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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
SAMPLE DATE: 04/26/90
SAMPLE TIME:

LAB NUMBER: 19900427104
REPORT DATE: 04/30/90

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	376.
Hardness	.
PH	8.16
Solids, Dissolved, mg/l	254.
Solids, Suspended, mg/l	2.5
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	222.
Bicarbonate	270.
Carbonate, mg/l	0.
Chloride, mg/l	.
Cyanide, Total, mg/l	<.0005
Cyanide, WAD, mg/l	<.0007
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	7.5

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	.001	.003
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.001
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	<.001	<.001
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	2.50	.
Strontium	.	.
Vanadium	.	.
Zinc	<.005	.044

Amy McSwigel 4-30-90

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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
SAMPLE DATE: 04/26/90
SAMPLE TIME:

LAB NUMBER: 19900427104
REPORT DATE: 04/30/90

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	376.
Hardness	.
PH	8.16
Solids, Dissolved, mg/l	254.
Solids, Suspended, mg/l	2.5
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	222.
Bicarbonate	270.
Carbonate, mg/l	0.
Chloride, mg/l	.
Cyanide, Total, mg/l	<.0005
Cyanide, WAD, mg/l	<.0007
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	7.5

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	.001	.003
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.001
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	<.001	<.001
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	2.50	.
Strontium	.	.
Vanadium	.	.
Zinc	<.005	.044

Greg McSwigart 4-30-90

RECEIVED
MAY 1 1990
BROHM MINING CO.

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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
SAMPLE DATE: 06/04/90
SAMPLE TIME:

LAB NUMBER: 19900605108
REPORT DATE: 06/07/90

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	329.
Hardness	.
PH	7.26
Solids, Dissolved, mg/l	219.
Solids, Suspended, mg/l	<.5
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	170.0
Bicarbonate	207.4
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	5.56

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	<.001	.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.001
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.004	.008
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	.001	<.001
Silicon	.	.
Silver	.	.
Sodium	3.51	.
Strontium	.	.
Vanadium	.	.
Zinc	.005	.029

Amy McDougall 06-07-90

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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
SAMPLE DATE: 06/04/90
SAMPLE TIME:

LAB NUMBER: 19900605108
REPORT DATE: 06/07/90

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	329.
Hardness	.
PH	7.26
Solids, Dissolved, mg/l	219.
Solids, Suspended, mg/l	<.5
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	170.0
Bicarbonate	207.4
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	5.56

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	<.001	.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.001
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.004	.008
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	.001	<.001
Silicon	.	.
Silver	.	.
Sodium	3.51	.
Strontium	.	.
Vanadium	.	.
Zinc	.005	.029

Amy McDougall
06-07-90

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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
DESCRITPION:
SAMPLE DATE: 08/29/90
SAMPLE TIME:

ACCOUNT NUMBER: W1000
LAB NUMBER: 19900831108
REPORT DATE: 08/31/90

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	360.
Hardness	.
PH	7.11
Solids, Dissolved, mg/l	240.
Solids, Suspended, mg/l	1.50
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	194.
Bicarbonate	237.
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	<5.00

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	<.001	<.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	.001	.003
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.006	.007
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	2.02	.
Strontium	.	.
Vanadium	.	.
Zinc	.035	.076

Amy M. Pogel 08-31-90

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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
DESCRITPION:
SAMPLE DATE: 08/29/90
SAMPLE TIME:

ACCOUNT NUMBER: W1000
LAB NUMBER: 19900831108
REPORT DATE: 08/31/90

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	360.
Hardness	.
PH	7.11
Solids, Dissolved, mg/l	240.
Solids, Suspended, mg/l	1.50
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	194.
Bicarbonate	237.
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	<5.00

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	<.001	<.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	.001	.003
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.006	.007
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	2.02	.
Strontium	.	.
Vanadium	.	.
Zinc	.035	.076

Amy M. Pugal 08-31-90

RECEIVED
SEP - 4 1990
BROHM MINING CO.

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 01 / 10 / 89

Time 12:25

Sampler SW
(Initials)

Sampling Station Number..... SW-19

Temperature (degrees C)..... 4.1

pH..... 8.00

Conductivity (umhos/cm) 392..... orion -65 mV NACH .392 mS/cm

Flow (gpm)..... 40

Water Sample (Yes/No)..... Yes

Filtered Metals (Yes/No)..... Yes

Number/Type Bottles..... 4

Comments.....

TDS 194.8 mg/L

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 5 / 7 /89

Time 16:20

Sampler SW
(Initials)

Sampling Station Number..... SW-19

Temperature (degrees C)..... 5.4

pH..... 7.81

Conductivity (umhos/cm)..... 218

Flow (gpm).....

Water Sample (Yes/No).....

Filtered Metals (Yes/No).....

Number/Type Bottles..... 4

Comments.....

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 5/7/89

Sampler: SW

Station No.: SW-19

Gauge Height: —

Meter Used: [illegible]

Stream Width: 4'

Total Flow:

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
2-2.5			.50		.8	
2.5-3			.65		.9	
3-3.5			.64		.9	
3.5-4			.69		.9	
4-4.5			.65		.8	
4.5-5			.45		.8	
5-5.5			.45		.8	
5.5-6			.45		.7	
					TOTAL	

Comments:

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 6 15-89

Sampler: MA-JW

Station No.: SW-19

Gauge Height: N.A

Meter Used: Pygmy

Stream Width: 4.1

Total Flow: 176 gpm

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
2.0-2.5	2.25	.5	.33		.20	
2.5-3.0	2.75	.5	.52		.20	
3.0-3.5	3.25	↓	.56		.30	
3.5-4.0	3.75		.51		.20	
4.0-4.5	4.25		.58		.30	
4.5-5.0	4.75		.38		.20	
5.0-5.5	5.25		.27		.20	
5.5-6.1	5.80	.6	.35		.10	
					TOTAL	.393 cfs

Comments:

176.38 gpm

~~GROUND~~-WATER SAMPLING FORM

Surface FIELD MEASUREMENTS

Date 6 / 15 / 89

Time 12:50

Sampler MA-SW
(Initials)

Sampling Station Number..... SW-19

Temperature (degrees C)..... 9.0

pH..... 7.60

Conductivity (umhos/cm)..... 331

~~Depth to Water (ft)~~ flow gpm.....

Water Sample (Yes/No)..... Yes

Filtered Metals (Yes/No)..... Yes

Number/Type Bottles..... 4

Comments.....

st

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 9 / 6 / 89

Time 13:00

Sampler MA
(Initials)

Sampling Station Number..... SW-19

Temperature (degrees C)..... 8.9

pH..... 6.72

Conductivity (umhos/cm)..... 371

Flow (gpm).....

Water Sample (Yes/No)..... Yes

Filtered Metals (Yes/No)..... No

Number/Type Bottles..... 4 total metals

Comments.....

stream gaged - 1/5 gpm

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 9-6-89

Sampler: MA

Station No.: SW-19

Gauge Height:

Meter Used: Pygmy

Stream Width: 40'

Total Flow: ~~50.5 gpm~~ 46.3 gpm

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
0						
.5	.25	.5	.20	.10	.05	.005
1.0	.75	.5	.23	.115	.05	.00575
1.5	1.25	.5	.34	.17	.10	.017
2.0	1.75	.5	.40	.20	.10	.02
2.5	2.25	.5	.41	.205	.10	.0205
3.0	2.75	.5	.40	.20	.10	.02
3.5	3.25	.5	.35	.175	.05	.00875
4.0	3.75	.5	.25	.125	.05	.00625
					TOTAL	.10325

Comments:

~~50.5 gpm~~
46.3

Business Phone 605-341-7284
Home Phone 605-341-2458
Hours 8:00 — 4:30 M — F

Travis Laboratories

COAL — ORES — ENVIRONMENTAL WATERS — FEEDS — SOILS

1854 Lombardy Dr.
Rapid City, South Dakota 57701

JAMES H. TRAVIS
Laboratory Director

REPORT DATE: 2-3-89

COMPANY: Brohm Mining Co.

ADDRESS:

CITY-STATE:

SAMPLE #: SW-19

SAMPLE DATE-TIME: 1-10-89

DATE RECEIVED: 1-12-89

LABORATORY #: 207

	PARAMETER -- Minerals	RESULT
	Alkalinity (CaCO3), mg/l	230
	Bicarbonate (HCO3), mg/l	281
	Carbonate (CO3), mg/l	0
	Chloride (C1), mg/l	1
	Fluoride (F), mg/l	
	Sulfate (SO4), mg/l	4
	Calcium (Ca), mg/l	57
	Magnesium (Mg), mg/l	19
	Potassium (K), mg/l	1
	Sodium (Na), mg/l	3
	Major Anions, MEQ/L	4.71
	Major Cations, MEQ/L	4.56
	Cation - Anion Balance, %	1.62
	PARAMETER -- MISCELLANEOUS	
	pH, Units	7.99
	Conductivity, umhos/cm	400
	Cyanide, Total, mg/l	
	Cyanide, WAD, mg/l	
	Cyanide, Free, mg/l	
	Hardness (CaCO3), GPG: mg/l	221
	Oil & Grease, mg/l	
	Solids, Dissolved, mg/l	194
	Solids, Suspended, mg/l	2
	Turbidity, NTU	2

METALS:
Tot X Tot Rec ___ Diss ___ EP Tox ___

	Antimony (Sb), mg/l	0.007
	Aluminum (A1), mg/l	0.16
	Arsenic (As), mg/l	<0.005
	Barium (Ba), mg/l	<0.10
	Beryllium (Be), mg/l	<0.0005
	Boron (B), mg/l	<0.20
	Cadmium (Cd), mg/l	0.0005
	Chromium (Cr), mg/l	<0.005
	Cobalt (Co), mg/l	<0.005
	Copper (Cu), mg/l	<0.005
	Gold (Au), mg/l	
	Iron (Fe), mg/l	0.09
	Lead (Pb), mg/l	<0.005
	Lithium (Li), mg/l	0.005
	Manganese (Mn), mg/l	<0.03
	Mercury (Hg), mg/l	<0.0002
	Molybdenum (Mo), mg/l	
	Nickel (Ni), mg/l	<0.005
	Selenium (Se), mg/l	<0.002
	Silicon (Si), mg/l	
	Silver (Ag), mg/l	0.0010
	Strontium (Sr), mg/l	
	Vanadium (V), mg/l	<0.005
	Zinc (Zn), mg/l	0.02
	PARAMETER --Nutrients	
	Nitrogen, Ammonia, mg/l	<0.03
	Nitrogen, Nitrate, mg/l	<0.10
	Nitrogen, Nitrite, mg/l	<0.01
	Nitrogen, Total Kjeldahl, mg/l	0.24
	Phosphorus, Ortho, mg/l	
	Phosphorus, Total, mg/l	0.013

Business Phone 605-341-7284
Home Phone 605-341-2458
Hours 8:00 — 4:30 M — F

Travis Laboratories

COAL — ORES — ENVIRONMENTAL WATERS — FEEDS — SOILS

1854 Lombardy Dr.
Rapid City, South Dakota 57701

JAMES H. TRAVIS
Laboratory Director

REPORT DATE: 2-3-89

COMPANY: Brohm Mining Co.

ADDRESS:

CITY-STATE:

SAMPLE #: SW-19

SAMPLE DATE-TIME: 1-10-89

DATE RECEIVED: 1-12-89

LABORATORY #: 208

	PARAMETER -- Minerals	RESULT
	Alkalinity (CaCO3), mg/l	
	Bicarbonate (HCO3), mg/l	
	Carbonate (CO3), mg/l	
	Chloride (C1), mg/l	
	Fluoride (F), mg/l	
	Sulfate (SO4), mg/l	
	Calcium (Ca), mg/l	
	Magnesium (Mg), mg/l	
	Potassium (K), mg/l	
	Sodium (Na), mg/l	
	Major Anions, MEQ/L	
	Major Cations, MEQ/L	
	Cation - Anion Balance, %	
	PARAMETER -- MISCELLANEOUS	
	pH, Units	
	Conductivity, umhos/cm	
	Cyanide, Total, mg/l	
	Cyanide, WAD, mg/l	
	Cyanide, Free, mg/l	
	Hardness (CaCO3), GPG: mg/l	
	Oil & Grease, mg/l	
	Solids, Dissolved, mg/l	
	Solids, Suspended, mg/l	
	Turbidity, NTU	

METALS:

Tot ____ Tot Rec ____ Diss X EP Tox ____

	Antimony (Sb), mg/l	<0.005
	Aluminum (A1), mg/l	<0.10
	Arsenic (As), mg/l	<0.005
	Barium (Ba), mg/l	<0.10
	Beryllium (Be), mg/l	<0.0005
	Boron (B), mg/l	<0.20
	Cadmium (Cd), mg/l	<0.0005
	Chromium (Cr), mg/l	<0.005
	Cobalt (Co), mg/l	<0.005
	Copper (Cu), mg/l	<0.005
	Gold (Au), mg/l	
	Iron (Fe), mg/l	<0.05
	Lead (Pb), mg/l	<0.005
	Lithium (Li), mg/l	<0.005
	Manganese (Mn), mg/l	<0.03
	Mercury (Hg), mg/l	<0.0002
	Molybdenum (Mo), mg/l	
	Nickel (Ni), mg/l	<0.005
	Selenium (Se), mg/l	<0.002
	Silicon (Si), mg/l	
	Silver (Ag), mg/l	<0.0005
	Strontium (Sr), mg/l	
	Vanadium (V), mg/l	<0.005
	Zinc (Zn), mg/l	0.01
	PARAMETER --Nutrients	
	Nitrogen, Ammonia, mg/l	
	Nitrogen, Nitrate, mg/l	
	Nitrogen, Nitrite, mg/l	
	Nitrogen, Total Kjeldahl, mg/l	
	Phosphorus, Ortho, mg/l	
	Phosphorus, Total, mg/l	

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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
DESCRITPION:
SAMPLE DATE: 05/07/91
SAMPLE TIME:
SAMPLED BY:

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

ACCOUNT NUMBER: W1000
LAB NUMBER: 19910508106
DATE RECEIVED: 05/08/91
TIME RECEIVED: 12:30 PM
REPORT DATE: 05/09/91

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	416.
Hardness	.
PH	7.84
Solids, Dissolved, mg/l	277.
Solids, Suspended, mg/l	<5.0
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	208.
Bicarbonate	254.
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	<10.

METALS mg/l	DISSOLVED	TOTAL
Aluminum	.	.
Antimony	.	.
Arsenic	<.001	<.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	<.001
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.002	.003
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Magnesium	.	.
Manganese	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.005	<.005
Silicon	.	.
Silver	.	.
Sodium	2.26	.
Strontium	.	.
Vanadium	.	.
Zinc	<.050	.102

APPROVED BY: Mary M. Powell

DATE: 05-09-91

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

2100 S. 7th, Suite 211 • P.O. Box 3388 • Rapid City, SD 57709
(605) 348-0111

SAMPLE NAME: SW-19
DESCRITPION:
SAMPLE DATE: 02/13/91
SAMPLE TIME:
SAMPLED BY:

MYRON ANDERSEN
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

ACCOUNT NUMBER: W1000
LAB NUMBER: 19910215205
DATE RECEIVED: 02/15/91
TIME RECEIVED: 12:45 PM
REPORT DATE: 02/18/91

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	394.
Hardness	.
PH	7.97
Solids, Dissolved, mg/l	263.
Solids, Suspended, mg/l	2.0
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	208.
Bicarbonate	254.
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	.
Cyanide, WAD, mg/l	.
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	<10.

METALS mg/l	DISSOLVED	TOTAL
Aluminum	.	.
Antimony	.	.
Arsenic	.001	.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.002
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.001	.006
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Magnesium	.	.
Manganese	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	2.62	.
Strontium	.	.
Vanadium	.	.
Zinc	.025	.041

APPROVED BY: Mary M. Powell

DATE: 02-18-91

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Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	<10.

METALS mg/l	DISSOLVED	TOTAL
Aluminum	.	.
Antimony	.	.
Arsenic	.001	.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.002
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.001	.006
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Magnesium	.	.
Manganese	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	2.62	.
Strontium	.	.
Vanadium	.	.
Zinc	.025	.041

APPROVED BY: Alley M. Parry
DATE: 02-18-91