

1630 0004

(168)  
Item 4

Philadelphia, July 5, 1912.

Mr. George H. Garrey,  
165 Broadway,  
New York.

Dear Mr. Garrey:

Your letter of February 7th from Sierra Mojada regarding the Horseshoe Mine just received.

Answering your query I would say that my decision regarding the Horseshoe mine was derived entirely from a study of the reports submitted.

Yours very truly,

ORIGINAL SIGNED  
J. E. SPURR

Vice President

JES-C

*Horseshoe Mine*

AMERICAN SMELTING & REFINING COMPANY,  
165 BROADWAY, NEW YORK.

MINING DEPARTMENT  
GEORGE H. GARREY  
CHIEF GEOLOGIST

Sierra Mojada, Coah. Feb. 7, 1912.

Mr. J. E. Spurr,  
Philadelphia, PA.

Dear Mr. Spurr:-

|                    |          |  |
|--------------------|----------|--|
| REC'D FEB 7 5 1912 |          |  |
|                    | J. E. S. |  |
| SEEN               |          |  |
| ANS'D              | ✓        |  |

Your letter of Jan. 16th was received and acknowledged, but I neglected to advise you of what disposition to make of the reports on the Horseshoe Mine, as you requested me to. I wish you would please forward the reports on the property to me hereat Sierra Mojada and greatly oblige.

I should be very glad to know whether upon reading the the report on the Horseshoe Mine, the report recalled to your mind information which you had previously gathered concerning the property and that was the reason for not caring to investigate the proposition, or whether the reports on the property did not make a good impression on you? I ask this, because you personally know the property not to have merit, I should not care to have anything to do with the proposition myself.

Very sincerely yours,

*Geo. H. Garrey.*



*Referred to  
Mr. Spurr for reply*



REPORT ON HORSESHOE MINING & MILLING COMPANY'S  
MINES.

168  
Aug 14  
Aug. 1, 1906

The property of this Company consists of six patented, and two unpatented mining claims; a 100 ton milling plant, an extensive water system, cottages, boarding-house, offices, lodging-house, and all necessary buildings and equipment for modern, economical mining.

LOCATION.-- This property is situated at Fay, in the Eagle Valley Mining District, of Lincoln County, Nevada; seventeen miles West of Modena, Utah, a station on the San Pedro, Los Angeles & Salt Lake Railroad; 507 miles North of Los Angeles.

FAY.-- The town is situated on Company property, and has a population of about 150. There is a store and postoffice, a meat market, a school house, a barber shop, and three saloons. Among professional men, there are located here a physician, a dentist, a judge and a deputy sheriff.

TITLES.-- The title to this property is perfect. Abstracts are on file at the Company's office.

TRANSPORTATION.-- There is a daily stage line from Modena to the mines; stage leaves Modena at 1 P.M., arriving at Fay at about 5 P.M. The stage leaves Fay at 8 A.M., and arrives at Modena at 11:30 A.M. Fare \$2.00; Freight rates, \$5. per ton.

CLIMATE.-- The altitude of the mine is about 7000 feet above sea level. The altitude prevents excessive heat in summer; the latitude extreme cold in winter.

TIMBER.-- The mountains are well timbered with pinon and cedar; wood is delivered for \$3.50 per cord, and mine timbers at a reasonable price.

WATER.-- There is an abundance of water for mining, milling and townsite purposes. In the mountains, four miles distant, where the Company's supply is now obtained. The water system consists of a two-inch pipe-line, four miles in length. The daily supply is 25,000 gallons. The water runs through the pipes by gravity to the mines. The Supply is obtained from a spring and tunnel, on which 350 feet of timber



ed development has been done. The present supply could be largely increased. There is a 12,000 gallon enclosed reservoir on the line one-half mile from the mill, which gives a pressure of 100 pounds per inch on the works.

THE MINES.-- The patented property of this Company consists of the Horseshoe Nos. 1, 2, 3, and 4, the Bryan and the Bryan Extension, and two unpatented claims, which are valuable for both mineral and water. These are situated near a tunnel and pipe-line, at about the same altitude.

EQUIPMENT OF MINES.-- The equipment consists of a complete air-pipe system, which supplies compressed air to all the working places; the mine is operated with machine drills; no hand drilling being done. There are four new Ingersoll-Sargent, 3 &  $\frac{1}{2}$  inch; six Murphy air hammers, and two Rand, 3 &  $\frac{1}{2}$  inch air drills; there are nine steel ore cars; iron track; in fact everything constituting a well-equipped mine.

MILL BUILDING.-- The mill building is a massive structure, constructed of heavy, well framed timbers and corrugated iron; it contains 110 windows; there are rock and concrete foundations. The size of the two crusher floors and ore bins, 17 x 30;

Engine Room, 30 x 36;

Boiler Room, 37 x 47;

Mill Room, 86 x 38;

Leaching Room, 50 x 140;

Carpenter and Machine Shop, 58 x 38;

Clean-Up Room, 14 x 16.

EQUIPMENT OF MILL.-- In the mill, there are three 60 horse power, and one 35 horse-power boilers; water heater and filter; two boiler feed pumps; two Rand air compressors; one Bates-Corless engine; one air receiver; two grizzlies; two Gates rock crushers; two plunge feeders; two 6-foot Monadnock mills; four centrifugal pumps; one vacuum pump; three cone classifiers; four agitating vats; nine 90-ton boiler-steel leaching vats, besides fifteen tanks of various sizes, which are used in connection with mine and mill; two 12,000 gallon agitating vats are being installed. There are two distributors; five zinc lines; a completely equipped assay office and clean-up room. This mill is the-



roughly equipped and first-class in every respect.

COST OF MINING.-- The cost of mining and delivering the ore into the mill, including development, is \$2. per ton. Forty-six men can supply the mill with 100 tons of ore daily.

COST OF REDUCTION.-- Actual tests have demonstrated that the cost of milling 100 tons or more daily is only \$1. per ton.

ORE IN SIGHT.-- At this date, August 1st, 1906, there is in the mine 2300 tons of broken ore, and 10,000 tons practically in sight.

DEVELOPMENT OF MINE. -- The mine is developed by a neat, substantially timbered shaft, 5 x 9 feet in the clear; 400 feet deep. The skip is fitted with guides and a safety-clutch which prevents accidents in the event of steel rope breaking. There is a well-laddered manway, through which air and water pipes pass. Commodious stations are cut on the 100, 200, 300 and 400 levels. A heavy friction hoisting engine handles the product of the mines.

GEOLOGY, MINERALOGY AND METALLURGY.-- There are three well-defined veins on this property, occurring in altered trachyte; they are wholly, or in part, veins of infiltration. These veins are parallel, and expose considerable surface ore and good cropping values. The veins have a Northerly and Southerly strike, and an average dip, to the West, of about 70 degrees. Above the 250 foot level of the present workings, the vein dips to the East at an angle of about 65 degrees; above the true dip, the walls are not well defined, although there is a remarkable continuity of ore and values. Below the 200 foot level, the walls are well defined, while one or both usually carry a talc salvage. The average width of the vein is 4 feet. The gangue is quartz and calcite, and not infrequently a little magniferous spar. There is a notable absence of iron pyrites. The gold is in a fine state of subdivision, hence the abandonment of amalgamation. The ore is delivered by skip into the mill, running over a grizzly to the 20,000 pound Gates coarse crusher; thence over another grizzly to the 14,000 pound Gates fine crusher, through which it passes to the ore bins and is fed by two plunge feeders into two 6 foot Monadnock mills. The pulp is then pumped with a 4 inch centrifugal pump into three cone classifiers which separate



the slimes from the sands. The slimes are carried by launders into agitating vats; the sands to distributors, which evenly charge the leaching vats. Both products are treated with Cyanide of Potassium, which dissolves the gold, which is precipitated by flowing through zinc shavings. The time required for leaching is six days; for actual agitation about 4 hours. The precipitates are treated with Sulphuric Acid to consume the zinc in the clean-up room, after which the product is melted into bars of gold. By this process, from 85 to 90 per cent gold values are saved, and about one-third of an ounce of silver to the ton of ore. The consumption of cyanide amounts to one-half pound to the ton of ore.

THE 100 FOOT LEVEL.-- The 100 foot level South is driven along the course of the vein 450 feet; chutes 10, 12 and 13 are producing good ore and values. The averages for July was over \$10. per ton. The 100 foot level North extends 575 feet from the station; most of the ore on this level has been stoped.

200 FOOT LEVEL.-- The 200 foot level extends North 525 feet; most of the ore has been stoped; chute #20 is producing some of the best values in the mine. The 200 foot level South is in about 825 feet from the station; the vein is about 4 feet wide and is in part segregation. This level will penetrate some of the largest and best ore bodies in the mine, from every surface indication. Average working values for July, \$48.60 to the ton, from chute #20 North.

300 FOOT LEVEL.-- The 300 foot level North is in about 200 feet, where it encounters a fault. The 300 level South has 4 feet of ore 400 feet from the station. Chutes #59, 60, 61, 70, and 71 are producing large amounts of ore and reasonably good assay values. The average values for July is between \$6. and \$7.

THE 400 FOOT LEVEL.-- This level is extended about 400 feet South. What is known as the "Big Stope" has 12 feet of ore which averages about \$8. to the ton.

THE EAST CROSS-CUT; 200 FOOT LEVEL. This cross-cut starts from the station and cuts the formation in an easterly direction for a distance of 230 feet. Good values are obtained in all quarts and spar streaks. The East vein is a prominently cropping vein, carrying high-grade surface values. This vein extends through the Bryan and the Bryan



Extension. There has been no work done on the vein.

THE WEST VEIN.-- This vein is situated on the Horseshoe Nos. 1 and 2; a shallow shaft has been sunk, exposing a vein 6 feet in width, carrying values from \$1.50 to \$15.00 per ton. This is the strongest and best defined vein on the property.

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#### INVENTORY OF COMPANY PROPERTY.

|   |                  |
|---|------------------|
| Original cost of six, patented mining claims, \$75,000.00,..... |                  |
| Mill Machinery and equipment .....                              | 75,000.00        |
| Cost of mine shaft .....  | 10,000.00        |
| Equipment of mine .....   | 6,000.00         |
| Company buildings .....   | 10,000.00        |
| Horses, Harnesses, Wagons, Saddles, etc. ....                   | 300.00           |
| The water system and pipe line .....                            | 10,000.00        |
| Mill buildings,.....  | <u>48,550.00</u> |
| Total . . . . .   | \$234,850.00     |

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CONCLUSIONS. The estimate on this property is not only conservative, but low. It could not today be duplicated for the money. The mine is little more than a prospect, although about 50,000 tons of ore has been mined and milled. It is a great mine and should be worked as such. The shaft should be sunk to the 1000 foot level, the drifts extended to the end lines; while cross-cuts should extend to the side lines. By adapting these methods, there is no reason why this mine should not pay a dividend on all capital invested. With the ore bodies on this property opened, the capacity of the mill doubled, the minimum expense of mining and milling on this property would have been reached. The methods which have hitherto been adapted, has been to stope the ore as soon as developed, hence the limited amount of ore in sight. A test run of 41,154 tons of ore, gave an extraction of \$267,953.88 in Gold, and 17,442.20 ounces in Silver. This milling was done at the rate of 90 tons per day, and the cost was \$1. 105 per ton. With present equipment, from 100 to 120 tons can be milled <sup>1000</sup> daily. Had this ore been mined and milled under existing conditions, the profit would have been on a



100 ton basis, over \$570.00 per day; with mining at \$2. a ton, and milling at \$1. With aggressive management this mine should pay dividends. These conclusions are not based upon fancies, but facts, which are susceptible of demonstration and have been fully proven.

August 1st, 1906.

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WORKING ASSAY VALUES, FOR THE MONTH OF JULY, IN THE  
HORSESHOE MINE; THIS INCLUDES ALL ORE MINED, MILLED,  
AND THE 2300 TONS BROKEN IN CHUTES IN THE MINE. --

100 FOOT LEVEL

Chutes

| Nos.   | 10,    | 12,    | 13 |
|--------|--------|--------|----|
| \$7.00 | \$7.60 | \$1.60 |    |
| 6.40   | 6.00   | 3.00   |    |
| 5.40   | 40.80  | 7.20   |    |
| 5.00   | 16.80  | 3.40   |    |
| 3.40   | 14.90  | 10.20  |    |
| 8.70   | 5.20   | 12.20  |    |
| 9.30   | 10.20  | 20.00  |    |
| 12.80  | 23.20  | 16.40  |    |
| 8.80   | 32.20  | 15.40  |    |
| 17.20  | 39.00  | 2.40   |    |
|        | 17.50  | 1.60   |    |
|        | 11.20  | 13.00  |    |
|        | 6.80   | 4.80   |    |
|        | 6.20   | 19.60  |    |
|        | 51.40  | 20.80  |    |
|        | 10.60  | 25.60  |    |
|        | 14.80  | 56.80  |    |
|        | 29.40  | 7.20   |    |
|        | 12.20  | 2.90   |    |
|        | 16.20  | 11.80  |    |
|        | 17.20  | 24.20  |    |
|        |        | 43.20  |    |
|        |        | 7.80   |    |
|        |        | 9.80   |    |
|        |        | 19.40  |    |
|        |        | 8.40   |    |
|        |        | 5.80   |    |
|        |        | 8.20   |    |
|        |        | 15.20  |    |
|        |        | 7.00   |    |
|        |        | 6.20   |    |

200 FOOT LEVEL.

Chutes

| Nos.    | 20,    | 39,    | 48 |
|---------|--------|--------|----|
| \$20.40 | \$4.60 | \$7.20 |    |
| 34.60   | 4.20   | 5.60   |    |
| 16.20   | 11.20  | 2.40   |    |
| 201.60  | 5.00   | 5.80   |    |
| 120.40  | 6.40   | 8.20   |    |
| 37.00   | 6.20   | 5.80   |    |
| 23.00   | 4.60   | 1.60   |    |
| 13.80   | 4.80   | 4.20   |    |
| 7.60    | 10.60  | 11.20  |    |
| 24.00   | 4.60   | 15.40  |    |
| 70.40   | 4.80   | 20.80  |    |
| 14.20   | 10.60  | 14.80  |    |
|         | 4.60   |        |    |
|         | 4.40   |        |    |
|         | 8.20   |        |    |
|         | 8.20   |        |    |
|         | 3.20   |        |    |
|         | 11.40  |        |    |
|         | 6.20   |        |    |
|         | 11.60  |        |    |
|         | 14.20  |        |    |
|         | 5.00   |        |    |
|         | 10.40  |        |    |
|         | 5.40   |        |    |

For 300 and 400 foot levels, see next page -----



(300 and 400 foot levels, continued)

| 300 FOOT LEVEL |        |         |        |        | 400 FOOT LEVEL |
|----------------|--------|---------|--------|--------|----------------|
| CHUTES         |        |         |        |        |                |
| Nos. 59,       | 60,    | 61,     | 70,    | 71     |                |
|                | \$8.20 | \$13.40 | \$5.10 | \$4.00 | \$26.60        |
| \$2.80         | 12.80  | 8.40    | 1.20   | 3.40   | 6.80           |
| 5.00           | 6.80   | 16.60   | 3.60   | 5.40   | 6.80           |
| 6.00           | 4.00   | 2.80    | 2.40   | 3.90   | 6.40           |
| 3.20           | 5.80   | 6.60    | 5.80   | 5.80   | 8.60           |
| 2.40           | 3.40   | 6.40    | 2.60   | 10.10  | 7.40           |
| 2.40           | 9.60   | 11.40   | 7.40   | 2.40   | 5.60           |
| 3.60           | 6.40   | 5.80    | 4.40   | 9.30   | 2.80           |
| 2.80           | 2.60   | 3.80    | 2.40   | 4.80   | 1.00           |
| 2.70           | 2.00   | 4.60    | 9.00   | 4.60   | 2.80           |
| 6.20           | 5.40   | 13.20   | 3.00   | 6.80   | 3.50           |
| 7.00           | 7.40   | 26.60   | 5.20   | 3.60   | 8.40           |
| 2.50           | 3.20   | 6.60    | 17.00  | 5.20   | 17.00          |
| 2.80           | 17.20  | 5.80    | 4.60   | 2.00   | 2.40           |
| 5.00           | 4.60   | 4.80    | 2.80   | 6.60   | 5.60           |
| 4.20           | 2.60   | 8.80    | 12.20  | 3.60   | 4.80           |
| 8.80           | 4.60   | 3.60    | 6.20   | 2.60   | 7.60           |
| 5.40           | 5.40   | 9.60    | 9.80   | 3.80   | 9.40           |
| 7.60           | 8.40   | 5.60    | 5.20   | 3.40   | 9.20           |
| 4.40           | 7.80   | 4.40    | 9.80   | 3.80   | 13.40          |
| 5.60           | 3.80   | 3.60    | 8.80   | 3.20   | 18.00          |
| 7.60           | 2.60   | 7.60    | 8.40   | 3.80   | 12.80          |
| 2.70           |        | 4.40    | 4.10   | 4.80   | 39.40          |
| 2.30           |        | 19.40   | 7.20   | 3.80   | 13.60          |
| 4.20           |        | 11.80   | 4.40   |        | 11.20          |
| 2.40           |        | 3.40    | 29.20  |        | 6.60           |
| 2.60           |        | 8.80    | 3.60   |        | 11.80          |
| 5.20           |        | 5.00    | 8.20   |        | 4.20           |
| 4.80           |        | 11.60   | 5.40   |        | 4.60           |
| 11.60          |        | 19.20   | 5.20   |        |                |
| 17.00          |        | 4.20    | 5.80   |        |                |
| 10.40          |        | 8.20    | 4.60   |        |                |
| 9.00           |        | 4.80    | 4.40   |        |                |
| 9.80           |        | 9.20    | 5.80   |        |                |
| 5.80           |        | 8.40    | 31.20  |        |                |
| 11.40          |        | 9.20    | 15.60  |        |                |
| 5.00           |        |         | 4.60   |        |                |
| 2.60           |        |         | 16.80  |        |                |
| 5.60           |        |         | 13.60  |        |                |
|                |        |         | 10.80  |        |                |
|                |        |         | 3.60   |        |                |
|                |        |         | 7.40   |        |                |

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These assays were copied from the "Assay Book," the dates not being given. They are, however, on file in the Company's office, where dates and full information can be obtained.



## SUPPLEMENTARY REPORT ON HORSE SHOE MINES

Water level in the Horse Shoe Mine is 350, below the surface, there is at this date the maximum height to which water raises in the mine. Under working conditions this water is used for milling purposes and is handled by a skip, which is more economical than pumping.

The water system of the town of Fay, is the property of the Horse Shoe Mining and Milling Company and is supplied from springs before mentioned.

Since making the above Report on the mines of this Company, they have purchased a large store and some tenement buildings.

The rents for the month of July 1906 amounted to \$147.50.

With the mine in active operation, the rent list should be;

|  |              |
|--|--------------|
| Store building                                   | \$60.00      |
| Boarding house and lodging house                 | 75.00        |
| Five cottages                                    | 70.00        |
| Six small buildings from two to three rooms each | 36.00        |
| Ground rent                                      | 15.00        |
| Water  | <u>50.00</u> |
| Total  | \$291.00     |

Much of the machinery in the mill is of recent installation and practically as good as new; there is about \$30,000.- worth of machinery recently installed in the mine and mill.

Nearly all the company buildings are painted and in a fair state of repair and preservation.

The water supply of the mine would be largely increased by sinking the main shaft, in fact enough water can be developed near head of the pipe line to mill several hundred tons per day.

The HORSESHOE property is owned by Stokes brothers of Pasadena, California, and Watertown, South Dakota, and is free of all incumbrance.

This has been a very severe winter for Southern Nevada, with an unusual amount of snow, but under these conditions it does not interfere with mining operations.

Los Angeles, California,

January 1st, 1907. Signed



*Horsehoe Mine*

ANNUAL REPORT ON HORSESHOE MINE

Water level in the Horse Shoe Mine is 350, below the surface, there is at this date the minimum height to which water rises in the mine. Under existing conditions this water is used for milling purposes and is handled by a ship, which is more economical than pumping.

The water supply of the mine is of 100,000,000, the property of the Horse Shoe Mining and Milling Company and is supplied from springs below mentioned.

Since making the above Report on the mine of this Company, they have purchased a large store and some permanent buildings.

The rent for the month of July 1906 amounted to \$147.50. The mine is active operation, the rent for 1906 would be:

|         |   |
|---------|---|
| \$50.00 | Store building                                |
| 75.00   | Working house and lodging house               |
| 70.00   | Five cottages                                 |
| 25.00   | Land water right from two to three rooms each |
| 15.00   | Ground rent                                   |
| 50.00   | Water   |

Total \$285.00

Much of the machinery in the mill is of recent 1906-1907 and practically as good as new; there is about \$20,000.00 worth of machinery recently installed in the mine and mill.

Nearly all the company buildings are painted and in a fair state of repair and preservation.

The water supply of the mine would be increased by installing the main shaft, in fact enough water can be developed from the pipe line to mill several hundred tons per day.

The Horse Shoe Mine is owned by John Brothers of Fresno, California, and is one of the largest mines in the State.

This has been a very severe winter for Southern Nevada, with an unusual amount of snow, but under these conditions it does not interfere with mining operations.

*Horse Shoe Mine*



Horseshoe Mine

East Vein.

400'

250'

600'

Horseshoe Vein

Olney Vein

600'

50'

West Vein

Barbara Vein  
900'

