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CONSOLIDATED COPPERMINES CORPORATION

From: Kenyon Richard, Asst. Chief Geologist

Kimberly, Nevada

To : C. I. Cook, General Manager

November 14, 1941

The Schneider Hill Group of Claims

According to your instructions, Mr. Hope and I recently occupied a day in brief examination of the Schneider Hill property. We found certain attractive possibilities for the existence of a sizable tonnage of low-grade copper ore. A rough description of our conception of the area and our recommendations for its careful investigation follow:

The Schneider Hill group of 20 unpatented lode mining claims lies in the Banner Mining District in central Arizona about six miles north of Hayden. It is immediately surrounded by several small mines which have in the past produced copper, lead, gold, and silver, though it is believed none of these properties is being operated at the present time. Within a 25-mile air-line radius are the major copper producing districts of Ray, Miami, Globe, Inspiration, and Christmas.

Small mining operations on the Schneider Hill group reached a peak of activity during 1914, at which time over 100 people worked on the property. Following a period of idleness, ownership of the property became involved and eventually lapsed. In 1937 Mr. Beard and Mr. Velasco, both of Hayden, re-located the ground, and in the past four years they have produced a few tons of ore by desultory mining and hand-cobbing.

A steep-walled canyon cuts through the property in a northeast to southwest direction with a smaller canyon draining into it from the north. The mineralized area investigated extends eastward from the top of Schneider Hill, which forms the west side of the two canyons, to the main canyon floor and northward at least a half mile to the crest of East Hill which lies within the fork of the two canyons.

A series of wells and springs in the main canyon developed sufficient domestic water to support the miners' families when the camp was at its zenith.

Over most of the property the exposures of bedrock are good, but a few of the steeper slopes are covered with small talus slides which effectively conceal the underlying rock in a few pertinent localities.

The rock types seen in the Schneider Hill area can be approximately correlated with those of the nearby important centers of mineralization which have received so much careful study. These correlations are significant because by means of them the susceptibility of the different rocks to mineralization in various structural situations can be roughly indicated.

On brief inspection, the local structure seems to be complex in detail. Diabase intrudes quartzite in a highly irregular manner. Both rocks are of Proterozoic age, the quartzite probably being the Dripping Spring formation of the Apache Series. Intruding both of these rocks is a coarse-grained

granitic rock which corresponds to the Granite Mountain quartz monzonite porphyry of early Tertiary age found in the Ray area and the Schultze granite of Miami. The intrusive rocks are usually exposed low on the canyon walls, and the quartzite occurs capping the ridges. It is strongly suspected that with relatively shallow depths the intrusive rocks have large lateral dimensions, so that the quartzite occurrences are merely pendant bodies.

Mining on Schneider Hill has been concerned principally with the small pockets of copper carbonates and chalcocite which occur along the quartzite-diabase contact and also within zones of brecciation in the quartzite. Considered by itself, the copper in the quartzite is of no particular significance. However, of considerable interest is the fact that an adit, driven underneath some pockets of quartzite ore, penetrated diabase and showed it to contain a fairly uniform dissemination of chalcopyrite and chalcocite.

This adit was started in diabase and driven in this formation for 600 feet into the west slope of East mountain from a point some 400 feet lower than the crest. The diabase is found to be traversed by an intricate network of veinlets of pyrite, chalcopyrite, and "sooty" chalcocite. Pyrite is scattered through the diabase itself, but there seems to be very little, if any, chalcopyrite and chalcocite outside of the veinlets. The diabase exhibits alteration only in the form of zones of light silicification and sericitization. The diabase outcrops above the adit appear to be nearly fresh, with a very small amount of limonite being the only indication that the rock was mineralized.

The first seven samples on the assay certificate accompanying this memorandum were taken in this adit. Along the first 200 feet, oxidation and leaching have removed the sulphide minerals and left only a little limonite in the seams. Sample No. 1 represents a random cut from the walls of the adit 250 feet from the portal. The other six samples were cut in a similar manner at intervals of 50 feet on in the adit. Quartzite was encountered near the face and a moderate concentration of pyrite and chalcopyrite occurs in the diabase at this point.

It should be emphasized that the samples only indicate the presence of a good amount of copper within the diabase, and by no means do they represent an accurate determination of the whole copper content of the rock cut by the adit.

About a half mile to the south another adit has been driven into the diabase under Schneider Hill from the canyon floor.

This one is supposed to be 1800 feet in length, but only a small portion of it is now accessible. Diabase is the only rock type seen on the dump and nearly all of it contains pyrite with a little associated chalcopyrite. Sample No. 9 represents an assortment of selected specimens from this dump.

It is probable that zones containing fair amounts of chalcopyrite were encountered in this adit; but in general the mineralization appears to be weaker in this portion of the diabase body.

It is interesting to note that parts of the large Ray ore body are in

diabase, and also at Miami the diabase is a host for ore bodies.

At both Ray and Miami the Tertiary granitic rocks, which are conceded to be the source of mineralizing solutions, themselves contain considerable ore. Near the east side line of the Schneider Hill property a large exposure of monzonite is traversed by close-spaced, parallel, limonite-filled joints. Some chalcopyrite boxwork was identified in the limonitic material.

Reviewing the attractive features of the property, it is seen that the small bodies of copper found in the quartzite, which is considered to be an "unfavorable" horizon for ore, occur over a fairly wide area, and, therefore, it is indicated that a generous wave of copper-bearing solutions has penetrated the rocks in this area. The adit 600 feet long shows that under conditions of sufficient fracturing the diabase is very definitely amenable to the formation of disseminated chalcopyrite ore. That this zone may be of considerable size is quite within the realm of credibility. The overlying pendants of quartzite together with the apparent lack of distinctive diabase outcrops over the mineralized zone hinder estimation of possible lateral extent. Nor can predictions of continuation at depth be made, except that it is not reasonable to expect the secondary chalcocite to continue to depths of more than 200 or 300 feet. However, the showings are good enough that these questions of possible size should be answered. Also, the chalcopyrite boxwork in the monzonite deserves careful attention.

Therefore, it is recommended that a detailed investigation is warranted, and the following procedure is suggested as a basis for such investigation:

1. A geologic and topographic map should be prepared, on which would be shown the areal distribution of altered and mineralized zones, and by use of which a proper interpretation of the structure could be made. Without this as a basis, exploration and development would be too haphazard.

2. Assuming that the property still appears in a favorable light after step (1) has been completed, and depending on the facility with which arrangements of property control can be made, a program of prospecting on a minor scale by diamond drilling would be in order. About 3000 or 4000 feet of preliminary drilling should determine whether or not there is opportunity for the development of an ore body of good size.

In conclusion, one particular factor of dissent should be mentioned. Though contrary to our information, it is difficult to imagine that capable engineers from the nearby large mining companies have not inspected the property; and if they have examined it and turned it down there may be some unfavorable feature which was not disclosed in the brief time we spent on the property.

Kennyon Richard

CONSOLIDATED COPPERMINES CORPORATION

ASSAY CERTIFICATE

Geology Dept.

Nov. 6. 1941

KIMBERLY, NEVADA,

194

| NO. | DESCRIPTION | | | PER CENT |
|-----|-------------|-----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | OZS. GOLD | OZS. SILVER | COPPER | INSOL | IRON | CAO | AL 2O3 | S | Pb | |
| | S.H. #1 | .01 | .06 | 2.92 | | | | | | | |
| | 2 | .005 | .01 | .44 | | | | | | | |
| | 3 | .005 | .01 | 1.26 | | | | | | | |
| | 4 | .005 | .02 | .56 | | | | | | | |
| | 5 | .005 | .015 | .10 | | | | | | | |
| | 6 | .005 | .015 | .08 | | | | | | | |
| | 7 | .01 | .040 | .86 | | | | | | | |
| | 8 | .003 | .010 | Trace | | | | | | | |
| | 9 | .003 | .010 | .18 | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

P.J.J.

CHIEF CHEMIST

August 10, 1942

Mr. R. D. Beard
Winkleman
Arizona

Dear Mr. Beard:

Have received your letter asking if our company is interested in making a thorough examination of your Schneider Mountain mining claims.

During my brief visit to the property last fall, some interesting features were apparent. Under normal conditions we should like to spend the time of a detailed inspection. However, the government is keeping us pinned down here and Mr. Cook, our general manager, informs me that neither time nor men are now available for development of other properties.

If this situation changes, we shall get in touch with you.

Yours very truly,

KR:WM

Asst. Chief Geologist

COPY

CONSOLIDATED COPPERMINES CORPORATION

KIMBERLY, NEVADA
December 7, 1951

Mr. C. J. Larson
211 Lumber Exchange Building
Minneapolis 1, Minnesota

Dear Mr. Larson:

Thank you for the data contained in your letter of December 3, 1951. I am forwarding this to our Consulting Geologist in Arizona for his consideration.

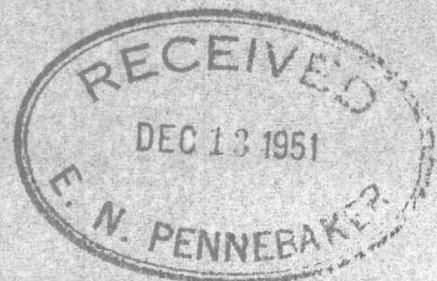
I will keep you informed as to developments.

Yours very truly,

Original Signed By
A. J. O'CONNOR

Arthur J. O'Connor
General Manager

AJO'C/ps
cc - E. N. Pennebaker

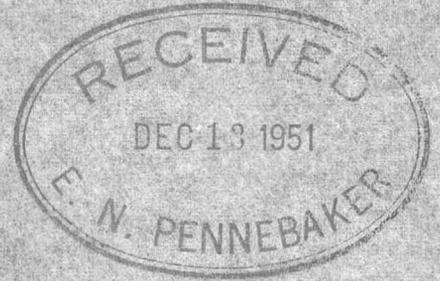


E. N. Pennebaker
Fidelity Union Skin

(COPY)

C. J. LARSON
211 Lumber Exchange Bldg.
Minneapolis 1, Minnesota

December 3, 1951



Mr. Arthur J. O'Connor
General Manager
Consolidated Coppermines Corporation
Kimberly, Nevada

Dear Mr. O'Connor:

Your valued letter of November 30th is received. In regard to the Chilito Copper Mine near Hayden, Arizona, I enclose copy I have made of synopsis of report sent me by Mr. E. L. Turnbaugh, 248 North 16th Street, San Jose, 12, California, who represents the owners on this property. Mr. Turnbaugh is the owner of a large deposit of diatomaceous earth in Nevada, in which I am now trying to interest a buyer, but he is not the owner of this copper mine. However, he is quite familiar with it and seems to have a high opinion of it.

Mr. Turnbaugh has the original report consisting of 21 pages, which he states is available to a prospective purchaser. That report was made by Mr. Jos. D. Scott in 1929 prior to the big depression. This report lists 397 carloads shipped prior to the depression, which averaged between 4% and 5% copper, according to Mr. Turnbaugh's letter. He states in one of his letters to me that the price on this property is \$600,000.00 to be paid on royalty of 10% after small down payment to be agreed upon.

Although this property is no doubt worth easily the price quoted on it, I believe that if you should be interested, the owners may agree to a somewhat lower price.

Should you require additional information on this mine, you may take this up direct with Mr. Turnbaugh, sending me copy of your letter, for which I thank you.

If you do not care to consider this property, please return to me the enclosed copy of information.

Although the ore values may not be so high as you may want, this property evidently contains a very big tonnage, and even with only half of this estimated tonnage the ore reserve is very substantial.

Yours very truly,

/s/ C. J. Larson

cc. to Mr. E. L. Turnbaugh

(COPY)

Synopsis of Report made in 1929 by engineer, Mr. Jos. D. Scott, of the Chilito Copper Mine near Hayden, Arizona.

The Chilito Copper Mine is located about $6\frac{1}{2}$ miles from Hayden, Arizona, where a smelter is located. This property lies in the center of all the principal producers of the Banner Mining District.

There are 40 mining claims consisting of about 800 acres.

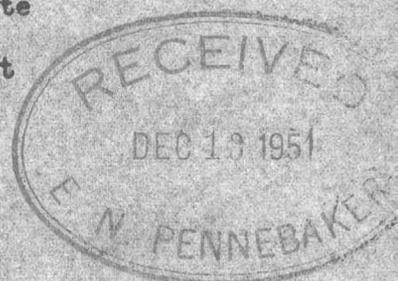
GEOLOGY: Oldest rocks in the district appear to be the carboniferous. The Pinal Schists record a period of sedimentation which was followed by folding compression and metamorphism of the sedimentary beds. All this appears to have taken place before the pre-cambrian times. Erosion actively wearing down the sharp peaks until almost a peneplian was reached. It is questionable whether the diabase which underlies the quartzite on Schneider Hill is not Mesozoic origin. Large masses of igneous material were intruded between the beds in the form of sills and lacobiths and through vents to the surface in the form of dikes. These were andesitic in character. Many porphiritic dikes traverse these beds of andesitic lava. The diabase sill shows a thickness from 120 to 300 feet in an intrusion between the Troy quartzite and the limestone which lies below it, etc.

OCCURENCE of Ore: Deposits are of two classes:- First contact metamorphic where replacement upper workings occurred in the quartzite, and long the contact. Second disseminated deposits which occur through the diabase which underlies the Troy Quartzites and which is cut by the Quartz Mica Diorite Dikes.

DEVELOPMENT: One tunnel 1200 feet through diabase. A series of shorter tunnels from 300 ft. to 500 ft. in length and numerous drifts and stopes. In all about 8000 feet of tunnels, drifts and cross-cuts and 1200 feet of stopes and winzes, which opens this property to a comparatively shallow depth. All stoping is above the 300 ft. level. At no place on the property has the lower limit of diabase sill been reached and the lime which underlies it, and which is more subject to replacement has never been reached. This limestone in other places of the district shows a thickness from 300 ft. to 1000 ft. Here the main ore bodies should be developed. While the surface ores shipped have been high grade, averaging about 4%, I am convinced the whole body of limestone underlying the diabase sill can be expected to average better than 2% copper, with numerous occurrences of from 5% to 10% copper ore along the contact and adjacent to the Quartz Mica Diorite intrusions. Have record of at least 397 carloads shipped.

ORE RESERVES: These consist essentially of the ore on the dumps, which is of milling grade, in all about 10,000 tons, and two small blocks developed by raises of about 20,000 tons, with an average value of 1.65% copper.

PROSPECTIVE ORES: This ore which can be figures as prospective ore must be estimated. The diabase outcrops and exposures by tunnels and cross-cuts gives assurance of a body of ore which will average 1.50% of approximately 61,307,700 tons in the diabase, but only assuming 400 feet in the diabase, which is cut by the 1800 ft. tunnel its full length and shows a depth at the face of 960 feet, with lower limit not reached. The lime underlying this diabase, more susceptible to replacement, should be mineralized more heavily and more extensively than the diabase. It is reasonable to expect an equal area to above and an average of at least 2% copper ore.



CONTINUED

This latter area would give an additional ore reserve of 60,538,600 tons, making a total reserve of 127,656,307 tons of ore. This would assure a life of 42 years for the property on a production basis of 10,000 tons per day. Twelve feet of ore lying along the quartz mica diorite dike was cut by the 1800 ft. tunnel at a distance of 780 feet. It is claimed to have run better than 4% copper. The tunnel was caved, so could not verify this statement.

Workings have a value of about \$56,000.00 on pre-depression scale of wages. Camp houses, one four room and three two room, a two-room dining kitchen and several small shacks valued at about \$2000.00. Teo springs and well supply ample water for domestic use.

RECOMMENDATIONS: First to prove an estimated tonnage of 55,538,500 tons of 1.50% ore it will cost 1929 basis as follows:

| | |
|--|--------------------|
| Extend the 1800 ft. tunnel 1000 feet at \$10.00 | \$10,000.00 |
| Extend "B" tunnel 1000 feet | 10,000.00 |
| Raising to surface 960 feet | 14,400.00 |
| Cost of equipment and installation for this work | 18,260.00 |
| Total | <u>\$52,660.00</u> |

When the ore block has been proven a further investment for a 10,000 ton daily plant will cost about \$2,250,000.00 (\$2,250,000.00) 1929 basis. The annual earnings should be more than \$3,000,000.00.

Copy made by
C.J.Larson
211 Lumber Exchange Bldg.
Minneapolis 1, Minnesota.

Winkelman Arizona

July 31-1942

Mr Kenyon Richards

Friend Richards

I thought I would drop you a few lines to see if you were still among the living and to find out if your Co. would care to come and look our Property over thoughly as you spoke as if you would like to come back another time, if we had not disposed of same, which we have not up till now you remember it is the Schneider Mountain Group Copper mine, that you spent a day on when you was here.

Also I have the engineers report you ask about, and if you receive this letter I wish you would answer as possible

R. D. Beard



FROM A. J. O'Connor, General Manager
TO E. N. Pennebaker, Consulting Geologist
SUBJECT OUTSIDE PROPERTIES - CHILITO COPPER MINE

CITY Kimberly, Nevada
DATE December 24, 1951

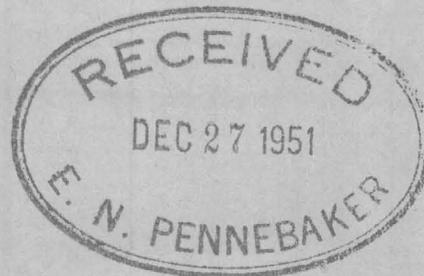
Dear Penny:

I am enclosing a copy of a letter in regard to the Chilito Copper Mine which I received from Mr. C. J. Larson today. The information contained therein certainly would not change your views on the worth of the property, but I thought it might be interesting reading and, for that reason, I am forwarding it to you. From this letter I get the impression that it is as big as all outdoors and as low grade as H E L L.

Best regards,

A. J. O'Connor

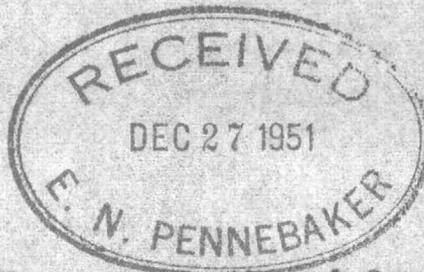
AJO'C/ps
Encl



COPY

Hayden Ariz, 12/11/51.

Mr. E. L. Turnbaugh
248 N. 16th Street,
San Jose, Calif.



Re: Chilito Copper Mine

Dear Mr. Turnbaugh:

For your further information strange as the case may seem, in the past no one seems to have taken any interest in the potentialities of this property developing into something other than a copper producer.

In the past all other metals have been disregarded in preference to the copper potential. As far as I know no one has reported or investigated the possibilities of the LEAD and GOLD with silver that is found in the Chilito property. All they looked for was copper and more copper.

I am not a qualified geologist or mining engineer but I have great faith in this property and believe it is one of the great properties undeveloped that will some day come to the front and put itself on the map again. I was practically raised on this property and have been over every inch of it, and I submit the following which no doubt will have effect on this property.

- (a) This property is bordered by the following productive mines; To the North is the gold mine am not familiar with total production but I do know that hundreds of shipments have been made from this gold mine. During 1914 or 1915 a pocket of ore was discovered during the night shift that produced \$250,000.00 after the mine was looted by several pack Burro loads of the rich ore. The loot was never recovered. One of the miners served time in the State Penitentiary, later released is now living in comfort in Old Mexico.
- (b) To the East of us is a copper group of claims. Several hundred carloads of high-grade copper was shipped. This property is still a potential producer. Beyond this property was a great copper producer property and now in limited production. Still potentially big producer. This property just 3 miles from our property.
- (c) To the Sout and South-East of our property is another mine a small property only 6 or 7 cliams. At present this property is operated by leasers. This mine has produced several hundred carloads of high-grade gold and lead ore.
- (d) To the West of our property is a lead-copper mine. This property has produced thousands of carloads of high-grade lead and copper ore. Is still a great potential producer. Now being operated by leasers.

information
Now comes the beauty of the ~~information~~ for you. To the North we have great indications and possibilities of gold. In most cases we can pan gold in different amounts out of every fissure-stringer or ledge.

To the East the same condition exists. Gold can be panned from ledges-fissures and stringers in amounts from traces to good colors.

To the South and South-East are indications and possibilities tremendously great. A whole mountain of millions of tons with a huge promontory that will pan gold from \$2.00 a ton up to \$10.00 a ton, and maybe \$14.00 per ton in some spots. This mountain is criss-crossed in every direction with stringers and ledges in place that will pan different amounts of free gold. There is a huge ledge 40 feet or more wide that will also show gold in different amounts. Furthermore I will take you or any one else to different spots and pick up a hand-full of grass root dirt and show you very impressive gold colors in a pan.

These conditions may sound exaggerating to you but said conditions do exist and only seeing is believing. I stand ready to demonstrate to any one at any time.

strange as it may seem hardly a pick has been stuck in this mountain except what little prospecting we have done. We have always thought that we could do nothing with this thing as it was too big and low grade for a poor man to handle. We too have had our eyes only for high grade copper.

As I have said this particular section of of our ground has always been neglected through the years by us and all former owners. To me it has the possibilities of a great low grade gold mine or possibility of high-grade gold property.

To the west we have great showings : Ledges and veins flare up and eruptions of copper and lead ores (high grade) with some development work. Galena and carbonate lead in place. I stand ready to back these statements by demonstrating on the surface of the ground what I have stated.

Hoping this will help you, I remain.,

Signed by owner

Oct. 25, 1941.

Mr. Cecil H. Atkinson
141 West Ostrander Ave.
Syracuse, N.Y.

My Dear Cecil:

I most heartedly agree with your friends that it does not make sense, that so large a property of copper should not be working at this time. When this property was brought to me that was my first reaction and until I went to see the property and get its entire history I still had my doubts, but here are the facts as I found them and they completely did away with any negation.

The property known as the Schneider Hill Group, just about 4 mile via air from the American Smelting and Refining Mill in Haden, Arizona, was owned by Mr. Chittenden that developed the Christmas just 3 air miles away. He lived at the Schneider Hill group all this time. In the Christmas Group he had partners, while he owned the Schneider Hill Group privately. He made a fortune and became old. Left for the east (where he died about 15 years ago). He left a Mr. Harry Scott on the property to do the assessment work etc. and sent him the money to do so. Then he died and his widow carried on for a number of years. Then Harry Scott died on the property and investigation showed that he had taken money from Mr. Chittenden and his widow and did the work but had filed the claims in his name many years back. Investigation proved that Harry Scott (and Englishman) had never become an American Citizen and Mr. Beard and Mr. Valasco immediately filed on the property. This was in 1937. A year must lapse before the law is clear on a property. They waited the year. Did their assessment work and have done so ever since as the records in the Court House at Florence, Arizona show. In the mean time two claims adjoining the London Arizona Group were contested and are still in dispute. They waited hoping to clear the situation, nothing is settled on these two claims so the original 20 are all that are available and two more in dispute. Then the copper demand became brisk and they asked a friend of theirs to see if the property could be sold. It was turned to me as an Engineer and Mr. Sam Coupal Sec. of the Arizona Small Miners Assn. was contacted by me as a friend of long standing to help check. All apparently is as I have found above. So I do have one of the finest copper properties in Arizona, for sale.

Mr. Joe Scott formerly Professor of Mining at Nevada university wrote the report on the property in 1929. Died in Colorado in 1931 as near as I can determine. I have copied some of his report and am inclosing it, together with some notes made while I was on the property Oct. 3th, last. The ore reserve will prove to be many times the 127,000,000 tons in Scotts report for the lower levels at the Christmas mine are now being worked in a much higher grade of ore than at the time Scott made his report.

I sincerely hope that this further report and the copy of Mr. Scotts report inclosed will place the situation honestly and squarely before you.

Kindest Regards.

Fred P. Leaming

1246 N. Vine
Hollywood, Calif.
Telephone Gladstone 0902

Copy to Mr. C.I. Cook, Genl Mgr. Consolidated Copper Mines Corp, Kimberly Nevada.

Very good
Maybe possible
Henry Reubert
Called in shell
Just in January
when he was
Michigan
W.P.
W.P.
HS

BRIEF REPORT

Oct. 8, 1941

SCHNIEDER HILL GROUP

20 Copper Cl aims

Haden Arizona.

Since the Joe Scott report of 1929 several more tunnels have been driven as well as leasers have high graded in many spots.

Salient Points

1. There is gold, silver and lead apparent in many places.
2. Water to run a mill is apparently available, altho wells may have to be drilled.
3. The old camp has running spring water, tho the ^{Piping} must be replaced.
4. Four buildings might be saved by repairs.
5. The old two-way compressor is valueless for modern mining.
6. The road will require rebuilding, two wooden bridges will have to be replaced. A bulldozer will do most of the work with some blasting and should not cost over \$ 5,000.00 to \$ 10,000.00
7. Telephone lines run the full length of the property.
8. Government power lines come within 2 $\frac{1}{2}$ miles of property.
9. The 1,800 foot tunnel is apparently all in diabase, but impossible to check due to caved area.
10. The road at the top end follows the bed of the channel for about 2000 feet and should be set on side of mountain or tram used to bunker at knee joint of channel.
11. The old dump tonnage has washed away to some extent but new dumps will more than replace Scotts estimates.
12. The 1,800 tunnel missed the contact by sever hundred feet. I see no reasonable argument to have made such a costly error.
13. The ore of greenish color has been broken into in many places on the surface as well as in the tunnels.
14. The 800 foot tunnel is sulphides almost its entire length, yet it opens into a room at its face, about 20 feet in diameter and its entire wall is of the greenish ore. Apparently a large tonnage is available and looks as tho it would run between 3 and 4 % copper.
15. All the workings are above the 300' level, while in recent years the Christmas Group about 3 miles east on same ridge, has found highly enriched ore many hundreds of feet below this. I would most certainly strive to reach much lower levels where much higher enrichment is most likely to be.
16. A mill is necessary and scoop shovel operation should prove profitab

on a basket

17. Were a railroad built to the property $4\frac{1}{2}$ miles north of Haden Junction, two switchbacks would no doubt make the grade.
18. The grade is all down hill to Haden Junction.
19. Were the mine run ore to be taken to the mill at Haden owned by the A.S. & R. it is possible apparently to tram about 2500' to top of the mountain east and a new road less than 4 miles to the smelter would thus cut about $2\frac{1}{2}$ miles off the haul or it could be belted or tramed all the way. All down hill.
20. Scotts assay map shows 36 points of location, 15 of which are assays which run from 1.5 % to 1.9 % copper in a hundred foot of the 800 foot East Mountain Tunnel. I report this from memory for I do not have this report to check from.
21. Since the Christmas Group have proven the lower levels, from all reports, to be much better grade and this was not known at the time Scotts report was made, I would say that his estimates of possible tonnage available is but a fraction of the total actually available.
22. The property consists of 20 claims which have been in the present owners names since 1837. All papers in the Court House at Florence are in proper order. There are two additional claims held by the owners but these are in dispute with adjoining Arizona-London Group so are not considered available at this time. The 20 claims are in one block.
23. Since the writer spent about 5 hours on two different days on the property, one of which it rained hampering work, I do not wish to have any one consider my deductions as totally conclusive nor not subject to revamping upon proper inspection. They were therefore purely cursorily made and must be viewed in this light.

By: n

Fred P. Leaming M.E.

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ENGINEER REPORT
SCHNEIDER HILL GROUP

The Schneider Hill Group is located in the Bonner Mining District in Gila County, Arizona, about 4 1/2 miles from Haden Junction and 6 miles from Haden, where the American Smelting & Refining Co.'s smelter is located. The London-Arizona Company holdings lie to the south and east, the Apex to the north and northeast, and the Seventy Nine Mine to the west. In fact, the Group lies in the center of all the principal producers of the Bonner Mining District. The Camp of Chilite lies within the limits of the property to a large extent. A good wagon road leads directly to the property from Haden Junction. The property consists of 80 claims which are held by right of discovery and by annual assessment work, records are on file.

DEVELOPMENT ON GROUP

A tunnel 1800 feet thru diabase, a series of shorter tunnels from 500 to 800 feet in length, numerous drifts, in all about 3000 feet of tunnels, drifts and cross-cuts and 1200 feet of stopes and winzes open this property up to a comparatively shallow depth. All of the stoping being done above the 500 foot level.

SAMPLING AND PROSPECTING

The ores on this property are found along the contact of the Troy Quartzite and the diabase. The upper workings along this contact have been done on the relatively high grade ore which shows in numerous croppings at the surface. Leasers in the high grade ores croppings have extracted a large portion of the high grade ores and for this reason only a limited number of samples were taken from the high grade still exposed in the workings.

Below the upper contact the diabase sill which intruded between the Troy Quartzite and the underlying limestone and which shows a considerable enrichment, especially along and near the intrusion quartz Mica Diorite dikes, was thoroughly sampled with the idea of determining the possible value of the diabase as low grade ore which could be profitably mined under proper conditions.

East Mountain has been worked to a very limited degree and shows the same contact between the Troy Quartzite and the diabase as appears on Schneider Hill. Here the quartzite is largely stained and replaced in sections along the contact of the carbonates, oxides and silicates of copper, and in some cases considerable Chalcocite is shown in the ore.

The contact is easily discernable on both East Mountain and Schneider Hill, standing out as they do above Schneider Canyon and separated only by low divide. A deep gulch along the west side of East Mountain, together with Stone Gulch on the North of both, shows the formation to be a depth well below the workings on the property. Several Quartz Mica Diorite outcrops cut thru and are clearly traceable on the property. The workings sampled most thoroughly were the 800 foot tunnel driven thru the diabase on East Mountain near the floor of the gulch; the working tunnel on Schneider Hill, which is the central tunnel of a number run in the immediate vicinity of the Quartz Mica Diorite dike, which cuts thru the property northeast and southwest; tunnel B which lies below the working tunnel and gives an additional depth of 300 feet on the deposit; tunnel C which lies to the north of the working tunnel a distance of 260 feet; the contact tunnels and the 1800 foot tunnel running a little north on the Glance Claim on Schneider Hill. At no place on the property has the lower limits of the diabase sill been reached and the line that underlies it and which is much more subject to replacement has never been reached. The limestone in other places in the District and in the surrounding districts shows a thickness of from 200 to 1,000 feet. Here the main ore bodies of the property should be developed. Underlying this lime the shale and quartzite may develop ore bodies of equal magnitude and importance but it is probable that the lime stone will yield a tonnage of commercial ore sufficient to make this property a large producer for years to come. While the surface ores and those developed by the shallow workings along the quartz Mica Diorite dikes have never been extremely high grade,

averaging for those shipped about 4 per cent. I am convinced that the whole body of limestone underlying the diabase will can be expected to average better than 2% copper with the occurrences of from 5 to 10% ore along the contact and adjacent to the Quartzite Mica Diorite intrusion on Sample sheets attached show the results of all sampling done on the property and are clearly indicative of what may be expected at depth on this property.

ORE RESERVES

These consist essentially of the ore on the dumps, which is of milling grade, in all about 10,000 tons, and two small blocks of the enriched diabase developed by raises following the high grade occurrences along the intrusive dikes.

DIMENSIONS OF BLOCKS:

No. 1 250 X 200 X 4 - 200,000 Cu. Ft. - 15,077 Tons
No. 2 200 X 100 X 4 - 50,000 Cu. Ft. - 5,050 Tons

This gives an ore reserve of actually blocked out ore and ore on the dumps of only 20,127 tons with an average value of 1.65%.

PROSPECTIVE ORE:

Since the property is purely in the prospective stage the ore which can be figured as prospective ore must be estimated from the evidence gained by the sampling of that partially exposed and that which is probable from the history of the surrounding districts of Ray, Globe and Miami.

The diabase outcrops and exposures by tunnels and cross-cuts give assurance of a body of ore that will average 2.5% of the approximate ore shown below.

1600 X 2000 X 400 Feet - 300,000,000 cu. ft. 800,000,000 - 61,307,700 tons
in the diabase. ¹⁵

This is assuming a depth of only 400 feet in the diabase, which is cut by the 1600 foot tunnel its full length and shows a depth at the face of 960 feet, with the lower limits not reached.

The lime underlying this diabase, more susceptible to replacement, should be mineralized more heavily and more extensively than the diabase, but it is reasonable to expect an equal ore and an average of at least 2% ore.

This would give an additional ore reserve of 66,538,500 tons or a total of 127,846,207 tons. This would assure a life of 42 years for the property producing 10,000 tons a day.

Twelve feet of ore lying along the Quartz Mica Diorite dike which was cut thru by the 1600 foot tunnel at a distance of 730 feet, is claimed ran better than 4% copper, but the tunnel was saved and it was impossible to verify this statement. Several other occurrences of this high grade ore will undoubtedly be cut in the development of this property, thus adding materially to the value of the ore reserve.

ASSHES

The greater part of the shallow workings on this property would have little value for the future development of the property. In fact, all the work so far done can be classed as of value simply for proving the property, and for that reason will be so considered.

The 1600 foot tunnel driven in the diabase, cross cutting the sill and proving a thickness of 960 feet at the present face, would have a value of 1600 X \$ 15.00 or \$ 27,000.00.

The 200 foot tunnel on East Mountain would have a value of 200 X \$ 1.00 or \$ 20,000.00.

The working tunnel running at almost right angles to the 1200 foot tunnel and about 400 feet higher on the mountain and 500 feet northeast of the face of the same would have a value of $450 \times \$ 15.00$ or $\$ 6,750.00$. Other tunnels, raises and winzes, a value of about $\$ 10,000.00$. A total development of about $\$ 56,000.00$.

Two springs and a well supply water for domestic purposes.

The indicated value of the property on a basis of a ten year production and with a 10 % return on the investment would be $\$ 3,390,000 \times 5.45 = \$ 18,475,500.00$. I have indicated a 10,000 ton daily plant capacity because the probable ore reserve is so large. The appraisal valuation of the property will prove extremely conservative with the development of the property, as the ore body figured will no doubt prove larger with development of the ground.

CONCLUSIONS

In summing up the principal features of the Schneider Hill Group a number of factors must be considered.

FIRST: An estimated tonnage of 61,337,607 tons of 2.5 % ore is partially proven by present workings.

SECOND: The disseminations of the copper values thru the greater portion of the diabase sill is shown by the sampling of this ore and exposure and by the dump sample taken from several dumps which are in all cases run thru the diabase.

THIRD: The outcrops of the diabase are clearly traceable thru the property and they all show evidence of a mineralization.

FOURTH: Shipment from the property of unsorted diabase show an average copper content of ".5 % or above.

FIFTH: The scattered inclusions of limestone brought up by the Quartzite Diorite, at the time of its intrusion, all are a very good grade of Copper due to replacement, and indicate that the limestone which underlies the diabase will be in better grade of ore than the less susceptible diabase which lies directly above it.

SIXTH: The shales and quartzite which underlie the limestone are much more liable to replacement than the diabase and certainly more susceptible to dissemination thru them.

These all lead to the conclusion that the small investment necessary for proving the block of ore which will contain an estimated tonnage of 66,533,500 tons is more than justified by the showing on the property.

SHIPMENTS OF ORE

From Schneider Hill Group Prior to 1928 - 397 cars
by C.B.Chittenden.

Ton average of ore 5 % and up.

By

J.D.Scott

Mining Engineer.

After Five Days Return to

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