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W.S.Larssen
176 Fifteenth St
Oakland Calif.

Ar 6/4/41

May 28th."41

Mr. Geo. M. Colvocoresses,
1102 Luhrs Tower
Phoenix Arizona.

Dear Sir;

I have your letter of the 26th. and am glad to know that your idea regarding the Clara checked with mine. As I remember, narrow fractures and cross fractures carrying tramp solutions contributed to stain but little copper.

Am pleased to learn that you are in correspondence with Nebeker, and if you can assist him in any way on the Starlight group I don't want either you or he to think that I consider myself entitled to anything, in any way, in case a deal is consummated through your efforts, as you two were already doing business together. However, I would go out of my way to help him if I could, as he is deserving of help.

I am enclosing his description of the Starlight, which, it appears is north of Aravaipi in Graham County instead of Pima county as I wrote you. Wish you would copy this report for your files and return to me. I showed the report to Wilbur H. Grant today, and he said that if conditions were not so uncertain he would look into it.

I also saw Frank L. Sizer whom I have known for forty years. He comes to his office three times a week and is still quite active.

Mining in California is very quiet except in the offices and hotel lobbies where large operations are carried on daily.

Am waiting on three different projects and promises, but will go anywhere in my line of work. The Magnesium project is dependent on the separation of finely divided silica having practically the same specific gravity as the oxide, and the engineers are trying to work it out. I am not looking forward to it very strongly.

Very Truly,

W.S. Larssen

Starlight Mine file

June 4th, 1941

Mr. W. S. Larssen
176 Fifteenth Street
Oakland, California

Dear Larssen:

Thanks for your letter of May 28th and as far as the Clara Mine is concerned the information which you had previously given me was quite sufficient to confirm the opinion that I had formed myself.

I thank you for sending me Nebeker's report on the Starlight Mine, which is herewith returned since I have had a copy made for my file.

I am sorry to say that I cannot feel that the development or reopening of this property offers an attractive field for a mining investment. At the present time there are many old mines in which the workings are inaccessible and generally speaking these have been closed down originally because they were worked out of pay ore and I have always found that they were not worth reopening except in cases where reliable records of production and ore reserves had been kept by the former operators and furnished a basis for estimating the tonnage and grade of the ore which remained in the mine.

In the case of the Starlight no such records seem to be available and it may be that the comparatively small production to which Nebeker refers was all taken out of one or two pockets which are now exhausted. You will doubtless have noted that the production of copper ore was made back in 1905 and 1906 and if any substantial body of copper had remained in the mine it seems to me that parties who are conversant with these showings would certainly have attempted to work there during the World War when copper prices were so high.

As to the statement regarding the gold, silver, lead ore it is evident that this must have been almost pure galena in order to have assayed 70% lead and again I cannot believe that any substantial tonnage of such ore would have been allowed to remain in a mine for thirty odd years.

I fear that Nebeker may have considerable difficulty in finding anyone who would be willing to gamble their money in order to reopen the old tunnel unless he can enlist the support of some of his personal friends and I should not care to recommend such a procedure to any clients of mine for reasons mentioned above but I am always very glad to obtain data regarding any of these old properties and again I thank you for the information and send you my best personal regards.

Sincerely,



Mr. W. S. Larssen

#2

June 4th, 1941

P. S. In checking over the report on the Starlight Mine it appears that Nebeker has made a mistake in saying that this was in Pima County since actually the property appears to be located near the western border of Graham County and close to the boundary line of Pinal not Pima. Safford is the County seat of Graham and if the claims are recorded there the property must obviously be in Graham County, which accounts for the fact that I could not find the San Carlos Indian Reservation in Pima as actually that reservation occupies portions of Gila, Pinal and Graham counties.

G. M. C.

GMC:at

Index,

Starlight,

Globe Mine, Ariz.

Copper,

Class D.

mine file S. General

STARLIGHT MINE

9/26/39

Call from Chief Harrison, Cactus, Arizona.

An old property, 12 patented claims, located in Graham County some 32 miles southeast of Globe and 10 miles from Coolidge Dam and on the San Carlos Indian Reservation. Once called the Tri Bullion Mining Co. and developed in very wasteful manner 30 to 40 years ago.

Now owned by Harrison and an associate in Oklahoma named Long but will soon be sold to county for taxes which now amount to about \$550.

Tunnel 600' long with not much ore showing but Beckwith, Pidgeon and other engineers are said to have thought that by sinking down to contact with the limestone there is a chance to develop large bodies of copper ore similar to those at Bisbee.

Has been presented to Koerner, Wardlaw and Beckett none of whom appear to have been interested. Probably no good and Harrison is terrible talker.

W.S. Cannon

REPORT ON THE STARLIGHT MINE

Jan. 31, 1941

Location:

The Starlight property is located on the South Boundary Line of the San Carlos Indian Reservation, near the Western side of Pima County, Arizona, in the Stanley Mining District, and is about 9 miles East of Coolidge Dam.

The property consists of 12 patented mining claims, containing approx. 200 acres. The patent survey No. is 2372, made Sept. 13 & 14, 1907, by Lamas Cobbs Jr. and recorded at Stafford, the County seat of Pima County, Arizona.

Graham

It is 21 miles from the rail road siding of Calva, Arizona.

Roads:

To reach the property, one turns off the main highway, U. S. No. 70, at Kelly Wash 15 miles west of Calva, or 8 miles East of Coolidge Dam, then up Kelly Wash for 6 miles, which brings one to the portal of the main tunnel. Highway No. 70 is a good oiled improved road. The road up Kelly Wash is rough and hard to maintain during flood season, but even as rough as it ~~is~~ now after years of no use, the writer went to the tunnel in a Ford, Model A in 50 minutes going up the wash.

This road difficulty can be overcome by making a road up a ridge East of the Wash which will have a gradual grade to the mine, and will cut off 5 miles to the railroad loading siding. After reaching the mine there would be some grading to do, to get down the hill side to reach the tunnel portal.

For the first few months of operation, the road up the wash can be used, and it appears that two men working a week could make a pretty fair road up the wash. The wash giving a good gradual grade all the way from the Highway to the Mine.

Climate

I would estimate the elevation above sea level to be about 5000 feet, so the climate is a good all year climate for working purposes. The rain fall is just enough, so such trees as Junipers and Mesquite grow to a fair size.

Supplies

Globe, Arizona is the closest town of any importance, and some mining supplies can be had there but, from El Paso, Texas or Phoenix, Arizona mining supplies can be got on short notice.

Miners and other help are plentiful and can be had at the prevailing wages, which are now, miners \$5.05 per day, muckers \$4.95, Timbermen same rate as miners.

Timber will cost at the mine approximately \$37.00 per M. for native timber, and for coast timber \$22.00 per M. all mine grade.

Freight

Ore hauling from mine to railroad siding \$1.00 per ton and from the railroad siding to El Paso Smelter \$3.10 per ton.

Camp

There being no buildings at the mine, and it being too far out for the men to live down at one of the towns, it will be necessary to build for the men, being a very mild climate tent houses can be used for all preliminary work.

Water

For all mine purposes there is enough water flowing out of the tunnel. When it becomes necessary to sink below the tunnel level more water will more than likely be developed. If it becomes necessary to get water for milling operations, if the mine does not furnish enough water, a small dam can be put across the wash above the mine and plenty of run off water can be caught.

Geology

The general geology is a series of sedimentaries, quartzites, shales, and limestones, which are heaved and fractured by Quartz Monzonites, or Quartz Granodiorites; and Quartz Porphyry intrusives. The formation stands at a dip of 65° to 70 degrees from the horizontal, and has a strike of N 45° W.

These intrusives have caused great fracture zones of 40 to 70 feet across, with cross minor fractures.

~~These fractured zones making channels of least resistance to the uprising mineralizing agencies are favorable points for the formation of ore bodies of either the replacement type, also at the intersection of these fractures are very favorable for large bodies of ore.~~

The fractured zones making channels of least resistance to the uprising mineralizing agencies are favorable points for the formation of ore bodies of either the replacement type, also at the intersection of these fractures are very favorable for large bodies of ore.

The shales being near the intrusives also act as a very effective dam to the uprising mineralizers, and are apt to cause the replacement of the limestone with ore.

The stopes where ores have already been taken out furnish evidence, which justifies the above conclusions.

One finds very similar conditions of formation and mineralization in Superior District, Bisbee District of Arizona, and ~~the~~ Tintic District and Park City, Utah.

Development

The development consists of three tunnels, and several surface pits and cuts.

The two tunnels upon the hill were driven to cut just below where the ores out-cropped, and from the works in these tunnels considerable ore was shipped, as one can see from the open stopes left. These stopes show where ore has been taken out for over lengths of 30 to 60 feet, with widths up to 15 feet, and height up to 40 feet. The writer could not see what was left in the bottom on account of the loose muck. In these stopes one can see fractures leading out with mineralization which could lead to other ore bodies.

The main tunnel is a cross cut tunnel with the portal about 20 feet above the bottom of Kelly Wash. This tunnel is reported to be in 1900 feet. The writer was only able to go in about 400 feet due to a cave in the first 40 foot fractured zone. This break of fractured zone is strongly mineralized with quartz, iron hematite which carries some silver gold and lead, as shown by assay from a sample of the red hematite of iron taken by the writer.

Mr. McComas, who showed the property, and who did the timbering, as well as worked mining in the tunnel, reported that about 1500 feet farther in a 75 foot break was cut from which some copper was taken along with hematite of iron. This statement seems correct, as one can see from the dump, copper and iron ore as well as some lead.

Mr. McComas also state that they were just getting started on drifting along this large break when the man putting up the money died and the work was stopped. The copper ore found in the dump he states came out of the drift.

The main tunnel cross cuts all formations and shows in the 400 feet, quartzites, shales, limestones, granodiorite, porphyry and more lime. It was driven to cut the downward extension of the ores found in the upper tunnels and gives about 700 feet of backs.

1500 feet in a spring was opened up and this water is carried in a 2 1/2 inch pipe to a large steel tank at the portal. In this tunnel is also a good mine track of 16 lb. rails.

Ores

Ores found in the Starlight are, cerussite (lead carbonate), galena (lead sulphide), anglesite (Lead sulphate), Chrysocolla (copper silicate), azurite and malachite (copper carbonates), silver and gold, shown by assay, hematite (iron oxide). Gangue minerals in the vein are Quartz, Barite and Calcite.

Production

Due to several years passing since shipments were made it is hard to find copies of settlement sheets, but the stopes show shipments have been made of High Grade lead-silver ores.

The Arizona Metal Production Bulletin, No. 140 gives the Starlight a production record of copper in 1905-6 of \$22,000.00.

It is reported by two independent sources that ^{one} the shipment of ore went out which assayed \$20.00 gold, 10 ozs. silver and 70% lead. There is several places in the mine where 70% lead can be taken now.

Development costs to date

Up to date the development costs, for patenting the 12 claims, the driving of the tunnels, which approximate 2700 feet, mine rails, etc has been about \$50,000.00 which work is all valuable for future use.

Neighboring Districts.

There are no adjoining mines, but north and a little west about 26 miles is the Globe-Miami District which has a production of over \$575,000,000 and to the East is the Morenci-Clifton District with a production record of over \$311,000,000 and just to the South is the Aravapipa District with a \$1,000,000 record, and to the West is the Banner District with a production of over \$13,000,000 and still further South is the Cochise District with \$6,460,000, the Pearce and Courtland Districts with \$21,000,000, The Tombstone with \$36,000,000 and the Warren District with \$742,000,000, so the Stanley or Starlight District is within a triangle of Districts which have produced many millions of dollars.

Recommendations

It would be advisable for the development to be done in two stages.

First stage, put the mine in shape for future development and production by:

Repairing road up Kelly Wash, cost approximately	\$	120.00
Buy two tent houses for crew at mine		150.00
Supplies for camp, stove, cots etc.		45.00
2000 feet of timber for tunnel		85.00
Labor for mine repair and supervision		800.00
Mine car and tools		<u>75.00</u>
		1,275.00

This will put the repair work through the first ~~big~~ 40 foot fracture zone and take the work up to the big 75 foot fractured zone 1900 feet in. It is assumed that this part of the tunnel is open, but should it be found that the timber should be replaced, add another \$800.00 to the above estimate. This should put the mine in shape for future development and production. The total outlay would be to this point, \$2,075.00.

Second Stage;

The first stage having been finished, and the mine shows justification of a mining plant, the following will be needed.

One additional tent house	\$	75.00
Compressor and engine		4,000.00
Machine drill and attachment		500.00
Building over the plant and shop attached		500.00
Freight and installing machinery		400.00
Air line to face of tunnel		600.00
Powder, caps, fuel oil, fuses etc		375.00
Storage tank for fuel oil		200.00
Capital for labor during development		<u>2,000.00</u>
		8,650.00

Grand total to this point 10,725.00

Conclusions

Although the Starlight is only a prospect in its present stage of development, but having produced ore to the amount of over \$22,000.00 and being in a formation, within a triangle of big producers, shows beyond question, the possibilities of orebodies being developed.

The orebodies can be traced over the full length of the property.

The geological features are similar to other large producing districts.

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The limestones are favorable for replacement, with the shale present to act as a dam, influencing the ascending mineral solutions to spread out and replace the limes and fractured zones.

The writer believes orebodies of commercial size and values will be developed and that the expenditure of the above amount of money is warranted, and that profits will be realized.

At present the writer has no interest in this property, but hopes to join with any operator.

Signed, A. C. Nebeker.

Engineer of Mines,

February 3, 1941.

The Starlight group of twelve patented mining claims is located in the northwest corner of Graham County Arizona, within a segregated portion of the San Carlos Indian Reservation. The rock formation in the area covering the property is composed of quartzite, mud shale, lime shale, and limestone, steeply uptilted, sheared and fractured by andesite and porphyry intrusives. Small amounts of iron in the form of silicious limonite occurs in the fracture zones and bedding planes of the lime and quartzite. There is no indication of replacement or shear zone enrichment.

The original discovery on the Starlight was made in 1886 when copper stained lead carbonate and galena was found in an iron-lime-barytes fault fracture breccia in one of the many north-south fracture zones in the limestone

The small amount of ore recovered occurred within narrow limits, as unconnected, small bunched in nodular form within the lime-barytes breccia and close to the surface. More than 800 feet of cuts, shafts and tunnels, most of which are still open and accessible, give evidence of how extensively and systematically the former operators searched for ore. The El Paso Smelter reports having received 82 tons of lead ore in varying lots in the years 1905-6 and it is very doubtful, judging from underground evidence and conditions whether the property ever produced more than this amount of ore in its history.

All supplies for the original Starlight operation, including rail, timber, tools, mine cars, water etc, etc, had to be packed in over a poor trail from the end of the road in Kelly Wash. Distance from supplies, trucking, packing etc, contributed to excessive mining costs and it can be safely assumed that \$30 per foot would be a reasonable estimate covering the cost of development.

Without any exception, all ore found on the Starlight was taken within fifty feet of the surface; An eighty foot winze sunk from tunnel level in the breccia directly below the stope where ore was mined found no ore. No ore was found in the mine drift underneath the stope. In spite of this unfavorable showing, the claims were patented and a 1900 foot crosscut tunnel driven that cut the Starlight fracture 400 feet below the old workings. At the point of contact with the fracture no ore was found. Drifts were run north and south and a winze sunk to a depth of more than 100 feet without result. A raise was then extended 85 feet following a faint chrysocolla copper stain. Not one ton of commercial ore was uncovered in all this exploratory work.

Many years after the property was abandoned by the original owners it was acquired by others through tax title proceedings and has been promoted repeatedly during the past quarter century. At least five different parties have been induced to supply capital to re-open the badly caved 1900 foot crosscut tunnel up to this date. The soft, heavy, finely broken shale requires large dimension first grade mine timbers, and both top and side spiling is necessary in driving through the caved sections of the tunnel. This is more costly by far than the original work.

According to records, surveys, etc. there has been performed a total of more than 3,000 feet of development work on the Starlight group. The cost of this, including overhead, must have reached the sum of at least one hundred thousand dollars. To this can be added another twenty five or thirty thousand dollars as the cost of the various promotion enterprises of re-opening the always caved crosscut tunnel.

Looking back over forty years of active mining experience, I will say without any reservation, that the Starlight is the least promising and the most badly misrepresented mining property I have ever seen or heard of.

Walter, S. Larssen
January 1943.

REPORT ON THE STARLIGHT MINE

January 31, 1941

Location:

The Starlight property is located on the South Boundary line of the San Carlos Indian Reservation, near the western side of Pima County, Arizona, in the Stanley Mining District, and is about 9 miles East of Coolidge Dam.

The property consists of 12 patented mining claims, containing approx. 200 acres. The patent survey No. is 2372, made Sept. 13 & 14, 1907, by Lamas Cobbs Jr. and recorded at Safford, the County seat of Pima County, Arizona

It is 21 miles from the rail road siding of Calva, Arizona.

Roads:

To reach the property one turns off the main highway U. S. #70, at Kelly Wash 15 miles west of Calva, or 8 miles East of Coolidge Dam, then up Kelly Wash for 6 miles, which brings one to the portal of the main tunnel. Highway No. 70 is a good oiled improved road. The road up Kelly Wash is rough and hard to maintain during flood season, but even as rough as it is now after years of no use, the writer went to the tunnel in a Ford Model A in 50 minutes going up the wash.

This road difficulty can be overcome by making a road up a ridge east of the wash which will have a gradual grade to the mine, and will cut off 5 miles to the railroad loading siding. After reaching the mine there would be some grading to do, to get down the hillside to reach the tunnel portal.

For the first few months of operation, the road up the wash can be used, and it appears that two men working a week could make a pretty fair road up the wash. The wash giving a good gradual grade all the way from the Highway to the Mine.

Climate:

I would estimate the elevation above sea level to be about 5000 feet, so the climate is a good all year climate for working purposes. The rain fall is just enough, so such trees as Junipers and Mesquite grow to a fair size.

Supplies:

Globe, Arizona is the closest town of any importance, and some mining supplies can be had there but from El Paso, Texas or Phoenix, Arizona mining supplies can be got on short notice.

Miners and other help are plentiful and can be had at the prevailing wages, which are now, miners \$5.05 per day, muckers \$4.95, timbermen same rate as miners.

Timber will cost at the mine approximately \$37.00 per M. for native timber, and for coast timber \$42.00 per M. all mine grade.

Freight:

Ore hauling from the mine to railroad siding \$1.00 per ton and from the railroad siding to El Paso Smelter \$3.00 per ton.

Camp:

There being no buildings at the mine and it being too far out for the men to live down at one of the towns, it will be necessary to build for the men, being a very mild climate tent houses can be used for all preliminary work.

Water:

For all mine purposes there is enough water flowing out of the tunnel. When it becomes necessary to sink below the tunnel level more water will more than likely be developed. If it becomes necessary to get water for milling operations, if the mine does not furnish enough water, a small dam can be put across the wash above the mine and plenty of run off water can be caught.

Geology:

The general geology is a series of sedimentaries, quartzites, shales, and limestones, which are heaved and fractured by Quartz Monzonites, or Quartz Granodiorites; and Quartz Porphyry intrusives. The formation stands at a dip of 65 degrees to 70 degrees from the horizontal and has a strike of N 45 degrees W.

These intrusives have caused great fracture zones of 40 to 70 feet across with cross minor fractures.

The fractured zones making channels of least resistance to the uprising mineralizing agencies are favorable points for the formation of ore bodies of either the replacement type, also at the intersection of these fractures are very favorable for large bodies of ore.

The shales being near the intrusives also act as a very effective dam to the uprising mineralizers, and are apt to cause the replacement of the limestone with ore.

The stopes where ores have already been taken out furnish evidence, which justifies the above conclusions.

One finds very similar conditions of formation and mineralization in Superior District, Bisbee District of Arizona, and Tintic District and Park City, Utah.

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The two tunnels upon the hill were driven to cut just below where the ores outcropped, and from the works in these tunnels

considerable ore was shipped, as one can see from the open stopes left. These stopes show where ore has been taken out for lengths of 30 to 60 feet, with widths up to 15 feet, and height up to 40 feet. The writer could not see what was left in the bottom on account of the loose muck. In these stopes one can see fractures leading out with mineralization which could lead to other ore bodies.

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		<u>1,275.00</u>

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Second Stage:

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	<u>8,650.00</u>
Grand total to this point	\$10,725.00

Conclusions:

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The writer believes ore bodies of commercial size and values will be developed and that the expenditure of the above amount of money is warranted, and that profits will be realized.

At present the writer has no interest in this property, but hopes to join with any operator.

(Signed)

A. C. Nebeker
Engineer of Mines
Feb. 3, 1941