UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
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224 New Customhouse
Denver 2, Colorado

January 30, 1957

Memorandum

To: Secretary, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4540 (Copper) Gila Mines, Inc., (Deero Copper et al claims), Grant County, New Mexico

Enclosed are the original and three copies of a joint engineering and geologic report of examination on the subject property.

The field examiners recommend that the application be denied. We concur in their recommendation.

DMEA Field Team

Original signed
W. M. TRAVER

By W. M. Traver
Executive Officer

Enclosure

MHM/vj

cc: Harshman)
Emerick)
Mining Division) w/copy of report
Storms)
Docket)
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
2-4-57
(date)

TRANSMITTED

JAN 30 1957

MINERAL DEPOSITS
RECEIVED
JAN 25 1957
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

DMEA
DEPARTMENT OF THE INTERIOR
JAN 28 1957
REGION III
DENVER, COLORADO

Box 4126 University Station
Tucson, Arizona

January 22, 1957

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MEMORANDUM

To: Executive Officer, DMEA Field Team, Region III

From: W. L. Emerick, U. S. Geological Survey
T. M. Romslo, U. S. Bureau of Mines

Through: W. R. Storms
E. N. Harshman

Subject: Docket DMEA 4546 (Copper), Gila Mines, Inc., (Deero Copper et al claims), Grant Co., New Mexico

Enclosed are the original and 8 copies of a joint field report on the above property, recommending denial of the application.

Also enclosed are the Bureau and Survey copies of the docket.

W L Emerick
W. L. Emerick, Geologist

T M Romslo
T. M. Romslo, Mining Engineer

WLE:ms

cc: W. M. Traver (8)
Harshman
Storms
W. H. King

Reviewed by
DMEA OPERATING COMMITTEE
2-4-57
(date)

FOR UNITED STATES GOVERNMENT USE ONLY

TRANSMITTED

JAN 30 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

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DMEA-4546, (Copper), Gila Mines, Inc.

Deere Copper et al Claims

Pinos Altos Mining District

Grant County, New Mexico

W. L. Emerick, Geologist
U. S. Geological Survey

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

January 22, 1957

Reviewed by
DMEA OPERATING COMMITTEE
2-4-57
(date)

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SUMMARY, CONCLUSIONS AND RECOMMENDATION

Gila Mines, Inc. applied to the Defense Minerals Exploration Administration for Governmental aid in a proposed exploratory project for copper at the Gila Mines, Grant County, New Mexico. The proposed explorations of the application, docket DMEA-4546, comprised rehabilitation of 2 shafts from the surface to their bottoms, sinking each shaft to a depth of 250 feet and drifting from near the bottom of each shaft for a total of 1000 feet. Cost of the work was estimated at $69,027.05.

The Gila Mines probably were discovered during 1860 when gold placers were first worked in the Pinos Altos Mining District. Since then they have been intermittently explored and worked mainly for gold, silver, and copper. The principal workings, all presently inaccessible, comprise 3 shafts that reportedly are bottomed at footage depths of 70, 90 and 140. The major part of total production is believed to be represented by 4 recorded shipments. Two of the shipments during 1936 and 1937 totalled 51.5 tons of ore containing approximately 1.3 percent copper, 1.4 percent lead, and 0.73 ounce gold and 5.0 ounces silver a ton. The other shipments were made in 1953 and 1954. They totalled 7.3 tons of ore containing about 6.7 percent copper, 0.5 percent zinc and 0.01 ounce gold and 23.5 ounces silver a ton. Field evidence indicates all of the production was

probably as sorted ore from selective mining operations. Activity since 1954 has been confined to the drilling of 4 shallow diamond drill holes by the applicant during the period August to October 1956.

Granodiorite, as a portion of a roughly elliptical mass in the Pinos Altos area, crops out extensively on the property of the Gila Mines except on the northeast where it is covered by diabase. Thickness of the diabase is unknown. Several fissure veins with westerly dips cut across the granodiorite in a northeasterly direction. Northerly striking fissure veins with nearly vertical dips are present in the diabase. The veins in both rocks are discontinuous and narrow. In the granodiorite the veins range in width from fractions of an inch to 12 inches or more but all of the vein width is not mineralized. Veins in the diabase range from 1/8 inch to possibly 2 or 3 inches in thickness. They occur as parallel zones of veins. At one place 5 parallel veins, each a fraction of an inch in width, occur in a zone about 5 feet wide.

Ore minerals in the veins consist of malachite and azurite, chalcocite or covellite (?), chalcopyrite, galena and sphalerite. Also present are significant amounts of gold and silver. Gangue minerals are pyrite, limonite, kaolin, quartz and probably minor amounts of barite and calcite.

Field evidence and production records strongly indicate that the veins of the Gila Mines do not contain significant reserves of minable ore near the surface. Furthermore, there is no reason to expect more extensively mineralized zones with depth. It is therefore recommended that Government aid in the proposed exploratory project at the Gila Mines be denied.

DMEA-4546, (COPPER) GILA MINES, INC.
DEERO COPPER ET AL CLAIMS
PINOS ALTOS MINING DISTRICT
GRANT COUNTY, NEW MEXICO

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INTRODUCTION

An application by the Gila Mines, Inc. for aid in an exploratory project for copper at the Gila Mines in Grant County, New Mexico was received by the Defense Minerals Exploration Administration November 23, 1956. It was docketed as DMEA-4546, reviewed by Operation Committee and forwarded to the Field Team, Region III for a field examination of the property and report of recommendations.

The proposed explorations comprise: (1) rehabilitation of 2 shafts, one 70 feet deep and the other 140 feet in depth; (2) sinking each of the 2 shafts to a depth of 250 feet; and (3) approximately 1,000 feet of drifting from near the bottom of the 2 shafts. The estimated total cost of the proposed work was $69,027.05.

The property was examined January 9, 1957 by W. L. Emerick, geologist, U. S. Geological Survey, and T. M. Romslo, mining engineer, U. S. Bureau of Mines. Present during the examination were A. W. Morehead and Harold E. Shile, respectively Vice President and Treasurer of the corporation.

LOCATION AND ACCESSIBILITY

The Gila Mines are situated about 8 air miles northeast of Silver City, New Mexico, in secs. 29, 30, 31 and 32, T. 15 S., R. 13 W., Pinos Altos Mining District, Grant County, New Mexico (fig. 1). They may be reached from Silver City by automobile via all-weather roads

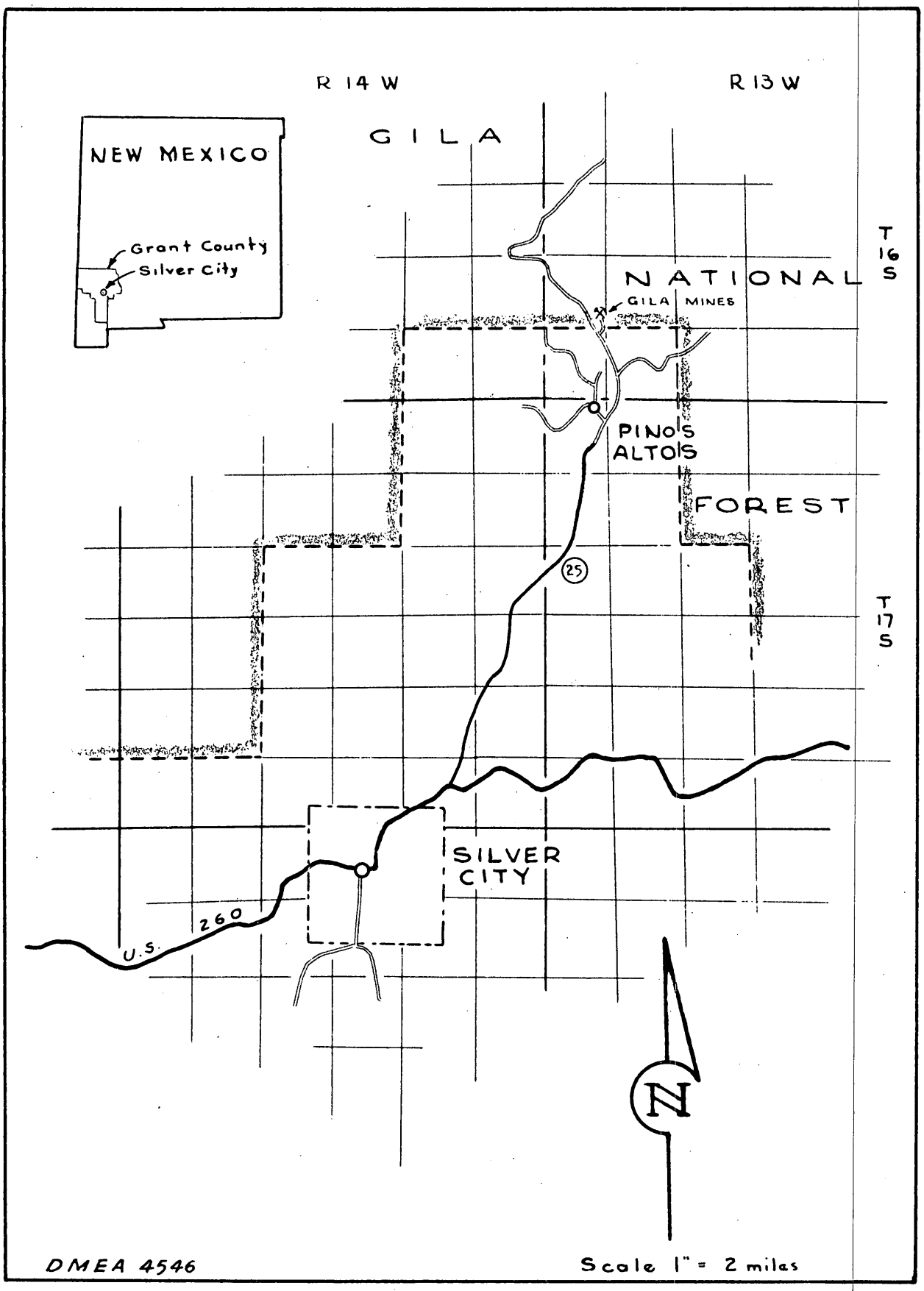

FIG.-1- LOCATION MAP, GILA MINES INC.,

GRANT COUNTY, NEW MEXICO

that contain no excessive grades. A mileage log of the trip to the mines follows:

Junction U. S. Highway 260 and State Highway 25 at the north city limits	0.00
Drive north on State Highway to:	
Village of Pinos Altos	6.5
Gateway to Gila National Forest	8.0
Turn right and follow unimproved road to shaft of vein B (fig. 2)	8.1

PHYSICAL FEATURES AND CLIMATE

The Gila Mines are situated along the east side of a gulch at the northeast foot of the Pinos Altos Mountains, a northerly trending range about 5 miles long and 3 miles wide. They are at an average altitude of about 6,800 feet in an area of gently rolling hills. Maximum altitudes of nearby peaks are about 8,000 feet above sea level.

The climate is moderate to cold, with a temperature range of from about 0° to 90° F. Annual precipitation of about 20 inches mainly occurs as heavy rains during the summer and light snowfalls during the winter.

Vegetation near the mines consists mainly of forage grasses and a light growth of scrub oak trees and pines.

Drainage is northerly to Cherry Creek. There are no nearby permanent streams.

HISTORY AND PRODUCTION

There is little readily available information about the early history and production of the Gila Mines. Exploration of the gold bearing veins of the mines probably was intermittent since discovery of gold placers in the Pinos Altos district in 1860. The principal exploratory workings consisting of several shallow shafts probably were put down prior to 1936.

The only recorded shipments of ore from the mines were during 1936 and 1937 and during 1953 and 1954. As far as known, the mines were inactive between the 2 productive periods. Essentially all production from the mines is believed to be represented by the following shipments:

		Ounce per ton		Percent		
Date	Tons	Gold	Silver	Zinc	Lead	Copper
3/36	26	0.84	1.6	--	1.8	0.38
6/37	25.5	0.61	8.4	--	1.0	2.20
12/53	3.6	0.01	17.6	--	0.4	5.06
5/54	3.7	0.02	29.4	1.0	0.0	8.4

The ore shipped during 1936 and 1937 reportedly came from a stub drift off the 70-foot shaft on the "B" vein. The ore of the other shipments is reported to have been mined from the 90-foot shaft of "F" vein. Field evidence indicates all of the production was probably as sorted ore from selective mining operations.

Activity at the mines since May 1954 has been confined to the drilling of 4 diamond drill holes by the applicant during August, September and October 1956.

EXTENT AND OWNERSHIP OF THE PROPERTY

The applicant's property comprises a group of 5 lode mining claims, the Beero Copper Nos. 1 and 2, the Owl, the Osage Silver and the Linda Loo No. 1 (fig. 2).

Gila Mines, Inc., the applicant, has made application for possession of the unpatented Linda Loo No. 1 claim after reported completion of assessment work. The other 4 claims are patented and are owned by Ed Warmbrodt and Harry H. Eaton of Silver City, New Mexico. The owners leased the claims for a period of 1 year from May 28, 1956 to A. W. Morehead, who assigned the lease agreement to the corporation.

Officials of the Gila Mines, Inc., Silver City, New Mexico and 315 West 6th Avenue, Amarillo, Texas, are:

President, Granville W. Jones, 818 Sunset, Amarillo, Texas

Vice President, A. W. Moorehead, Silver City, New Mexico

Secretary, A. Curtis Neal, 1901 Karen, Amarillo, Texas

Treasurer, Harold B. Shile, 1213 Fannin, Amarillo, Texas

PRESENT STATUS

The property is inactive.

Mine workings comprise several shallow shafts and numerous shallow pits, trenches, and 4 diamond drill holes (fig. 2). The most extensive workings are 3 inaccessible shafts that are reportedly bottomed at depths of 70, 90, and 140 feet.

Buildings on the property comprise a 20-foot high headframe and a 10- by 16-foot frame hoist house at the shafts of each of the veins "B", "J" and "F".

Equipment on the property consists of a mine car and ore bucket at the "B" vein shaft and a diamond drill rig with drilling equipment at "J" vein shaft. The drill rig, a home-made outfit, is mounted on a Chevrolet truck.

GEOLOGY

In the Pinos Altos area a roughly elliptical mass of granodiorite intrudes diorite porphyry and in turn these two intrusives are covered to the northeast by trachytic and basaltic lavas.[1] Northerly and northeasterly trending fissure veins, with steep dips inclining to the east and west, cut across the granodiorite and diorite porphyry and the contact between the two rock masses.[2]

1/ Paige, Sidney, The ore deposits near Pinos Altos, New Mexico: U. S. Geol. Survey Bull. 470, pp. 109-110, 1910.

2/ Opus cit., p. 113.

At the property of the Gila Mines, Inc. the granodiorite is covered on the northeast by diabase of unknown thickness (Figure 2). The diabase in turn is overlain further to the northeast (off the map) by trachytic or rhyolitic rocks. Several fissure veins with westerly dips cut across the granodiorite in a northeast direction. Northerly striking fissure veins with approximately vertical dips are present in the diabase on the property.

Owing to cover, none of the veins in the granodiorite or diabase on the property can be traced for very great distances. Paige[3/] states in regard to veins about a mile to the southwest that "The veins may be traced various distances on the surface, from a few hundred feet to nearly a mile. All of them die out on the surface in a horizontal direction by splitting up or fingering out into ramifying veinlets."

Most of the veins in the granodiorite of the report area have strikes ranging from 35 to 70 degrees northeast, and westerly dips ranging from 60 to 70 degrees. The veins in the granodiorite are discontinuous and tight and range in width from fractions of an inch to 12 inches or more, but all of the vein width is not mineralized. Some of the veins consist of alternating zones of limonite and clay with a single narrow mineralized zone about 1½ inches or less in width. Others consist of single or parallel bands of mineral from less than an inch to 2 inches wide in a quartz gangue, and these may range from 1 to 12 inches or more of total width. Wall rocks generally have only a very thin zone, 1/8 inch or less, of alteration.

3/ Opus cit., p. 113.

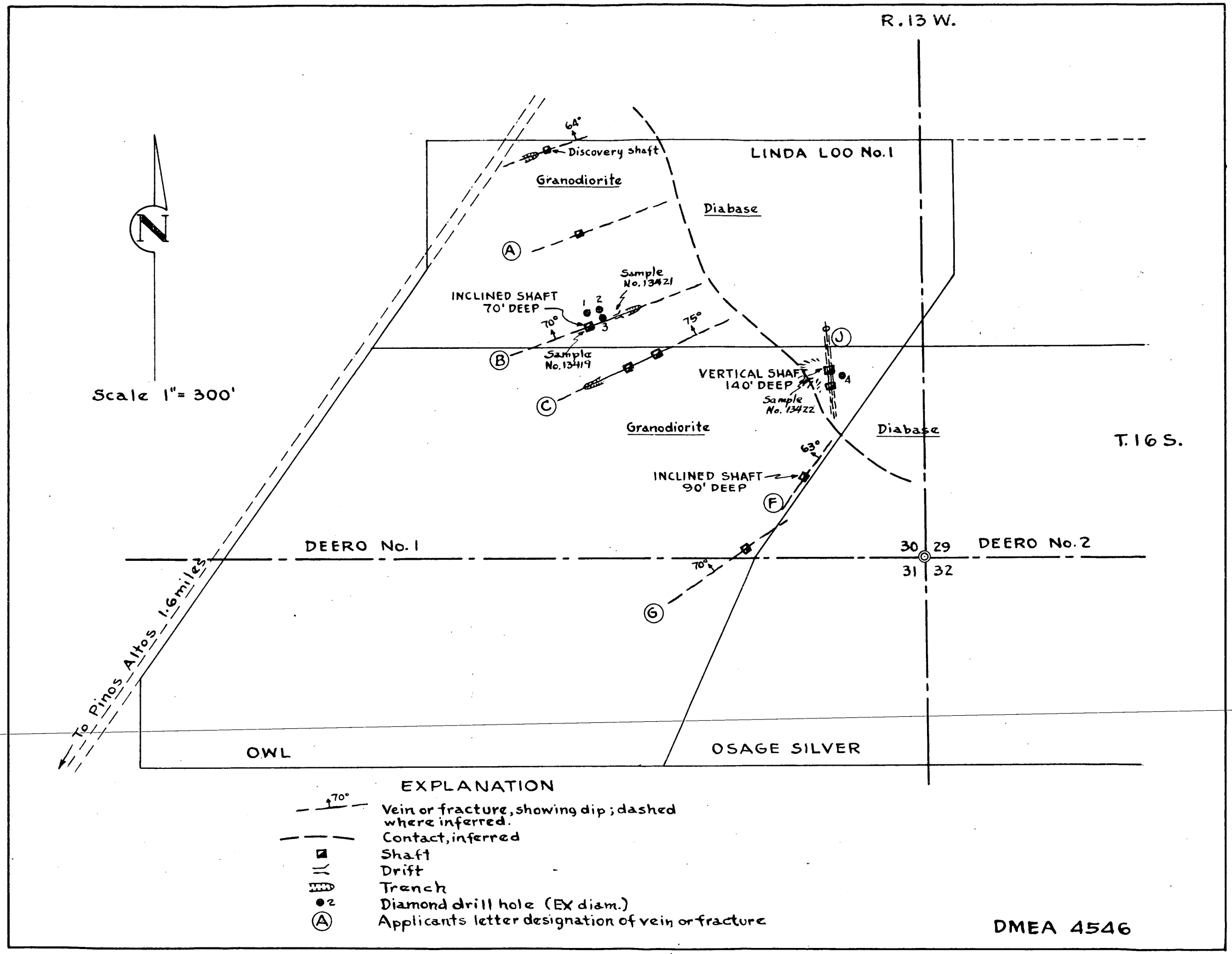

FIGURE 2.— SKETCH OF GEOLOGY, GILA MINES INC., GRANT COUNTY, NEW MEXICO.

The strike of the veins in the diabase at the 140-foot shaft of the "J" vein (Fig. 2) are about N. 5 W. with approximately vertical dips, but they are stated to veer from vertical to a westerly dip at depth. Veins in the diabase also are discontinuous and range from 1/8 to possibly 2 or 3 inches and occur as vertical and parallel zones of veins. They are said to increase in width at depth in the inaccessible shaft. There are 5 parallel veins visible in the width of the shaft wall at the surface. All are tight veins and only fractions of an inch in width.

Ore minerals in the veins on the property consist of malachite and azurite, chalcocite or covellite (?), gold, silver, galena, chalcopyrite, and sphalerite. The sulphides are complex. Gangue minerals are limonite, kaolin, quartz, and probably minor amounts of barite and calcite. Only the oxides of copper are visible in the surface exposures of the veins; sulphides were noted in dump rocks and in specimens stated to have come from the shafts.

A 12-inch channel sample was cut by one of the applicants across the vein in the 70-foot inclined shaft on vein "B" (Fig. 2) at about 65 feet. Owing to unsafe access this vein was not examined at depth but from appearances of the sample some sulphides are present at the sample location. The 12-inch vein at the stated sample location consisted of two parallel bands of copper oxide and sulphides in

a hard quartz gangue. The sample (No. 13419) was assayed by the Bureau of Mines, Tucson, Arizona, and gave the following results: 0.01 ounces of gold per ton, 18.7 ounces of silver per ton, and 5.18 percent copper. Applicants' assay of vein material in this shaft, probably from about the same depth and of the best vein material, obtained an analysis of 0.115 ounces per ton of gold, 22.50 ounces per ton of silver, and 11.25 percent copper. A 12" channel sample (No. 13421) cut across the "B" vein near the surface in a short drift (Fig. 2) about 100 feet northeast of the 70-foot shaft assayed: a trace of gold, 0.7 ounces per ton of silver, and 1.12 percent copper.

Assay sheets submitted by the applicant show a 3.6 ton shipment, by previous owners or lessors, from this shaft in December 1953 that assayed per ton 0.01 ounces of gold, 17.6 ounces of silver, 0.4 percent lead, no zinc, and 5.06 percent copper. A second shipment of about 3.7 tons was made in May 1954 by the same people and assayed per ton 0.02 ounces of gold, 29.4 ounces of silver, no lead, 1.0 percent zinc, and 8.40 percent copper.

Applicant states two short drifts were driven in either direction along the vein from the bottom of the 70-foot shaft. Abandonment of work in the shaft and tunnels by the earlier workers suggests that the best of the vein and vein material was probably extracted.

Three EX diameter diamond drill holes (Nos. 1, 2, and 3, Fig.2) were put down in the vicinity of the 70-foot shaft by the applicant for depths of about 163, 161, and 123 feet respectively. No. 3 hole was inclined about 75 degrees east and Nos. 1 and 2 were vertical. All were in granodiorite. Hole No. 3 was stated to have intersected vein "B" at about 62 feet. The following assay results per ton were obtained by the applicant from the core at the intersection: 0.25 ounces of gold, 37.50 ounces of silver, and 12.5 percent of copper. Holes 1 and 2 were barren with the exception of a show of pyrite at about 126 feet in Hole No. 2.

Two shipments of ore were made by earlier workers from the 90-foot inclined shaft on the "F" vein (Fig. 2). One shipment of about 26 tons was made in March 1936 and assayed per ton 0.84 ounces of gold, 1.6 ounces of silver, 1.8 percent lead, and 0.38 percent copper. A second shipment of about 25½ tons was made in June 1937 and assayed per ton 0.61 ounces of gold, 8.4 ounces of silver, 1.0 percent lead, and 2.20 percent copper. No additional information was available on this shaft and it was inaccessible to examination.

Past owners or lessors apparently had screened considerable of the dump material adjacent to the 140- shaft on the "J" vein (Fig.2), but there does not seem to be any record of ore shipments from the shaft. Applicant submitted the following assay results from material

sampled previous to October 1956 from this shaft:

	Gold	Silver	Copper
At 60-foot level	0.16 oz./T.	7.2 oz./T.	4.08%
At 85-foot level	0.14 oz./T.	10.0 oz./T.	5.0 %

A grab sample (No. 13422) from the dump taken during the field examination and assayed by the Bureau of Mines in Tucson gave the following results: a trace of gold, 2.8 ounces per ton of silver, and 1.50 percent copper.

Applicant put down a 300-foot diamond drill hole of EX diameter about 40 feet east of the 140-foot shaft. No core from this hole was available for inspection, nor did the applicant indicate that anything significant was shown by the hole.

ORE RESERVES

No attempt was made to estimate reserves, but it is believed from observable geologic conditions that they are not significant.

CONCLUSIONS AND RECOMMENDATION

It is concluded by the examiners that the potential ore reserves of the veins on the applicant's property are probably insignificant. The veins are discontinuous, narrow, and tight, and must be selectively mined. Dump sizes suggest very little drifting on the veins from the bottom of the shafts. The lower limits of the shafts and the suggestion of only a small amount of drifting on the veins probably

indicates pinching of the veins along the strike and dip. No significant tonnages of ore have been shipped or developed from the veins in the past, and it does not appear probable from geological conditions present that a significant quantity of ore would be found by the proposed exploration. It is therefore recommended that the application be denied.