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Preliminary Report on Certain Mining Properties near  
Bridgeport, Mono Co., Calif. C.A.Dobbell. Sept.13, 1943.

Masonic Mining District.- 10 mi.NE of Bridgeport; near Nevada line; in T6N R26E, MDM. Bridgeport Co.seat Mono Co.,81 mi, S of Carson City, 92 mi.N of Bishop, on U.S.Highway 395. Masonic district about 13 mi.NW of Bodie.

Hayes Success Au Mine.- 50-50 owned by C.C.Hayes and Mrs.John Hayes,deceased brother's wife, both of Bridgeport. Unpatented mining claims;7 claims, two overlap,aggregate 100 acres. Assessment work done to July 1, 1943.

100' shaft, a few ft. of drifting on 50 and 100' levels; numerous surface cuts. These all expose a main vein and a footwall branch or separate vein. Two adits cut the vein;1500' proven on strike.

Mineralized zones apparently in granite with schist inclusions. According to map,about two squ.mi.granite (all of sec.21,S 1/2 16,S 1/2 15,NW 1/2 22)surrounded on N, E and SE by basic lava. This refers to old Masonic district,about 2 mi.NW of Success mine.

Much of surface on Hayes claims lava-covered; schist OC S of shaft. In a cut N of shaft,what looks like highly-altered granite or granite-porphry suggests a HW of the vein. Main vein 3' wide to 5'. Fine free gold. Seen in all cuts.

Dobbell recommends detailed examination.

Hayes Copper Prospect.-1 mi.S of the Success. One claim. No work. Copper oxides.

Lakeview Mine.- See map. Old record of 175' tunnel with winzes and raises on the vein. 25' \$4 ore said to be exposed on surface. Dump specimens show minute free gold;dump said to run \$12. Owner Mrs.J.N. Laughlin of Bridgeport.

Laughlin Quicksilver Claims.-About 4 mi.N70W from Bridgeport. Abundant croppings showing HgS.

Notes onMasonic District.- Pittsburg-Liberty 1st important mine, 1902. White bull qtz. veins in granite NG,but dark porous croppings gave ore. After 1907 Wingfield optioned ppty.,sank 100' shaft,drove 47' of crosscut. Back to owners,who continued to ship\$700-1000 per ton ore. 10 stamp mill operated to 1910,reported production \$600,000 to \$1,000,000. Only 6000' drifts and crosscuts with this production.

Sarita 1/2 mi.W of Pittsburg;operated by Stall Bros. since 1915. 218' shaft;in 1918 it showed qtz.vein in porphyry,dip 45W,with OB 4-20' wide with shoots 50-200' long containing Au, Ag, Cu worth \$20. 700' of tunnel at this time. Concentrating plant gave 90% extraction with concentrates \$500/T. Total production several hundred thousand dollars.

Chemung, 1 mi.N of Success. High-grade, checkered career. In 1927 report of mineralized zone 20' wide in granite and ls.showing qtz. shoots 6" to 2' wide at irreg. intervals; values in Au,Ag. Two shafts,

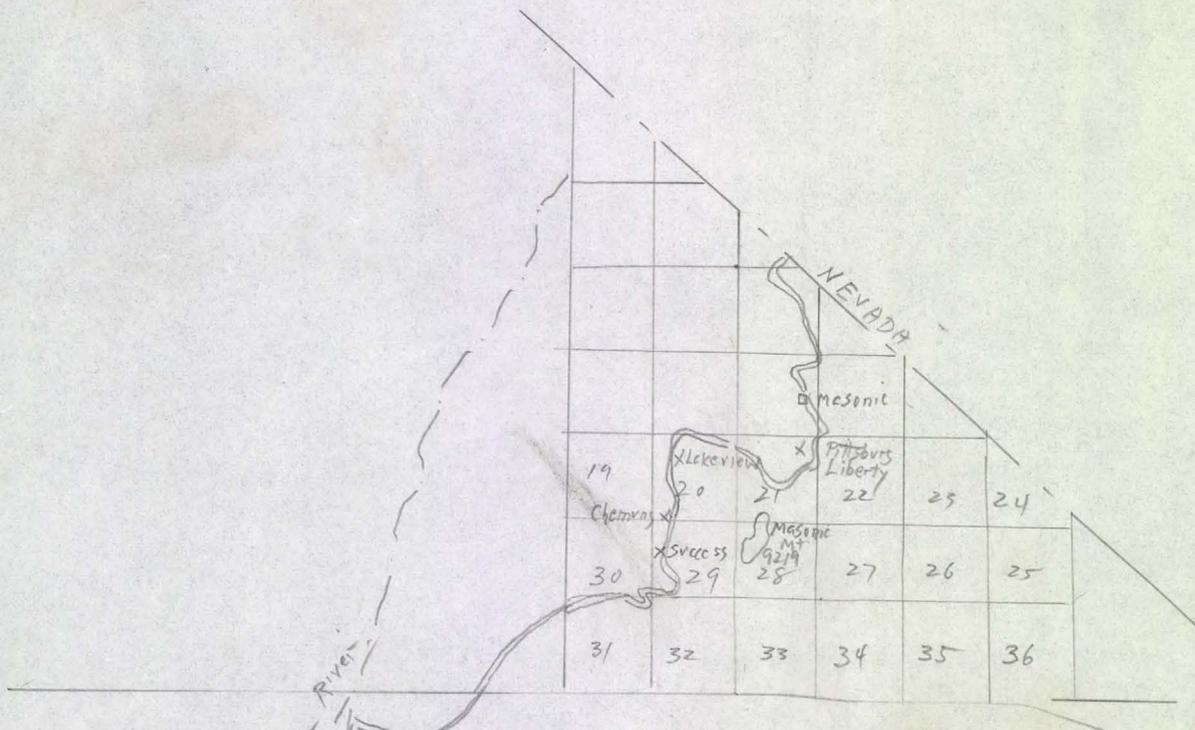
three tunnels, longest 300'. Exploration to depth of 200'.

Brown~~ss~~ group, 3 claims at Camp Eleanor; 1918 report vein NE traced 1500', several OC samples gave \$8 Au. One sample across 6' good-looking vein on granite-schist contact.

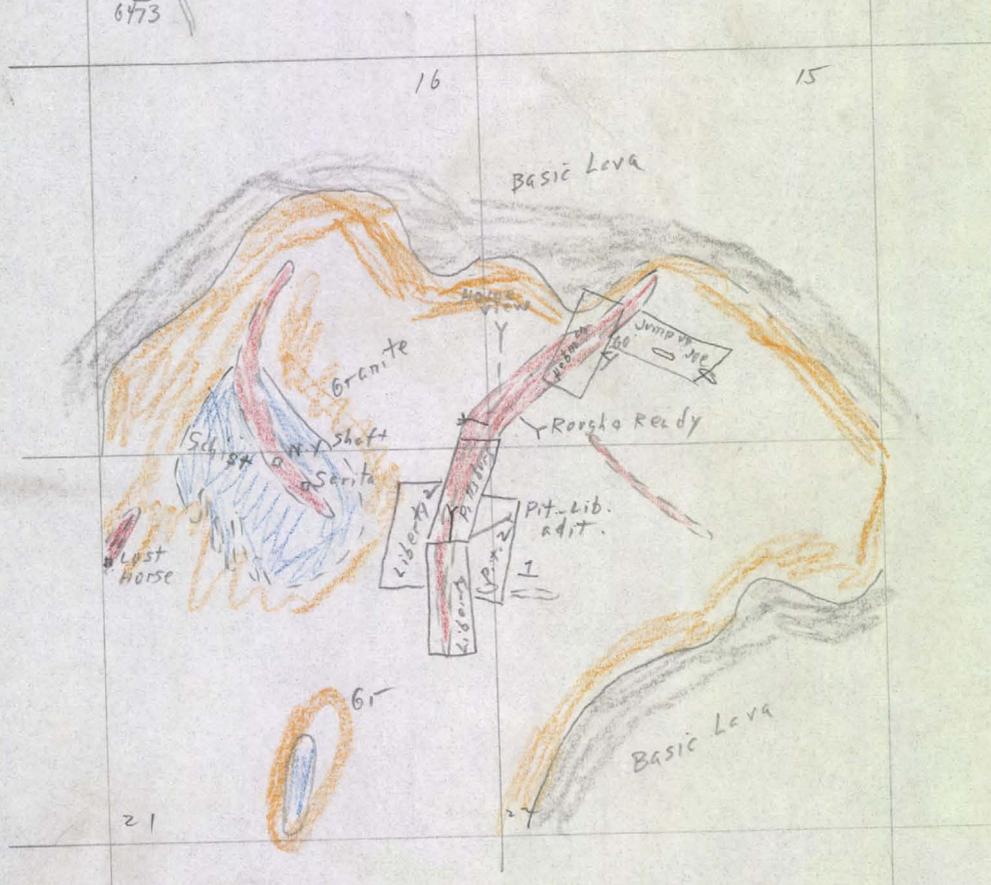
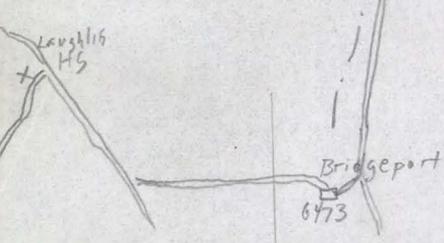
Masonic District: 15th An. Rpt. State Miner. 1915-1916, 160.

16 mi. by road NW of Bodie. Elev. 8000'. At Pittsburg-Liberty several veins or zones stoped, dipping 70-90. Deepest work 150' below OC. Assay plans show very irreg. shapes and values of DBs. Main value Au, ave. \$20. From old maps, 5 veins N25W, dip E on upper or 130' lev.; 3 of these developed on 2nd or 130' lev.; exposure by one crosscut under entire vein group on 3rd or 271' lev. Lower tunnel or 413' lev. cuts almost all the mineral zone about 100' S of productive area. An area 300' squ. covers most of the workings. N of main tunnel general dip E, S, W. Masses of granite common in the mineralized or silicified zone.

Sarita ore as seen in shallow surface cuts is porous chert and chalcedony accompanied by breccia; similar to Pittsburg ore. Walls indistinct but apparently 4'-10' Ore, said to carry free Au and to run \$3-40 per ton.



Part of USGS Bridgeport Quad



REPORT ON SARITA MINE

AT

MASONIC      CALIFORNIA

BY

BRAY AND FRASER, Engineers,

Reno, Nevada,

June 1, 1922.

FAIRWAY BOND

REPORT OF THE SARITA MINE

PROPERTY

The property of the Sarita Mine consists of the mine proper, a 2,730 foot aerial tramway, a 75 ton cyanide mill, a 5 to 6 mile power line, and a hydro-electric power plant capable of developing 250 horsepower. The mine and mill are at Masonic, Mono County, California, and the power plant and ditch line are on the east fork of the Walker River near Sweetwater, Mineral County, Nevada.

The mine consists of four lode claims, which are the Sarita, East Sarita, Sarita #3 and Tunnel Lodes, situated in sections 16 and 21, township 6 north, range 26 east, Mount Diablo base and meridian. These claims comprise a total area of about 60 acres which lies on the west slope of Masonic Mountain in Masonic Mining District, Mono County California. The mine is opened by means of a 200 foot vertical shaft, with levels established at 55 feet, 110 feet and 150 feet. The main working tunnel was run 600 feet to the bottom of this shaft and continued on to the west boundary of the Sarita ground. The tunnel track is extended to the upper terminal of the aerial tramway. The tunnel and shaft are connected with several thousand feet of levels, raises and stopes, and the mine is equipped with blacksmith shop, saw mill and hoist.

The tramway is a Leschen, two bucket type, on 1-1/4" stationary track cable operated by gravity. Its capacity is more than 80 tons in eight hours. Its length of 2, 730 feet.

The mill consists of a grizzly, crusher, ore bin, ten stamp battery with Challenge feeders, Dorr Duplex Classifier, one 6

foot tube mill, one 4 foot tube mill, one 30 foot Dorr Thickner, three 16 foot Dorr Thickners, four 12' x 20' Pachuca agitators, one Oliver Filter, one 26' x 16' tank, two 10,000 gallon tanks, several smaller tanks, sand pumps, solution pumps, motors, etc. The mill is badly arranged and should be changed extensively to increase its capacity and decrease the number of men required in the crew. To that end, it would be well to replace the stamps with a 6' x 4' ball mill which in combination with the large tube mill should give a grinding capacity of 150 tons in 24 hours. The capacity of the cyanide plant can be brought up to this point without purchasing any equipment by simply re-arranging the present machines.

#### GENERAL GEOLOGY OF THE MASONIC MINING DISTRICT

The Sarita Mine proper is situated upon a large outcrop of silicified porphyry which is bounded on the north, east and south by a thin series of mica-hornblende schists. These schists lie upon a porphyritic granite which forms the main country rock of the district. About half a mile to the west of the mine a series of late andesite flows cover all of the older rocks. It is probable that these same flows at one time covered all of the district, but have been removed by erosion from the region around the mines.

The oldest rock exposed in the district is the schist. By correlation with well known geological sections further north and west, it is probable that this rock was an andesite until it

was metamorphosed by the granite intrusion. It is now a typical dark green Mica-hornblende schist, and the thickest exposure seems to be not more than 100 feet in actual thickness. It is probable that this rock belongs to the well known Jura-Triassic series of volcanic rocks found in Western Nevada and Eastern California. The granite shows unmistakable intrusive contacts with the schist, and hence is Post-Triassic. It is an exceedingly coarse-grained granite whose feldspar crystals reach an extreme length of one and one-half inches. These large crystals are strewn through a coarse ground-mass consisting of quartz, orthoclase and a small amount of dark mica.

The later andesite series consists of two varieties of hornblende andesite, the oldest of which is of a light gray color and in weathered sections changes to bluish or purple shades. This seems to be in most cases an intrusive rock which cuts both granite and schist and which is overlain by a coarse grained dark brown variety of andesite, which occurs only as flows overlying the other rocks. It is probable that both andesites are not older than late Miocene. The andesite dikes are as a rule completely silicified and changed to a redish brown or gray chert in which the structure of the original rock is almost completely destroyed, and it is difficult in most cases to determine the real origin of the chert. There are two main dikes in the district which have a general trend to North 57 degrees West, and a dip to the Northwest of from 30 to 80 degrees. The westernmost dike is traceable for at least three or four miles and contains, not only the Sarita Mine, but also the Red rock, Lake View, Show Shoe and Chemung Mines. The other dike

starts at the Pittsburg Mine and runs for more than two miles to the Northwest through the Jump Up Joe and State Line Mines. These two dikes are about one and a half miles apart, and both are from 200 to 300 feet in actual thickness although the inclined outcrops often show widths of more than 1,000 feet. These prophyry dikes have been cut by a series of fissures whose general trend is North 35 degrees West. The fissures cut both the silicified dikes and the enclosing granite or schist, but carry ore only when they cross the silicified dike. This gives rise in most cases to a peculiar condition which has been misinterpreted by the local miners. In sinking on any of the ore veins whose dip is usually somewhere near vertical, the foot-wall of the dike is encountered, and is indicated by a sheet of blue gouge of varying thickness which lies along the dike and apparently cuts off the ore. This "blue mid" invariably dips from 35 degrees to as much as 80 degrees to the northwest, and simply terminates the ore shoot upon one side. There is no reason to believe that this ore shoot will not continue on their rake to the northwest to an indefinite depth. Commercial ore has been mined to a depth of 300 feet in the Pittsburg Mine, and undoubtedly continues to greater depth. No other mine has reached this depth and at the Sarita mine the deepest level shows commercial ore going down to greater depth.

#### LOCAL STRUCTURE OF SARITA MINE

At the Sarita Mine the general structure is complicated by some rather severe faulting which has set down a portion of the ore bearing

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dike into a depression or trough formed by the intersection of two no faults with the foot wall of the dike. This faulted section is from 700 to 1,300 feet in width and dips off steeply toward the northwest. The prophyry in between the two faults which form the sides of the trough has been broken and sheered until it presents a mass of heavy boulders surrounded by finely crushed material. The ore veins are zones of this same finely crushed material which is heavily stained with iron oxide and coated with a peculiar sticky clay. These veins have a strike of North 35 degrees West which is approximately parallel to the fault on the easterly side of the prophyry area. Three of these veins have been developed partially in the Sarita Mine, and at least one other is known to cross the Sarita ground east of the large stope on the most easterly vein so far developed. Their average dip is steep but some dips of 45 degrees were observed.

#### ORE BODIES AND VEINS.

Five stopes have been put up on as many different ore shoots which have produced a total of about 29,000 tons of ore which assayed a trifle over \$22.00 per ton on an average. The bullion returns show a production of a little over \$500,000.00. The difference of these two figures is explained by the tailings loss together with loss of dissolved gold through leakage in the mill. These stopes followed only the richer portions of the ore shoot and no ore was mined which did not show a gross value of more than \$15.00 per ton. It thus happens that there remains in the mine a very large tonnage

of ore which exceeds \$10.00 per ton in value. Part of this ore was overlooked while the richer ore was being mined, and has since been exposed by caving of the various workings, but by far the larger part was purposely left for future mining operations. The largest stope in the mine lies some 60 feet east of the Stall shaft. This stope is reputed to have produced over \$350,000.00 according to mine samples taken by Mr. W. N. Fuller, who was then in charge of the mine. The stope itself is over 80 feet long, 60 feet high and from 12 to 30 feet in width, and the average value of the ore according to mine samples during the first year was \$33.00 per ton. This ore included some very high-grade material and assays from the stope even across widths of 2 to 6 feet ran above \$1,000.00 per ton. The ore was so soft that it required spiling on both top and sides and it frequently ran into the stope in large quantities so that most of it was mixed with lower grade material from the sides of the ore bodies. It was this necessity for heavy timbering and spiling which made the mining costs comparatively high, although according to Mr. Fuller the actual extraction on the whole cost a trifle over \$4.00 per ton of which 90% was chargeable to timbering. On the foot wall of this stope is a width of from 12 to 20 feet from which many samples by various parties show an average value of between \$8.00 and \$10.00 per ton, and on the hanging wall there is fully 30 feet more of ore which will average somewhere close to \$12.00 per ton. Furthermore, on both the north and south ends of the stope the vein continues as far as developed and always shows at least 20 feet of \$10.00 ore. The same vein shows on the tunnel level below, and while it has not been prospected it is known to carry low values across a width of about 30 feet and to have

several streaks which show narrow widths of rich ore. It is the writers opinion that if this vein is developed to the north of the tunnel it will show better values, and the shoot proper has a rake to the north of about 35 degrees from the horizontal and hence its downward extension will be found further to the north as depth is obtained. Above the roof of the stope the vein continues and is shown in the workings of the 55 foot level, but was considered to be too low grade to be milled under the high costs of the early operation of the mine. Above the 55 foot level the vein seems to split into three more or less irregular branches but the fine material from the whole area above this tope carries milling values, and several small bodies of rich ore were taken out at the surface. It is probable that if the whole area in the neighborhood of the large stope were caved in and drawn from shoots at the tunnel level that an average value of better than \$10.00 could be maintained by removing the larger pieces of waste in a simple ore dressing plant.

No attempt by the writer was made to thoroughly sample the mine workings as this will entail a very considerable amount of work because many of the drifts are caved and inaccessible. Furthermore, most of the workings are tightly lagged and the lagging will have to be removed for thorough sampling. These workings have all been sampled by competent Engineers and their estimates have been much higher than the statements made above. Furthermore, the mine records show the value of the material removed in drifting and cross-cutting, and these also exceed figures given here. To the west of the shaft a

small vein has been developed by a drift some 30 feet in length, and a small stope raised above the 160 foot level produced more than \$15,000.00 in high-grade ore. Some of this ore is extremely rich and a sample taken across 4 inches gave an average value of \$1,749.60 per ton at a point two feet below the floor of the drift. A second sample showed an average value of 23.07 per ton across the same streak, and this latter value was used together with seven others taken of the worst looking portion of the ore now showing on the 150 foot level to obtain a rough estimate as a check on the statements made concerning the value of the ore. These samples are as follows:

Sample #1. Average of material from cave in hanging wall of the big stope.....	\$ 32.16
Sample #2. Cave material from hanging wall 60 feet west of #1.....	3.30
Sample #3. 10 foot width 15 feet back of #2 (said to run \$12.00).....	21.90
Sample #4. Muck from Mitchie raise (This is a sample of the stope filling).....	3.99
Sample #5. 4 foot width north extension of big stope..	2.68
Sample #6. Material from foot wall 30 feet from big stope (Does not pan).....	3.85
Sample #7. 16 feet of ore on foot wall (this material was taken under bad conditions and the mine records show that all of the ground removed from the cross-cut averaged \$12.00 per ton).	2.03

These eight samples give an average of \$11.62 per ton when calculated from their width respectively, and were purposely taken in the worst part of the ore bodies. The result does not take into account any high-grade ore whatever, and it is probable that the mine will produce an average grade of ore which should exceed \$15.00 per ton, as

many shoots of very rich ore must remain. The ore itself consists of an exceedingly fine grained cherty quartz in small fragments which are coated with a red mud and the gold seems to be inside of the quartz fragments in a very fine state of subdivision. Even in the richest ore it is difficult to see and it is always irregularly distributed through the ore bodies.

Careful measurements of the mine workings show a probable tonnage of 134,000 tons of \$10.00 ore or better around this big stope alone, which can be mined by the caving system if carefully applied. At least two veins to the west of the big stope and one vein to the east of it are known, which shows large quantities of low grade ore and smaller quantities which will exceed \$25.00 per ton in value. The downward extension of this ore will be found to the north of the present workings and the veins are known to extend into the adjoining property on the north where a considerable showing has already been developed. This property can be purchased on exceedingly reasonable terms, and should be purchased and worked in conjunction with the Sarita Mine.

#### CONCLUSION

The property owned by the Sarita Company has an actual value outside of the mine, far in excess of that usually owned by a mining company. The power plant cost more than \$40,000.00. The power line could not be duplicated for less than \$5,000.00. The mill and tramway costs are unknown, but it would cost not less than \$50,000.00 to duplicate them. The mine itself is certainly a very valuable property and it is not unreasonable to suppose that the ore bodies now exposed will produce more gross value than that already mined. The

total cost of mining and milling can be reduced to \$5.50 per ton by merely re-arranging the machines now installed in the mill, and changing the system of underground mining. The only heavy machine that would have to be purchased is a ball mill to replace the present stamp battery, which will make it possible to reduce the mill crew to two men per shift.

RECOMMENDATIONS.

1. The weak part of the Sarita Mine has always been the mill. It never was built to any design, and no effort was ever made to reduce the labor to a minimum. The machinery, tanks, pipe and building can all be utilized, as they are all good of their kind, but the mill will have to be arranged to give a gravity flow sheet, and to cut down the labor required. This can be done by approximately \$10,000.00. The tramway is usable with minor changes. The power plant is in excellent condition and should furnish power to the mine at a cost of less than \$3.00 per horsepower month.

2. A caving system should be installed in the mine and open cuts can be run on the surface ore body. This will reduce the mining cost to an absolute minimum, and it is the only feasible plan in ground of this type.

3. An ore dressing plant should be installed at the mine to remove the waste from the ore as it comes from the caved stopes. This plant will not cost in excess of \$5,000.00 and will raise the grade of the mill heads at a very small cost per ton of ore milled.

If these recommendations are put into effect the maximum cost should be as follows:

Mining and new development.....\$4.00 per ton.

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Milling and overhead.....\$3.50 per ton.

Total.....\$7.50 per ton.

This will leave a profit of \$2.50 per ton on \$10.00 ore. This figure may seem small but when one considers that there is at least 125,000 tons of this ore which is developed in the mine at present it leaves a handsome profit in sight. It is probable that competent management can reduce the mining cost to \$3.00 per ton or even less, but the figures given cover all reasonable mistakes and mismanagements.

The Sarita Mine is one of the few properties now lying idle which can be put into profitable production within a short period of time and with a minimum expenditure that is to be found in the entire West, and it is well worthy of an extensive sampling and investigation by anyone who is looking for a mine.

Respectfully submitted,

BRAY AND FRASER, Engineers

(Signed) J. CARLTON BRAY

(Signed) R. A. FRASER

Reno, Nevada.

June 1, 1922.

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