1930480 - R8 SEMS

— Ruby Dump

93

MID-CONTINENT
TESTING LABORATORIES, INC.
HIGH TECHNOLOGY OIL ANALYSIS
AND ENVIRONMENTAL TESTING

2381 S. Plaza Dr. • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: RUBY DUMP
DESCRITPION:
SAMPLE DATE: 03/22/93
SAMPLE TIME:
SAMPLED BY:

STAN MICHALS
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

ACCOUNT NUMBER: W1000
LAB NUMBER: 19930323104
DATE RECEIVED: 03/23/93
TIME RECEIVED: 06:00 AM
REPORT DATE: 03/24/93

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	727.
Hardness	318.
PH	6.77
Solids, Dissolved, mg/l	384.
Solids, Suspended, mg/l	30.0
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	24.0
Bicarbonate	29.3
Carbonate, mg/l	0.0
Chloride, mg/l	18.5
Cyanide, Total, mg/l	<.010
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Fluoride, mg/l	.
Nitrogen, Ammonia, mg/l	<.050
Nitrogen, Nitrate, mg/l	10.0
Nitrogen, Nitrite, mg/l	<.050
Sulfate, mg/l	270.

QUALITY CONTROL	VALUE
Major Anion Sum, meq/L	7.33
Major Cation Sum, meq/L	7.14
Anion-Cation Balance, %	-1.36

METALS mg/l	DISSOLVED	TOTAL
Aluminum	.686	.999
Antimony	.	.
Arsenic	<.001	<.001
Barium	.082	.090
Beryllium	.	.
Boron	.	.
Cadmium	.002	.003
Calcium	93.8	.
Chromium	.002	.002
Cobalt	.	.
Copper	.054	.058
Gold	.	.
Iron	.068	.663
Lead	.002	.002
Lithium	.	.
Magnesium	20.4	.
Manganese	.265	.290
Mercury	.	<.0002
Molybdenum	.	.
Nickel	.009	.010
Potassium	4.00	.
Selenium	<.005	<.005
Silicon	.	.
Silver	<.001	<.001
Sodium	15.3	.
Strontium	.	.
Vanadium	.	.
Zinc	.114	.117

APPROVED BY: Greg M. Fagal

DATE: 03-24-93

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APPROVED BY: [signature]

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P.O. BOX 485
DEADWOOD, SD 57732

ACCOUNT NUMBER: W1000
LAB NUMBER: 19930324103
DATE RECEIVED: 03/24/93
TIME RECEIVED: 08:00 AM
REPORT DATE: 03/25/93

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	791.
Hardness	340.
PH	5.72
Solids, Dissolved, mg/l	.
Solids, Suspended, mg/l	40.0
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	<10.0
Bicarbonate	<10.0
Carbonate, mg/l	0.0
Chloride, mg/l	13.0
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Fluoride, mg/l	.
Nitrogen, Ammonia, mg/l	.111
Nitrogen, Nitrate, mg/l	9.09
Nitrogen, Nitrite, mg/l	<.050
Sulfate, mg/l	324.

QUALITY CONTROL	VALUE
Major Anion Sum, meq/L	7.75
Major Cation Sum, meq/L	7.49
Anion-Cation Balance, %	-1.75

METALS mg/l	DISSOLVED	TOTAL
Aluminum	.	1.35
Antimony	.	.
Arsenic	.	.013
Barium	.	.109
Beryllium	.	.
Boron	.	.
Cadmium	.	.006
Calcium	98.4	.
Chromium	.	.003
Cobalt	.	.
Copper	.	.551
Gold	.	.
Iron	.	.680
Lead	.	.003
Lithium	.	.
Magnesium	23.0	.
Manganese	.	.772
Mercury	.	<.0002
Molybdenum	.	.
Nickel	.	.019
Potassium	4.24	.
Selenium	.	<.005
Silicon	.	.
Silver	.	.002
Sodium	13.3	.
Strontium	.	.
Vanadium	.	.
Zinc	.	.250

APPROVED BY: [signature]

DATE: 03-25-93

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Chloride, mg/l	13.0
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Fluoride, mg/l	.
Nitrogen, Ammonia, mg/l	.111
Nitrogen, Nitrate, mg/l	9.09
Nitrogen, Nitrite, mg/l	<.050
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Gold	.	.
Iron	.	.680
Lead	.	.003
Lithium	.	.
Magnesium	23.0	.
Manganese	.	.772
Mercury	.	<.0002
Molybdenum	.	.
Nickel	.	.019
Potassium	4.24	.
Selenium	.	<.005
Silicon	.	.
Silver	.	.002
Sodium	13.3	.
Strontium	.	.
Vanadium	.	.
Zinc	.	.250

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SAMPLE NAME: RUBY DUMP
DESCRITPION:
SAMPLE DATE: 04/09/93
SAMPLE TIME:
SAMPLED BY:

STAN MICHALS
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

ACCOUNT NUMBER: W1000
LAB NUMBER: 19930412105
DATE RECEIVED: 04/09/93
TIME RECEIVED: 01:00 PM
REPORT DATE: 04/13/93

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	1540.
Hardness	514.
PH	3.36
Solids, Dissolved, mg/l	813.
Solids, Suspended, mg/l	17.0
Turbidity, NTU	35.0

INORGANIC & NONMETALLIC	VALUE
Alkalinity	0.0
Bicarbonate	0.0
Carbonate, mg/l	0.0
Chloride, mg/l	18.0
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Fluoride, mg/l	.706
Nitrogen, Ammonia, mg/l	.199
Nitrogen, Nitrate, mg/l	9.52
Nitrogen, Nitrite, mg/l	<.050
Sulfate, mg/l	720.

QUALITY CONTROL	VALUE
Major Anion Sum, meq/L	16.20
Major Cation Sum, meq/L	16.90
Anion-Cation Balance, %	-2.11

SPECIAL TESTS	VALUE
ACIDITY	334.0

METALS mg/l	DISSOLVED	TOTAL
Aluminum	38.1	40.6
Antimony	<.001	<.001
Arsenic	.098	.160
Barium	.096	.107
Beryllium	.004	.006
Boron	.	.
Cadmium	.080	.093
Calcium	127.	.
Chromium	.026	.030
Cobalt	.190	.194
Copper	6.14	6.29
Gold	<.001	<.001
Iron	14.7	17.3
Lead	.003	.006
Lithium	.028	.031
Magnesium	47.8	.
Manganese	8.75	9.30
Mercury	.0003	.0004
Molybdenum	<.001	<.001
Nickel	.135	.155
Potassium	5.05	.
Selenium	<.005	<.005
Silicon	13.7	15.9
Silver	<.001	<.001
Sodium	14.8	.
Strontium	.	.
Vanadium	.025	.026
Zinc	1.94	1.94

APPROVED BY: [signature]

DATE: 04-13-93

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Boron	.	.
Cadmium	.080	.093
Calcium	127.	.
Chromium	.026	.030
Cobalt	.190	.194
Copper	6.14	6.29
Gold	<.001	<.001
Iron	14.7	17.3
Lead	.003	.006
Lithium	.028	.031
Magnesium	47.8	.
Manganese	8.75	9.30
Mercury	.0003	.0004
Molybdenum	<.001	<.001
Nickel	.135	.155
Potassium	5.05	.
Selenium	<.005	<.005
Silicon	13.7	15.9
Silver	<.001	<.001
Sodium	14.8	.
Strontium	.	.
Vanadium	.025	.026
Zinc	1.94	1.94

APPROVED BY: [signature]

DATE: 04-13-93

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SAMPLE NAME: RUBY DUMP
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SAMPLE TIME:
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ACCOUNT NUMBER: W1000
LAB NUMBER: 19930413203
DATE RECEIVED: 04/13/93
TIME RECEIVED: 06:25 AM
REPORT DATE: 04/14/93

STAN MICHALS
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	1780.
Hardness	631.
PH	3.27
Solids, Dissolved, mg/l	938.
Solids, Suspended, mg/l	105.
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	0.0
Bicarbonate	0.0
Carbonate, mg/l	0.0
Chloride, mg/l	15.0
Cyanide, Total, mg/l	<.010
Cyanide, WAD, mg/l	<.010
Cyanide, Free, mg/l	.
Fluoride, mg/l	.
Nitrogen, Ammonia, mg/l	.143
Nitrogen, Nitrate, mg/l	11.2
Nitrogen, Nitrite, mg/l	<.050
Sulfate, mg/l	1008.

QUALITY CONTROL	VALUE
Major Anion Sum, meq/L	22.19
Major Cation Sum, meq/L	21.44
Anion-Cation Balance, %	-1.72

SPECIAL TESTS	VALUE
ACIDITY	466.

METALS mg/l	DISSOLVED	TOTAL
Aluminum	55.6	61.0
Antimony	.	.
Arsenic	.092	.120
Barium	.116	.200
Beryllium	.	.
Boron	.	.
Cadmium	.098	.116
Calcium	154.	.
Chromium	.048	.060
Cobalt	.	.
Copper	6.06	6.32
Gold	.	.
Iron	24.0	33.8
Lead	.004	.010
Lithium	.	.
Magnesium	59.8	.
Manganese	9.04	9.44
Mercury	.	.0003
Molybdenum	.	.
Nickel	.213	.221
Potassium	4.54	.
Selenium	<.005	<.005
Silicon	.	.
Silver	<.001	.001
Sodium	15.0	.
Strontium	.	.
Vanadium	.	.
Zinc	2.49	2.73

APPROVED BY: [signature]

DATE: 04-14-93

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Molybdenum	.	.
Nickel	.213	.221
Potassium	4.54	.
Selenium	<.005	<.005
Silicon	.	.
Silver	<.001	.001
Sodium	15.0	.
Strontium	.	.
Vanadium	.	.
Zinc	2.49	2.73

APPROVED BY: [signature]

DATE: 04-14-93