UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

February 29, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 1965, Rowley or Reliance Mine, Painted Rock Mining District, Maricopa County, Arizona (denial of exploration assistance)

Enclosed please find the original and one copy of DMA Form 3b, a copy of the Final Report, and a copy of the denial letter sent to the applicant. These pertain to Jack Rowley Hedrick's application for exploration assistance at his Rowley Mine, Painted Rock Mining District, Maricopa County, Arizona.

J. H. Ernst, Jr.

A. H. Koschmann

Enclosures

cc: WRStorms w/copy of final report
CAAnderson w/copy of final report
AHKoschmann w/copy of final report
Mining Div. w/copy of final report
DMA Final Report

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

February 29, 1952

Memorandum

To: DMA Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 1965, Rowley or Reliance Mine, Painted Rock Mining District, Maricopa County, Arizona

Enclosed herein are the original and 7 copies of the section on Summary, Conclusions, and Recommendations by the Geological Survey and the Bureau of Mines. Also enclosed are the original and 7 copies of the Engineering Report by the Bureau of Mines. These have reference to the application submitted by Jack Rowley Fedrick for exploration assistance at the Rowley Mine, Painted Rock District, Maricopa County, Arizona, estimated to cost $15,000.

We concur with the recommendations of the examining engineer that the application be denied.

W. H. King

W. H. King

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

February 1, 1952

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 1965, Rowley Mine (J. R. Fedrick), Maricopa County, Arizona (Copper-Lead-Molybdenum)

Enclosed are the original and 7 copies of the geologic report by J. A. MacKallor of the U. S. Geological Survey covering the above docket.

It has been recommended that the loan be denied.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (8)

Arizona-New Mexico Branch
[redacted]
Box 4097
University Station

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

MINING DIVISION
REGION IV

Mining Division
Date Rec'd.
JAN 28 1952
BUREAU OF MINES
Tucson, Arizona
Denver, Colorado

January 24, 1952

Memorandum

To : Wm. H. King, Denver, Colorado

From : Chief, Arizona-New Mexico Branch

Subject : Final Report, DMA Docket 1965X, Fedrick's Rowley or Reliance Copper Mine, Painted Rock District, Maricopa County, Ariz.

Enclosed are original and 7 copies of the section on Summary, Conclusions and Recommendations by M. J. Elsing and W. T. Griswold of the Bureau of Mines, and J. A. MacKallor of the Geological Survey, and the section on Engineering by Elsing and Griswold. A section on Geology will be submitted by the Survey.

This report has my approval.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC: W. H. King (7)
C. A. Anderson
DMA 1965X
DF

FOR VICTORY
BUY
UNITED STATES SAVINGS BONDS AND STAMPS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P.O.Box 4126, University Station
Tucson, Arizona

January 28, 1952

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, DMA 1965, Rowley Mine (J. R. Fedrick), Maricopa County, Arizona (Copper-Lead-Molybdenum)

Enclosed are the original and 7 copies of the above report by J. A. MacKallor of the Geological Survey.

This report and the recommendation that an exploration loan be denied for lack of geologic potentiality of discovering ore have my approval.

A. F. Shride

A. F. Shride
Acting District Supervisor
Arizona-New Mexico

Enclosures 8

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-1965X, Fedrick's Rowley or Reliance Copper Mine

Painted Rock District, Maricopa County, Ariz.

M. J. Elsing, Consulting Mining Engineer
U. S. Bureau of Mines

W. T. Griswold, Mining Engineer
U. S. Bureau of Mines

Jules A. MacKallor, Geologist
U. S. Geological Survey

January 1952

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

M. J. Elsing[1], W. T. Griswold[2], and Jules A. MacKallor[3]

The Acting Administrator of the Defense Mineral Exploration Administration requested the DMEA Field Team, Region IV, to make an examination and report on the feasibility of a loan for the exploration of the Rowley or Reliance mine, in the Painted Rock District, Maricopa County, Ariz. M. J. Elsing and W. T. Griswold examined the property Jan. 8 and 9, 1952, accompanied by Jules A. MacKallor of the Geological Survey. Jack Rowley Fedrick, the applicant, accompanied the examiners to the property on the first of their 2-day visit.

The applicant wishes to drill 3 diamond drill holes to explore the extension of the Rowley vein at additional depth. He originally estimated that the 3 holes would total 3,000 feet and would cost $5.00 per foot for a total of $15,000. He is prepared to pay one-half of this cost if such a project is approved by the Defense Minerals Exploration Administration. Since the applicant made his estimate of the cost of drilling, the contractor advanced his price to $7.00 per foot. The examiners estimate that supervision, travel expense of supervisor, assaying, and indirect costs will add $1.50 per foot of hole making a total cost of $8.50 per foot.

1/ M. J. Elsing, Consulting Mining Engineer, U. S. Bureau of Mines, Arizona-New Mexico Branch
2/ W. T. Griswold, Mining Engineer, U. S. Bureau of Mines, Arizona-New Mexico Branch
3/ Jules A. MacKallor, U. S. Geological Survey

The examiners also believe that the vein is steeper than calculated and that the depth of holes should be estimated at 1,100 feet instead of 1,000 feet. Therefore, the total cost of drilling will be considerably more than originally estimated by the applicant.

The mine is approximately 27 miles west and north of Gila Bend from which it is easily accessible. Half the distance is over good to fair graveled roads with no appreciable grade.

The Rowley vein is in andesite and is traceable for some 4,000 feet in length. Both walls of the vein are andesite. The dip is 50 degrees to the east. It is a fissure vein. Approximately 800 feet of the fissure shows mineralization on the surface. The balance is barren. Mineralization consists of 2 parts. A hanging wall vein consists of barite which contains small amounts of cerussite and wulfenite with an occasional piece of galena an inch or two in diameter. The footwall part of the vein consists of iron-stained, silicified andesite varying from quartz to jasper. The footwall vein contains streaks, stringers, and masses of chrysocolla. There is also some disseminated malachite, and occasionally a rather high-grade piece of malachite can be found. Chalcocite is reported but none was observed. The footwall copper vein was reported to be 10 feet wide but it was the opinion of the examiners that it would not average more than 5 feet as indicated by the work on the 125-foot level which is 370 feet long.

The hanging wall barite vein is 40 feet wide in places. In general the lead and molybdenum mineralization is near the contact with the copper vein. There is no evidence that lead and molybdenum will be of economic importance as the MoO_3 content is less than 1 percent, with lead values erratic, and average values low.

The deposit has been developed by a main inclined shaft 265 feet deep, an inclined shaft 125 feet deep, and a vertical shaft 163 feet deep. Water stands in the main inclined shaft just below the 125-foot level. This level is easily accessible by climbing down the shaft.

The mine is reported to have produced 1 small car of 15 percent copper ore. Judging from what was seen in the shaft and on the 125-foot level, this is surprising although not impossible. The high-grade ore shipped was probably sorted from some 8,000 to 10,000 tons of vein-matter broken and hoisted in development work.

At one time the company operated a small mill comprising two tables and a Frue vanner. Wulfenite in barite was treated in the mill and it is reported that about 30 tons of concentrates averaging 18.26 percent MoO_3 were shipped. The tailing dump presently contains some 2,000 tons.

Assay maps of the mine show that the copper vein on the 125-foot level averages less than 1 percent copper and less than 1 ounce silver. The barite vein assays less than 1 percent MoO_3.

The first important development work was done in 1909 by the Rowley Copper Mines Co. In 1922 the company got into financial difficulties and was succeeded by the Reliance Mining Co. This company did

not last long and the property was taken over by the bond holders. After having spent some $200,000 or $300,000 it was decided to join with the San Carlos Mining Co., which owned some 20 unpatented mining claims surrounding the Rowley, in an attempt to sell or option both properties.

In 1923 the properties were optioned to W. G. Rice of Superior and Boston Mining Co. The engineer, C. W. Botsford, recommended the diamond drilling of 5 or 6 holes from 400 to 800 feet deep. Two of these holes are known to have been drilled and there is surface evidence that three additional holes were drilled. The option finally was dropped. Between 1926 and 1929 three of the large copper companies showed some interest in doing exploration work at the Rowley. These companies were the United Verde Copper Co., the New Cornelia Copper Co., and the United Verde Extension Mining Co. The owners of the Rowley and San Carlos properties could not make mutually satisfactory agreements with any of these companies for the exploration of their properties. With the exception of assessment work on the San Carlos no work has been done on either of these properties since 1923.

The report made for New Cornelia by Arthur Houle, Nov. 17, 1927, is available. He recommended that three 1,000-foot holes be drilled to explore the vein in depth. He thought there were sufficient indications to warrant the belief that a small high-grade secondarily-enriched copper ore body, 10 feet wide and 650 feet long, would be found.

The main consideration of the examiners was to study the evidence in the shaft, on the 125-foot level, and on the dumps, which might have a bearing on whether secondary enrichment could be expected at greater depth.

Because of the lack of iron gossans, vugs, cavities, and other evidence which indicates the leaching of a primary copper deposit, the examiners are of the unanimous opinion that secondary enrichment will not exist at greater depth. They believe that the chrysocolla and malachite occur in more or less uniform amounts down the shaft from the surface to the 125-foot level and that the grade of the material is approximately the grade of the primary ore. They believe that the original copper content of the vein has been oxidized in place. They believe that the oxidized portion of the vein averages less than 1 percent copper and that the primary ore will average less than 1 percent copper and that there will be no zone of secondary enrichment between the oxide and sulfide zones.

The examiners think that the evidence to warrant this opinion is very definite and certain, and it is for this reason that they recommend that a loan for any further exploration of this property be denied.

ROWLEY MINE
(J. R. FEDRICK)
MARICOPA COUNTY, ARIZONA

DMA 1965

COPPER-LEAD-MOLYBDENUM

Geology

By Jules A. MacKallor
Geologist, U. S. Geological Survey

ROWLEY MINE
(J. R. FEDRICK)
MARICOPA COUNTY, ARIZONA

DMA 1965

COPPER-LEAD-MOLYBDENUM

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INTRODUCTION AND ACKNOWLEDGMENTS

On January 8-9, 1952, Morris J. Elzing and William T. Griswold, U. S. Bureau of Mines, and Jules A. MacKallor, U. S. Geological Survey, examined the Rowley or Reliance Mine, subject of Docket DMA 1965, to determine whether or not the property warranted exploration for copper, molybdenum, and lead.

The owner, Jack R. Fedrick, accompanied the examining team and was most helpful.

GENERAL GEOLOGIC SETTING

The Rowley claims, about twenty-five miles west of Gila Bend, Maricopa County, Arizona, are located on the western edge of the Painted Rock Mountains. These mountains consist of a series of nearly flat-lying Tertiary flows that are completely surrounded by Quaternary alluvium.

The Painted Rock Mountains are typical of the many small ranges of southwestern Arizona. Most of the mountains in this region consist of Tertiary or Quaternary flows, but a few are of pre-Cambrian schist and granite of various ages. Exclusive of Tertiary and Quaternary conglomerates and alluvium, only a few small, isolated patches of sedimentary rocks crop out in southwestern Arizona.

The rock exposed by the mine workings and the outcrops around the mine are andesite.

The Rowley Mine is the only mine or prospect in or near the Painted Rock Mountains.

DESCRIPTION OF THE DEPOSIT

The workings of the Rowley Mine have explored the upper part of a mineralized shoot of the Rowley vein that strikes N. 30° W. and dips 50° E. "Shoot," as used in this report and in the application, represents a great thickening of the vein, not a richer portion of the vein. It is estimated that the shoot has a strike length of 650 feet. The shoot includes both barite and quartz veins as described below. There are no other shoots along the strike of the vein.

A vein comprised of barite, quartz, malachite, and chrysocolla crop out along a strike length of 800 feet in the vicinity of the main shaft. The Rowley vein at the San Carlos shaft, about 1500 feet south of the mine, consists of two feet of barite. About one thousand feet northwest of the mine and along the projected strike of the vein, the writer saw a strong fracture, barren of minerals, that appeared to be a continuation of the structure along which the vein occurs.

The main shaft is located on the footwall of a twenty foot wide outcrop of vein material and follows the dip of the vein. The exposures in the shaft and on the 125 feet level show that the shoot consists of two distinct types of veins: one characterized by quartz, the other by barite. The former contains small amounts of copper, the latter small amounts of lead. A sharp contact separates the quartz and barite portions of the shoot. In the remainder of this report, the quartz portion of the shoot is called the quartz vein; the barite portion is called the barite vein. These veins strike N. 30° W and dip 50° E.

The quartz vein maintains a fairly uniform width of about five feet and lies against the footwall of the shoot. The footwall

contains no gouge or breccia. Quartz and a minor amount of jasper comprise most of the vein material.

The quartz vein evidently contained little pyrite or other iron-bearing minerals. A small amount of specularite occurs in the vein. Some of the quartz is rust-colored, caused by small amounts of hematite and limonite, both as inclusions and stains. Most of the iron probably came from the andesite as the andesite has weathered to a rusty color in many places. After searching for some time, the writer found two or three isolated pseudomorphs of pyrite.

The quartz vein is massive; nowhere is it brecciated or greatly fractured. There is no gossan, leached zone, or boxwork of limonite in or near the quartz vein.

Several persistent, concordant bands of malachite and chrysocolla, 1" to 2½" thick, lie within the quartz vein. A few widely-spaced, tight fractures cut the quartz vein and extend a few feet into the footwall of andesite. Where these fractures intersect the bands of copper oxides, narrow stringers of the oxides extend along the fractures toward and into the andesite for a maximum distance of three feet. The copper oxides in the bands and stringers were the only copper minerals seen in the Rowley mine. However, Houle[1] reported that the shoot locally contained small pockets of high-grade oxide copper ore. He also reported finding a very small amount of chalcocite.

The barite vein occupies the hanging wall side of the shoot and varies from about fifteen to about thirty feet in thickness. The

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1/ Houle, Arthur, Private Report dated November 17, 1927.

footwall of the barite vein has a sharp, regular contact with the quartz vein. The hanging wall of the barite vein is very irregular, thereby accounting for the variable thickness of the vein. A four inch thickness of gouge separates the barite from a three to four foot zone of fractured and slightly brecciated andesite. That part of the barite vein within ten feet of the hanging wall contains some inclusions of andesite. The barite usually occurs as masses of stringers parallel to the strike of the vein. However, in many cases the stringers are contorted and even bend through an arc of 180°.

Galena is associated with the barite. The writer saw only one small pod, about 5 inches in diameter, of galena. Houle[2] reports that pods of galena were mined. Anglesite and cerussite are probably present but were not observed. A small amount of calcite is present in the barite vein.

Molybdenum-bearing minerals are present in both the quartz and the barite veins near their contact. Molybdite forms a thin, partial coating on the sides of the main shaft from the surface to a depth of fifty feet. At a greater depth, small stringers of minute wulfenite crystals are present in the shaft. Some of the stringers cut through the narrow bands of malachite and chrysocolla. On the 125 foot level of the mine, wulfenite occurs in patches and stringers of minute crystals and in nests of large crystals along small fractures. A specimen containing a few crystals of vanadinite in association with wulfenite was found on the dump.

The workings below the 125-foot level were flooded. According

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2/ Houle, Arthur, op. cit.

to Gohring[3], the quartz vein is about the same, but the barite vein appears to be slightly narrower in the 260-foot level than in the higher levels.

According to Houle[4], records of two diamond drill holes 260 and 375 feet east of the main shaft showed that the shoot was intersected at a depth of approximately 260 and 340 feet below the elevation of the shaft collar. These figures indicate that the dip of the shoot decreases below the deepest mine workings. (The numbers designating the levels are the incline, not the vertical distances below the collar of the main shaft.) The examining team saw field evidence that three additional holes were drilled about 600 feet east of the main shaft, but there is no record of these holes.

3/ Gohring, W. B., Private Report dated May 17, 1923.

4/ Houle, Arthur, op. cit.

PRODUCTION AND GRADE

The reader is referred to the engineering report for a description of the mine workings. The total production during the entire operation of the mine consisted of one carload (an estimated thirty tons) of 15% copper and thirty tons of wulfenite concentrates that assayed 18.26% MoO_3.

Assays Quoted from Houle[5]

No.	Location or Description	Width	Au	Ag	Cu	Pb	MoO_3
1.	Face N.Drift,100' level, main shaft	4.5'	Tr.	0.85 oz. /ton	0.85		
2.	15' S. of sample 1	?	Tr.	0.86	0.75		
3.	Selected sample of rich kidney	?			15.		
4.	Powder magazine	15'	Tr.	0.98	0.95		
5.	N.stope of Jobe shaft	?	Tr.	0.78	0.11	0.88	0.57
6.	S.stope of Jobe shaft	?	Tr.	0.82	0.10	4.50	1.01
7.	Jobe shaft,just above water level in barite zone	8'	Tr.	0.62	0.07	2.69	0.35
8.	45' N.of Jobe shaft on 125' level,in barite zone	?	Tr.	1.76		7.80	1.28

The writer believes that the first four samples were taken in the quartz vein and the last four were taken in the barite vein.

From the assays, the production record, and examination of the mine, it is evident that the oxidized part of the quartz vein averages slightly less than one percent copper, a trace of gold, and less than one oz. of silver per ton. The high-grade pods are not abundant enough to be mined separately.

5/ Houle, Arthur, op. cit.

The writer believes that samples 6, 7, and 8 were taken across high grade pods of galena in the barite vein and do not represent the average grade. However, it is possible that the barite vein contains a few percent of lead in the form of cerussite and anglesite, but these minerals were not seen.

The most optimistic interpretation of the assays is that the barite vein will average between three and four percent lead. More likely the barite vein contains less than one percent lead. A considerable portion of the lead is in the mineral wulfenite and would not be recovered. The small amounts of gold, silver, and molybdenum are of no economic importance.

GEOLOGIC POSSIBILITIES

The oxidized portions of the barite and the quartz veins are too low grade to be exploited. The only possibility of developing any ore from the Rowley mine is for the shoot to get richer at depth.

There is no reason to expect the primary mineralization to change grade at any depth that would be reached by drilling. The geology of the area does not suggest a favorable target such as the intersection of a fault or a favorable bed with the shoot.

There is no possibility of an enriched secondary zone of copper. The almost complete lack of limonite, pyrite, fractures, and leached cavities indicates that there was not much migration of copper or other metals from the oxidized portion of the shoot to a reducing zone. In the absence of sulfuric acid, the primary copper sulfides oxidized in place to malachite and chrysocolla.

ORE RESERVES

The Rowley Mine contains no measured, indicated, or inferred ore of either shipping or milling grade.

CONCLUSIONS AND RECOMMENDATION

There is only one mineralized shoot at the Rowley Mine and it is of limited size. The shoot contains a five foot thick quartz vein that averages less than one percent copper, less than one ounce of silver per ton, and only a trace of gold. The barite portion of the shoot contains less than one percent lead and less than one percent MoO_3.

The almost complete lack of limonite, pyrite, fractures, and leached cavities preclude the possibility of an enriched sulfide zone. There is nothing to suggest that the amount of primary mineralization will get richer at depth.

The Rowley Mine has no ore reserves and there is practically no chance of finding any. It is strongly recommended that the application of Jack R. Fedrick (DMA 1965) be denied.

DMA-1965X, FEDRICK'S ROWLEY OR RELIANCE COPPER MINE
PAINTED ROCK DISTRICT, MARICOPA COUNTY, ARIZ.

Engineering Report

By M. J. Elsing, Consulting Mining Engineer
U. S. Bureau of Mines

W. T. Griswold, Mining Engineer
U. S. Bureau of Mines

January 1952

DMA-1965X, FEDRICK'S ROWLEY OR RELIANCE COPPER MINE
PAINTED ROCK DISTRICT, MARICOPA COUNTY, ARIZ.

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INTRODUCTION

The Acting Administrator of the Defense Minerals Exploration Administration requested the DMEA Field Team, Region IV, to make an examination and report on the feasibility of a loan for the exploration of the Rowley or Reliance mine, in the Painted Rock mining district, Maricopa County, Ariz. The request was dated Washington, Dec. 3, 1951. M. J. Elsing and W. T. Griswold examined the property Jan. 8 and 9, 1952, accompanied by Jules A. MacKallor of the Geological Survey. The examiners met the applicant, Jack Rowley Fedrick, at Gila Bend and he accompanied them to the mine. The next day the examiners revisited the property without Fedrick. The project is known as Docket No. DMA-1965X, Copper-Lead-Molybdenum.

ACKNOWLEDGMENTS

Acknowledgment is due to Jack Rowley Fedrick, the applicant, for accompanying the examiners to the property and providing them with as much information as was available to him.

Valuable information was obtained from reports by C. W. Botsford, W. B. Gohring, and particularly Arthur Houle. All of these men were mining engineers of high standing.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The property is located in the Painted Rock district, Maricopa County, Ariz. The mine can be readily found by following the road directions herewith given:

From Gila Bend go west on Highway 80, 13.8 miles from a sign marked

City Limits to a sign marked Dedora Ranch. Then go north from Highway 80 on a north-south section line road for 5.9 miles. At that point a left hand or westerly branch road is followed for 5.5 miles. At that point a turn to the right or east is made on to a little travelled mine road which is followed for 1.5 miles to the Rowley shaft.

The property is located in some low rolling hills immediately west of a sharp range of mountains. Practically all parts of the property can be reached by roads with moderate grades. The area is typical Arizona desert except that within 2 miles there is a narrow strip of irrigated and cultivated land along the Gila River. The collar of the Rowley shaft is only 200 or 300 feet above the river.

The Rowley (Reliance) and the San Carlos properties are in sections 24 and 25, Township 4 South, Range 8 West (See fig. 1).

HISTORY AND PRODUCTION

The Rowley Copper Mines Co. was incorporated in 1909 for the purpose of exploring the possibilities of the Rowley vein on the Jack Rowley group. In 1922, there was a reorganization and the original company was succeeded by the Reliance Mining Co. From that time the property was often called the Reliance mine, but for the purposes of this report the mine will be referred to by its original name, The Rowley. The Reliance Mining Co. got into financial difficulties and was finally taken over by the bond holders. Jack Rowley Fedrick, the applicant, stated that the Rowley mine now belongs to him, he having

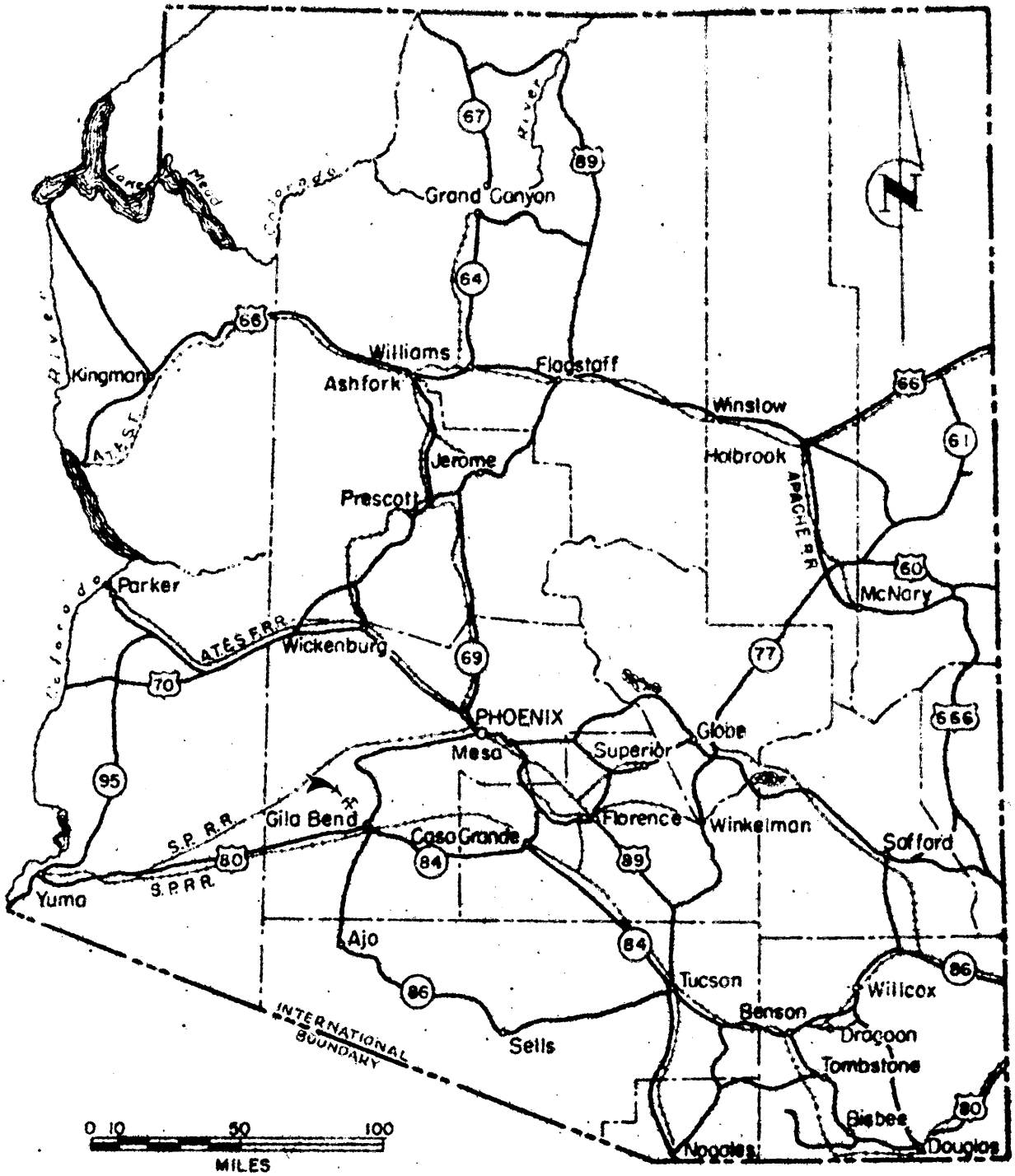


Fig. I LOCATION MAP, ROWLEY MINE
Maricopa County, Ariz.

DMA 1965

inherited it from his grandmother. He also stated that the adjoining San Carlos property is owned by his uncle and that he has a power of attorney giving him the authority to make disposition of the property as he sees fit.

The Rowley Copper Mines Co., the Reliance Mining Co. and the bond holders probably spent several hundred thousand dollars in exploration work and in erecting a small concentrator to recover wulfenite. The San Carlos Co. spent a considerable, although lesser amount in the exploration of their property. By 1923, the owners of the stock and the bonds of these companies decided to sell or option their properties.

The first party that they were able to interest was Wm. G. Rice of the Superior and Boston Mining Co. C.W. Botsford, a very reliable examining engineer for Inspiration Consolidated Copper Co. made a report on the Rowley for Rice and recommended the the extension of the vein be explored at greater depth by vertical diamond drill holes. That report was dated May 1, 1923 and recommended 5 or 6 holes from 400 to 800 feet deep.

A letter, dated Oct. 8, 1923, from Botsford to Rice indicated that hole No. 1 was drilled to a depth of 525 feet and did not encounter ore. Botsford stated that a fault had cut off the ore and that he was changing the position of Hole No. 2. There are no additional data by Botsford on the drill results or how many of the holes that he recommended actually were drilled.

On May 17, 1923, W. B. Gohring wrote a very glowing report on the mine for Rice. This was after he had unwatered the mine and before Boteford did the diamond drilling.

In May 1926, Charles Rowley wrote Robt. E. Tally, general manager of the United Verde Copper Co., to see if that company was interested in acquiring the Rowley mine. Tally wrote Gohring asking him to examine the mine. On Nov. 17, 1926, Tally wrote Rowley that the United Verde would be glad to make arrangements for the development of the Rowley and San Carlos properties. The United Verde proposed that a 55 percent interest in each property be deeded to it for an unspecified amount of development. The company was to have a 3-year option on the remaining 45 percent at a price of $100,000 for the Rowley and $100,000 for the San Carlos. The records do not show why the negtiations were suspended.

In October 1927, Rowley tried to interest the New Cornelia Copper Co. in the Rowley and San Carlos mines. On Nov. 17, 1927, Arthur Houle examined the property at the request of Mike Curley, manager of the New Cornelia. Curley continued negotiations with Rowley until April 23, 1928 when he wrote Rowley that the terms agreeable to New Cornelia were so much lower than those asked for by the Rowley and San Carlos owners that there was no possibility of arriving at terms which would be mutually satisfactory so negotiations were suspended.

In June 1929, negotiations were started with George Kingdon, general manager of the United Verde Extension Mining Co. These

negotiations were brief. The files only show letters to Kingdon and none of his replies. It is reported that the United Verde Extension was willing to spend a substantial sum in development. A new company was to be formed of which the San Carlos and Rowley interests would each receive 10 percent of the stock. It is reported that negotiations fell through because the Rowley interest wanted 20 percent instead of 10 percent of the stock.

Houle states that the total production of the Rowley has been one small car of 15 percent copper ore and about 30 tons of wulfenite concentrates averaging 18.26 percent MoO_3.

OWNERSHIP AND EXTENT

The applicant, Fedrick, advised that he had inherited the Rowley group, comprising 6 patented mining claims, from his grandmother. These include the Daisy-Cornelia, Jack Rowley, Jack Rowley Nos. 1, 2, 3 and 4, and a millsite. The applicant stated that his uncle owned the San Carlos property, including 20 unpatented claims adjoining the Rowley property on the north, east and south; that the assessment work had been done on these claims in August 1951; and that he held a power of attorney granted him by his uncle.

DESCRIPTION OF THE DEPOSIT

The Painted Rock mining district is composed of a series of bedded andesite flows. The Rowley vein is a fissure vein with andesite walls. The fault in which the Rowley vein occurs can be traced for some 4,000 feet but only about 800 feet of this distance is mineralized. All of

this section is on the Jack Rowley claim. The dip of the vein at the Rowley shaft is 50 degrees to the east. At the San Carlos shaft, where the fissure is barren, the dip is 37 degrees. The strike of the vein is N. 37° W.

At the Rowley, the hanging wall part of the vein consists of barite containing small spotted amounts of galena, cerussite, and wulfenite. The footwall part of the vein is iron stained silica replacing andesite, and varying from quartz to jasper. The most common copper mineral is chrysocolla. The shaft follows the copper streak from the surface to the present water level which is just below the 125-foot level. The streak is 2 to 5 feet wide, and besides containing chrysocolla, shows some spotted malachite. Occasionally a rather high-grade specimen can be found. It is reported that chalcocite also is present but none was observed.

The maximum thickness of the footwall copper vein is approximately 15 feet while that of the hanging wall barite vein is 35 to 40 feet. The 125-foot level follows the vein for 370 feet but there are no crosscuts at either end of the level to indicate the width of the vein. In general the drift follows the so-called copper vein. Houle stated that the average width of the copper vein was 10 feet, but this width seems excessive. The shaft follows the copper vein. At no place in the shaft from the surface to the 125-foot level did the chrysocolla section of the vein extend beyond the shaft timbers on the hanging or footwall sides of the shaft. The average width is nearer 5 feet than 10 feet.

Houle took a number of samples which were accepted by the examiners without question. His conclusion was that the copper vein on the 125-foot level averaged less than 1 percent copper and less than 1 ounce silver, and that the barite vein averaged less than 1.0 percent MnO_2.

Houle stated "iron gossan and iron ores are conspicuous by their absence. ------The original sulphide mineralization was probably copper in the form of finely disseminated chalcopyrite. Pyrite or iron sulphide was not abundant and that accounts for the absence of iron outcrops and heavy iron oxides in the vein matter".

The examiners also were impressed with the lack of gossan material or vugs which might have contained pyrite or chalcopyrite. Chrysocolla with a little malachite starts at surface and extends to the 125-foot level, and is reported to continue to a depth of 265 feet. Evidence is lacking that a zone of secondary enrichment will be found with additional depth. The presence of chrysocolla and malachite in the upper part of the vein is definite evidence that leaching was incomplete. Houle admits that sulphide mineralization was small. The examiners agree with this and go one step further by stating that the evidence of sulphide mineralization is so small that the chrysocolla and malachite probably account for all of the copper that ever occurred in the vein. In other words, that oxidation of copper was in place and that no zone of secondary enrichment can be expected.

MINEABLE ORE RESERVES

The Rowley mine has no mineable ore reserves. Houle's sampling of the 125-foot level shows that the copper vein averages less than 1 percent copper and 1 ounce of silver, and that the barite vein averages less than 1 percent MoO_3. It is reported that the main inclined shaft followed the vein to a depth of 265 feet on the dip and showed no change in values or in character of the vein to that depth.

It is reported that one small car of copper ore was shipped with an average grade of 15 percent copper. There is one small stope in the Jobes inclined shaft, now inaccessible. This stope is reported to have produced wulfenite ore. It is roughly estimated that some 10,000 tons of material has been taken from the copper-bearing vein in the course of driving the various workings. The copper ore shipped was hand-sorted from this material.

The wulfenite concentrates came from perhaps 2,000 tons of material that was milled. A rough estimate of the tailing dump indicates that approximately this tonnage was treated. After more than 30 years exposure to erosion by water and wind, it is difficult to make accurate estimates of the tailings dump, particularly when such small tonnages are involved. It is safe to say that none of the material treated was ore in the sense that any profit resulted from its treatment. Molybdenum in the form of MoO_3 is less valuable today than during the First World War when this material was treated.

PRESENT STATUS

Prospect and Development

The exact footage of development work is unknown. The Rowley mine has 3 shafts. Inclined shaft No. 1 is 265 feet deep and was driven at an angle of 50 degrees. The Jobes inclined shaft is about 200 feet deep. The vertical shaft cut the vein at a depth of 200 feet.

The amount of drifting is unknown. It may be that as much as 1,850 feet of work has been driven. The 125-level, the only level not under water, follows the vein for 370 feet. The main shaft and the Jobes shaft are both in the vein. Some stoping was reported in the Jobes shaft. From several thousand tons of vein material, one small car of copper ore, averaging 15 percent, was shipped to a local smelter, and 30 tons of wulfenite concentrates, containing 18.26 percent of MoO_3, were shipped to a buyer in California. The concentrator comprised 2 tables and a Frue vanner. There is no record of the tonnage treated. From the amount of tailing in the dump it appears that at least 2,000 tons must have been milled. There is no building or equipment of any kind at the property.

The amount of diamond drilling is unknown. It has been noted that in 1923 Botsford recommended to Rice to drill 5 or 6 diamond drill holes. Reports available to the examiners show that holes No. 1 and No. 2 were drilled. These holes are vertical and are located 375 and 300 feet, respectively, east of the outcrop of the vein. The

applicant showed the examining engineers the location of holes known to him. The next day the examiners did some checking and found that the holes shown by the applicant were not holes Nos. 1 and 2 but represented additional holes that had been drilled on the property of which there was no record. It is most likely that these holes are Nos. 3, 4, and 5 of the 5 or 6 holes that Botsford recommended to Rice to drill. They are roughly in a line 600 feet east of the outcrop of the vein. The holes recommended by Houle are in a line approximately 300 feet east of these holes (See fig. 2).

The examiners found hole No. 1 and the approximate position of hole No. 2. The exact position of this latter hole was obliterated because of the need for leveling the ground for nearby mine structures.

PROJECT PROPOSALS WITH COSTS

The applicant wishes to drill the 3 holes recommended by Houle in his report dated Nov. 17, 1927. These holes are located in the southeast corner of the Daisy Cornelia claim and are in a line parallel to the side line and a few feet away from it. The most southerly of these holes is approximately 240 feet from the southeast corner of the claim. The next is 200 feet further north, and the third hole is 420 feet north of the first mentioned hole. Houle estimated that these holes would cut the vein at a depth of 1,000 feet. He stated the vein has a dip of 45 degrees, whereas the actual dip of the vein is nearer 50 degrees. On the basis of a 50-degree dip it would require a hole approximately 1,100 feet deep to cut the vein from the applicant's proposed drill sites.

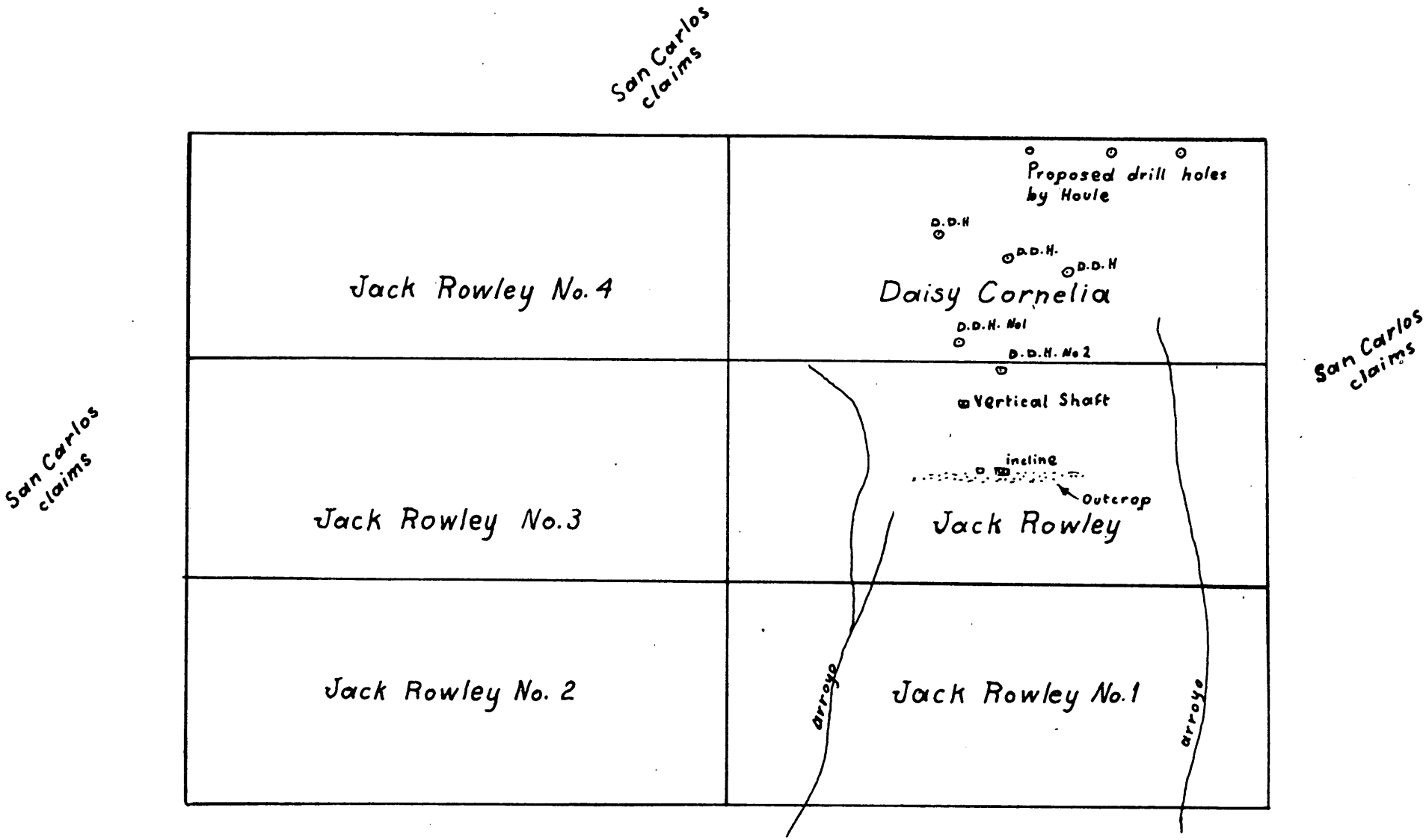


Fig. 2 JACK ROWLEY GROUP

scae 1" = 400'

Some months ago the Continental Diamond Drilling Co. estimated the cost of drilling at $5.00 per foot. The company at that time advised the applicant that after the first of the year the price per foot would be increased. It is probable that the new price will be $7.00 per foot. It is believed that the applicant will have to have an engineer at the property during most of the drilling campaign and particularly when drilling was being done in or near the vein.

There is a shortage of diamond drill operators. The current general practice has been to drill on day shift only. Drillers under these conditions usually wish to work 10 to 12 hours. On this basis they should average 25 feet per day, and two 1,100-foot holes should be drilled in 3 months. If drilling could be done on 2 shifts the time required would probably be reduced to 2 months. There would be no appreciable saving in the cost of drilling if drilling was done on 2 shifts because an engineer would be required on each shift. The only saving would be that the night shift engineer would not receive as high a salary as the day shift man.

In addition to a contract price of $7.00 per foot it is believed that supervision, transportation for supervisor, assaying, cementing hole, casing, etc., would cost $1.50 per foot, making the cost $8.50 per foot of hole drilled. Two holes would cost $18,700; three holes would cost $28,050.

The applicant stated he was not prepared to spend more than $7,500.

This means that only one 1,100-foot hole could be drilled at a cost of $9,350, half of which (or $4,675) would be for the account of the applicant.

CONCLUSIONS

The following is a list of Houle's conclusions with the opinion of the examiners relative to each:

1. "The ore deposit on this property will be one pipe or lense as indicated by the outcrop on the Jack Rowley claim. There are no indications that more than one ore body occurs along this fissure vein."

The examiners agree with this conclusion.

2. "The size of the ore shoot will be roughly 10 feet by 650 feet in cross section."

The examiners do not agree that the evidence as seen on the 125-foot level warrants the belief that the copper mineralization is 10 feet wide. They think the width is nearer 5 feet. Development on the 125-foot level shows weak copper mineralization for 370 feet in length. To increase this to 650 feet because of weak surface showings is optimistic. On the basis of Houle's estimate the possible tonnage is 500 tons per vertical foot of development. For a mine over 1,000 feet deep such a tonnage is exceptionally small.

3. "The ores of secondary enrichment can be expected at greater depth."

The examiners believe that the evidence on the 125-foot level is

contrary to such a deduction. They believe that it is very evident that the copper content of the vein has been oxidized in place. They believe that the present copper content of the vein represents what can be expected in the vein when the primary zone is reached. There will be no appreciable zone of secondary enrichment between the oxide and primary zones. Neither Houle nor the examiners were able to inspect the shaft below the 125-foot level where the water stands. The shaft is reported to be 265 feet deep and the copper content of the section below the 125-foot level is reported approximately the same as that above this level.

4. "Gold and silver values within the ore zone do not appear to be important."

The examiners agree with this conclusions.

5. "The leaching and oxidation indicates ore values will be concentrated into a small rich body of copper ore at greater depth."

As discussed under Conclusion 3 the examiners do not believe that there will be any appreciable amount of enrichment. From an inspection of the openings and the sampling records, they believe that the oxidized zone of the vein will run less than 1 percent copper, that the sulphide zone will run less than 1 percent, and that there will be no secondary zone of enrichment between these zones.

There was not the slightest question among the examiners as to the meaning of the indications on the 125-foot level. They believe that the evidence does not warrant the belief that a small rich ore body of secondarily enriched copper will be found in depth. They

think that the evidence indicates that there will be no zone of secondary enrichment and that the primary ore will be too low-grade to be of interest.

The 125-foot level is open and the mine is easily entered. It is not difficult to check the evidence which has lead to these conclusions.

RECOMMENDATIONS

It is true that the proposed expenditure is comparatively small and in view of the interest that the United Verde, the New Cornelia, and the United Verde Extension took in the property, it might seem that the drilling is warranted.

The examiners have studied the evidence and they believe that there is no possibility of opening up a body of high-grade secondarily enriched ore. They believe that a line of 3 holes was drilled only 300 feet from the line of holes proposed by Houle. No information regarding these holes is available. They may have encountered low-grade oxidized ore or they may have encountered low-grade primary sulphide ore. It is a certainty that they did not find ore which was sufficiently encouraging to warrant further exploration. The project died in 1923 after the completion of the diamond drilling campaign and no one has been sufficiently interested to do additional work since that time. The Government's role in the exploration of marginal projects, which show some small chance of success, is recognized. This project does notfall into that category and therefore, it is recommended that this application be denied.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

APR 8 1952

OFFICE
REGION IV
APR 1 1952

Hon. Carl Hayden
Senate Office Building
Washington 25, D. C.

Re: Docket No. DMA-1965 (Copper)
Reliance Copper Mine
Maricopa County, Arizona

Dear Senator Hayden:

This refers to your letter of April 2 concerning the application of Mr. Jack Rowley Fedpick in the above captioned case, which was denied.

This application and all the reports and correspondence have again been carefully reviewed as a result of your letter to ascertain whether any injustice had been done in this matter.

We can find no reason for going counter to the recommendations of the field men of the Bureau of Mines and the U. S. Geological Survey. Several engineers and geologists have made independent examinations. There is a marked agreement in their findings and there can be little doubt as to the validity of their conclusions.

It is of interest to note the attitude of these engineers as expressed in the closing paragraph of one of them. "The Government's role in the exploration of marginal projects, which show some small chance of success, is recognized. This project does not fall into that category and therefore, it is recommended that this application be denied."

In the light of all the available information, we regret that we are unable to modify the findings of the Field Team.

Mr. Fedrick's letter dated March 31, 1952, and report of Arthur Houle, Mining Engineer, dated November 17, 1927, are returned herewith.

FSSchmidt/gla 4-4-52
cc to: Adm. Reading File
Docket
Messrs. Johnson Rm. 3621
Nelson Rm. 4216 GS
Ellis
Schmidt
Field Team, Reg.IV(2)

Enclosures 2

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration Administration

Mining Division
Region IV

February 17, 1958

Memorandum

To: DMA Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMA Project 1956, Bailey or Bellmore Mine, Painted Rock Mining District, Maricopa County, Arizona

Enclosed herein are the original and 7 copies of the section on Summary, Conclusions, and Recommendations by the Geological Survey and the Bureau of Mines. Also enclosed are the original and 7 copies of the Engineering Report by the Bureau of Mines. These have reference to the application submitted by Rock Bailey Pointek for exploration assistance on the Bailey Mine, Painted Rock District, Maricopa County, Arizona, estimated to cost $15,000.

We concur with the recommendations of the examining engineer that the application be denied.

W. H. King
W. H. King

WLD:oc
cc: DMA Subject, Chron.
Koschmann (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

February 29, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 1965, Rowley or Reliance Mine, Painted Rock Mining District, Maricopa County, Arizona (denial of exploration assistance)

Enclosed please find the original and one copy of DMA Form 3b, a copy of the Final Report, and a copy of the denial letter sent to the applicant. These pertain to Jack Rowley Fedrick's application for exploration assistance at his Rowley Mine, Painted Rock Mining District, Maricopa County, Arizona.

J. H. Ernst, Jr.

A. N. Koschmann

Enclosures

cc: WRSterns w/copy of final report
CAAnderson w/copy of final report
ANKoschmann w/copy of final report
Mining Div. w/copy of final report
DMA Final Report

WLD:oc W.H.K.
cc: DMA Subject, Chron.
Koschmann

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

February 29, 1952

Mr. Jack Rowley Fedrick
938 South Orange Grove Ave.
Los Angeles 36, California

Dear Mr. Fedrick:

Your application for Government assistance in exploration work at your Rowley Mine, Painted Rock Mining District, Maricopa County, Arizona, has been received by the Defense Minerals Exploration Administration. An examination has been made.

After a careful study of your application and geologic data gained from the examination of the property concerned, it is determined that the probability of making a significant discovery of copper ore is not sufficiently promising to justify Government assistance. Therefore, your application for Government assistance is denied.

We wish to thank you for bringing this property to our attention.

Very truly yours,

J. H. East, Jr.
J. H. East, Jr.
Field Team, Region IV

A. H. Koschmann
A. H. Koschmann
Field Team, Region IV

WLD:oc

W.H.K.

cc: Administrator, DMEA, Washington
WRStorms
DMA Subject, Chron.
Koschmann

DMA Form 3b.

DEFENSE MINERALS ADMINISTRATION

CONTROLLED DOCUMENT
Revised Abstract

DMA Docket No. 1965

Change:	From	To
I 1	☐	☐
I 2	☐	☐
I 3	☒	☒
I 4	☐	☐
I 5	☐	☐
I 6	☐	☐
III 1	☐	☐
III 2	☐	☒
III 3	☐	☐
III 4	☒	☐

Add:

II 7 $ 15,000

II 8 $ _____

II 8a % 50

_____

_____

Initials of person preparing sheet W.L.D.

Date sheet prepared 2/28/52

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

AIR MAIL

DEC 3 - 1957

Mr. J. H. East, Jr.
Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMA-1965, Copper-Lead-Molybdenum
Jack Rowley Fedrick
938 South Orange Grove Ave.
Los Angeles 36, California

Dear Mr. East:

This is your authority to make a field examination of captioned Applicant's property in the Painted Rock District, Maricopa County, Arizona. We are enclosing one copy of the application and supporting exhibits. However, we can find only one copy each of the various exhibits therefore kindly return them to this office with the Field Team report when completed.

As you will note, Applicant proposes to let a contract for drilling three 1,000 foot holes at a cost of five dollars ($5.00) per foot. It is not clear however, whether Applicant has to furnish 1,000 ft. of "A" drill rods and 500 ft. of AX casing in addition to the contract price. A bid on the drilling ~~contract~~ should be obtained.

Another point to consider is whether there is a rake to the orebody and if so does the placement of the proposed drilling take the rake into consideration. It appears to us the location chosen for doing this drilling is too far from the present workings. Four or five holes might be drilled closer to Holes 1 & 2 for the same money, since they would be shorter, and thus afford a better picture of this deposit at depth.

If the adjoining claims immediately to the south belong to the Applicant, it is our opinion that these claims might benefit, should an important discovery be made, and therefore should be included in the project. Please check on this point.

Sincerely yours,

C. O. Mittendorf

ACTING Administrator
Defense Minerals Exploration
Administration

Enclosures

EWEllis/jem
11-26-51

APPROVED:

cc to: Adm. Reading File
Reports & Records
Docket
Mr. Johnson, C. H.
Mr. McKnight, E. T.
Mr. Ellis

Chairman, Operating Committee

Member, Bureau of Mines

Member, Geological Survey

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 1965

Commodity ~~Copper - lead - molybdenum~~

Total Amount $15,000

Govt. Participation $7,500

1. Name and Address of Applicant Jack Rowley Fedrick
938 South Orange Grove Ave., Los Angeles 36, Calif

2. Location of Property Painted Rock Dist., Maricopa County, Ariz
25 miles from Gila Bend, Arizona

3. Mineral or metal Copper - Molyb. Is it listed in Section 9 of MO-5? yes

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good

b) Poor

c) None

d) Don't know—needs field examination ✓

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? yes - owner
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached? —

Does the lease have sufficient time to run to cover a future productive period? —

*question numbers are those of MF-103

7. Are subordination agreements necessary? No

a) MF-201? _____

b) MF-202 _____

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower don't know

b) Equipment and supplies don't know
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* yes

d) Water (question 13)* yes

e) Power (question 13)* yes

Is a field check needed on any of these points? yes - manpower & equipment

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* don't know - but it appears that applicant will have a Mining Engineer - Ray Dimmick as advisor

Is a field check needed on this point? Yes - ascertain Dimmick's position with respect to this project

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? Yes

If not, are there sufficient data given so that you can describe the project? _____ If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? Yes

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes

If not, what part of it is? _____

Is this part a worthwhile exploration project? —

d) Are the cost estimates detailed? yes

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? yes If so, attach a draft.

e) Are the cost estimates reasonable? yes

f) Should more information be requested from applicant? Yes

g) Is a field examination necessary to complete Exhibit A? No

11. Exhibit B (question 23-d)*

a) Is it applicable? No

b) If so, are sufficient data furnished? _____ If so, attach a draft.

c) Is a field check needed? No

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? f & g not applicable; "e" - don't know

b) Sufficient data? No If so, attach a draft.

c) Are rents and charges reasonable? don't know

d) Is a field check needed? Yes find out what has to be done or bought before drilling starts

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? —

b) Is the schedule adequate for the work proposed? don't know

c) Is the schedule excessive for the work proposed? _____

d) Are the proposed wages and salaries reasonable? ?

e) Is a field check needed? No

14. Exhibit E (question 23-c)*

a) Is it applicable? No

b) Sufficient data?

c) Reasonable?

d) Field check needed? No

15. In your judgment, can the proposed work be done in the proposed time? Yes

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? 1) check geologic feasability
2) have applicant get complete bid from drilling company & see what applicant may have to supply himself before company will start drilling & check to see if any costs will be incurred by the applicant during the drilling operation
3) Any other pertinant information

Are there possibilities for an enriched sulfide copper zone?

Reviewed by: Richard W Lewis
J B Lowen

Date Aug 23, 1951

97692

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1965

Date received 8-15-51

Participation

Jack Rowley Fedrick
938 South Orange Grove Avenue
Los Angeles 36,
California

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 15 1951

Name and address of applicant

Date

FILL IN THIS BLOCK

Date of application 6 August 1951

Estimated cost $15,000

Mineral or metal Copper; lead; molybdenum

Percentage of Government participation 50% - $7500

Location of mine Painted Rock District, Maricopa County, Arizona.
25 miles from Gila Bend, Arizona

Date of filing MF-100

DMA Docket Number, if available 1965

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted and the expenditure of funds which may be charged as costs of the project must be limited to that area of work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons. State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each.

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

---------- (Name of company)

By ---------- (Signature of authorized official)

---------- (Date)

---------- (Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

Jack Rowley Fedrick

1. Individual.

2.& 3. --------

4. Applicant - Stanford University graduate; practical miner.
Ray Dimmick - Mining Engineer; General Manager Arizona mines;
General Manager Apache Powder Co.

5. Owner

6. None

7. & 8. -------

9. $7,500; yes.

10. Both areas are the same. Patented mining claims: Da isy Corn elia, Jack Rowley, Jack Rowley No. 1, Jack Rowley No. 2, Jack Rowley No. 3, Jack Rowley No. 4, and a Jack Rowley Millsite, all being in Sections 24 and 25, Township 4 South Range 8 West in the Painted Rock District in Maricopa County, Arizona.

11. Rowley or Reliance Mines.

12. This is fully presented in the report by Arthur Houle, included in these reports.

13. Artesian wells; Gila River. The drill is to be run by gasoline. However, there is a power line close.

14. None.

15. This is contained in the reports. Ajo is only 75 miles away.

16. This information is all contained in the reports.

17. & 18. ------

19. None

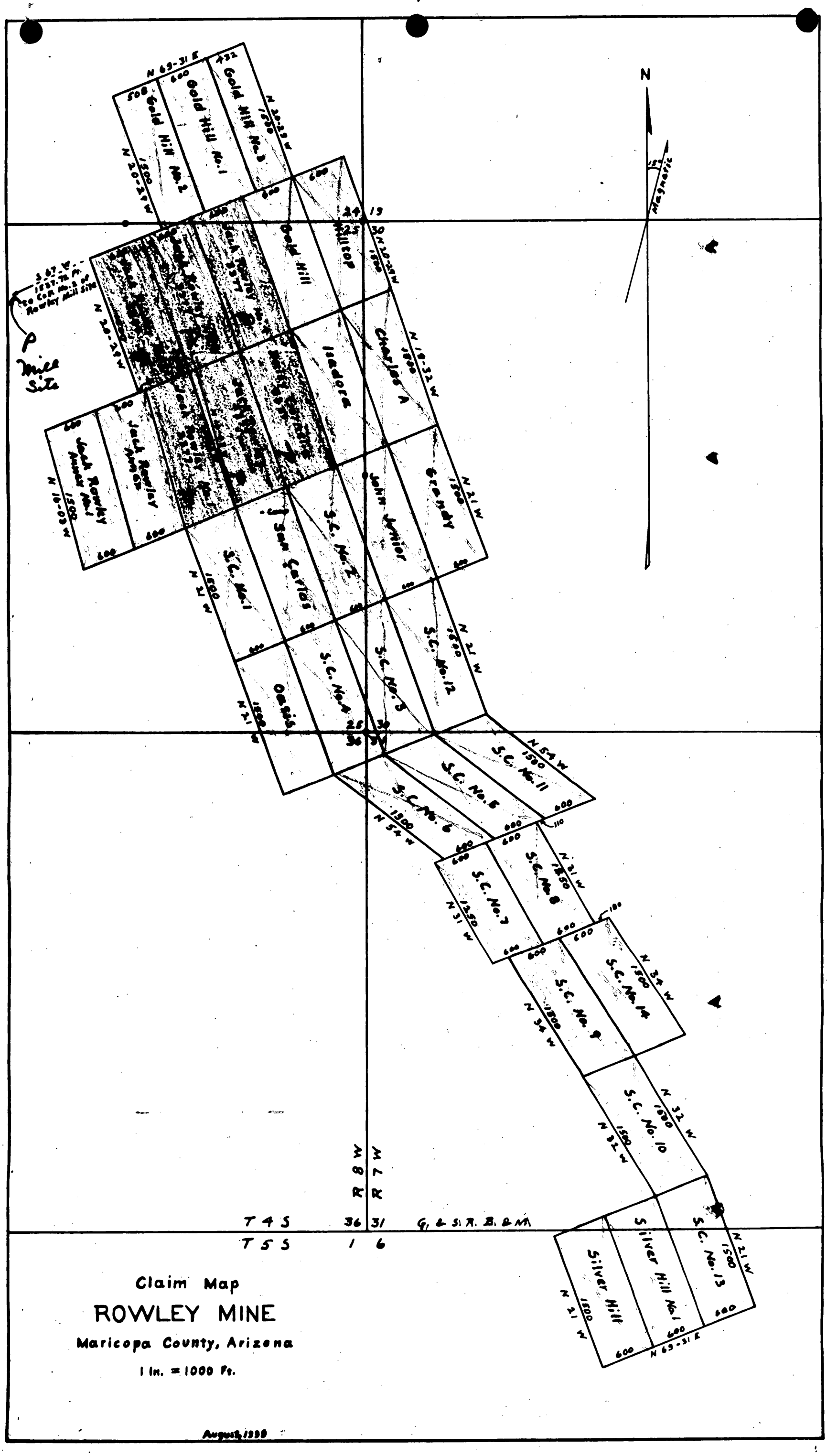
20. Copper; lead-wolfenite; molybdenum.

21. Sink three diamond drill holes to a depth of 1000 ft., as recommended. Estimated time would be two months.

22. Included in the reports.

23. Cost would be $5 per foot, or $5000 per hole; total of three holes would be $15,000, as shown in the letter from the Continental Drilling Co.

24. Estimated time is two months.



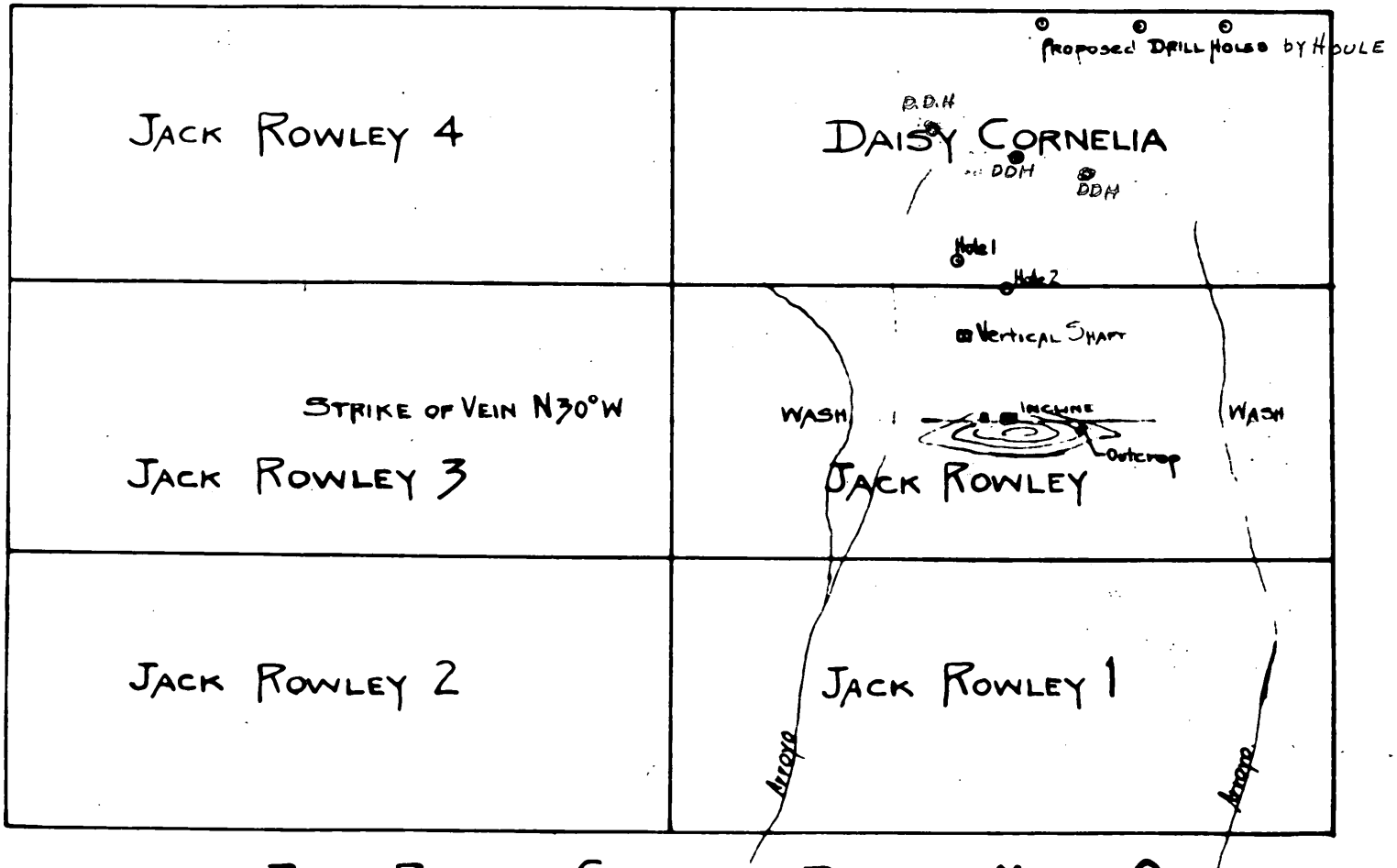
Claim Map

ROWLEY MINE

Maricopa County, Arizona

1 In. = 1000 Ft.

August, 1939



Jack Rowley Group of Patented Mining Claims

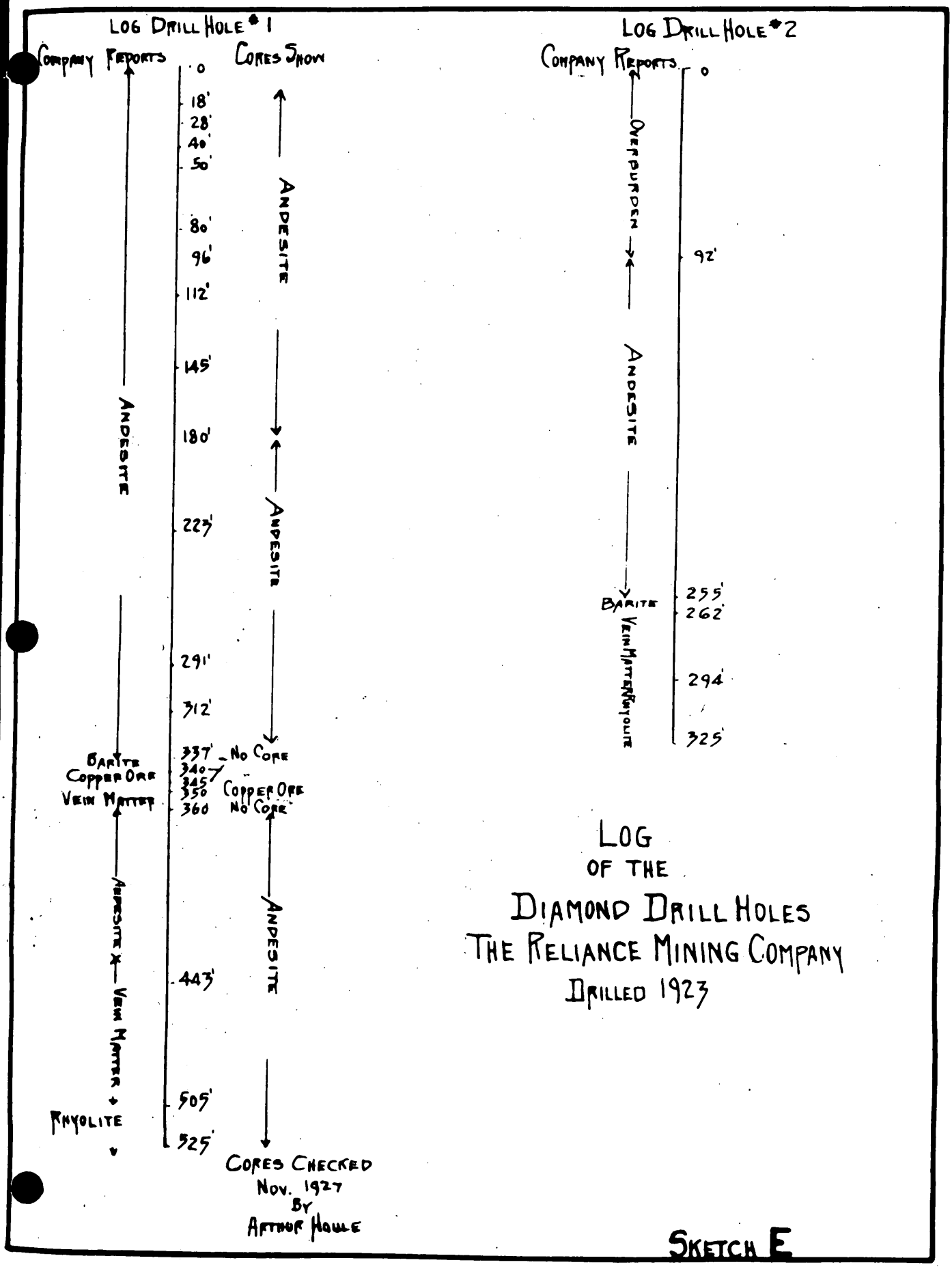
Showing Location of Vein, Shafts and Drill Holes

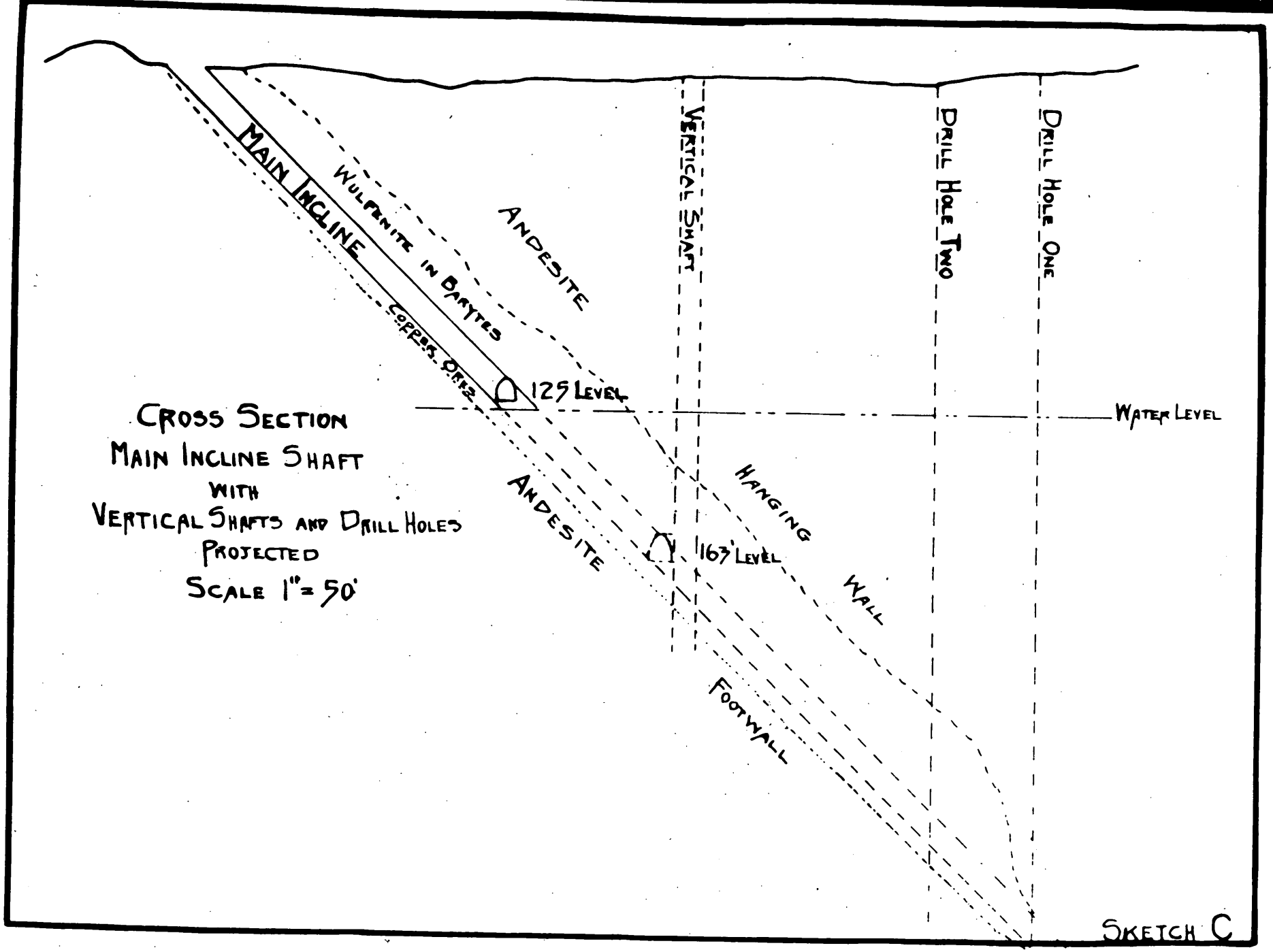
The Reliance Mining Company

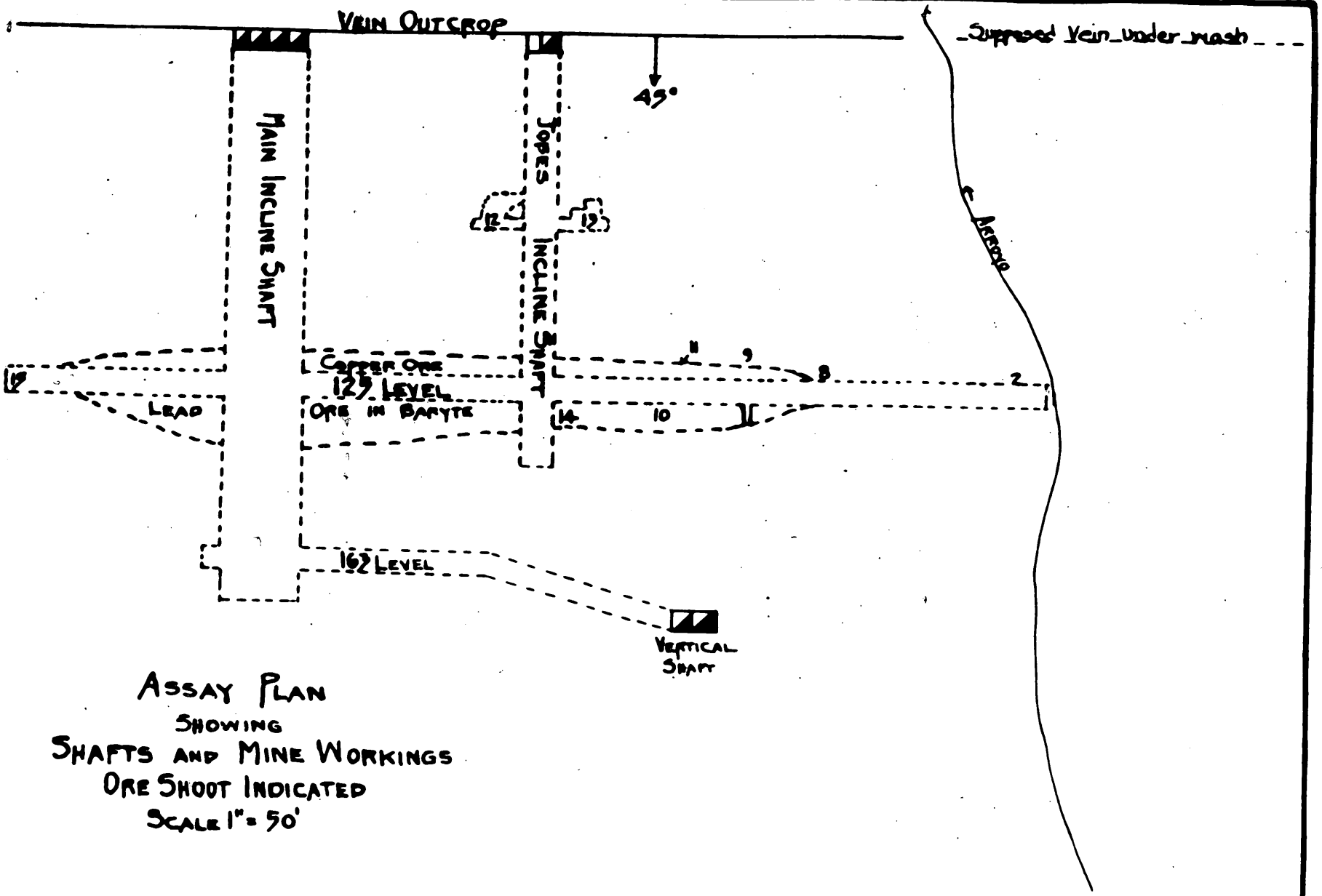
Gila, Maricopa County, Arizona.

Map B

Scale 1" = 400'

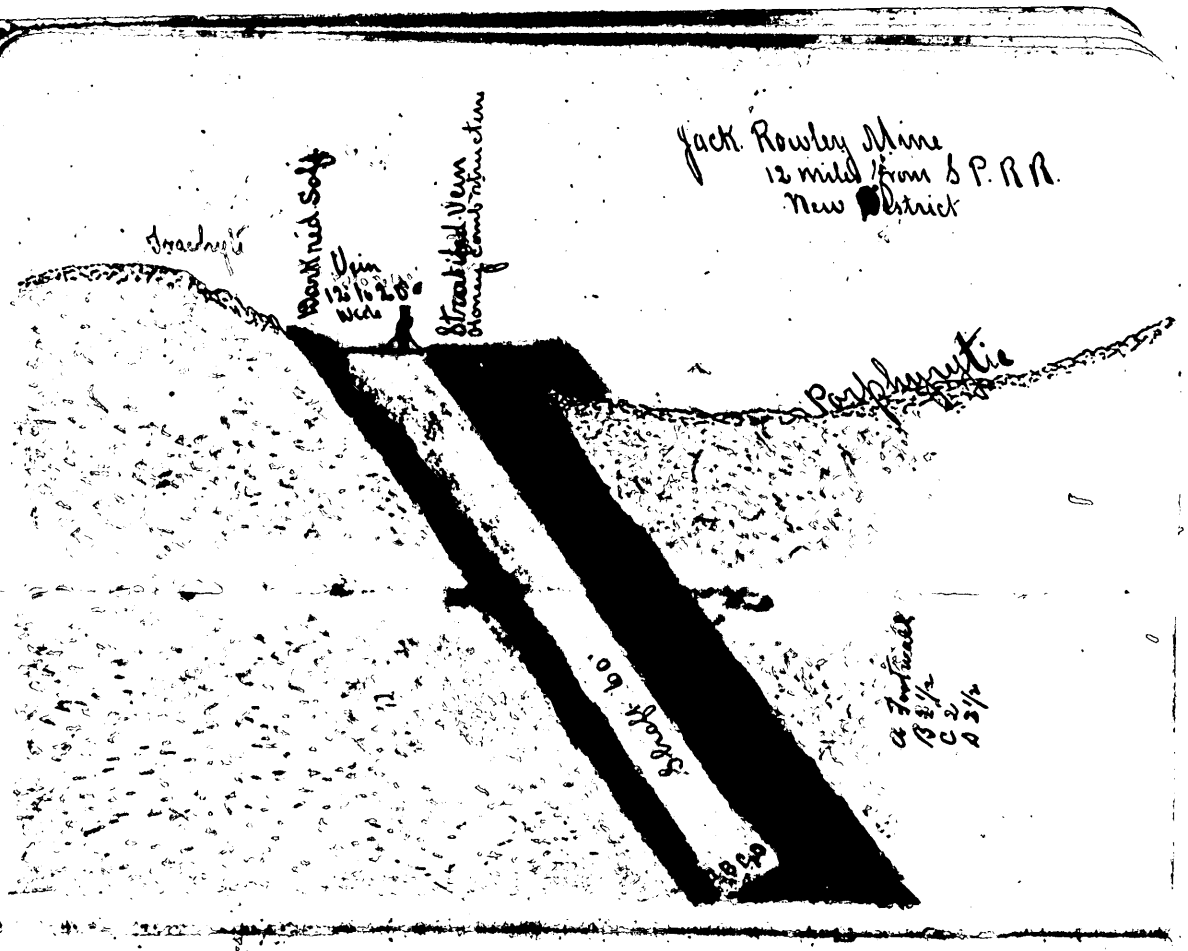

LOG DRILL HOLE #1
COMPANY REPORTS
CORES SHOW
0
18'
28'
40'
50'
80'
96'
112'
145'
180'
223'
291'
312'
337'
340'
345'
350
360
443'
505'
525'
ANDESITE
ANDESITE
ANDESITE
BARITE
COPPER ORE
VEIN MATTER
NO CORE
COPPER ORE
NO CORE
ANDESITE
ANDESITE
VEIN MATTER
RHYOLITE
CORES CHECKED
NOV. 1927
BY
ARTHUR HOULE
LOG DRILL HOLE #2
COMPANY REPORTS
0
OVERBURDEN
92'
ANDESITE
BARITE
VEIN MATTER
RHYOLITE
255'
262'
294'
325'
LOG
OF THE
DIAMOND DRILL HOLES
THE RELIANCE MINING COMPANY
DRILLED 1923
SKETCH E


Drill Hole One
Drill Hole Two
Vertical Shaft
Water Level
Andesite
Wulfenite in Barytes
Main Incline
Copper Ore
125 Level
Andesite
Hanging Wall
163' Level
Footwall
Cross Section
Main Incline Shaft
with
Vertical Shafts and Drill Holes
Projected
Scale 1" = 50'
Sketch C



Assay Plan
Showing
Shafts and Mine Workings
Ore Shoot Indicated
Scale 1" = 50'

Sketch II



Vein 12 to 20' Well defined Dip 50° from Horizontal northerly
Stratified structure. Will certainly go to great depths, and for a long distance on strike of Vein. Will surely develop into a large property.

Gold, copper, silver, lead, Principal Values.

Well worth your time. Adjacent [illegible] for economical development. Most promising Vein I have seen for years.

Values very satisfactory

Samples sent to John Herman for assay Feb 22 1908

Tutron R R Station 14 miles distant

Photographic page of my Note Book Large Encyclopedia No. 8

COPY

ARTHUR HOULE
Mining Engineer
#1303 East Fifth Street,
Tucson, Arizona.

November 17, 1927

Mr. M. Curley, General Manager
New Cornelia Copper Company,
Ajo, Arizona.

Dear Mr. Curley:-

I am enclosing herewith my report on the Reliance Mining Company property, better known as the Rowley property near Gila, Arizona.

I visited the property accompanied by Mr. Charles A. Rowley, and we were able to visit and examine thoroughly all workings above water level.

The property is still a prospect notwithstanding the fact that a great sum of money has been spent in development work, I hope I have succeeded in this report in setting out the facts so that you will readily understand the conditions existing at this property.

The molybdenum ores are worthy of thorough investigation, and I feel certain that there is an important tonnage of molybdenum ore here, which will in the future prove to be a valuable asset for this property.

Thanking you for the opportunity of making this examination, and trusting I may again be of service to you, I am,

Yours very truly,

AH D

(Signed) Arthur Houle

REPORT

on the

RELIANCE MINING COMPANY

near

Gila, Maricopa County, Arizona

THE PROPERTY:

The group of mining claims now known as the property of the Reliance Mining Company comprised six patented mining claims each measuring 600 feet wide and 1500 feet long. In addition to the patented claims, the company owns title to twelve unpatented claims known as the Obsidian group and two mill site claims. See Map A.

The six patented claims were named as follows:

1. Jack Rowley
2. Jack Rowley #1
3. Jack Rowley #2
4. Jack Rowley #3
5. Jack Rowley #4
6. Daisy Cornelia

Adjoining and almost surrounding the patented claims is situated the ground of the San Carlos Copper Mines Company, a group of 27 unpatented mining claims lying north, east, and south of the Rowley patents.

To the eastward of the Hill-top, Charles A, and Grandy claims of the San Carlos Copper Mines Company are located the Obsidian claims #1 to #10 inclusive, a part of the holdings of the Reliance Mining Company.

On the west side of the Jack Rowley #1 is found the Claim Obsidian #11, and the mill site.

The total area of the Reliance Mining Company property is approximately 370 acres.

LOCATION OF THE DISTRICT:

The lands of the Reliance Mining Company are located in the Painted Rock Mining District, Maricopa County, Arizona, about twenty-seven miles northwest of the town of Gila, Arizona.

The nearest accessible railroad point is Tartron, a siding of the Southern Pacific Railway, which is thirteen miles south of the mining claims. A fairly good ungraded desert wagon road extends northward from the railroad to the mining property. The journey by automobile from Tartron is about one hour's ride.

The country is typical Arizona semi-arid desert with scant vegetation, except for the narrow strip of irrigated and cultivated lands along the Gila River, situated two miles west of the mining property.

Climate is hot during four summer months, but mild throughout the remainder of the year.

Water is abundant in this section and obtained from shallow wells near the property. The water from these wells, although slightly brackish, is not unpleasant to drink.

HISTORY:

The original locations in the district were the Jack Rowley group of claims whose development was undertaken by the Rowley Copper Mines Company, Arizona corporation organized in 1909 with a capitalization of ten million shares. The company's main office was first located in Baxter Springs, Kansas, and moved later to Kansas City, Missouri.

In 1922, the Rowley Copper Mines Company was succeeded by the Reliance Mining Company thru a reorganization. A bond issue to provide development funds for the Reliance Mining Company has not been redeemed and the propety is now held in trust to protect the bond holders.

Development work started in 1910 on an iron stained silicious outcrop marking a fissure vein discovered on the Jack Rowley claim. Between the years 1910 and 1923, development work was prosecuted with vigor only at irregular intervals, the campaigns depending upon more or less successful efforts to sell the stock of the company. However, during this period three shafts were sunk developing the mineral showing on the Jack Rowley claim to a vertical depth of 200 feet, besides lateral development for a length of 550 feet on the 125 foot level. Ores of copper, lead gold and silver were exposed and from this development one carload of 15% copper ore and two small carloads, totaling 30 tons of lead molybdate, wulfenite concentrates, containing 18.26 MoO_3.

The copper ore was shipped to a local smelter. The wulfenite concentrates were sold to a Los Angeles buyer in April 1919, when molybdenum tri-oxide was valued at fifty cents per pound.

In the opening up of these mineral showings the companies were hampered mainly by lack of funds, and inability to cope with a problem of pumping water encountered below the 125 foot level; The water is said to have amounted to about 400 gallons per minute.

GEOLOGY:

The section known as the Painted ~~Mining~~ Rock Mining District is made up from a series of bedded andesite lava flows.

Much of the andesite is dense and porphyritic, but occasional beds were observed to be porous and vesicular. Faulting of these andesite beds and erosion has assisted in shaping these lava flows into irregular pinnacles, ridges, and flat-topped hills, forming a low range of mountains, striking northwest-southeast for a length of twelve miles.

On the west side of this range the ground slopes gently westward to the Gila River. The river bed is approximately three and one-half miles west of the main mountain ridge. The elevation of the mountains is about 1500

feet. The elevation of the river bed is 425 feet.

The land sloping gently toward the Gila river is marked by elongated domes of sunburnt andesite rocks, rising island-like to slight elevations above the valley floor. On one of these small hills, elevation 510 feet, the Jack Rowley mining claim was located to cover the outcrop of a mineralized fault fissure cutting through the andesite beds. See Map B.

The Rowley fault strikes N 30 degrees W and dips at 45 degrees to the East at its location point. The fault outcrop is marked by a slight ridge on the hill and minor stains of copper in a silicious or jasper-like alteration of the andesite along the fault zone. A few feet below the surface where excavations have been made for plant construction more abundant copper stains were exposed in silicious gangue on the footwall of the fault, also a wide zone of baryte, - - heavy spar - stained with lead minerals towards the hanging wall.

The fault fissure is easily traced 4,000 feet, but mineralization along the fault is visible for only about 800 feet on the Rowley claim, and is marked particularly by the elongated knoll of andesite which stands out above the surrounding valley.

To the north on the Jack Rowley #3 the fault fissure is traceable, but is not marked by mineral indications. The vein is only 18 inches wide at this end.

To the south, the fissure can be traced through a portion of the San Carlos claim up to a point where it is cut off by an intrusion of rhyolite. The rhyolite shows copper staining in several assessment pits, but copper staining is <u>not</u> characteristic of the mass of the intrusive.

The San Carlos Copper Mines Company sank a small shaft at a 37 degree incline, following the fissure to an incline depth of 225 feet. The vein is well marked, not over three feet wide, good foot and hanging wall, but does not show any indication of copper or lead mineralization. The owners report having obtained good gold assays near the bottom. No samples were taken at the time this visit was made.

The main fault, or Rowley fault, forms a true fissure vein in which both walls are andesite. The vein filling is of two types within the mineralized part of the fissure, namely, a silicious copper stained gangue on the footwall in which occasionally is found stringers, veinlets and kimdeys of oxidized copper ores. The footwall part with its copper indications attains a maximum width of 15 feet and is always well marked. This is pictured in sketch C, a cross section of the vein.

The remainder of the vein filling toward the hanging wall is heavy spar, barytes, the mass brecciated in appearance and cemented by stringers, bunches and cavities lined with beautiful yellow and orange crystals of wulfenite and mimmetite. Wulfenite section of the vein attains a maximum width of 40 feet, and is so exposed in the crosscut from the incline shaft at the 125 foot level.

The baryte zone tapers out to the north and south along the strike of the vein. The length of this zone exposed on the 125 foot level is 260 feet. Sketch D accompanying this report illustrates this hanging wall ore zone.

DEVELOPMENT:

Practically all of the underground work was confined to the development of the Jack Rowley claim. The work consisted of two incline shafts and one vertical shaft and some drifting and crosscutting from these shafts. The mineralised zone has been opened up to a vertical depth of 200 feet.

In addition to the shaft work, two diamond drill holes were bored proving the existence of copper mineralisation in one of the holes to a vertical depth of 350 feet below the outcrop.

MAIN INCLINE SHAFT:

The original shaft measured 6' x 8'. It was sunk following the footwall to an inclined depth of 265 feet.

At the 100 feet inclined depth, a drift was driven north 260 feet and south 100 feet from the shaft. Both drifts are in vein matter, but not sufficiently mineralised to be called ore.

The face of the north drift across a width of 4 feet 6 inches now assays Gold, trace; Silver 0.85 oz.; Copper 0.85.

The material in the north face checks out with another sample cut 15 feet south of the face. Sample #2 assayed Gold, trace; Silver 0.86 oz.; Copper 0.75%.

A general sample across 15 feet of ore on footwall at the powder magazine assayed Gold, trace; Silver 0.98 oz.; Copper 0.95%.

All of the copper stained silicious vein matter on this level will average slightly less than 1% Copper and less than 1 oz. silver per ton.

Within the vein material are occasional small kidneys of richer carbonate and silicate ores of copper, but never abundant enough to raise the average grade of the mass above 1% Copper.

A selected sample of the richer carbonate and silicate ores found as kidneys assayed Copper 15.90%.

The permanent water level is found just a few feet below the 160 foot level inclined depth (125' vertical depth).

Above the water level the main incline has been enlarged to three and one-half compartments. The job was completed from surface to 150 feet on the incline.

Below the water level the 6x8 foot shaft is reported to follow the footwall to a depth of 265 feet on a 45 degree incline.

The vein matter is said to be similar to that exposed above water. The surface dumps would seem to corroborate the claims of those interested.

From the bottom of this incline shaft a connecting drift was driven northeastward and holed through to the vertical shaft. The connection was

made at 163 feet vertical depth below the collar of the vertical shaft.

In this connecting drift the vein was crosscut and reported to be 40 feet wide at this point. The material cut was very low grade in copper, but reported to carry higher values in lead and molybdenum, however, this is not apparent from material observed on the mine dumps.

JOBES INCLINE SHAFT:

This shaft was started at a point 110 feet N 80 degrees W from the main incline and follows the footwall at 45 degree incline to a depth of 200 feet.

The shaft was sunk as a working shaft for the extraction of lead molybdate ore during the war period. At that time molybdenum was in great demand and commanded a high price.

A mill was erected and a tonnage of ore was concentrated. Two shipments of wulfenite concentrates were made, - a total of about 30 tons. The concentrator operations ceased with the fall in price of molybdenum at the close of the war. The lead ore was mined from two stopes started from this incline at a point 100 feet below the surface outcrop.

The north stope shows a spotted lead ore occurance. An average sample of ore from this stope assayed as follows: Gold, trace; Silver 0.78 oz.; Lead 0.88%; Copper 0.11%; MoO_3 0.57%.

The south stope across the shaft at the same level as the north stope shows better values. A general sample from the south stope assayed; Gold, trace; Silver 0.82 oz.; Lead 4.50%; Copper 0.10; MoO_3 1.01.

In order to check the lead molybdate values within the baryte zone, a careful sample was cut across this material 45 feet north of Jobes shaft on the 125 foot level.

The sample assayed; Gold, trace; Silver 1.76 oz.; Lead 7.80%; MoO_3 1.28

Just above water level in the hanging wall at Jobes shaft, a cut sample across 8 feet of lead ore in baryte assayed as follows; Gold, trace; Silver 0.62 oz.; Lead 2.69%; Copper 0.07%; MoO_3 0.35%.

The average of the lead molybdate ores in baryte gangue will contain less than 1% in MoO_3 for the entire mass.

Occasionally within the lead ore zone residual midneys of galena are found unaltered. Two of these pockets were sampled and assayed as follows;

100' N. of Jobes shaft, Gold, trace; Silver 19.68 oz.; Copper 0.98%; Lead 65%

125' N. of Jobes shaft, Gold, 0.04 oz.; Silver 207.76 oz.; Copper 2.75%; lead 60.6%

VERTICAL SHAFT:

This shaft is located 200 feet east of the outcrop and is reported to have cut through the vein on the 200 foot level. Good ore is said to have been encountered, but the mine run dumps show much the same character of material as can be seen in the workings above water level.

At the 163 foot level connection was made with the main incline. At the vertical shaft, two 10-inch Cornish pumps were installed to handle all of the underground water.

Water in this shaft is said to stand now at the 125 foot level.

DIAMOND DRILL HOLES:

In 1923, an effort was made to prove the continuity of this fissure vein in depth, also to prove ore values would materially improve in depth and probably encounter high grade ores in sufficient quantity to warrant a resumption of mine development.

Number One diamond drill hole was started July 27th, 1923 at a point 350 feet east of the vein outcrop and drilled to a depth of 525 feet. Actual drilling started August 12th; the hole was completed October 9, 1923. The hole was not very carefully logged, but drill reports show that the vein was encountered between 337 and 360 feet. Pieces of core showing copper stains and marked 345-350' prove the vein was cut but the metal values have not improved greatly with the additional 200 feet depth.

Hole Number Two, for some reason, was spotted to start from a point nearer the outcrop than the first hole. It is located 260 feet east of outcrop. The record of this hole shows that the type and character of mineralization encountered in the vein between depths 255 and 290 are exactly the same as can be seen at the 125 foot level above water, definitely proving that in 50 to 60 feet additional depth below the previously known ore conditions, no change has taken place. It seems at this time that Number Two Hole was a waste of effort and proved nothing beyond what was already known.

DRILL CORE AND SLUDGE EXAMINATION:

The drill cores and sludges from Hole Number One were found stored in the assay office. The building is in a dilapidated condition and easily entered. Cores and sludges were stored in old tin cans, but all cans were marked with wooden paddles on which the footage was given.

The following is a list of assays made from cores found in storage:

	Au.	Ag.	Cu.
Core marked 306-308 Silicified Andesite	Nil	Trace	None
" " 345-350 Cu. stained Vein mat.	tr.	0.08	2.55
" " 358-365 Red stained Andesite	Nil	Trace	0.09

Assays of Sludge Samples in storage resulted as follows:

			Au.	Ag.	Cu.
Marked	337-340	Hole #1	trace	1.08	0.10
"	340-345	"	trace	0.58	0.55
"	345-350	"	trace	0.44	0.48
"	350-355	"	trace	0.20	0.37
"	355-360	"	nil	trace	0.23
"	360-365	"	nil	trace	0.08
"	375-380	"	nil	trace	0.04

It is reasonable to suppose that the vein was encountered in Hole #1 between depths of 337 and 360 feet as shown by assays of sludge sample checked by one core sample marked 345-350. The cores recovered between 345-350 were small pieces of red stained silicious material showing veinlets of copper silicates and carbonates.

No cores or sludge samples were found from Hole #2.

Sketch E shows drill holes plotted from data furnished by the company, together with notations as a result of this examination and assays made to check the data furnished by the company.

MINE WATER:

Permanent water level at least for surface seepage stands at 125 foot vertical depth.

The pump installation on this property consists of two ten inch Cornish pumps belt driven from an E. P. Allis Corliss engine.

A report by C. J. Price, written in 1923, states that the Cornish Pumps operating 16 hours daily and raising 200 gallons of water per minute were keeping the workings free from water.

EQUIPMENT:

The mine buildings and equipment are typical of an abandoned mining camp. Equipment of all kinds is gradually being scattered about the country and within a short time only the heaviest machinery will be found on the property.

The main equipment comprises:

3 100 horse power return tubular boilers
1 150 h.p. E. P. Allis Corliss engine
1 150 h.p. Nordberg internal combustion engine
1 700 cu. ft. Ingersoll Rand Imperial type belt driven compressor
Feedwater pumps
1 Oil Tank
1 Tractor
3 Tank wagons
2 Oil storage tanks at railroad
1 5 ton truck
2 10' Cornish pumps
1 6 x 8 Geared hoist, steam driven

Power house, bunk house, boarding house, cottages and tent houses. All buildings need extensive repairs.

SUMMARY:

The outstanding features of the Reliance Mining Company property are as follows:

1. A fissure vein cutting andesite traceable 4,000 feet.

2. The outcrop of the mineralised portion of the fissure vein is exposed for nearly 800 feet on the Jack Rowley claim.

3. The vein filling shows two kinds of ore and indicates two periods of mineral deposition:
First: Copper ores in a silicious gangue
Second: Lead ores in baryte

4. Iron gossan and iron ores are conspicuous by their absence. The outcrops and oxidised zones show jasper and silicified andesite. The original sulphide mineralisation was probably copper in the form of finely disseminated chalcopyrite. Pyrite or iron sulphide was not abundant and that accounts for the absence of iron outcrops and heavy iron oxides within the vein matter.

5. The footwall copper vein will average 10 feet wide for a length of 650 feet. The copper contents of the vein to a vertical depth of 200 feet will not exceed 1% copper with 1 oz. silver per ton.

6. The hanging wall vein, lead ores in baryte are not important for their lead contents at this time, however, these ores will have a future value for their molybdic acid contents in which the lead can be recovered as a valuable by-product.

7. Oxidation has been very thorough to present known depth of 350 feet, shown by one diamond drill hole and secondary enrichment will occur at greater depth, probably not less than 1,000 feet below surface. ?

CONCLUSION:

1. The ore deposit on this property will be one pipe or lense as indicated by the outcrop on the Jack Rowley claim. There are no indications that more than one orebody occurs along this fissure vein.

$\frac{10 \times 650}{12}$ = 500 tons per foot of depth

2. The size of the ore shoot will be roughly 10' x 650' in cross section.

3. The ores of secondary enrichment can be expected at greater depth. ?

4. Gold and Silver values within the ore zone do not appear to be important.

5. The leaching and oxidation indicates ore values will be concentrated into a small but rich body of copper ore at greater depth. Residual spots of chalcocite and galena, showing high silver values, point to probable occurance of rich ore in depth which now warrants further prospecting by diamond drilling. This work should be undertaken before planning any campaign to gain depth by shaft sinking. ?

It is my opinion that the pipe of ore indicated has sufficiently attractive possibilities to warrant spending at this time sufficient money to bore three vertical diamond drill holes from points indicated on Map B, near the east side line of the Daisy Cornelia claim on the south half of the claim. These holes should encounter the vein at a depth of slightly more than 1,000 feet and prove the existence of a workable orebody.

The property is purely speculative, but leached ore conditions justify the proposed diamond drill campaign, which, I believe, will give proof that a more extensive development program will be found advisable.

It is my understanding that both properties can be optioned without capital outlay, and under these conditions further development is recommended.

Respectfully submitted.

(Signed) ARTHUR HOULE

Tucson, Arizona
November 17, 1927.

Inspiration, Arizona, October 8th, 1923.

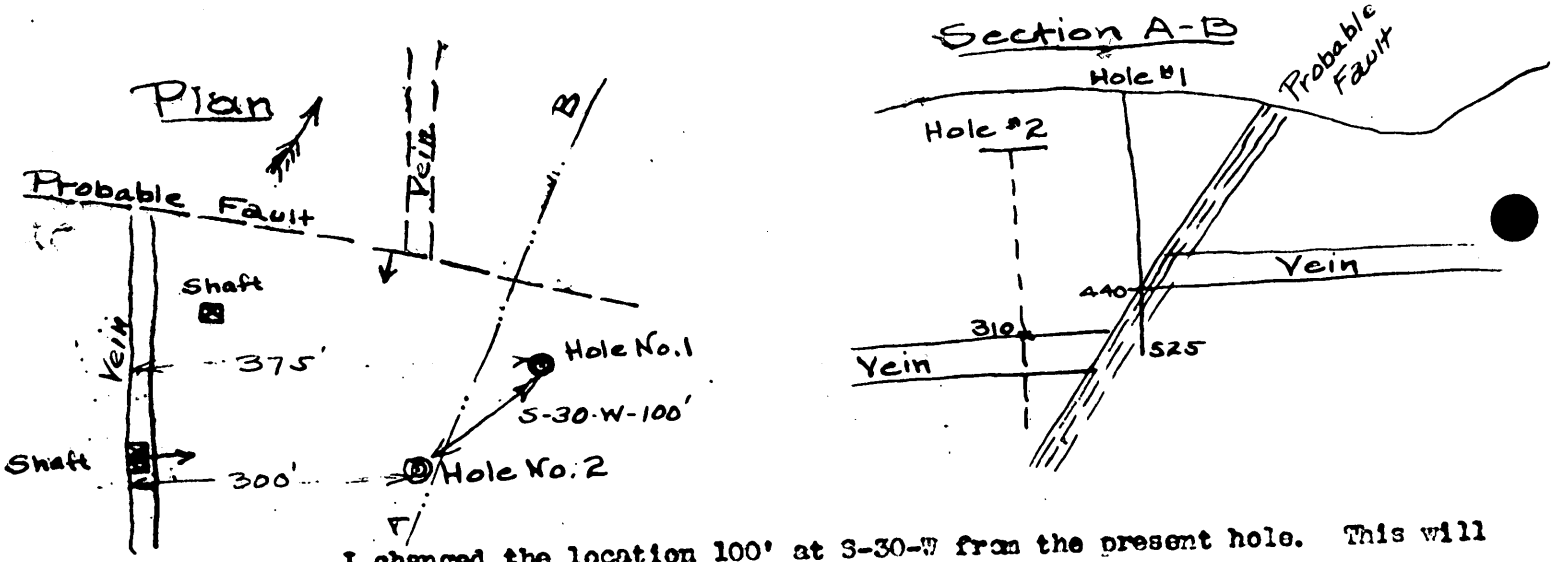
Mr. W. G. Rice,
Houghton, Mich.

Dear Sir:

I have just returned from the Rowley and found the following conditions.

Drill hole No. 1 has most probably cut a cross-fault at 440' and continued in this to 525'; the bottom. The hole is deep enough to have cut the vein without faulting and would not get anything by going deeper. It really proves nothing.

The following sketch shows the most probable occurrence.

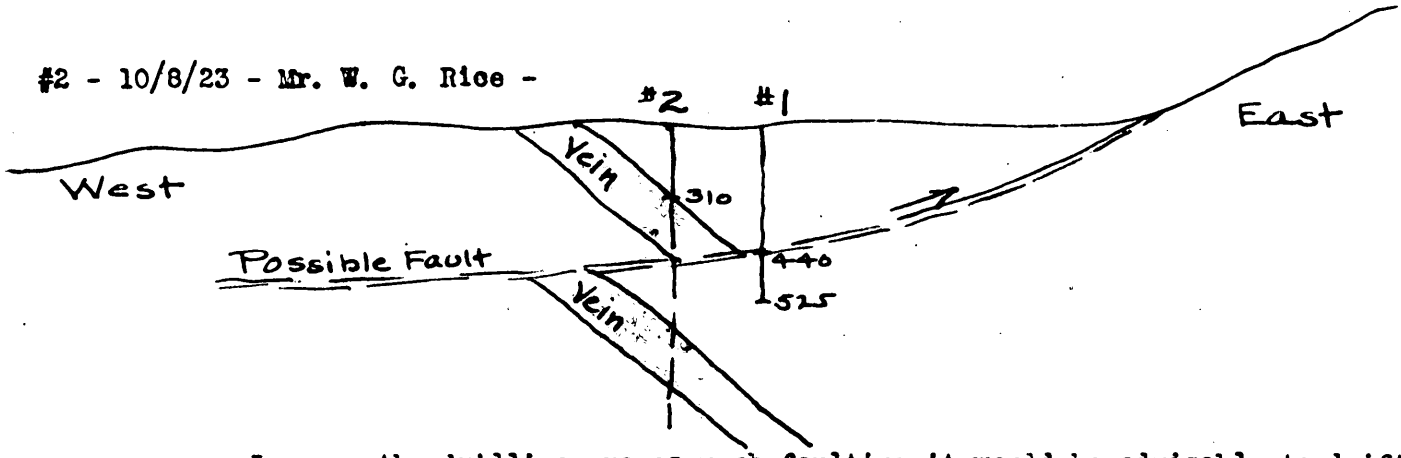


I changed the location 100' at S-30-W from the present hole. This will clear the fault and is located a little nearer the outcrop. It should cut the vein at about 310' or 320'.

Hole No. 1 shows 115' of overburden, so we can get no help from surface indications. Incidentally, this explains why we could never trace the outcrop of the vein beyond the little hill which seems to be like an island.

The possible other assumption is that a flat overthrust fault was cut by the drill. If this is the case the lower portion of the vein will lie farther west as shown in this sketch. No. 2 Hole will prove this and guide further drilling following.

#2 - 10/8/23 - Mr. W. G. Rice -



In case the drilling proves much faulting it would be advisable to drift underground and to do more drilling before locating any permanent shaft.

Yours very truly,

C W Bolsford

Referred by Hoover &

(2)

May 17, 1923.

Mr. W. G. Rice,
Houghton,
Michigan.

Dear Sir:-

(Rawley)

My feeling about your Reliance Mine, near Gila Bend, is that it is about the most promising prospect that I have seen in Arizona. It should make a mine and should make a big one.

I have not enough data to give you a detailed description of the geology, acreage, dimensions of vein, and development, and such facts, so will content myself with merely stating what I saw and my reasons for the above statement.

The mineral showing is in a big vein cutting through andesite. The vein is not particularly prominent on the surface, although it may be traced for a long way, about a mile, that I know of. Where it has been opened up on your property, it dips at forty-five degrees, and an inclined shaft follows it down from the outcrop to the hundred foot level, that being approximately one hundred feet vertically. At this point the vein is opened by about three hundred feet of drifting and by cross-cutting in several places.

About two hundred feet from the surface outcrop, a vertical shaft has been sunk in the hanging wall and this cuts the same vein at about two hundred vertical feet. The vein is cross cut here from foot to hanging wall and there is only few feet of drifting.

The formation revealed on both levels is much the same. I estimated the horizontal width, from foot to hanging wall, to be fifty-five feet on the second level, and possibly a little less on the first level. The vein matter for about thirty feet from the foot wall, is an irony soft red leached material with bands of silicious copper ore through it; these being parellel to the walls. These also show copper carbonate, and the craks between the bands also carry some of this; the effect of the whole thing being a thirty feet vein of oxidized copper, stained vein matter.

From this to the hanging wall, the vein is entirely different; the material being a thoroughly leached water course material, made up mostly of barite, or heavy spar, and with a very little red iron. It looks almost like a breccia commented with the barite, the latter not being solid masses. Through this part of the vein, there is considerable galena, in scattered bunches and I also found lead carbonate in one place. The lead showing is not consistently throughout this part of the vein, as is the copper in the other part.

The foot and hanging walls are very sharply marked and uniform, while the separation between the two parts of the vein is not sharp - like a wall, although very distinct.

Throughout the three hundred feet opened on the first level, the conditions as above, are the same. Drifting on the second level was not done, I was informed because the completely oxidised condition found in cross cutting indicated the necessity for deep rather than lateral exploration. On neither level, nor on the surface is there anything to indicate any decrease in size or cutting off of the vein in any direction.

Accepting these facts as I have seen them, you have my reasons for believing this vein will make a mine. The whole thing looks so strong, it is so wide and the walls are so definite, that I cannot conceive of it pinching out. Furthermore, it is already proven to quite a depth, something over two hundred feet on the incline, and this whole extent being completely leached and copper stained, one must assume it is the oxidized zone above bodies of copper sulphide. I do not attempt to even guess at the meaning or effect of the upper part of the vein carrying the heavy spar, expect that I see no reason why it should have any influence detrimental to chances for finding copper sulphide under the other portion, and this last is extensive enough to make a good big mine. As a matter of fact the barium part of the vein appears to be narrower on the bottom than on the first level.

I offer all the foregoing in explanation of my belief that you are surely justified in developing this vein, and also that such development ought to be very successful.

I might add that this mine has an ideal loc tion for operating, either mine or plant, for treating this ore. It is in the low hills on the edge of the Gila River Valley, about a mile from the river and not more than three or four hundred feet above it. It is also only about twelve miles and over a good grade to the Southern Pacific Railroad.

Yours very truly,

Frank Austin Jr.

(3)

12a | ord by Botsford

Inspiration, Arizona. May 1, 1923.

Mr. Wm. G. Rice,
Phoenix, Arizona.

Dear Sir:

In accordance with your instructions, I have examined the Rowley mine and wish to submit the following remarks.

Various reports have already covered the working and equipment of the mine in full detail, and this report will deal only with the general geological conditions and the new work, with recommendations as to future development.

GENERAL

The Rowley vein is a large and well defined fissure vein striking about N - 30 W and dipping 45° to the East. It varies from 20' to 40' or more in thickness, with some mineralization extending into the foot-wall. It is a well defined compound fault and the vein occurs in two portions; next to the hanging-wall is from 10' to 30' of barite, with lead, silver and a little copper, and on the footwall side is from 20' to 30' of siliceous copper bearing vein material. Both walls are andesite.

MINE WORKINGS

1st. Level. This is about 100' below the surface. The vein has been opened by drifts and crosscuts for 300' in length with no change in either face. This shows oxidized and

and leached material containing some residual copper in lenses and veinlets as chrysocolla, malachite and, at a few points, a little residual chalcocite. The barite portion of the vein contains small bodies of lead ore. A little ore has been shipped from this level, but, as a whole, it is not workable. It is of value in showing the size, nature and longitudinal extension of the vein. (For Molybdenite, see Osborne's report.)

186' Level. The vertical shaft was recently unwatered and the vein crosscut at this level. It shows 18' of barite with some lead and silver, and 30' of the copper-bearing vein. The vein is still completely oxidized, and the copper ores are found in veinlets and stringers. No chalcocite was seen. The copper is more uniformly distributed throughout the vein than in the level above. The general average of the whole is about 1%.

CONCLUSIONS.

The vein on both levels opened is very completely oxidized and leached, only a few specimens of chalcovite stringers of oxidized ores having been found. The sulphide ores will be at greater depth than has yet been attained. The chances are excellent for large payable ore-bodies at lower horizons.

The hanging-wall of the barite vein and both the hanging and foot-walls of the copper veins are well defined, strong and regular faults. These may be expected to have longi-

tudinal extensions far beyond the ground at present opened by drifting. Other ore bodies may very reasonably be expected along these extensions.

RECOMMENDATIONS.

It seems most expedient to drill the vein by vertical holes to determine the location and extent of the sulphide zone. Probably five or six holes from 400' to 800' in depth will be required. If these are favorable, a vertical working shaft should be sunk in the hanging-wall for futther development and production purposes.

Respectfully submitted,

C. W. Botsford.

May 22, 1911.

REPORT

OF EDWIN WALTERS, GEOLOGIST AND CIVIL ENGINEER of the property of the ROWLEY COPPER MINES COMPANY in MARICOPA COUNTY, ARIZONA.

To the Rowley Copper Mines Company,
Kansas City, Missouri:

I have just retruned from your property. I made a careful examination of it, and report on the same as follows:

Piedra station on the Southern Pacific railroad is about twelve or thirteen miles south of your property, and is reached by an easy grade. For TOPOGRAPHY, GEOLOGY, WATER, FUEL AND CLIMATE, see former report.

ORE and VEINS.

In the lower, or valley, third of the mineral zone, is the vein of copper in which your shaft is sunk. The shaft follows a vein of copper ore all the way down, as shown on diagram. This vein carries from two to twenty-three per centum of copper all the way

No system of sampling will give absolute average values, except as to copper. It is possible to closely approximate the average values of copper ores. But these are highly oxidized and leached. The gold is mostly free, and is deposited in "wads". One sample may show $50. per ton in gold, and another sample taken from the same level, but at a distance of one yard from it, may give a trace of gold only. But there is no question but you have considerable, in fact a very considerable, values in gold. When you reach permanent sulphides, which should be at not much greater depth, your gold values will become fixed and permanent.

The molybdenate of lead, in fact all lead ores are disappearing below the water level, just as I predicted in my former report. But there is a hint that uranium is coming into the ores as depth is reached. A very little of this would over balance all the values of gold and copper. It is best, however, to "pin your faith" to gold and copper, and if the uranium should develop so much the better. Rich veins of copper, gold and silver ores may be expected anywhere in your 420-foot zone.

Your shaft has cut ore all the way down, growing richer with depth. At the water level and a little above, the shaft developed shipping ore with assorting. In the bottom of the 201-foot shaft and for some distance above it, you have about 3½ feet of decidedly good ore, at least 2 feet of which is shipping ore that runs from $30 to $60 per ton. The assay of a sample taken by me across the bottom of the shaft, and intended as an average, gives 21 per cent , or about $42 in copper values. At this writing the assayer has not determined the gold value, But I think it will reach at least $5, per ton-making a total of copper and gold of $47. per ton.

At the time of my first visit I predicted that your copper zone would contain a rich paystreak west of your shaft--toward your foot-wall, and that a vein of gold ore also probably lay in that direction. You acted on this prediction, made a crosscut on the water level (160 feet) and cut 4 feet in rich ore-- about 2 feet of which is chipping ore. This crosscut is in ore nearly all the way and you have not yet reached the foot-wall. Samples taken from the face of this crosscut show an average of 16.8 per cent copper, or a copper value of $33.60 per ton- the gold being yet undertermined by the assayers.

Now the present face of the crosscut is beyond this 4-foot rich paystreak. I did not sample this 4-foot paystreak, but it is considerably richer than is the present face of the crosscut. I think 2 feet of it will average about 25 per cent copper, which is richer than the shaft showed at the same level. Taking the rich paystreak at 25 per cent and the ore in the shaft at its assay of 21 per cent, the average of about 4 feet, your ore is 23 per cent copper, or a copper value of $46 per ton. As before stated, the gold values are difficult to average,

E S T I M A T E S.

MINING	@	$1.00 per ton		$500.00
MILLING	@	1.00 "	"	500.00
Superintendence & other incidentals per day	@			25.00
70 tons of 30% concentrates hauled to R.R.	@	.75 "	"	52.50
R. R. Freight	@	3.00 "	"	210.
Treatment at smelter	@	1.50 "	"	105.
				$1392.50

Per contra.

40000 pounds of copper	@	.10	$ 4000.00
Gold and silver	@	2.50 per ton	1250.
Gross income			$ 5250.
Less expenses.			1392.50
Leaving a daily profit of. . .			$ 3857.50

On the same basis a 200-ton plant would yield a daily profit of about $1157. or $347,100 in a year of 300 working days. This estimate is based in the proposition to transport the concentrates from the mine to the railroad by traction engines. If hauled in wagons the daily expense would be increased about $122.50, on a 500-ton basis, and $50. on a 200-ton basis.

It would be difficult to give a close estimate on the cost of plants; but a 500-ton plant would probably cost about $50,000 and a 200-ton plant about $30,000 to $35,000.

A FEW OBSERVATIONS.

There are two processes for the treatment of your oxidized copper ores. One is a water-jacket furnace that will convert all the ores into matte which will bear long shipment for refinement. Practically all of the values can be saved by this matte. The other process is leaching. If you have oxides for 200 or 300 feet in depth, then one or the other of these processes should be utilized.

When sulphides develop, and I believe you are almost down to permanent sulphide ores, then a concentrator should be installed. Greater depth is required to settle the matter.

In consideration of the great quantities of oxide ores already developed, and their values as shown by scores of assays, you would be justified in erecting a water-jacket furnace or leaching plant to treat these ores. But inasmuch as you must be down to the sulphide ores and their concentration is such a simple process, it may be better to continue sinking for the sulphides as you have been doing. I am much inclined to the sulphide proposition-unless the oxides continue deeper than is now expected. I cannot predict the level at which you will develop all sulphide ores. But I expect it to be not more than 275 feet from the surface maybe less.

G E N E R A L R E M A R K S

The developments have fully demonstrated the correctness of the opinions expressed in my former report. I am now able to state many verified facts that were opinions only a few months ago. I can also assert my expectations of the future developments of the property with even greater confidence.

Another thing that is greatly in your favor is the fact that the flow of warm water has not increased with depth. A small pump easily handles it at the 201-foot level. The pumping from that level has drained and cooled the ground on the 160-foot level. The temperature on this level has decreased about twelve degrees. As soon as you drift around a block of ore, the water will drain out of it and it will cool until mining will be comfortable. Your cold-air hose carries a supply of cold air to the face of your workings, as you sink or drift.

but putting the average at the low estimate of $5, the general average copper and gold values would be $51. per ton.

I estimate about 900 tons of ore on the dump. I think about 400 to 500 tons of this ore will run about $20 per ton in values, or total values of from $8,000 to $15,000.

Your crosscut is approaching a dyke or reef of phonolite-the matrix that has made Cripple Creek and some of the Nevada gold camps famous. Whether the phonolite will carry gold I cannot say; but when you cut through it you will most certainly get a vein of gold ore before you reach the foot-wall of your vein. Mrs Rowley has sunk a shaft 100 feet deep on this gold vein- about 300 yards southerly from your shaft. Assays from her shaft show values in gold of from $4 to $1000 A sample taken by me assayed $131.80 per ton.

This phonolite dyke is 30 to 40 feet wide where it crosses a canyon 4000 feet south of your property. The gold vein west of it, already referred to, is from two to four feet thick.

I would recommend that you sink your shaft to from 260 to 300 feet below the surface; then crosscut to the west until you reach the foot-wall covered with talc and other soft "gouge".

In my former report I predicted that good ore would be found to the west of your shaft. You acted on the prediction- cut 26 feet in that direction which along with the 32 foot crosscut to the east makes you now have close to 50 feet of ore that is workable with a plant on the ground. But you do not know what kind of a plant to install until you know the depth to permanent sulphide ores. You may find both a concentrator and a water-jacket furnace or leaching plant for the oxides desirable. In the mean time as soon as you have sunk from 100 to 150 feet below the water level, you can stope out and ship some of your high grade ores.

While you are developing, that is, sinking the shaft, crosscutting and drifting- you cannot ship much, for you need all of your cold air supply for these purposes. But by increasing the cold air you can stope out and ship considerable ore at a good profit.

While you are in the oxide levels your ores will be of all values from $4 to $5 up to more than $100 per ton- as you have found them. The leaching of the copper ores above have enriched the ores below, and concentrated the values in rich paystreaks. You may penetrate a zone of a few feet of what is called "second enrichment" of much richer ores than any you have yet developed. But when you reach the sulphides the values will disseminate throughout the vein. While the zone of "second enrichment" may average ten per cent of copper for a width of 40 to 50 feet, it will not average more than one-half of that percentage, but will be of greater value on account of the simple method of treatement. The sulphides are emphatically "a poor man's proposition", because they require no complicated machinery to prepare them for market. The oxides will not concentrate without waste of values in slimes. As already stated they must be treated in a furnace or by a leaching process, while sulphides require nothing but crushing, grinding, agitation and washing, or simple concentration.

I think it is very conservative to assume that when you reach the sulphides you will have 50 feet of at least 4 per cent copper ore. One foot in depth, 50 feet wide and 100 feet long, will yield about 4000 tons of ore. Suppose you erect a 500-ton concentrating plant.

I have mined in southern Arizona, and have been acquainted with the country for a quarter of a century. I am confident that you are in the same zone as is the famous "Vulture" mine that has yielded millions of dollars. J. D. Cusenbary of Independence, Mo. was superintendent of the "Vulture" for nine years, and during that time obtained from $500,000 to $1,250,000 per year from it.

Southwestern Arizona is noted for the amount of gold its copper fields contain. Its copper contains far more values in gold than the copper fields farther north and east, and your carbonates show greater value and exist in greater quanty than the average copper properties of Arizona or so far as I know, anywhere else. Your sulphides, I have every reason to believe will be correspondingly rich and extensive.

You are fortunate beyond the holders of any other property of which I know in having a property which is an extraordinary exception to the rule, that copper properties are so expensive in their development that only heavy capital can handle such enterprises.

In proportion to its size, your property ought to equal the United Verde, the formation being quite similar to that famous property, or any of the pther best ones in the Territory.

All in all I consider your property one of the most wonderfully interesting and inviting propositions, which in the course of forty years of experience in the examination of mines, I have ever investigated.

Respectfully submitted,

Edwin Walter
Geologist and Civil Engineer.

Kansas City, Missouri,
May 22, 1911.

(6)

REPORT ON
SAN CARLOS COPPER MINES COMPANY
OF ARIZONA.

PROPERTY

The San Carlos property consists of eleven full mining claims known as San Carlos, San Carlos #1, San Carlos #2, San Carlos #3, San Carlos #4, San Carlos #5, San Carlos #6, San Carlos #11, San Carlos #12, John Junior and Oasis.

LOCATION

The San Carlos property is located in the Painted Rock Mining District, Maricopa County, Arizona, about twenty-five miles northwest of Gila Bend and twelve miles north of Tartron, stations on the Southern Pacific Railroad.

ACCESSIBILITY

The group is unusually accessible, being reached by an auto-truck and wagon roads over railroad grades.

TOPOGRAPHY

The group is along the western slope of the Painted Rock Mountains. The topography is comparatively uniform for a mining property. The lowest point is about 460 feet and the highest about 600 feet above sea level.

GEOLOGY

The original formations on the surface of the property were probably upper carboniferous limestones. Then came the first disturbance, during which a number of trap dykes were formed. These dykes trend easterly and

westerly, and vary from 2,000 to 8,000 feet apart.

The second uplift formed the main mountain range and the primary contact paralleling it. This contact is about midway from the main vein to the crest of the mountains.

The third uplift destroyed all limestones not previously destroyed. Closely paralleling the contact on the east side is a formation of obsidian, or volcanic glass. It varies from 35 to 70 feet in thickness, and is on the horizon of the Niagara limestone. The horizon of this limestone in Arizona is about 2,600 feet below the horizon of the original upper carboniferous limestones. But the Niagara horizon on the east side of the contact now stands in some places 400 feet above the upper carboniferous limestone horizon to the west of the contact. This means that any given rock on the east side of this contact is now about 3,000 feet higher than the same rock on the west side of the contact. This also means a fissure in the earth to a depth of many thousand feet.

At the time of the third uplift, a primary or main vein was formed that parallels the contact, and is from 1,200 to 1,500 feet from it. I call this the main vein, but it consists of at least four veins. However, they so closely parallel one another that I represent them as one.

On the west side of the ore zone, and closely associated with the veins, are the reefs of rhyolite, diorite, impure jasper porphyry, and other igneous rocks. The jasper porphyry is several hundred feet wide, but on the east side of the ore zone, near the contact, the formations are similar to those found along the veins,

but trachyte must be added to the list.

This contact and ore zone crosses Oatman Canyon about one mile south of the property. Just west of the zone, in Oatman Canyon, is a white, or gray, formation about 1,100 feet wide. It seems to be either chlorite quartz or phonolite.

So far as can be determined by a surface survey, the walls of this contact are vertical. The main veins are about 1,200 feet westerly from the contact. These veins dip towards the contact at an angle of about 45 degrees from a vertical plane. So the veins probably reach the contact at depths of from 1,500 to 1,700 feet, measured on the incline of the veins.

ORES AND VEINS

From a point on the Rowley property, near the main shaft, the formations dip downward in the direction of south, southeast, to the dyke on the San Carlos group. This dip causes the main ores in the San Carlos group to lie at lower levels than they do in the Rowley mine.

All geological conditions obtaining at the two properties point to the fact that the main mine lies within the San Carlos property, but geological conditions there would not allow the main body of ore to penetrate to the surface. The Rowley mine cap being lower and softer and a vent in it being made, the gases and waters flowed through it making the enormous deposit of ore at the Rowley. However, geological conditions clearly indicate that the Rowley mine has only the extreme end of the San Carlos ores.

The main shaft of the San Carlos is about 230 feet deep. At this level there are about 150 feet of

drifts and cross-cuts. Besides the main well-defined vein, several other veins were encountered in sinking and cross-cutting. Some of these gave assays that ran as high as $710.00 per ton, mostly in copper and gold. There is, of course, no large body of this ore at present.

The main shaft of the San Carlos is about 1,500 feet from the main shaft of the Rowley mine. The south workings, underground, of the Rowley mine are about 550 feet from the north line of the San Carlos.

No lengthy description of the Rowley property is necessary here, as reports by different engineers are accessible to anyone. But I will say that I am credibly informed that two United States engineers, or geologists, have stated that there are from seven to nine million dollars' worth of ore in sight. The Rowley mine is a wonderful property, and this fact is obvious to anyone, whether experienced in mining or not, who examines it. As I stated above, geological conditions indicate that with depth the San Carlos will develop an ore body far in excess of that at the Rowley mine.

Attention has been called to the dip towards the dyke. I believe an area of from 75 to 125 acres at the foot of this incline, immediately north of the dyke, has received the solutions of copper to such an extent as to render the entire area of workable richness.

The three main veins in the Rowley mine were cut in 58 feet. The lead and molybdenum zone is about 28 to 30 feet wide, and is about 15 feet in the clear, east of the three copper-gold veins.

The copper and gold ores in the Rowley mine are peculiar in a mineralogical sense. The crystallization of

these ores prove that most of them were deposited from below - probably from the contact.

The usual formations in a copper zone are as follows:

1- From the surface to water level, a zone of leached and highly oxidized ores;

2- Beginning near the water level, a zone of second enrichment - a zone of rich oxidized ores that gradually merge into the sulphides; and

3- Permanent sulphide ores. Above the sulphides nearly all the values indicate that they were infiltrated from above. Their source being sulphides that have been decomposed on higher levels and been leached out of rocks long eroded away.

There have been some enrichments from higher levels in the Rowley mine, but most of the values came from below - almost certainly from the contact.

This fact explains why no sulphides have been encountered in the Rowley mine. While sulphides may be reached at any depth below the water level, it is possible for the oxide ores to continue down to the junction with the contact - to a depth of about 1,600 to 1,700 feet.

The conditions existing in the Rowley mine have been set forth in this report, for the reason that the development work done at this mine has made available geological data which have a direct bearing on the ore deposit in the San Carlos and tend to prove the correctness of the deductions made after careful study of the San Carlos property.

WATER

Theres is an abundance of water at shallow depths

within one mile. One well about 2,000 feet from the San Carlos is about 50 feet deep, and the water in it is pure and soft, and is abundant in quantity.

FUEL

There is an abundance of mesquite and other wood for domestic fuel, but crude oil is the most available for mining purposes.

GENERAL REMARKS

I believe that the San Carlos property has every chance of becoming a wonderful mine, duplicating if not excelling the Rowley mine.

Aside from its high grade possibilities and probabilities, it has the indications of a great deposit of millions of tons of low grade copper ores.

I do not hesitate to recommend the San Carlos, and believe that it has every chance of becoming a wonderful producer.

Respectfully submitted,

(Signed) Edwin Walters,

Sawtelle, California.

Former Geologist, State of Missouri.
Former Geologist, Kansas City, Pittsburgh and Gulf Railroad.

I hereby certify that the above is a true and correct copy of the original report that is on file in the office of the San Carlos Copper Mines Company.

C A Rowley Pres.

Rm 424 New Customhouse
Denver 2, Colorado

February 12, 1952

Mr. Jack R. Fedrick
938 S. Orange Grove Ave.
Los Angeles, California

Dear Mr. Fedrick:

This will acknowledge your letter of February 5, inquiring as to the status of your application for exploration assistance, DMA-1965.

The report by the examining engineers is in this office. The information will be assembled and reviewed and when this is completed, the Field Team, Region IV will inform you of its decision.

Very truly yours,

J. H. Eastp

J. H. Eastp, Jr.
Executive Officer
Field Team, Region IV

cc: Storms
Keechmann (2)
Sub
Chron

W.H.K.

WHK:bh

Form 6-95

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REFERENCE SLIP

DATE 2/7/52

REFERRED TO:

1. King
2.
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	..... Referring to .....
..... Conference	..... Reply for signature of .....
..... Consideration	..... Rewriting
..... Filing	..... Signature
..... Instructions	..... Suggestions
..... Investigation	..... Your information
..... Initials	
..... Mailing	
..... Previous correspondence	

REMARKS: PLEASE REPLY---Letter from Jack R. Fedrick, Re: DMA 1965.

Check (X) before the items needing attention.

Initials of sender.

GPO 16—51162-1

Jack R. Fedrick
938 S. Orange Grove Ave.
Los Angeles, Calif.
5 February 1952

A77

Defense Minerals Admi.
Dept. of the Interior
224 New Customhouse Bldg.
Denver 2, Colorado

REGIONAL DIRECTOR'S
OFFICE
REGION IV
FEB 6 1952
BUREAU OF MINES
DENVER, COLORADO

attn: Mr. East.

Dear Sir:

I would like to inquire as to status of my application for an exploration loan on the Rowley mine, DMA 1965.

Thank you!

Sincerely yours
Jack R. Fedrick

Kindly reply
JRF

a contract in the office.
assumbe info, Reviewed

W.H.K.
Thanks
Forwarded 1/7

Mining Division
Date Rec'd.
JAN 29 1952
Bureau of Mines
Denver, Colorado

MINING DIVISION
REGION IV

January 25, 1952

Re: DMA Docket 1965X

Mr. Jack Rowley Fedrick
938 South Orange Grove Ave.
Los Angeles 36, Calif.

My dear Mr. Fedrick:

Enclosed are the old reports that you loaned our Messrs. M. J. Elsing and W. T. Griswold.

We want to thank you very much for the use of this material in making our report on your Rowley or Reliance mine near Gila Bend, Maricopa County, Arizona.

Sincerely yours,

Walter R. Storms, Chief
Arizona-New Mexico Branch

CC W. H. King
DMA-1965X
DF

WRStorms:frj

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

SEP 27 1951

DMA

REGIONAL DIRECTOR'S
OFFICE
REGION IV
OCT 1 1951
BUREAU OF MINES
DENVER, COLORADO

Mr. Jack R. Fedrick
938 S. Orange Grove Avenue
Los Angeles, California

Re: DMA Docket 1965

Dear Mr. Fedrick:

This is to acknowledge your letter of September 25, 1951 requesting information as to the status of your application for a loan.

We wish to inform you that your application is being processed at present with due consideration for possible Government assistance. Since there are various persons and offices who review each application and also because of the shortage of personnel, there is a delay in informing applicants of the progress of their applications.

Very truly yours,

J. B. Gowen

J. B. Gowen, Chief
Copper Branch

Mcaughrpa
9/26/51

Copy to: Administrator's Reading File
Executive Officer, Region IV
Copper Branch
Files-DMA Docket

Mailed

File WOM

Jack Rowley Fedrick
938 S. Orange Grove Ave.
Los Angeles, Calif.

Sept. 25, 1951

The Defense Minerals Administration,
Department of the Interior,
Washington 25, D. C.

Att: Copper Division:

Dear Sirs:

In reference to my application for an exploration loan, DMA 1965, has there been the time or opportunity to consider it:

If I may be of any service what-so-ever, please let me know.

Respectfully yours,

Jacl R. Fedrick

COPY

224 New Customhouse
Denver 2, Colorado

December 6, 1951

Memorandum

To: W. R. Storms (with brochure)

(Through Chief, Mining Division, Region IV)

C. D. Anderson

From: DMA Field Team, Region IV

Subject: DMA Docket 1965, Jack Rawley Fedrick, applicant; Painted Rock District, Maricopa County, Arizona

Enclosed is the application of the subject docket and a review by the Coordinating Committee for an exploration loan of $15,000.

The proposed work consists of 3,000 feet of diamond core boring in three holes.

A copy of Kittendorf's letter is attached and you will note that he suggests that a bid for the drilling should be obtained, and also requests return of the exhibits with the report.

F. T. Allmann, Alternate

A. H. Koechmann

A. H. Koechmann

Enclosure

WHK:ld

cc: DMA docket, chron.
Koechmann

Form 6-95

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REFERENCE SLIP

DATE 12/5/51

REFERRED TO:

1. Allaman RTC
2. King
3.
4.

FOR:

Stamp to Anderson

..... Action	..... Recommendation
..... Approval	..... Record
..... Comment	of .....
..... Conference	..... Referring
..... Consideration	to .....
..... Filing	..... Reply for signa-
..... Instructions	ture of .....
..... Investigation	..... Rewriting
..... Initials	..... Signature
..... Mailing	..... Suggestions
..... Previous correspondence	..... Your information

REMARKS: Brochure, DMA 1965, Jack Rowley Fred Fedrick, 938 S. Orange Grove Ave., L.A., Calif., Copper-Lead-Molybdenum, Painted Rock Dist., Maricopa Co., Ariz. Total: $15,000 Gov't: $7,500

Check (X) before the items needing attention.

Initials of sender.

GPO 16—51162-1

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

AIR MAIL

DEC 3 - 1951
REGIONAL DIRECTOR'S OFFICE REGION IV
DEC 5 1951
BUREAU OF MINES DENVER, COLORADO

Mr. J. H. East, Jr.
Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMA-1965, Copper-Lead-Molybdenum
Jack Rowley Fedrick
938 South Orange Grove Ave.
Los Angeles 36, California

Dear Mr. East:

This is your authority to make a field examination of captioned Applicant's property in the Painted Rock District, Maricopa County, Arizona. We are enclosing one copy of the application and supporting exhibits. However, we can find only one copy each of the various exhibits therefore kindly return them to this office with the Field Team report when completed.

As you will note, Applicant proposes to let a contract for drilling three 1,000 foot holes at a cost of five dollars ($5.00) per foot. It is not clear however, whether Applicant has to furnish 1,000 ft. of "A" drill rods and 500 ft. of AX casing in addition to the contract price. An drilling ~~contract~~ should be obtained.

Another point to consider is whether there is a rake to the orebody and if so does the placement of the proposed drilling take the rake into consideration. It appears to us the location chosen for doing this drilling is too far from the present workings. Four or five holes might be drilled closer to Holes 1 & 2 for the same money, since they would be shorter, and thus afford a better picture of this deposit at depth.

If the adjoining claims immediately to the south belong to the Applicant, it is our opinion that these claims might benefit, should an important discovery be made, and therefore should be included in the project. Please check on this point.

Sincerely yours,

O P Mitchell

ACTING Administrator
Defense Minerals Exploration
Administration

Enclosures

APPROVED:

Frank E. Johnson
Chairman, Operating Committee

Lowell B. Moon
Member, Bureau of Mines

T. P. Thayer
Member, Geological Survey

204 Post Customhouse
Denver 2, Colorado

December 6, 1951

Memorandum

To: W. R. Storms (with brochure)

(Through Chief, Mining Division, Region IV)

C. H. Anderson

From: DMA Field Team, Region IV

Subject: DMA Docket 1965, Jack Rowley Fabrick, applicant; Painted Rock District, Maricopa County, Arizona

Enclosed is the application of the subject docket and a review by the Coordinating Committee for an exploration loan of $15,000.

The proposed work consists of 3,000 feet of diamond core boring in three holes.

A copy of Mittendorf's letter is attached and you will note that he suggests that a bid for the drilling should be obtained, and also requests return of the exhibits with the report.

F. T. Allmon, Alternate

A. H. Koschmann

Enclosure

WHK:jd

cc: DMA docket, chron.
Koschmann