

2810 0019

(95)

ITEM

19

318 NORTH MAIN STREET

**BISHOP ASSAY & ENGINEERING  
OFFICE**Complete Analysis and  
Metallurgy on  
ALL ORES

PHONE 3221

1853.3

Surveying-Mapping  
Test Work for  
Mine and Mill

Bishop, California

Dec. 1st., 1942.

TO:

Panaminas, Inc.,  
P.O. # 734,  
Bishop, Calif.Att: Mr. A.L. Hellay  
650 So. Grand,  
Los Angeles, Calif.A S S A Y   R E P O R TL I D A   P R O P E R T Y

<u>Lab. No.</u>	<u>Identification</u>	<u>Tungsten</u> <u>% WO<sub>3</sub></u>	<u>Lb.s/Ton</u> <u>WO<sub>3</sub></u>	<u>Molybdenum</u> <u>% Mo.</u>	<u>Weights</u> <u>of Samples</u>
5284-D	# 1-S-End 3' Wide-40' N of S-Side Center Amy No. 1.	0.060	1.20	----	----
5285-D	# 2-Cut on Top Hill 15' wide N-end Amy # 1.	0.100	2.00	----	----
5286-D	# 3-25' wide S-contin- uation of # 2.	0.160	3.20	----	----
5287-D	# 4-100' West #2-10' winze-3' wide-no walls.	0.422	8.44	0.035	----
5288-D	# 5-Float between # 2 & # 4--50' wide.	0.182	3.64	----	----



(Nevada)

Esmeralda County

26 1/2 mi. from Goldfield, in  
Lida Mining Dist., 2 1/2 mi. W-NW  
of Railroad Springs

Crofino Dev. Co.  
Railroad Springs Mining Co.

Au

PIATORO CORPORATION  
SUITE 1  
4344 E. INDIAN SCHOOL RD.  
PHOENIX, ARIZONA



REPORT  
ON THE  
GOLD HILL & CINCINNATI GROUPS  
OF THE  
OROFINO DEVELOPMENT CO.  
RAILROAD SPRINGS MINING CO.,  
ESMERALDA COUNTY, NEV.

Nov. 30, 1915.

SITUATION:

The property is situated 26½ miles by good road from Goldfield, in the Lida Mining District and about 2½ miles W-NW from Railroad Springs.

CLAIMS & OWNERS:

The Gold Hill group, consisting of 5 claims (see map) is owned by the Oro Fine Development Company.

The Cincinnati group consists of two claims adjoining the Gold Hill group. They are owned by Henry Clarke, Jr., who bought them at sheriff's sale, they are subject to redemption up till February, 1916.

All the claims are held by location.

WOOD, WATER & POWER:

There is a limited amount of scrub pine on and near the property which is suitable for stulls up to 6 feet in length; there is ample wood for camp purposes. There is no water on the property and the mine workings are dry. The nearest water is at Railroad Springs, miles distant, in which the claim owners have no interest. The pipe line of the Goldfield Cons. Water Company passes within about 5 miles of the property and at a lower elevation.

The transmission line of the Nevada California Power Company passes about seven miles west of the property.

TOPOGRAPHY:

The property lies at an elevation of about 6000 feet and extends westerly from the summit of the ridge, toward the Clayton (Silver Peak) Valley.

The topography is typical of upper foot-hill country. The vein is well situated for tunnel work to the depth of the present tunnel, below this all working must be through shafts.

EQUIPMENT:

The Cincinnati shaft is equipped with a small gasoline hoist, with head frame and buckets; the shaft is well timbered to the 100 foot level, below that point the timbers are rotten and the ground caving. The Gold Hill tunnels are equipped with cars and track and sufficient hand tools for 12 or 15 men. There is a gasoline<sup>driven</sup>/blower and air pipe at the upper tunnel. These workings are untimbered but in fair condition.

There is a small frame house at the lower tunnel and a frame boarding house and several framed tents at the camp, which is located a couple of hundred feet N NE of the Cincinnati shaft.

HISTORY:

The claims were located some 8 or 10 years ago and most of the present work was done by the Oro Fine Development Company and the Railroad Springs Mining Company, in which the Weber Brothers of Goldfield were interested.

Early in October last development work was begun by A. I. D'Arcy for the Nevada Hills Mining Company under an option to purchase and is continuing at the present time.

OPTION:

The option agreement calls for a total payment of \$30,000 to the owners of the property and \$1500 to C. T. Spencer as promotion fees. Payments to be made as follows:

\$3000 on January 1st, 1916,  
\$4500 " April 1st, 1916  
\$7500 " July 1st, 1916  
\$16500 " October 1st, 1916

The total cost of development to the Nevada Hills Mining Company to December 1st is approximately \$5000.

GEOLOGY:

(See map). The principal rocks exposed on the claims are thin bedded limestones and shales, probably of Cambrian age, which have a fairly uniform strike of S 50° W, and dip of 20° Southeast on the western end, to 45° on the eastern end.

The geological work did not cover sufficient area to determine the general structure of the district. The geologic column in the area covered, adjacent to the main vein, consists, from the bottom up, of (1) various silicious to limey shales, of an unknown thickness but greater than 600 feet, the top portions being especially prominently bedded (2) various limestones, with minor shaley beds near both the top and bottom, about 400 feet thick. (3) Shale beds, over 400 feet thick. (4) Tertiary (?) eruptives which were not examined.

The sedimentary rocks are slightly metamorphosed and are not folded or crumpled except very locally; all the beds seem to be conformable, or very nearly so.

The shale is frequently considerably altered, and extremely so near fractures.

The main vein occupies a fault fissure, in the limestones and shales, which has dropped the rocks on the south side about 300 feet, bringing the ends of the limestone and shale beds into contact.

On the northern part of the Gold Hill claims there are several dykelike bodies of quartz of rock replacement origin. They strike NE-SW, have a steep dip, and so far as known, are barren.

The igneous rocks consist of andesitic(?) flows lying to the southward of the area mapped and several dykes of diorite & basalt some of which cut the vein without serious faulting, and have not affected the primary mineralization.

The following notes are explanatory of the maps: "Claims and Geology". On and beyond the west end of Gold Hill #1 claim, the vein is said to outcrop rather indefinitely. There is a basalt dyke outcrop on the north side of the Gold Hill #1 between the 5730 and 5830 contours, which was not traced out; also on the south side of this claim near the 5830 contour. There is some mineralization 10-50 feet south of the mouth of the lower tunnel.

The main vein cannot be traced with absolute certainty more than 100' eastward from the portal of the Upper Tunnel. The vein in the

80ft. shaft cannot be traced east of this shaft; to the westward it pinches out on the surface. The areal geology indicates a N-S fault dipping east just east of the 80' shaft, but the surface is so covered with debris that positive proof of a fault is lacking. To the eastward of this fault, for a considerable distance, the exact locus of the main vein fracture was not positively determined; the dotted green line indicates its probable position.

On the Cincinnati #1 claim the main vein fracture turns more to the southward and is indicated by the shaft workings to have less strength and definition. It likely has begun to weaken and has also divided into various smaller fractures.

It would appear that the "blow out" east of the shaft is on a branch of the main fissure and the size is due to a more or less complete mineralization of the limestone along the fissure walls, by hydro-thermal solutions.

#### LOWER TUNNEL LEVEL:

The vein splits near the middle of the tunnel and it is the southern part which has been developed in the winze level. Just west of the split the vein is cut by a 4 foot diorite dyke which faults the vein a few feet and is itself fractured, though not appreciable faulted by post-mineral movement along the vein zone. The dyke shows little or no mineralization. It is also cut in the winze, near and at the bottom; the main vein should be found on this level near the foot of the winze on its strike and dip as indicated on the tunnel level.

#### UPPER TUNNEL:

The same dyke cuts the vein in this tunnel substantially the same as in the lower tunnel but the split in the vein does not appear.

The second south crosscut was driven (in very hard lime) to cut the vein shown in the 80 foot shaft, on its downward extension, but failed to do so as expected. At 65 feet above the level the raise from the north <sup>crosscut</sup> encountered a fault striking S 70° E and dipping 40° S (approx.) which cut off the vein. A crosscut from

the raise to the bottom of the 800 shaft has cut what is probably the faulted part of the main vein (see letter from D'Arcy 12/6/15) and is, or joins with, the vein in the shaft. The probable structure is indicated on the sections A B & C D.

#### SUMMARY OF GEOLOGY:

The vein occupies a large fault fissure in a thick series of limestone and shale; and is cut by dykes without faulting, and by small faults. The vein sometimes splits and follows secondary fractures from the main fissure; under favorable conditions the solution mineralized certain beds of limestone to a limited degree.

#### DEVELOPMENT:

(See Maps.)

Consists of two tunnels and a shaft on the Gold Hill #1 and a shaft on the Cincinnati #1 of about 150 feet depth. There are three levels from the shaft, the upper of which is connected to the surface by a tunnel; the lower one is said to be short and is inaccessible at present.

#### VEINS:

The main vein averages 14½ feet wide on the Gold Hill #1 claim; on the Cincinnati #6 it is of good width but not sufficiently developed to admit of accurate measurements; on the Cincinnati #1 about 10 feet wide.

The walls are, variously, limestone or shale and are fairly good although likely to be somewhat heavy in stope.

They are generally well defined in the shale; in the limestone replacement of the wall rock has sometimes obscured them.

\* The vein filling is (1) decomposed or silicified limestone, heavily impregnated with iron, (2) decomposed shale, broken and seamed, with iron and some quartz (3) rouge with iron oxides (4) porous, pumice like quartz, with or without iron oxides. The amounts of these materials in the vein at any cross-section vary widely and depend on the character of the walls, the amount of decomposition, etc. The amount of visible quartz is noticeably small.

The honeycomb quartz favors the hanging wall and occurs in

streaks or elongated lenses; it is usually higher in value than the remainder of the vein. In places there are bands of calcite lying parallel to the walls.

No sulphides have been found except at, and near, the face of the lower tunnel. They appear to consist of pyrite and to be due to primary mineralization. So far as developed the gold values in the sulphides are low.

To the west of the portal of the lower tunnel the vein walls are both shale and the outcrop is covered.

Several smaller veins, of apparent limited extent, lie to the south of the main vein and are probably off shoots from it; they are of minor importance.

\* The "blow-out" in the center of Cincinnati #1 appears to be a silicification and impregnation of a brecciated limestone, with iron, etc. It is doubtful if it has any great vertical extent or commercial value.

The showing in the Cincinnati shaft workings is very poor; the vein is low grade and the fractures are weak and scattered.

#### SAMPLES:

Previous to this examination, the property has been well sampled by D'Arcy, Sharp, etc.

Sharp's samples, taken shortly before the Nevada Mills Company began work, are plotted on the map, with those taken on this examination.

The check between the two samplings is generally good, although Sharp's samples are sometimes higher, due in part to the narrower widths taken. Much of the vein sampled was very loose, making great care necessary to prevent salting by fine material falling into the sample. To show what effect an abnormal amount of fine material would have on the value, samples #2502 and 2504 were screened through an 8 mesh screen before crushing and the coarse and fine parts assayed separately, as follows:

#2502	Fines	2lb. 4 $\frac{1}{2}$ oz.	\$12.00	Coarse	5 lb. 14 oz.	\$5.20
#2594	"	2 " 13 $\frac{1}{2}$ "	12.40	"	4 " 2 $\frac{1}{2}$ "	6.80



or a total value of \$7.10 and \$9.07 respectively and showing that excess of fine material would only increase the value of the sample about 30% per ton.

Notes:

- #2415 - 18 Loose vein in upper tunnel
- #2419 Solid Calcite
- #2420-49 Varied vein in upper tunnel
- #2450-57 Much honeycomb quartz - in raise
- #2458-2501 (2456 and 2500 not taken Varied vein Upper Tunnel
- 2502-2503 In raise
- #2504-06 In upper tunnel
- #2508-9 Surface near tunnels - much iron oxide
- #2510-15 Winze level - first 2 have very much iron
- #2516-17 Lower tunnel face ha- side - sulphides
- #2518-31 " " Ore is slightly less honeycombed and pulbu-  
rulent than in Upper Tunnel
- #2132-35 Trenches W of 80' sh. Honeycombed and silicious
- #2136-46 80' shaft- very honeycombed and silicious
- #2147-58 Surface cuts - irony, more or less silicious lime
- #2159-62 East of Cincinnati shaft - very honeycombed qtz.
- #2163-69 Cincinnati shaft workings - silicified lime
- #2570-71 "Blow-Out"

The values are entirely in gold, the amount of silver present being negligible.

ORE DEVELOPED: (See Longitudinal Projection)

Block A - Both Sharp and Starr assays used. The top of this ore is not opened except in one cut and the figures on it are subject to question. Probable ore 926 tons @ \$6.97 \$6454 gross

Block B - Sharp & Starr assays used. The bottom of the block is an arbitrary line assumed to equal the drift in value.

Probable ore 914 tons @ \$6.88 \$6288 gross

Block C - Starr's assays alone are used. The shaft assays being averaged as those given on section AB. The assays in the shaft and on surface are weighted according to the depth of the shaft and the surface length.

Probable ore 2502 tons @ \$8.65 \$21642 gross

By including Sharp's samples a slightly higher value would be obtained.

Block D - A 10 foot extension of ore eastward assumed Starr samples.

Probable ore 245 tons @ \$16.10 \$3944 gross

Block E - In these figures only the hanging wall portion of the vein in the crosscuts is included, these are weighted according to the horizontal length so as to have more effect on the value than the more numerous raise assays.

Probable ore 1520 tons @ \$7.01      \$10655

Block F - A 10 foot extension of ore eastward assumed

Probable ore 241 tons @ \$7.33      \$1766 gross

Totals:

Probable ore 6348 tons Av. val. sampled \$3.00, Av. width sampled 6.4 feet, gross value \$50,751.07.

This ore cannot be considered as developed, or "ore in sight" as none of it is exposed on more than two sides, and is in reality poorly exposed on the second side. In all of the blocks calculated the full width of the vein was not exposed for sampling; it is probable that the better part of the vein was sampled and that actual stoping would produce a considerably larger tonnage of a lower grade ore. In tonnage calculations 17 cu. ft. of ore was assumed to weigh one ton, as the ore is very light.

No ore in commercial quantity is exposed in the lower tunnel, or in any of the workings east of the east end line of the Gold Hill #1 claim.

ORE TREATMENT:

Cyanide and settling tests have been made on the ore by the Goldfield Consolidated Mines Company as follows:

No. 1913 - Dump of 80 foot shaft. 97.2% of pulp through 20" mesh screen; 4.20 parts solution to 1 of ore settled to 0.255 parts solution to 1 of ore, requires 7.56 sq. ft. settling area per day.

Assay of heads 0.55 oz. Au. <sup>hour</sup> 24 agitation in cyanide solution. Lime consumption 7.8 lbs., and cyanide consumption 0.2 lb. per ton of ore. Extraction 96.4%.

No. 1914 - Dump of upper tunnel. 90.2% of pulp through 20" mesh screen. 4.30 parts of solution to 1 of ore settled to 0.955 parts of solution to 1 of ore, requires 8.25 sq. ft. settling area per day. Assay of heads 0.32 oz. Au. per ton; 24 hour agitation in cyanide

solution - lime consumption 7.55 lbs. and cyanide consumption none, per ton of ore. Extraction 92.3%.

No. 1915 - Sulphide ore from lower tunnel. (?) % of pulp through 200 mesh screen. 3.85 parts of solution to 1 of ore settled to 1.28 parts of solution to 1 of ore, requires 7.23 sq. ft. settling area per day.

Assay of heads 0.105 oz. Au. per ton; 24 hour agitation in cyanide solution, - lime consumption 12.7 lbs. cyanide consumption 0.1 lb. per ton of ore, extraction 62%.

The oxidised ores are therefore exceptionally amenable to cyanide treatment and it is not unlikely that these ores can be treated by coarser crushing, amalgamation and leaching with cyanide. The sulphide ore test indicates some difficulties in the way of successful cyanidation of the sulphide ores. Insufficient sulphides are exposed at present to obtain accurate results.

#### WORKING COSTS:

Without going into detailed estimates of costs it may reasonably be assumed that all working costs and losses, excepting initial capital outlay, would not exceed \$5 per ton and might be less, with a suitable milling plant. On the ore at present indicated this would give a profit of \$3 per ton, or \$19044, to apply on the cost of <sup>purchase</sup> development and equipment which would amount to (say) not less than \$250,000.

#### SUMMARY:

Conditions favorable to the mine are: (1) The locus of the vein in a fault-fissure of such extent that there is little possibility of its failing for a considerable distance laterally or downward, (2) The size and softness of the vein which should make cheap mining, (3) The amenability of the oxidised ores to cyanide treatment, (4) The reasonable proximity to power and water lines.

Conditions unfavorable to the mine are: (1) The large areas of unpayable vein. (2) The apparent tendency of the vein to become lower grade as depth is gained.



RECOMMENDATIONS:

The payment of the \$3000, due under the option on January 1st, 1916, is not justified at the present time and it is scarcely to be expected that it will be justified on January 1st.

If this payment can be deferred for a sufficient time to allow more development in the vicinity of the 30 foot shaft and further enlightenment on the structure in that vicinity, it would be advisable to continue work.

At the same time, the two tunnels should be driven ahead and the main vein picked up in the winze level from the lower tunnel and drifted on to the westward.

The object of the latter work being, to find if there is any change in the width and value of the vein where it lies between shale walls, a condition which has not yet been encountered underground.

CONCLUSION:

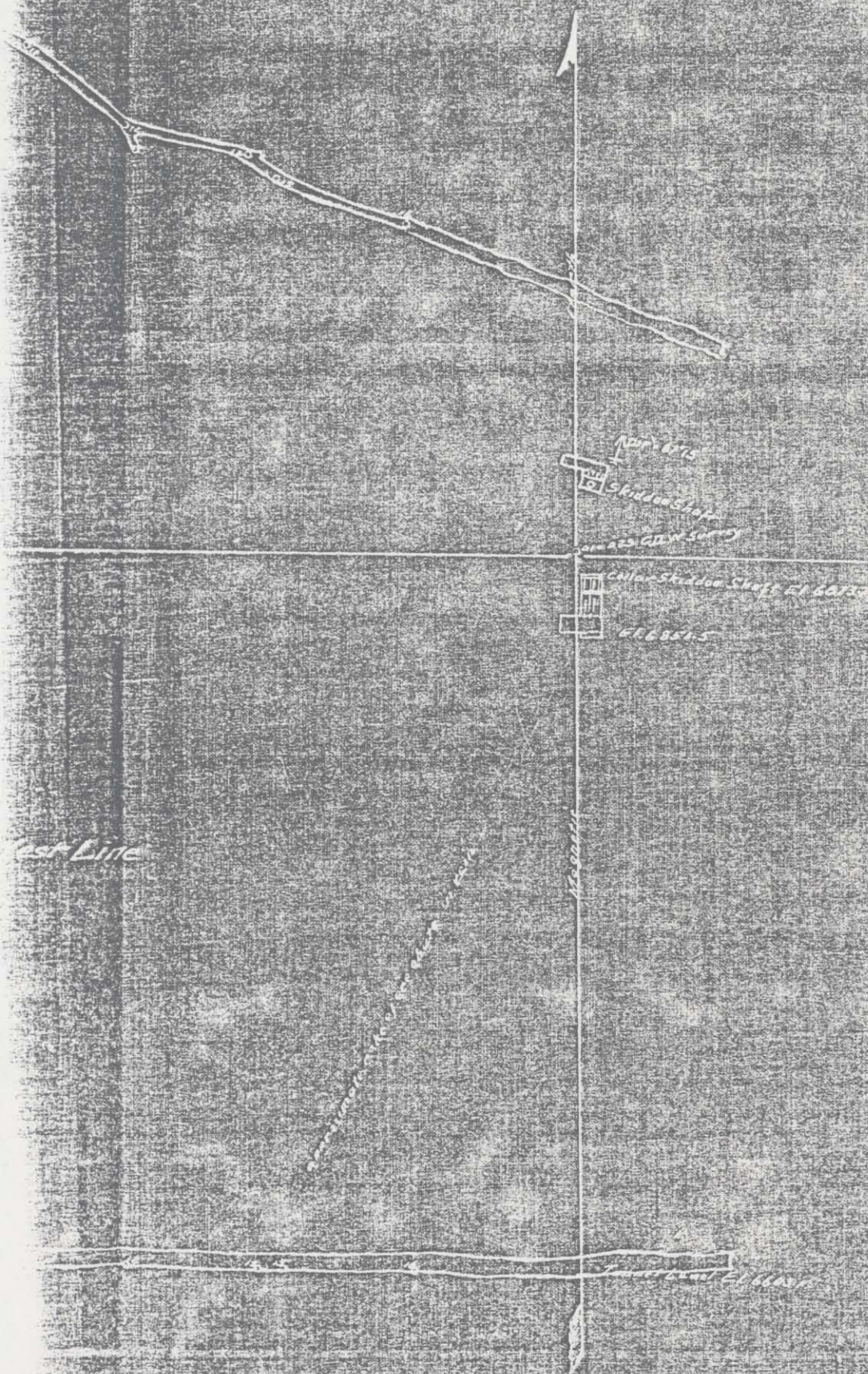
The property has all the qualifications for a large mine except the very necessary one of large bodies of ore. The tonnage of commercial ore is small, considering the width of the vein and the amount of development done. There are indications that there has been some secondary downward concentration of the gold values, and to this the present ore bodies, and the higher values of the vein immediately overlying the dyke may be due.

The prospects of developing good bodies of ore at depth are not very bright. Developments must show more ore or more favorable conditions before payments on the purchase price, are justified.

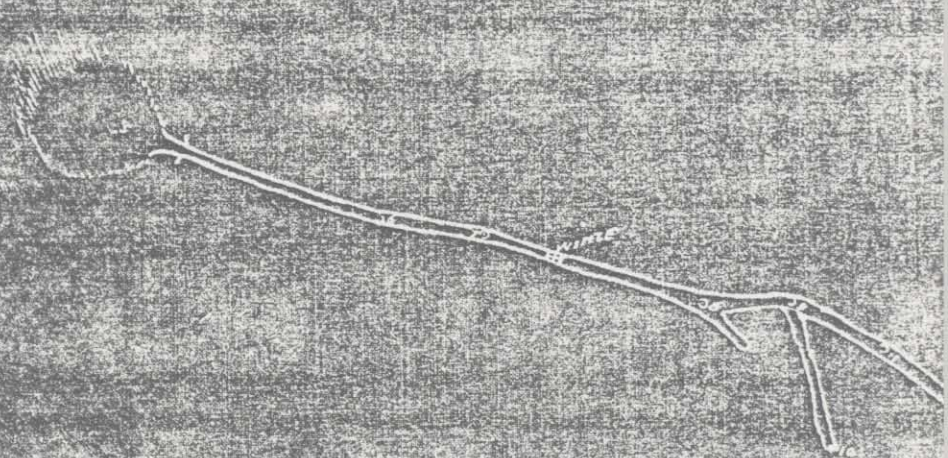
Respectfully submitted,



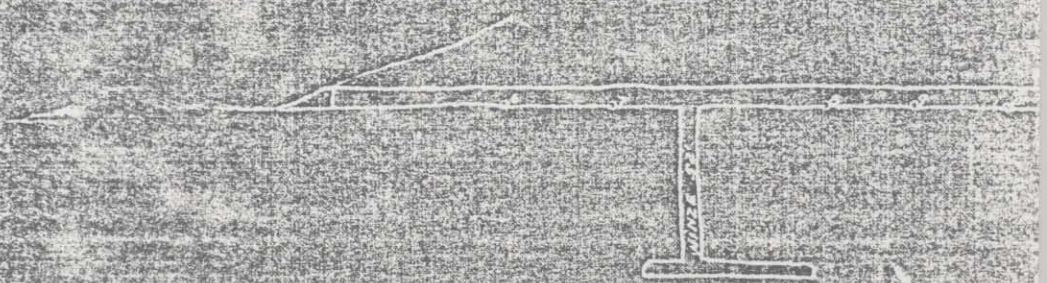
PLAT  
BRINSFIELD TUNNEL AND SKIDDOW SHAFT  
RAILROAD SPRINGS NEVADA  
SCALE 60 FEET = ONE INCH







*Vertical Projection on East and West*





LAW OFFICES  
HENRY T. CLARKE  
838-837 GRAIN EXCHANGE BUILDING

( Gold Hill )

OMAHA Jan. 28, 1919.

1/31/19  
Mr. Geo. H. Garrey,  
Consulting Engineer,  
Tonapah-Belmont Co.,  
Bullett Building,  
Philadelphia, Pa.

My Dear George:-

I am interested in some mining property, known as the Gold Hill and Cincinnati Groups, title standing in the Orofino Developing Company, located at Railroad Springs, in the Lida District, about 23 or 24 miles southwest of Goldfield.

There has been several hundred feet of development work done on this property and I am advised that there is in the neighborhood of \$60,000.00 to \$80,000.00 of ore in sight.

Mr. Willis Lawrence, who I understand was Consulting Engineer for the Jumbo Extension Mining Company negotiated a bond and lease with me for this property for \$30,000.00, but owing to war conditions, etc., was unable to carry it through. The property at one time was under bond and lease to the Nevada Hills Company, one of the Wingfields' Companies.

This property is free milling ore and I am advised is acceptable to free milling or cyanide treatment.

With the war over and labor conditions favorable I feel that there is an opportunity for some one skilled in mining to make a success of this property.

Charles Ellsworth, Assayer, of Goldfield is Treasurer of the Company.

If you are so situated that you can interest yourself in this property in any way or could find me a buyer, I would be pleased to have you do so.

Upon advice from you I will furnish you with any information that I may have regarding same.

I herewith enclose copy of report made on this property by some engineer. I think it was made by Mr. D'Arcy, Engineer of the Nevada Hills Company. There has been considerable development work done since this report was made.

If you cannot interest yourself in any way in this property, kindly return the enclosed, and oblige.

If you ever have occasion to go through Omaha enroute to Nevada I will give me a lot of pleasure to see you again and talk over the days of "96".

Yours very truly,

Henry T. Clarke