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H. J. BERGMANN, P. ENG.
MINING ENGINEER

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MONTREAL 28

REPORT

ON

BONANZA KING MINE

PERSHING COUNTY, NEVADA

Montreal, Que. June 14, 1965.

C O N T E N T S

LIST OF MAPS

H. J. BERGMANN
MINING ENGINEER

REPORT

ON

BONANZA KING MINE

PERSHING COUNTY, NEVADA

The Bonanza King Mine, now under option to Coastal Mining Ltd., is a former gold-silver producer in the State of Nevada that operated intermittently in the latter part of the 1800's and finally closed in 1910. At the time the mine closed it had been developed by a shaft and drifting to a depth of 300 feet but no ore had been mined below the 225 foot level.

There are no production figures available from the mine but this would be relatively small as the tonnage mined would only amount to about 60 tons per vertical foot and recoveries were poor. However, the data available on the development underground indicate the ore was high grade, possibly forty to fifty dollars per ton at present prices. In addition, there are chances of finding additional ore both along strike and at depth.

The ore consists of a quartz fissure vein varying

H. J. BERGMANN
MINING ENGINEER

from 3 to 5 feet in width containing free gold, pyrite, galena and minor amounts of sphalerite and argentiferous tetrahedrite.

On the 225 and 300 foot levels there is a reported length of 250 feet of ore and this butts up against faults at either end. Previous efforts to locate the faulted extensions have been unsuccessful.

Further exploration in the form of surface diamond drilling is recommended to check the ore zone above and below the 300 foot level and along strike. If the results of this work substantiate the grade and tonnage reported, a feasibility study should be made on re-opening the underground workings and possible construction of a mill. The ore appears to be sufficiently high grade that production on a small scale could still be a profitable operation.

The estimated cost of the initial program of exploration is as follows:

Diamond Drilling, inclusing supervision	$20,000.00
Claim acquisition	5,000.00
Total:	$25,000.00

H. J. BERGMANN
MINING ENGINEER

At the completion of this program, a decision could be made as to the next stage of development with estimated costs.

Respectfully submitted,

Montreal, Que.
June 14, 1965.

H.J. Bergmann, P. Eng.

H. J. BERGMANN
MINING ENGINEER

CERTIFICATE OF QUALIFICATION

I, H.J. Bergmann, of the City of Montreal, in the Province of Quebec, hereby certify:

1. That I am a Consulting Mining Engineer and reside at 3518 Vendome Ave., Montreal, Que.

2. That I am a registered Professional Engineer of the Provinces of Ontario and Quebec.

3. That I am a graduate of the University of Alberta and hold a Bachelor of Science degree in Mining Engineering.

4. That I have been practicing my profession as a Mining Engineer since 1938 and during the past twelve years as a Consulting Engineer.

5. That I have no interest, either direct or indirect, in the property of Coastal Mining Ltd. and do not expect to receive, either directly or indirectly, any interest in the property or securities of the Company.

6. That the accompanying report is based on a personal examination and a study of all data available on the property.

Dated at Montreal this 14th day of June, 1965.

H.J. Bergmann, P. Eng.

H. J. BERGMANN
MINING ENGINEER

REPORT

ON

BONANZA KING MINE

PERSHING COUNTY, NEVADA

INTRODUCTION

Coastal Mining Ltd. have obtained an option to purchase a gold-silver property referred to as the Bonanza King Mine, in the State of Nevada. Nevada has been referred to as the silver State and rightly so as production of both silver and gold was booming from the 1890's to about 1910. However, since that time most of the mines have been closed and only minor lease operations have been carried out.

On several visits to Nevada to examine mining properties, the writer has been impressed with the dormant mining potential in the State. It is the writer's opinion that with present day methods of exploration and mining technology that many of these dormant mines can be brought into profitable production.

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An investigation of the Bonanza King Mine shows this to come under the above category. It is necessary to use old records for an assessment of the property as a visit to the mine shows all buildings destroyed and the shaft and workings inaccessible. However, it can be seen from the open cut visible and the small dumps remaining on surface that a substantial tonnage of ore was taken from the mine.

The following report covers a description of the Bonanza King Mine and this report is almost entirely based on records available on the property and Bureau of Mines publications. Most of the data on which the report is based are presently in the writer's possession and are available. A list of references used is attached to this report. The most informative is a report by Lawrence A. Woodworth, Mining Engineer, Berkeley, California, dated February 1934. The Bureau of Mines Reports are out of print and data taken from these reports were obtained from Mr. Horton, Mining Engineer, Bureau of Mines, State of Nevada, Reno, Nevada, and the University of Nevada, also at Reno.

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PROPERTY AND LOCATION

The Bonanza King Mine is located on the eastern side of the Humboldt Range in Section 36, Township 29N, Range 34E, Spring Valley District, Pershing County, Nevada.

It is situated between two "Ghost Towns" that were in existence during the silver boom at the turn of the century. These were Unionville (1861) and Rochester (1911) and are shown on the accompanying location map. The road from Mill City on Highway 40 to the property is still in good condition.

The property of Bananza King in existence now consists of one patented claim, No. 1799, which covers 20 acres and is registered under the name of Madison M. Wakever. At the time of operation the mine included six claims with a total acreage of 123. The outline of the mining claim is shown on Plate 2 accompanying this report. The dimensions of the patented claim are 600 feet by 1,473 feet with the shaft located approximately in the centre of the claim.

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ACCESSIBILITY AND FACILITIES

The property is readily accessible as the old road is still in good shape and can be used by automobile. This road extends south from Mill City, a distance of thirty miles. Mill City is located on highway 40 which goes from Reno to Winnemucca.

The elevation at the mine site is approximately 5,000 feet above sea level and it is situated almost on the east flank of a north trending ridge of mountains referred to as the Humboldt Range that rise to an elevation of 9,000 feet above sea level.

Water is available from Spring Valley Creek near the old mill site which is a distance of about 2,000 feet from the shaft. It is particularly fortunate as water is a scarce commodity in Nevada. Any immediate power requirements would be supplied by a diesel-electric plant but it would not be too costly to bring a power line into the property.

HISTORY

The history of the area is legendary as it was a very prolific producer of both gold and silver. Gold

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and silver were discovered in the Humboldt Range in 1860 which was followed by a period of great activity. A great many mines sprang up along the east side of the mountains and a map recently published by the Nevada Bureau of Mines on silver occurrences shows that the centres of Unionville and Rochester each produced between 10 million and 100 million ounces of silver. No compilation is available on the gold production. By the early 1900's most of the mines were closed and very little work has been done since that time.

Immediately north of the Bonanza King in Spring Valley Canyon there was a large placer operation and likewise in the low ground to the south. It is not known how much gold was recovered from these placers but it is estimated in the millions of dollars.

The Bonanza King Mine was first located in 1868 as the Eagle Mine. It later became known as the Bonanza King Mine and in 1874 the Company erected a 15 stamp mill. This failed in 1875 and work was carried on intermittently until it was purchased by the Humboldt King Mining Company.

There apprently are no records available of

production prior to 1905 and since that time only a few notes have been found. It would appear that most of the work from 1905 to the closing of the mine was confined to development with only spasmodic production. Bulletin 414 of the United States Geological Survey,(1909) refers to the Bonanza King as the only lode mine of importance and that it shipped ore to San Francisco as early as 1884 and milled the lower grades at Mill City.

Mr. J.T. Lilly was placed in charge in 1905 but due to lack of capital and a shortage of coal they were never successful in getting the mine back into production. More underground development was carried out and by reading correspondence and reports at that time it is obvious some very good grade ore was developed but was never mined. The 300 foot level was developed in 1909 but the mine was closed in 1910.

The mine was leased in 1914 but before the lessees got started World War I broke out and the lease was abandoned. Another lease was granted in 1919 but due to difficulties they were only able to unwater the workings down to the 225 level and finally abandoned the work.

The present owner of the claim is V.B. Makeever of Winthrop, Mass.

To the writer's knowledge from reading all the old reports, there has not been any further work carried out on the property. Apparently no mining has been done since Mr. Lilly closed down the mine in 1910 and the ore in place is just as he left it.

GEOLOGY

The geology is almost entirely taken from early reports as a visit to the property gave only limited information in this regard. The discovery was made from an outcrop of the vein but this has been entirely mined out from the surface down to a depth of about 175 feet. There are no other outcrops visible but rock types can be examined on the dumps but ore samples are very difficult to find as the dumps have been picked over carefully during the years.

The various reports give a description of the geology of the mine which is summarized below:

The orebody is a contact fissure vein of banded quartz that follows the north contact of an altered

dioritic dyke which is about 45 feet wide. This diorite was referred to as "Brown porphyry" by the miners. The dyke and the ore strike N 60 W and dip 82 degrees to the south.

The diorite dyke cut what is referred to as the Koipato formation of Lower Triassic age and this formation underlies the general area of the mine. In the vicinity of the mine the Koipato formation is represented by a porphyritic rhyolite and this forms the wall rock of the dyke.

The vein of banded quartz is found at or near the north side of the dyke and is generally within the diorite. The width of the vein is variable and various reports differ on the average width. U.S.G.S. Bulletin 414 notes that the old stopes are 5 to 6 feet wide and some places on the 125 foot level they are 8 feet wide. Mr. Woodworth gives an average width of 3 feet. Mr. Lilly states it varied from 10 feet to 1 foot, with an average of about 5 feet. Examination of the open cut suggests an average width of 5 feet on that portion visible.

The portion outcropping and mined by means of an

open cut had a length of 150 feet and this length of ore is increased to 250 feet on the 225 foot level. Post-ore faults have displaced the vein in several places. The faults strike northeast and dip about 50 degrees to the east and always displace the ore to the north. The maximum displacement by any of these faults is about 35 feet. There are three prominent faults of this nature reported, referred to as No. 1, 2, and 3. Fault No. 1 bounds the ore on the west; fault No. 2 divides the orebody into two sections with a displacement of 20 feet to the north, while fault No. 3 terminates the known ore on the east. Since the faults dip to the east, the ore zone migrates in this direction at depth. The ore shoot on the 300 foot level was found 50 feet east of the shaft while the vein outcropped on surface some 200 feet west of the shaft. Plate 3 is a diagrammatic east-west section showing the relation of the faults to the orebody.

The ore consists of free gold pyrite, galena, and minor amounts of sphalerite in a gangue of milky translucent quartz and carbonate. In the richer sections the ore also contains argentiferous tetrahedrite.

From all reports, assay plans, etc. the grade of ore was quite high with a varying ratio of gold to silver. Sampling by Woodworth and Lilly show values for gold in the ounces while silver values are reported as high as 400 ounces. At the time of these reports, gold was selling at $20.00 per ounce and silver at 0.25-0.50 per ounce. There are numerous references to samples, most of which are high grade but they are too voluminous to reproduce here and it would be difficult to arrive at an average grade for the ore. Mr. Woodworth's report shows assay plans prepared from some of this data which indicate a very good grade of ore at present prices for gold and silver.

MINERAL DEPOSITS AND THEIR DEVELOPMENT

The original ore shoot on the surface was mined by an open cut to a depth of about 175 feet. At present the mine has been developed by means of a shaft to a depth of 325 feet with levels at 150, 175, 225 and 300 feet from the surface (See Plate 3). The workings are all flooded and are in no way accessible at this time. A brief description of the development and mining on each

level follows as taken from the old reports. The level plans are shown on Plate 4 attached to this report.

150 LEVEL

The development on this level was limited to a short section east of the shaft as the ore west of the shaft had been mined in the open cut. The ore east of the shaft was very limited but it exists below the level as shown in the stoping. The south contact of the dyke was explored from this level but no ore was found.

175 LEVEL

Development on this level is all east of the shaft and a good grade shoot between No. 2 and No. 3 fault was developed for a length of about 70 feet. This apparently has been mined out.

225 LEVEL

The development on the 225 level was almost entirely in ore and according to Mr. Lilly the ore extends from 20 feet west of the shaft to 232 feet east of the shaft for a total of 252 feet. It is cut off at either end by faults and apparently the ore is full width

up to the fault indicating that it has probably been displaced and not terminated.

The extreme west end of the ore shoot gave low values as the ore is apparently broken in stringers but the most easterly 200 feet shows very good values ranging from 0.16 to 2.44 ozs. in gold and from 0.96 to 34.32 ozs. silver. Mr. Lilly reports an average width of 3 feet for the vein on this level.

In addition to the main vein on this level, an ore shoot 80 feet long and ranging in width from 1 to 7 feet was found in the north wall. This consisted of large boulders or kidneys of high grade running parallel to the main vein. It was only developed 35 feet above the level but definitely goes below the level. It is a different type of ore and a carload shipped to the smelter is reported to have averaged $65.53 per ton at $20.00 gold and about 0.50 silver.

Most of the ore above the 225 level has been stoped but there are good possibilities of locating the ore to the east and west of the faults. All ore below this level is still in place. Mr. Lilly reports that

one thousand tons of ore was stoped from this part of the mine and the vein showed up well in the stopes but there was poor recovery in the mill.

300 LEVEL

Considerable development was carried out on this level as shown on Plate 4. The shaft passed into the footwall of the No. 1 fault and the drift east of the shaft picked up the ore about 50 feet east of the shaft. The length of ore discovered here was reported as 250 feet from the No. 1 fault to the No. 3 fault and the average width was three feet. Mr. Lilly reports the vein as being strong and the values higher on this level.

Drifting was carried out west of No. 1 fault and east of No. 3 fault in an attempt to locate the ore extension but this was not successful. The north ore zone located on the 225 foot level was not found on this level and it must either lie further north or does not extend to this depth.

No stoping was carried out on the 300 level and thus all ore developed is still in place between the 225 and 300 foot levels.

On the writer's visit to the property another opening on surface was noted about 200 feet east of the shaft. There does not appear to be any reference to this in the old reports or maps. It is on the knoll of a hill at a higher elevation than the shaft and obviously was sunk from surface as there is a rock dump present containing some quartz-carbonate. A grab sample of hand picked material from this dump assayed 0.03 ozs. gold and 19.1 ozs. silver per ton.

It is apparent that this work is in no way connected with the underground workings as there is no development this far east above the 225 foot level. The presence of values in the dump suggest the possibility of locating another ore shoot in this area.

ORE RESERVES

Since the ore is developed on the 225 and 300 foot levels there is a definite block of ore existing which, although not proven in the technical sense, can be classed as pretty definite. The writer hesitates to estimate an average grade for the ore but there is no doubt it can be classed as ore at our present prices. Mr. Woodworth in

his report dated 1934 and Mr. Lilly in a report dated 1933 have made calculations of ore reserves and grade and it is interesting to make a comparison of their figures.

BLOCK OF ORE

(Woodworth)	Tonnage	Grade (dollar)	Gross value
225 - 300 Level	1,960	33.00	$64,800.00
North Vein	257	22.50	5,800.00
Above 175 Level	54	43.00	1,840.00
Between 175-225	No estimate		
Broken ore above 175	100	35.60	3,560.00
Below 300 Level	7,000	30.00	210,000.00
TOTALS:	9,371	30.52	286,000.00

(Lilly)			
225 - 300 Level	4,688	23.10	108,292.00
North Vein	933	21.67	20,218.11
Above 175 Level	No estimate		
Between 175 - 225	2,125	21.67	46,048.75
Broken Ore above 175	No estimate		
Below 300 Level	6,250	21.67	135,437.50
TOTALS:	13,996	22.14	309,996.36

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A few comments are in order in regard to the discrepancies between these two estimates. The greatest variation is in the estimate from the 225 to 300 foot levels and the discrepancy is due to the fact that Mr. Woodworth allows only 40 feet of ore on the 300 foot level compared to 250 feet given by Mr. Lilly. Mr. Woodworth arrived at his length from "a series of assays found at the mine furnish data regarding the ore of this level." On the other hand, Mr. Lilly states quite definitely there was 250 feet of ore on the level and he was in charge at the mine when the development was carried out. The writer is of the opinion that Mr. Woodworth is overly conservative in eliminating the ore length because records were not available.

The estimate of 2,125 tons between the 175 and 225 levels made by Mr. Lilly must be based on his experience as there are no records available to substantiate this block of ore which was classed as probable ore. The estimates below the 300 foot level are based on probable extension of the ore and must be classed as possible ore.

It should be pointed out that the dollar grades

quoted above are based on a price of $20.00 per ounce for gold and 0.25 per ounce for silver. Present prices would come to almost double this grade so it would seem reasonable to assume a grade of between $40.00 and $50.00 per ton at present prices.

Other possibilities include lateral extensions beyond the present faults using diamond drilling. There are also possibilities of locating the extension of the North Vein.

METALLURGY

One of the difficulties in the early operations was in the milling as very poor recoveries were obtained. Although no tests have been carried out on the ore, it seems likely that present day metallurgy could obtain recoveries up to 90%. Some combination of amalgamation, flotation and cyanidation should prove successful. On such a small operation it might prove more economical to carry out amalgamation and flotation and ship the concentrate to a smelter providing good recoveries can be obtained. Otherwise amalgamation followed by cyanidation would probably be the answer.

H. J. BERGMANN
MINING ENGINEER

CONCLUSIONS AND RECOMMENDATIONS

From all the data available it is apparent that the Bonanza King Mine contains a limited tonnage of high grade ore developed down to the 300 foot level. The gross value of this ore at present prices is probably between $150,000.00 and $300,000.00. In addition, it is estimated that there should be at least another 6,000 tons below the 300 foot level valued at approximately $350,000.00 and the orebody is wide open in this direction.

The ore is by no means delimited and there should be good chances of locating additional ore to the east and west as well as at depth by the use of diamond drilling. It should be mentioned that the property has never been drilled.

On the basis of these results, further exploration is recommended in an effort to locate sufficient ore to justify the construction of a mill. The ore is sufficiently high grade that production on a small scale could still be a profitable operation.

A program of surface diamond drilling is recommended to investigate the ore zone between the 225 and 300 foot

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level and below the 300 foot level. If the drilling substantiates the grade and tonnage estimates consideration should be given to re-opening the underground workings.

The one claim presently included in the Bonanza King Mine is limited in extent and it is recommended that adjacent ground be acquired as protection. The claim covers the strike for a length of 1,470 feet and the boundary is approximately 500 feet east of the present workings. The apex law is in force in Nevada and thus there is no need of protection down dip to the south but it is quite important to obtain additional ground to the east and west.

The estimated cost of the initial program of exploration is as follows:

Diamond Drilling, including Supervision	-	$20,000.00
Claim Acquisition		5,000.00
TOTAL:		$25,000.00

At the completion of this program a decision could be made as to the next stage of development with estimated costs.

Respectfully submitted,

Montreal, Que.
June 14, 1965.

H.J. Bergmann, P. Eng.

H. J. BERGMANN
MINING ENGINEER

REFERENCES:

1. Report on the Humboldt King Mine, by Lawrence A. Woodworth*, Mining Engineer, Feb. 1934.

2. Geology of Bonanza King Mine, Nevada Economic Geology, Vol. 34, 1939.

3. "Notes on Some Mining Districts in Humboldt County, Nevada", Bulletin 414, published by United States Geological Survey, 1909.

4. Report on the Properties of the Humboldt King Mining Company, by J.T. Lilly, March 15, 1908.

5. Report on the Properties of the Humboldt King Mining Company, by J.T. Lilly, Jan. 23, 1933.

6. Assay Sheet Certificate, March 21, 1908, by L.C. Tyler, Assayer.

*See attached letter showing qualifications.

F 8

LAWRENCE A. WOODWORTH
MINING ENGINEER
2237 CARLTON STREET
BERKELEY, CALIFORNIA

January 19, 1934

Mr. M. M. Makeever
Makeever Brothers
262 Washington Street
Boston, Massachusetts

Dear Mr. Makeever:

I have your letter of January 8 regarding a report on the Bonanza King Mine. I am in a position to make a comprehensive report on this property which will cost $125.00, and I will send you two copies as per my letter of January 24, 1933.

If you desire to have this report made, I would be very glad to do the work providing that you send me $50.00 to cover the cost of materials, drafting, photography, stenographic work, etc. The work will require about two weeks time, and I will send you the report Parcel Post collect for the balance of the $125.00.

You asked me something about my experience and training, so I will submit the following data:

Graduate of the University of California, where I studied Civil and Mining Engineering. Since graduation, I have held every job in a mine from mucker to superintendent. I was assistant General Manager of the Samson Magnesite Mine, Superintendent of the Buckeye Mine, Superintendent of the Humboldt King Mine, Mining Engineer for the A. G. Suydam Company, Reorganized United Mines Company, and others. I was employed by the Geological Departments of the Associated Oil, Pacific Oil and Standard Oil Companies, and I am now a Consulting Mining Engineer.

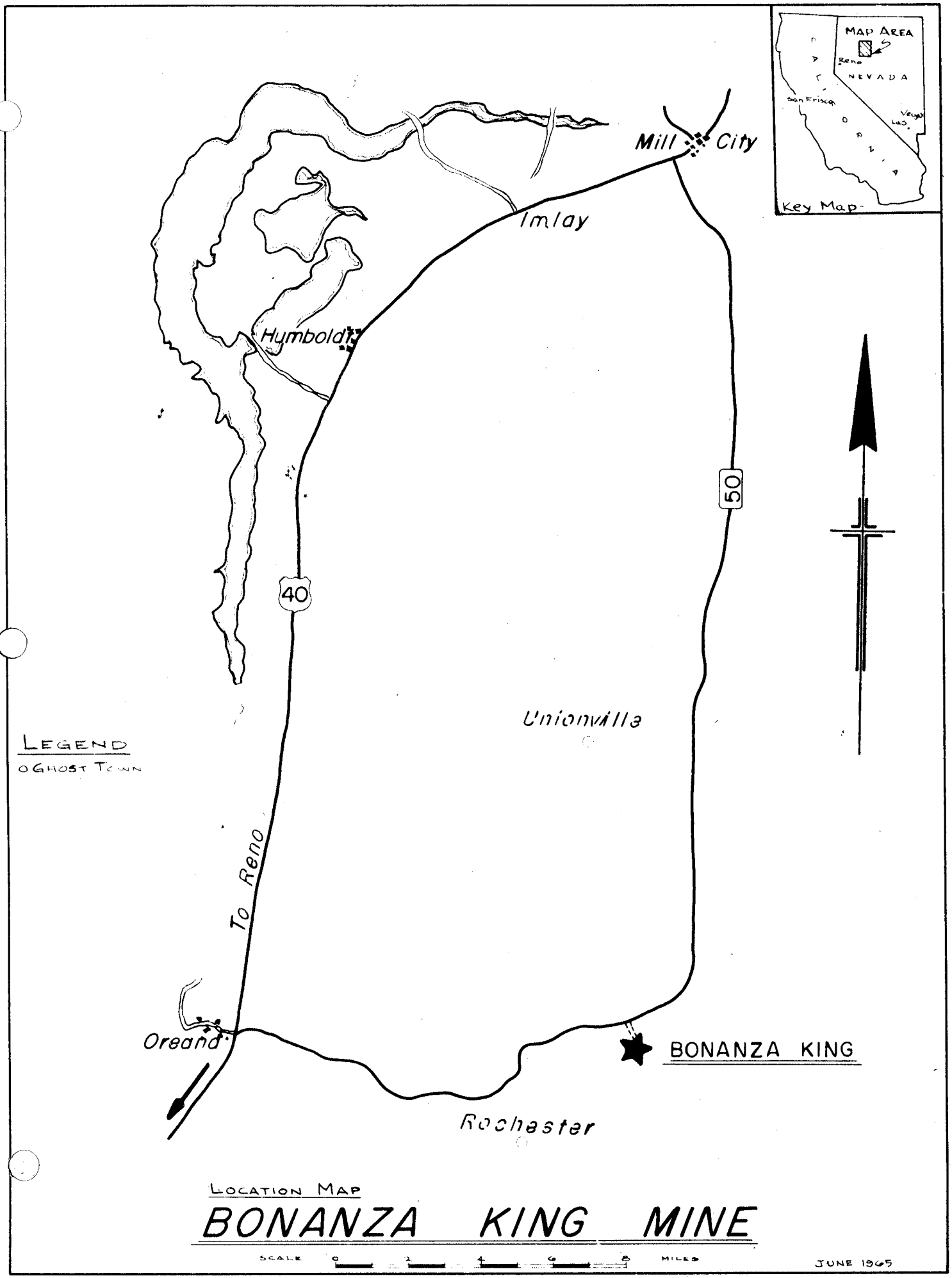
Hoping to hear from you relative to the report on the Bonanza King Mine, I am

Very truly yours,
Lawrence A Woodworth

LAW:F

JAN 24 1934

(4)



LOCATION MAP

BONANZA KING MINE

SCALE 0 2 4 6 8 MILES

JUNE 1965

PLATE I

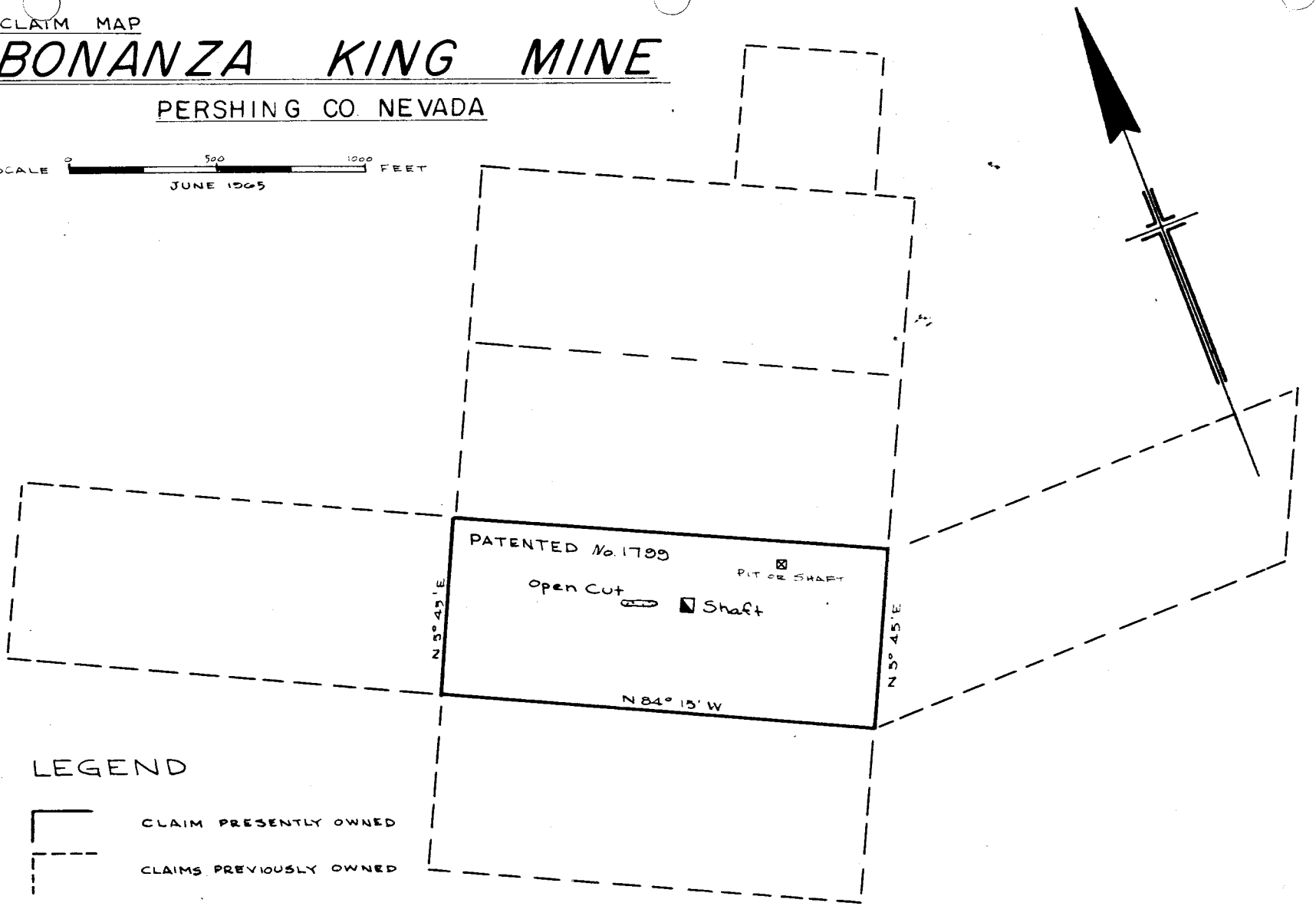
CLAIM MAP

BONANZA KING MINE

PERSHING CO. NEVADA

SCALE 0 500 1000 FEET

JUNE 1965



LEGEND

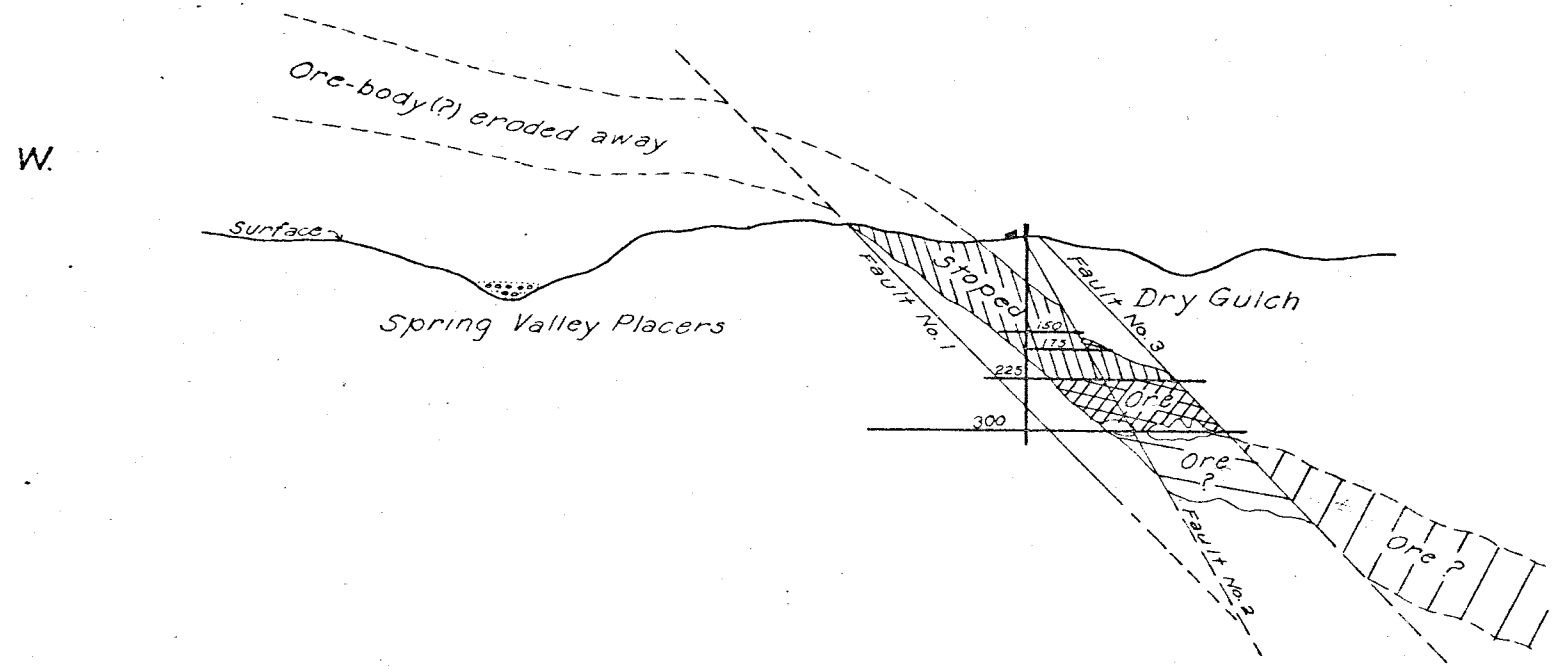
CLAIM PRESENTLY OWNED

CLAIMS PREVIOUSLY OWNED

PLATE 2

HUMBOLDT KING MINE
DIAGRAMMATIC SECTION

Figure No. 1.



Laurence A. Woodworth
Mining Engineer

PLATE 3

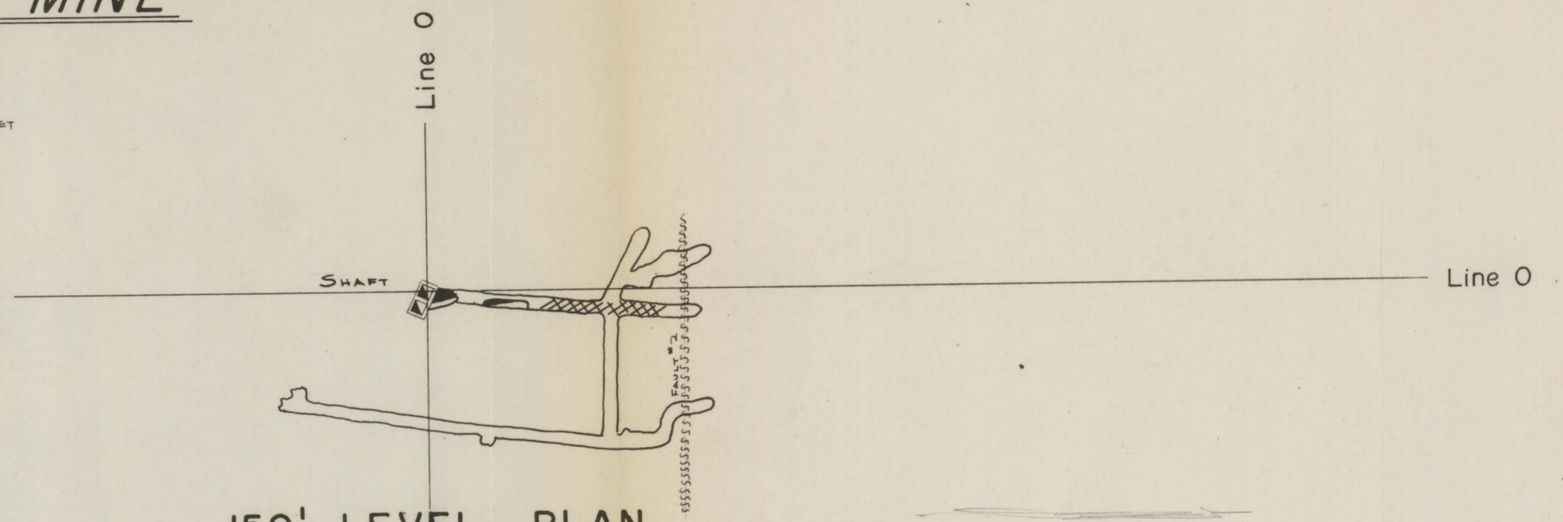
LEVEL PLANS

BONANZA KING MINE

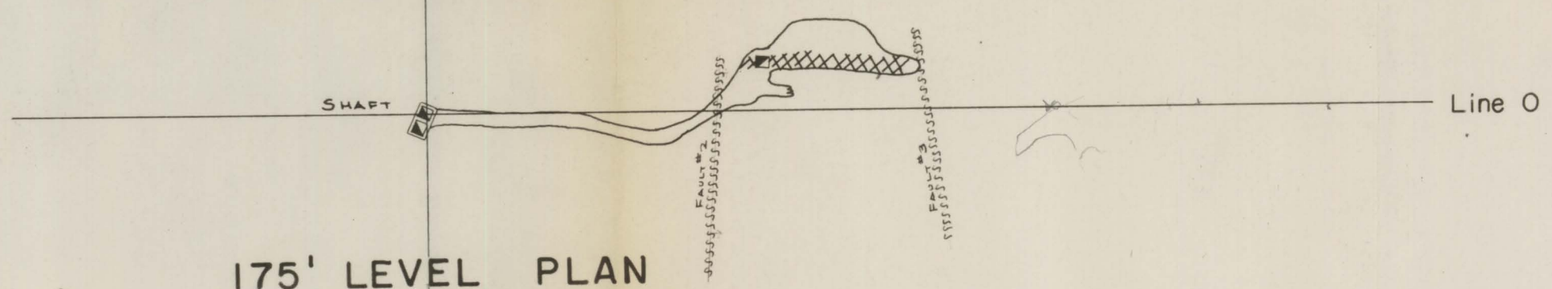
PERSHING CO. NEVADA

SCALE 0 50 100 FEET

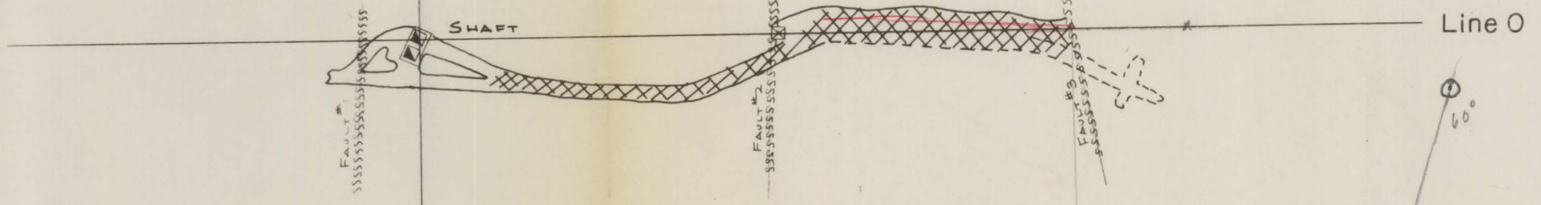
JUNE 1965



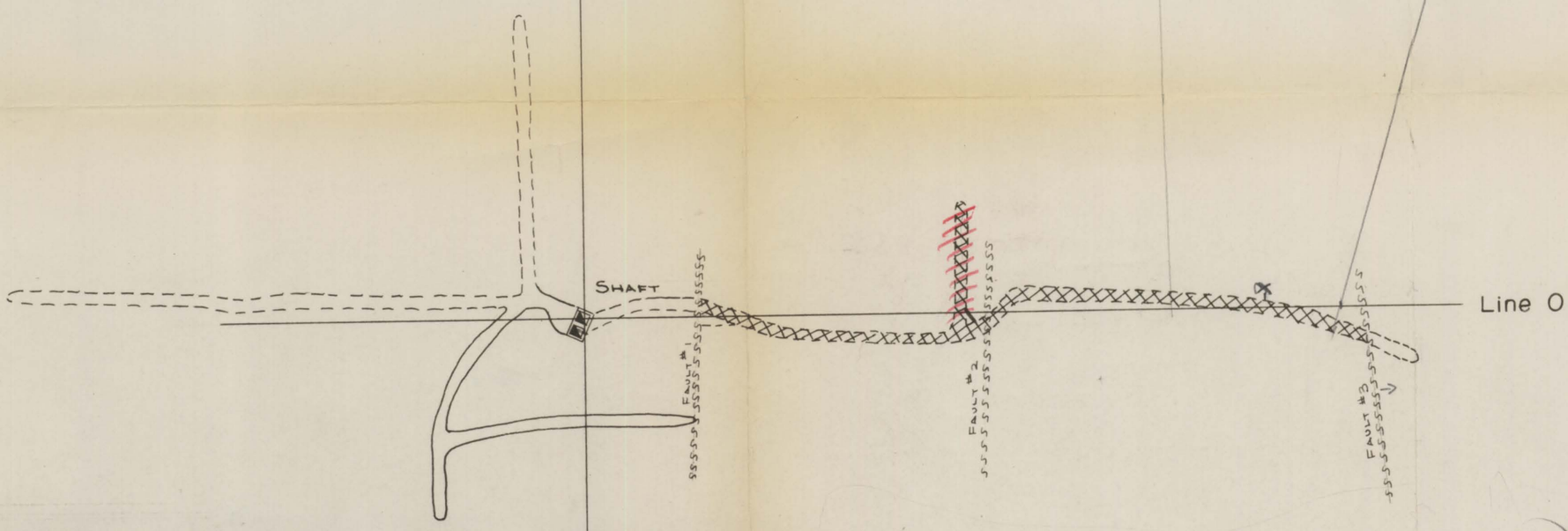
150' LEVEL PLAN



175' LEVEL PLAN



225' LEVEL PLAN



300' LEVEL PLAN

LEGEND

ORE SECTIONS

DRAWN from PLANS prepared by L.A. WOODWORTH

4570 0014 PLATE 4

1" = 100'
~300' level

REPORT

ON

BONANZA KING MINE

[redacted] COUNTY, NEVADA

Montreal, Que. June 14, 1963.

REPORT

ON

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PERSHING COUNTY, NEVADA

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On the 225 and 300 foot levels there is a reported length of 250 feet of ore and this butts up against faults at either end. Previous efforts to locate the faulted extensions have been unsuccessful.

Further exploration in the form of surface diamond drilling is recommended to check the ore zone above and below the 300 foot level and along strike. If the results of this work substantiate the grade and tonnage reported, a feasibility study should be made on re-opening the underground workings and possible construction of a mill. The ore appears to be sufficiently high grade that production on a small scale could still be a profitable operation.

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Respectfully submitted,

Montreal, Que.
June 14, 1965.

H.J. Bergmann, P. Eng.

CERTIFICATE OF QUALIFICATION

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1. That I am a Consulting Mining Engineer and reside at 3518 Vendome Ave., Montreal, Que.

2. That I am a registered Professional Engineer of the Provinces of Ontario and Quebec.

3. That I am a graduate of the University of Alberta and hold a Bachelor of Science degree in Mining Engineering.

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6. That the accompanying report is based on a personal examination and a study of all data available on the property.

Dated at Montreal this 14th day of June, 1965.

H.J. Bergmann, P. Eng.