REPORT ON THE ROSEDALE MINE

ROSEDALE, NEW MEXICO.

By Jas. H. Batchelder Jr. E. M.

Description.

The Rosedale Mining District is situated in the south central part of Socorro County, New Mexico, in the north central part of the San Mateo Mountains.

The claims of the Rosedale Mining and Milling company are situated in the eastern part of this district on the north eastern slope of the San Mateo range in Section 7, Township 6, South, Range 5 West, New Mexico Principal Meridan.

The San Mateo mountains rise to an elevation of 10,000 feet above the sea level, forming an eastern sub-division of the Rockies and pass through the Territory in a southwestern direction.

The Rosedale mine owned by the Rosedale Mining and Milling company is the only prominent mine in the district. There are a number of very promising prospects on the north and south extensions of the Rosedale vein and also on parallel veins.

The surface is very rough with scrub oak covering the lower slopes and a good growth of pine, pinon, ceder and juniper on the higher elevations, Two miles to the east of the Rosedale the rugged hill country gives place to the gravel filled plain which lies between the San Mateo range and the Magdalena range

on the north east.

Precipitation; The maximum occuring in August 1907. 8.10 inches.

WATER SUPPLY

There are no running streams the year around, they dry up during the spring and early summer. Water is piped in 3-inch spiral riveted pipe three miles south of the mine. The springs are owned by the Rosedale Mining and Milling company. The mine makes 2,000 gallons per day and with the water from the springs would furnish sufficient for a 100-ton mill and cyanide plant.

LOCATION

The district is not directly connected by rail the nearest railroad point is Magdalena, 28 miles northeast, which is situated on a brance of the Atchison, Topeka and Santa Fe, 30 miles west by a little north of Socorro, the junction with the main line. Socorro is 180 miles north of El Paso, Texas. A stage runs every other day from San Marcial, a station on the Santa Fe railroad, a distance of 30 miles east by a little south. Most of the freight is brought from Magdalena, the road being hard and except for three or four grades is in good condition to haul heavy mining machinery. The road in its present condition will give no serious trouble.

The nearest reduction works is situated at El paso, Texas, where there is also a well equipped foundry.

The property of the Rosedale Mining and Milling company consists of two patented lode claims, the Great London and the Rothschild, both 1,500 x 600 feet. The mill sites, the Rothschild, 330 x 660 feet situated three miles southwest of

the mine, was taken up to control the water from the springs. The Great London 340 x 500 is situated adjoining the lode claim on the same name. All the above claims are held by U. S. patents surveys Nos. 1076-A, 1076-B and 1077-B. Located February 27th, 1887 and May 14th, 1887, approved for patent July 10th, 1900 at Santa Fe, New Mexico. The elevation given by United States Geological Survey is 7100 feet.

HISTORY

Gold was first discovered in the Rosedale district by Jack Richardson on December 15th, 1882 on which is now the Rosedale mine. This precipitated a rush to the district, but it was soon checked by the frequent incursions of the Apache Indians under the leadership of Geronimo. Several massacres occured and the prospectors left the country.

The Rosedale mine was developed by the W. H. Martin company. They put a 10-stamp mill upon the property, and this is one of the few properties that has done development work and paid dividends without taking out any ore other than that encountered in sinking the shaft and drifting. In 1899 a cyanide leaching plant was added, they were unable to treat the slimes and they were run to waste.

The following data was taken from the records of the W. H. Martin company:

December 1896. Ore taken from old tunnel before cyanide plant was installed, saved on plates $944.41

May 16th, 1898, 3 tons of rich ore from old tunnel sent to Magdalena smelter, netted 1209.11

In 1898 about 2,000 tons of ore was treated as follows:

July - ore taken out while drifting	$1239.39
September and October	2501.07
August	3434.83
November - half month	1600.00
	$11478.57

The following ore was treated by amalgamation and cyanide;

Date	Bullion from plates	Slimes from zinc boxes	Total
Feby. 1899 to Jan. 1900	$18,403.27	$9,224.83	$27,628.10
	Tons milled 4781		
	Average recovery per ton $5.78		
Jan. 1900 to Jan. 1901	$29,063.45	$14,762.11	$43,820.56
	Tons milled 5995		
	Average recovery per ton $7.31		
Jan. 1901 to June 1901	$13,614.55	$6,064.04	$19,678.59
	Tons milled 3406		
	Average recovery per ton $5.78		

Mill closed until September 1903

September, November and December, 1903.	$6,191.45	$3,526.88	$9,718.33
	Tons milled 912		
	Average recovery per ton $10.65		

Jan. 1904 to Jan. 1905	$23,170.15	$14,628.36	$37,798 .51

Tons milled 5741

Total mine and mill expense $28,129.80

Average expense per ton treated $4.89

Average recovery per ton $6.58

Profit per ton $1.69

Date	Bullion from plates	Slimes from zinc boxes	total
Jan. 1905 to July 1905	$12,774.42	$7,021.26	$19,795.68

Tons milled 3452

Total mine and mill expense $16,304.88

Average expense per ton treated $4.72

Average recovery per ton $5.73

Profit per ton $1.01

In the mill book the average battery heads from February 4th, 1904 to February 20th, 1904 were $12.30

Tails $6.75

April 4th, 1905 to April 30th, 1905;

Average battery heads $9.76

Average cyanide tails $5.40

This constitutes all of the records that were furnished me in regards to the operations of the W. H. Martin company.

The Rosedale mine is owned at the present time by the Rosedale Mining and Milling company:

J. P. Worrell	President
W. A. Hamilton	Vice President
Geo. O. Dix	Sec'y and Treas.
L. R. Babcock	General Manager.

The following data in regards to mill runs, etc., was furnished by this company.

Date	Level	Tons milled	Average Battery heads	Average tails	Bullion
1909					
March 22 to April 1	4	133.8			
	5	60.8			
	8	105.4			
		300.0	$8.56	$1.68	$1657.28
	Average bullion recovered per ton $5.52				
April 1 to May 1	4	229.9			
	5	90.1			
	7	28.5			
	8	69.7			
	9	7.7			
	13	11.1			
		437.0	$8.75	$1.02	$2245.89
	Average bullion recovery per ton $5.14				
May 1 to June 1	4	228.2			
	5	225.3			
	9	70.1			
	13	73.1			
		598.7	$10.08	$1.09	$5153.40
	Average bullion recovery per ton $8.60				
June 1 to July 1	4	28.1			
	5	90.1			
	6	122.8			
	7	46.3			
	9	155.1			
		442.4	$7.68	$.94	$2561.76
	Average bullion recovery per ton $5.79				
July 1 to August 1	4	47.7			
	5	209.1			
	6	80.3			
	7	74.8			
	9	196.4			
		610.3	$7.32	$.66	$3855.99
	Average bullion recovery per ton $6.32				

Date	Level	Tons Milled	Average Battery heads	Average tails	Bullion
1909					
August 1	5	210.0			
to	6	4.3			
Sept. 1	7	199.3			
	9	92.7			
	11	122.0			
		628.3	$5.68	$.81	$3061.07

Average bullion recovery per ton $4.87

Sept. 1	5	144.9			
to	6	40.0			
Oct. 1	7	185.3			
	9	127.9			
		498.1	$7.42	$.73	$2907.84

Average bullion recovered per ton $5.84

Oct. 1	5	117.7			
to	6	3.0			
Nov.1	7	106.3			
	9	91.8			
		318.8	$8.54	$1.24	$2092.85

Average bullion recovered per ton $6.56

Nov. 1	5	109.2			
to	7	166.6			
Dec. 1	9	212.5			
		488.3	$8.04	$1.88	$2026.89

Dec. 1					
to					
Jan. 1,1910	5	72.5			
	7	80.3			
	8	100.3			
		253.1	$7.78	$1.50	$2376.69

Average bullion recovery per ton $9.38

Mill closed until May 1910.

May 6	7 south	87.5			
	7 "	70.1			
	9 "	241.7			
		399.3	$7.54	$1.07	$1328.00

Average bullion recovered per ton $3.33

June 1	5 south	130.9			
to	7 "	142.8			
July 1	9 "	183.6			
	5 north	61.6			
		518.9	$7.64	$1.40	$1655.00

Average bullion recovered per ton $3.19

Date	Level	Tons Milled	Average Battery heads	Average tails	Bullion.
1910					
June 1	5 N.	159.8			
to	5 S.	105.8			
July 1	7 S.	164.0			
	9 S.	12.3			
	1 N.	57.4			
		499.3	$8.96	$1.90	$4200.00

Average recovery per ton $8.41

It will be seen by the preceeding tables that at times the battery heads do not check the bullion and tails by $2.00 to $3.00. The reason for this is, the battery samples were not taken regular and were only grab samples at best, also on account of insufficient tank capacity a great deal of gold solution over flowed and was lost.

The expense was $4.92 a ton divided as follows:

MILL

Day Shift		Night Shift.
$3.00	Mill Foreman	$3.00
1.50	Helper	1.50
1.50	Fireman	1.50
1.00	Crusher Boy	1.00
3.00	Carpenter	
$10.00		$7.00

Day and Night shift $17.00

CYANIDE PLANT

Day Shift	
$5.00	Foreman
3.00	Filterman
1.50	Launder Boy
$9.50	

Labor cost of milling and cynaide treatment per ton $1.69

SUPPLIES FOR MILL AND CYANIDE PLANT

Wood 4-1/2 to 5 cords per 24 hours at $3.50 to $4.00

Wood	$18.00
Cyanide 13 lbs.	3.25
Oil and other incidentals	3.00
Zinc 3 lbs.	.60
	$24.85

Cost per ton for milling and cyanide treatment $3.29

MINE

Day Shift	
$4.00	Foreman
3.00	Timberman
10.00	5 Miners
3.00	2 Trammers
3.50	Hoistman
$23.50	

Cost per ton for mining $1.50

Total cost per ton $4.79

I have not included powder, etc., in mining costs because it was very seldom as large a crew was worked as I have included, and with powder and the other expenses the mining costs did not exceed $1.50.

ECONOMIC GEOLOGY

The rocks encountered in the vicinity of Rosedale are all flows probably of Tertiary Age.

The vein is a fault fissure in Rhyolite striking N. 27° W. dipping 80° W.

There were two flows that we know of, the first is over 700 feet thick at the Rosedale mine, the later one is very nearly erodee. After the first flow came a period of fracturing and faulting, and these became the channels for circulating mineralized solutions. The wall rock in places on both sides of the fissure is badly fractured and these permitted the passage of mineralized waters into the walls on either side and by replacement made them ore bearing the strike for considerable distance and in width from a few inches to several feet.

In a great many places it is very hard to tell the difference between the non-ore-bearing and the ore-bearing rhyolite.

Fluorite is often intimately associated with the silica.

There are two known ore shoots, one at the shaft, and the other 500 feet south, The reason for the formation of these are that the cross fracturing in these places was more fully developed and allowed the mineral bearing solutions more surface on which to deposit. This cross fracturing also made it easy for erosion to take place and I believe that examining the topography along the strike of the vein new ore-shoots can be found.

After the deposition of the ore a second flow occured followed by a period of erosion and it is only where this second flow has been entirely eroded that the vein outcrops.

By referring to the claim map it will be seen that the vein does not outcrop on the north half of the Rothschild or the south half of the London, but by going a short distance further south a good outcrop can be traced on the top of the ridges for some distance.

The ore is oxidized as far as development work has been carried.

VALUATION.

POSITIVE ORE	33,091 tons	$214,587.91	gross value
Probable Ore	71,111 "	414,817.15	" "
Possible Ore	175,311 "	1,265,141.80	" "

With a mill upon the property to treat not less than 50 tons a day the ore can be delivered at the mill at a cost not to exceed $1.00 a ton, and a milling and cyanide cost of not over $2.00 a ton. Allowing $1.00 for depreciation and loss. Total $4.00 a ton.

Total possible and probable ore;

104,202 tons	Gross value	$629,405.06
Average gross value per ton	$6.04	
Less	4.00	
Average net value	$2.04	
Total net value	$212,572.08	

With a 50-ton mill running 300 days a year it will take 6.8 years to exhaust the present supply of positive and probable ore. With a 75-ton mill it will take 4.6 years. With a 100-ton mill it will take 3.5 years.

The shaft which is a 4 x 9 is devided into a hoisting compartment 4 x 5 and a man way 4 x 4. With some repairing this will handle 75 tons per day.

I should advise a 75-ton mill and cyanide plant and this should give a profit of $45,900.00 per year.

The wreckage from the old mill can be given little value. The tube mill was not badly damaged. When a new mill is

erected there are parts of different machinery which went through the fire and were not badly damaged that can be held for emergencies.

There is a slime dump of 2,000 tons which the W. H. Martin company could not treat, which assays $3.50 per ton. These can be easily treated and a profit of $2.00 per ton made. This gives a net value of $4,000.00.

Below this there is a second dump of sands treated by the same company, which contains 12,000 tons with an assay value of #3.00 per ton. These can be treated at a profit of $1.00 per ton which makes a net value of $12,000.00 for the dump.

There are upon the property the following buildings; Blacksmith shop. Store house. Hoisting plant which is in good condition. Assay office fully equipped for fire and wet work.

In the Mine are the following;

7 tons 8 lb. rails

4 trucks for buckets

2 steel ore cars

4 hoisting buckets - 850 lb. capacity.

Labor conditions:

There are plenty of both American and Mexican workmen.

Wages:

Miners	(Americans)	$3.00	for	nine	hours.
Miners	(Mexicans)	$1.50 to 3.00	"	"	"
Trammers and muckers		1.25 " 1.75	"	"	"
Hoistman		3.00	"	"	"
Mill foreman		3.00	"	12	"
Mexican mill helpers		1.50	"	"	"
Cyanide Foreman		5.00	"	"	"
Filter man		3.00	"	"	"

This property owning the water supply for the camp practically controls the surrounding properties and as they develop can if desired treat the ore from them and this should prove a source of large revenue.

SURFACE PLANT

BUILDINGS

Blacksmith shop

Hoisthouse

Storehouse

Assay laboratory

Lumber yard and equipment

30 h. P. portable boiler and engine

1-36 inch circular saw

1-42 inch " "

16 foot log carriage

Power machinery

700 feet 6 inch pipe

3 miles 3 inch spiral rivited pipe

Hoist, Vulcan Iron Works, 8 x 10 inches

12 inch blower

30 H. P. portable boiler and engine

A number of pumps that were in the mill when it was destroyed that can be used with a little repairing.

ASSAY VALUES

Gold at $20.00 an ounce.

No.	Width	Gold Assay value
1	8.5	$4.00
2	4.6	4.60

No.	Width	Assay Value Gold
3	4.5	$4.20
4	5.	7.50
5	3.5	4.20
6	5.25	4.20
7	5.	11.60
8	5.	3.50
9	4.5	10.40
10	5.	3.30
11	6.5	7.80
12	6.5	8.00
13	5.5	20.00
14	6.2	9.15
15	5.	8.00
16	7.3	3.90
17	8.5	7.95
18	10.	9.15
19	3.2	3.00
20	3.5	4.90
21	4.	.20
22	4.	2.10
23	6.2	4.35
24	11.4	5.15
25	6.3	4.25
26	10.5	25.60
27	9.3	9.15
28	7.	54.90
29	7.	6.25
30	3.	3.40
31	11.6	3.30
32	4.3	4.00
33	4.	4.90
34	4.	5.40
35	3.3	4.90
36	4.5	11.65
37	4.	14.15
38	6.75	6.25
39	5.	4.20
40	6.8	10.80
41	4.5	1.65
42	3.7	4.65
43	3.75	25.60
44	7.4	4.00
45	3.	2.50
46	5.8	1.80
47	4.	2.56
48	6.	2.90
49	5.25	4.90
50	5.	10.80
52	7.5	3.20
51	4.75	3.40
53	4.	4.00
54	7.5	7.50
55	9.	41.60
56	6.7	5.85

No.	Width	Assay Value Gold.
57	7.	$4.00
58	8.3	4.35
59	7.7	5.70
60	9.3	7.50
61	7.5	4.00
62	5.5	3.75
63	5.75	4.90
64	6.3	4.90
65	4.8	3.10
66	9.5	10.80
67	6.	9.15
68	6.8	4.40
69	8.	7.50
70	9.5	4.00
71	3.75	7.10
72	4.6	1.00
73	10.0	7.90
74	11.	5.55
75	9.	9.15
76	7.5	4.90
77	4.5	16.00
78	6.6	5.40
79	15.	16.65
80	14.	8.75
81	5.5	2.70
82	7.	6.65
83	6.	4.55
84	6.6	4.20
85	6.	9.50
86	7.	2.10
87	8.5	16.20
88	9.5	3.95
89	6.75	5.60
90	5.5	11.40
91	7.7	6.90
92	6.	4.15
93	7.4	4.90
94	3.5	4.00
95	4.7	3.30
96	5.	8.70
97	6.7	8.75
98	7.8	8.15
99	11.	4.30
100	4.4	6.65

No.	Width	Assay Value Gold.
101	6.3	$3.90
102	5.5	7.50
103	4.	4.15
104	5.	6.25
105	4.7	5.75
106	2.7	4.15
107	4.	3.90
108	4.5	4.00
109	3.5	7.50
110	4.	2.60
111	4.	3.80
112	5.	3.20
113	4.5	4.90
114	2.5	3.30
115	4.8	6.65
116	5.	9.15
117	5.	6.25
118	5.2	8.30
119	4.5	4.20
120	8.	6.65
121	5.	24.10
122	2.5	4.20
123	5.5	7.10
124	4.	8.30
125	9.3	2.10
126	4.7	10.80
127	4.5	8.35
128	5.5	4.00