

THE ADELAIDE MINE

Controlled by the estate of

THE GLASGOW & WESTERN EXPLORATION COMPANY, Ltd.

Joseph Ralph,  
416 Walker Bank Bdg.,  
Salt Lake City.

Introductory.

The Adelaide-Star Mines, Limited, is a subsidiary concern of The Glasgow & Western Exploration Company, Limited, all interests of which are now in liquidation.

The Adelaide property is situated about 12 miles in a southerly direction from the town of Golconda, Humbolt County, Nevada and consists of six patented and seven un-patented claims.

The following brief description of the Adelaide property is not extended with any aim whatever to the nature of a report. As attorney-in-fact for the Liquidator of the Glasgow & Western Exploration Company's interests the writer is occupying an interested position from the vendor's standpoint, and all that is aimed at is a brief covering of salient features so that, taking them at a face value, any interested party can intelligently determine whether to make detailed personal examination or not.

By reason of domestic conditions relating to estates interested in The Adelaide-Star Mines, Limited, it is extremely desirable to have all affairs relating thereto wound up and settled. In furtherance of which object an extremely moderate sale figure will be entertained.

Anyone visiting the Adelaide will find some conditions existing which, in justice to the property, merits a brief explanation, viz., the site of the old Golconda reduction plant and the dismantled narrow-gauge railroad bed which previously figured as the transport avenue between mine and smelter.

The Adelaide claim is on the extreme southern end of a patented group which covers a mineralized belt of about 6,000 feet strike distance. About twenty years ago extensive exploitation of a body of copper ore was prosecuted upon this claim. Subsequent history being that about 45,000 tons of 3% ore was extracted.



Experience demonstrated that the ore was refractory to ordinary processes of concentration. Failure from both technical and commercial standpoints therefore resulted from an indulgence in costly reduction plants and transport facilities before (a) the mine was sufficiently developed, and (b) experimenting with the metallurgical techniques after building the reduction plant instead of doing so previously.

Although worthless from any practical point of view the Golconda reduction plant was imposing in appearance from the standpoint of a county assessor. Furthermore: the insurance companies demanded that watchmen should be on the property day and night to insure validity of fire policies. In 1913, therefore, the plant in question was scrapped and sold.

The road from Golconda to the Adelaide mine is a good one of easy grade, and with the development of motor transport as now available it is a technical commonplace that, with a limited output, lacking any outside augmentation of revenue, such means is far more economical than the operation of a railway. And as wash-outs had seriously affected the roadbed, and the taxation authorities appear to consider a railroad a railroad whether operative or only representing two lines of dormant rails, the line in question was sold and the rails removed.

Although confessing to scant respect for those responsible for the fiasco of the Adelaide reduction plant at Golconda, the writer has only one object in sketching the foregoing brief history in this semi-public statement, viz., to explain a situation upon which evidences remain which will impel any investigator to ascertain for himself without proceeding very far in any serious examination.

In approaching the Adelaide property from a mining standpoint it is suggested that the following perspective should govern in a broad sense:- (a) Eliminate from purview the original Adelaide ore-body, and (b) consider the Road Side ore-body, with its contiguous characteristics - hereafter briefly described - as an individual entity from a mining standpoint.

The writer believes that if no graveyard of metallurgical plant existed at Golconda, nor any dismantled road-bed remained to connect it with the Adelaide property; and that if an investigator arrived at the mine finding only thereon the showing which now exists at the Road Side workings; and with no influences to dampen his interests from a historical standpoint, he would immediately conclude that the set of conditions open to his observation would justify his close attention.

#### G E O L O G Y.

The following geological description of the Adelaide property is from U.S. Geological Survey Bulletin 414 - 1909 - by F.L. Ransome, page 63.

The main shaft of the Adelaide mine, 300 feet deep, is situated the south side of Gold Run Creek, close to the site of the old settlement of Cumberland. The general country rock is dark calcareous slate, within which is a layer or series of beds of limestone from 50 to 75 feet in total thickness. This bed strikes north and dips 65 degrees east. This limestone layer carries the ore, which in some places occupies the full width from one slate wall to the other, although as a rule the zone contains horses of altered limestone that is nearly free from sulphides. The ore-body is undoubtedly large and has been extensively stoped above the 100 foot level for 400 feet without any indication of a diminution of size. Below this level, which is approximately at the bottom of the zone of partial oxidation, exploratory drifts have been run at vertical intervals of about 50 feet, revealing abundant ore. The bottom level was under water at the time of the visit.

The ore is a metasomatic replacement of the limestone and consists of pyrrhotite, chalcopyrite, spalerite, and a little galena, in a gang of garnet, vesuvianite, diopside, calcite, orthoclase, and a very little quartz. Common pyrrite is probably not altogether absent, although it does not appear in the specimens of ore collected. The presence of orthoclase is uncommon in this mineralogical association, but adularia has been noted by Spurr and Garry in the altered limestones of the Velardena contact zone. (Ore Deposits of the Velardena District, Mexico. Econ. Geology, vol. 3, 1908, page 708.)

At Adelaide the orthoclase is poikilitic and contains inclusions of vesuvianite, garnet, diopside and quartz. The ore is definitely bounded only where it is in contact with the slates. Elsewhere it merges gradually and irregularly



into limestone containing silicates but very little of the sulphide constituents. A banding of the limestone, due to alterations of silica and calcite layers, is common, particularly near the ore, and the bands in places are contorted and crumpled. As a whole the ore is of low grade, averaging about 3 per cent copper; but the quantity available appears to be large, and the difficulties in the way of its successful concentration and treatment will probably be soon overcome.

The present workings do not afford much evidence of secondary enrichment. The old stopes between the 100 foot level and the surface were in mixed sulphide and oxidized ore, but whether chalcocite was present in quantity is not known.

About 600 feet north of the main shaft, on the opposite side of the little creek, is a tunnel that runs north in the ore zone for 2,000 feet. For a distance of 500 or 600 feet from the portal the tunnel is in ore. Beyond this the limestone zone is generally lean or barren, although there are a few bunches of ore near the face, and some stopes above the tunnel were formerly worked from a now abandoned shaft on the hilltop.

A notable feature of the Adelaide ore bodies, in view of the fact that the nearest area of eruptive rock, ( mapped as granite on the Fortieth Parallel Survey map ), is fully a mile east of the mine, is their close correspondence to ores of typical contact-metamorphic deposits. The granite rock was not examined in 1908. For at least a quarter of a mile east of the mine the rocks are dark clay slates alternating with thin bedded limestones. All are much crumpled but maintain a generally east dip and are on the whole much less metamorphosed than the limestone beds in which they occur. It is probable that an intrusive mass underlies the sedimentary rocks at the Adelaide mine, and that the hot mineralizing solutions rose along what is now the ore zone, in consequence of favorable fissuring in this particular belt of limestone.

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#### ADELAIDE NEW WORKINGS.

The old Adelaide ore shoot had a dip of 30 degrees to the east and a pitch of 45 degrees to the north. The pitch continuity is undoubtedly faulted; on the dip the ore, - of this particular lens at any rate - was bottomed. Most probably the depression known as Gold Run Creek marks the location of one of the prime faulting factors, the situation and nature of which has considerable bearing upon conditions hereafter described.



On the north side of Gold Run Creek, and distant about 600 feet from the old Adelaide vertical shaft, ore was discovered identical in characteristics and physical relationship to the original exploited body, and over 2,000 feet of adit work was prosecuted from the point of discovery, the first few hundred feet of which was in ore, and is that to which Ransome refers.

The point of interest of this extensive lateral work lies in the fact that although the limestone belt is the undoubted major ore possibility, after following the strike of this belt for a little over 300 feet, the adit diverged about 20 degrees west and headed for a point where it was hoped to intersect what was known as the Peacock fissure, and which lay approximately 200 feet away from the footwall of the main limestone zone.

Altogether, from the point where the adit left the strike inclination of the limestone, over 1,000 feet of exploratory was done with the Peacock fissure as an object, and of which 1,000 feet of work none whatever contributed towards developing the possibility of the continuity of the ore body which was encountered in the first 300 feet of work.

In this exploration for the Peacock fissure various patches of ore were uncovered and exist for observation at this time, some of which are as much as 50 feet long, with width of from 2 to 5 feet, and assaying from 5 to 12 per cent copper.

After groping in this direction for a time the old management came back from the face a distance of about 300 feet, viz., about 725 feet from the portal and, with that line as base, cross-cutted easterly at an angle of about 115 degrees and drove with the object of intersecting at depth another ore body which had some considerable importance on the surface, and which was known as the East Side Workings. The result of which was that after driving about 200 feet the adit again re-entered the main limestone belt.



From the point at which the adit diverged from the strike of the limestone belt on its quest for the Peacock fissure, to the point where it again entered it, a strike distance along the limestone of over 500 feet is involved. And although the ore near the portal undoubtedly persists northerly from the point where the adit diverged, the 500 feet of ground above indicated remains today virgin territory.

The next point of interest is that when the adit drive re-entered the limestone, low but persistent copper value were encountered.

After re-penetrating the limestone about 150 feet the heading was turned to more approximate the strike of the formation, with the result that after thus driving about 100 feet the values became enhanced, the last 50 feet averaging 3 per cent copper, with the width not ascertained, and with the face still in ore. These are roughly the conditions encountered by the development work when a return to the acknowledged zone of mineralization was effected.

As regards the development of the ore body upon which the adit first entered the hillside the following is a brief description:-

Within a distance of about 200 feet four winzes were sunk upon the ore body, and a level connecting them together at about 50 feet in depth. One of these winzes was sunk vertically for a distance, a cross-cut run for about 35 feet, and then the 50 foot level connected with another short vertical lift. In this cross-cut 14 feet assays 3.5 per cent copper.

On the 50 foot level the ore varies in width from 2 to 15 feet, with copper values slightly over 3 per cent.

The 50 foot level is a little over 300 feet long. No ore is in either face, but, significantly enough ore is to be seen on the foot-wall side slightly back from one face and on the hanging-wall side close to the other extremity. The writer asserts that examination of existing conditions on this level leaves little room for doubt that properly

supervised work at these points would bring quick results. A metasomatic replacement, with silicification pronouncedly obscuring many of those characteristics by which the miner is prone to rely upon for his bearings, evidently imposed a situation not properly appreciated.

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#### SUMMARIZATION.

The Adelaide group has about 6,000 feet of ground along the strike of a belt of mineralized limestone.

The old Adelaide main shaft exploited a body of ore on the southly extremity of this belt, extracting about 45,000 tons of 3 per cent ore.

About 400 feet north of the old workings Gold Run Creek evidently marks a substantial faulting factor.

About 200 feet north of Gold Run Creek an open cut shows the existence of an ore body of large proportions with values and metallurgical complexion identical with the original Adelaide ore body.

From this point over 2,000 feet of adit work has been done, the first 300 of which follows the main limestone belt and is in ore.

300 feet from the portal of the adit the heading diverges from the mineralized limestone and heads for subsidiary considerations.

On a strike distance of the limestone of about 850 feet from the portal of the adit the adit again enters the limestone and encounters ore of similar value and characteristics as exposed near the portal.

The limestone belt is the admitted mineralized zone, yet, though ore is found to exist at the points where the adit originally followed it, and is again encountered where the work again re-enters that limestone, the belt in question remains largely virgin from an exploratory point of view.



The writer suggests that the foregoing represent conditions which merits serious consideration.

This is not a "report". All that has been aimed at in this brief "prospectus" is a summary of conditions, the object being simply sufficient of a description to enable any interested party to decide intelligently whether or not to examine for themselves.

"Ore in sight" represent an exposure on at least three sides. Under this stipulation the Adelaide new workings has no tonnage blocked out. But, with numerous faces of ore exposed, under such term as "probable ore" there is a substantial tonnage. As to the further refinement of "possible ore", the best formula the writer knows of is some footage of exploratory work intelligently supervised.

To anyone looking for a prospect worthy of attention this brief statement of conditions is submitted.

\* \* \* \* \*

Joseph Ralph, Assoc. Inst. M. M.,  
Attorney-in-Fact for the Liquidator,  
The Glasgow & Western Exploration Company, Limited,  
416 Walker Bank Building,  
Salt Lake City, Utah.



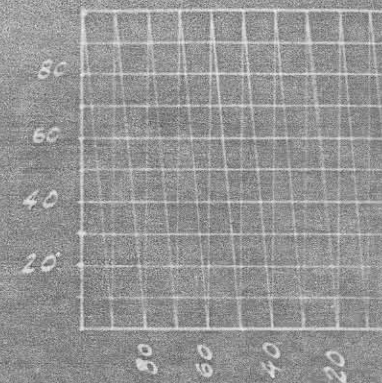
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EAST SIDE № 1790

1960  
 TOP OF CUT 2147  
 2146.0



EAST SIDE WORKINGS OF  
THE ADELAIDE MINE  
ADELAIDE STAR MINES, LTD.,  
SUBSIDIARY CONCERN OF  
THE GLASGOW & WESTERN EXPLORATION CO., LTD.  
(IN LIQUIDATION)  
HUMBOLDT COUNTY, NEVADA.  
SCALE: 60 FT. = 1 INCH.



6 4  
C  
1973?

6 4 (OLD)  
1964

PEACOCK No 1791.



PEACOCK № 1791





ROADSIDE TUNNEL  
FRACTION

A/L 5A







ADELAIDE STAR MAIL

SUBSIDIARY COPY

THE GLASGOW & WESTERN R.

(IN LIQUID)

GOLD RUN MINING DISTRICT

SCALE:- 300 F.



DELAIDE STAR MINES, LTD.

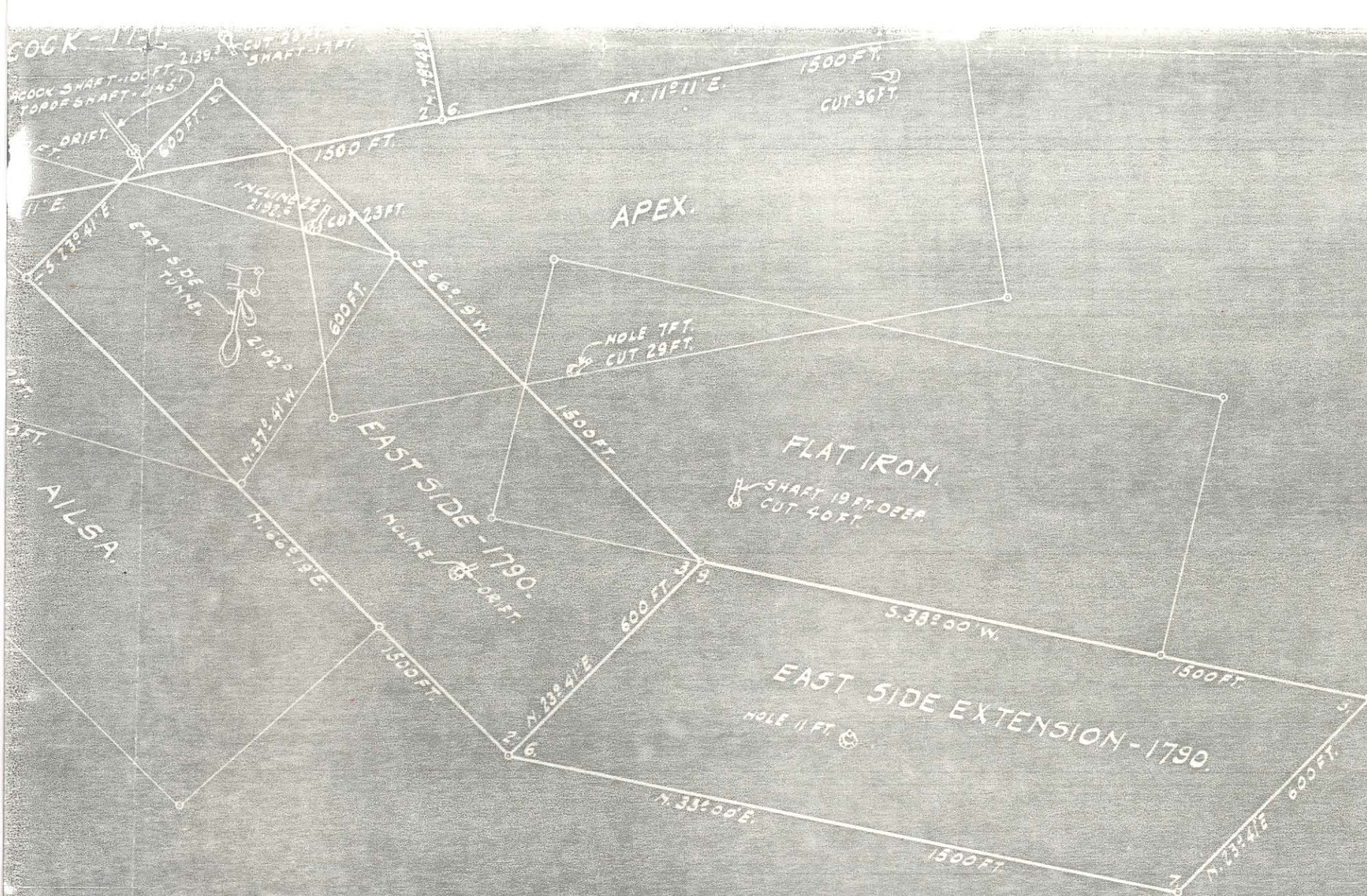
LOW & WESTERN EXPLORATION CO., LTD.

(IN LIQUIDATION)

MINING DISTRICT.      HUMBOLDT CO., NEVADA.

SCALE:- 300 FT. = 1 INCH.











APEX

2249.7

2

2229.7  
A2

2133.0

2179.9  
B2

LAOY HELEN INCLINE

500

400

300

200

100

0

20

40

60

HOLE 19 FT DEEP

F4  
2139.3

CUT

2148.1

FILLED  
WINZE  
WINZE

KAISE 46 FT  
DIE 1

R 12  
1976.3

R 11  
1974.7

R 10  
1972.3

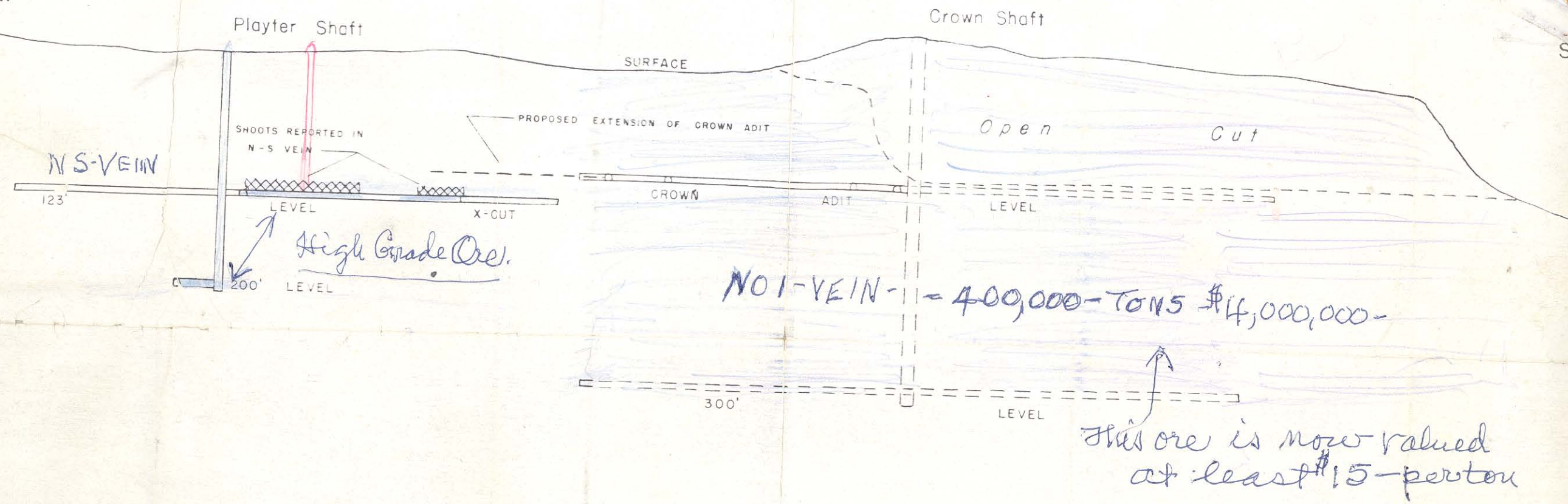
ORFANG

1

2200.0



North



LONGITUDINAL PROJECTION

PLAYTER - CROWN WORKINGS

LOOKING EAST

Scale: 1 Inch = 100 Feet

COMPILED FROM OLD MAPS

This ore is now valued  
at least \$15-per-ton

Please return



1212  
EXHIBIT V

DEPARTMENT OF THE INTERIOR  
UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

BULLETIN 414

NOTES ON SOME MINING DISTRICTS  
IN HUMBOLDT COUNTY, NEVADA

BY

FREDERICK LESLIE RANSOME



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1909



## SONOMA RANGE.

The Gold Run district, in which the most important property is the Adelaide mine, 11 miles nearly due south of Golconda, is on the east slope of the northern part of the Sonoma Range.<sup>a</sup> The rocks of this part of the range are generally similar to those of the Pahute and Humboldt ranges. No attempt was made in this reconnaissance to study their lithology or structure, except at the Adelaide mine, where they have been mapped as Star Peak Triassic by the geologists of the Fortieth Parallel Survey.

The district was organized in 1866. Development apparently was slow, for in 1870 the principal shaft, the Golconda, was only 80 feet deep. South of this were the Cumberland, 50 feet deep, and the Jefferson, with still shallower workings. There were some small mills in the district, and desultory attempts were made to work the partly oxidized ores up to about 1897, when the Glasgow and Western Exploration Company acquired the mines and 15 claims along the ore-bearing zone. This company built 12 miles of narrow-gage railway from Golconda to the mine and erected a smelter and concentrating mill at the junction of its road with the Southern Pacific Railroad. This plant, consisting of two roasting furnaces and three reverberatory smelting furnaces, with the ordinary arrangement of crushing and concentrating machinery, was operated for a time on ores from Battle Mountain and from Adelaide, and some matte was shipped. The process, however, proved unsuited to the Adelaide ore and was abandoned. A few years ago the mill was remodeled and 120 concentrating tubes of the Macquisten type were installed. An interesting description of this remarkable plant has been given by W. R. Ingalls,<sup>b</sup> and from this the reader may obtain some idea of the ingenuity, simplicity, and effectiveness of this novel process, in which the heavy sulphides are floated off while the gangue minerals sink. Some improvements in the first installation were in contemplation in 1908, and the mill was in use by Mr. Macquisten solely for experimental purpose. Its total capacity was given as 120 tons in twenty-four hours. It produced when in full operation a 20 per cent concentrate from 2.7 per cent copper ore, leaving about 0.2 per cent in the tailings. The weakest point in the process appears to be in the relatively low recovery from the slimes.

The main shaft of the Adelaide mine, 300 feet deep, is situated on the south side of Gold Run Creek, close to the site of the old settlement of Cumberland. The general country rock is dark calcareous slate, within which is a layer or series of beds of limestone from 50 to 75 feet in total thickness. This bed strikes north and dips 65° E.

<sup>a</sup> The Havallah Range of the Fortieth Parallel Survey reports.

<sup>b</sup> Concentration upside down: Eng. and Mtn. Jour., vol. 84, 1907, pp. 765-770.



This limestone layer carries the ore, which in some places occupies the full width from one slate wall to the other, although as a rule the zone contains horses of altered limestone that is nearly free from sulphides. The ore body is undoubtedly large and has been extensively stoped above the 100-foot level for 400 feet without any indication of a diminution in size. Below this level, which is approximately at the bottom of the zone of partial oxidation, exploratory drifts have been run at vertical intervals of about 50 feet, revealing abundant ore. The bottom level was under water at the time of visit.

The ore is a metasomatic replacement of the limestone and consists of pyrrhotite, chalcopyrite, sphalerite, and a little galena, in a gangue of garnet, vesuvianite, diopside, calcite, orthoclase, and a very little quartz. Common pyrite is probably not altogether absent, although it does not appear in the specimens of ore collected. The presence of orthoclase is uncommon in this mineralogic association, but adularia has been noted by Spurr and Garrey<sup>a</sup> in the altered limestones of the Velardeña contact zone. At Adelaide the orthoclase is poikilitic and contains inclusions of vesuvianite, garnet, diopside, and quartz. The ore is definitely bounded only where it is in contact with the slates. Elsewhere it merges gradually and irregularly into limestone containing silicates but very little of the sulphide constituents. A banding of the limestone, due to alternations of silicate and calcite layers, is common, particularly near the ore, and the bands in places are contorted and crumpled. As a whole the ore is of low grade, averaging about 3 per cent of copper; but the quantity available appears to be large, and the difficulties in the way of its successful concentration and treatment will probably soon be overcome.

The present workings do not afford much evidence of secondary enrichment. The old stopes between the 100-foot level and the surface were in mixed sulphide and oxidized ore, but whether chalcocite was present in quantity is not known.

About 600 feet north of the main shaft, on the opposite side of the little creek, is a tunnel that runs north in the ore zone for 2,000 feet. For a distance of 500 to 600 feet from the portal the tunnel is in ore. Beyond this the limestone zone is generally lean or barren, although there are a few bunches of ore near the face and some stopes above the tunnel were formerly worked from a now abandoned shaft on the hilltop.

A notable feature of the Adelaide ore bodies, in view of the fact that the nearest area of eruptive rock (mapped as granite on the Fortieth Parallel Survey map) is fully a mile east of the mine, is their close correspondence to ores of typical contact-metamorphic deposits. The granitic rock was not examined in 1908. For at least a quarter of a mile east of the mine the rocks are dark clay slates alternating

<sup>a</sup> Ore deposits of the Velardeña district, Mexico: *Econ. Geology*, vol. 3, 1908, p. 508.



with thin-bedded limestones. All are much crumpled but maintain a generally east dip and are on the whole much less metamorphosed than the limestone beds in which the ore occurs. It is probable that an intrusive mass underlies the sedimentary rocks at the Adelaide mine, and that the hot mineralizing solutions rose along what is now the ore zone, in consequence of favorable fissuring in this particular belt of limestone.

West of the mine the slopes, seen from a distance, show many outcrops suggestive of rhyolitic porphyries, which accord in general with the mapping of the higher part of the range by the geologists of the Fortieth Parallel Survey as Koipato Triassic. Within these a number of prospectors are developing veins that carry some gold and silver. None of these prospects was visited.

#### MINERALOGY OF THE ORE DEPOSITS.

*Introductory statement.*—For convenience of reference the minerals noted in the ores or closely associated with them are here given in alphabetic order, with brief notes on their occurrence. The list is obviously not an exhaustive one for the region, which contains many deposits not visited.

*Amphibole.*—A fibrous mineral, not certainly identified, but closely resembling tremolite, occurs with epidote, vesuvianite, garnet, and sulphides in the metamorphosed calcareous rocks at Coppercid. A similar fibrous mineral was noted in some of the altered limestone at the Ryepatch mine.

*Annabergite.*—A bright-green, hydrous nickel arsenate, probably annabergite, is an important constituent of the ore of the Nickel mine in Cottonwood Canyon, west of Boyer post-office.

*Argentite.*—Sulphide of silver has been found in shallow workings in rhyolite at Rosebud, associated with kaolinite, limonite, and jarosite. Presumably it was present also in some of the rich silver ores mined in former days near the surface in the Humboldt Range. A specimen of ore seen in Unionville and said to have come from the Arizona mine apparently contains argentite.

*Arsenopyrite.*—The sulpharsenide of iron was noted only in material on the dump of the Auld Lang Syne mine, near Chafey, associated with pyrite and quartz.

*Axinite.*—Axinite, a complex borosilicate of calcium, aluminum, and other bases, occurs in the altered calcareous shales of the Coppercid contact zone.

*Azurite.*—The blue hydrous copper carbonate is nowhere abundant in the region examined, but is present in small quantity in the Red Butte copper district and at the Lovelock cobalt-nickel mine, in Cottonwood Canyon.



THE ADELAIDE SILVER MINES CORPORATION CROWN MINE, NEVADA

The following is an appraisal of the Crown Mine, owned by the Adelaide Silver Mines Corporation, resulting from a study of the reports and maps of the property which are available.

The property consists of 21 unpatented mining claims, located in the Gold Run (Adelaide) Mining District, Humboldt County, Nevada, in Secs. 13 and 24, T. 34N., R.39E and Secs. 18 and 19, T.34N., R.40 E.M.D.M.

The town of Golconda, which is 16 miles east of Winnemucca, on the Southern Pacific Railroad, is 14 miles north of the mine and is connected with it by 14 miles of road, 12 miles of which are graded. The climate is moderate and the road can be kept open all year. Elevations range from 5600 to 6000 feet above sea level.

There is no timber on the property and there is little surface water, but the lower level of the mine yielded sufficient water in the past to operate a 500-ton mill and satisfy the camp and mine plant requirements. A 12,000 volt transmission line of the Sierra Pacific Power Company serves the property.

If the mine had not been forced to close in 1942 by U.S. Defense Order L208, it would probably be in operation today as sufficient exploration and development work had been done to prove the existence of ore shoots of commercial value in those vein structures which have been partly explored.

Mr. Roy A. Hardy, who acquired the property in 1934, built and operated an all-slime cyanide mill during the latter part of 1940, all of 1941 and until it was forced to suspend operations by Defense Order L208 in 1942. Rather than leave the mill idle to deteriorate, Mr. Hardy sold it and it was dismantled. During the almost two years of operation, the mill feed consisted of over 80,000 tons of \$6.50 silver-gold ore won by open-cut mining with power shovel and trucks in the N-S Crown vein and south of the 300-foot Crown incline shaft.



The first exploratory work was done by a Mr. Playter who sank a 200-foot vertical shaft. A 300-foot drift along the vein on the 123-foot level exposed an ore shoot 100 feet long, averaging \$19.00 per ton and a second shoot 40 feet long averaging \$10.00. These shoots were not developed as Mr. Playter sold the property to the Hammond Company of California which sank the 300-foot Crown incline shaft and drifted in ore along the Crown vein on the 125 and 300-foot levels for distances of 300 feet north and south of the shaft.

The Hammond Company also sank a shaft on Recovery Hill where the No.2 vein outcrops. This vein is the best mineralized and strongest structure found thus far on the property. Above the 150-foot level an ore shoot measuring 150 feet in length and 20 feet wide was developed and stoped to the surface. It is estimated that 15,000 tons of ore were won from this shoot averaging about \$15.00 per ton, with silver at \$1.29 per troy ounce and gold at \$35.00 per troy ounce.

In July 1965, Mr.C.C.Doyle, E.M. examined the property for the Adelaide Silver Mining Corporation which purchased the property from Mr. Hardy. Mr. Doyle's description of the ore bodies is as follows, quote: "The largest ore body on the property is in the No.2 vein which is well developed in the Adit Tunnel to the South under Recovery Hill. The same ore body continues on the surface going North under Crown Hill and cutting diagonally across No.1 Vein in Layson Canyon. Here it shows splendid ore for a width of over 30 feet and continues to outcrop just west of the No.1 Vein and on up under the crest of Crown Hill. It's strike is N.15°W and dip 50 to 75° West. Number 1 Vein strikes N 5° E and dips 65° W, making an angle of 20 degrees with Vein No.1. Number 2 Vein continues South beyond Recovery Hill for a total length of over 3,000 feet, cutting diagonally across Edith No.1 and Edith No.2 claims. Here it shows close to 1000 feet of



good ore averaging 8 feet wide and continues across the flat to the South an unknown distance where it is covered by deep overburden. Where it has soft, non-reactive wall rocks the vein is narrow and low grade but with hard, competent reactive wall rock, it widens and richens."

"On the Edith No.1 and Edith No.2 there are a number of vein crossings at which the ore becomes markedly richer and wider;"

The Hammond Company suspended the exploratory work during the depression of 1929 and sold the property to Dean Jay A. Carpenter of the University of Nevada School of Mines. Dean Carpenter did little or no work but held the property until 1934 when he sold the property to Mr. Roy A. Hardy. As has been stated, Mr. Hardy built a mill and mined the 25 to 40-foot width of ore at and south of the Crown Shaft down to the 125-foot level. This type of mining undoubtedly occasioned considerable dilution but yielded sufficiently high mill heads to make an economic operation.

The geology of the region is favorable for the existence of well mineralized structures. Two principal formations outcrop in the property: The Preble formation of Cambrian age is the older and consists of shales and some interbedded limestones. An upper thrust plate of probable Ordovician age consisting of chert, dark silicious argillite and slate, andesite, limestone and quartzite is called the Sonoma Range formation. The mineralizing gases and solutions probably originated in a granodiorite intrusive of Tertiary age, which outcrops about one mile south of the property and may underlie the property at relatively shallow depths.


There are several vein systems striking from North 25° West to North 15° East, dipping from 50° W. to near vertical. The veins contain ore shoots in quartz and silicified shear zones and can be traced in outcrop for more than 4000 feet.

All Engineers and Geologists, such as A.M. Howat,



Consulting Engineer to the Hammond Company; William A. Green, Consulting Mining Geologist and Instructor of Mining Engineering at the College of Mines, University of Idaho and Mr. C.C. Doyle, E.M. are unanimous in the opinion that the Crown Mine lies in an area of significant potential, and that the existence of ore shoots of commercial value having been already demonstrated, on and near the surface, indicates the probability that rich ore will be found below the ground-water level. Mr. Doyle calculates that work done to date in the No. 2 Vein has indicated 175,000 tons of \$25 ore having a value of \$4.0 millions.

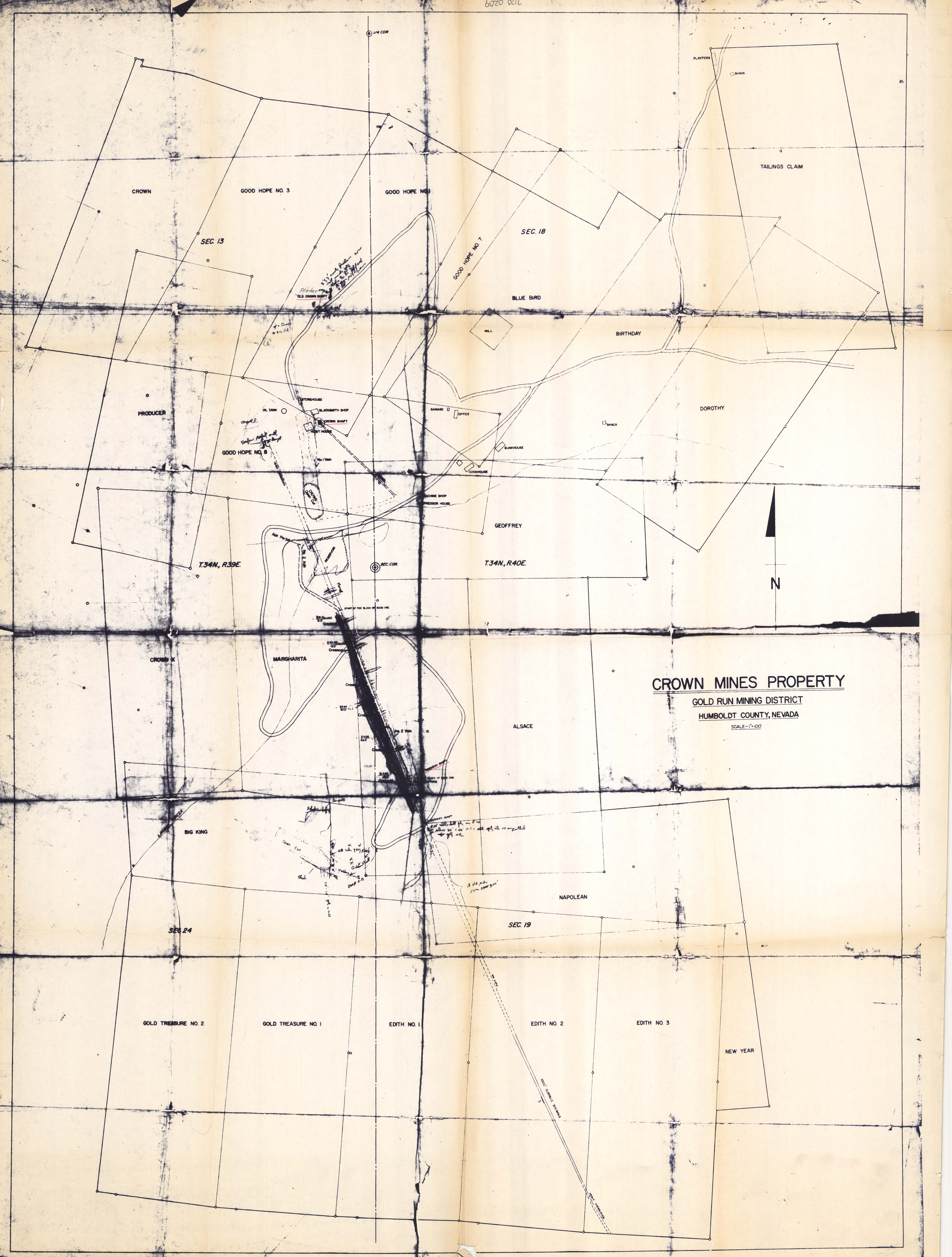
From a study of all available reports and data an opinion can be expressed that the Crown Mine has a strong potential of developing into an important silver-gold producer.

  
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Raoul G. Bergman, E.M.

Cherry Hill, New Jersey.  
November 1971.



6020 027



**CROWN MINES PROPERTY**  
GOLD RUN MINING DISTRICT  
HUMBOLDT COUNTY, NEVADA  
SCALE - 1" = 100'