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A
GEOLOGIC and ENGINEERING

REPORT

of the

HOPE ASBESTOS CLAIMS

Gila County, Arizona

by

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Mining Consultant

Phoenix, Arizona

March 13, 1960

TABLE of CONTENTS

	<u>Page</u>
Introduction - - - - -	1
Conclusions - - - - -	1
The Property - - - - -	2
Location - - - - -	2
Facilities - - - - -	2
Past History and Development - - - -	3
Geology and Mineralization - - - - -	3
Development - - - - -	3
The Product - - - - -	5
Ore Reserve - - - - -	5
Mining - - - - -	5
Capital Investment - - - - -	6
Recommendations - - - - -	6

Index Map.
Claim Map.
Geologic Map--Main Adit

INTRODUCTION

The writer personally completed a one day cursory examination of the Hope Asbestos Group of claims, Gila County, Arizona, on March 10, 1960. This brief examination was completed at the request of Mr. Raymond Walker, 7947 Demond Dr., Fontana, California.

The purpose of the examination was to obtain sufficient evidence from which an opinion could be derived as to the possible potential of this property as a future producer of good to excellent grades of asbestos fibers.

The limited time permitted on the property for the examination allowed but a general review of the regional geologic setting and locally, the completion of a hasty survey and geologic mapping of the major underground development adit. It is upon this rapid review that the following report has been prepared and written:

CONCLUSIONS

Evidence observed and noted during the examination, the writers own knowledge and past historical statistics of the district all contribute to the conclusions herewith presented.

- (1)-Geologically, the Hope Asbestos claims cover an area of favorable conditions required for asbestos mineralization, namely, exposures and presence of the Mescal limestone and an igneous diabase intrusive.
- (2)-Moderate to strong asbestos mineralization is present on the property and such mineralization is structurally controlled by the anticlinal-synclinal alignment of the limestone bedding which was contorted into such alignment by the igneous diabase intrusive common to the area.
- (3)-Strong mineralization (fibers of #1 and #2 grades) concentrate themselves on the flanks of the "wavey" condition of the limestone.
- (4)-The present development work (main adit) exhibits sufficient evidence that much strong mineralization (long fibers) should exist in the area because of the close proximity to exposed diabase and the strong anticlinal-synclinal structure of the limestone here.
- (5)-Properly guided exploration should develop ample tonnages of good to excellent grades of fiber.
- (6)-A properly designed mining method will do much toward promoting a successful mining venture on this property.

- (7)-Mining and development (exploration) must be carried on simultaneous at a slow pace in order to develop sufficient reserves to permit an increased rate of mining.
- (8)-An investment upwards of \$10,000 will be required to properly initiate a mining-development program and such program should provide a long life, profitable producing property. The rate of progress will be directly proportional to the amount of initial capital available for the required program.

THE PROPERTY

The Hope Group of claims consist of eleven standard lode mining claims as two groups, one group containing seven claims and the second containing four claims. These groups are separated by what is thought to be $\frac{1}{4}$ to $\frac{1}{2}$ mile of open ground.

Mr. Lewis Ellsworth of Globe, Arizona is owner of the claims. A lease has been contracted for between the owner and Mr. Raymond Walker of Fontana, California.

Legality of ownership is recognized, assessment work being current and recorded as required by law.

For position and claim direction see accompanying Claim Map.

LOCATION

The Hope Asbestos property is located some forty miles northeast of Globe, Arizona in the Tonto National Forest, approximately six miles west of U. S. Highway 60, in Gila County, Arizona. More specifically speaking, the claims lie in what would be Sections 25 and 30 of T. 5 N., R's 16 and 17 E. were this section of the country surveyed. Refer to Index Map.

U. S. Highway 60 is an all weather paved road and at a point 35 miles from the "Y" with U. S. Highway 70 at Globe, a left turn is made over 6.2 miles of rough access mine road to the property.

FACILITIES

No facilities as gas, water or electric power exist on the property, although a small spring does exist a short distance from the mine which should supply the necessary water for mining and domestic purposes but same would have to be hauled to location.

Although the present access road is passable, improvement of same should be made.

Mine timbers (not much needed for mining), gasoline and other supplies must be obtained from Globe, a good center for such purchases.

PAST HISTORY & DEVELOPMENT

No information is available as to past production tonnages or grades of fiber. Early production seemed to have faired very nicely since there is much evidence of a systematic mining method, however, the last operator apparently had little knowledge or concept of proper and profitable mining since there is much evidence of asbestos being lost in the existing muck pile covering the floor of the drift north of the fault. It is rumored the last operator removed some \$5,000 worth of fiber but it probably cost him much more than that because of his inability or lack of mining technique knowledge.

Development of the property consists of two adits, one on the group of seven claims and the other on the group of four claims. The former adit, of greatest importance at this time, is 360 feet in length with short crosscuts in both directions as well as an early drift paralleling the now existant adit but which is gobbled and thus inaccessible. (See Claim Map for location and Geologic Map of Adit)

The adit located on the group of four claims was not examined because of the time element. Its approximate location is spotted on the Claim Map.

GEOLOGY and MINERALIZATION

Rocks in the area include the Dripping Springs Quartzite, Mescal Limestone and an igneous diabase intrusive. Generally speaking, the sediments are flat lying but where influenced by the intrusive diabase, have been gently and broadly folded into minor anticlines and synclines.

Asbestos mineralization as the mineral chrysotile has concentrated itself along the bedding planes within the Mescal limestone. When encountered, the mineralization is quite consistent and wide spread. Fibers $\frac{1}{4}$ to $\frac{1}{2}$ inch are the most common. Greater fiber lengths are most generally encountered on the flanks of the gentle rolls or waves of the bedding planes where a greater void space or separation between the planes was permitted as a result of the pressure created by the diabase intrusive. This provides a structural control and guide to develop ore of greater fiber lengths, however, a more detailed geologic study must be made to correlate the positions of the rolls in order to forcast a target of exploration.

DEVELOPMENT

Major development of the Hope Asbestos claims consists of

a 360 foot adit which has followed asbestos mineralization over its entire length. In addition, old workings as a parallel drift and rooms provides a development width of 50 to 75 feet. Crosscuts in the opposite direction add an indicated width of 30 feet for a grand total width of 100 feet. Mineralization is in evidence in all walls and faces, thus continuance can be expected.

At a point 265 feet from the portal of the adit, a vertical east-west trending fault was intersected and penetrated. Fiber mineralization to this point, as exposed in the adit on both walls, consists of one continuous zone containing one to three bands of chrysotile, the fiber length of which ranges from $\frac{1}{4}$ to $\frac{1}{2}$ inch. For one half this adit distance, or about 140 feet, the $\frac{1}{4}$ inch fiber length rules. Beyond this distance however, a tendency for the fiber length to increase is a definite criteria. A mined out room 20 feet south of the fault towards the portal, produced fiber lengths upwards of $\frac{1}{2}$ inch. Fibers $\frac{1}{2}$ inch to $\frac{3}{4}$ inches remain in the walls.

A much pronounced marker (?) bed immediately below the fiber mineralization in that portion of the adit from the portal to the fault consists of a light iron stained, tan colored lime bed.

Mineralization north of the fault occurs as two zones, an upper and lower, and separated by five to six feet of barren lime. The upper zone is carried near the back of the adit with the lower zone near the floor. Lengths of fibers for much of the adit advance beyond the fault range from 1 to $1\frac{3}{4}$ inches in length. These exposures are on the west wall of the adit and in a crosscut just beyond the fault. Measured dips of the upper mineralized zone indicate that a "flank" of one of the anticlinal "rolls" is west of the present adit and long fiber mineralization is anticipated. The lower zone is weaker and not too visible.

A marker (?) bed below the upper zone of mineralization is a dense, dark, black horizon, the same being consistent north of the fault.

The east-west trending fault is roughly a five foot zone which shows movement as well as much dispersed mineralization for the full width as well as for several feet north of the zone itself.

Because of the existing conditions of fault and mineralization, the writer suspects that an upper zone may be present above the zone which was maintained in the face when driving the adit south of the fault. A short raise at a well chosen location will quickly prove or disprove this suspicion. The location must be well chosen. Were the upper zone present, it should be as strong as the upper zone evidenced north of the fault which should therefor produce fibers comparable to what is expected in future production from this upper zone north of the fault.

Future development must be simultaneous with mining operations, in fact, an actual part of the mining operation but it must be done in such fashion to eliminate much useless work and completed under guidance of a professional person. Failure to do so may result in an unsuccessful operation.

THE PRODUCT

Determination of an average value for a ton of fiber is difficult to ascertain because of the great variance dollar-wise for the many grades of fiber, \$1800 per ton for #1, \$200.00 for #6. and mineralization-wise, the great variance of the fibers themselves within the mineralized zone, a $\frac{1}{2}$ inch at this point and $\frac{1}{4}$ inch at a distance one foot away. Only future production records will point the way towards a true average value per ton.

At the present time, the writer feels that a substantial tonnage of #1 and #2 grades can be extracted from the indicated potential that exists in the west wall of the adit north of the fault previously referred to.

The writers concern with reference to markets for the product were considerably eased by the advise received from Mr. R. Walker, who indicates he is assured markets for all grades of fiber that he could produce, therefor, this property is in a profitable position because of the better than average "run" of other producers in the area. Much of the ore in the Hope property will be similar to the "average", however, the writer is firmly convinced that a much greater percentage of "long" fibers will be mined from this deposit than from others in the nearby vicinity. Much will depend on the mining technique.

ORE RESERVES

To express ore reserves in tons and value at this stage, as previously explained, is extremely difficult. The writer can only state at this time that there is much "fiber" exposed in the walls of the workings and that in his opinion there is much potential behind the walls. Geologic conditions exist which prompt the thought.

Unfortunately, the previous operator knew little of mining asbestos ore. The adit and cross-cut north of the fault are half full of broken muck which contains much salvageable fiber were it removed from the adit and treated as "ore". This "ore" plus the "ore" now existing in the dump at the portal could provide some revenue. In both cases this "ore" must be considered "mill ore".

MINING

Mining of "fiber" is highly selective and must be done by those experienced in same. Quantity of volume removed is not the objective in fiber mining. Mining must be done systematically

with the object in mind of removing as clean and undiluted product as possible and not destroying the fiber length to any great degree. Occurance of the longer fiber asbestos will probably be pod-like, the horizontal expanse of which will not exceed 20 to 25 feet in either dimension. Extraction is therefore in the form of small rooms which may or may not require support. In general, the limestone stands well, but occasionally a very fractured member of limestone is encountered which does require timber support.

To start an operation at the Hope property, several days of "dead work" will be required. The dump must be re-arranged in order to permit horizontal entry into the adit, rail must be repaired and releveled, and the adit and cross-cut north of the fault must be completely cleaned. At least a 2 inch air line must be installed in the adit instead of the 1 inch line now installed. An air receiver of some capacity should be placed just south of the fault, preferably at the "Y". At present, a slusher ramp is installed at the fault and can readily be used to facilitate "clean-up" operation of the muck pile. Advancement of two headings or one heading and one mining face should be proceeding at the same time. A 210 cfm compressor is therefore a requirement. Besides the two mine cars, drills and complete slusher, no other major mining equipment is necessary. Ventilation may become a problem, however, natural ventilation might be solved using the parallel adit or drift and a short raise to the surface.

CAPITAL INVESTMENT

The writer understands that the necessary mining equipment is available without further purchases other than supplies as powder, fuel, some timber, etc. Capital investment is therefore limited primarily to operating expenses.

Even though #1 and #2 fibers may be immediately mined, revenue will be slow coming and mining as well as development expenses will continue.

Considering all necessary expenditures for continued supplies, labor, insurance etc, the writer feels that no less than \$10,000 cash must be available to properly undertake an operation of this property. Anything short of this figure would prove futile.

RECOMMENDATIONS

The following recommendations are provided you to guide the course to a successful operation:

- (1)-Provision of \$10,000.00 or more.
- (2)-Complete clean-up work.
- (3)-Provide the necessary and required rated equipment.

- (4)-Start development work by driving or advancing the west cross-cut north of the fault.
- (5)-Start mining (as a cross-cut) the "long fiber" exposure of the west wall of the adit north of the fault.
- (6)-Put up a 6 foot raise approximately 20 feet south of the fault and to the east of the adit.
- (7)-Maintain the lower asbestos zone immediately above the floor of the work and the upper zone immediately below the back of the work.
- (8)-Proceed slowly with the development and mining work, increasing the pace as time and developed reserves permit.
- (9)-Use experienced miners.
- (10)-Obtain the necessary professional help which in the writers opinion is so absolutely necessary for asbestos mining and production.

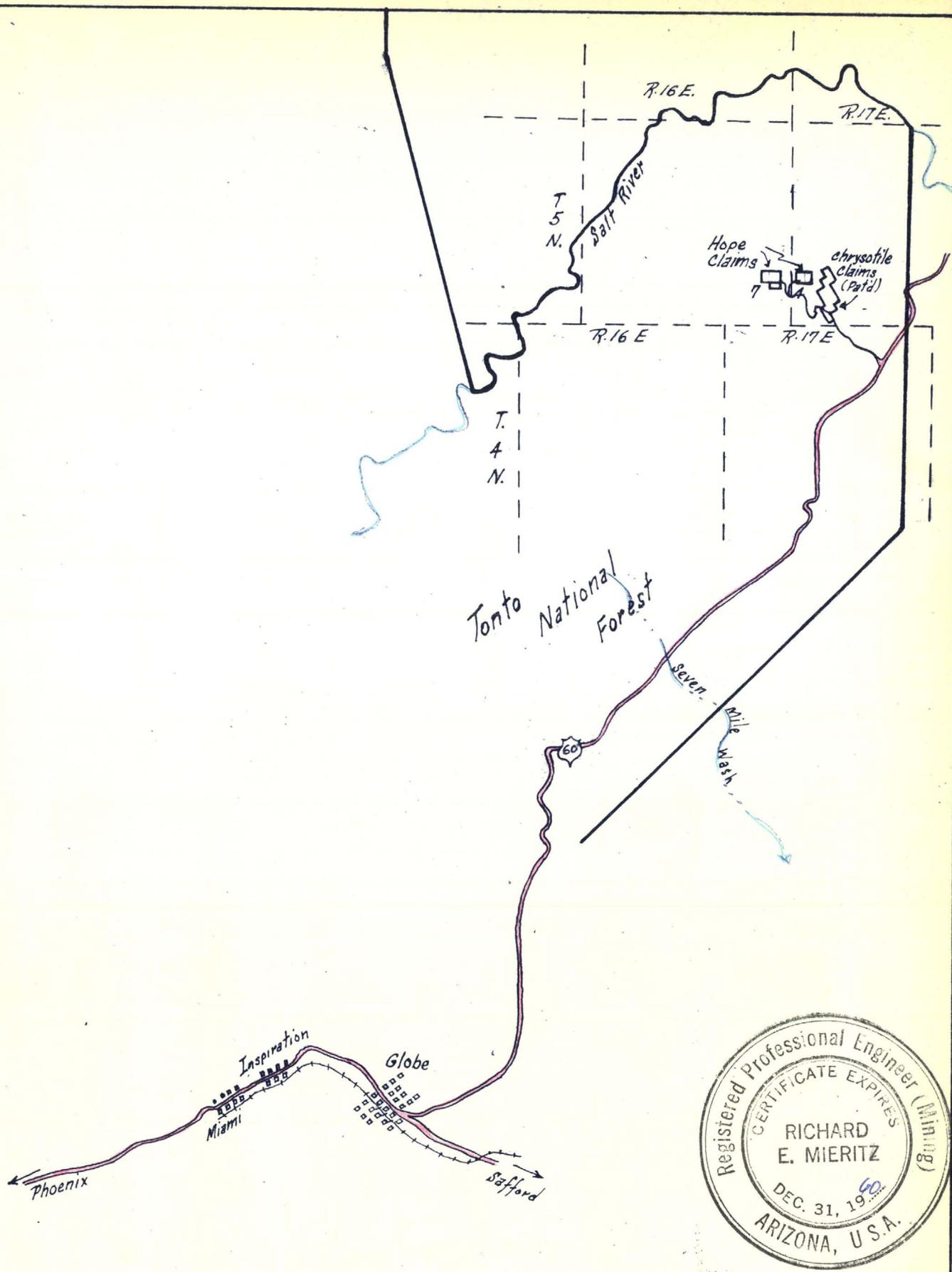
Respectfully submitted,

Richard E. Mieritz

R. E. Mieritz, P. E.
Phoenix, Arizona

March 13, 1960





INDEX MAP

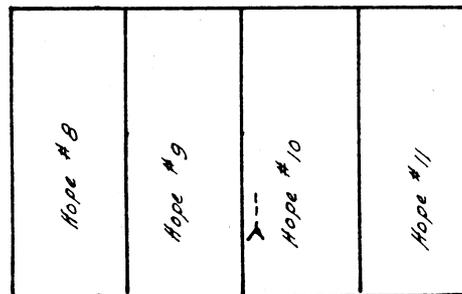
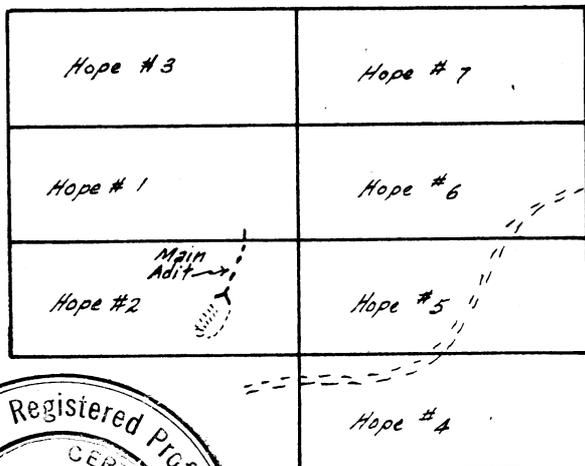
GILA COUNTY, ARIZ.

Scale: 1" = 4 Miles

March, 1960

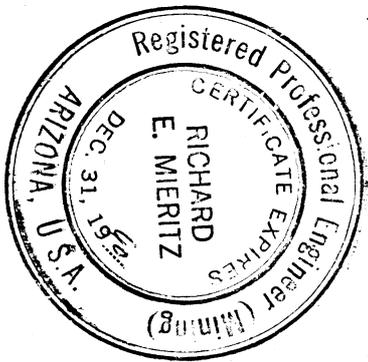
R.E. Mieritz

Relative Positions

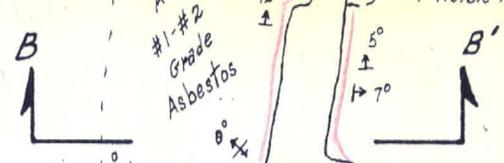
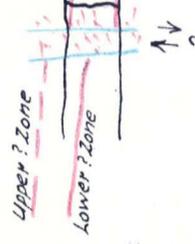
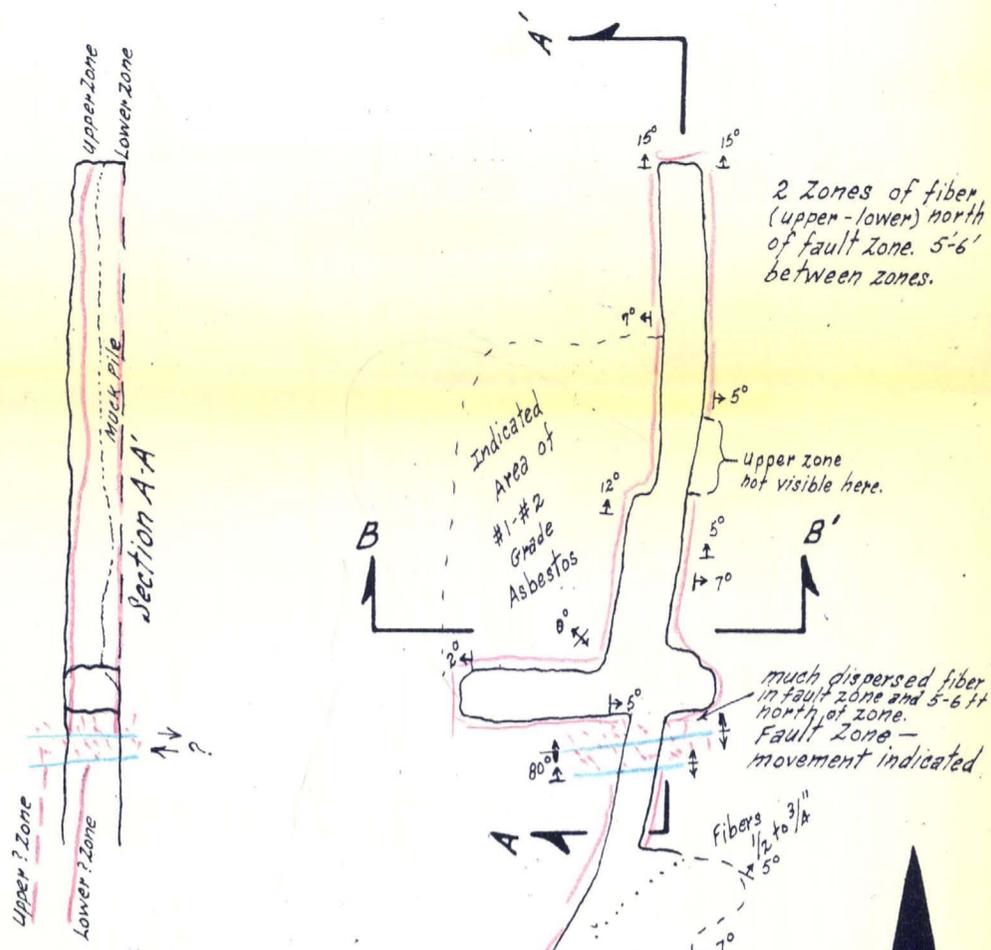


6.2 miles to
U.S. Highway 60

chrysotile
claims
(Patented)



CLAIM MAP
HOPE CLAIMS
GILA COUNTY, ARIZ.
Scale: 1" = 1000'
March, 1960
R.E. Mieritz



NOTE
 5° ↖ Dip of Asbestos Zone.
 - - - Fault
 - - - Asbestos Zone.

Fiber Bands in Zone about 1/4"
 Only one zone exposed in these workings to the fault
 Mined out - Gobbed

Diabase 1-5°
 55°
 Mescal Limestone



GEOLOGIC MAP
 MAIN ADIT
 HOPE GROUP of CLAIMS
 Gila County, Arizona
 Scale: 1" = 30'
 March, 1960
 R.E. Mieritz

Fiber immediately below Black marker or 2-3' ft.

Fiber thin immediately after fault displaced fiber

3 bands 1/2 to 3/16"

fault 50'

100000
200000

Band 1/2"

1/4" most of way

dump - many tons of mill #3-6

Possibly string area 1" = 1/2"

Mill rock upper

70'

50'

pinches Blank Here

120'

#1-#2

20' Mill rock

20'

Upper-lower Bands #3 & 4

MINE _____ LOCATION _____ LEVEL _____
GEOLOGY BY _____ SURVEY _____ SCALE _____ DATE _____