MF-200 (A)
(February 1952)

DOCKET NO. DMEA 2798

COMMODITY Asbestos

Idm-E502

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 1953

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this 1st day of April, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Harry R. Scott
W.A. Scott
R.D. Vinck a partnership
P.O. Box 1005
Globe, Arizona
hereinafter called the "Operator," as follows:

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of Arizona, County of Gila, described as follows:[3]
Two unpatented lode mining claims recorded in the County Clerk and Recorder's Office of Gila County, as follows: El Capitan No. 1, Book of Mines 50, Page 114; El Capitan No. 2, Book of Mines 50, Page 115.

the Operator represents and undertakes:[4]

(*a*) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:
None

(*b*) ~~That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to lease is attached.~~
The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. *Exploration project.*—The Operator, within 30 (thirty) days from the date of this contract shall commence work on a project of exploration for[5] asbestos

in or upon the described land; and shall bring the project to completion within a period of 12 months from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay 90 (ninety) percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this contract, in an aggregate total amount not in excess of $12,722.40, which is 90 (ninety) percent of $14,136.00 the agreed, estimated total cost of the project in which the Government will participate: *Provided,* That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

ARTICLE 5. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operator shall provide the Government with monthly reports of units of work performed under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of units of work performed on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

Docket No. DMEA 2798

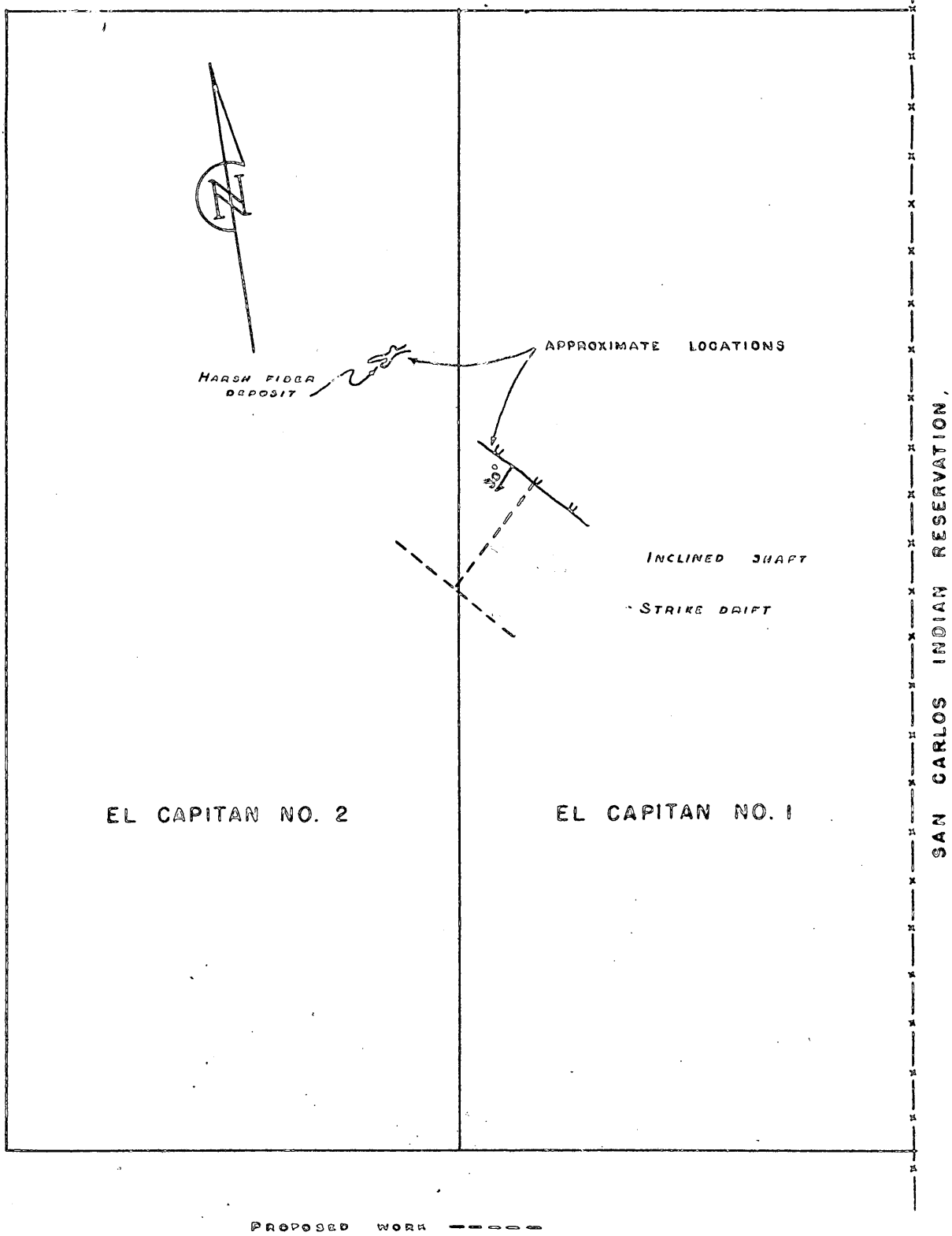
EXHIBIT "A"

Description of the Work

The work consists of sinking a shaft 5 x 7 feet in the clear, and inclined at approximately 30°, a depth of 200 feet, in the ore bearing zone. At a point acceptable to the DMEA representative 200 feet of drifts will be driven along the strike in the ore bearing zone. The tentative location of the work is shown on Figure 2 which is attached and made a part of Exhibit "A".

Estimated Costs of the Work

200 feet of 5 x 7 foot incline shaft @ $42.80 per foot -	$8,560.00
200 feet of drifting @ $27.88 per foot	$5,576.00
Total cost of project	$14,136.00
Government Participation 90%	$12,722.40



SCALE 1" = 200'

DMEA 2798

FIGURE 2. - CLAIM MAP AND LOCATION OF PROPOSED WORK

INDIAN SPRINGS ASBESTOS PROSPECT GILA COUNTY, ARIZONA

File Copy
Surname:

Houk
Chubb
Chambers
Martin
Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

INTERIOR DEPT.
AUG 10 1954
SOLICITOR

Messrs. Harry D. Scott, M. A. Scott
and R. D. Vinek
P. O. Box 1005
Globe, Arizona

Re: Docket No. DMEA-2798 - ~~Asbestos~~
Indian Springs Prospect
Gila County, Arizona
Contract No. Idm-E502

Gentlemen:

FROM SOLICITOR
AUG 20 1954
FOR SIGNATURE

We are pleased to advise you that your performance of exploration work under the subject contract has been acceptable to the Government, and the account relating thereto has been closed. The final audited and settled account shows:

Total claimed for units of work performed	$13,494.76
Total Government contribution at 90 percent	$12,145.28

Your attention is called to the provision of the contract which requires you to keep and preserve your records and accounts of this transaction for a period of three years for possible future reference.

We sincerely regret that the work performed did not result in a certification of discovery or development under the provisions of the exploration contract. In the absence of such certification, the Government retains no claim or lien against the property or any production therefrom.

The Government is grateful for your participation in the exploration program of the Defense Minerals Exploration Administration.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

LGHouk:gad 8/10/54
Copy to: Admr. R. File
Docket File
Field Team, Region IV
Dr. Bowles, 3516
Mr. Larrabee, Room 5227
Mr. Houk
Mr. Chambers

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

March 12, 1954

Memorandum

To: Mr. L. G. Houk, Defense Minerals Exploration Administration

From: Oliver Bowles, Commodity-Specialist

Subject: DMEA-2798 (Asbestos) Scott, Scott, and Vinck, Gilla County, Ariz.

After reviewing the geologic and engineering reports, and memoranda from Robert W. Ageton and Walter R. Storms, it appears that the exploration work did not result in the discovery or development of sufficient asbestos to justify further work. I therefore concur in the recommendation that the project be terminated.

Oliver Bowles

Oliver Bowles

File Copy
Surname:
Houk

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

Project Summary Report

By: Lawrence G. Houk March 10, 1954

1. DMEA Docket No. 2798 - Asbestos
Contract No. Idm-E502
Indian Springs Prospect
Gila County, Arizona

Operator: Harry R. Scott, W. A. Scott, and
R. D. Vinck (Partnership)
P. O. Box 1005
Globe, Arizona

Operators' property rights: Owner

2. Contract - dated April 1, 1953.

Work authorized:

200 ft. of 5x7 incline shaft @ $42.80/ft.	$8,560.00
200 ft. of drifting @ $27.88/ft.	5,576.00
Total estimated cost	$14,136.00
Government participation @ 90%	$12,722.40

Amendments - none

Work completed:

200 ft. of shaft @ $42.80/ft.	$8,560.00
177 ft. of drift @ $27.88/ft.	4,934.76
Total cost	$13,494.76
Government participation @ 90%	$12,145.28

Five raises totalling 23 ft. were driven by operators at no cost to Government.

Work began April 16, 1953, and was terminated before completion on December 2, 1953. No reserves of asbestos estimated. Operators final report received 2/19/54.

3. Audit - Report of Review in lieu of final audit issued December 29, 1953.

Accepted cost	$13,494.76
Government participation	$12,145.28

4. Certification of discovery - none issued.

5. Comments:

How conducted - Efficiently and in a workmanlike manner.

Operation - competent.

Engineering - Sufficient work has been performed to conclude that a significant discovery of asbestos fiber cannot be made in this deposit and that production is not economically feasible.

Geological premises - Indication of a possible productive asbestos deposit was evidenced on the surface exposures. The purpose was to explore the down dip extensions of the surface exposures and to intersect a structure which would make a significant deposit.

Geological criteria upon which work was based - The favorable stratigraphy, proximity to diabase, and the moderate degree of mineralization as exposed for the two lower zones indicated that exploration was worthwhile. Bedding plane faulting and small thrusts apparent throughout the exposures.

Criteria developed during project - none.

Future possibilities - This work has probably exposed a typical part of the deposit and further exploration should not be contemplated.

Recommendations:

1. No additional exploration warranted.
2. Concur with field team that no certification be made.

The poor exposures in the raises of the ore horizons would have been avoided if the ore horizons were carried in the face of the incline, as suggested by our letter of May 14, 1953.

LGHouk:gad 3/11/54
Copy to: Admr. R. File
Docket File
Mr. Houk

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

Project Summary Report

By: Lawrence G. Houk March 10, 1954

1. DMEA Docket No. 2798 - Asbestos
Contract No. Idm-E502
Indian Springs Prospect
Gila County, Arizona

Operator: Harry R. Scott, W. A. Scott, and
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How conducted - Efficiently and in a workmanlike manner.

Operation - competent.

Engineering - Sufficient work has been performed to conclude that a significant discovery of asbestos fiber cannot be made in this deposit and that production is not economically feasible.

Geological premises - Indication of a possible productive asbestos deposit was evidenced on the surface exposures. The purpose was to explore the down dip extensions of the surface exposures and to intersect a structure which would make a significant deposit.

Geological criteria upon which work was based - The favorable stratigraphy, proximity to diabase, and the moderate degree of mineralization as exposed for the two lower zones indicated that exploration was worthwhile. Bedding plane faulting and small thrusts apparent throughout the exposures.

Criteria developed during project - none.

Future possibilities - This work has probably exposed a typical part of the deposit and further exploration should not be contemplated.

Recommendations:

1. No additional exploration warranted.
2. Concur with field team that no certification be made.

The poor exposures in the raises of the ore horizons would have been avoided if the ore horizons were carried in the face of the incline, as suggested by our letter of May 14, 1953.

IN REPLY REFER TO:

G-MD-CNM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 1 - 1954

February 26, 1954

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA-2798 (Asbestos)

To: L. G. Houk, Defense Minerals Exploration Administration
From: D. M. Larrabee, U. S. Geological Survey
Applicant: Scott, Scott, and Vinck, Gila County, Arizona.
Name of property: Indian Springs prospect.
Location of property: Gila County, Arizona.
Date of field team report: December 18, 1953.
Authorship of field team report: A. F. Shride and R. W. Ageton.
Field team's recommendation:

Objectives have been accomplished, and no further work is warranted.

No certification be made.

Comments: Insufficient asbestos of good quality to justify certification.

ACTION RECOMMENDED: Follow field team's recommendation.

D. M. Larrabee

D. M. Larrabee

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

COPY

224 New Customhouse
Denver 2, Colorado

February 15, 1954

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region IV

Subject: Docket DMEA 2798 (Asbestos), Contract Idm-E502, Scott, Scott and Vinck, Gila County, Arizona

Enclosed are the following final reports pertaining to work under the subject contract:

1. Original and one copy of the operator's final report.

2. Original and three copies of the final geologic report by the U. S. Geological Survey.

3. Original and three copies of a memorandum report by Robert W. Ageton, Mining Engineer, Tucson, Arizona, dated December 8, 1953, and transmittal thereof from the Chief, Mining Division, Region IV, of the same date, wherein they advise that they and the operator recommend termination of the project work.

4. Original and three copies of the final engineering report by the U. S. Bureau of Mines.

Final payment to the operator was processed by this office January 5, 1954, in conformance with the final report of review by the Contract Administration and Audit Division dated December 29, 1953.

The project work consisted of 200 feet of winze sinking and 177 feet of drifting at a total accepted cost of $13,494.76 in which the Government participated to the extent of 90% or an amount of $12,145.28. Upon completion of the foregoing work it was deemed by mutual agreement between the operator and the Government that further work was not warranted. The exploration work did not result in the discovery or development of asbestos ore, therefore no certification of such is recommended.

/s/ W. H. King

/s/ A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
2-26-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

December 29, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: Completion report, DMEA Docket 2798, Contract Idm-E502, Scott, Scott, and Vinck, Indian Springs prospect (asbestos), Gila County, Arizona

Enclosed are 9 copies of the completion report by A. F. Shride of the U. S. Geological Survey covering the above docket.

It has been recommended that no certification of discovery be made.

E. M. Hausman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

Reviewed by
DMEA OPERATING COMMITTEE
2-26-54
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 4126, University Station
Tucson 5, Arizona

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 19 1954

December 18, 1953

Memorandum

To: A. H. Koschmann

From: A. F. Shride

Subject: Completion report, Contract Idm-E502 (DMEA-2798), Scott, Scott, and Vinck, Indian Springs prospect (asbestos), Gila County, Arizona.

Enclosed are the original and 8 copies of the above report by A. F. Shride of the Geological Survey.

This exploration project was efficiently and effectively completed. Although mineralized limestones were exposed in all of the exploratory workings, minable quantities of asbestos were not found. Therefore, it is recommended that a certification of discovery not be made.

A. F. Shride

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

Reviewed by
DMEA OPERATING COMMITTEE
2-26-54
(date)

SCOTT, SCOTT, AND VINCK

INDIAN SPRINGS PROSPECT

(ASBESTOS)

GILA COUNTY, ARIZONA

CONTRACT Idm-E502

(DMEA-2798)

COMPLETION REPORT

by

A. F. Shride
Geologist

U. S. Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE

2-26-54
(date)

INTRODUCTION

Under DMEA contract Idm-E502, asbestos-bearing serpentine zones were tested by 200 feet of inclined shaft and 177 feet of drifts as shown on figure 1. The southernmost of two deposits on the El Capitan claims was the subject of this exploration. To avoid timbering and facilitate the shaft sinking the back of the inclined shaft was carried at a stratigraphic position 3 to 5 feet below the lowest asbestos horizon. The asbestos zones were tested from the shaft by 5 short raises at distances of 30, 72, 100, 125 and 153 feet from the collar of the shaft. Exploration work was very competently done and the underground exposures of the fiber-bearing zones are adequate for appraisal of the deposit.

During an on-site inspection of the project December 2, 1953, the operators and examiners discussed the desirability of continuing the exploration work. The examiners, R. W. Ageton of the Bureau of Mines and A. F. Shride of the Geological Survey, agree with the operators that the objectives of the exploration have been accomplished and that further drifting as allowed by the contract is not warranted.

GEOLOGY

The southernmost of the Indian Springs deposits, which before DMEA-sponsored exploration was so poorly exposed as to make detailed descriptions tenuous, is now known to include three asbestos-serpentine zones.

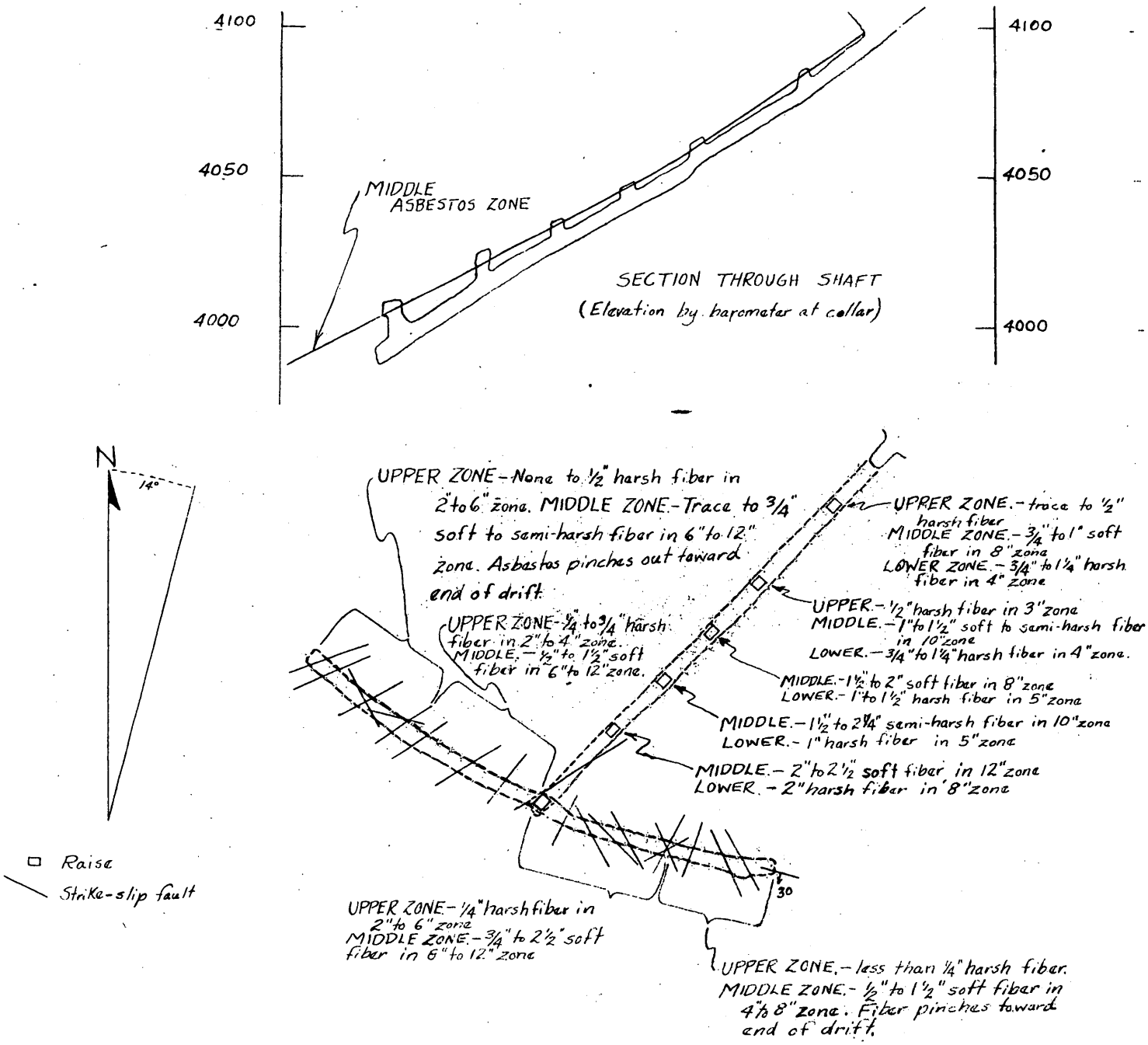

FIGURE 1.- PLAN AND SECTION THROUGH INDIAN SPRINGS ASBESTOS DEPOSIT SHOWING RESULTS OF EXPLORATION

CONTRACT Idm-E502 DMEA-2798

These zones parallel the bedding of the enclosing pre-Cambrian Mescal limestone which dips 28° to 34° S. 15°-25° W. The Mescal limestone exposed by the workings comprises beds 3 to 12 inches thick. The asbestos zones are in or adjacent to the thicker beds. The upper zone is stratigraphically approximately 8 feet below the top of the lower member of the Mescal limestone. The middle and lower zones are 2½ and 4 feet respectively below the upper zone.

Throughout the incline and the drifts small-scale thrust and bedding-plane faults are apparent. Two sets of high-angle strike-slip faults, one set striking N. 25°-45° W., the other N. 40°-70° E., are common in the workings. The most prominent of the strike-slip faults observed in the drifts are shown on figure 1. The drifts are not straight because it was necessary to compensate for small offsets along these faults. Movement on both low- and high-angle faults was both pre- and post-mineral, but in general the greatest displacement was post-mineral. Lines of weakness defined by bedding-plane and strike-slip faults have been accentuated by near surface leaching (the deepest workings are not more than 80 feet below the surface). Therefore considerable difficulty due to heavy ground could be expected if stoping of this deposit were contemplated.

ASBESTOS

The three asbestos zones persist throughout the area penetrated by the workings. The asbestos of the upper zone occurs in a hard, light-green serpentine that incompletely replaced a thinly laminated, finely-crystalline limestone. Immediately above this zone a 6-inch bed was completely replaced by a soft, "talcy" serpentine. Throughout the workings a bedding-plane fault, along which there was post-asbestos movement, exists between the two serpentine units. Therefore a gouge zone up to 8 inches in thickness bounds and in places cuts into the upper asbestos zone. The asbestos of the upper zone is harsh and in small quantities in all places observed. In the drift the average cumulative total thickness of the veins is $\frac{1}{4}$ inch. In the 2 raises nearest the collar of the shaft as much as $\frac{1}{2}$ inch of asbestos can be seen. In the other raises the asbestos of this zone can be only poorly seen or is not observable. The operators stated that drill cuttings indicated little asbestos in the upper zone in these raises.

The chrysotile of the middle zone, $2\frac{1}{2}$ feet below the upper zone, is in hard (where unweathered) pink-brown serpentine. The fiber of this zone is soft and in greater quantities than the asbestos of the upper and lower zones; therefore the middle zone is the most likely for exploitation. Serpentine nodules that include small amounts of asbestos exist in places along a bedding plane 5 inches above the middle zone. In places these nodules coalesce with the serpentine of the middle zone so that locally the ore zone approximately doubles in thickness - but only through areas of insignificant size.

The middle zone as exposed in the drifts ranges from 4 to 12 inches in thickness. The parts of the drifts within 50 feet of the shaft expose for the middle zone asbestos veins totaling $\frac{1}{2}$ to $2\frac{1}{2}$ inches in width. The last 40 feet of the northwest drift exposes traces to 3/4 of an inch of asbestos in this zone. The end 35 feet of the southeast drift includes to $\frac{1}{2}$ and $1\frac{1}{2}$ inches of fiber. Asbestos and serpentine diminish in quantity toward the ends of both drifts. The two raises nearest the collar of the shaft include 3/4 to $1\frac{1}{2}$ inches of asbestos; the other three raises include veins totaling $1\frac{1}{2}$ to $2\frac{1}{2}$ inches in the middle zone.

The asbestos of the lowest zone, 4 feet below the upper zone, is everywhere harsh and usually weak. In the raises 1 to $2\frac{1}{4}$ inches of asbestos are exposed - however, in most places in the raises the average total of vein widths is 1 to $1\frac{1}{2}$ inches. The lowest zone is poorly exposed in the drifts, but where exposed, the operators' statement that this zone contains less than 1 inch of harsh fiber was verified.

POTENTIAL OF THE DEPOSIT

The asbestos of the upper and lower zones exists in too small quantities and is of too poor quality to be mined. Conceivably, selected small "pockets" of fiber could be mined from the middle zone where the present workings expose these "pockets". However, the best of the asbestos is marginal in quantity and the"pockets" are so small that development to expose possible like adjacent bodies is not practical. Because of the heavy ground stoping costs would be high compared to costs of exploiting

like exposures of asbestos elsewhere in the district. The soft fiber of the middle zone is spicular (i.e. the fiber parts readily into needle-like bundles), therefore considerable loss of fiber into the waste could be expected. To recover textile quality asbestos would require selective mining of the middle zone. Hand sorting to avoid mixing of the harsh fiber with that of the middle zone might be excessive.

It is doubtful that "gouging" of the exposed best parts of the middle zone will be done. The operators, who are very competent, disclaim any intent of attempting to mine this deposit.

CONCLUSIONS

The exploration under contract Idm-E502 was competently and effectively completed. Small amounts, not exceeding a few tens of tons, of asbestos-bearing material that might be mined were exposed. The enclosing limestones are fractured and weathered to such a degree that costs of mining this material, which would be marginal elsewhere in the district, would be excessive.

Sufficient indication of a possible productive asbestos deposit was evidenced throughout this project to be encouraging. Therefore the exploration done was warranted. However, this work has probably exposed a typical part of the deposit and further exploration should not be contemplated.

A certification of discovery should not be made.

Mining Division
Date Rec'd
FEB 18 1954
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

TUCSON, ARIZONA

February 9, 1954

Memorandum

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Final Engineering Report, Contract Idm-E502, Docket DMEA-2798, Scott, Scott, & Vinck, El Capitan (Indian Springs) Asbestos Prospect, Gila County, Ariz.

Enclosed are original and 8 copies of a final engineering report on the above property by R. W. Ageton of the Bureau of Mines. This report has my approval.

Walter R. Storms

Walter R. Storms

CC W. H. King (8)
A. F. Shride
DMEA-2798
DF

WRStorms:frj

Reviewed by
DMEA OPERATING COMMITTEE
2-26-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

FINAL ENGINEERING REPORT

DMEA-2798, Contract Idm-E502

Scott, Scott & Vinck

El Capitan (Indian Springs) Asbestos Prospect

Pinal Mountain Mining District

Gila County, Arizona

Robert W. Ageton, Mining Engineer
U. S. Bureau of Mines

February 1954

Reviewed by
DMEA OPERATING COMMITTEE
2-26-54
(date)

DMEA-2798, CONTRACT Idm-E502
SCOTT, SCOTT, & VINCK
EL CAPITAN (INDIAN SPRINGS) ASBESTOS PROSPECT
PINAL MOUNTAIN MINING DISTRICT
GILA COUNTY, ARIZONA

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ILLUSTRATIONS

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Reviewed by
DMEA OPERATING COMMITTEE
2-26-54
(date)

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Scott, Scott, and Vinck partnership applied for Government assistance to explore for strategic quality asbestos fiber on El Capitan claims, situated in the Pinal Mountain Mining District about 8 airmiles south-southeast of Globe, Gila County, Ariz. The United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, entered into Exploration Project Contract No. Idm-E502, Docket DMEA-2798 (Asbestos), dated April 1, 1953, with the Scott, Scott, and Vinck partnership.

Exploration was contracted to determine the depth extension of 3 asbestos-bearing serpentine zones containing fiber of apparent strategic quality. Work under the contract started on April 16, 1953. Two hundred feet of shaft sinking and 177 feet of drifting were performed under the terms of the contract. In addition to the contracted work, approximately 25 feet of raising was done at the operator's expense. Exploration was terminated before completion by mutual agreement on December 2, 1953.

Sufficient work has been performed to conclude that a significant discovery of asbestos fiber cannot be made in this deposit and that production is not economically feasible. Additional exploration financed either privately or with Government assistance is not warranted. Therefore, it is recommended that no certification of discovery be issued for this project.

INTRODUCTION

The Indian Springs prospect is located on the east side of the Pinal Mountains about 8 airmiles south-southeast of Globe, Gila County, Ariz. Mining Claims of the prospect (El Capitan No. 1 and No. 2) are in the Crook National Forest in sec. 5, T. 2 S., R. 16 E., immediately adjacent to the western boundary line of the San Carlos Reservation (figure 1). The altitude of the mine is approximately 4,200 feet above sea level.

The exploration application was docketed as DMEA-2798 (Asbestos) and the work was performed under Contract Idm-E502. Operators of the property were Harry D. Scott, W. A. Scott, and R. D. Vinck, a partnership with a business address at P. O. Box 1005, Globe, Ariz. The project was recommended for exploration by Lincoln A. Stewart, mining engineer, Bureau of Mines, and A. F. Shride, geologist, Geological Survey.

DESCRIPTION OF WORK COMPLETED

Exploration Project Contract No. Idm-E502 provided for exploring the depth extension of 3 asbestos-bearing serpentine zones containing fiber of apparent strategic quality. Under the terms of the contract a shaft, 5 by 7 feet in the clear and inclined at approximately 30 degrees, could be sunk to a depth of 200 feet, and at a point acceptable to the DMEA field examiners, 200 feet of drifts could be driven along the strike of the ore-bearing zone.

Work under the contract started on April 16, 1953, the operator sinking the inclined shaft and exposing the ore zone above the back Of the shaft with short raises. On April 18, 1953, 200 feet of shaft

sinking were completed according to the contract, and a total of 25 feet of raises had been driven at 5 locations to test fiber zones above the back of the shaft. These raises were driven at the operators' expense. Approval was given the operator to drift westerly and easterly in the ore horizon at a point about 8 feet from the bottom of the 200-foot shaft. At the operators' expense, a manway, ore pocket, and chute were constructed before drifting in the ore zone was started.

Exploration drifting was terminated before completion of the project work on December 2, 1953, after a total of 177 feet of drifting had been performed. To recapitulate, 200 feet of shaft sinking, and 177 feet of drifting were performed under the terms of the contract. In addition to the contracted work, approximately 25 feet of raising was done at the operators' expense.

DESCRIPTION OF GEOLOGY

Chrysotile fiber at the Indian Springs mine occurs in pre-Cambrian Mescal limestone. The ore-bearing zones are in a limestone formation composed of beds, 3 to 12 inches thick, that are stratagraphically 8 to $13\frac{1}{2}$ feet below the Mescal Algal formation. Prior to the DMEA exploration project, 3 small pits exposed 3 fiber zones below the Algal limestone. The top zone is enclosed by thin, shaley, unfavorable beds, while the lower 2 zones are along bedding planes between competent limestones usually favorable to asbestos deposition.

Exploration shaft sinking was performed with the back of the shaft 2 to 5 feet below the 3 fiber zones. This procedure was agreed upon in order that the operator could break to a competent limestone bed and thereby provide a solid hanging wall near the surface. At the operators' expense, 5 raises were driven above the back of the shaft to test the ore horizons (figure 2). Raise No. 1 exposed 3 fiber zones containing a total of over 2 inches of weathered fiber. Raise No. 2 exposed the same 3 zones with an equivalent amount of fiber but not as badly weathered as that exposed in the No. 1 raise. The Upper fiber zone was not exposed in the No. 3 raise. However, the Middle fiber zone contained a total of 1 to 2 inches of short but soft fiber, and the Lower zone contained a total of 1 inch of harsh fiber. Raise No. 4 exposed the Middle zone which contained a total of $1\frac{1}{2}$ to $2\frac{1}{4}$ inches of short, semi-harsh fiber, and the Lower zone which contained $\frac{1}{2}$ to 1 inch of soft fiber. Three zones were exposed in the No. 5 raise. The Upper zone contained a trace of fiber, the Middle zone contained 2 to $2\frac{1}{2}$ inches of soft fiber, and the Lower zone contained 2 inches of glassy-harsh fiber.

Exploration drifting disclosed that the shaft was sunk at the approximate center of the small deposit. The southeasterly-bearing drift exposed marginal quality fiber for a distance of approximately 45 feet from the shaft to a complex fault zone. Fiber pinched out from this complex fault zone to the end of the drift. The northwesterly drift exposed marginal-quality fiber for a drift length of approximately

47 feet. Serpentine was exposed at the face of the northwesterly drift but it appeared slightly weathered and contained only one thin, minus 1/8-inch, discontinuous band of fiber.

Strike-slip faults were exposed along the 2 strike drifts, and it is likely that main entries would have to be timbered in the event a mining operation was considered.

ORE RESERVES

Fiber exposures indicate that selective zones of the Indian Springs deposit would have a geologic potential if the lateral extent of the deposit were greater. No reserves have been estimated.

EXPENDITURES

Total approved	$14,136.00
Total cost of project	13,494.76
Government's share of cost	12,145.28
Government's share unexpended	577.16
Value of production during operations	0.00
Government's royalty	0.00

EFFICIENCY OF OPERATIONS

A total of 200 feet of shaft sinking, 177 feet of lateral drifting, and 25 feet of raising was performed by the 3 owners of the property. These men had a personal interest in their work and all phases of the operation were conducted in an orderly, efficient, and workmanlike manner. To illustrate the care taken with equipment, one slightly used 5-foot length of drill steel with a tungsten-carbide bid was used to drill all the holes required to blast the advances mentioned. It is estimated that this piece of steel and the bit (which was re-sharpened 3 times) drilled a total of 4,500 feet in the limestone formation.

EQUIPMENT AND SUPPLIES

The contract was on a unit cost basis, consequently there was no Government participation in the cost of equipment or supplies.

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

224 New Customhouse
Denver 2, Colorado

February 15, 1954

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region IV

Subject: Docket DMEA 2798 (Asbestos), Contract Idm-E502, Scott, Scott and Vinck, Gila County, Arizona

Enclosed are the following final reports pertaining to work under the subject contract:

1. Original and one copy of the operator's final report.

2. Original and three copies of the final geologic report by the U.S. Geological Survey.

3. Original and three copies of a memorandum report by Robert W. Ageton, Mining Engineer, Tucson, Arizona, dated December 8, 1953, and transmittal thereof from the Chief, Mining Division, Region IV, of the same date, wherein they advise that they and the operator recommend termination of the project work.

4. Original and three copies of the final engineering report by the U.S. Bureau of Mines.

Final payment to the operator was processed by this office January 5, 1954, in conformance with the final report of review by the Contract Administration and Audit Division dated December 29, 1953.

The project work consisted of 200 feet of winze sinking and 177 feet of drifting at a total accepted cost of $13,494.76 in which the Government participated to the extent of 90% or an amount of $12,145.28. Upon completion of the foregoing work it was deemed by mutual agreement between the operator and the Government that further work was not warranted. The exploration work did not result in the discovery or development of asbestos ore, therefore no certification of such is recommended.

W. H. King

W. H. King

Enclosures

A. H. Koschmann

A. H. Koschmann

Mining Division
Date
DEC 16 1953
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

MINING DIVISION
REGION IV

TUCSON, ARIZONA

December 14, 1953

Memorandum

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Operators' Final Report, Contract Idm-E502, Docket DMEA-2798, Scott, Scott, & Vinck, El Capitan Asbestos Claims (Indian Springs Prospect), Gila County, Ariz.

Enclosed in quintuplicate is the operators' final report for Contract Idm-E502. On or about December 1, the operators and the DMEA examiners agreed that further work probably would not uncover significant amounts of asbestos ore, so recommended that the contract be terminated. As of December 1, only 23 feet of drifting remained to be completed. According to a recent memorandum from the Operating Committee in Washington, evidently no formal request for termination before completion of the contract is necessary in this case, although our recommendations for termination were submitted to you some time ago.

Walter R. Storms

Walter R. Storms

CC W. H. King (5)
A. F. Shride
DMEA-2798
DF

WRStorms:frj

FOR VICTORY
BUY UNITED STATES SAVINGS BONDS AND STAMPS

December 9, 1953

Indian Springs Mine

Box 1005

Globe, Arizona

Mr. W.H. King

Executive Officer

D M E A Feild Team Region IV

224 New Customhouse

Denever 2, Colorado

U. S. BUREAU OF MINES
MINING DIVISION
DEC 14 1953
TUCSON, ARIZONA

Sir:

By Mutual agreement between the feild team from Tucson, and the operators of the Indian Springs Mine, we have decided to close out the project. as of the end of November. Tho there was 23 feet of drifting left it was felt that it was not worth the time and effort fo complete the drifting.

The project started on April 15th, with work starting on the 200 ft. Incline shaft. We Installed a self dumpting skip Which neceseated the installation of a head frame. by the time the first monthly report (May 31st) was sent in, we had advanced to 80 ft. on the shaft. a five foot raise was run up into the fibre zone at 35 and 75 ft. due to the fact that we were carring the fibre zone in the back. This was done because of a soft streak above the Fibre Zone on the surface. This zone disipeared with depth. A small amount of fibre showed in each of these two raises, with a fair showing of serpentine Zone.

At the end of June we had advanced 60 ft. more on the shaft, bringing the total to I40 ft. with about the same showing of fibre when the ore zone was poped into

At the end of July we had advanced 32 ft. more to bring the total to I72 ft. Air in the shaft became bad and we installed a blower. Summer rains hampered operations to quite an extent.

We finished the shaft on August I8th, and shot out a pocket at I92 ft. leaving the bottom 8 ft. of the shaft for skip foom. This made 28 ft. of advance on the shaft for this month. we also completed 25 ft. of the crosscut by the end of august. The cro--sscut was run right in the ore Zone. we had droped the shaft to allow fonpocket room, and the bottom of the zone was I0 ft. from the floor of the Incline Shaft.

In september we made 47 ft. advance on the east crosscut to bring the total drifting, up to this time, to 73 ft.. we were just starting into a faulted zone were the fibre began to play out.

In October we advanced to 77ft. on the east side, and decided that the showing did not warrant future advance. we turned and started on the west drift. Making 54 ft. total advance for the month of October. Approximatly 39 ft. of this was made on the west drift.

At the end of November we had advanced another 5I ft. bringing the total drifting to I77 ft. At this point the west drift was

extended to the 100 ft. mark, with a showing that was very poor the last few rounds. It was at this point that we decided to discontue operations.

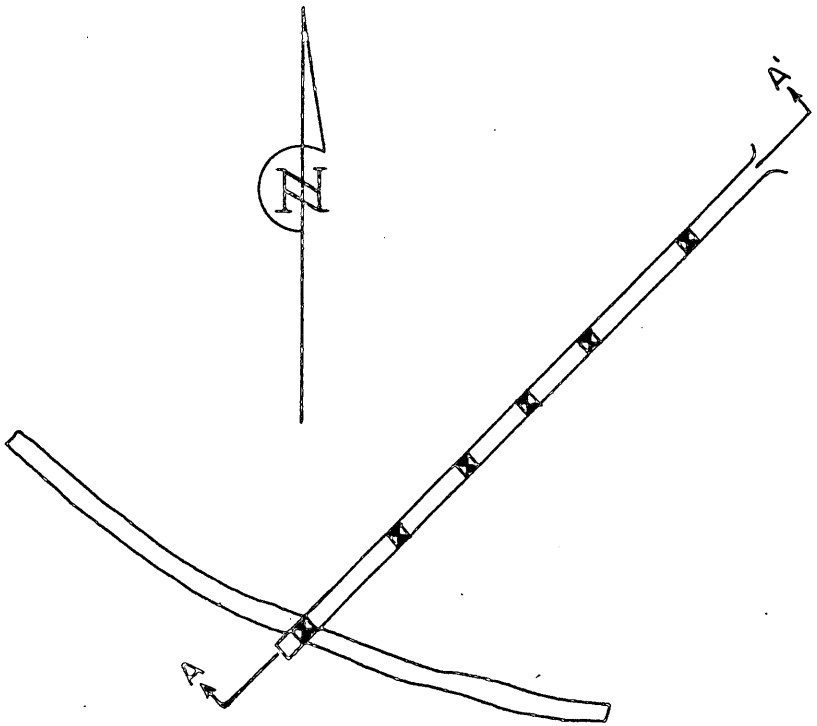
The best showing of fibre in the drift was about 30 ft. each side of the shaft. This fibre was short and mixed up in a lot of rock, and there is no mill in the district that could Handle it, if it could be mined cheap enough.

We are very pleased by the help and cooperation that your feild team from Tucson extended to us

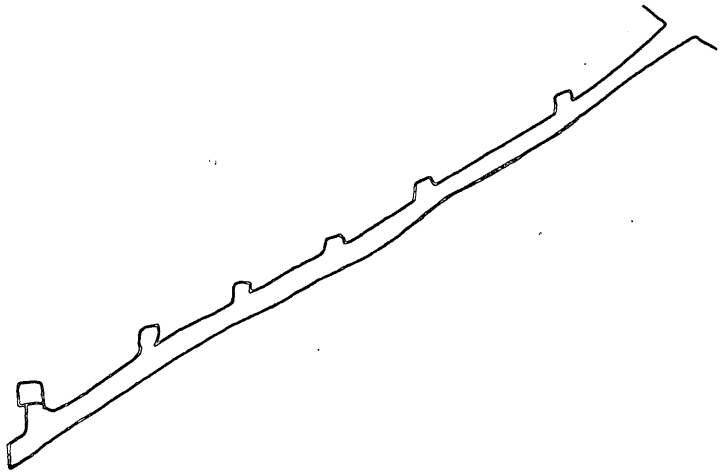
Yours Truly

Harry R. Scott

Harry R. Scott



PLAN



SECTION A - A'

DMEA 2798
EXPLORATION

		FT.
SHAFT SINKING	▭	200
DRIFTING	▭	177

SCALE 1" = 50'

DECEMBER 1953

DMEA 2798

FIGURE 3. - PLAN AND SHAFT SECTION

INDIAN SPRINGS ASBESTOS PROSPECT GILA COUNTY, ARIZONA

Mining Division
Date Rec'd.
DEC 10 1953
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

MINING DIVISION
REGION IV

TUCSON, ARIZONA

December 8, 1953

Memorandum

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Termination Recommendation, Contract Idm-E502, Docket DMEA-2798, Scott, Scott & Vinck, El Capitan Asbestos Claims, Gila County, Ariz.

Enclosed are original and 6 copies of a memorandum from R. W. Ageton of the Bureau of Mines recommending that Contract Idm-E502 be terminated before completion as no further work under the contract seems justified. I concur with this recommendation.

The operators will be notified to send in their request for termination although their November narrative report states that "By mutual agreement between the operators and your field team it was decided to stop work as of this report."

Walter R. Storms
Walter R. Storms

CC W. H. King (6)
DMEA-2798
DF

WRStorms:frj

FOR VICTORY
BUY UNITED STATES SAVINGS BONDS AND STAMPS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
MINING DIVISION
REGION IV

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

Received
1 - 18 1954

TUCSON, ARIZONA

December 8, 1953

Memorandum

To : Walter R. Storms, Chief, Mining Div., Region IV, Tucson.

From : Robert W. Ageton, Mining Engineer, Tucson, Ariz.

Subject : Termination of Contract before completion, El Capitan Asbestos Claims, (Scott, Scott, & Vinck), DMEA-2798, Contract Idm-E502, Gila County, Ariz.

In accordance with your request the subject property was visited on December 2nd and 3rd, 1953, the writer accompanying A. F. Shride, geologist, Geological Survey.

An examination of the exploration work accomplished to date indicated that further work was not justified. Therefore, the field examiners and the operator recommend that the work under Contract Idm-E502 be terminated. A final brunton survey of the shaft and drifts was made and will be submitted with the final engineering report.

Robert W. Ageton, Mining Engineer
Mining Methods Branch
Mining Division, Region IV

CC W. H. King (Orig. & 6)
DMA-2798
DF

RWAgeton:frj

FOR VICTORY
BUY UNITED STATES SAVINGS BONDS AND STAMPS

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

224 New Customhouse
Denver 2, Colorado

May 25, 1953

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2798, Contract Idm-E502, Scott, Scott and Vinck

Reference is made to the letter from the Acting Chairman of the Operating Committee dated May 14, 1953. Paragraph 2 of this letter suggests that both ore horizons be carried in the face of the incline. The operators plan to carry the lower vein at the top of the incline because it will provide a good solid hanging wall near the surface. If both ore horizons were carried in the face of the incline it would necessitate excessive timbering and add to the cost of the work.

The contract stated that the incline shaft was to be sunk in the ore bearing zone. It was prepared in this manner so as to allow some flexibility in the operation. In that manner the operator could sink the incline where the hanging wall would stand without support. The work could then be done more cheaply and with greater safety. It is the responsibility of the examining engineer to see that both ore horizons are adequately explored in the incline.

The third paragraph of this letter states: "The labor cost of $28 per foot appears high." The contract is prepared on the short form and the unit cost of $42.80 per foot for an incline shaft and $27.88 per foot for drifting is considerably cheaper than the average.

W. H. King
W. H. King

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 28 1953

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

MAY 14 1953

Mr. W. H. King
Executive Officer, DMEA
Field Team, Region IV
Bureau of Mines
224 New Customhouse Bldg.
Denver 2, Colorado

Subject: Docket No. DMEA-2796 - Asbestos
H. R. Scott, W. A. Scott, and
R. D. Vinek
Indian Springs Asbestos Prospect
(El Capitan Claims)
Gila County, Arizona
Contract No. Idm-8502

Dear Mr. King:

Reference is made to the subject contract, and to page 7, paragraph 2 of the Field Team Engineering Report.

The contract states the incline shaft is to be in the ore bearing zone, whereas the engineering report states that the lower vein is to be carried at the top of the incline. It is suggested that both ore horizons be carried in the face of the incline.

The labor cost of $28 per foot appears high. Are there special circumstances which justify this cost?

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee

Approved:

J. H. Hedges
Member, Bureau of Mines

T. P. Thayer
Member, Geological Survey

S.H.
5-14-53

LGHouk:gad 5/12/53
Copy to: Admr. R. File
Docket File
Operating Committee
Dr. Bowles, 3516
Mr. Larrabee, G-232 GSA Bldg.
Mr. Houk

FILE COPY
SURNAME:

Houk

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

May 12, 1953

Memorandum

To: Chairman, Operating Committee

From: Chief, Nonmetallic Minerals Division

Subject: Comments on Contract No. Idm-E502, Docket No. DMEA-2798 - Asbestos
H. R. Scott, W. A. Scott and
R. D. Vinek
Indian Springs Asbestos Prospect
(El Capitan Claims)
Gila County, Arizona

The accompanying letter to Mr. W. H. King suggests carrying the two veins in the face of the incline rather than carrying the lower vein in the back of the incline as recommended by the engineering report. It is believed that the exploration openings should gather as much information on the character and habits of the ore horizons as possible.

The estimate of two foot per day advance for the incline shaft, using four men at a labor cost of $56 per shift, appears high.

LGHouk:gad 5/12/53

Copy to: Admr. R. File
Docket File
Mr. Houk

FILE COPY
SURNAME:

Robertson
Chambers
Kane
Fleming

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

600

MAY 11 1953

Mr. W. M. King
Executive Officer, DMEA
Field Team, Region IV
Bureau of Mines
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-2798 - Asbestos
H. R. Scott, W. A. Scott, and
R. D. Vinek
Indian Springs Asbestos Prospect
(El Capitan Claims)
Gila County, Arizona
Contract No. Idm-E502

Dear Mr. King:

Reference is made to your letter of May 4, 1953, in which you enclosed copy of a letter, dated April 28, 1953, from Mr. T. S. White, Manager, Valley National Bank, Globe, Arizona, and attached thereto an original and two copies of a form of assignment for project monies from the operator, Scott, Scott, and Vinek to the bank.

I have signed an acceptance for the Government, and the documents are returned to you for distribution; the original assignment should be delivered to the bank, one copy sent to the Certifying Officer, and the other copy to be retained by this office and attached to the Government copy of the Contract, Idm-E502.

Sincerely yours,

C. O. Mittendorf

Administrator

5-11-53

Enclosures 2

JTRobertson:gad 5/8/53
Copy to: Admr. R. File
Docket File
Dr. Bowles, 3516
Mr. Larrabee, G-232 GSA Bldg.
Mr. Houk

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 6 1953

224 New Customhouse
Denver 2, Colorado

May 4, 1953

AIRMAIL
SPECIAL DELIVERY

RL

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Contract Idm-E502, Docket DMEA 2798, Scott, Scott & Vinck

Enclosed is a copy of a letter dated April 28, 1953, from T.S. White, Manager, Valley National Bank, Globe, Arizona, to which are attached three copies of an assignment from Scott, Scott & Vinck to the bank. Please advise us if the Government can signify acceptance of this assignment by signing it as requested. If this can be done kindly return all copies to this office for distribution. We will then have three copies sent to the Washington office to be attached to the copies of the contract.

We believe that it might be more desirable to prepare an amendment to the contract rather than accept this assignment. Please give us your recommendations.

W. H. King
W. H. King

Enclosures

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

224 New Customhouse
Denver 2, Colorado

May 4, 1953

AIRMAIL
SPECIAL DELIVERY

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 6 1953

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Contract Idm-E502, Docket DMEA 2798, Scott, Scott & Vinck

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We believe that it might be more desirable to prepare an amendment to the contract rather than accept this assignment. Please give us your recommendations.

W. H. King
W. H. King

Enclosures

COPY

VALLEY NATIONAL BANK
Globe, Arizona

April 28, 1953

United States Department of the Interior
Bureau of Mines
224 New Customhouse
Denver 2, Colorado

Attention: T. A. Christensen
Acting Special Assistant to Regional Director

Re: DMEA Contract No. IDM-E-502
H.R.Scott, W.A.Scott and R.D.Vinck
dba Indian Springs Mine

Dear Mr. Christensen:

The gentlemen above mentioned have applied to this bank for credit to assist them in meeting the requirements on their contract, pending receipt of money from the contract as work progresses.

We are agreeable to assisting them; however, it will be necessary that the monies be assigned to us, and for this purpose, I am enclosing original and three copies of an assignment, which we have had prepared and if satisfactory with you, we will appreciate your returning two of the accepted copies to us for our files, and the marking of your record so that the checks will be made to us.

If this assignment is agreeable to you, please return the two accepted copies to us as promptly as possible, as these gentlemen are very anxious to secure funds for their operation.

Yours very truly,

/s/ T.S. White

Manager

IN REPLY REFER TO:
G-MD-CNM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

April 14, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 16 1953

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA-2798 (asbestos)

To: L. G. Houk, Defense Minerals Exploration Administration.
From: D. M. Larrabee, U.S. Geological Survey.
Applicant: H. R. Scott, W. A. Scott, and R. D. Vinck.
Name of property: Indian Springs Asbestos Prospect (El Capitan Claims).
Location of property: 8 miles SSE of Globe, Arizona.
Date of field team report: March 26, 1953.
Authorship of field team report: Shride and Stewart.
Field team's recommendation:
Sink inclined shaft 200'.
Drift 200'.
Comments:
This exploration to be in the "upper asbestos deposit."

ACTION SUGGESTED:
Follow field team's recommendation.

D. M. Larrabee

D. M. Larrabee

IN REPLY REFER TO:
G-MD-CNM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

April 14, 1953

Department of the Interior
Defense Minerals Administration
RECEIVED
APR 16 1953

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA-2798 (asbestos)

To: L. G. Houk, Defense Minerals Exploration Administration.
From: D. M. Larrabee, U.S. Geological Survey.
Applicant: H. R. Scott, W. A. Scott, and R. D. Vinck.
Name of property: Indian Springs Asbestos Prospect (El Capitan Claims).
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Date of field team report: March 26, 1953.
Authorship of field team report: Shride and Stewart.
Field team's recommendation:
Sink inclined shaft 200'.
Drift 200'.
Comments:
This exploration to be in the "upper asbestos deposit."

ACTION SUGGESTED:
Follow field team's recommendation.

D. M. Larrabee

Copy to DMEA -(3)

IN REPLY REFER TO:
G-MD-CNM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

April 14, 1953

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA-2798 (asbestos)

To: L. G. Houk, Defense Minerals Exploration Administration.
From: D. M. Larrabee, U.S. Geological Survey.
Applicant: H. R. Scott, W. A. Scott, and R. D. Vinck.
Name of property: Indian Springs Asbestos Prospect (El Capitan Claims).
Location of property: 8 miles SSE of Globe, Arizona.
Date of field team report: March 26, 1953.
Authorship of field team report: Shride and Stewart.
Field team's recommendation:
Sink inclined shaft 200'.
Drift 200'.
Comments:
This exploration to be in the "upper asbestos deposit."

ACTION SUGGESTED:
Follow field team's recommendation.

D. M. Larrabee

Copy to DMEA -(3)

IN REPLY REFER TO:
G-MD-CNM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

April 14, 1953

Memorandum

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ACTION SUGGESTED:
Follow field team's recommendation.

D. M. Larrabee

Copy to DMEA -(3)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 1953

224 New Customhouse
Denver 2, Colorado

April 2, 1953

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region IV

Subject: Docket DMEA 2798, Scott, Scott and Vinck, El Capitan Claims, Gila County, Arizona

Enclosed are four copies of the final report on Docket DMEA 2798. A contract has been prepared and is in effect.

W. H. King

A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
4-10-53
(date)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 1953

224 New Customhouse
Denver 2, Colorado

April 2, 1953

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region IV

Subject: Docket DMEA 2798, Scott, Scott and Vinck, El Capitan Claims, Gila County, Arizona

Enclosed are four copies of the final report on Docket DMEA 2798. A contract has been prepared and is in effect.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Received by
DMEA Office of the Comptroller
4-10-53

Docket Copy

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

#80828

224 New Customhouse
Denver 2, Colorado

April 1, 1953

REGISTERED

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 1953

Memorandum

To: C.O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Contract Idm-E502, Docket DMEA 2798, Scott, Scott and Vinck

Enclosed are the original and two copies of Contract Idm-E502. Copies of this contract have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W. H. King
W. H. King

Enclosures

SURNAME COPY

Adams

Defense Minerals Exploration Administration
Robert E. Adams
2017

14X3923.970, Working Fund, Interior, DMEA
April 1, 1953
2:30 p.m.

W.H.King, Executive Officer, Region IV, 224 New Customhouse Bldg., Denver, Colorado

Assignment of Contract Number

REURTEL 4-1-53, DOCKET NO. DMEA 2798, HARRY R. SCOTT, W.A. SCOTT, R. D. VINCK, COMMODITY ASBESTOS. PROPERTY IN GILA COUNTY, ARIZONA. CONTRACT NUMBER IDM-E-502 ASSIGNED THIS CONTRACT.

N.S. in R.R.

SIGNED

ADMINISTRATOR

READAMS/meb
cc to: Adm.Reading File
Mails & Files Br.
Audits Division
Miss Curtin

SENT
APR 1 53
Service Section

SURNAME COPY

HMADAMS/mcb
cc to: Adm.Reading File
Mails & Files Br.
Audits Division
Miss Curtin

Mr. C. O. Mittendorf
April 1, 1953
12:45 P.M.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 1 1953

DN 235 BUREAU MINES 4-1-53 10-45 AM

C O MITTENDORF

PLEASE ASSIGN A NUMBER TO CONTRACT COVERING DOCKET NUMBER DMEA 2798, HARRY R. SCOTT, W. A. SCOTT, R. D. VINCK, A PARTNERSHIP, P. O. BOX 1005, GLOBE, ARIZONA. COMMODITY ASBESTOS, PROPERTY LOCATED IN GILA COUNTY, ARIZONA. DATE OF CONTRACT APRIL 1,1953. TOTAL AMOUNT OF CONTRACT $14,136.00, GOVERNMENT PARTICIPATION $12,722.40.

W H KING

IDME-502

90%

Denver, Colo.

APR 1 1 20 PM '53
BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

1-1027
(April 1946)

UNITED STATES
DEPARTMENT OF THE INTERIOR

AGENCY Bur of Mines, Reg. IV

Originator:
Ext.: Room:

TELETYPE

Appro.:
Date: 4/1/53
Time:
No.:
To: C O MITTENDORF DMEA WASH

Subject:

PLEASE ASSIGN A NUMBER TO CONTRACT COVERING DOCKET NUMBER DMEA 2798, HARRY R. SCOTT, W. A. SCOTT, R. D. VINCK, A PARTNERSHIP, P. O. BOX 1005, GLOBE, ARIZONA. COMMODITY ASBESTOS, PROPERTY LOCATED IN GILA COUNTY, ARIZONA. DATE OF CONTRACT APRIL 1, 1953. TOTAL AMOUNT OF CONTRACT $14,136.00, GOVERNMENT PARTICIPATION $12,722.40.

W. H. King
W. H. KING

CONFIRMATION

Authorized:

Sign original message and transmit to Room ..... in duplicate

U. S. GOVERNMENT PRINTING OFFICE 16—50915-1

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

224 New Customhouse
Denver 2, Colorado

March 26, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
WASHINGTON
MAR 30 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200.

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2798 (Asbestos), Scott, Scott and Vinck, El Capitan Claims, Gila County, Arizona.

The application for Government assistance in exploration work estimated to cost $14,136.00, has been approved by us and a contract is being prepared.

Government participation will be 90 percent, or $12,722.40.

Four copies of the Final Report will be forwarded when the contract is executed.

The original and one copy of Form 3b is attached.

W. H. King
W. H. King

for Ogden Tweet
A. H. Koschmann

Enclosures

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

224 New Customhouse
Denver 2, Colorado

March 26, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200.

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2798 (Asbestos), Scott, Scott and Vinck, El Capitan Claims, Gila County, Arizona.

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Government participation will be 90 percent, or $12,722.40.

Four copies of the Final Report will be forwarded when the contract is executed.

The original and one copy of Form 3b is attached.

W. H. King
W. H. King

for Ogden Tweto
A. H. Koschmann

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

March 26, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 1953

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2798 (Asbestos), Scott, Scott and Vinek, El Capitan Claims, Gila County, Arizona.

Enclosed are nine copies of the final engineering report on the subject docket.

The examining engineer believes that a significant amount of asbestos will be found in the proposed exploration project which consists of sinking an incline shaft 200 feet and drifting 200 feet at a total cost of $14,136.00, Government participation - $12,722.40.

He recommends the project and we concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA CEILING COMMITTEE
4-10-53

MINING DIVISION
REGION IV

February 27, 1953

Memorandum

To : W. A. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Final Report, Docket DMEA-2798, Indian Springs Asbestos Prospect (El Capitan Claims), Gila County, Ariz.

Enclosed are original and 3 copies of a report on the above deposit by L. A. Stewart of the Bureau of Mines. It is understood that the Geological Survey will submit a report at a later date.

As there seems a good chance of uncovering a worth-while deposit of asbestos by the proposed work, Stewart recommends that the exploration loan be granted. I concur with this recommendation. I believe A. F. Shride of the Geological Survey also will recommend this loan.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

cc: W. A. King (3)
A. F. Shride
DMEA-2798
MF

WRStorms:als

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

March 20, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2798, Indian Springs Prospect, El Capitan Claims, Gila County, Arizona. Scott, Scott and Vinck--Applicants. Asbestos.

Enclosed are the original and 8 copies of the above report by A. F. Shride of the U. S. Geological Survey.

Denial would have been recommended for the original application. However, a revised application for exploration on another deposit on the same claims can be recommended for approval.

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

Enclosures (9)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P.O.Box 4126, University Station
Tucson 5, Arizona

March 18, 1953

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, IMMA 2798, Indian Springs Prospect, El Capitan Claims, Scott, Scott and Vinck - Applicant, Gila County, Arizona (Asbestos)

Enclosed are the original and 8 copies of the above report by A. F. Shride of the Geological Survey.

Denial would have been recommended for the original application. However, a revised application for exploration on another deposit on the same claims can be recommended for approval.

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

Enclosures 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-2798, Indian Springs Asbestos Prospect, (El Capitan Claims)

H. R. Scott, W. A. Scott and R. D. Vinck

Gila County, Arizona

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

February 1953

4-10-53

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Lincoln A. Stewart[1]

An application from H. R. Scott, W. A. Scott, and R. D. Vinck for a $7,134 exploration loan on their Indian Springs asbestos prospect in Gila County, Ariz. was received on November 27, 1952 by the Tucson, Ariz. office of the Defense Minerals Exploration Administration as docket 2798. The purpose of the loan was to explore an asbestos deposit by 300 feet of drifting.

The property consists of 2 unpatented claims in the Crook National Forest about 10 airmiles south of Globe, Ariz. There has been no production from these claims.

An examination was made by the writer and A. F. Shride[2] on December 3, 1952. Two deposits were investigated. The one on which the proposal was based contained narrow stringers of harsh fiber. The second area was poorly exposed, but appeared to have a possibility of containing more fiber of better quality. The applicants decided it would be worthwhile for them to do a little trenching to expose the vein and determine its lateral extent.

When this work was completed a second visit was made by the examiners on February 4, 1953. Two asbestos-bearing serpentine zones had been exposed showing a lateral extent of 150 feet, with a dip of 30° into the hill. Although the surface exposures were badly weathered, the fiber in the 2 zones appeared to have been of strategic quality. The applicants discussed

---

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

exploration of this area and made a rough estimate of costs. Their plan for exploration was technically feasible and it was suggested that they make a firm proposal. Received at the Tucson office on February 9, this revised application proposed a 200-foot inclined shaft from which 200 feet of lateral drifting was to be done at a total cost of $14,136.

Because of the possibility that weathering of the veins is surficial, that the fiber will be of strategic quality, and that the deposit may continue down-dip for a considerable distance, it is recommended that this loan be granted.

INDIAN SPRINGS PROSPECT
EL CAPITAN CLAIMS
SCOTT, SCOTT, AND VINCK - APPLICANTS
GILA COUNTY, ARIZONA
DMEA 2798

ASBESTOS

Geology

By
A. F. Shride
Geologist, U. S. Geological Survey

INDIAN SPRINGS PROSPECT
EL CAPITAN CLAIMS
SCOTT, SCOTT, AND VINCK - APPLICANTS
GILA COUNTY, ARIZONA
DMEA 2793

ASBESTOS

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Lower Deposit - Conclusions	2
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Upper Deposit - Conclusions	3

INTRODUCTION

The Indian Springs asbestos deposits crop out along a northwest-trending ridge, approximately 8 miles airline south-southeast of Globe, Arizona. Two deposits are known - an upper deposit poorly exposed by 3 pits, and a lower deposit well exposed along the outcrop and by a 45-foot inclined adit.

ASBESTOS DEPOSITS

The asbestos-serpentine zones parallel the bedding of the enclosing pre-Cambrian Mescal limestones, which strike N. 40° W. and dip 25° SW. A thick underlying diabase sill cuts up, from north to south, across the limestones and becomes concordant at the northwest end of the upper deposit.

Lower Asbestos Deposit

The lower deposit occurs as 4 separate asbestos-serpentine zones in thin-bedded limestones that are stratigraphically approximately 40 feet below the massive algal (upper) member of the Mescal limestone. The thin limestones are of the incompetent type unfavorable to localization of significant quantities of asbestos. From the spatial relations of the deposit to diabase intrusion and associated minor folding, the asbestos-serpentine zones, which are all within a stratigraphic interval of 4 feet, were obviously localized in a 25- to 30-foot wide belt that parallels the discordant contact between the diabase and the limestone. The limestone is only partly serpentinized and asbestos is sparsely distributed along each of the zones. In places in 3 of the zones there is no asbestos; the maximum cumulative thickness of asbestos veins in each of these 3 zones ranges from $\frac{1}{2}$ to 1 inch. In the most persistent 4th zone the total thickness of the asbestos veins ranges from $\frac{1}{2}$ to 1 inch in thickness. The asbestos of all zones is harsh and of poor tensile strength.

Lower Deposit - Conclusions

Because of (1) unfavorable stratigraphy, (2) obvious limited structural favorability, (3) lack of significant mineralization in the most likely parts of the deposit, and (4) poor quality of the fiber exploration of the lower deposit on the Indian Springs property is not warranted.

Upper Asbestos Deposit

The upper deposit, the northwest outcrop of which is approximately 170 feet south of and 30 feet higher than the lower deposit, is poorly exposed in 3 shallow pits and intermittently exposed along 150 feet of outcrop. Three zones - approximately 8 feet, 12 feet and 13½ feet stratigraphically below the base of the algal member of the Mescal limestone - are present. The diabase sill is concordant for approximately 150 feet and about 4 feet below the lowest asbestos zone of the upper deposit. At the southeast end of the asbestos-bearing outcrop the diabase cuts up to the base of the algal (upper) member of the Mescal limestone, terminating the asbestos-bearing limestones. To the northwest, along the outcrop, the fiber zones pinch out as the diabase cuts discordantly down, away from the asbestos horizons. Thus the length of the outcrop potentially asbestos-bearing is approximately 150 feet in length. The size of the area in which asbestos is localized is undoubtedly determined by the area between the discordant contacts. The bearings of the discordant diabase-limestone contacts at either end of the mineralized area are not known; therefore, the width of the deposit down the dip of the beds into the hill cannot be predicted. The upper deposit is exposed only along the approximate strike and there is no geologic information to suggest the extent of the deposit down dip, away from the outcrop.

The lower two zones of this deposit are along bedding planes between competent limestones of the type usually favorable to asbestos deposits of considerable lateral extent. The top zone is poorly exposed in only one place, but may be enclosed by thin shaly unfavorable beds. If so, the top zone cannot be expected to be persistent.

Where exposed, the top zone (8 feet below the algal member) includes asbestos veins totaling slightly more than 1 inch in thickness. The best exposed parts of the zone 12 feet below the algal member include veins totaling 2 to 4 inches in thickness in a 5 to 10 inch thick serpentine zone. Poor exposures of the lowest zone suggest that the asbestos veins, in a 4 inch thick serpentine zone, total 1 to 2 inches in thickness. The fiber of the upper deposit is much weathered, but apparently is soft and can be expected to be of good tensile strength down-dip, below the zone of weathering.

Upper Deposit - Conclusions

Although the upper deposit is too poorly exposed to permit an estimate of the asbestos reserve potential, the favorable stratigraphy, proximity to diabase, and the moderate degree of mineralization as exposed for the two lower zones indicates that exploration is worthwhile. The proposed program, consisting of a 200-foot inclined shaft and 200 feet of drifting to be supplemented by a few stub raises to test the top zone, is a feasible plan to test this deposit. Therefore, exploration as outlined in the revised proposal can be recommended for Government participation.

DMEA-2798, INDIAN SPRINGS ASBESTOS PROSPECT (EL CAPITAN CLAIMS)
H. R. SCOTT, W. A. SCOTT AND R. D. VINCK
GILA COUNTY, ARIZONA

Engineering Report

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

February 1953

DMEA-2798, INDIAN SPRINGS ASBESTOS PROSPECT (EL CAPITAN CLAIMS)
H. R. SCOTT, W. A. SCOTT AND R. D. VINCK
GILA COUNTY, ARIZONA

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Description of the deposits	3
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Conclusions	6
Recommendations	8

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INTRODUCTION

Late in November 1952, an application was submitted to the Defense Minerals Exploration Administration for a $7,134 exploratory loan by H. R. Scott, W. A. Scott and R. D. Vinck for their Indian Springs asbestos prospect in Gila County, Ariz. This application, docketed as DMEA-2798, was received by the Tucson office of the Defense Minerals Exploration Administration on November 28, 1952. The purpose of the exploration was to explore 2 asbestos veins by 300 feet of drifting which would intersect the veins at about 135 feet down dip from the outcrop.

The preliminary field investigation was made by the DMEA examining team[1/] on December 3, 1952 at which time it was determined that the original plan of exploration was not feasible because only thin veins of harsh fiber were present in this deposit. Another zone of mineralization in the immediate area showed indications of soft fiber but the outcrop was too poorly exposed to determine the lateral extent of the deposit. The applicants offered to determine the extent by a few trenches. When this work was completed, the examiners revisited the property on February 4, 1953. As a moderate project appeared to be justified, the applicants made a revised proposal that was received February 9 at the Tucson office of the Defense Minerals Explorations Administration. This proposal was for exploration of the deposit by 200 feet of inclined shaft and 200 feet of lateral drifting from the shaft, at a total estimated cost of $14,136.

1/ Stewart, L. A., U. S. Bureau of Mines; Shride, A. F., U. S. Geological Survey.

LOCATION AND ACCESSIBILITY

The Indian Springs property is situated on the east side of the Pinal Mountains about 8 airmiles south-southeast of Globe, Gila County, Ariz., at an altitude of about 4,200 feet. The claims are in the Crook National Forest, in sec. 5, T. 2 S., R. 16 E., immediately adjacent to the western boundary line of the San Carlos Indian Reservation (figure 1).

The property is reached by following paved U. S. Highway 70 eastward from Globe for 5 miles to the junction of graveled State Highway 70, turning right and following Highway 70 for 5.7 miles, thence turning left on a dim truck trail for 1.6 miles to the mine at the end of the road. This truck trail would not be passable in wet weather.

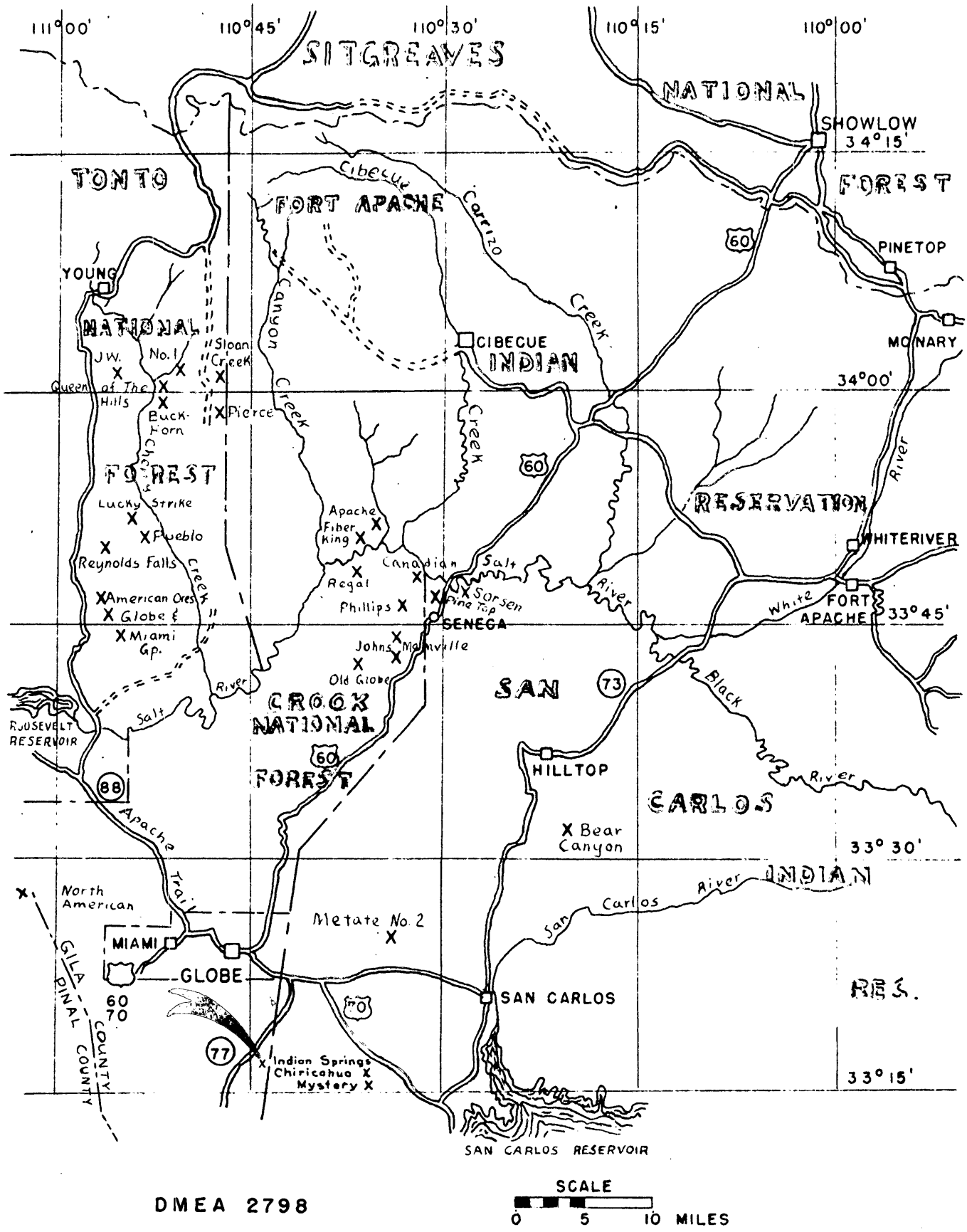
OWNERSHIP AND EXTENT

The property has been located and relocated several times in the past 20 years. Previous owners apparently did little work other than assessment pitting. H. R. Scott, one of the applicants, relocated 2 of the abandoned claims about 4 years ago under the name of El Capitan Nos. 1 and 2. A few months ago a revised location was made in the names of the 3 applicants. This relocation was made so that the claims would conform to topography and to the Reservation boundary (figure 2).

The book and page numbers of the present locations can be found in the Gila County Recorder's office at Globe, Ariz. as follows:

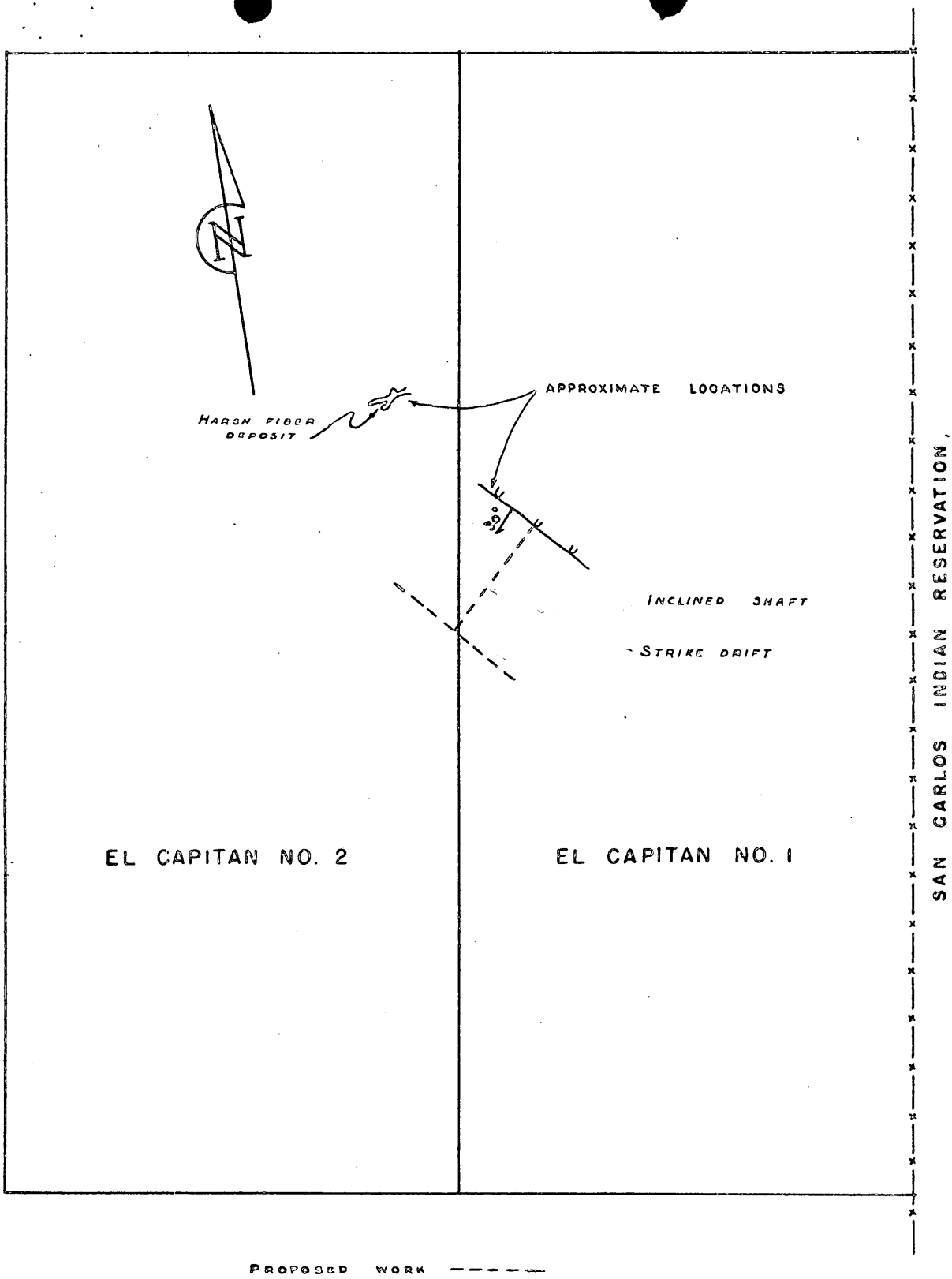
Claim	Book of Mines	Page
El Capitan No. 1	50	114
El Capitan No. 2	50	115

There has been no production from this prospect.



DMEA 2798

Fig. 1. - Location Map, Asbestos Deposits, Gila County, Arizona



SCALE 1" = 200'

DMEA 2798

FIGURE 2. - CLAIM MAP AND LOCATION OF PROPOSED WORK

INDIAN SPRINGS ASBESTOS PROSPECT GILA COUNTY, ARIZONA

DESCRIPTION OF THE DEPOSITS

In this general area the members of the Apache group, intruded by diabase, have been tilted by post-mineral block faulting. The 2 deposits that were examined outcrop on the steep northeast side of a northwesterly trending ridge (figure 2). The mineralized zones dip steeply into the hill.

Deposit on El Capitan No. 2 Claim

The original application was for exploration of a mineralized zone that occurs adjacent to a diabase structure cutting discordantly across thin-bedded limestone. The applicants had exposed 4 narrow serpentine zones by a 26-foot cut into the hill, and had followed the 25° formational dip for an additional 25 feet. From the upper zone, measuring downward, the zones are separated by 12, 30, and 8 inches of limestone. The fiber in each of the zones is fairly harsh and contains numerous partings so the individual fibers are only about 1/16 to 1/4 inch in length. None of the zones contains more than 2 to 4 inches of serpentine.

In terms of inches of total fiber, the zones contain as follows: First (upper) zone, 0 to 1 inch locally; second, 1/2 to 1 inch; third, up to 3/4 but averages 1/2 inches; fourth (lower) 1/2 inch. Only the 2 intermediate zones persist to the bottom of the incline, but the fiber content shows gradual diminution down the dip.

In the surface exposures, fiber is present only to about 30 feet from the diabase contact. The incline bears about 20° from the course of the diabase contact. The fiber content of the veins decreases as

this divergence increases, indicating that the mineralization down dip is confined to about the same distance from the diabase as at the surface.

Because of the small amounts of asbestos in the various veins, the poor quality of the fiber, and the improbability of improvement, no exploration can be recommended for this deposit.

Deposit on El Capitan No. 1 Claim

Approximately 200 feet southeast of the previously mentioned deposit, the diabase sill becomes concordant at about 17 feet below the base of the algal member of the Mescal limestone formation. This condition prevails for 150 feet, then the diabase again rises and cuts up across the asbestos-bearing limestones to the base of the algal. Small open cuts near each end, and in the middle of this interval show that there are 2 zones of serpentine, one at 5 and the other at 9 feet above the diabase. The formations dip 30° southwesterly into the hill. The outcrops are about 25 feet below the top of the ridge. The surface exposures are badly weathered and this condition may be present for 15 or 20 feet of depth.

Each of the cuts have exposed 2 asbestos-bearing serpentine bands. The lower is 5 to 10 inches in thickness and contains 2 inches and locally 4 inches of total fiber. The upper serpentine zone is 8 inches thick and has more than an inch of fiber. Although so badly weathered that it is hard to determine the length of the component fibers, they appear to have been soft and probably of good tensile strength. A recommendation for exploratory work on this deposit will be given later in the report.

PROPOSED EXPLORATION AND COSTS

By mutual agreement of the applicants and the DMEA examiners, the original proposal for exploratory work on the harsh deposit was withdrawn and a revised proposal was made for exploration of the other deposit which appears to contain strategic fiber (see Appendix).

Quoting from the applicant's letter, "200 feet of inclined shaft is proposed and 200 feet of crosscut drift to be used where designated by mutual agreement between the mine operator and the Regional Field Team. The inclined shaft is estimated at $42.80 per foot for a total of $8,560.00. The drift is estimated at $27.88 per foot for a total cost of $5,576.00 to make a total of $14,136.00 for the project. We are prepared to begin the project 30 days after final approval".

DISCUSSION OF ESTIMATED COSTS

The applicants presented cost calculations to justify their unit bid of $42.80 per foot for inclined shaft sinking and $27.88 per foot for drifting. The complete proposal with cost justification is appended to this report.

When studied in detail, a few errors in mathematics are apparent. In the shaft sinking cost calculations, under "Rental of Equipment", the price for jackhammer and hose appears a little high, but rental of a hoist has not been included. Using their figures for bits and steel breakage, the correct calculation would be double the figure of $1.22 per foot.

In the drift calculations the above discussion of rental equipment likewise applies, but the time estimate of 4½ months should have been 3½

months at the specified estimated advance. This makes an overcharge of $1.00 per foot for this item. However, they have neglected to assess a legitimate charge for supervision. The $1.00 per foot error can thus be considered balanced.

The progress of sinking a 5 by 7-foot shaft, inclined at 30°, will be slow. The average estimated advance of 2 feet per day does not appear unreasonable as the slope is too great to use a slusher and the bore too small for more than one man to muck into a car that will be above him. Only about one-half a mine car load can be pulled safely on that angle, unless the operator buys or builds a regular skip-type car for the job. Forreasons of safety, even the latter type should be hoisted slowly.

The advance in level drifts off the shaft can be more rapid, but again the hoisting of muck will slow down the operation. In consideration of the steepness of the incline, the writer is of the opinion that the unit bids submitted for the 2 types of work are not unreasonable.

CONCLUSIONS

In the Gila County asbestos district, the massive beds immediately below the base of the algal member of the Mescal limestone are very favorable for asbestos mineralization when in proximity to diabase. At the deposit on the El Capitan No. 1 claim, the mineralized zones are at 8 and 12 feet below the algal base, with diabase 5 feet below the lower zone. The serpentinization in the zones is strong and there is considerable asbestos in the serpentine. Because of the intense

surface weathering it was impossible to determine exactly the lengths of fibers in the exposures. However, this condition is expected to extend only a moderate distance from the outcrop. The fiber appears to have been of the soft variety.

There is about 4 feet of thin-bedded limestone between the zones. The applicants intend to carry the lower vein at the top of the incline, as this location furnishes the best "backs" for the operation, particularly near the surface. The upper zone can be tested occasionally by a drill hole or pop shot. This was discussed with the applicants and although they failed to mention it in the revised application, the intent was that the price of inclined shafting includes testing the upper zone at intervals.

The examiners were favorably impressed with the attitude of the applicants. Unlike some who expect the Government to do the original prospecting for them, these men, at their own expense, have done sufficient work on the new deposit to eliminate consideration of a normal first stage of exploration. They have made 3 cuts to expose the outcrop and determine the lateral extent, improved their access road and dozed a new truck trail to the top of the ridge so the proposed work site is readily accessible.

Harry R. Scott is competent to direct and supervise the work, as he is an "old-time" miner, who for years has made his living by leasing operations at various mines in Arizona. W. A. Scott, his young son, has assisted the father in these operations. R. D. Vinck works in the mechanical department of one of the large copper mines and presumably is furnishing part of the capital.

RECOMMENDATIONS

Such a small amount of work has been done on the deposit that it can be classed only as a "raw prospect". However, it appears worthy of an exploration project for the following reasons:

1. The stratigraphic position is in the same beds that have been productive in about half the mines of the district;

2. It is thought that the fiber will be of strategic quality;

3. The length of the outcrop that contains asbestos-bearing serpentine is 150 feet. If the deposit continues down dip to the limit of the proposed exploration, the potential could be significant.

It is suggested that the unit bids, as given, be accepted for the two classes of work, this work to consist of driving 200 feet of inclined shaft and drifting a total of 200 feet from the shaft. The location of the drifting is to be agreeable to representatives of the Government. It should be stated in the contract that the unit bid prices include testing of the upper zone at intervals by blasting a short round in the roof to expose the vein.

Applicants state work can be started within 30 days of notification to proceed. It is suggested that 12 months be permitted for the work to allow for unforeseen contingencies.

In summary, it is recommended that an exploration loan be given to H. R. Scott, W. A. Scott, and R. D. Vinck, a partnership, to explore their Indian Springs asbestos prospect for a total project cost of $14,136.

APPENDIX

DMEA-2798, INDIAN SPRINGS ASBESTOS PROSPECT (EL CAPITAN CLAIMS)

H. R. SCOTT, W. A. SCOTT, AND R. D. VINCK

GILA COUNTY, ARIZONA

(Copied Verbatim)

Indian Springs Mine
Box 1005
Globe, Arizona

Mr. W. R. Storms
Box 4097, University Station,
Tucson, Arizona

Dear Mr. Storms

Enclosed is thecost estimate for developement work proposed on the El Capitan # 1 And #2 claims of the Indian springs Mine.

200 ft. of incline Shaft is proposed, and 200 ft. of crosscut drift to be used were designated by mutual agreement between the Mine operator and the Regional Feild Team.

The Incline Shaft is estimated at $ 42.80 per ft. for a total of $ 8560.00. The drift is istimated at $27.88 Per ft. for a total cost of $ 5,576.00, to make a total of $ 14,136.00 for the project.

We are prepared to begin the project 30 days after final approval.

Yours very truly

/s/ Harry R. Scott
/s/ W. A. Scott
/s/ R. D. Vinck

Harry R. Scott
W. A. Scott
R. D. Vinck

C O P Y

Indian Springs Mine Cost Estimate

Basis

200 feet 5 x 7 Incline Shaft

200 feet 5 x 7 drift

Basis for 5 x 7 Incline Shaft

Rate of advance, 2 ft. per day
WORKING days per month 25
4 men per shift, 1 miner, 2 labors, 1 combanation-hoistman & mechanic.

Time estimate

Depth of shaft----------200 ft.

$\frac{200 \text{ ft.}}{2 \text{ ft. per day x 25 days per mo.}}$ ---------- 4 months minimum
6 months maxium

Rental of Equipment

105 cu. ft. compressor	$ 150 per mo.	$900.00
Jack Hammer	42.25	255.00
Air Hose	7.05	36.30
		$1192.30
Rental bsis per foot advance----------		$ 5.91

Labor

1 miner at $ 1500 per shift	$ 15.00	High
1 Hoistman and mechanic ($ 15.00	15.00	
2 Labors (Mucker & top lander) at 13.00	26.00	
	56.00	

Includes Industral Insurance and social security etc.

On advance of 2 ft per day---------- $ 28.00 fer ft.

Supplies

For compressor and hoist

15 Gal gas per shift at 30¢ per gal.	$ 4.50
3 qts. oil per shift at 35 ¢ per shift	$ 1.05
	$ 5.55

Above includes allowance for delivery

Fuel per ft $ 2.77

Explosives estimated at 14 hole per round

Dynamite 30 lbs. at 23 ¢ per lp	$ 6.90
Caps 14 @ $2\frac{1}{2}$¢ each	.35
Fuse 90 ft. @ .013 per ft.	1.17
	$ 8.32
Cost per ft. at 4 ft rounds	$ 2.08

Pipe and track

Pipe and track to be purchased by the company and to remain in the companys possession upon termination of the project. The project to be charged 40 % of the estimated purchase price for these items

Rails, ties, spikes and fishplates	per foot	$ 1.50
2 inch air line		.59
1 ince water line		.34
Sleeves, valves, and Etc.		.20
		2.63
40% to be charged to project	per foot	$ 1.05

Drill Steel and Bits

Steel breakage estamited 1-5 ft. steel per 3 rounds or 12 ft advance

Steel $\frac{\$\ 7.50}{2\ \text{ft.}}$ - per foot 62¢

4 tinken bits per rounds, this includs sharping

Bits $\frac{4 \times 60}{4\ \text{ft.}}$ 60 ¢ per ft. 60¢

Total cost per ft. $ 1.22

Mincs

Machine oil	$ 0.12
Crbide	0.15
Resharping of picks and moils	0.10
Bars, loading sticks, jim crow, Ect.	0.35
	0.72

This covers breakage and replacement

Repiars

Normal repiars on machinery, including breakage and replacement per foot 0.75

Timber

Ten sets estimated @ a cost of $ 6.00 per set

$ $\frac{6.00 \text{ x ten}}{200 \text{ ft.}}$ = per ft. $0.30

Summary

Rental of Equiment	per ft.	$5.91
Labor		28.00
Supplies		2.77
Explosives		2.08
Pipe and track		1.05
Drill Steel and Bits		1.22
Minc's		0.72
Repiars		0.75
Timber		$0.30
		$42.80

$ 42.80 x 200 = $ 8560.00 total per incline shaft

Indian Springs mine 10 %	$ 856.00
Defense Mineral Administration 90 %	7704.00

Basis for 200 ft. of cross cut drift

Rate of advance, $3\frac{1}{2}$ ft per day
Working days per month 25
4 men per shift, 1 miner, 2 labors, 1 combanation-hoistman and Mechanic

Time estamite

length of drift 200 ft

$$\frac{200 \text{ ft.}}{3\frac{1}{2} \text{ feet per day advance X 25 days per mo}} \qquad 4\frac{1}{2} \text{ Months}$$

Rental of Equiment

105 cu ft. compressor	$ 150 per month	$ 675.00
Jack Hammer	42.25	190.13
Air Hose	7.05	31.72
		$ 896.85

Cost per ft.

Labor	$ 4.48
1 Miner at 15.00 per shift	$ 15.00
1 Hoistman and Mechanic @ 15.00	15.00
2 Labors (Mucker and Top lander) at 13.00	26.00
	56.00

Includs Industral Insurance and Social Security Etc.

On advance of $3\frac{1}{2}$ ft. per day per ft $ 16.00

Supplies

For compressor and hoist

15 gals gas per shift at 30¢ per gal	$ 4.50
3 Qts oil per shift at 35¢ per qt	1.05
	5.55

Above includes allowance for delivery

Fuel per ft. $ 1.58

Explosives

Dynamite 30 lbs. at 23¢ per lb.	$ 6.90
Caps 14 at $2\frac{1}{2}$ ¢ each	.35
Fuse 90 ft. @ .013	1.17
	$ 8.32

Cost per ft. at 4 ft rounds $ 2.08

Pipe and track

Pipe and track to be purchased by the company and to remain in the company possession upon termination of the project. The project to be charged 40 % of the estimated purchase price for these itiems

Rails, ties, spikes and fishplates	per ft.	$ 1.50
2 inch air line		.59
1 inch water line		.34
Sleeves, valves, and Etc.		.20
		2.63
40 % to be charged to project	per ft.	$ 1.05

Drill Steel and Bits

Steel breakage estimated 1-5 ft. steel per 3 rounds of 12 ft. advance

Steel $\frac{\$ 7.50}{12 \text{ ft.}}$ per ft. 0.62

4 Tinken bits per rounds, this includs sharping

Bits $\frac{4 \times 60}{4 \text{ ft.}}$ per ft. .60

Total cost per ft $ 1.22 ?

Minc's

Machine oil	$ 0.12
Carbide	0.15
Resharping of picks and moils	0.10
Bars, loading sticks, Jim crow, Etc.	0.35
	0.72

This covers breakage and replacement

Repiars

Normal repiars on machinery, including breakage and replacement per foot $ 0.75

Summary

Rental of Equipment	per ft.	$ 4.48
Labors		16.00
Supplies		1.58
Explosives		2.08
Pipe and track		1.05
Drill Steel and bits		1.22
Minc's		.72
Repiars		.75
		27.88

$ 27.88 X 200 - $ 5576.00

Indian Springs Mine 10 % $ 557.60

Defense Mineral Administration 90 % $5018.40

Total Cost per project

Incline Shaft	Ind. Spg.	$ 856.00
	D M A	7704.00
	Total	8560.00
Drifting	Ind. Spg	$ 557.60
	D M A	5018.40
	Total	5576.00

Total per Indian Springs	$ 1413.60
Total per Defense Mineral Administration	$12,722.40
	$14,136.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

March 26, 1953.

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2798 (Asbestos), Scott, Scott and Vinck, El Capitan Claims, Gila County, Arizona.

Enclosed are nine copies of the final engineering report on the subject docket.

The examining engineer believes that a significant amount of asbestos will be found in the proposed exploration project which consists of sinking an incline shaft 200 feet and drifting 200 feet at a total cost of $14,136.00, Government participation - $12,722.40.

We recommend the project and we concur in this recommendation.

W. H. King
W. H. King

Enclosures

Submitted by
DMEA [illegible] COMMITTEE
4-10-53
(Date)

DEPARTMENT OF THE INTERIOR
Bureau of Mines
RECEIVED
MAR 6 1953

MINING DIVISION
REGION IV

February 27, 1953

Memorandum

To : S. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Final Report, Docket MMA-2794, Indian Springs Asbestos Prospect (21 Capitan Claims), Pima County, Ariz.

Enclosed are original and 3 copies of a report on the above deposit by L. A. Stewart of the Bureau of Mines. It is understood that the Geological Survey will submit a report at a later date.

As there seems a good chance of uncovering a worth-while deposit of asbestos by the proposed work, Stewart recommends that the exploration loan be granted. I concur with this recommendation. I believe A. F. Barline of the Geological Survey also will recommend this loan.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

cc: S. H. King (3)
A. F. Barline
MMA-2794
4

WRStorms:sls

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

March 20, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2798, Indian Springs Prospect, El Capitan Claims, Gila County, Arizona. Scott, Scott and Vinck--Applicants. Asbestos.

Enclosed are the original and 8 copies of the above report by A. F. Shride of the U. S. Geological Survey.

Denial would have been recommended for the original application. However, a revised application for exploration on another deposit on the same claims can be recommended for approval.

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

Enclosures (9)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P.O.Box 4126, University Station
Tucson 5, Arizona

March 18, 1953

Memorandum

To: A. E. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, DMEA 2798, Indian Springs Prospect, El Capitan Claims, Scott, Scott and Vinck - Applicant, Gila County, Arizona (Asbestos)

Enclosed are the original and 8 copies of the above report by A. F. Shride of the Geological Survey.

Denial would have been recommended for the original application. However, a revised application for exploration on another deposit on the same claims can be recommended for approval.

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

Enclosures 9

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] Indian Springs Exploration Project, [illegible] Copper Claims, [illegible] Scott and [illegible] Vista

[illegible] County, Arizona

Lincoln [illegible] Stewart, Mining Engineer
U. S. Bureau of Mines

February 1953

4-10-53

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

by Lincoln A. Stewart 1/

An application from R. L. Scott, W. A. Scott, and R. D. Vinck for a $7,134 exploration loan on their Indian Springs asbestos prospect in Gila County, Ariz. was received on November 27, 1952 by the Tucson, Ariz. office of the Defense Minerals Exploration Administration as docket 2798. The purpose of the loan was to explore an asbestos deposit by 300 feet of drifting.

The property consists of 2 unpatented claims in the Crook National Forest about 10 airmiles south of Globe, Ariz. There has been no production from these claims.

An examination was made by the writer and F. F. Bridge 2/ on December 3, 1952. Two deposits were investigated. The one on which the proposal was based contained narrow stringers of harsh fiber. The second zone was poorly exposed, but appeared to have a possibility of containing more fiber of better quality. The applicants decided it would be worthwhile for them to do a little trenching to expose the vein and determine its lateral extent.

When this work was completed a second visit was made by the examiners on February 4, 1953. Two asbestos-bearing serpentine zones had been exposed showing a lateral extent of 150 feet, with a dip of 30° into the hill. Although the surface exposures were badly weathered, the fiber in the 2 zones appeared to have been of strategic quality. The applicants discussed

---

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

exploration of this area and made a rough estimate of costs. Their plan for exploration was technically feasible and it was suggested that they make a firm proposal. Received at the Tucson office on February 9, this revised application proposed a 200-foot inclined shaft from which 200 feet of lateral drifting was to be done at a total cost of $14,190.

Because of the possibility that weathering of the veins is surficial, that the fiber will be of strategic quality, and that the deposit may continue down-dip for a considerable distance, it is recommended that this loan be granted.

INDIAN SPRINGS PROSPECT
EL CAPITAN CLAIMS
SCOTT, SCOTT, AND TIBBE - APPLICANTS
GILA COUNTY, ARIZONA
IMMA 2796

APPENDIX

Geology

By
A. F. Shride
Geologist, U. S. Geological Survey

INDIAN SPRINGS PROSPECT
EL CAPITAN CLAIMS
SCOTT, SCOTT, AND VINCK - APPLICANTS
GILA COUNTY, ARIZONA
DMEA #798

ASBESTOS

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Lower Deposit - Conclusions	2
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INTRODUCTION

The Indian Springs asbestos deposits crop out along a northwest-trending ridge, approximately 8 miles airline south-southeast of Globe, Arizona. Two deposits are known - an upper deposit poorly exposed by 3 pits, and a lower deposit well exposed along the outcrop and by a 45-foot inclined adit.

ASBESTOS DEPOSITS

The asbestos-serpentine zones parallel the bedding of the enclosing pre-Cambrian Mescal limestones, which strike N. 40° W. and dip 25° SW. A thick underlying diabase sill cuts up, from north to south, across the limestones and becomes concordant at the northwest end of the upper deposit.

Lower Asbestos Deposit

The lower deposit occurs as 4 separate asbestos-serpentine zones in thin-bedded limestones that are stratigraphically approximately 40 feet below the massive algal (upper) member of the Mescal limestone. The thin limestones are of the incompetent type unfavorable to localization of significant quantities of asbestos. From the spatial relations of the deposit to diabase intrusion and associated minor folding, the asbestos-serpentine zones, which are all within a stratigraphic interval of 4 feet, were obviously localized in a 25 to 30-foot wide belt that parallels the discordant contact between the diabase and the limestone. The limestone is only partly serpentinized and asbestos is sparsely distributed along each of the zones. In places in 3 of the zones there is no asbestos; the maximum cumulative thickness of asbestos veins in each of these 3 zones ranges from ½ to 1 inch. In the most persistent 4th zone the total thickness of the asbestos veins ranges from ½ to 1 inch in thickness. The asbestos of all zones is harsh and of poor tensile strength.

Lower Deposit - Conclusions

Because of (1) unfavorable stratigraphy, (2) obvious limited structural favorability, (3) lack of significant mineralization in the most likely parts of the deposit, and (4) poor quality of the fiber exploration of the lower deposit on the Indian Springs property is not warranted.

Upper Asbestos Deposit

The upper deposit, the northwest outcrop of which is approximately 170 feet south of and 30 feet higher than the lower deposit, is poorly exposed in 3 shallow pits and intermittently exposed along 150 feet of outcrop. Three zones - approximately 8 feet, 12 feet and 13½ feet stratigraphically below the base of the algal member of the Mescal limestone - are present. The diabase sill is concordant for approximately 150 feet and about 4 feet below the lowest asbestos zone of the upper deposit. At the southeast end of the asbestos-bearing outcrop the diabase cuts up to the base of the algal (upper) member of the Mescal limestone terminating the asbestos-bearing limestones. To the northwest, along the outcrop, the fiber zones pinch out as the diabase cuts discordantly down, away from the asbestos horizons. Thus the length of the outcrop potentially asbestos-bearing is approximately 150 feet in length. The size of the area in which asbestos is localized is undoubtedly determined by the area between the discordant contacts. The bearings of the discordant diabase-limestone contacts at either end of the mineralized area are not known; therefore, the width of the deposit down the dip of the beds into the hill cannot be predicted. The upper deposit is exposed only along the approximate strike and there is no geologic information to suggest the extent of the deposit down dip, away from the outcrop.

The lower two zones of this deposit are along bedding planes between competent limestones of the type usually favorable to asbestos deposits of considerable lateral extent. The top zone is poorly exposed in only one place, but may be enclosed by thin shaly unfavorable beds. If so, the top zone cannot be expected to be persistent.

Where exposed, the top zone (8 feet below the algal member) includes asbestos veins totaling slightly more than 1 inch in thickness. The best exposed parts of the zone 12 feet below the algal member include veins totaling 2 to 4 inches in thickness in a 5 to 10 inch thick serpentine zone. Poor exposures of the lowest zone suggest that the asbestos veins, in a 4 inch thick serpentine zone, total 1 to 2 inches in thickness. The fiber of the upper deposit is much weathered, but apparently is soft and can be expected to be of good tensile strength down-dip, below the zone of weathering.

Upper Deposit - Conclusions

Although the upper deposit is too poorly exposed to permit an estimate of the asbestos reserve potential, the favorable stratigraphy, proximity to diabase, and the moderate degree of mineralization as exposed for the two lower zones indicates that exploration is worthwhile. The proposed program, consisting of a 200-foot inclined shaft and 200 feet of drifting to be supplemented by a few stub raises to test the top zone, is a feasible plan to test this deposit. Therefore, exploration as outlined in the revised proposal can be recommended for Government participation.

[illegible], [illegible] (La [illegible])
[illegible], [illegible] AND [illegible]
[illegible], [illegible]

Engineering Report

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

February, 1953

DMA-2798, INDIAN SPRINGS ASBESTOS PROSPECT (EL CAPITAN CLAIMS)
R. R. SCOTT, W. A. SCOTT AND R. D. VINCK
GILA COUNTY, ARIZONA

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ILLUSTRATIONS

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INTRODUCTION

Late in November 1952, an application was submitted to the Defense Minerals Exploration Administration for a $7,134 exploratory loan by H. R. Scott, W. A. Scott and H. D. Vinck for their Indian Springs asbestos prospect in Gila County, Ariz. This application, docketed as DMEA-2793, was received by the Tucson office of the Defense Minerals Exploration Administration on November 24, 1952. The purpose of the exploration was to explore 2 asbestos veins by 300 feet of drifting which would intersect the veins at about 135 feet down dip from the outcrop.

The preliminary field investigation was made by the DMEA examining team on December 3, 1952 at which time it was determined that the original plan of exploration was not feasible because only thin veins of harsh fiber were present in this deposit. Another zone of mineralization in the immediate area showed indications of soft fiber but the outcrop was too poorly exposed to determine the lateral extent of the deposit. The applicants offered to determine the extent by a few trenches. When this work was completed, the examiners revisited the property on February 4, 1953. As a moderate project appeared to be justified, the applicants made a revised proposal that was received February 9 at the Tucson office of the Defense Minerals Explorations Administration. This proposal was for exploration of the deposit by 200 feet of inclined shaft and 200 feet of lateral drifting from the shaft, at a total estimated cost of $14,130.

1/ Stewart, L. A., U. S. Bureau of Mines; Shride, A. F., U. S. Geological Survey.

LOCATION AND ACCESSIBILITY

The Indian Springs property is situated on the east side of the Final Mountains about 8 airmiles south-southeast of Globe, Gila County, Ariz., at an altitude of about 4,200 feet. The claims are in the Tonto National Forest, in sec. 5, T. 4 S., R. 16 E., immediately adjacent to the western boundary line of the San Carlos Indian Reservation (figure 1).

The property is reached by following paved U. S. Highway 70 eastward from Globe for 5 miles to the junction of graveled State Highway 70, turning right and following Highway 70 for 5.7 miles, thence turning left on a dim truck trail for 1.6 miles to the mine at the end of the road. This truck trail would not be passable in wet weather.

OWNERSHIP AND EXTENT

The property has been located and relocated several times in the past 20 years. Previous owners apparently did little work other than assessment pitting. Mr. R. Scott, one of the applicants, relocated 4 of the abandoned claims about 4 years ago under the name of El Capitan Nos. 1 and 2. A few months ago a revised location was made in the names of the 3 applicants. This relocation was made so that the claims would conform to topography and to the Reservation boundary (figure 2).

The book and page numbers of the present locations can be found in the Gila County Recorder's office at Globe, Ariz. as follows:

Claim	Book of Mines	Page
El Capitan No. 1	50	114
El Capitan No. 2	50	115

There has been no production from this prospect.

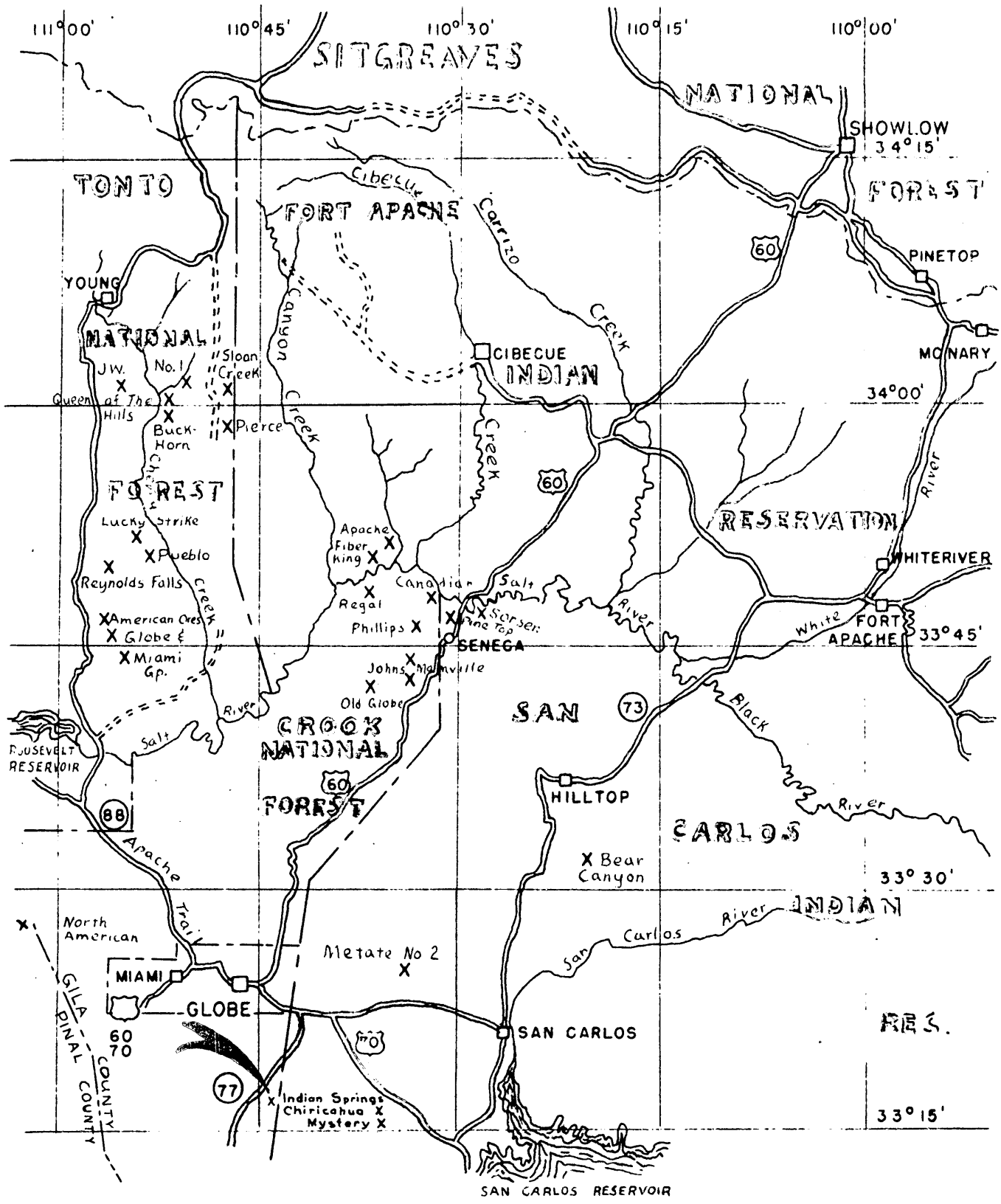
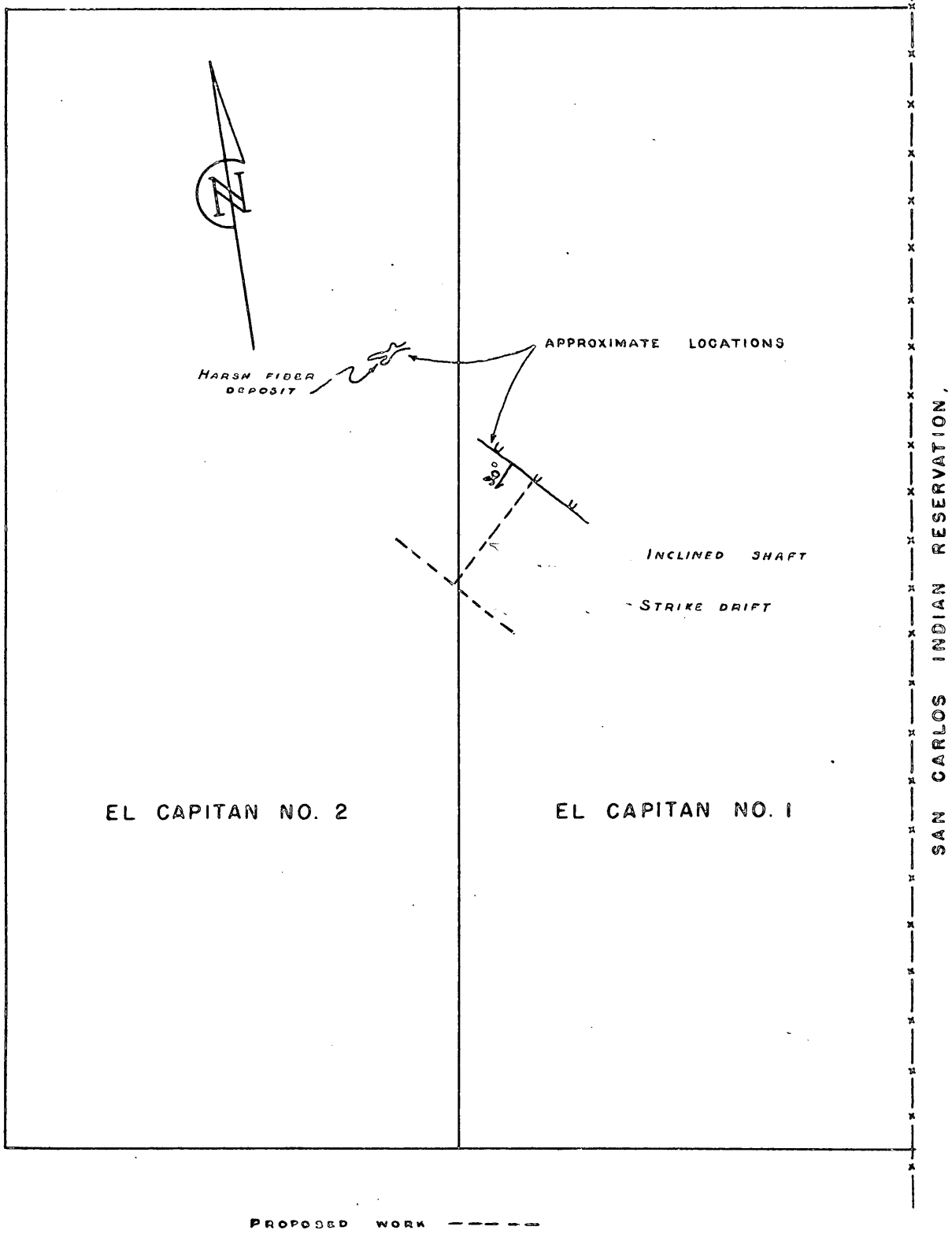


Fig. 1.- Location Map, Asbestos Deposits, Gila County, Arizona



SCALE 1" = 200'

DMEA 2798

FIGURE 2. - CLAIM MAP AND LOCATION OF PROPOSED WORK

INDIAN SPRINGS ASBESTOS PROSPECT GILA COUNTY, ARIZONA

DESCRIPTION OF THE DEPOSITS

In this general area the members of the Apache group, intruded by diabase, have been tilted by post-mineral block faulting. The deposits that were examined outcrop on the steep northeast side of a northwesterly trending ridge (figure 2). The mineralized zones dip steeply into the hill.

Deposit on Alexander's Claim

The original application was for exploration of a mineralized zone that occurs adjacent to a diabase structure cutting discordantly across thin-bedded limestone. The applicants had exposed 4 narrow serpentine zones by a 20-foot cut into the hill, and had followed the 25° formational dip for an additional 25 feet. From the upper zone, measuring downward, the zones are separated by 12, 30, and 4 inches of limestone. The fiber in each of the zones is fairly coarse and contains numerous partings so the individual fibers are only about 1/16 to 1/4 inch in length. One of the zones contains more than 4 to 4 inches of serpentine.

In terms of inches of total fiber, the zones contain as follows: First (upper) zone, 0 to 1 inch locally; second, 1/4 to 2 inches thick, up to 3/4 but averages 1/2 inches; fourth (lower) 1/4 inch. Only the 2 intermediate zones persist to the bottom of the incline, but the fiber content shows gradual diminution down the dip.

In the surface exposures, fiber is present only to about 30 feet from the diabase contact. The incline bears about 20° from the course of the diabase contact. The fiber content of the veins decreases as

this divergence increases, indicating that the mineralization down dip is confined to about the same distance from the diabase as at the surface.

Because of the small amounts of asbestos in the various veins, the poor quality of the fiber, and the improbability of improvement, no exploration can be recommended for this deposit.

Deposit on El Capitan No. 1 Claim

Approximately 200 feet southeast of the previously mentioned deposit, the diabase sill becomes concordant at about 17 feet below the base of the algal member of the Mescal limestone formation. This condition prevails for 150 feet, then the diabase again rises and cuts up across the asbestos-bearing limestones to the base of the algal. Small open cuts near each end, and in the middle of this interval show that there are 2 zones of serpentine, one at 5 and the other at 9 feet above the diabase. The formations dip 30° southwesterly into the hill. The outcrops are about 25 feet below the top of the ridge. The surface exposures are badly weathered and this condition may be present for 15 or 20 feet of depth.

Each of the cuts have exposed 2 asbestos-bearing serpentine bands. The lower is 5 to 10 inches in thickness and contains 2 inches and locally 4 inches of total fiber. The upper serpentine zone is 8 inches thick and has more than an inch of fiber. Although so badly weathered that it is hard to determine the length of the component fibers, they appear to have been soft and probably of good tensile strength. A recommendation for exploratory work on this deposit will be given later in the report.

PROPOSED EXPLORATION AND COSTS

By mutual agreement of the applicants and the DMEA examiners, the original proposal for exploratory work on the harsh deposit was withdrawn and a revised proposal was made for exploration of the other deposit which appears to contain strategic fiber (see Appendix).

Quoting from the applicant's letter, "200 feet of inclined shaft is proposed and 200 feet of crosscut drift to be used where designated by mutual agreement between the mine operator and the Regional Field Team. The inclined shaft is estimated at $42.30 per foot for a total of $8,500.00. The drift is estimated at $27.88 per foot for a total cost of $5,570.00 to make a total of $14,130.00 for the project. We are prepared to begin the project 30 days after final approval".

DISCUSSION OF ESTIMATED COSTS

The applicants presented cost calculations to justify their unit bid of $42.30 per foot for inclined shaft sinking and $27.88 per foot for drifting. The complete proposal with cost justification is appended to this report.

When studied in detail, a few errors in mathematics are apparent. <u>In the shaft sinking cost calculations</u>, under "Rental of Equipment", the price for jackhammer and hose appears a little high, but rental of a hoist has not been included. Using their figures for bits and steel breakage, the correct calculation would be double the figure of $1.22 per foot.

<u>In the drift calculations</u> the above discussion of rental equipment likewise applies, but the time estimate of 4½ months should have been 3½

months at the specified estimated advance. This makes an overcharge of $1.00 per foot for this item. However, they have neglected to assess a legitimate charge for supervision. The $1.00 per foot error can thus be considered balanced.

The progress of sinking a 5 by 7-foot shaft, inclined at 30°, will be slow. The average estimated advance of 2 feet per day does not appear unreasonable as the slope is too great to use a slusher and the bore too small for more than one man to muck into a car that will be above him. Only about one-half a mine car load can be pulled safely on that angle, unless the operator buys or builds a regular skip-type car for the job. Forreasons of safety, even the latter type should be hoisted slowly.

The advance in level drifts off the shaft can be more rapid, but again the hoisting of muck will slow down the operation. In consideration of the steepness of the incline, the writer is of the opinion that the unit bids submitted for the 2 types of work are not unreasonable.

CONCLUSIONS

In the Gila County asbestos district, the massive beds immediately below the base of the algal member of the Mescal limestone are very favorable for asbestos mineralization when in proximity to diabase. At the deposit on the El Capitan No. 1 claim, the mineralized zones are at 8 and 12 feet below the algal base, with diabase 5 feet below the lower zone. The serpentinization in the zones is strong and there is considerable asbestos in the serpentine. Because of the intense

surface weathering, it was impossible to determine exactly the length of fibers in the exposures. However, this condition is expected to extend only a moderate distance from the outcrop. The fiber appears to have been of the soft variety.

There is about 4 feet of thin-bedded limestone between the zones. The applicants intend to carry the lower vein at the top of the incline, as this location furnishes the best "backs" for the operation, particularly near the surface. The upper zone can be tested occasionally by a drill hole or pop shot. This was discussed with the applicants and although they failed to mention it in the revised application, the intent was that the price of inclined shafting includes testing the upper zone at intervals.

The examiners were favorably impressed with the attitude of the applicants. Unlike some who expect the Government to do the original prospecting for them, these men, at their own expense, have done sufficient work on the new deposit to eliminate consideration of a normal first stage of exploration. They have made 3 cuts to expose the outcrop and determine the lateral extent, improved their access road and dozed a new truck trail to the top of the ridge so the proposed work site is readily accessible.

Harry R. Scott is competent to direct and supervise the work, as he is an "old-time" miner, who for years has made his living by leasing operations at various mines in Arizona. W. A. Scott, his young son, has assisted the father in these operations. H. B. Hinck works in the mechanical department of one of the large copper mines and presumably is furnishing part of the capital.

RECOMMENDATIONS

Such a small amount of work has been done on the deposit that it can be classed only as a "raw prospect". However, it appears worthy of an exploration project for the following reasons:

1. The stratigraphic position is in the same beds that have been productive in about half the mines of the district;

2. It is thought that the fiber will be of strategic quality;

3. The length of the outcrop that contains asbestos-bearing serpentine is 150 feet. If the deposit continues down dip to the limit of the proposed exploration, the potential could be significant.

It is suggested that the unit bids, as given, be accepted for the two classes of work, this work to consist of driving 200 feet of inclined shaft and drifting a total of 200 feet from the shaft. The location of the drifting is to be agreeable to representatives of the Government. It should be stated in the contract that the unit bid prices include testing of the upper zone at intervals by blasting a short round in the roof to expose the vein.

Applicants state work can be started within 30 days of notification to proceed. It is suggested that 12 months be permitted for the work to allow for unforeseen contingencies.

In summary, it is recommended that an exploration loan be given to W. R. Scott, W. A. Scott, and R. L. Vinck, a partnership, to explore their Indian Springs asbestos prospect for a total project cost of $14,130.

APPENDIX

[illegible]-2798, INDIAN SPRINGS ADDITION PROJECT (Mr. CARTER [illegible])

[illegible] SCOTT, [illegible] SCOTT, AND [illegible] VINCE

[illegible] COUNTY, ARIZONA

(Copied Verbatim)

Indian Springs Mine
Box 1005
Globe, Arizona

Mr. W. A. Storms
Box 4097, University Station,
Tucson, Arizona

Dear Mr. Storms

Enclosed is thecost estimate for developement work proposed on the El Capitan # 1 And #2 claims of the Indian springs Mine.

200 ft. of incline Shaft is proposed, and 200 ft. of crosscut drift to be used were designated by mutual agreement between the mine operator and the Regional Feild Team.

The Incline Shaft is estimated at $ 42.80 per ft. for a total of $ 8560.00. The drift is istimated at $27.88 per ft. for a total cost of $ 5,576.00, to make a total of $ 14,136.00 for the project.

We are prepared to begin the project 30 days after final approval.

Yours very truly

/s/ Harry R. Scott
/s/ W. A. Scott
/s/ R. D. Vinck

Harry R. Scott
W. A. Scott
R. D. Vinck

C O P Y

Indian Springs Mine Cost Estimate

Basis

200 feet 5 x 7 incline shaft

200 feet 5 x 7 drift

Basis for 5 x 7 Incline Shaft

Rate of advance, 2 ft. per day
Working days per month 25
4 men per shift, 1 miner, 2 labors, 1 combination-hoistman & mechanic.

Time estimate

Depth of shaft---------- 200 ft.

$\frac{200 \text{ ft.}}{2 \text{ ft. per day} \times 25 \text{ days per mo.}}$ ---------- 4 months minimum
6 months maxium

Rental of Equipment

105 cu. ft. compressor	$ 150 per mo.	$ 900.00
Jack hammer	42.25	255.00
Air hose	7.05	37.30
		$1192.30
Rental basis per foot advance----------		$ 5.91

Labor

1 miner at $ 1500 per shift	$ 15.00
1 hoistman and mechanic $ 15.00	15.00
2 Labors (mucker & top lander) at 13.00	26.00
	56.00

Includes industrial insurance and social security etc.

On advance of 2 ft per day---------- $ 28.00 per ft.

Supplies

For compressor and hoist

15 Gal gas per shift at 30¢ per gal.	$ 4.50
3 qts. oil per shift at 35 ¢ per shift	1.05
	$ 5.55

Above includes allowance for delivery

Fuel per ft $ 2.77

Explosives estimated at 14 hole per round

Dynamite 30 lbs. at 23 ¢ per lp	$	6.90
Caps 14 @ 2½¢ each		.35
Fuse 90 ft. @ .013 per ft.		1.17
	$	8.32
Cost per ft. at 4 ft rounds	$	2.08

Pipe and track

Pipe and track to be purchased by the company and to remain in the company's possession upon termination of the project. The project to be charged 40 % of the estimated purchase price for these items

Rails, ties, spikes and fishplates	per feet	$	1.50
2 inch air line			.59
1 ince water line			.34
Sleeves, valves, and Etc.			.20
			2.63
40% to be charged to project	per foot	$	1.05

Drill Steel and Bits

Steel breakage estamited 1-3 ft. steel per 3 rounds or 12 ft advance

Steel $\frac{\$ 7.50}{2 \text{ ft.}}$ - per foot 62¢

4 tinken bits per rounds, this includs sharping

Bits $\frac{4 \times 60}{4 \text{ ft.}}$ 60 ¢ per ft. 60¢

Total cost per ft. $ 1.22

Mines

Machine oil	$	0.12
Carbide		0.15
Resharping of picks and mails		0.10
Bars, loading sticks, jim crow, &ct.		0.35
		0.72

This covers breakage and replacement

Repiars

Normal repiars on machinery, including breakage and replacement per foot 0.75

Timber

Ten sets estimated @ a cost of $ 6.00 per set

$ $\frac{6.00 \times \text{ten}}{200 \text{ ft.}}$ = per ft. $0.30

Summary

Rental of Equiment	per ft.	$5.91
Labor		26.00
Supplies		2.77
Explosives		2.08
Pipe and track		1.05
Drill steel and Bits		1.22
Mine's		0.72
Repairs		0.75
Timber		$0.30
		$42.80

$ 42.80 x 200 = $ 8560.00 total per incline shaft

Indian Springs mine 10 %	$ 856.00
Defense Mineral Administration 90 %	7704.00

Basis for 200 ft. of cross cut drift

Rate of advance, 3½ ft per day
working days per month 25
4 men per shift, 1 miner, 2 labors, 1 combination-hoistman and mechanic

Time estimate

length of drift 200 ft

$$\frac{200 \text{ ft.}}{3\frac{1}{2} \text{ feet per day advance} \times 25 \text{ days per mo}} \qquad 4\frac{1}{2} \text{ months}$$

Rental of Equipment

105 cu ft. compressor	$ 150 per month	$ 675.00
Jack hammer	42.25	190.13
Air Hose	7.05	31.72
		$ 896.85
	Cost per ft.	$ 4.48

Labor

1 miner at 15.00 per shift		$ 15.00
1 Hoistman and Mechanic @ 15.00		15.00
2 Labors (Mucker and Top Lander)	at 13.00	26.00
		56.00

Includes Industral Insurance and Social Security Etc.

On advance of 3½ ft. per day per ft $ 16.00

Supplies

For compressor and hoist

15 gals gas per shift at 30¢ per gal	$ 4.50
3 Qts oil per shift at 35¢ per qt	1.05
	5.55

Above includes allowance for delivery

Fuel per ft. $ 1.58

Explosives

Dynamite 30 lbs. at 23¢ per lb.	$ 6.90
Caps 14 at 2½ ¢ each	.35
Fuse 90 ft. @ .013	1.17
	$ 8.32

Cost per ft. at 4 ft rounds $ 2.08

Pipe and track

Pipe and track to be purchased by the company and to remain in the company possession upon termination of the project. The project to be charged 40 % of the estimated purchase price for these items

Rails, ties, spikes and fishplates	per ft.	$ 1.50
2 inch air line		.59
1 inch water line		.34
Sleeves, valves, and etc.		.20
		2.63
40 % to be charged to project	per ft.	$ 1.05

Drill Steel and Bits

Steel breakage estimated 1-5 ft. steel per 3 rounds of 12 ft. advance

Steel $ 7.50 / 12 ft. per ft. 0.62

4 Timken bits per rounds, this includs sharping

Bits 4 x 60 / 4 ft. per ft. .60

Total cost per ft. $ 1.22

Mine's

Machine oil	$ 0.12
Carbide	0.15
Resharping of picks and moils	0.10
Bars, loading sticks, jim crow, etc.	0.35
	0.72

This covers breakage and replacement

Repiars

Normal repiars on machinery, including breakage and replacement per foot $ 0.75

Summary

Rental of Equipment	per ft.	$ 4.48
Labors		16.00
Supplies		1.58
Explosives		2.08
Pipe and track		1.05
Drill Steel and bits		1.22
Mine's		.72
Repiars		.75
		27.88

$ 27.88 X 200 - $ 5576.00

Indian Springs Mine 10 % $ 557.60

Defense Mineral Administration 90 % $5018.40

Total Cost per project

Incline Shaft	Ind. Spg.	$ 856.00
	D M A	7704.00
	Total	$560.00
Drifting	Ind. Spg	$ 557.60
	D M A	5018.40
	Total	5576.00

Total per Indian Springs	$ 1413.60
Total per Defense Mineral Administration	$12,722.40
	$14,136.00

DMEA-2798

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

WASHINGTON 25, D.C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 3 1952

December 1, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Executive Officer, Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMA Form 3~~b~~a and Form MF-103 in ~~triplicate~~ duplicate and supporting data pertaining to the following applications for Government assistance in exploration work.

~~Charles O. Reidhead~~ DMEA-2799
~~Box 204~~
~~McNary, Arizona~~

H. R. Scott, W. A. Scott, and R. D. Vinck DMEA-2798
P. O. Box 1005
Globe, Arizona

W. M. King

Enclosures

MR-103
(Revised April 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 3 1952

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. DMEA-2798
Metal or Mineral
Date Received 12/3/52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Mr. Harry R. Scott. Mr. W. A. Scott. Mr. R. D. Vinck.
(Partnership)
P. O. Box 1005, Globe, Arizona.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Two unpatented claims, known as El Capitan #1, and El Capitan #2. situated in the El Capitan mining district. Gila County

(*b*) State any mine name by which the property is known. Indian Springs Mine.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Owner by location.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it None

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Claim #1 —Book 50, page 114. Claim #2—Book 50, page 115.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) [redacted]te the mineral or minerals for which you w[redacted]to explore Asbestos

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within 30 days and be completed within 7 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated Nov 20, 1952

Harry P Scott
(Applicant)
W. F. Scott
R. D. Cirek

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.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

El Capitan Mine.
Box 1005,
Globe, Arizona.

20 November 52.

Mr. W. H. King:
Bureau of Mines;
224 Customhouse Building,
Denver 2, Colorado.

Dear Mr. King:

Please find enclosed a cost estimate for development work at the El Capitan mine. In this estimate only drifting is planed.

The development program consists of 300 ft. of flat drift on a flexable basis. Said drift to cross-cut and open up two orebody's. This proposed work is estimated to cost a total of $7,134.00, or $23.78 per foot.

Time neccessary to complete the project is estimated to be 7 months.

The El Capitan mine is prepared to do the work for $23.78 per foot, for a total of $7,134.00.

Yours most truly;
Harry R Scott
W. A. Scott
R. D. Vinck
Harry R. Scott;
W. A. Scott;
R. D. Vinck.

El Capitan Cost Estimate.

Basis:

5 X 7 foot heading. To be run level.

Rate of advance, 3½ ft. per day.

Working days per month, 25.

Three men per shift. 1 miner, 2 laborers.

Time Estimate:

Length of drift ———— 300 ft. (Horizontal)

$$\frac{300 \text{ ft.}}{3\tfrac{1}{2} \text{ ft./day} \times 25 \text{ days per month.}} \text{ ——— } \begin{array}{l} 4 \text{ months minimum.} \\ 6 \text{ months maximum.} \end{array}$$

Rental of Equipment:

105 cu. ft. compressor	$150.00 per mo.	$600.00 Min. $900.00 Max.
Jack Hammer	$42.25 per. Mo.	$169.00 Min. $255.00 Max.
Air Hose	$7.05 per. mo.	$28.20 Min. $36.30 Max.
Total	$199.03 per Mo.	

Rental minimum ********** $797.20
Rental Maximum ********** $1192.20

Rental basis per foot advanced

Minimum ———— $1.64 per foot.
Maximum ———— $3.97 per foot.
1.63

Labor:

1 Miner at $15.00 per shift.	$15.00
2 Laborers at $13.00 per shift.	$26.00
	$41.00

Includes Industrial insurance and social security tax.

On advance of 3½ ft. per day. ———— $ 11.71 approx.

Supplies:

14 Holes per round.

Dynamite, 30 pounds @ $0.21 per lb.	$6.30
Caps, 14 @ .02½ each	.35
Fuse, 90 ft. @ $0.013 per foot	1.17
	$7.82

Supplies per foot ——— $2.23.

Fuel for Compressors:

Compressor to be in operation 8 hours per day.

12 gallons per shift at $0.30 per gal.	$3.60
2 quarts of oil per shift at $0.35 per qt.	.70
	$4.30

Fuel per shift ——— $1.23 per foot.

Pipe and track:

Pipe and track to be purchased by the Company and to remain in the Company's possession upon termination of the project. The project to be charged 40% of the estimated purchase price for these items.

Rails, ties, spikes and fishplates	per foot	$1.40
2 inch air line,	per foot	.59
1 inch air line,	per foot	.34
		$2.33 per ft.
40% charged to project		.93 " ".

Drill Steel and Bits:

Steel breakage estimated to be 1—5' steel per 3 rounds or 10' 6" advance.

4 Timken detachable bits per round, this also includes sharpening.

Steel ——— $\frac{\$7.50}{10'\ 6''}$ ——— $0.71

Bits ——— $\frac{4 \times \$0.60}{3.5}$ ——— $\frac{\$0.69}{140}$ Total per foot $1.40

Misc'l. Supplies:

	Per foot.
Machine oil	$0.12
Carbide	.15
Resharpening of picks	
Shovels, turnsheets & wrenches	
Bars, mells, leading sticks, jimcrow,	.35
and other small tools	[illegible]
	$0.72 per ft.

This covers breakage and replacement.

Repairs:

Normal repairs on machinery, including breakage and replacement: ———————— $0.72 per foot.

Supervision and engineering:

Estimated at $1.25 per foot.

Summary:

	Cost per foot.
Rental of equipment	$1.66 Min. 3.97 Max.
Labor	11.71
Supplies:	
Explosives	2.23
Fuel	1.23
Pipe & track	.93
Steel & bits	1.41
Picks	.10
Misc'l.	.35
Repairs	.60
Supervision & Engineering	1.25
	$23.78

300 ft. X 23.78 —— $7 134.00

El Capitan Mine ———————————— $713.40
Defense Minerals Administration ———————— $6,420.60

A S S I G N M E N T.

KNOW ALL MEN BY THESE PRESENTS:-

That we, the undersigned, HARRY R. SCOTT, W. A. SCOTT and R. D. VINCK, co-partners, of Globe, Arizona, for a valuable consideration to us in hand paid, the receipt of which is hereby acknowledged, do hereby transfer, assign and set over to THE VALLEY NATIONAL BANK OF PHOENIX, a National Banking Association, having a place of business at Globe, Arizona, any and all monies now due and payable or which may or shall hereafter become due and payable to us, or any of us, pursuant to and under the terms of a certain written contract, designated as "Exploration Project Contract", bearing number IDM-E502, Docket No. DMEA-2798, dated the 1st day of April, 1953, made and entered into between the United States of America, acting through Department of the Interior, Defense Minerals Exploration Administration, therein called the "Government", and HARRY R. SCOTT, W. A. SCOTT and R. D. VINCK, co-partners, of Globe, Arizona, therein called the "Operator"; and the undersigned and each of them do hereby authorize and direct the said "Government", to pay and deliver unto the said THE VALLEY NATIONAL BANK OF PHOENIX, at Globe, Arizona, any and all sums of money now due or that hereafter may become due and payable to the undersigned, under said contract, and we do hereby give and grant to the said THE VALLEY NATIONAL BANK OF PHOENIX full and complete power and authority to ask, demand, sue for, collect and receive from the said "Government", the said monies, or any part thereof, in its name, or otherwise, and to give proper and sufficient discharge and acquittance for any sums of money so paid to it pursuant to this assignment.

This assignment is made as security for the payment of any and all indebtedness of every kind and nature that now is or hereafter may be owing or payable by the undersigned, to the said THE

VALLEY NATIONAL BANK OF PHOENIX, including current indebtedness not yet due as well as indebtedness due or past due.

IN WITNESS WHEREOF, we have hereunto set our hands this 27th day of April, A.D., 1953.

Harry R. Scott
W. A. Scott
R. D. Vinck
Co-Partners.

STATE OF ARIZONA }
COUNTY OF GILA } ss:

On this the 27th day of April, 1953, before me, the undersigned officer, personally appeared HARRY R. SCOTT, W. A. SCOTT and R. D. VINCK, known to me (or satisfactorily proven) to be the persons whose names are subscribed to the foregoing instrument, and acknowledged that they executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Colleen C. Little
Notary Public

My Commission Expires:
March 13th, 1956.

The above and foregoing Assignment is hereby accepted, and the said "Government", agrees to pay all monies due to said HARRY R. SCOTT, W. A. SCOTT and R. D. VINCK, under said Contract, to the said THE VALLEY NATIONAL BANK OF PHOENIX, at Globe, Arizona, with the understanding that the acceptance of this Assignment places no greater burden upon the undersigned than if said Assignment had not been accepted, other than to pay such monies due under said Contract to the said Bank.

Dated: May 11, A.D., 1953.

C O Mitchendry
Administrator, Defense Minerals
Exploration Administration

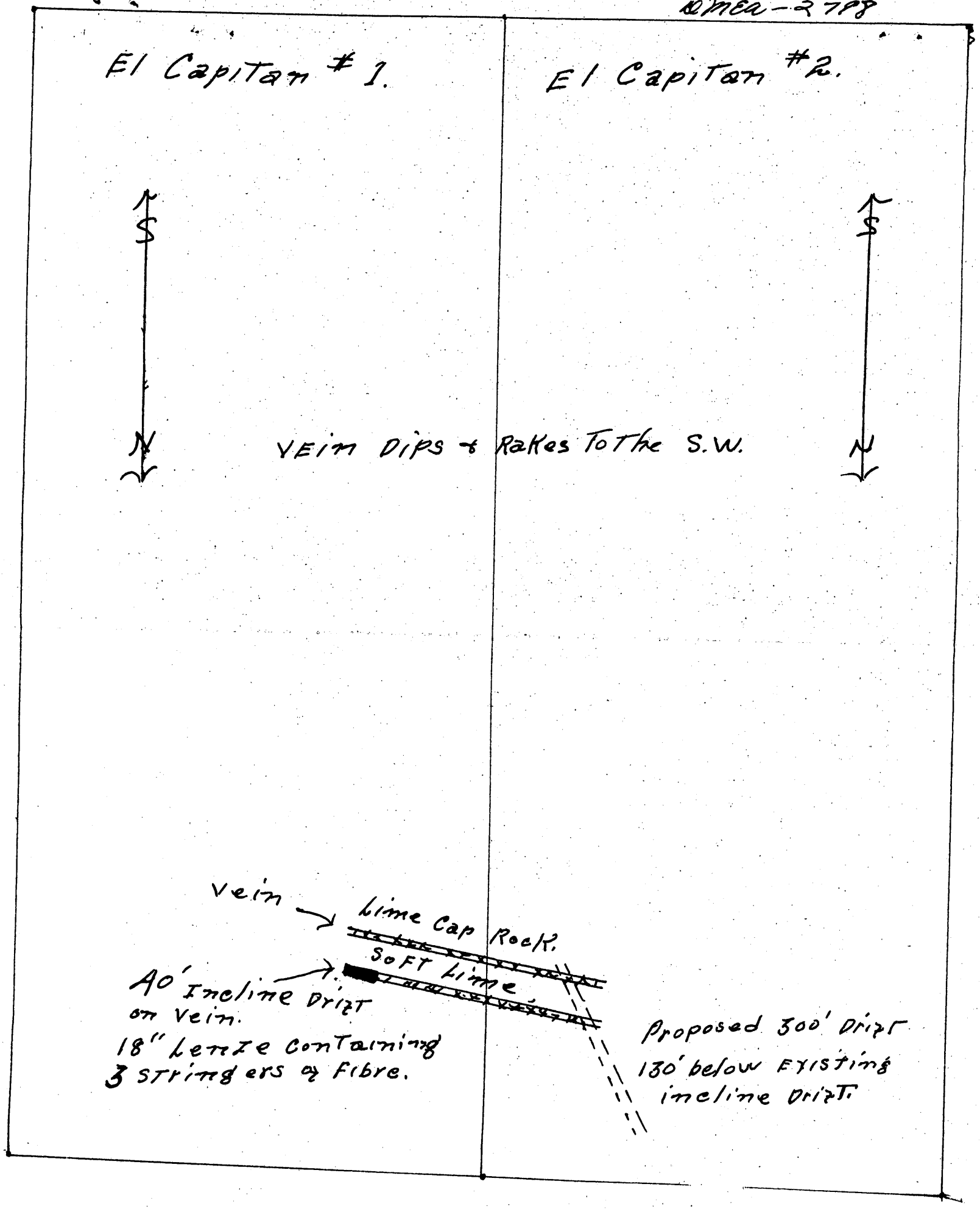
Administrator
Defense Minerals Exploration Administration
Interior Building
Washington 25, D. C.

ATTENTION: CODE 200

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
224 NEW CUSTOMHOUSE
DENVER 2, COLORADO
OFFICIAL BUSINESS

(PMGC)

1 cy only of map
WMEA-2785


El Capitan #1.
El Capitan #2.
S
N
S
N
Veim Dips & Rakes To The S.W.
Vein
Lime Cap Rock.
Soft Lime
40' Incline Drift on Vein.
18" Lenze Containing 3 Stringers of Fibre.
Proposed 300' Drift 130' below Existing incline Drift.

NOT TO scale.

DMEA 2798

FIGURE I. - LOCATION MAP - ASBESTOS DEPOSITS - CENTRAL ARIZONA

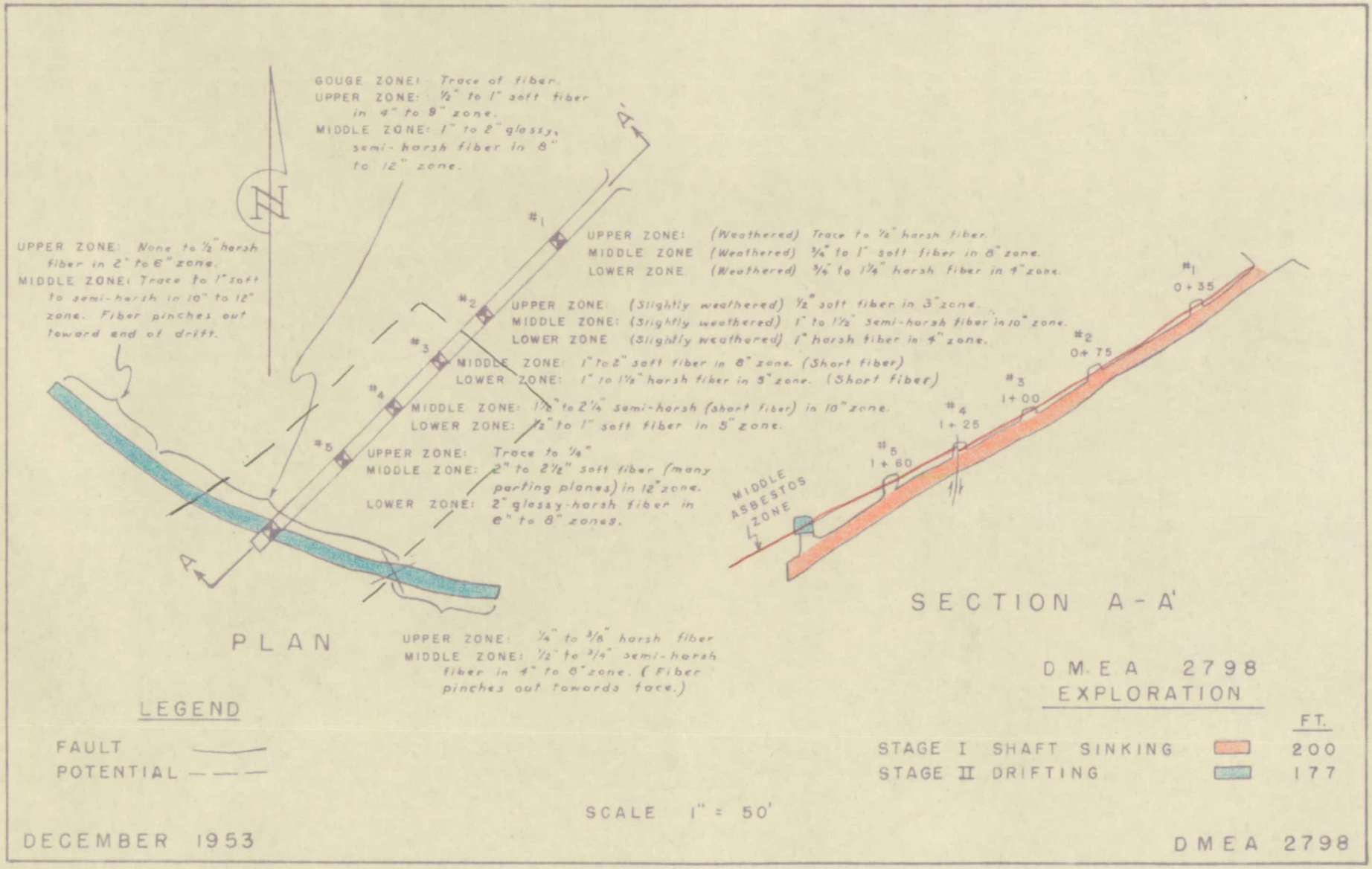


FIGURE 2. - PLAN AND SHAFT SECTION

INDIAN SPRINGS ASBESTOS PROSPECT GILA COUNTY, ARIZONA