
Fax:
E-mail 1:
E-mail 2:
Copy of invoice:

Report Results / Regulatory Requirement

E-Mail		HCDWQG	
Mail		Ab Tier 1	
Online		SPIGEC	
Fax		BCCSR	
PDF		Other (list below)	
Excel			
QA/QC			

Project Information

Project ID: ROCK HAVEN RES.
Project Name: KLAZA
Project Location:
Legal Location: GROUND H_2O
PO/AFE#:
Proj. Acct. Code:
Quote #

RUSH Priority

- Emergency (contact lab for turnaround and pricing)
- Priority 1-2 working days (100% surcharge)
- Urgent 2-3 working days (50% surcharge)

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Date Required: Signature:

Sample Custody (please print)

Sampled by: J GIBSON
Company:

This section for Lab use only

Date/Time stamp: RECEIVED MAY 16 2016

Special Instructions/Comments (please include contact information including ph. # if different from above).

RCHEM = PH, EC, TDS, DOC, OH, TALK, ACIDITY
NUTRIENTS + IONS = NH_3, NO_3, NO_2, TKN, O-PO4, P, SO4, Fl, Cl,

	Site I.D.	Sample Description	Depth start (cm)	Depth end (m)	Date/Time Sampled	Matrix	Sampling Method	Number of Containers	RCHEM	NUTRIENT	NH4	TKN	TW24	TW23 (F)	THg	Enter tests above (√ relevant samples below)
1																
2	MW15-01D		18.38		MAY 12 0700	H_2O	P+G	8								
3																
4	MW15-02S		4.44		MAY 13 1130	H_2O	P+G	8								
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

SEE ATTACHED LIST

NOTES: MW15-01D TW23 NOT FIELD FILTERED OR PRES.
TKN 2 BOTTLES - PRES IN #2
METALS + $N.HNO_3$, NH_4 + Sulfuric, THg + HCl

Indicate in the space allotted any deficiencies by the corresponding number.

1. Indicate any samples that were not packaged well
2. Indicate any samples not received in Exova supplies
3. Indicate any samples that were not clearly labeled
4. Indicate any samples not received within the required hold time or temp.
5. Indicate any missing or extra samples
6. Indicate any samples that were received broken
7. Indicate any samples where sufficient volume was not received
8. Indicate any samples received in an inappropriate container

Submission of this form acknowledges acceptance of Exova's Standard Terms and Conditions (http://www.exova.com/about/terms-and-conditions/)

Indicate lot # or affix barcode here

Shipping: COD Y/ N
and size of coolers
Temp. received:
Delivery Method:
Waybill:
Received by:

Please indicate any potentially hazardous samples

Page 2 of 2 Control # C0049876

ED 120-02

May 15, 2016

TO: Exova in Surrey

RE: COC# 0049876

Analysis parameters

Analysis parameters would not all fit on COC so include a list:

Routine Chem = Acidity, T.Alk, Hard T, pH, EC, TDS, DOC, OH, ion Balance

Major ions = K, Na, Mg, HC03, C03, S04, F, Cl

Nutrients= NH3, N03, N02, 0-P04, P

Sample volume is 1 X 500 ml R.CHEM and 1x 250 ml NUT

Hope volume is enough, analysis list not my list but given to me by engineering outfit – sorry for any confusion.

Analysis detection limits to < CCME Guidelines Drinking Water

John Gibson

APPENDIX 2

STREAM FLOW VOLUME CALCULATIONS

May 12 and 13, 2016

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 13-May-16

Site: KZ-1 Upper Klaza River

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.15	0	0.1	0	0.000	0.000
1.35	0.08	0.2	0	0.016	0.000
1.55	0.12	0.2	0	0.024	0.000
1.75	0.14	0.2	0.257	0.028	0.007
1.95	0.2	0.2	0.603	0.040	0.024
2.15	0.2	0.2	0.736	0.04	0.029
2.35	0.2	0.2	0.28	0.04	0.011
2.55	0.16	0.2	0.341	0.032	0.011
2.75	0.12	0.175	0.121	0.021	0.003
2.9	0	0.075	0	0	0.000
1.75		1.75			**0.0854**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? No

Method: Price Velocity meter#2/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 12-May-16

Site: KZ-2 trib to Nansen Creek

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
0.9	0	0.05	0	0	0.000
1	0.06	0.15	0.13	0.009	0.001
1.2	0.08	0.2	0.196	0.016	0.003
1.4	0.08	0.2	0.24	0.016	0.004
1.6	0.12	0.2	0.215	0.024	0.005
1.8	0.08	0.125	0.112	0.01	0.001
1.85	0	0.025	0	0	0.000
0.95		0.95			**0.0144**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? No

Method: Price Velocity meter#2/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 12-May-16

Site: KZ-3

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.45	0	0.025	0	0	0.000
1.5	0.04	0.125	0	0.005	0.000
1.7	0.04	0.2	0	0.008	0.000
1.9	0.08	0.2	0.225	0.016	0.004
2.1	0.08	0.2	0.162	0.016	0.003
2.3	0.12	0.2	0.225	0.024	0.005
2.5	0.18	0.2	0.143	0.036	0.005
2.7	0.26	0.2	0.393	0.052	0.020
2.9	0.26	0.2	0.341	0.052	0.018
3.1	0.3	0.2	0.677	0.06	0.041
3.3	0.1	0.13	0	0.013	0.000
3.36	0	0.03	0	0	0.000
1.91		1.91			**0.0955**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Ice Conditions: No Ice

Method: Price Velocity meter#1/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 13-May-16

Site: KZ-4 trib to Klaza River

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.5	0	0.1	0	0	0.000
1.7	0.05	0.2	0.165	0.010	0.002
1.9	0.07	0.2	0.298	0.014	0.004
2.1	0.08	0.2	0.192	0.016	0.003
2.3	0.09	0.2	0.386	0.018	0.007
2.5	0.15	0.2	0.393	0.03	0.012
2.7	0.14	0.2	0.474	0.028	0.013
2.9	0.17	0.2	0.769	0.034	0.026
3.1	0.16	0.15	0.72	0.024	0.017
3.2	0.13	0.2	0.603	0.026	0.016
3.5	0.11	0.25	0.485	0.0275	0.013
3.7	0.13	0.195	0.425	0.02535	0.011
3.89	0	0.095	0	0	0.000
2.39		2.39			**0.1241**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? N No

Method: Price Velocity meter#2/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 12-May-16

Site: KZ-5 Upper Klaza River

Point *(m)*	Depth *(meters)*	Width *(meters)*	Velocity *(m/sec)*	Area *(m sq)*	Volume *(cms)*
1	0	0.1	0	0	0.000
1.2	0.12	0.2	0.291	0.024	0.007
1.4	0.12	0.2	0.554	0.024	0.013
1.6	0.12	0.2	0.59	0.024	0.014
1.8	0.16	0.2	0.401	0.032	0.013
2	0.2	0.2	0.577	0.04	0.023
2.2	0.2	0.2	0.565	0.04	0.023
2.4	0.16	0.2	0.229	0.032	0.007
2.6	0.14	0.2	0.565	0.028	0.016
2.8	0.16	0.2	0.497	0.032	0.016
3	0.14	0.2	0.677	0.028	0.019
3.2	0.18	0.2	0.752	0.036	0.027
3.4	0.16	0.2	0.291	0.032	0.009
3.6	0.12	0.2	0	0.024	0.000
3.8	0.1	0.16	0	0.016	0.000
3.92	0	0.06	0	0	0.000
2.92		2.92			**0.1873**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Ice Conditions: No Ice

Method: Price Velocity meter#2/ TS Wading Rod

Measurement By: R.Gibson

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 13-May-16

Site: KZ-7 Slate Creek - trib to Nansen Creek

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.46	0	0.07	0	0	0.000
1.6	0.1	0.17	0.103	0.017	0.002
1.8	0.17	0.15	0.215	0.0255	0.005
1.9	0.2	0.1	0.386	0.02	0.008
2	0.21	0.1	0.485	0.021	0.010
2.1	0.23	0.1	0.497	0.023	0.011
2.2	0.24	0.1	0.497	0.024	0.012
2.3	0.21	0.1	0.474	0.021	0.010
2.4	0.22	0.1	0.372	0.022	0.008
2.5	0.21	0.1	0.269	0.021	0.006
2.6	0.24	0.1	0.185	0.024	0.004
2.7	0.2	0.15	0.128	0.03	0.004
2.9	0.18	0.235	0.097	0.0423	0.004
3.17	0	0.135	0	0	0.000
1.71		1.71			**0.0847**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? N No Ice in cross section

Method: Price Velocity meter#2/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 13-May-16

Site: KZ-9 Mainstem Klaza River

Point (m)	Depth (meters)	Width (meters)	Velocity (m/sec)	Area (m sq)	Volume (cms)
1.24	0	0.03	0	0	0.000
1.3	0.24	0.13	0.22	0.031	0.007
1.5	0.31	0.2	0.285	0.062	0.018
1.7	0.3	0.2	0.251	0.06	0.015
1.9	0.32	0.2	0.393	0.064	0.025
2.1	0.31	0.2	0.474	0.062	0.029
2.3	0.32	0.2	0.464	0.064	0.030
2.5	0.27	0.2	0.442	0.054	0.024
2.7	0.28	0.2	0.329	0.056	0.018
2.9	0.27	0.2	0.483	0.054	0.026
3.1	0.24	0.2	0.464	0.048	0.022
3.3	0.21	0.25	0.434	0.0525	0.023
3.6	0.21	0.3	0.497	0.063	0.031
3.9	0.19	0.3	0.451	0.057	0.026
4.2	0.14	0.3	0.417	0.042	0.018
4.5	0.11	0.25	0.379	0.0275	0.010
4.7	0.1	0.155	0.155	0.0155	0.002
4.81	0	0.055	0	0	0.000
3.57		3.57			**0.3246**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? n ice free

Method: Price Velocity meter #2/ TS Wading Rod

Measurement By: J.Gibson

Stage Discharge Calculations

Project: RockHaven-Klaza **Date:** 12-May-16

Site: KZ-10 trib to Klaza River

Point *(m)*	Depth *(meters)*	Width *(meters)*	Velocity *(m/sec)*	Area *(m sq)*	Volume *(cms)*
1.43	0	0.085	0	0	0.000
1.6	0.14	0.135	0.087	0.019	0.002
1.7	0.13	0.1	0.137	0.013	0.002
1.8	0.18	0.1	0.148	0.018	0.003
1.9	0.18	0.1	0.143	0.018	0.003
2	0.19	0.1	0.128	0.019	0.002
2.1	0.21	0.1	0.132	0.021	0.003
2.2	0.22	0.105	0.103	0.0231	0.002
2.31	0	0.055	0	0	0.000
0.88		0.88			**0.0162**

All velocity readings at 0.6 depth

No Staff Gauge

Data logger reading: No logger

Channel under ice? N No Ice

Method: Price Velocity meter#2/ TS Wading Rod

Measurement By: J.Gibson