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

224 New Customhouse
Denver 2, Colorado

November 14, 1956

Memorandum

To: Secretary to the Operating Committee

From: DMEA Field Team, Region III

Subject: Joint Report of Examination Docket DMEA 4415 (Asbestos) Samuel Patterman, et al, KAPH Fiber Company (Leturno Group) Gila County, Arizona

Enclosed are the original and three copies of a joint Geologic and Engineering Report of Examination on the subject docket.

The field examiners noted that the veins are thin, linticular, discontinuous, and pinch out 10 feet below the outcrop. They concur that exploration is not warranted because there is no geological evidence to indicate that a significant amount of asbestos exists on the property.

They recommend that the application be denied and we concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver
Executive Officer

Reviewed by
DMEA OPERATING COMMITTEE
11-19-56
(date)

DMEA
DEPARTMENT OF THE INTERIOR
NOV 13 1956
REGION III
DENVER, COLORADO

TRANSMITTED
NOV 14 1956

November 5, 1956

Memorandum

To : Executive Officer, DMEA Field Team, Region III

From : John N. Faick
Lincoln A. Stewart

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

WRS
WLE
E.N.H

Subject : Docket DMEA-4415 (Asbestos) Leturno claims, KAPH Fiber Company, Gila County, Arizona

Enclosed are the original and 9 copies of an examination report recommending denial of Government aid in exploration of the above subject property. Enclosed are the Survey's and Bureau's copies of the application.

RECEIVED
NOV 16 1956
D.M.E.A.

John N. Faick, Geologist
U. S. Geological Survey

Lincoln A. Stewart, Mining Engineer
U. S. Bureau of Mines

CC W. M. Traver (Orig. & 8)
E. N. Harshman
J. F. Shaw
W. R. Storms
File
DF

JNFaick:LAStewart:frj

Reviewed by
DMEA OPERATING COMMITTEE
11-19-56
(Date)

FOR UNITED STATES GOVERNMENT USE ONLY

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NOV 14 1956

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

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DEFENSE MINERALS EXAMINATION BY FIELD TEAM
REGION III

DMEA 4415 (ASBESTOS) KAPH FIBER COMPANY

LETURNO GROUP OF CLAIMS

GILA COUNTY, ARIZONA

Lincoln A. Stewart, Mining Engineer
U. S. Bureau of Mines

John N. Faick, Geologist
U. S. Geological Survey

November 5, 1956

Reviewed by
DMEA OPERATING COMMITTEE
11-19-56
(date)

DMEA 4415, (ASBESTOS) KAPH FIBER COMPANY
LETURNO GROUP OF CLAIMS
GILA COUNTY, ARIZONA

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RECEIVED
NOV 16 1956
D.M.E.A.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

On August 9, 1956 the Defense Minerals Exploration Administration received an application for assistance in exploration for asbestos on the Leturno group of 70 unpatented claims most of which are situated in Section 28, T. 7 N., R. 15 E., about two miles south of Rock House near Young, Gila County, Arizona. The application, which is docketed as DMEA 4415, was submitted by Samuel Patterman, Sol Halagua, Edwin Aron, and Ernest Kohnert, who are organized as the KAPH Fiber Company, and who control the property by means of location. Lincoln A. Stewart, Engineer, U. S. Bureau of Mines, and J. N. Faick, U. S. Geological Survey, examined the property October 23, 1956, with Ernest Kohnert acting as guide.

On this property very small amounts of asbestos are exposed in a few shallow cuts, the largest of which is a short distance southwest of the stock tank in the southeast corner of section 28. At this cut, 3 thin stringer veins of asbestos occur on bedding planes in Mescal limestone near a slightly discordant contact with diabase. The veins are thin, lenticular, and discontinuous. The veins pinch out in a distance not exceeding about 10 feet below the outcrop and could not be traced in the outcrop beyond the prospect cut. The fiber in the veins is short, somewhat harsh, and contains admixtures of serpentine and calcite. The fiber probably is not of strategic quality and there is no geological evidence to indicate that it exists in minable quantities.

The applicants proposed to explore the deposit by stripping the outcrop, diamond drilling and drifting at an estimated total cost of $23,820.

Exploration of the deposit is not justified because of its very small size; therefore it is recommended that the application be denied.

INTRODUCTION

A partnership, composed of Samuel Patterman, Sol Halegua, Edwin Aron, and Ernest Kohnert, all of Box 146, Young, Arizona, applied for Defense Minerals Exploration Administration assistance under Docket DMEA-4415 to explore their Leturno group of claims for asbestos. The property, consisting of 70 contiguous, unpatented claims in Gila County, Arizona, is situated in the Tonto National Forest, 32 road miles from Young.

The claims cover the entire sec. 28, T. 7 N., R. 15 E., and extend into the bordering secs. 27, 29, 32, 33, and 34 (fig. 1).

The proposed exploration included 6,300 feet of drilling, 100 hours of bulldozer stripping, and 200 feet of drifting, at an estimated cost of $23,820.

Field examination of the property for the DMEA was made on October 23, 1956 by Lincoln A. Stewart, mining engineer, U. S. Bureau of Mines, and J. N. Faick, geologist, U. S. Geological Survey. Edwin Kohnert, one of the partners, accompanied the field team on their examination.

The firm name, KAPH Fiber Co., indicated by signs on the property, apparently was not established at the time of submission of the application.

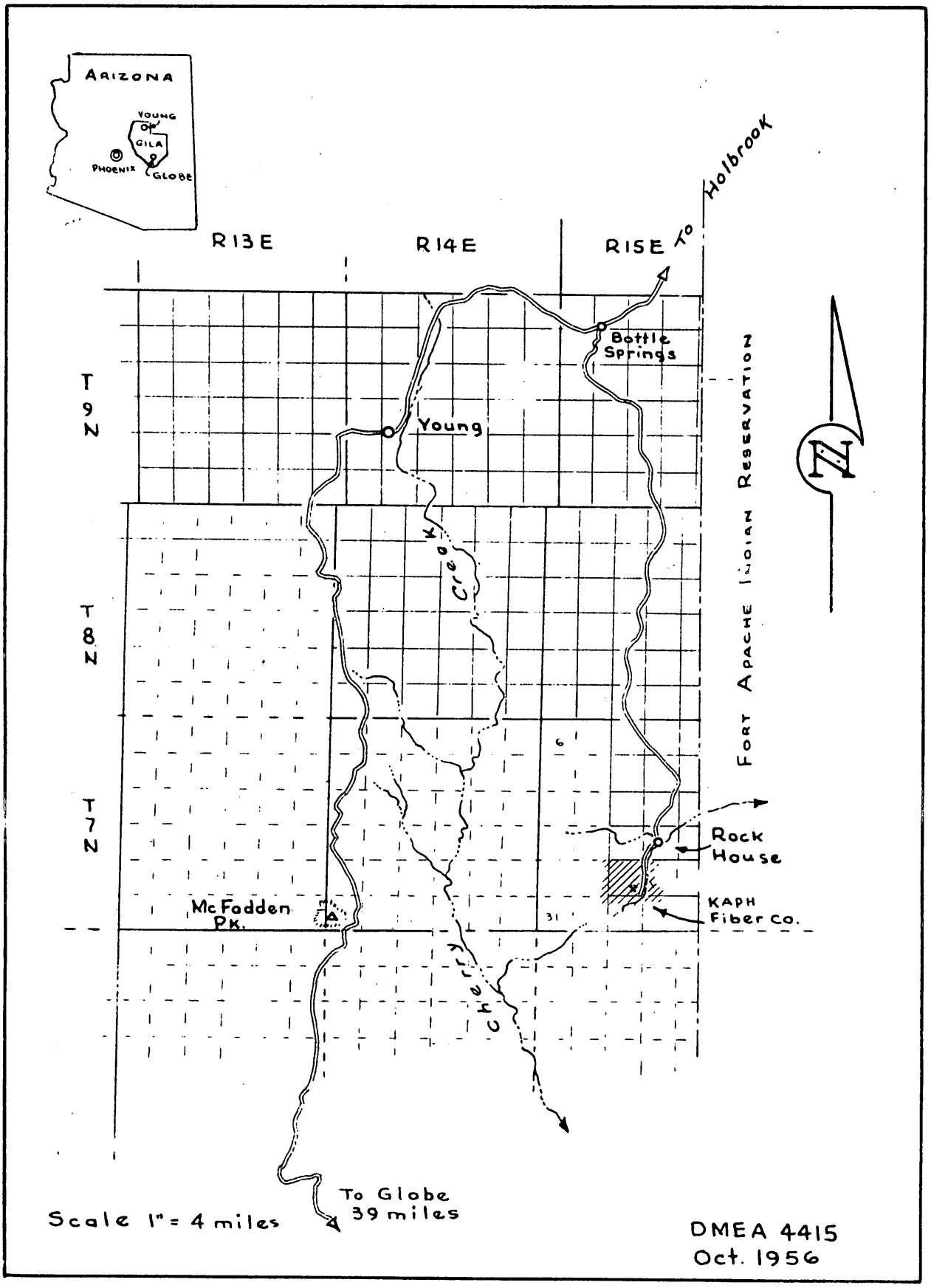

FIG. 1 LOCATION MAP, KAPH FIBER CO. LETURNO GROUP
GILA COUNTY, ARIZONA

LOCATION AND ACCESSIBILITY

The KAPH Fiber Company's Leturno group of claims is situated in the Sierra Ancha mining district, 15 airmiles southeast of Young, Arizona, in the Rock House area of the Tonto National Forest. The claims are accessible from Young by traveling 10.7 miles northeast on the Young-Holbrook road to Bottle Springs, thence south on the graded dirt Rock House road for 20.3 miles to the Rock House. The camp is 1.3 miles further south on a poor truck trail, and the workings are approximately 0.3 mile from the camp. The total distance from Young to the camp is 32.3 miles. Young is 70 miles north of Globe, Arizona.

OWNERSHIP, EXTENT OF PROPERTY AND PRESENT STATUS

The KAPH Fiber Co. owns the Leturno group of claims by right of location. The group consisted of 70 contiguous, unpatented claims at the time the application was made. The examiners were told that several more claims were added to the group later.

At the time of the examination (October 23) only Ernest Kohnert, one of the partners, was living on the property in a very crude camp. The few shallow prospect pits had been made by hand drilling. No equipment was noted except a good pickup and hand tools.

GENERAL GEOLOGY

The asbestos deposits in Central Arizona occur in the Mescal limestone formation of the younger Precambrian or Apache group which rests upon a basement of schists and gneisses. The generalized stratigraphic section applicable to the area is as follows:

GENERALIZED COLUMNAR SECTION

Age	Formation	Thickness (feet)	Average Thickness
Tertiary & Quaternary	Gravel & Sand		
Cambrian	Troy quartzite	500	
	Unconformity		
Younger pre-Cambrian (Apache Group)	Vesicular basalt flow	0-75	75
	Mescal limestone	225-400	300
	Dripping Spring quartzite	450-700	700
	Barnes conglomerate	0-50	
	Pioneer shale	150-250	250
	Scanlan conglomerate		
	Unconformity		
Older pre-Cambrian	Granite and schist		

The Mescal limestone is readily divisible into two members. The upper member, known as the algal member, is from 50 to 140 feet thick, and is thick bedded to massive, except near the top, where it contains much silt and shale and locally is well bedded. The massive limestone contains many concentric, saucer shaped structures which represent algal growth. The base of this algal member is readily discerned in most places and serves as an excellent stratigraphic marker.

The lower member of the Mescal is well-bedded, locally cherty, dolomitic, gray limestone ranging from 150 to 200 feet thick. In the Mescal limestone there generally is from 10 to 12 feet of relatively pure, gray crystalline limestone in beds from 1 to 4 feet thick immediately below the algal member. Below this pure unit is a zone about

20 feet thick of impure limestone in beds ranging from one-half to four inches thick, and from 30 to 45 feet below the base of the algal member the beds are again relatively pure and relatively thick bedded. The beds deeper in the section are generally thin, impure, and in places shaly.

Numerous sills and dikes of diabase have intruded the Cambrian and Precambrian rocks and are especially numerous in the Mescal. The sills range from a few inches to several hundred feet thick and in places transgress across the beds. Asbestos deposits occur mostly in the upper part of the lower member of the Mescal limestone, and generally are in close proximity to diabase intrusions.

At Rock House, a mile south of Lacey Forks Canyon, a group of claims is owned by the American Fiber Company. The geology of these claims, which apparently is typical of the area, has been described by Stewart[1/] and Shride[2/]. At Rock House, a thick diabase sill underlies the Mescal limestone and in places intrudes into it, thus cutting out part of the most favorable beds. In the remaining favorable beds several deposits of asbestos are localized near the contacts with diabase. Asbestos-bearing zones that have been explored on the Rock House claims are 3, 7½, 9, 13, and 19 feet below the base of the algal member. Some of these are being successfully exploited at the present time.

1/ Stewart, L. A. Chrysotile Asbestos Deposits of Arizona, U. S. Bureau of Mines Information Circular 7706, pp 86-89, 1955.

2/ Shride, A. F. Chrysotile Asbestos Deposits, Gila County, Arizona, Unpublished Manuscript, pp 143-148.

GEOLOGY OF THE LETURNO GROUP OF CLAIMS

The prospects on the Leturno group of claims, presently controlled by the KAPH Fiber Company, are situated in McFadden Peak quadrangle near the head of Horse Canyon, about 1½ miles south of the American Fiber Company's operations at Rock House. Geologically, the Rock House claims essentially are similar to the Leturno claims. Several shallow prospects, near the stock pond or tank shown on Fig. 2, have explored very small asbestos-bearing zones. These are localized near the contact with diabase that apparently is discordant with the intruded limestone.

The largest occurrence discovered on the claims is situated on the north slope of a hill a few hundred feet southwest of the stock tank, on the Castle No. 9 claim. At this locality a small amount of asbestos is found in 3 thin stringer veins on bedding planes in limestone. The limestone beds strike N. 63° W. and dip 15° SW, and the dip of the diabase is a few degrees steeper. The limestone exposed in the 15-foot adit is light gray and well bedded, with beds ranging in thickness from about two inches to eighteen inches. It is moderately to strongly altered to green and gray serpentine. The base of the algal member is exposed in the hill about 15 or 20 feet above the prospect. Higher in the algal member, the limestone becomes somewhat more reddish, and contains considerable chert and sandstone.

In this prospect, the uppermost fiber zone, which is the largest exposed on the property, occurs about 15 feet below the base of the algal

member, and the others are respectively 18 inches and seven feet below the first. The largest vein, which is the upper vein, attains a maximum thickness of two inches at a depth of only a couple feet below the outcrop, but it virtually pinches out within a distance of about 10 feet along the dip, and almost no fiber exists at the face of the prospect cut. This vein, which is slightly oxidized and iron stained, appears to have been localized along a zone that may have been weakened by bedding plane faulting. The second vein, about 18 inches below the upper vein where visible in the walls of the crosscut, attained a maximum thickness of about 3/8 inches but it also pinched out before reaching the face of the cut. The lowest asbestos veinlet was reported by the applicant but it was not seen by the writers; apparently it was very small and evidence of it was destroyed during prospecting. This vein was only a few inches above the diabase contact. None of the veins could be traced along the strike beyond the limits of the cut.

All of the asbestos material in the cut was weakened and discolored by weathering. Prior to oxidation it might have been a fair quality of fiber; however it is admixed with serpentine and calcite which would make it considerably less than strategic quality.

Beds that probably are stratigraphically slightly higher than the beds exposed in the largest cut are exposed by several smaller cuts for a distance of a couple hundred feet farther north. These smaller cuts revealed considerable serpentine but not more than trace amounts of asbestos.

At a lower altitude, and slightly north of the stock pond, a shallow shaft was reported to have yielded a little asbestos but none was seen by the examiners. This shaft was in the algal limestone which, because of the difference in elevation and difference in stratigraphy, indicates the throw of a fault that passes through or near the stock pond probably is in excess of a couple hundred feet.

CONCLUSIONS AND RECOMMENDATIONS

The prospects examined by the writers contained the best known occurrences of fiber, but as these were too small and too poor quality to be significant, no effort was made to study all of the 70 claims belonging to the applicant company. A little harsh slip fiber is said to be present on the Roger No. 1 claim, but this isolated occurrence was not visited because slip fiber is not known to be significant in the Central Arizona asbestos district, and was considered by the applicant to be less important than the deposits examined on the Castle No. 9 claim.

On this claim the best showing of fiber is in the 15-foot adit, but the amount of asbestos is insignificant. The veinlets virtually pinch out at the face, probably reflecting the increased distance from diabase occasioned by the dip of the contact.

Because there is no geologic reason to expect better mineralization at depth, it is considered that exploration aid is not justified. Therefore it is recommended that the application be denied.

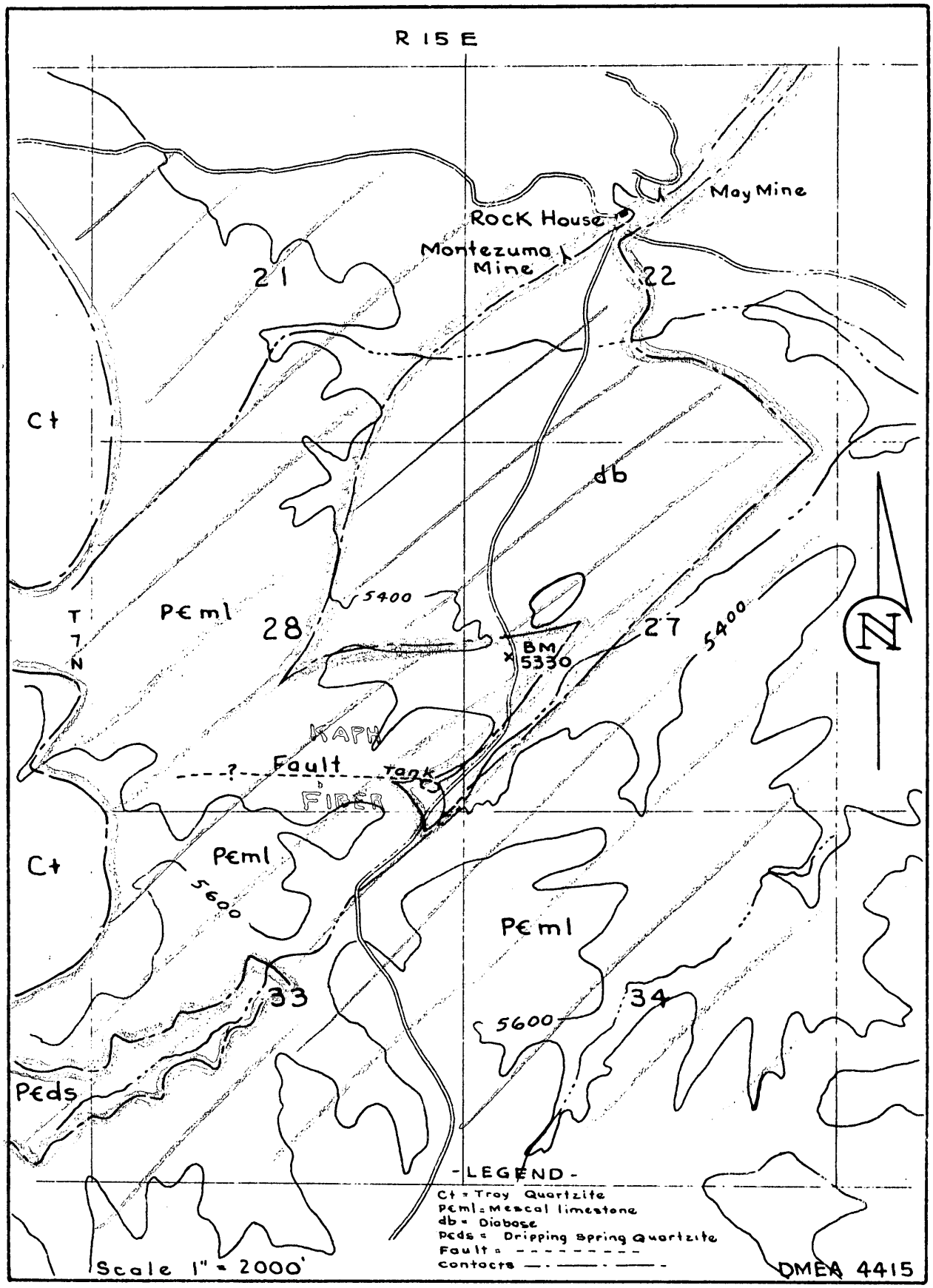

FIG. 2 GEOLOGIC SKETCH MAP, KAPH PROPERTY & VICINITY
GILA COUNTY, ARIZONA