5w-8 89-98

1930520 - R8 SEMS

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 01 / 24 / 89

Time 12:30

Sampler SW
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C)..... -.4

pH..... 7.91

Conductivity (umhos/cm)..... 281

Flow (gpm)..... iced over

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

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

Number/Type Bottles..... 5 (CN)

Comments.....

~~Sky~~ unable to estimate flow due to ice conditions

staff gauge @ .29

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 4/19/89

Sampler: SW

Station No.: SW-8

Gauge Height: 4.6

Meter Used: pygmy

Stream Width: 7.5'

Total Flow: 1424 gpm 3.17 cfs

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
1.0-1.5	1.25	.5	.32		0.0	0.0
1.5-2.0	1.75	.5	.40		.4	.08
2.0-2.5	2.25	"	.57		1.5	.4275
2.5-3.0	2.75	"	.53		1.4	.371
3.0-3.5	3.25	"	.45		1.2	.27
3.5-4.0	3.75	"	.45		.9	.2025
4.0-4.5	4.25	"	.52		.7	.182
4.5-5.0	4.75	"	.59		.7	.2065
5.0-5.5	5.25	"	.53		1.1	.2915
5.5-6.0	5.75	"	.52		1.0	.26
6.0-6.5	6.25	"	.57		1.1	.3135
6.5-7.0	6.75	"	.60		.8	.24
7.0-7.5	7.25	"	.41		.8	.164
7.5-8.0	7.75	"	.35		.8	.14
8.0-8.5	8.25	"	.25		.2	.025
~~8.5~~	~~7.5~~	—				
					TOTAL	3.17

Comments:

1424 gpm

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 4 / 19 / 89

Time 12:05

Sampler SW
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C)..... 10.4

pH..... 8.29

Conductivity (umhos/cm)..... 202

Flow (gpm)..... 1424 gpm 3.17 cfs

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

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

Number/Type Bottles..... 4 short bts (CN)

Comments.....

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 5 / 31 / 89

Time 10:35

Sampler SW
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C)..... 11.3

pH..... 7.94

Conductivity (umhos/cm)..... 177.2

Flow (gpm).....

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

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

Number/Type Bottles..... 4 (CN [illegible])

Comments.....

staff gauge @ .50

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 6/1/89 ~~SW-8~~

Meter Used: pygmy

Sampler: SW

Stream Width: 7.5

Station No.: SW-8

Total Flow: 1852 gpm

Gauge Height: .50

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
1.0-1.5	1.25	.5	.34	.17	.1	.017
1.5-2	1.75	.5	.46		.7	
2-2.5	2.25		.67		1.3	
2.5-3	2.75		.61		1.5	
3-3.5			.53		1.3	
3.5-4			.52		1.2	
4-4.5			.52		1.3	
4.5-5			.61		1.2	
5-5.5			.62		1.3	
5.5-6			.62		1.2	
6-6.5			.65		1.0	
6.5-7			.60		.8	
7-7.5			.48		.8	
7.5-8			.38		.6	
8-8.5	8.25	.5	.25		.4	
					TOTAL	4.13

Comments:

1852.4 gpm

twin city testing corporation

Business Phone 605-341-7284
Hours 8:00 — 5:00 — M-F

COAL — ORES — ENVIRONMENTAL WATERS — FEEDS — SOILS

1854 Lombardy Dr.
Rapid City, South Dakota 57701

Job # 6110-89-13

JAMES H. TRAVIS
Laboratory Manager

REPORT DATE: 10/5/89

COMPANY: Brohm Mining Co. Scott Wanstedt

ADDRESS: PO Box 485

CITY-STATE: Deadwood, S.D. 57732

SAMPLE #: SW-8

SAMPLE DATE-TIME: 8/30/89

DATE RECEIVED: 8/31/89

LABORATORY #: 4816

PARAMETER -- Minerals	RESULT
Alkalinity (CaCO3), mg/l	118
Bicarbonate (HCO3), mg/l	144
Carbonate (CO3), mg/l	0
Chloride (C1), mg/l	
Fluoride (F), mg/l	
Sulfate (SO4), mg/l	17
Calcium (Ca), mg/l	
Magnesium (Mg), mg/l	
Potassium (K), mg/l	
Sodium (Na), mg/l	5
Major Anions, MEQ/L	
Major Cations, MEQ/L	
Cation - Anion Balance, %	
PARAMETER -- MISCELLANEOUS	
pH, Units	8.09
Conductivity, umhos/cm	290
Cyanide, Total, mg/l	<0.010
Cyanide, WAD, mg/l	
Cyanide, Free, mg/l	
Hardness (CaCO3), GPG: mg/l	
Oil & Grease, mg/l	
Solids, Dissolved, mg/l	182
Solids, Suspended, mg/l	<1
Turbidity, NTU	

REVIEWED BY

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

Antimony (Sb), mg/l	
Aluminum (A1), mg/l	
Arsenic (As), mg/l	<0.005
Barium (Ba), mg/l	
Beryllium (Be), mg/l	
Boron (B), mg/l	
Cadmium (Cd), mg/l	0.0018
Chromium (Cr), mg/l	
Cobalt (Co), mg/l	
Copper (Cu), mg/l	<0.005
Gold (Au), mg/l	
Iron (Fe), mg/l	
Lead (Pb), mg/l	
Lithium (Li), mg/l	
Manganese (Mn), mg/l	
Mercury (Hg), mg/l	
Molybdenum (Mo), mg/l	
Nickel (Ni), mg/l	
Selenium (Se), mg/l	<0.002
Silicon (Si), mg/l	
Silver (Ag), mg/l	
Strontium (Sr), mg/l	
Vanadium (V), mg/l	
Zinc (Zn), mg/l	0.04
PARAMETER --Nutrients	
Nitrogen, Ammonia, mg/l	
Nitrogen, Nitrate, mg/l	<0.10
Nitrogen, Nitrite, mg/l	
Nitrogen, Total Kjeldahl, mg/l	
Phosphorus, Ortho, mg/l	
Phosphorus, Total, mg/l	

RECEIVED
OCT 1 1989
BROHM MINING CO.

Business Phone 605-341-7284
Hours 8:00 — 5:00 — M-F

twin city testing corporation

COAL — ORES — ENVIRONMENTAL WATERS — FEEDS — SOILS

1854 Lombardy Dr.
Rapid City, South Dakota 57701

Job # 6110-89-13

JAMES H. TRAVIS
Laboratory Manager

REPORT DATE: 10/5/89

COMPANY: Brohm Mining Co. Scott Wanstedt

ADDRESS: PO Box 485

CITY-STATE: Deadwood, S.D. 57732

SAMPLE #: SW-8

SAMPLE DATE-TIME: 8/30/89

DATE RECEIVED: 8/31/89

LABORATORY #: 4817

	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	
	REVIEWED BY. J. H. Travis	

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

	Antimony (Sb), mg/l	
	Aluminum (A1), mg/l	
	Arsenic (As), mg/l	<0.005
	Barium (Ba), mg/l	
	Beryllium (Be), mg/l	
	Boron (B), mg/l	
	Cadmium (Cd), mg/l	<0.0005
	Chromium (Cr), mg/l	
	Cobalt (Co), mg/l	
	Copper (Cu), mg/l	<0.005
	Gold (Au), mg/l	
	Iron (Fe), mg/l	
	Lead (Pb), mg/l	
	Lithium (Li), mg/l	
	Manganese (Mn), mg/l	
	Mercury (Hg), mg/l	
	Molybdenum (Mo), mg/l	
	Nickel (Ni), mg/l	
	Selenium (Se), mg/l	<0.002
	Silicon (Si), mg/l	
	Silver (Ag), mg/l	
	Strontium (Sr), mg/l	
	Vanadium (V), mg/l	
	Zinc (Zn), mg/l	<0.005
	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	

RECEIVED OCT 1 BROHM MINING CO

RECEIVED
OCT 1 1989
BROHM MINING CO.

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 2-25-90

Meter Used:

Sampler: mt.

Stream Width: 7'

Station No.: SW-8

Total Flow: 2.045

Gauge Height:

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
0-1	.5	1	.3	.3	.1	.01
1-2	1.5	1	.35	.35	1.2	.42
2-3	2.5	1	.4	.4	.8	.32
3-4	3.5	1	.45	.45	0	0
4-5	4.5	1	.45	.45	1.3	.585
5-6	5.5	1	.55	.55	1	.55
6-7	6.5	1	.4	.4	.4	.16
					TOTAL	2.045

Comments:

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 4 / 16 / 90

Time 1510

Sampler MB MK MA
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C).....

pH..... 6.78

Conductivity (umhos/cm)..... 109

Flow (gpm).....

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

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

Number/Type Bottles..... CN min DISS Total

Comments.....

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 5-4-90

Meter Used: Pygmy

Sampler: mt

Stream Width: 8.5

Station No.: SW-8

Total Flow: 11.59

Gauge Height:

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
5-6	5.5	1	.4	.4	1.5	.6
6-7	6.5	1	.6	.6	2.1	1.26
7-8	7.5	1	.8	.8	2.7	2.16
8-9	8.5	1	.8	.8	2.2	1.76
9-10	9.5	1	.9	.9	2.5	2.25
10-11	10.5	1	.7	.7	2.2	1.54
11-12	11.5	1	.5	.5	2.2	1.1
12-13	12.5	1	.4	.4	2.3	.92
13-13.5						
					TOTAL	11.59

Comments:

GROUND-WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 6 / 4 / 18 90

Time 11:00

Sampler mt
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C)..... 21

pH..... 7.2

Conductivity (umhos/cm)..... 184

Depth to Water (ft).....

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

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

Number/Type Bottles..... MiN Diss Lot. CN

Comments.....

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 6-4-90

Meter Used: Pygmy

Sampler: mt

Stream Width: 7'

Station No.. SW-8

Total Flow: 7.0375

Gauge Height: _____

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
0-.5	.25	.5	.3	.15	.8	.12
.5-1	.75	.5	.4	.2	1	.2
1-1.5	1.25	.5	.45	.225	1	.25
1.5-2	1.75	.5	.4	.2	1.7	.34
2-2.5	2.25	.5	.5	.25	1.7	.425
2.5-3	2.75	.5	.6	.3	1.4	.42
3-3.5	3.25	.5	.5	.25	.8	.2
3.5-4	3.75	.5	.6	.3	1	.3
4-4.5	4.25	.5	.6	.3	1.1	3.3
4.5-5	4.75	.5	.45	.225	1.9	.4275
5-5.5	5.25	.5	.45	.225	1.9	.405
5.5-6	5.75	.5	.4	.2	1.6	.32
6-6.5	6.25	.5	.35	.175	1.2	.21
6.5-7	6.75	.5	.2	.1	1.2	.12
					TOTAL	7.0375

Comments: _____

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 8-29-90

Sampler: mf.

Station No.: SW-8

Gauge Height: _____

Meter Used: Pygmy

Stream Width: 6'

Total Flow: .7115

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
0 - .5	.25	.5	.3	.15	.8	.12
.5 - 1	.75	.5	.275	.1375	.4	.055
1 - 1.5	1.25	.5	.25	.125	.6	.075
1.5 - 2	1.75	.5	.27	.135	.4	.054
2 - 2.5	2.25	.5	.3	.15	.4	.06
2.5 - 3	2.75	.5	.3	.15	.3	.045
3 - 3.5	3.25	.5	.3	.15	.3	.045
3.5 - 4	3.75	.5	.25	.125	.3	.0375
4 - 4.5	4.25	.5	.25	.125	.5	.0625
4.5 - 5	4.75	.5	.2	.1	.7	.07
5 - 5.5	5.25	.5	.2	.1	.8	.08
5.5 - 6	5.75	.5	.15	.075	.1	.0075
					TOTAL	.7115

Comments: _____

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 8 / 30 / 90

Time 11:30

Sampler MT
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C)..... 22.2

pH..... 7.86

Conductivity (umhos/cm)..... 295

Flow (gpm).....

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

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

Number/Type Bottles..... CN MIN Diss Total

Comments.....

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-8
SAMPLE DATE: 04/16/90
SAMPLE TIME:

LAB NUMBER: 19900417108
REPORT DATE: 04/19/90

MARTY TALLEY
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	146.
Hardness	.
PH	7.27
Solids, Dissolved, mg/l	97.
Solids, Suspended, mg/l	7.
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	50.
Bicarbonate	61.0
Carbonate, mg/l	3.99
Chloride, mg/l	3.99
Cyanide, Total, mg/l	.0013
Cyanide, WAD, mg/l	.0020
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	18.0

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	<.001	<.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	<.001
Calcium	14.6	14.9
Chromium	.	.
Cobalt	.	.
Copper	.003	.006
Gold	<.001	<.001
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	4.69	5.28
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	2.16	2.01
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	4.98	4.92
Strontium	.	.
Vanadium	.	.
Zinc	.009	.035

Dean Durand
4-19-90

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-8
SAMPLE DATE: 04/16/90
SAMPLE TIME:

LAB NUMBER: 19900417108
REPORT DATE: 04/19/90

MARTY TALLEY
BROHM MINING CORP.
P.O. BOX 485
DEADWOOD, SD 57732

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	146.
Hardness	.
PH	7.27
Solids, Dissolved, mg/l	97.
Solids, Suspended, mg/l	7.
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	50.
Bicarbonate	61.0
Carbonate, mg/l	3.99
Chloride, mg/l	3.99
Cyanide, Total, mg/l	.0013
Cyanide, WAD, mg/l	.0020
Cyanide, Free, mg/l	.
Flouride, mg/l	.
Nitrogen, Ammonia, mg/l	.
Nitrogen, Nitrate, mg/l	<.050
Nitrogen, Nitrite, mg/l	.
Sulfate, mg/l	18.0

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	<.001	<.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	<.001
Calcium	14.6	14.9
Chromium	.	.
Cobalt	.	.
Copper	.003	.006
Gold	<.001	<.001
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	4.69	5.28
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	2.16	2.01
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	4.98	4.92
Strontium	.	.
Vanadium	.	.
Zinc	.009	.035

Dean Durand
4-19-90

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-8
SAMPLE DATE: 06/04/90
SAMPLE TIME:

LAB NUMBER: 19900605105
REPORT DATE: 06/07/90

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

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	179.
Hardness	.
PH	7.06
Solids, Dissolved, mg/l	121.
Solids, Suspended, mg/l	2.0
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	74.0
Bicarbonate	90.3
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	<.010
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	.002
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.001
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.003	.018
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	4.88	.
Strontium	.	.
Vanadium	.	.
Zinc	<.005	.030

Mary M. Powell 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-8
SAMPLE DATE: 06/04/90
SAMPLE TIME:

LAB NUMBER: 19900605105
REPORT DATE: 06/07/90

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

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	179.
Hardness	.
PH	7.06
Solids, Dissolved, mg/l	121.
Solids, Suspended, mg/l	2.0
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	74.0
Bicarbonate	90.3
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	<.010
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	.002
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	<.001	.001
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.003	.018
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	4.88	.
Strontium	.	.
Vanadium	.	.
Zinc	<.005	.030

Mary 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-8
DESCRITPION:
SAMPLE DATE: 08/30/90
SAMPLE TIME:

ACCOUNT NUMBER: W1000
LAB NUMBER: 19900831202
REPORT DATE: 08/31/90

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

PHYSICAL PROPERTIES	VALUE
Conductivity, umhos/cm	253.
Hardness	.
PH	8.13
Solids, Dissolved, mg/l	179.
Solids, Suspended, mg/l	2.5
Turbidity, NTU	.

INORGANIC & NONMETALLIC	VALUE
Alkalinity	116.
Bicarbonate	142.
Carbonate, mg/l	0.0
Chloride, mg/l	.
Cyanide, Total, mg/l	<.010
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	17.9

METALS mg/l	DISSOLVED	TOTAL
Antimony	.	.
Aluminum	.	.
Arsenic	<.001	<.001
Barium	.	.
Beryllium	.	.
Boron	.	.
Cadmium	.001	.003
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.003	.008
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	5.57	.
Strontium	.	.
Vanadium	.	.
Zinc	.038	.040

Mary M. Payne
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-8
DESCRITPION:
SAMPLE DATE: 08/30/90
SAMPLE TIME:

ACCOUNT NUMBER: W1000
LAB NUMBER: 19900831202
REPORT DATE: 08/31/90

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

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Beryllium	.	.
Boron	.	.
Cadmium	.001	.003
Calcium	.	.
Chromium	.	.
Cobalt	.	.
Copper	.003	.008
Gold	.	.
Iron	.	.
Lead	.	.
Lithium	.	.
Manganese	.	.
Magnesium	.	.
Mercury	.	.
Molybdenum	.	.
Nickel	.	.
Potassium	.	.
Selenium	<.001	<.001
Silicon	.	.
Silver	.	.
Sodium	5.57	.
Strontium	.	.
Vanadium	.	.
Zinc	.038	.040

Ann M. Payne
08-31-90

RECEIVED
SEP - 5 1990
BROHM MINING CO.

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 2 / 14 / 1991

Time _____

Sampler mt
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C)..... 3

pH..... 8.9

Conductivity (umhos/cm)..... 220

Flow (gpm)..... _____

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

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

Number/Type Bottles..... 2N MIN DISS NUT

Comments..... _____

SNOW + Ice

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 2-14-91

Sampler: SW-8

Station No..

Gauge Height:

Meter Used:

Stream Width:

Total Flow:

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
0-.5		.5	.5	.25	.2	.05
.5-1		.5	.8	.4	.23	.092
1-1.5		.5	.8	.4	.2	.08
1.5-2		.5	.9	.45	.21	.0945
2-2.5		.5	1.1	.55	.25	.1375
2.5-3		.5	1	.5	.26	.13
3-3.5		.5	.8	.4	.21	.084
3.5-4		.5	.6	.35	.20	.07
4-4.5		.5	.3	.15	.18	.027
						.7645
					TOTAL	343.16

Comments: Edges FROZEN Anchor ice

SURFACE WATER STREAM GAUGING - FIELD FORM

Date: 4-22-91

Meter Used: Pygmy

Sampler: mt

Stream Width: 6'

Station No.. SW-8

Total Flow: •

Gauge Height: _____

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
0-.5	.25	.5	.33	.165	.9	.149
.5-1	.75	.5	.35	.175	1.1	.1925
1-1.5	1.25	.5	.45	.225	2.	.045
1.5-2	1.75	.5	.5	.25	2.8	.7
2-2.5	2.25	.5	.5	.25	2.2	.55
2.5-3	2.75	.5	.5	.25	1.5	.375
3-3.5	3.25	.5	.7	.35	1.	.35
3.5-4	3.75	.5	.65	.325	1.8	.585
4-4.5	4.25	.5	.65	.325	2	.65
4.5-5	4.75	.5	.6	.30	1.7	.51
5-5.5	5.25	.5	.5	.25	1.2	.3
5.5-6	5.75	.5	.45	.225	.9	.2025
						4.609
					TOTAL	2068.5

Comments: _____

SURFACE WATER SAMPLING FORM

FIELD MEASUREMENTS

Date 4 / 23 / 8 91

Time _____

Sampler mt
(Initials)

Sampling Station Number..... SW-8

Temperature (degrees C)..... 8

pH..... 8.9

Conductivity (umhos/cm)..... 150

Flow (gpm)..... _____

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

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

Number/Type Bottles..... _____

Comments..... _____

SURFACE WATER STREAM GAUGING - FIELD FORM

DATE:	5/24/91	METER USED:	Pygmy
SAMPLER:	MT - JC	STREAM WIDTH:	11'
STATION NO:	SW-~~#~~ 8	TOTAL FLOW:	12.46
GAUGE HEIGHT:		WATER SAMPLE (Yes/No):	
TEMPERATURE (degrees C):	15°	FILTERED METALS (Yes/No):	
pH:	8.7	NUMBER/TYPE BOTTLES:	
CONDUCTIVITY (umhos/cm):	120	FLOW (gpm):	5592.048

Interval	Midpoint	Width	Depth	Area (sft)	Velocity (fps)	Qcfs
0-1	.5	1	.4'	.4	.3	.12
1-2	1.5	1	.7'	.7	1.3	.91
2-3	2.5	1	1'	1	1.7	1.7
3-4	3.5	1	.9'	.9	1.8	1.44
4-5	4.5	1	1'	1	2	2
5-6	5.5	1	.9'	.9	2	1.8
6-7	6.5	1	.9'	.9	1.3	1.17
7-8	7.5	1	1'	1	1.5	1.5
8-9	8.5	1	1'	1	1.2	1.2
9-10	9.5	1	.5'	.5	1	.5
10-11	10.5	1	.3'	.3	.4	.12
					TOTAL	

COMMENTS: