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Shurt. - Arnold Coll.

ITEM 28

B & B

QUICKSILVER PROPERTY

Ione,

Nye County, Nevada

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Reported

by

Lewis I. Buck, Consulting Geologist address

1929 - 1938

744 Mt. View ave.

Monrovia, Calif.

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REPORT

on

B & B NEVADA QUICKSILVER MINING COMPANY'S property

Nye County, Nevada.

This property consists of eleven (11) full sized mining claims of twenty (20) acres each, located in the IONE MINING DISTRICT, Nye County, Nevada, (about four (4) miles south of Ione, and about ninety (90) miles southeast of Fallon, Nevada, on the Nevada Central Railroad, and thirty (30) miles south of the Lincoln Highway, over very good dirt roads.

DEVELOPMENT Consists of a large gloryhole or open quarry on the H. G. and the H. G. #1 claims, from which some fifty (50) thousand tons of ore has been taken; about thirty-five (35) thousand tons run through the furnace, about fifteen (15) thousand tons broken down and ready to run.

This gloryhole is connected by two tunnels, which are tracked and on grade with the ore bins at the mill. There are also several shafts from ten (10) to sixty (60) feet deep on the H.G.#4 and H.G. #5, all in good milling ore. There are also three (3) more tunnels above the floor of the gloryhole running a distance of one hundred (100) feet or more. There is also several small shafts and tunnels on the other claims all of which are in good ore.

IMPROVEMENTS These consist of a fifty (50) ton Scott furnace, crushing plant, dryer plant, and a full set of condensers, power plant, consisting of one fifty (50) horsepower gas engine, electric generators and several motors, electric lighting plant for the entire camp. All machinery is run by electricity.

There is also a battery of retorts, and a fully equipped blacksmith shop. All of the equipment is in A-1 condition.

CAMP EQUIPMENT

Superintendent's dwelling, large mess hall and seven (7) good cabins for sleeping large enough to house from two (2) to four (4) beds, shower bath and an eight (8) car garage.

WATER

There are several springs of very fine water on this property, three (3) of them piped to the mill and living quarters, furnishing plenty of water for all purposes.

FUEL

An abundance of wood is to be had near by on the mountain sides, and can be contracted at the mine for \$8.00 per cord delivered.

CLIMATE

The property is about seventyfive hundred (7500) feet above sea level and lays in a cove in the mountains and is workable the year round. Good de-composed granite road direct to the mill and is open the year round for auto travel.

MINERALIZATION The formation consists of a massive ore body which seems to underlie the entire property and has but little overburden in

many places, none at the gloryhole. The ore body is very consistent, and in the opinion of the writer there is upon the above mentioned claims H.G. and H. G. #1 more than a million tons of good milling ore that will average ten (10) to twenty (20) pounds of mercury to the ton, (leaving out the highgrade lenses). The ore in all of the other shafts and tunnels seems to grade about the same as the gloryhole.

GENERAL GEOLOGY The ore occurs in a soft ryolite, with small fissures of Diorite and Kaolin, all impregnated with sulphides of mercury through the whole mass. The geological horizon at this point shows the property to be on the same big line and Ryolite belt running for some ninety (90) miles through the country in a northwesterly-southeasterly direction, and upon which there are several large deposits of Mercury.

Paralleling this property on the easterly side some five hundred (500) feet appears an upthrust of altered granite, dipping at about 40% to the east seeming to form a capping for the Ryolite ore bodies. This capping is about three hundred (300) feet above the exposed Ryolite and apparently is the hanging wall.

On the westerly side of the ore horizon there is a quartzite dyke apparently the foot wall which dips at about 45%, the entire eleven (11) claims surveyed and taken up to cover the major portion of the rich ore deposits which will average about twelve hundred (1200) feet wide by five thousand (5000) feet in length, the depth of which is unknown, but has been developed at the gloryhole to about one hundred and sixty (160) feet, the ore getting richer at depth.

The gloryhole is connected with the mill by a wide gage heavy track with good sized ore cars. Hauling distance, quarry to mill, about nine hundred (900) feet. There are thirty thousand (30000) tons of ore gone through the mill on the tailings dump which will average around give (5) pounds of Mercury to the ton, crushed to two and a half (2½) inches, which was too coarse to get good results or extraction. Over five thousand (5,000) flasks of Mercury was recovered from this tonnage, but owing to the coarse grinding and over-crowding of the mill with 60 to 70 tons per day caused the loss. Their recovery was only about seventy (70) percent of the Mercury in the ore. Therefore, the loss of five (5) pounds to the ton left in the dump.

About four hundred (400) feet southeast of the mill there is a high-grade dump of about six thousand (6000) tons. This was stacked at this point to run through a Gould or Rotary furnace, because it is too fine for the Scott furnace. This dump should run better than seventeen (17) pounds to the ton.

**FUEL
CONSUMPTION.**

Wood, pine and mountain mahogany. It takes about three cords per day to run the furnace and dryers; cost delivered at the mill, eight (\$8.00) dollars per cord.

COST OF MINING AND MILLING

Mining & Hauling to mill	\$.75	per ton
Milling and furnace treatment.....	4.00	" "
Overhead (camp).....	.25	" "
Overhead (office).....	.50	" "
Insurance (buildings).....	.25	" "
Insurance (compensation).....	.25	" "
Depreciation and repairs.....	.50	" "
Taxes and roads25	" "
(Estimated) TOTAL.....	\$ 6.75	

RESERVE

Ore on mill dump thirty thousand (30,000) tons, five (5) pounds per ton at the present price of mercury of \$120.00 per flask shows this dump to contain about \$225,000.00 in mercury.

Ore on dump not milled, six thousand (6000) tons at seventeen (17) pounds to the ton, contains about \$155,000.00 in mercury, (loss in mining these dumps not deducted), but should exceed ten (10%) per cent. Ore on dumps at gloryhole (estimated) about ten thousand (10,000) tons containing about eight (8) pounds of Mercury to the ton, this ore is in large chunks mostly, and easy to handle value \$100,000.00

I have taken over four hundred (400) samples all over the property, which will average better than twenty (20) pounds of Mercury per ton of ore.

Attached maps and photographs show the contours and equipment also development upon this big deposit, which I consider the one best property in the county. It is my opinion that this property has hardly been scratched and that further development will disclose even richer ore than has so far been found.

Running the plant on ten (10) pound ore, fifty (50) tons per day would at present prices gross \$750.00 per day, charging off six seventy five (\$6.75) per ton leaves \$412.50 net per day on the fifty (50) tons through the furnace, now on the property.

RECOMMENDATIONS

Owing to the fact that sulphides of Mercury (cinnabar) seems to impregnate the whole mass (including overburden), I would think it advisable to core drill the property. This could be done at some future date however. It is an ideal formation to drill and would be the cheapest way to pre-determine the quality and quantity of the ore bodies.

However, I would go right on quarrying the gloryhole and milling of the ore from this point. H.G. #4 is well worthy of consideration and exploration, as the ore at the sixty (60) foot shaft (which is in the center of the claim) has a very high-grade showing, as has also the several open cuts on this claim.

The Ryolite seems to be altered at this point to a shattered opalite. Large samples taken in the sixty (60) ~~xxxxx~~ foot shaft runs ten (10) per cent Mercury per ton.

A twenty-five (25) ton Gould or Rotary furnace should be installed to take care of the ore too fine for the big Scott furnace now on the property. This can be done at some future date however. There should be also installed a portable air compressor complete with Jack Hammers. This would cut the cost of breaking down the ore at the quarry.

Also a fifty (50) ton concentrating plant should be built below the furnace tailing dump to recover the sulphides of mercury that was not recovered in the big Scott furnace owing to the fact that the ore was crushed too coarse, and the over crowding of the furnace. At the present price of quicksilver the dump should net, \$150,000.00.

The present big Scott furnace, condenser, and grinding plant is ready to run, and should be fired at least twenty-five (25) days before starting to run ore through it. This furnace is already loaded with mercury, so production starts when the furnace is charged with ore.

(The cost of putting this property on a paying basis should not exceed seven thousand five hundred (\$7,500.00) dollars.

The furnace has now in its brick lining over twenty thousand (\$20,000.00) dollars worth of quicksilver (estimated)

In CONCLUSION I wish to state that with proper management this property should become a very big producer, and show a handsome profit on the investment.

Following is an estimate of the value of the property with its improvements, ore reserved, ore mined and on dumps.

Scott furnace.....	\$ 100,000.00
Ore in sight 1,000,000 tons.....	10000,000.00
Ore on mill dump.....	225,000.00
Ore on dumps not milled.....	155,000.00
Ore on dump at quarry.....	100,000.00
Camp equipment	6,000.00

Estimated Total\$10,586,000.00

These figures are all based on ground area not to exceed twenty (20) acres or one (1) claim, and there is no doubt several times these ore values on this property.

(signed)

LEWIS I. BUCK, Geologist
744 Mountain View Ave.,
Monrovia, California

RE: IONE QUICKSILVER PROPERTY.

SUGGESTED PLAN for immediate operations and the resultant profitable returns.

Preliminary Operation: Recovery of the free quicksilver from the Soot Dump, and from the mercury-impregnated bricks of the old furnace and condensers.

The Plan contemplates excavating the material of the Soot Dump, and the piles of old brick; thence transporting and elevating to bins above the crusher; thence crushing, followed by pulverizing and concentration, the free quicksilver being recovered on the concentration tables.

EQUIPMENT REQUIRED-

For excavating, transporting and elevating:- bull-dozer, and bucket line to bins;

For crushing:- Crusher on property but may require repairs, such as new jaws and bearings.

If new crusher required it is suggested that the new type Straub Kueken crusher be considered;

For Pulverizing:- Ball Mill for secondary grinding to minus 14 mesh;

For Concentrating:- Concentrating Tables (suggest considering Overstrom Tables)- standard size (6 ft. x 15 ft. 8 in.) capacity, 30 to 45 tons of material per 24 hour day.

Considerable number of small tools on property, but replacements of a number may be required.

Approximate total cost of above required equipment (an estimate)	
Bucket line to bins - - - - -	\$ 1500.00
Bull-dozer - - - - -	5000.00
Primary Crusher - capacity 7 tons per hour (Kueken)	1875.00

MEMORANDUM RE: IONE MINE

Data by Wm. D. Wise

Zonnete sampling of furnace tailings dump - 35,000 - 72,000 tons
116 samples - average 5.01 lbs. per ton - 35,000 x 5.0 = 175,000
175,000 lbs. @ \$2.00 = \$350,000.

Soot 300 tons - 120 lbs. to ton = 36,000 lbs. @ \$2. = \$72,000 *llw*

Glory Hole Face at west end of glory hole, being cross section
formation in which the 800 feet of open cuts (see map) *ru*
were cut
5 1/2 feet across face in tunnel, 65.5 lbs. per ton *llw*
3 " across face at west end of row of cross cut -
40.20 lbs. per ton *llw*

Dirt around the condensers and furnace - 21 lbs. to ton *llw*

Bricks every 6th brick assays up to 100 lbs. to ton - average *llw*
25 lbs.
5000 tons @ 25 lbs. = 125,000 lbs. x \$2.00 = \$250,000. *llw*

Glory Hole grab sample over sides and bottom - average 7 lbs. *llw*
per ton

Grab sample, north end, 30.8 lbs. per ton *llw*

Shaft north end of property

Grab sample dump, 27 lbs. per ton

Grab sample, 20 feet across drift(?), 19 lbs. per ton *llw*

Grab sample at bottom of shaft, new work, 135 lbs. *llw*
per ton

Trenching east of glory hole; trenching around 3 sides of area *llw*
shown on map, 160 feet long, 100 feet wide, 100 ft. deep
1,600,000 cu.ft. @ 16 cu.ft. to ton = 100,000 tons
Hanley sampling of this block - *as told*
12.6 lbs. per ton at \$2.00 per lb. = \$2,520,000
McDon sampling of this block - *as told*
12.9 lbs. per ton at \$2.00 per lb. = 2,580,000
Wise sampling of this block -
13 lbs. per ton at \$2.00 per lb. = 2,600,000 *llw*

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5 $\frac{1}{2}$ feet across face in tunnel, 65.5 lbs. per ton *slw*
3 " across face at west end of row of cross cut = *slw*
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Dirt around the condensers and furnace - 21 lbs. to ton *slw*

Bricks every 6th brick assays up to 100 lbs. to ton - average 25 lbs. *slw*

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1600 ft. to ton of ore

RE: IONE QUICKSILVER PROPERTY.

3 Preliminary operation: Recovery of the Free Quicksilver from the Soot Dump, and from the mercury-impregnated bricks of the old furnace and condensers-

2 SUGGESTED PLAN: For immediate operation and the resultant profitable returns.

4 The Plan requires excavating the material of the Soot Dump, and the piles of old brick; thence transporting and elevating to bins above the crusher; thence crushing, followed by pulverizing and concentration, the free quicksilver being recovered on the concentrating tables.

EQUIPMENT required for such operations:

For excavating, transporting and elevating: bull-dozer, and bucket line to bins;

Crusher- crusher on property (may need repairs, such as new jaws and bearings- expense would be nominal)

If new crusher required, it is recommended that the new type Straub Kueken crusher be considered; *recommended*

Pulverizer (ball mill)- to grind brick and ore to 14 mesh;

Concentration - concentrating tables (consider *Overstrom*)

Standard size (6' x 15'8") capacity, 30 to 45 tons of material per day.

Small tools- may be ample number of such tools on property.

Approximate total cost of above required equipment: (An estimate)

Bucket line to bins	\$ 1500.00
Bull-dozer: complete new equipment-	5000.00
Crusher capacity- 7 tons per hour (Kueken)	1875.00
(a) Ball Mill (new)- capacity, 50 tps per day (Straub Co. <i>putative</i>)	2125.00
(b) Concentrating tables, standard size- 2 at \$500	1000.00
Small tools- allow	300.00

Total - \$ 11,800.00

Above prices are for new equipment - overhauled used equipment from reliable dealers can undoubtedly be obtained for approximately one-half the above total cost.

RECOVERIES:- based on 50 tons per day; *#*

Soot Dump- estimated 300 tons available; 50 tons per day at an allowed 50 pounds of mercury per ton equals a *For conservative estimates* recovery of 2500 lbs. of mercury per day; *allow* the reduced value of \$1.50 per lb., instead of the present \$2. per lb thus the value of daily recovery would be - - - \$- 3,750.00
300 tons would require 6 days thus total from dump- \$22,500.00

3 Bricks- estimated 3000 tons of bricks containing the conservative estimate of 25 lbs. per ton, thus 75,000 lbs. of recoverable mercury in the bricks. 3,000 tons of bricks at recovery of 50 tons per day would require 600 days. At 50 tons per day and 25 lbs. mercury per ton the daily recovery would be 1250 lbs. per day having a minimum value of \$1.50 a lb (present price \$2.00) to equal - - \$ 1,875.00
and recovery of total from bricks would be 112,500.00
or the grand total of recovery from soot and bricks would be \$ 135,000.00

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