



2381 South Plaza Drive P.O. Box 3388 Rapid City, SD 57709
(605) 348-0111 -- www.thechemistrylab.com

Sample Site: **ECOSA SAP**
Sampled: 07/27/17 at 02:40 PM
by Jessica Brown
Sample Matrix: Water

Lab ID#: 20170803202
Received: 08/02/17 at 10:20 AM
by Bobbie Laurenz
Account: W1123 - Cripple Creek / Victor Gold

RON PARRATT
CRIPPLE CREEK/VICTOR GOLD
PO BOX 191
VICTOR, CO 80860

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
Physical Properties								
Electrical Conductivity	7630	µmhos/cm	1	0.470	5.00	SM 2510B	JAM	08/03/17
Hardness	3310	mg/L	1			SM 2340 B	GAM	08/09/17
pH	3.07	S.U.	1			SM 4500-H+ B	JAM	08/03/17
Total Dissolved Solids	12400	mg/L	100ml	18.1	50.0	SM 2540 C	ELR	08/03/17
Total Suspended Solids	30.0	mg/L	100ml	3.36	10.0	SM 2540 D	ELR	08/02/17
Non-Metallics								
Acidity (CaCO3)	6200	mg/L	1	3.37	10.0	SM 2310 B	BAA	08/03/17
Alkalinity (CaCO3)	0.00	mg/L	1	0.506	10.0	SM 2320 B	JAM	08/03/17
Bicarbonate	0.00	mg/L	1	0.618	10.0	SM 2320 B	JAM	08/03/17
Carbonate	0.00	mg/L	1	0.253	5.00	SM 2320 B	JAM	08/03/17
Chloride (Cl-)	1.40	mg/L	1	0.214	0.500	SM 4500-Cl E	BLL	08/07/17
Cyanide, Total	< 0.010	mg/L	1	0.00052	0.010	Kelada 01	TMN	08/04/17
Cyanide, WAD	< 0.010	mg/L	1	0.0007	0.010	Kelada 01	TMN	08/04/17
Cyanide, Free	< 0.010	mg/L	1	0.006	0.020	116-D588-01	TMN	08/04/17
Fluoride	0.091	mg/L	1	0.003	0.050	SM 4500 F-C	KDS	08/03/17
Nitrogen, Ammonia (NH3)	0.683	mg/L	1	0.003	0.050	SM 4500-NH3 D	BAA	08/04/17
Nitrogen, Nitrate (NO3)	11.8	mg/L	20	0.157	1.00	SM 4500-NO3 F	BLL	08/03/17
Nitrogen, Nitrite (NO2)	< 0.050	mg/L	1	0.008	0.050	SM 4500-NO2 B	BLL	08/03/17
Phosphorus (P) Total	0.027	mg/L	1	0.005	0.010	SM 4500-P E	KDS	08/07/17
Sulfate (SO4)	8470	mg/L	200	106	200	SM 4500-SO4 E	BLL	08/03/17
Metals - Dissolved								
Cadmium (Cd)	3.52	mg/L	1000	0.003	0.100	EPA 200.8	TNA	08/03/17
Copper (Cu)	3.32	mg/L	1000	0.016	0.500	EPA 200.8	TNA	08/03/17
Iron (Fe)	86.5	mg/L	1000	0.211	5.00	EPA 200.8	TNA	08/03/17
Lead (Pb)	0.008	mg/L	10	0.000024	0.001	EPA 200.8	TNA	08/03/17
Manganese (Mn)	303	mg/L	1000	0.006	1.00	EPA 200.8	TNA	08/03/17

Parameter	Result	Units	DF	MDL	PQL	Method	Analyst/Date	
<u>Metals - Dissolved</u>								
Nickel (Ni)	2.61	mg/L	1000	0.029	0.500	EPA 200.8	TNA	08/03/17
Selenium (Se)	0.069	mg/L	10	0.001	0.005	EPA 200.8	TNA	08/03/17
Silver (Ag)	< 0.001	mg/L	10	0.00014	0.001	EPA 200.8	TNA	08/03/17
Zinc (Zn)	72.5	mg/L	1000	0.235	5.00	EPA 200.8	TNA	08/03/17
<u>Metals - Total</u>								
Calcium (Ca)	592	mg/L	17	0.530	17.0	SM 3111 B	TMS	08/07/17
Magnesium (Mg)	445	mg/L	12	0.489	6.00	SM 3111 B	TMS	08/07/17
Mercury (Hg)	< 0.0002	mg/L	1	0.000012	0.0002	EPA 245.1	TMS	08/03/17
Potassium (K)	18.6	mg/L	3	0.060	1.50	SM 3111 B	TMS	08/03/17
Sodium (Na)	74.3	mg/L	3	0.158	1.50	SM 3111 B	TMS	08/03/17
<u>Metals - Total Recoverable</u>								
Arsenic (As)	0.039	mg/L	10	0.00047	0.005	EPA 200.8	TNA	08/03/17
Chromium (Cr)	0.063	mg/L	10	0.000025	0.001	EPA 200.8 DRC	TNA	08/03/17
Iron (Fe)	92.7	mg/L	1000	0.211	5.00	EPA 200.8	TNA	08/03/17
<u>Anion - Cation Balance</u>								
Anions	177	meq/L	1			Calculation	GAM	08/09/17
Anion - Cation Balance	1.88	%	1			Calculation	GAM	08/09/17
Cations	184	meq/L	1			Calculation	GAM	08/09/17
<u>Field Test</u>								
Field Conductivity	8520	µmhos/cm	1			Field Conductivity	BLL	08/02/17
Field Oxygen (O2)	6.29	mg/L	1			Field Oxygen	BLL	08/02/17
Field pH	2.87	S.U.	1			Field pH	BLL	08/02/17
Field Temperature	23.5	° C	1			Field Temp.	BLL	08/02/17

Notes:

Cyanide sample required additional sodium hydroxide, pH not to >12.

Report Approved By:



Report Approved On: 8/9/2017 6:04:02 AM