

REPORT ON THE ALICANTE MINE AND ADJOINING DEVELOPMENTS ON THE

JOHN REED

BY

THEODORE E. SCHLITZ

1897

LAKE COUNTY

LIBRARY
COLORADO SCHOOL OF MINES
GOLDEN, COLORADO

Denver, Colorado, June 15th, 1897

To the Board of Directors,

of The Burmah Gold Mining Company,

Denver, Colorado.

Gentlemen:-

In accordance with your instructions I have made an examination of the Alicante mine, and adjoining developments on the John Reed, and submit my report herewith:

R E P O R T

REPORT

The Alicante mine is covered by the Alicante location and patent U. S. Survey No. 948, and is 1500 ft. by 300 ft. of surface ground.

The John Reed location adjoins the Alicante on the South end line, and is patented as part of U. S. Survey No. 11682. It also covers 1500 ft. by 300 ft., being a South extension of the Alicante, the end lines abutting. Surrounding and adjoining these locations are the other claims of your Company, to-wit:

The John Reed Nos. 1, 3 and 5.

" Cleveland No. 2

" Maud Hope.

" Mard Hope No. 1.

" May Queen

" Grace

" Millsite

The entire area covered by this group is about 99 acres. It is situated on the head waters of the Arkansas River, in Alicante Mining District, Lake County, Colorado.

The John Reed and Alicante mines are within 1,000 feet of the tracks of the Denver, Leadville and Gunnison R.R. at Wortman Siding, about 10 miles from Leadville and $1\frac{1}{2}$ miles from Climax Station. The elevation is about 11,000 ft.

GENERAL CHARACTERISTICS OF VEIN.

The Alicante vein is a fissure vein. It is the main vein of this property and of this portion of the mountain. Its strike is North 14° E. and it dips to the East, varying from 45° to 52° from the horizontal. It is traceable for some distance on the surface by pits and excavations on the Alicante ground, and I think I noticed its outcrop in the high cliffs, on what I took to be "May Queen" ground.

To the South of the Alicante, in the gulch or park, it is not traceable, but the position of the vein in the John Reed shaft, as well as its character, identifies it as undoubtedly the same vein. The width of vein shown by the several openings, varies from two to eight feet.

Running parallel to the Alicante on the East is a small vein, which I examined in several openings on the Maud Hope ground. This vein appeared irregular and broken, and presented no features indicative of value in the present workings.

GEOLOGY.

The mountain upon the South slope of which this property is

located is a spur of the main range or Continental Divide. The formation is granitic-gneiss.

The Alicante vein on the Alicante ground is distinguished by the occurrence of a strong quartz-porphry dike, which can be traced up the mountain to the North. This dike has a width of 8 to 10 ft. where exposed, but is probably wider. Developments have not been favorable to determining accurately its characteristics. It appears however, to have a greater dip to the East than the vein, and to have a course also more Easterly. The vein at Alicante Tunnel level lies East of it, and cuts through it between the tunnel and the apex, as shown by outcrop at No. 2 adit. Going North it is probable the vein will cross the dike.

There are some indications of a cross faulting of the vein on the line of strike, just below the Alicante tunnel level, but developments are not sufficient to prove it. It is probable the presence of this dike has played an important part in the history of the lode, and that the character of its mineral contents may have been influenced by it, and may vary according to its proximity.

DEVELOPMENTS.

The development of the Alicante claim is shown by accompanying sectional plat on the dip of the vein.

The vein is cut by crosscut tunnel which intersects it at a distance of 164 feet from its mouth. This crosscut starts in at a distance of 40 feet from South end line of the Alicante. The John Reed shaft is located 354 feet South of the same end line in the park or bottom. The plat only shows the 70 ft. level as far as accessible. The old workings and stops above I could not examine. This shaft is $8\frac{1}{2}$ ft. by 4 ft. in

the clear, divided into two compartments, each 4 x 4 ft. in the clear. It is an inclined shaft, sunk on the vein, with dip of 52° to the East, and it is cribbed to the level (70 ft.) with 6 x 8^s.

ORE SHOWING.

The ore streak in the Alicante tunnel level shows first where the vein is cut, and is very nearly continuous from there to the breast, a distance of 238 feet. It consists of the sulphides iron, zinc and lead, with an occasional showing of chalcopyrite, and some quartz and manganese spar. Measurements of the same taken every 10 feet into the breast, show its continuity and are as follows: 24", 26", 48", 18", 26", 24", 26", 18", 24", 24", 18", 33", 33", 32", 24", 0", 24", 12", 12", 12", 20", 8". The average width is 22 inches. The streak is smallest in the breast, and for 40 ft. back. The entire streak is almost massive sulphides, but little quartz or spar being mixed in.

The winze shows a nearly continuous ore streak, but as in places its full width is not broken, I did not average it. The No. 2 adit was not accessible beyond the winze, where it shows a 2 ft. streak.

In the 70 ft. level of the John Reed, the ore streak to the North is small, ranging from 6" to 18" at the breast. It consists of spar and quartz with scattered bunches of iron pyrite and chalcopyrite. In the South Drift, beginning 35 feet from shaft, streak shows a mixed mass of concentrating material, consisting of spar and quartz with iron and copper pyrites ranging in width from 18" to 4".

THE ORE VALUES.

The following samples were taken by me from a pile of ore lying

upon the ore platform at the Alicante Tunnel, in order to learn if the precious metals were carried more by one mineral than another. They were assayed by Clarence Hersey, Leadville, with results as follows:

	<u>Gold Oz.</u>	<u>Silver Oz.</u>	<u>Lead.</u>
1. Zinc Blende	0.06	6.00	--
2. Iron and Copper Pyrite	0.46	5.00	--
3. Galena, zinc blende and Iron Pyrite.	0.20	11.00	20.5%
4. Zinc Blende and Galena.	0.20	13.00	22.4%
5. Pure Zinc Blende	0.20	9.00	--

The following were also assayed by Hersey:

6. Sample across breast Alicante Tunnel.	0.12	7.00	--
7. Pyrites from North Breast Reed Shaft,	2.00	4.00	--
8. Sample across streak Alicante Tunnel 30 ft. back from breast,	0.40	10.50	--

The following carload lots were taken out under my immediate direction and supervision and loaded on cars on side track:

Car 8340. A sample of the entire ore streak in the Alicante tunnel, taken across the same every 20 feet by measurement, beginning at a point 10 feet South of the breast. The average width of streak this car represents is 21.65 inches.

Car 8132. A carload selected from the largest and best looking streak, mainly from a point 25 to 50 ft. North of the winze in the Alicante tunnel.

The returns on these cars by the Globe Smelting Co. to whom they were consigned, are as follows:

<u>Car.</u>	<u>Wt. of Car.</u> <u>Ibs.</u>	<u>Gold.</u>	<u>Silver.</u>	<u>Lead.</u>	<u>Zinc.</u>	<u>Silica</u>	<u>Iron.</u>
8340	23080	0.18 oz.	3.60 oz.	8%	15.4%	30.8%	13.4%
8132	18280	0.21 oz.	3.60 oz.	10%	16.9%	25.8%	16.6%

It will be observed from the foregoing.

1. That the precious metal values are distributed through the several minerals occurring, with indications that the copper and iron pyrite carries most gold and the galena most silver.

2. That sample No. 7, which was selected material from Reed shaft North drift, indicates that concentrates from that ore streak would be of shipping grade.

3. That the Alicante tunnel ore body is too low in values and too high in zinc, to allow of either shipping at a profit, or of concentrating a portion of the zinc out.

SURFACE IMPROVEMENTS.

The John Reed shaft is substantially equipped with a 60 x 30 shaft house, well built, which covers a Double 6 x 8 Lidgerwood Hoister, a 60 H.P. Boiler, etc., all well set and in good condition. In addition, there is a substantial boarding house 48 x 20, two stories in height, and a 36 x 16 bunk house. In fact, the improvements are first class, and better than warranted by the ore showing.

MINING FACILITIES AND COST.

The Alicante property can be cheaply developed and tested by extending its tunnel level. To drive the breast by contract should be

worth \$1.50 to \$2.00 per foot. Stopping is worth about \$12.00 per fathom. A 2 ft. ore streak should be stoped for about \$1.25 to \$1.50 per ton.

The John Reed shaft is equipped to do a large amount of work, and handle tonnage cheaply. Its only drawback is the water, which at this season and for probably five months yearly, would keep its No. 5 Cameron pump active. Mining supplies are to be had at reasonable prices. Baldwin lump coal costs \$4.75 per ton delivered on side track; mine timber squared costs \$13.00 per 1,000 feet delivered; powder brings 15¢; Candles (Goodwin) \$3.75 per box.

Wages for miners are \$3.00 and for trammers and surface men \$2.50.

R. R. Freight to Denver is \$3.00 on \$12.00 ore valuation, and \$4.45 on higher grades.

CONCENTRATION.

The only body of concentrating ore which the property shows is in the South drift of the John Reed shaft. Of this there is not sufficient in sight, at that shallow depth, to be of any consequence, except as an indication. More development is necessary, and some careful tests showing values at this point before the subject of concentration should be seriously considered.

There is a concentrating ore dump at the collar of this shaft, which contains probably 250 tons of mixed material.

CONCLUSION.

Your property as it stands to-day, is a prospect with a mine equipment. It carries a very strong vein, with everything in its favor, except that its ore bodies whilst strong and massive are too low grade.

LIBRARY
COLORADO SCHOOL OF MINES
GOLDEN, COLORADO

as at present developed. To make a commercially valuable property of it, higher grade ore must be found which will pay to ship direct to the smelter, or else you must develop large bodies of concentrating material. Either or both of these results are possible if the property is further developed.

There are some indications that the heavy zinc contents of the present Alicante ore body are local, and that then the vein at other points may not carry zinc excess.

Should you feel inclined to take the risks incurred, the plan of work I would recommend would be

FIRST: Extend tunnel level on Alicante vein to the North by contract.

SECOND: When surface water is gone, prospect further from Reed shaft by sinking and drifting.

Such work would involve expenditure of probably \$2,000 on the Alicante, and of a least \$3,000 on the John Reed. I regard the chances as even, whether such expenditure would result in finding ore bodies, which could be made profitable, or whether it would result in total loss.

Respectfully,

(Sgd.) T. E. Schwartz

Consulting Engineer.