DOCKET COPY

TERMINATION OF EXPLORATION PROJECT CONTRACT BY AGREEMENT AFTER COMMENCEMENT BUT BEFORE COMPLETION OF THE WORK

Rec'd in 5/4/54

It is agreed this 2nd day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government", and Bear Canyon Mining Company, hereinafter called the "Operator", parties to that certain Exploration Project Contract Idm-E446, Docket No. DMEA-2550, dated November 13, 1952, as amended, that the said contract shall be and is hereby terminated as of the first date above written.

Any work prosecuted or costs incurred by the Operator after the date first above written shall be for the sole account of the Operator, except for (a) such necessary and reasonable costs and expenses as may be incurred in preserving and disposing of any facilities, buildings, fixtures, equipment, or other items, to the cost of which the Government has contributed and in which the Government has an equity, and (b) the costs of any reports, accounts, and winding-up and settlement actions provided for in the contract.

The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

Witness the following signatures as of the day and year first above written.

BEAR CANYON MINING COMPANY

By D. B. Greene

UNITED STATES OF AMERICA

By W H King

W.H. King, Executive Officer
DMEA Field Team, Region IV

Government's copy

TERMINATION OF WORK UNDER AN EXPLORATION PROJECT CONTRACT
BY AGREEMENT

It is agreed this 2nd day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Bear Canyon Mining Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E446, Docket No. DMEA-2550, dated November 13, 1952, as amended, that:

1. All exploration work under the said contract shall be terminated as of November 1, 1953.

2. Any work prosecuted or costs incurred by the Operator after November 1, 1953, shall be for the sole account of the Operator.

3. The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

4. The Government's right to a percentage royalty on production and lien for its payment, and all provisions relevant thereto, are preserved with respect to all of the land described in the contract and any production therefrom, in the same manner and to the same extent as if the Government, as of November 1, 1953, had made its certification of discovery or development as provided in the Exploration Project Contract.

Witness the following signatures as of the day and year first above written.

UNITED STATES OF AMERICA

By O Whittendorf
Administrator, Defense Minerals
Exploration Administration

BEAR CANYON MINING COMPANY

By _____

Finance Office copy

TERMINATION OF WORK UNDER AN EXPLORATION PROJECT CONTRACT
BY AGREEMENT

It is agreed this 2nd day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Bear Canyon Mining Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E446, Docket No. DMEA-2550, dated November 13, 1952, as amended, that:

1. All exploration work under the said contract shall be terminated as of November 1, 1953.

2. Any work prosecuted or costs incurred by the Operator after November 1, 1953, shall be for the sole account of the Operator.

3. The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

4. The Government's right to a percentage royalty on production and lien for its payment, and all provisions relevant thereto, are preserved with respect to all of the land described in the contract and any production therefrom, in the same manner and to the same extent as if the Government, as of November 1, 1953, had made its certification of discovery or development as provided in the Exploration Project Contract.

Witness the following signatures as of the day and year first above written.

UNITED STATES OF AMERICA

By C D Mitchell
Administrator, Defense Minerals
Exploration Administration

BEAR CANYON MINING COMPANY

By _____

Field Team copy

TERMINATION OF WORK UNDER AN EXPLORATION PROJECT CONTRACT
BY AGREEMENT

It is agreed this 2nd day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Bear Canyon Mining Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E446, Docket No. DMEA-2550, dated November 13, 1952, as amended, that:

1. All exploration work under the said contract shall be terminated as of November 1, 1953.

2. Any work prosecuted or costs incurred by the Operator after November 1, 1953, shall be for the sole account of the Operator.

3. The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

4. The Government's right to a percentage royalty on production and lien for its payment, and all provisions relevant thereto, are preserved with respect to all of the land described in the contract and any production therefrom, in the same manner and to the same extent as if the Government, as of November 1, 1953, had made its certification of discovery or development as provided in the Exploration Project Contract.

Witness the following signatures as of the day and year first above written.

UNITED STATES OF AMERICA

By C. Mittendorf
Administrator, Defense Minerals
Exploration Administration

BEAR CANYON MINING COMPANY

By _____

Docket copy

TERMINATION OF WORK UNDER AN EXPLORATION PROJECT CONTRACT
BY AGREEMENT

It is agreed this 2nd day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Bear Canyon Mining Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract IDM-2446, Docket No. DMEA-2550, dated November 13, 1952, as amended, that:

1. All exploration work under the said contract shall be terminated as of November 1, 1953.

2. Any work prosecuted or costs incurred by the Operator after November 1, 1953, shall be for the sole account of the Operator.

3. The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

4. The Government's right to a percentage royalty on production and lien for its payment, and all provisions relevant thereto, are preserved with respect to all of the land described in the contract and any production therefrom, in the same manner and to the same extent as if the Government, as of November 1, 1953, had made its certification of discovery or development as provided in the Exploration Project Contract.

Witness the following signatures as of the day and year first above written.

UNITED STATES OF AMERICA

By O P Mitchell
Administrator, Defense Minerals Exploration Administration

BEAR CANYON MINING COMPANY

Okkone
Hart
Talbert
Rutin

By _____

ivision copy

TERMINATION OF WORK UNDER AN EXPLORATION PROJECT CONTRACT
BY AGREEMENT

It is agreed this 2nd day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Bear Canyon Mining Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E446, Docket No. DMEA-2550, dated November 13, 1952, as amended, that:

1. All exploration work under the said contract shall be terminated as of November 1, 1953.

2. Any work prosecuted or costs incurred by the Operator after November 1, 1953, shall be for the sole account of the Operator.

3. The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

4. The Government's right to [illegible] percentage royalty on production [illegible] payment, and all provisions relev[illegible] preserved with respect to all of the [illegible]ribed in the contract and any production th[illegible] the same manner and to the same extent as [illegible] the Government, as of November 1, 1953, had made its certification of discovery or development as provided in the Exploration Project Contract.

Witness the following signatures as of the day and year first above written.

UNITED STATES OF AMERICA

By C. H. Mitchell
Administrator, Defense Minerals Exploration Administration

BEAR CANYON MINING COMPANY

A. E. Kane
Hack
Talbert
Rutin

By _____

Operator's copy

TERMINATION OF WORK UNDER AN EXPLORATION PROJECT CONTRACT BY AGREEMENT

It is agreed this 2nd day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Bear Canyon Mining Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E446, Docket No. DMEA-2550, dated November 13, 1952, as amended, that:

1. All exploration work under the said contract shall be terminated as of November 1, 1953.

2. Any work prosecuted or costs incurred by the Operator after November 1, 1953, shall be for the sole account of the Operator.

3. The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

4. The Government's right to a percentage royalty on production and lien for its payment, and all provisions relevant thereto, are preserved with respect to all of the land described in the contract and any production therefrom, in the same manner and to the same extent as if the Government, as of November 1, 1953, had made its certification of discovery or development as provided in the Exploration Project Contract.

Witness the following signatures as of the day and year first above written.

UNITED STATES OF AMERICA

By C O Mittendorf
Administrator, Defense Minerals
Exploration Administration

BEAR CANYON MINING COMPANY

By _____

RECEIVED

No. 2 Rutin 12/10/53
action 12/11/53

AMENDMENT OF CONTRACT: No. Idm-2446

Contract Docket No. DMEA 2530, dated November 13, 1952 between the United States of America and Bear Canyon Mining Company is hereby amended as follows:

Referring to the work operations described in EXHIBIT "A" attached to Exploration Project Contract Form MF-200(A)(February 1952), execution of this Amendment by the parties concerned constitutes an agreement that work operations under Contract Idm-2446 will be recessed effective July 1, 1953, contingent on the final conditions:

1 - Normal operations under the terms of Contract Idm-2446 shall be resumed on or before November 1, 1953.
2 - The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project during the period operations thereunder are recessed.
3 - Reimbursement to the Operator, under the terms of the contract, for expenses incurred during the month of June 1953, will be deferred until Form MF-104, Operator's Monthly Report and Voucher is received for the first calendar month after work operations are resumed.

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "allowable maximum."

Dated: OCT 26 1953

BEAR CANYON MINING COMPANY

By Dennis E. Green
Dennis E. Green,
Authorized Partner

UNITED STATES OF AMERICA

By W. H. King
W. H. King, Executive Officer
DMEA Field Team, Region IV

3C/Kane
4/27/53
Putin

No. 1

AMENDMENT OF CONTRACT: No. Idm-E446

Contract Docket No. DMEA 2550, dated November 13, 1952, between the United States of America and Bear Canyon Mining Company is hereby amended as follows, effective when dated and signed by the Executive Officer, DMEA:

Referring to EXHIBIT "A" attached to Exploration Project Contract Form MF-200(A), "Description of the Work", first paragraph, add the following:

> The unexpended portion of the footage and funds authorized for driving the incline and drifting from the incline at the location near the east wall of the stope may be expended in drifting and raising to explore for ore occurrence ahead of the present underground workings on the west edge of the stope. The tentative location of the work is shown on the attached map which is made a part of this amendment. The location and extent of drifting and raising shall be acceptable to and as approved by the DMEA representative. The starting point of such drifting and raising must be agreed upon by the operator and the DMEA representative before work is started. It is mutually agreed that the price of $28.50 per foot as established in EXHIBIT "A", first referred to, for driving the incline and drifting at the east side location, shall remain in effect for the drifting and raising at the west side location.

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "allowable maximum".

Dated MAR 25 1953

BEAR CANYON MINING COMPANY

By D. E. Green
Dennis E. Green
Authorized Partner

UNITED STATES OF AMERICA

By W. H. King
W.H. King
Executive Officer, DMEA
Field Team, Region IV

DEPARTMENT OF THE INTERIOR
Defense Plants Administration
MAR 25 1953

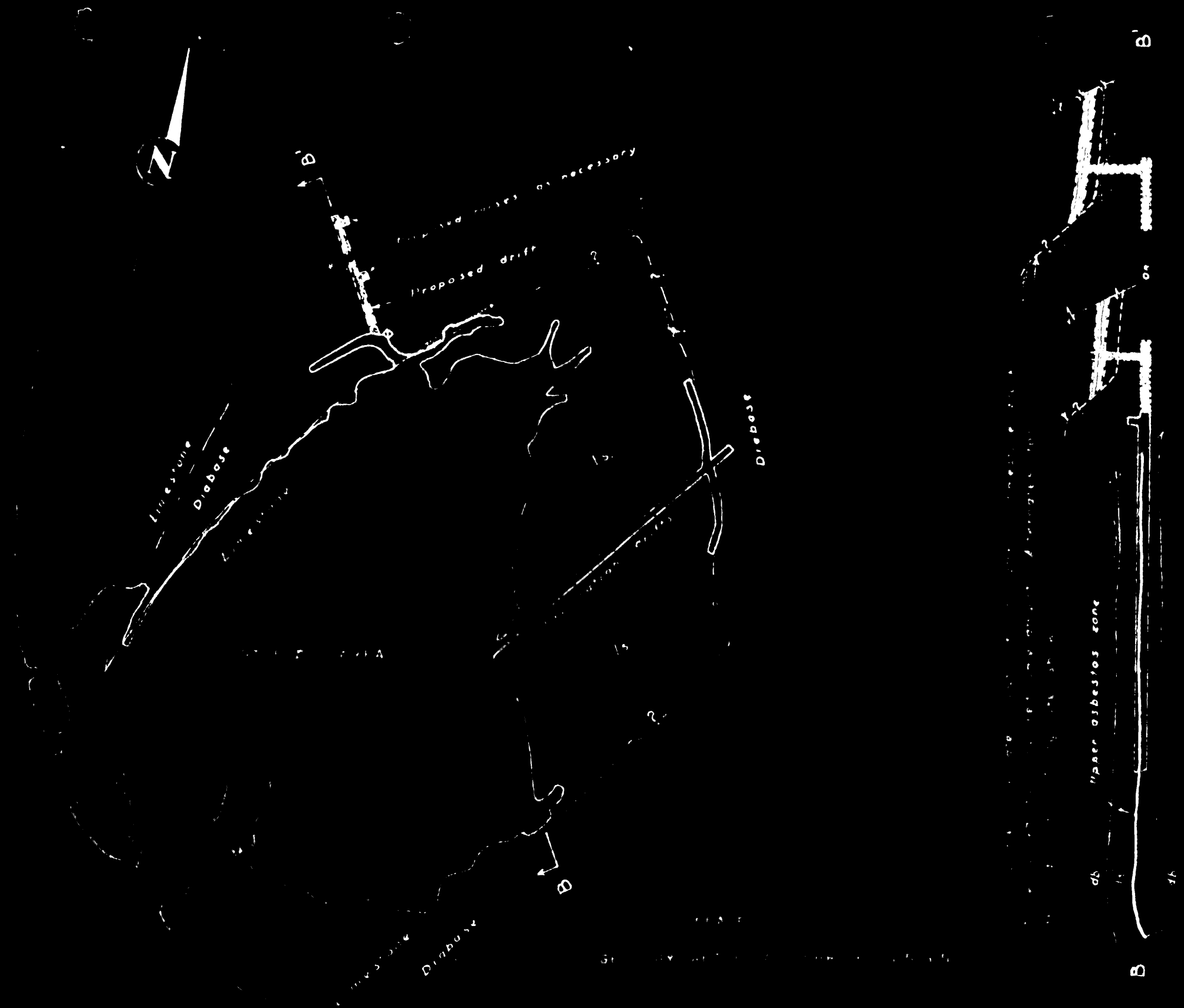


FIGURE A GENERALIZED GEOLOGICAL SKETCH, SHOWING PROPOSED AMENDED WORK

[illegible] ASBESTOS MINE [illegible] COUNTY, ARIZONA

MF-200 (A)
(February 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 1 8 1952

DOCKET NO. DMEA 2550

COMMODITY Asbestos

Contract No. Idm-2446

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

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this 13th day of November, 1952, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] the Bear Canyon Mining Company, a limited co-partnership, comprised of Dennis E. Green, James R. Green, Roy O. Yarbrough and E. A. King, duly organized and existing under and by virtue of the laws of the State of Arizona, P. O. Box 1730, 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] Blue Mule No. 1 through No. 7, Blue Mule No. 9 through No. 15, and Blue Mule No. 17, recorded in Book 35, pages 165 to 179 inclusive, in the Gila County Court House at Globe, Arizona. Bex No. 1 through No. 4 recorded in Book 33, pages 244 to 246 in the Gila County Court House, Globe, Arizona.

the Operator represents and undertakes:[4]

[redacted]

(*b*) That the Operator is a lessee, in possession and entitled to possession, [redacted].

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 thirty (30) 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 twenty 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 ninety (90) 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 $23,598.00, which is ninety (90) percent of $26,220.00 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] Sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] address, and nature of organization if any.
[3] tion or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to which is not to be subject to the Government's percentage royalty.
[4] table.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) *Compliance with requirements.*—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *Accounts and audits.*—The Operator shall keep suitable records and accounts of the units of work performed, which the Government may inspect and audit at any time. The Government may at any time require a check of the work performed and an audit of the Operator's records and accounts, by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account and statement of work performed to accompany his final report.

ARTICLE 6. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: The percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 7. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided*, that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 8. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified.

ARTICLE 9. *Changes and added provisions* _____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

BEAR CANYON MINING COMPANY
(Operator)

By Dennis E. Green
Dennis E. Green, Authorized Partner

By W. H. King
Executive Officer, DMEA
Field Team, Region IV

I, _____, certify that I am the _____ secretary of the corporation named as Operator herein; that _____, who signed this contract on behalf of the Operator, was then _____ of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____ [CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

EXHIBIT "A"

Description of the Work

The proposed work consists of driving an incline northeasterly in the limestone from the east wall of the stope a distance of 470 feet, and drifting on the strike of the formation a distance of 450 feet. The locations of the drifts on the strike of the formation will be determined after part or all of the incline is completed, and must be acceptable to the DMEA representative.

The starting point of the incline must be mutually agreed upon by the operator and the DMEA representative before work is started.

The location of the proposed incline, and the tentative location of the drifting is shown on Figure 3 which is attached and made a part of this exhibit.

The location of the proposed work in relation to the property lines is shown on Figure 2 which is attached and made a part of this exhibit.

Costs of the Work

470 feet of incline @ $28.50 per foot	$13,395.00
450 feet of drift @ $28.50 per foot	$12,825.00
Total cost of project	$26,220.00
Government's participation at 90%	$23,598.00

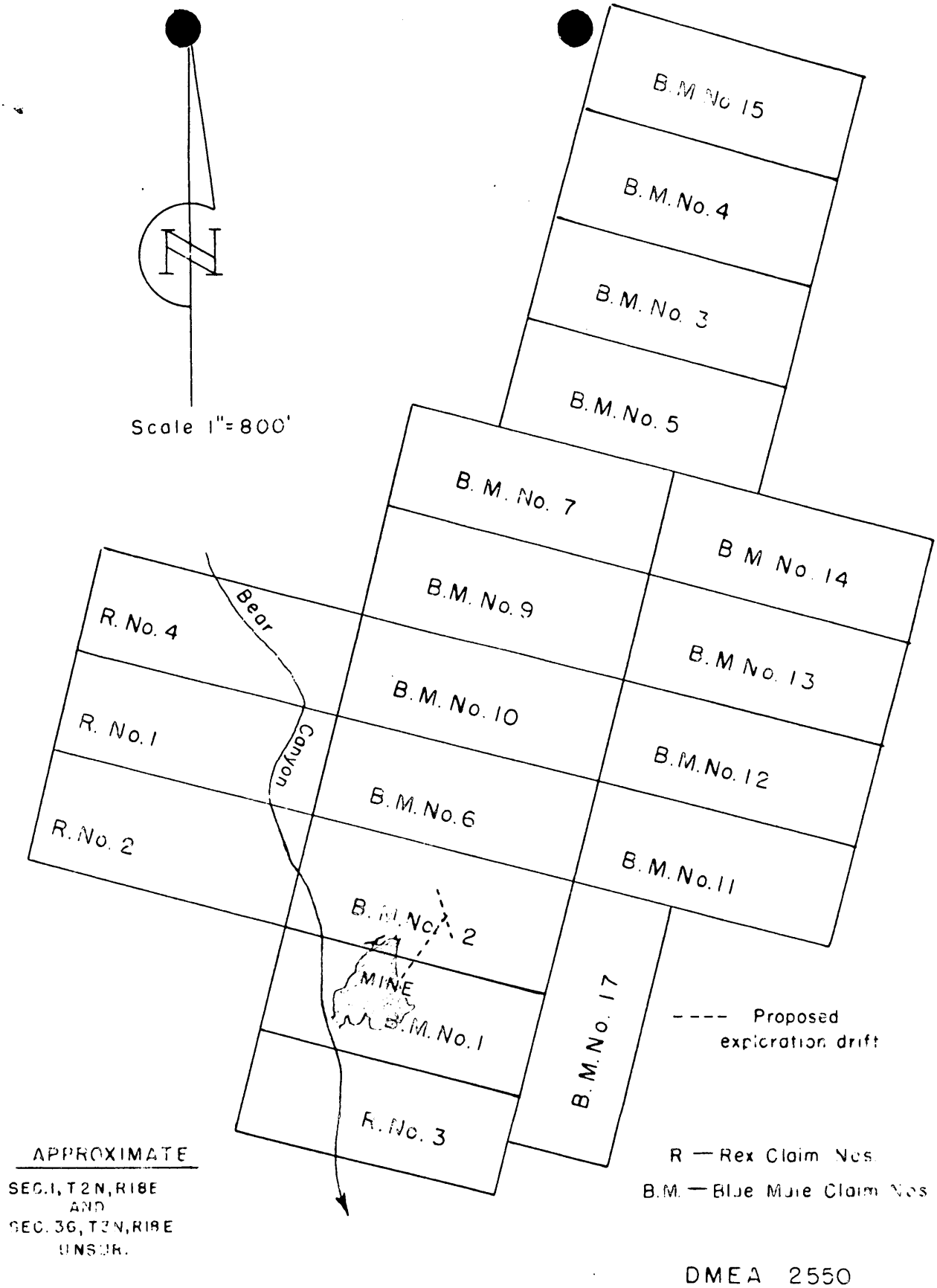


Fig. 2 — Claim Map, Bear Canyon Mining Co., Gila County, Arizona

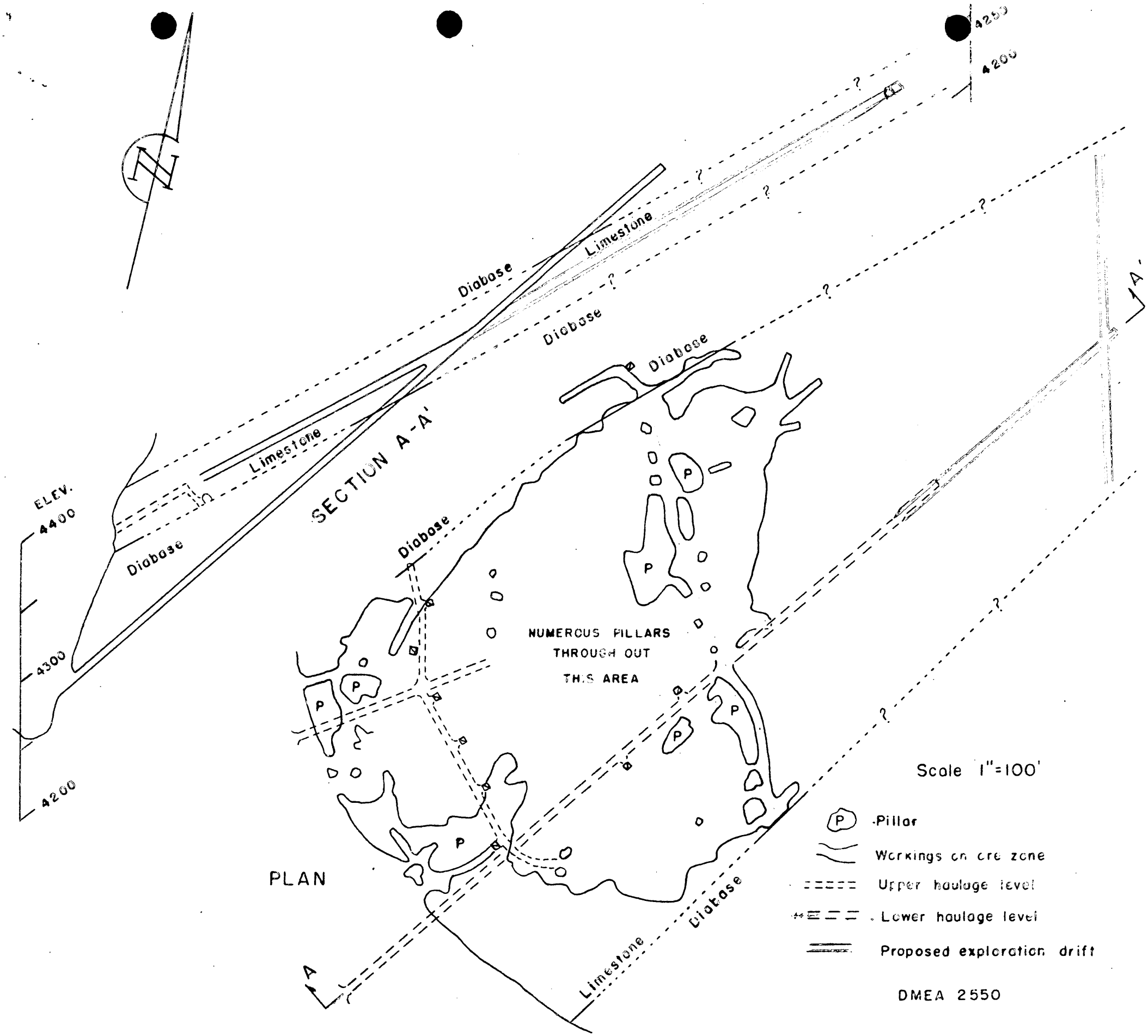


Figure 3 — Plan and Section of Bear Canyon Mine, Showing Proposed Work

Docket Copy
Surname:

Hopkins
Houk
Hetlund
Chambers
Selfridge

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

INTERIOR DEPT.
OCT 22 1954
SOLICITOR

NOV 2 - 1954

Mr. D. E. Green
Bear Canyon Mining Company
Box 1073
Globe, Arizona

Re: Docket No. DMEA-2550 - Asbestos
Bear Canyon Mine
Gila County, Arizona
Contract No. Idm-E446

Dear Mr. Green:

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 audit of the Contract Administration and Audit Division shows:

Total claimed for units of work performed	$21,617.25
Total Government contribution at 90 percent	$19,455.53

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 royalty on any production made after the date of this letter.

The Government thanks you for your interest and participation in the exploration program of the Defense Minerals Exploration Administration.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

JHopkins:gad 10/21/54
Copy to: Admr. R. File
Docket
Field Team, Region IV
Mr. Chambers
Mr. Houk
Dr. Bowles, 3516
Mr. Kiilsgaard, 5223

R.L.S.

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

Project Summary Report

By: James Hopkins October 21, 1954

1. Docket No. DMEA-2550 - Asbestos
Contract No. Idm-E446
Bear Canyon Asbestos Mine
Gila County, Arizona

Operator: Bear Canyon Mining Company
Box 1730
Globe, Arizona

Operator's property rights: Lessee. Lease from San Carlos Indian Reservation dated October 6, 1952.

Contract: Dated November 13, 1952.

Work authorized:

470 Feet of incline @ $28.50/ft.	$13,395.00
450 Feet of drift @ $28.50/ft.	12,825.00
Total estimated cost	$26,220.00
Government participation @ 90%	$23,598.00

Amendments: No. 1, dated March 25, 1953, authorizes unused footage and unexpended funds for drifting and raising on the west edge of stope in lieu of driving incline and drifts from the incline.

Amendment No. 2, dated October 26, 1953, authorized a recess from July 1, 1953, to November 1, 1953.

Work completed:

322.5 feet of drifting		
338 feet of crosscutting		
98 feet of raising		
758.5 ft. @ $28.50	total	$21,617.25

Total cost of project	$21,617.25
Government participation @ 90%	$19,455.53

Work began November 28, 1952, and terminated by mutual agreement November 2, 1953. Field Team final reports by Geologist and Mining Engineer dated March 1954. Operator's final report, dated April 13, 1954. There are no ore reserves. Some asbestos (quantity not stated) was produced but was not acceptable by GSA.

3. Audit: Report of Review dated March 1, 1954.

Total cost as billed by contractor		$21,617.25
Exceptions	None	
Total Accepted cost		$21,617.25
Government participation @ 90%		$19,455.53

4. Certification of discovery - none issued.

5. Comments:

How conducted: Project work was conducted in an efficient manner. Operator was very cooperative with examiners.

Operation: The operation was very good.

Engineering: Good sound engineering and intelligent narrative reports were furnished by the Operator.

Geological premise: The premise that the productive fiber bed continued down dip in the Mescal formation was not substantiated by the project work.

Geological criteria upon which work was based:

1. Exceptionally favorable structural controls for asbestos deposition.
2. Fiber bearing bed in Mescal had been very productive down to point where incline was begun.

Geological criteria developed during the project: The limestone host is overlain and underlain by concordant diabase sills and is bounded on the northwest and southeast by crosscutting diabase. The fiber bearing bed is "isolated" and is a sliver of the Mescal formation.

Future possibilities: All possibilities of finding good quality fiber appear to have been exhausted by the project.

Recommendations: The Nonmetallic Minerals Division agrees with the recommendations of the Field Team that no certification of discovery should be made. The Geological Survey and the Bureau of Mines also concur.

IN REPLY REFER TO:
G-MD-CNM

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

July 26, 1954

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA 2550 (asbestos)

To: L. G. Houk, Defense Minerals Exploration Administration
From: D. M. Larrabee, U. S. Geological Survey
Applicant: Bear Canyon Mining Company
Name of property: Bear Canyon deposit
Location of property: Gila County, Arizona
Date of Field Team report: June 11, 1954
Authorship of Field Team report: A. F. Shride
Field Team's recommendation: 1 - No discovery made.
2 - Termination of work before completion, by mutual consent.
3 - No further work.
4 - No certification be made.
Comments: Only a small quantity of semi-harsh to harsh asbestos was found.
ACTION RECOMMENDATION: Follow Field Team's recommendation.

D. M. Larrabee

D. M. Larrabee

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

224 New Customhouse
Denver 2, Colorado

July 9, 1954.

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region IV

Subject: Docket No. DMEA-2550 (Asbestos), Contract No. Idm-E446, Bear Canyon Mining Company, Gila County, Arizona.

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 the final engineering report by the U. S. Bureau of Mines.

Final payment to the Operator was processed by this office April 19, 1954 in conformance with the Report of Review by the Contract Administration and Audit Division dated March 1, 1954, which was released to this office March 16, 1954.

The authorized exploration work was not completed in entirety as the results of the portion of work performed indicated that further work was not warranted and the contract was terminated by mutual agreement as of November 2, 1953. The exploration work completed consisted of 322.5 feet of drifting, 338 feet of crosscutting, and 98 feet of raising at a total accepted cost of $21,617.25, in which the Government participated to the extent of 90%% or an amount of $19,455.53. The exploration work performed resulted in a discovery or development of a minor amount of subquality asbestos that was all mined out but which the Operator has been unable to market because of its poor grade. The examining team contend that no additional ore will be found or produced as a result of the exploration work. Therefore, the issuance of a certification of discovery or development is not recommended.

/s/ W. H. King

/s/ A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE

7-19-54
(date)

IN REPLY REFER TO:

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

July 7, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2550, Contract Idm-E446, Bear Canyon Mining Company, Gila County, Arizona

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

Work under the contract resulted in the discovery of very minor amounts of asbestos ore, most of which has been mined but not sold. Mr. Shride concludes that no additional ore will be found as a result of the exploration and recommends that no Certificate of Discovery be issued.

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

Enclosures (9)

Reviewed by
DMEA OPERATING COMMITTEE
7-19-54
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Box 4126 University Station
Tucson, Arizona

June 11, 1954

To: A. H. Koschmann

From: A. F. Shride

Subject: Completion Report, Contract Idm-E446 (DMEA-2550)
Bear Canyon Mining Company (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 program was successful in exposing only a small quantity of semi-harsh to harsh asbestos, all of which has been mined. Because of the poor quality of this fiber the operator has not succeeded in marketing it. The exploration has definitely established the boundaries of the deposit, and no additional asbestos will be found in the vicinity of this deposit. This prediction can be made with a high degree of assurance. Therefore, unless a small amount of poor quality fiber is eventually sold, it can be said that no discovery was made. Under these circumstances no recommendation for certification is made, because in this case it would seem that policy of the DMEA would determine whether or not certification should be made.

A. F. Shride

A. F. Shride

AFS:ms

cc. Koschmann (8)
Storms

Reviewed by
DMEA OPERATING COMMITTEE

7-19-54
(date)

BEAR CANYON MINING COMPANY
GILA COUNTY, ARIZONA
(ASBESTOS)

Contract Idm-E446 (DMEA-2550)

Completion Report

Geology

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

Reviewed by
DMEA OPERATING COMMITTEE
7-19-54
(date)

BEAR CANYON MINING COMPANY
GILA COUNTY, ARIZONA
(ASBESTOS)

Contract Idm-E446 (DMEA-2550)

CONTENTS

	Page
Introduction	1
Geology	2
Exploration	
Winzing and drifting of original contract	3
Drifting and raising of amended contract	6
Conclusions	7

ILLUSTRATIONS

Figure 1	Geologic map and sections of the Bear Canyon mine	Following page 2

INTRODUCTION

Exploration under Contract Idm-E446 was to have consisted of 470 feet of incline and 450 feet of drifting from the end of the incline to test limestones possibly folded and faulted so as to have been favorable to asbestos deposition. If the limestone host to asbestos veins was not terminated against diabase intrusions this project was regarded as a good "geologic bet." Later the contract was amended to allow drifting and raising in a different part of the deposit.

All objectives of the program were satisfactorily explored. This should be emphasized because when the exploration had been finished footages remained for drifting and raising in excess of that needed. For this reason there apparently was some confusion as to whether or not the work had been completed; therefore considerable correspondence was required before the termination agreement was finalized, and the agreement erroneously is titled as an "agreement after commencement but before completion of the work."

The exploration resulted in the discovery of two small shoots of harsh asbestos. These have been mined; other than insignificant marginal reserves of at most a few tens of tons of harsh or semi-harsh asbestos in pillars no asbestos remains in the Bear Canyon deposit. This exploration and previous development conclusively define the boundaries of the Bear Canyon deposit. There are no targets for future exploration.

GEOLOGY

Most of the asbestos of the Bear Canyon deposit occurred in a 30 to 50-foot thick limestone block or "sliver" overlain and underlain by diabase sills and bounded laterally by discordant diabase intrusions. The main asbestos-serpentine zone that was exploited is 16 feet above the lower diabase sill or stratigraphically approximately 40 feet below the top of the middle member of the pre-Cambrian Mescal limestone and parallel to the bedding of the limestone. This zone, in general, ranged from 10 to 20 inches in thickness and included asbestos veins totaling 2 to 6 inches in thickness. Other serpentine zones, which included asbestos only in areas of greatest mineralization, are $2\frac{1}{2}$, $4\frac{1}{2}$, and 7 feet below the main zone.

The limestone block that includes asbestos is almost completely isolated by diabase from the main limestone unit of the Bear Creek area. The block is bounded on the southeast by a cross-cutting part of the enclosing diabase intrusion along a contact that strikes N. 15°-30° E. and dips 50°-70° N.W.; a diabase dike of parallel trend bounds the block on the northwest (figure 1). This dike, that limits the ore-bearing block, is not exposed at the outcrop but pinches out underground 70 feet northeast of the southwest portal of the mine. From the southwest end of this dike, several vertical 4 to 12-inch thick dikes trend S. 20° E. along the axis of a fold in the limestone. Southwest of this swarm of dikes, the limestones dip 4° to 10° to the north; northeast of the swarm the dip is 11° to 16° (average 12°) to the northeast. The above description defines the geometry of the host limestones of the deposit as known prior to DMEA-sponsored exploration. The exploration proved that the limestone block is also

Unfortunately, a discordant diabase intrusion was penetrated at 237 feet in the incline. The incline was driven an additional 23 feet into the diabase, and a 12-foot hole was drilled ahead of the face to verify that this diabase is a large mass rather than a narrow dike. The contact between this diabase and the limestone strikes N. 30° W. in general (see figure 1). The limestones were little folded and fractured adjacent to this discordant contact and only traces to 1-inch of harsh asbestos were exposed in the incline. This asbestos is confined to the limestone within 40 feet of the diabase-limestone contact. Although the degree of mineralization in the limestones near the foot of the incline was disappointing and the drifts could not be positioned as originally intended, the drifts were warranted to test for geologic structure near the northeast-trending contacts between limestone and diabase. The drift to the southeast encountered little structure in the limestone and only traces of asbestos.

The drift to the northwest penetrated diabase at 50 feet from the incline, then limestone at 100 feet, diabase again at 125 feet, and finally limestone again at 145 feet as shown on figure 1. The geometry of the diabase-limestone contact in this drift is not as simple as generalized on figure 1. Thin sills and narrow apophyses of diabase, which cannot be plotted on a plan view, inflate the limestone and wedge small slivers of limestone from the main block. Because of this intricate pattern of intrusion the operators understandably had difficulty in planning exploration and knowing whether or not

the main ore zone was exposed by the drift. The small block of limestone exposed in the drift, between 100 and 125 feet of the starting point, included as much as 3 inches of harsh asbestos in one of the zones below the main zone; all of the asbestos in this zone of this small isolated limestone block has been mined. Unfortunately holes were not drilled upward to determine the amount of asbestos in the main zone. However, the block of limestone is so small that if asbestos exists at the main horizon the reserves would be insignificant.

The last 40 feet of the northwest drift penetrated limestone that dips 28°-32° S.E. The main serpentine zone in this folded limestone included veins of harsh asbestos reputed to total as much as 4 inches in thickness. The stope at the end of the drift was developed to exploit this asbestos, and stoping was carried to the margins of the small oreshoot. The present stope walls expose only traces to 1 inch of asbestos.

The folds in limestone at the northwest end of the northwest-trending drift would appear to be excellent loci for concentrations of asbestos, and this theory is borne out by the concentration represented by the two small stopes from this drift. However, the northwesternmost concentration is not as extensive as might be expected. In this area the stresses caused by intrusion of the diabase were apparently relieved mainly by movement along one bedding-plane. A thin diabase sill was intruded along this plane, which is 1½ feet above the main ore zone. Because faulting was not distributed among

the limestone beds and effectively the one plane of adjustment was "lubricated" by a thin sill of diabase magma, the limestones were not fractured over a large area for the ingress of mineralizing solutions. The potential areas for asbestos in the northwestern part of the limestone block have been adequately explored. No recoverable reserves remain in this area.

Drifting and raising of amended contract

A possible, but only moderately promising, area for exploration bordered the northwest side of the dike that bounds the host limestone block on the northwest. The stoped area on the west side of the southeast termination of this dike is an example of an asbestos-bearing area on the west side of the dike. However, this stoped area is at the intersection of N. 20 E. and N. 20 W. trends of fracturing; and other like intersections were not expected on the northwest side of the dike. Therefore concentrations of asbestos as large as that of the stoped area were not anticipated. A narrow oreshoot on the northwest side of the dike parallel to and adjacent to the dike was a geologic possibility for exploration because the limestones adjacent to the dike might be folded and fractured where the limestone was displaced upward by intrusion of the diabase (section A-A', figure 1). On this premise an amendment to allow drifting and raising to explore the limestones on the west side of the dike was recommended and approved. A 63-foot drift was driven northwest in the diabase sill that underlies the asbestos-bearing limestones. One raise was driven from this drift and a raise already

existent near the dike was extended (figure 1). The raise nearest the dike exposed 1 to 2 inches of harsh asbestos at the horizon of the main zone; in the raise farthest from the dike serpentine, but no fiber, occurs at the main horizon. This work proved that the dike was narrower than had been expected. A third raise, halfway between these raises and the stope at the southwest end of the dike, was later driven by the operator at his expense to expose the zone on the west side of the dike. In this third raise traces to 2 inches of asbestos are exposed, but the fiber veins pinch out 15 feet northwest of the dike. Exposures in these three raises indicate that the limestone on the west side of the dike was little folded and fractured in preparation for mineralization. A few small pods of ore might be found if the limestone bordering the west side of the dike were exposed continuously. It would be uneconomic to probe for the very small potential (a few tons) of fiber that might be found in such pods.

CONCLUSIONS

The boundaries of the main limestone block in which the asbestos of the Bear Canyon deposit occurs have been thoroughly defined by exploration. Except for a few tens of tons of harsh to semi-harsh fiber in pillars no mineable quantities of asbestos remain in this block. The fiber discovered in the northwest corner of the block by DMEA-sponsored exploration has been mined beyond the practical limits of the two shoots. The last report from the operator indicated that none of the fiber mined as a result of the exploration had been sold. Undoubtedly the operator will have considerable difficulty in marketing the poor quality asbestos.

The "fringe" area west of the dike that bounds the northwest side of the asbestos-bearing block has been sufficiently explored to prove that the geologic potential for ore on the northwest side of the dike is insignificant.

Because the boundaries of the ore-bearing block of limestone against diabase are now well defined, it can be stated positively that no additional ore will be found as a result of the exploration. Therefore except for the little sub-quality asbestos found, there is no reason for certification of a discovery as a result of this work.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

TUCSON, ARIZONA

March 15, 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-E446, Docket DMEA-2550, Bear Canyon Mining Co. (Asbestos), San Carlos Indian Reservation, Gila County, Ariz.

Enclosed are original and 8 copies of a final engineering report by Robert W. Ageton of the Bureau of Mines on exploration work done at the Bear Canyon asbestos mine under DMEA Exploration Project Contract No. Idm-E446. Although this contract has not been formally terminated, all exploration work has been stopped upon recommendation of the company, and the DMEA representatives from the Bureau of Mines and the Geological Survey.

As R. W. Ageton has resigned, effective at the close of business on March 12, we are submitting this report before formal termination of the contract. This report has my approval.

Walter R. Storms

Walter R. Storms

CC W. H. King (8)
DMEA-2550
DF

WRStorms:frj

Reviewed by
DMEA OPERATING COMMITTEE
7-19-54
(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-2550, Contract Idm-E446

Bear Canyon Mining Company

Gila County, Arizona

(Asbestos)

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

March 1954

Reviewed by
DMEA OPERATING COMMITTEE
7-19-54
(date)

DMEA-2550, CONTRACT Idm-E446
BEAR CANYON MINING COMPANY
GILA COUNTY, ARIZONA
(Asbestos)

CONTENTS

Final engineering report	Page
Summary, conclusions, and recommendations	1
Introduction	2
Description of work completed	2
Description of geology	4
Expenditures	6
Efficiency of operations	6
Equipment and supplies	6

ILLUSTRATIONS

Figure		Following page
1	Location map	2
2	Generalized geologic sketch	2

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Bear Canyon Mining Co., a limited co-partnership, applied for Government assistance under the Defense Production Act of 1950, as amended, to explore for asbestos on claims located within the San Carlos Indian Reservation, about 43 road miles northeast of Globe, Ariz. The United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, entered into Exploration Project Contract No. Idm-E446, Docket DMEA-2550, dated November 13, 1952, with the Bear Canyon Mining Co.

Contract exploration provided for the driving of an inclined drift, and lateral drifting in order to determine the down-dip extension of the asbestos deposit of the Blue Mule No. 1 and Blue Mule No. 2 claims. A total of 260 feet of incline, and 338 feet of lateral drifting was performed according to the terms of the contract. Since this work did not result in the discovery of a significant deposit of asbestos, Amendment No. 1 was executed to permit exploration for asbestos fiber in the mine near the western margin of the old stope. Under the terms of the amendment, 62.5 feet of drifting and 98 feet of raising exposed the ground in this area.

Sufficient exploration has been accomplished to warrant the conclusion that a significant discovery of asbestos fiber cannot be made around the immediate periphery of this deposit. However, additional exploration may be justified on adjacent claims.

Asbestos fiber may continue to be produced from mine pillars, but production will not result from the exploration program. Therefore, it is recommended that no Certification of Discovery be issued for this project.

INTRODUCTION

The Bear Canyon mine is 43 road miles northeast of Globe, Gila County, Ariz., tentatively located in unsurveyed sec. 1, T. 2 N., and sec. 36, T. 3 N., R. 18 E. (figure 1). The property consists of 19 full-sized unpatented lode claims, under lease from the San Carlos Indian Reservation. The altitude of the mine is approximately 4,350 feet above sea level.

The exploration application was docketed as DMEA 2550 (Asbestos) and the work was performed under contract Idm-E446. The operator of the property was the Bear Canyon Mining Company, Box 1730, Globe, Ariz. The project was recommended for exploration by Lincoln A. Stewart, mining engineer, U. S. Bureau of Mines, and Andrew F. Shride, geologist, U. S. Geological Survey.

DESCRIPTION OF WORK COMPLETED

The exploration project was contracted at a unit cost of $28.50 per foot for driving an inclined drift 470 feet, and for drifting 450 feet. Work under the contract started on November 28, 1952. The inclined drift (figure 2) was driven in a limestone formation until it cut a limestone-diabase contact at 237 feet from the starting point. The drift then was extended into the diabase 23 feet

for a total of 260 feet of inclined drifting. At the operator's expense, a 12-foot long hole was drilled in the face of the drift in order to test the ground ahead. Cuttings from the drill hole were diabase, therefore, the known width of the diabase beyond the limestone-diabase contact is at least 35 feet.

Lateral drifting northwesterly and southeasterly (roughly paralleling the limestone-diabase contact) was started during the month of February. The southeasterly crosscut was advanced 151 feet and the northwesterly crosscut was advanced 187 feet for a total of 338 feet of lateral drifting. No ore was found.

On March 25, 1953, the contract was amended by mutual agreement between the operator and the Government. The amendment provided that the unexpended portion of the footage and funds be made available to explore possible ore occurrences on the west edge of the old stope by raising and drifting at the same unit cost of $28.50 per foot (figure 2).

During the month of May 1953, work under Amendment No. 1 was started. Referring to figure 2, an old drift off the northwestern edge of the main stope was utilized to start an exploration drift bearing N. 30° W., that was advanced a total of 62.5 feet. At a point 80 feet from the limestone-diabase contact, the No. 1 raise was started from the west side of this exploration drift and was advanced a total height of 54 feet. On June 23, 1953, the No. 2 raise has started from an old 14-foot raise that was about 30 feet west of the limestone-diabase contact. The contract advance of the No. 2 raise was 44.0 feet.

To recapitulate, 637.5 feet of drifting and crosscutting, and 98 feet of raising was performed according to the terms of the contract.

On October 14, 1953, the operator made a formal request for the termination before completion of Contract Idm-E446.

DESCRIPTION OF GEOLOGY

The asbestos deposit of the Bear Canyon mine occurs in pre-Cambrian Mescal limestone which is a part of a succession of strata known as the Apache group. The main fiber zone is stratigraphically about 40 feet below the Algal member of the Mescal limestone formation.

The limestone host is overlain and underlain by concordant diabase sills, and is bounded on the northwest and southeast by crosscutting diabase sills (figure 2). The fiber bearing bed thus is "isolated" and is a "sliver" of the Mescal limestone formation. Diabase intrusion has slightly arched the limestone formation and has tilted it 10° to 12° downward into the hill.

The main asbestos-bearing zone is 16 feet above the lower diabase sill, or approximately 40 feet stratigraphically below the top of the lower member of the Mescal limestone. In areas of greatest production in the Gila County asbestos district, 3 other zones appear between $2\frac{1}{2}$ to 7 feet below the main zone.

Exploration under the contract included driving an incline northeasterly in the limestone from the east wall of the stope (figure 2). As was expected, only traces of serpentine and fiber were exposed in this drift. After the inclined drift cut a diabase sill, DMEA representatives authorized drifting northerly and southerly along the limestone-diabase contact.

The southeasterly drift was driven along the contact, but only traces of fiber were exposed. The last 20 feet of this drift cut diabase that is presumably the main sill to the south. The northwesterly drift was started with diabase exposed along the right wall. Further drifting exposed small diabase sills that cut across the drift. At approximately 100 feet from the starting point, the top sill cut down and the ore-bearing beds appeared, but they were cut off again within 20 feet by a dike. The operator stoped from this small mineralized zone, extracting a minor quantity of non-strategic fiber that to date has not been sold.

Exploration of the deposit was continued under the terms of an amendment to the contract, which provided for drifting in diabase and raising through diabase to limestone at the west edge of the old stope. Referring to figure 2, an old drift off the northwestern edge of the main stope was utilized to start the exploration drift which was advanced 62.5 feet in diabase. The No. 1 raise was started in diabase about 10 feet from the end of this drift. Limestone was exposed in the No. 1 raise at 20 feet above the starting point, and serpentine zones were encountered at 5, 9, and 16.5 feet above the limestone-diabase contact. However, the serpentine zones did not contain fiber.

The No. 2 raise was started from an old 14-foot raise that was in diabase near the starting point of the drift. The limestone-diabase contact was exposed in the No. 2 raise at 42 feet above the

back of the drift. Four feet above the limestone-diabase contact, the No. 2 raise penetrated a 6-inch serpentine zone containing an average of 1 inch of total fiber. Approximately 7 feet above this lower zone was the 2nd fiber horizon in a 9- to 12-inch serpentine zone with $1\frac{1}{2}$ to 2 inches of total fiber, some fiber lengths ranging from 3/4 inch to 1 inch. The fiber was harsh and lacked tensile strength. In an attempt to locate a 3rd fiber horizon the operator drilled an 8-foot hole above the back of the raise, but the cuttings did not contain fiber or serpentine.

The potential of the area explored under the terms of the amendment to the contract is not significant because no fiber was found in the No. 1 raise, and the fiber exposed in the No. 2 raise was harsh to semi-harsh.

EXPENDITURES

Total approved	$26,220.00
Total cost of project *	21,617.25
Government's share of cost **	19,455.53
Government's share unexpended	4,142.47

* Contingent upon termination of the contract
** An amount of $500 has been withheld from payment to the operator contingent upon receipt of a final report.

EFFICIENCY OF OPERATIONS

The exploration was conducted in a workman-like manner and according to contract specifications.

EQUIPMENT AND SUPPLIES

This 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

July 9, 1954.

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region IV

Subject: Docket No. DMEA-2550 (Asbestos), Contract No. Idm-E446, Bear Canyon Mining Company, Gila County, Arizona.

Enclosed are the following final reports pertaining to work completed 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 the final engineering report by the U. S. Bureau of Mines.

Final payment to the Operator was processed by this office April 19, 1954 in conformance with the Report of Review by the Contract Administration and Audit Division dated March 1, 1954, which was released to this office March 16, 1954.

The authorized exploration work was not completed in entirety as the results of the portion of work performed indicated that further work was not warranted and the contract was terminated by mutual agreement as of November 2, 1953. The exploration work completed consisted of 322.5 feet of drifting, 338 feet of crosscutting, and 98 feet of raising at a total accepted cost of $21,617.25, in which the Government participated to the extent of 90% or an amount of $19,455.53. The exploration work performed resulted in a discovery or development of a minor amount of subquality asbestos that was all mined out but which the Operator has been unable to market because of its poor grade. The examining team contend that no additional ore will be found or produced as a result of the exploration work. Therefore, the issuance of a certification of discovery or development is not recommended.

W. H. King

W. H. King

A. H. Koschmann

A. H. Koschmann

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

BUREAU OF MINES
Denver, Colorado

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

TUCSON, ARIZONA

April 14, 1953

Memorandum

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

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

Subject : Operator's Final Report, DMEA Contract Idm-E446, Docket DMEA-2550, Bear Canyon Mining Co. (asbestos) Gila County, Ariz.

Enclosed are original and 5 copies of the operator's final report for exploration work done under DMEA Exploration Project Contract No. Idm-E446. Although no maps are included with this report, I believe the report is adequate when taken with the engineering report by the Bureau of Mines and the geological report by the Geological Survey.

Walter R. Storms

Walter R. Storms

CC W. H. King (4)
J. N. Faick
DMEA-2550 with copy of oprs. rpt
DF

WRStorms:frj

Globe, Arizona
April 13, 1954
P. O. Box 1730

U. S. BUREAU OF MINES
MINING DIVISION
APR 14 1954
TUCSON, ARIZONA

Mr. W. R. Storm
United States Bureau of Mines
P. O. Box 4097 University Station
Tucson, Arizona

Dear Mr. Storm: Re: Docket DMEA 2550, Contract No, IDM-E 446
Mineral- Asbestos.

Ingineering and geological report covering the above mentioned project to point of termination, follows:

An incline drift down strike at approximately 12 degrees was advanced until diabase intrustion was incountered. This drift was in tight lime all the way. Drifting in both directions was begun at this point paralleling the diabase intrustion and continued until diabase was incountered in the easterly end of this cross-cut. In the westerly end a diabase finger was incountered and drifted through, lime was contacted on the other side of this finger and the cross-cut was continued into this lime bed until it was determined that no ore of commercial value was to be found in this portion of the mine.

The work was then moved to a point in the west portion of the mine and a drift was begun into a diabase intrusion, with the hopes of putting in raises at intervals and contacting ore through this diabase intrusion. This drift work was completed and two raises up to the ore zone were made. In raise number one the ore zone was cut but no fiber discovered. In raise number 2, there was a little fiber incountered, this fiber was of a harsh quality and very little quantity. It was agreed by both the operator and the field team that no commercial ore had been discovered.

322½ feet of drifting
338 " " cross-cutting
98 " " raising, was completed up to the point of termination under the above mentioned contract. This work was done on a unit basis under contract by the Bear Canyon Mining Company with the United States Government at a unit cost of $28.50 per lineal foot, or a total of $21,617.25.

Yours very truly,

D. E. Green

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

224 New Customhouse
Denver 2, Colorado

April 5, 1954

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2550 (Asbestos), Contract Idm-E446, Bear Canyon Mining Company, Gila County, Arizona

Enclosed are the original and two copies of "Termination of Exploration Project Contract by Agreement After Commencement But Before Completion of the Work" which has been executed in conformance with teletype dated March 18, 1954 from George C. Selfridge. Also enclosed for your disposition are the original and five copies of the original termination agreement signed by you which is superseded by the termination agreement now in effect. Data relevant to the termination agreement was forwarded to you as attachments to prior correspondence in the matter.

Copies of this termination agreement 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

RECEIVED
APR 12 1954
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

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

March 17, 1954

Memorandum

To: Mr. C. O. Mittendorf

From: Lawrence G. Houk

Subject: Termination of Contract No. Idm-E446, Docket No. DMEA-2550, Asbestos, Bear Canyon Mining Company, Gila County, Arizona

On July 9, 1953, the DMEA Field Team advised the Operator that the Government was desirous of bringing this project to a satisfactory conclusion and would demand repayment of all contributions if the Operator breached the contract by failing to complete the work.

The Monthly Operator's Report for September, 1953, showed an advance of four feet in No. 2 raise. This exposed two ore horizons. The third fiber horizon was not found by the raise.

In October there were five feet of advance in raise No. 2 and an 8-foot test hole in the back failed to indicate any fiber zone.

On November 2, 1953, a termination agreement was sent to the operator for his signature. The termination agreement preserved the Government's right to a percentage royalty on all production. The Operator refused to sign this type of agreement.

In a memorandum of March 11, 1954, from the field team, termination by mutual agreement without a pseudo certification clause was recommended by the Executive Officer, Region IV. The penetration of the target area by the work completed after June 30, 1953, that is 9-feet of raise and 8-feet of drill hole, is considered by the field team to be sufficient to indicate that no further work is justified.

A study of the docket by the Nonmetallic Minerals Division indicates to us that this is correct and we concur with their recommendation that the contract be terminated by mutual agreement without pseudo royalty clause. We are, therefore, preparing a wire today to Mr. King authorizing him to terminate the contract by mutual agreement.

File Copy
Surname:
Houk

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

600

March 17, 1954

Memorandum

To: Mr. C. O. Mittendorf

From: Lawrence G. Houk

Subject: Termination of Contract No. Idm-2446, Docket No. DMEA-2550, Asbestos, Bear Canyon Mining Company, Gila County, Arizona

On July 9, 1953, the DMEA Field Team advised the Operator that the Government was desirous of bringing this project to a satisfactory conclusion and would demand repayment of all contributions if the Operator breached the contract by failing to complete the work.

The Monthly Operator's Report for September, 1953, showed an advance of four feet in No. 2 raise. This exposed two ore horizons. The third fiber horizon was not found by the raise.

In October there were five feet of advance in raise No. 2 and an 8-foot test hole in the back failed to indicate any fiber zone.

On November 2, 1953, a termination agreement was sent to the operator for his signature. The termination agreement preserved the Government's right to a percentage royalty on all production. The Operator refused to sign this type of agreement.

In a memorandum of March 11, 1954, from the field team, termination by mutual agreement without a pseudo certification clause was recommended by the Executive Officer, Region IV. The penetration of the target area by the work completed after June 30, 1953, that is 9-feet of raise and 8-feet of drill hole, is considered by the field team to be sufficient to indicate that no further work is justified.

A study of the docket by the Nonmetallic Minerals Division indicates to us that this is correct and we concur with their recommendation that the contract be terminated by mutual agreement without pseudo royalty clause. We are, therefore, preparing a wire today to Mr. King authorizing him to terminate the contract by mutual agreement.

LGHouk:gad 3/17/54

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

3-18-54

File Copy
Surname:
Houk
Hedges
Gentel
Selfridge
Robinson
Whitmore

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

Houk X-2971
Room 4637

Interior
Defense Minerals Exploration
Administration

14X3923.970 Working Fund,
Interior, Defense Minerals Exploration
Administration

TELETYPE

March 17, 1954

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

Subject: DMEA-2550, Bear Canyon Mining Company, Gila County, Arizona, Contract
No. Idm-E446

You are authorized to terminate subject contract by agreement using Standard Form 18262-1.

George C. Selfridge
(2HS)
George C. Selfridge
Chairman, Operating Committee, DMEA

LGHouk:gad 3/17/54
Copy to: Admr. R. File
Docket File
Operating Committee
Dr. Bowles, 3516
Mr. Larrabee, G-232 GSA Bldg.
Mr. Houk
Confirmation

SENT
MAR 18 1954
Clerical Service Section

R.C. 3-19-54

Mr. C. O. Mittendorf
3-16-54
(hand delivered at 4:15)

DEPARTMENT OF THE INTERIOR
Bureau of Mines
RECEIVED
MAR 17 1954

DN 235 BUREAU MINES 3-16-54 4-21 PM

C O MITTENDORF

REFERENCE DOCKET 2550, CONTRACT IDM-E446, BEAR CANYON MINING COMPANY MATTER DISCUSSED IN OUR EXXX MEMORANDUM OF MARCH 11, RELATIVE TO REVISION OF TERMINATION AGREEMENT. REPORT BYGXXX BY GEOLOGICAL SURVEY BEING FORWARDED BY AIRMAIL.

W H KING

Denver, Colo.

MAR 17 8 12 AM '54

BUREAU OF MINES
MAIL ROOM
WASHINGTON D. C.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 19 1954

224 New Customhouse
Denver 2, Colorado

AIRMAIL

March 16, 1954

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2550 (Asbestos), Contract Idm-E446, Bear Canyon Mining Company, Gila County, Arizona

Confirming the advice contained in our teletype of this date, and in conjunction with matter discussed and forwarded by our memorandum of March 11, 1954, we are enclosing the original and three copies of a memorandum report by A. F. Shride of the U. S. Geological Survey, dated March 9, 1954, wherein he recommends that the termination agreement be revised to make it easier on the operator.

W H King
W. H. King

Enclosures

IN REPLY REFER TO:

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

Defense Minerals
RECEIVED
MAR 19 1954

March 9, 1954

Memorandum

To: Field Team, Region IV
(Through A. H. Koschmann) AHK

From: A. F. Shride

Subject: Termination agreement, Contract Idm-E446, DMEA-2550 (Asbestos), Bear Canyon Mining Company, Gila County, Arizona.

As a supplement to Mr. Storms' memorandum of March 8 perhaps the following points will aid in processing a termination agreement - which should not be, but seems to be a wearisome problem.

First, it should be realized by all parties that the exploration program has been completed. Additional drifting, etc. is allowable under the contract; however, all objectives have been explored and this allowance is in excess of that needed.

Second, the other prospects, in which J. A. Cunningham is interested, are one-half to 1 mile from the Bear Canyon deposit and are not geologically associated with it. If there is a feasible way of waiving subordination on claims other than those covering the Bear Canyon deposit, such would seem one way out of the problem. Exploration of the Bear Canyon deposit in no way benefited the outlying prospects. There was no reason at the time the contract was prepared that the outlying claims should have been subordinated.

A. F. Shride

A. F. Shride

MAR 1954
RECEIVED
U.S. Geological Survey
Branch of Marine Geology
Dodge

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

224 New Customhouse
Denver 2, Colorado

March 11, 1954

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2550 (Asbestos), Contract Idm-E446, Bear Canyon Mining Co., Gila County, Arizona

In conjunction with material forwarded by our memorandum of January 4, 1954, and both prior and subsequent correspondence in the matter of terminating the subject contract, enclosed for your consideration are the original and three copies of a memorandum dated March 8, 1954 from the Chief, Mining Methods Branch, Mining Division, Region IV, with attachments, wherein he discusses the reason for the termination agreement. Also enclosed are three sets of data relative to the termination of the contract which were the basis of our teletype to you of October 9, 1953. The above data was retained here for attachment to the Washington office copies of the termination agreement after it had been executed by the operator.

It appears in this instance that the termination agreement should be revised and the paragraph relative to the payment of royalties omitted.

W H King
W. H. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

BUREAU OF MINES
Denver, Colorado

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

TUCSON, ARIZONA

March 8, 1954

Memorandum

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

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

Subject : Proposed Termination, Contract Idm-E446, Docket DMEA-2550 (Asbestos), Bear Canyon Mining Co., Gila County, Ariz.

Attached is copy of a letter dated February 24 from the law offices of Shimmel, Hill and Hill, Phoenix, Ariz. to Mr. C. O. Mittendorf, Administrator, Defense Minerals Exploration Administration, and copy of a letter dated March 3 from Mr. J. L. HOfflund, DMEA Chief Counsel, to Mr, George M. Hill of that law firm. The following information should clarify this situation somewhat.

On October 22, 1953, Mr. R. W. Ageton of the Bureau of Mines made a routine inspection of work done at the Bear Canyon Mining Co.'s asbestos mine in Gila County, Ariz. where the company had been doing exploration work under DMEA Exploration Project Contract No. Idm-E446. As no commercial fiber had been found and as there seemed little chance of discovering significant quantities of asbestos by further exploratory work, the company suggested that the contract be terminated by mutual agreement. Therefore, Ageton advised D. E. Green, the company's spokesman, to send in his formal request for such a termination.

Later in October 1953, a formal request was received from the Bear Canyon Mining Co. for termination of the contract by mutual agreement. We forwarded this request to you on October 26, 1953 with a letter of recommendation from Ageton. We had talked to Mr. A. F. Shride of the Geological Survey and Mr. L. A. Stewart of the Bureau of Mines and both agreed that further exploration work under the contract terms did not seem justified. Both had formerly examined the Bear Canyon mine.

Evidently you sent the termination request to the DMEA Administrator with your approval because early in November 1953, we received original and five copies of a Termination agreement from you, all signed by the DMEA Administrator, with the request that we have the company's representative, Mr. D. E. Green, sign all copies, then return them to you (except the Operator's copy which was to be given to Green). On November 9, 1953, we sent original and four copies of the Termination agreement to Green, keeping the Operator's copy here.

CC W. H. King (6)
A. F. Shride
DMEA-2550
DF

WRStorms:frj

On November 12, 1953, Messrs. D. E. Green and J. B. Green of the Bear Canyon Mining Co. and J. A. Cunningham called at our Tucson office and discussed the Termination agreement with Messrs. A. F. Shride of the Geological Survey, R. W. Ageton of the Bureau of Mines and me. It seemed that the partners (the Bear Canyon Mining Co. is a partnership composed of D. E. Green, J. B. Green, R. O. Yarbrough and H. A. King) wanted to terminate the DMEA Contract, then lease the property to J. A. Cunningham. Cunningham planned to do some exploration work at another point on the claims, but the Termination agreement, as sent out by DMEA in Washington, contained a clause whereby royalty would have to be paid on ore discovered any place on the claim group. Therefore, if Cunningham discovered commercial asbestos fiber any place in the group, he would have to pay a royalty to DMEA, which he did not want to do.

D. E. Green did not want to sign the Termination Agreement for the company because of this clause, so we told him to write directly to the DMEA Administrator regarding this objectionable clause. This he did (see my memorandum to you of December 21), and on January 20, 1954, the DMEA Administrator answered his letter. Green then talked to the law firm of Shimmel, Hill and Hill in Phoenix, with the result that this firm wrote to Mr. C. O. Mittendorf on February 24, copy of their letter being attached.

I believe, if you will read over our monthly progress reports and correspondence, you will note that the Bureau of Mines, the Geological Survey, and the company mutually agreed that as there seemed little chance of any significant amount of asbestos being discovered, the project should be terminated. Mr. Mittendorf, in his letter of January 20 to Mr. D. E. Green, states in part: "At the operator's request, and for its sole convenience, the Government, on November 1, 1953, offered to terminate the work under the contract, provided, among other things (paragraph 4), that the operator agrees to pay royalty on any production from the land described in the contract, in the same manner and to the same extent as if the Government had certified the project under the provisions of article 6 of the contract".

It is the opinion of the Geological Survey's local representative and of this office that there is no need to complete Contract Idm-E446, as it seems to us that it would be a needless waste of the taxpayers' money. Some asbestos fiber was mined under the contract, but we now find that it was never sold as the General Services Administration's representative refused to buy it at the Globe asbestos purchase depot because it was of non-strategic grade.

As Mr. Hofflund stated in his letter of March 3 to Mr. George M. Hill of Shimmel, Hill and Hill in Phoenix: "I am forwarding a copy of this letter to Mr. Storms at Tucson, and perhaps with further advice from him and from you, we can determine what it is that the interested parties wish to do, and whether we can agree with them on the subject",

we are sending you this lengthy memorandum with the hope that it will help explain the situation. As no ore was discovered under the contract, the partners of the Bear Canyon Mining Co. think that the clause in the Termination agreement, pertaining to royalty payments, should be omitted. As this is a matter of policy, we make no recommendation concerning royalty payments. However, we do recommend that the contract be terminated and that no additional Government funds be spent on this property under Contract Idm-E446.

Walter R. Storms

Walter R. Storms

Law Offices
SHIMMEL, HILL & HILL
Title & Trust Building
Phoenix, Arizona

February 24, 1954

Mr. C. O. Mittendorf, Administrator
United States Department of the Interior 140
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Docket No. DMEA-2550 (Asbestos)
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Dear Mr. Mittendorf:

On behalf of Mr. D. E. Green of Globe, Arizona and other interested parties in the Bear Canyon Mining Company, I am writing you to explore various alternatives with relation to the Bear Canyon project.

Mr, Green advises me that this project was not terminated at the request of the Bear Canyon Mining Company, but that the company did request a termination for its sole convenience, in which the Government was not willing to acquiesce; and that as a result of the refusal of the Government to acquiesce a crew was put back to work on the property and carried the project to a point required by the Government, which failed to disclose or locate any asbestos; at which point it was the understanding, at least of the Bear Canyon Mining people, that the contract would be terminated under the provisions of Article 8.

It appears, under these circumstances, that the only alternative would be to complete the project, inasmuch as certain of the Bear Canyon Mining Company parties are desirous of withdrawing from any further participation in the operation, while others would like to carry on a prospecting operation on other parts of the leased property on which no Government funds were expended. However, there is a 10% royalty due the Indian Service because the property is on an Indian reservation; and that, coupled with the Government royalty, eliminates the feasibility of going ahead with prospecting on the property.

COPY

I am sure that at some point there has been a misunderstanding between the parties, because equipment was returned to the property and a crew was returned there for the purpose of completing the project to a point that would satisfy the Government, and it does not appear that such expense would have been incurred had the Government been willing to terminate the contract on the written request of the operator.

I am sending a copy of this letter to Mr. W. R. Storms at Tucson, and I would like to have him either verify or advise you of the true facts if they are not set forth in this letter.

While I do not represent Mr. Green, I do represent a number of the other interested parties in this project who are anxious to withdraw from it and have the liability terminated regardless of anything further that is done on the property. They do not, however, desire to stand in the way of other members of the syndicate who may want to do additional prospecting.

Very truly yours,

For SHIMMEL, HILL & HILL

George M. Hill/LL

cc: Mr. D. E. Green
P. O. Box 1730
Globe, Arizona

cc: Mr. R. W. Storms
U. S. Bureau of Mines
University Station
Tucson, Arizona

COPY

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

March 3, 1954

Mr. George M. Hill
Shimmel, Hill & Hill
Title & Trust Building
Phoenis, Arizona

Re: Docket No. DMEA-2550 (Asbestos)
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Dear Mr. Hill:

Reference is made to your letter of February 24 to the Administrator, copies of which it is indicated went to Mr. D. E. Green and Mr. R. W. Storms of the Bureau of Mines at Tucson. Your letter has been referred to me for reply.

I cannot gather from your letter just what it is that you wish to accomplish. Does the Operator now wish to terminate the work? If, as you seem to indicate, some of the "interested parties" wish to withdraw from the project, and others wish to continue with it, it seems to me that these parties will have to come to some agreements among themselves before this agency can do anything for them.

I am forwarding a copy of this letter to Mr. Storms at Tucson, and perhaps with further advice from him and from you, we can determine what it is that the "interested parties" wish to do, and whether we can agree with them on the subject.

Very truly yours,

/s/ J. F. Hoffland
Chief Counsel

Copy to: Mr. R. W. Storms
U. S. Bureau of Mines
University Station
Tucson, Arizona

C O P Y

MINING DIVISION
REGION IV

October 26, 1953

Memorandum

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

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

Subject : Request for Termination, Contract Idm-8446, Docket DMEA-2550, Bear Canyon Mining Co. (Asbestos), Gila County, Ariz.

Enclosed in sextuplicate are

(1) Request from operator to terminate contract by mutual agreement before completion of exploration project;

(2) Memorandum from Bureau of Mines engineer, R. W. Ageton, recommending termination.

This contract was signed on November 13, 1952 for the purpose of exploring the down-dip extensions of the company's asbestos deposit by an inclined shaft and strike drifts from this incline. As no ore was discovered in the originally proposed work, the contract was amended so drifting could be done at another location. The project was shut down in June after some work had been done in the new location under the amendment, then reopened late in September. However, no ore was discovered by this work.

The work done to date seems to indicate that there is little chance of discovering ore by further work, therefore the operator has requested that the contract be terminated by mutual agreement. The Bureau of Mines engineer agrees with this conclusion and recommends that the contract be terminated. A. F. Shride of the Geological Survey concurs with this recommendation, as do I.

Walter R. Storms

Walter R. Storms

CC W. H. King (5)
DMEA-2550
DF

WRStorms:frj

MINING DIVISION
REGION IV

October 26, 1953

Memorandum

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

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

Subject : Proposed termination of contract Idm-E446, Docket DMEA-2550, (Asbestos), Bear Canyon Mining Co., Gila County, Ariz.

A letter from the Bear Canyon Mining Company dated October 14, 1953, was received requesting consideration of termination of contract Idm-E446 by mutual agreement before completion. The matter was discussed with A. F. Shride, geologist, U. S. Geological Survey, who stated that if the work to date failed to disclose 3 fiber zones and the 2 zones exposed did not contain fiber of marketable quality, then the contract should be terminated.

In accordance with your request, the subject property was visited on October 22, 1953. The contract advance in the No. 2 raise is 44.0 feet from the back of the old raise, or a total of 58.5 feet from the starting point. The October footage now subject to payment and allowable under the contract is 5.0 feet.

The 5.0-foot advance beyond the point of the September progress failed to disclose the expected 3rd fiber and/or serpentine zone. The operator drilled an 8-foot hole in the back of the raise, but the cuttings did not contain fiber or serpentine.

The result of the work under the amendment indicates that further work is not justified for 2 reasons: First, the potential of the area is limited since no fiber was found in the No. 1 raise; and second, the fiber exposed in the No. 2 raise is harsh to semi-harsh, with no 3rd zone exposed. Therefore, it is recommended that contract Idm-E446 be terminated by mutual agreement before completion, and that payment for the 5.0-foot advance during October, together with the 4.0-foot advance during September, be withheld until a final report is received from the operator.

Robert W. Ageton

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

CC W. H. King (Orig. & 5)
DMEA-2550
DF

RWAgeton:frj

Globe, Arizona
October 14, 1953
P. O. Box 1730

Mr. W. H. Storm
United States Bureau f Mines
P. O. Box 4097 University Station
Tucson, Arizona

Referring to Docket DMEA 2550, Commodity Asbestos, Contract Number IDM-E 446 and Amendment dated March 25, 1953.

On March 25th, 1953 amendment to the above referred to contract was granted as requested by the Bear Canyon Mining Company. It had been discussed and mutually agreed by the operators of the Bear Canyon Mining Company and the field team with the Bureau of Mines of Tucson, Arizona, that the possibilities of discovering commerical ore bodies under the original agreements had been explored and that further footage under the original contract would be to no avail. Therefore, an amendment was requested and granted for revision in the original plan for the purpose of drifting and raising, in an effort to explore the possibilities of a commercial ore body in the west edge of the stope.

At the time this request was made, Bear Canyon Mining Company was advised by Mr. Andy Schribe, government geologist of the Bureau of Mines of Tucson, that by drifting and raising through the diabase in the west portion of the mine we would likely encounter lime-stone and possibly an ore zone. However, Mr. Schribe, also advised us that even though we did encounter an ore zone, the fiber might be too harsh to be of commercial value.

This work under the above referred to amendment has been carried forward to the extent of drifting and raising as reflected in our monthly progress reports. Since our recess period dated from July 1st, 1953 until resumption of work in the latter part of September 1953, we have completed about 8 or 10 feet in Raise Number Two(2) in an effort to cut a possible third ore zone, we also drilled an 8 feet test hole and the third zone was not encountered. Since there was very little fiber in zone Number One (1) and zone Number Two(2) and the fiber that was encountered is of such a harsh quality, that it is in our opinion not marketable and that the above mentioned 8 or 10 feet together with the 8 feet test hole eliminates the possibility of a third ore zone. We desire to make the following request:

The Bear Canyon Mining Company, is of the opinion that all possibilities under the original contract and it's amendment have been explored to the fullest extent without the discovery of a commercial ore zone. We therefore, respectfully request the termination of this contract in the belief that further expenditures would be wasteful and to no avail. This matter has been discussed w with Mr. Robert Agston and Mr. Andy Schribe, Tucson field team, and we feel sure that they concur with us in this decision.

Yours very truly,
Bear Canyon Mining Company

By D. E. Brown

DEG:a

March 8, 1954

Memorandum

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

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

Subject : Proposed Termination, Contract Idm-5446, Docket DMEA-2550 (Asbestos), Bear Canyon Mining Co., Gila County, Ariz.

Attached is copy of a letter dated February 24 from the law offices of Shimmel, Hill and Hill, Phoenix, Ariz. to Mr. C. O. Mittenhoff, Administrator, Defense Minerals Exploration Administration, and copy of a letter dated March 3 from Mr. J. L. Hoffland, DMEA Chief Counsel, to Mr. George M. Hill of that law firm. The following information should clarify this situation somewhat.

On October 22, 1953, Mr. R. W. Agston of the Bureau of Mines made a routine inspection of work done at the Bear Canyon Mining Co.'s asbestos mine in Gila County, Ariz. where the company had been doing exploration work under DMEA Exploration Project Contract No. Idm-5446. As no commercial fiber had been found and as there seemed little chance of discovering significant quantities of asbestos by further exploratory work, the company suggested that the contract be terminated by mutual agreement. Therefore, Agston advised D. K. Green, the company's spokesman, to send in his formal request for such a termination.

Later in October 1953, a formal request was received from the Bear Canyon Mining Co. for termination of the contract by mutual agreement. We forwarded this request to you on October 26, 1953 with a letter of recommendation from Agston. We had talked to Mr. A. F. Shride of the Geological Survey and Mr. L. A. Stewart of the Bureau of Mines and both agreed that further exploration work under the contract terms did not seem justified. Both had formerly examined the Bear Canyon mine.

Evidently you sent the termination request to the DMEA Administrator with your approval because early in November 1953, we received original and five copies of a Termination agreement from you, all signed by the DMEA Administrator, with the request that we have the company's representative, Mr. D. K. Green, sign all copies, then return them to you (except the Operator's copy which was to be given to Green). On November 9, 1953, we sent original and four copies of the Termination agreement to Green, keeping the Operator's copy here.

CC W. H. King (6)
A. F. Shride
DMEA-2550
DF

WAStorms:fr j

On November 12, 1953, Messrs. D. E. Green and J. B. Green of the Bear Canyon Mining Co. and J. A. Cunningham called at our Tucson office and discussed the Termination agreement with Messrs. A. F. Shride of the Geological Survey, R. W. Agston of the Bureau of Mines and me. It seemed that the partners (the Bear Canyon Mining Co. is a partnership composed of D. E. Green, J. B. Green, R. G. Yarbrough and H. A. King) wanted to terminate the DMEA Contract, then lease the property to J. A. Cunningham. Cunningham planned to do some exploration work at another point on the claims, but the Termination agreement, as sent out by DMEA in Washington, contained a clause whereby royalty would have to be paid on ore discovered any place on the claim group. Therefore, if Cunningham discovered commercial asbestos fiber any place in the group, he would have to pay a royalty to DMEA, which he did not want to do.

D. E. Green did not want to sign the Termination Agreement for the company because of this clause, so we told him to write directly to the DMEA Administrator regarding this objectionable clause. This he did (see my memorandum to you of December 21), and on January 20, 1954, the DMEA Administrator answered his letter. Green then talked to the law firm of Shimmel, Hill and Hill in Phoenix, with the result that this firm wrote to Mr. C. O. Mittenderf on February 24, copy of their letter being attached.

I believe, if you will read over our monthly progress reports and correspondence, you will note that the Bureau of Mines, the Geological Survey, and the company mutually agreed that as there seemed little chance of any significant amount of asbestos being discovered, the project should be terminated. Mr. Mittenderf, in his letter of January 20 to Mr. D. E. Green, states in part: "At the operator's request, and for its sole convenience, the Government, on November 1, 1953, offered to terminate the work under the contract, provided, among other things (paragraph 4), that the operator agree to pay royalty on any production from the land described in the contract, in the same manner and to the same extent as if the Government had certified the project under the provisions of article 6 of the contract".

It is the opinion of the Geological Survey's local representative and of this office that there is no need to complete Contract Ida-8446, as it seems to us that it would be a needless waste of the taxpayers' money. Some asbestos fiber was mined under the contract, but we now find that it was never sold as the General Services Administration's representative refused to buy it at the Globe asbestos purchase depot because it was of non-strategic grade.

As Mr. Hufflund stated in his letter of March 3 to Mr. George H. Hill of Shimmel, Hill and Hill in Phoenix: "I am forwarding a copy of this letter to Mr. Stearns at Tucson, and perhaps with further advice from him and from you, we can determine what it is that the interested parties wish to do, and whether we can agree with them on the subject",

We are sending you this lengthy memorandum with the hope that it will help explain the situation. As no ore was discovered under the contract, the partners of the Bear Canyon Mining Co. think that the clause in the Termination agreement, pertaining to royalty payments, should be omitted. As this is a matter of policy, we make no recommendation concerning royalty payments. However, we do recommend that the contract be terminated and that no additional Government funds be spent on this property under Contract Ida-6446.

Walter R. Storms

Walter R. Storms

Law Offices
SNELL, HILL & HILL
Title & Trust Building
Phoenix, Arizona

February 24, 1954

Mr. C. O. Mittendorf, Administrator
United States Department of the Interior 140
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Docket No. DMEA-3550 (Asbestos)
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Ibn-6446

Dear Mr. Mittendorf:

On behalf of Mr. B. E. Green of Globe, Arizona and other interested parties in the Bear Canyon Mining Company, I am writing you to explore various alternatives with relation to the Bear Canyon project.

Mr. Green advises me that this project was not terminated at the request of the Bear Canyon Mining Company, but that the company did request a termination for its sole convenience, in which the Government was not willing to acquiesce; and that as a result of the refusal of the Government to acquiesce a crew was put back to work on the property and carried the project to a point required by the Government, which failed to disclose or locate any asbestos; at which point it was the understanding, at least of the Bear Canyon Mining people, that the contract would be terminated under the provisions of Article 8.

It appears, under these circumstances, that the only alternative would be to complete the project, inasmuch as certain of the Bear Canyon Mining Company parties are desirous of withdrawing from any further participation in the operation, while others would like to carry on a prospecting operation on other parts of the leased property on which no Government funds were expended. However, there is a 10% royalty due the Indian Service because the property is on an Indian reservation; and that, coupled with the Government royalty, eliminates the feasibility of going ahead with prospecting on the property.

COPY

I am sure that at some point there has been a misunderstanding between the parties, because equipment was returned to the property and a crew was returned there for the purpose of completing the project to a point that would satisfy the Government, and it does not appear that such expense would have been incurred had the Government been willing to terminate the contract on the written request of the operator.

I am sending a copy of this letter to Mr. W. R. Stearns at Tucson, and I would like to have him either verify or advise you of the true facts if they are not set forth in this letter.

While I do not represent Mr. Green, I do represent a number of the other interested parties in this project who are anxious to withdraw from it and have the liability terminated regardless of anything further that is done on the property. They do not, however, desire to stand in the way of other members of the syndicate who may want to do additional prospecting.

Very truly yours,

For SHEPARD, HILL & HILL

George M. Hill/LL

cc: Mr. D. E. Green
P. O. Box 1730
Globe, Arizona

cc: Mr. R. W. Stearns
U. S. Bureau of Mines
University Station
Tucson, Arizona

COPY

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

March 3, 1954

Mr. George M. Hill
Shimmel, Hill & Hill
Title & Trust Building
Phoenix, Arizona

Re: Docket No. DMEA-2550 (Asbestos)
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Ida-8446

Dear Mr. Hill:

Reference is made to your letter of February 24 to the Administrator, copies of which it is indicated went to Mr. D. E. Green and Mr. R. W. Stearns of the Bureau of Mines at Tucson. Your letter has been referred to me for reply.

I cannot gather from your letter just what it is that you wish to accomplish. Does the Operator now wish to terminate the work? If, as you seem to indicate, some of the "interested parties" wish to withdraw from the project, and others wish to continue with it, it seems to me that these parties will have to come to some agreements among themselves before this agency can do anything for them.

I am forwarding a copy of this letter to Mr. Stearns at Tucson, and perhaps with further advice from him and from you, we can determine what it is that the "interested parties" wish to do, and whether we can agree with them on the subject.

Very truly yours,

/s/ J. F. Hoffhand
Chief Counsel

Copy to: Mr. R. W. Stearns
U. S. Bureau of Mines
University Station
Tucson, Arizona

COPY

MINING DIVISION
REGION IV

October 26, 1953

Memorandum

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

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

Subject : Request for Termination, Contract Idm-E446, Docket DMEA-2550, Bear Canyon Mining Co. (Asbestos), Gila County, Ariz.

Enclosed in sextuplicate are

(1) Request from operator to terminate contract by mutual agreement before completion of exploration project;

(2) Memorandum from Bureau of Mines engineer, A. W. Ageton, recommending termination.

This contract was signed on November 13, 1952 for the purpose of exploring the down-dip extensions of the company's asbestos deposit by an inclined shaft and strike drifts from this incline. As no ore was discovered in the originally proposed work, the contract was amended so drifting could be done at another location. The project was shut down in June after some work had been done in the new location under the amendment, then reopened late in September. However, no ore was discovered by this work.

The work done to date seems to indicate that there is little chance of discovering ore by further work, therefore the operator has requested that the contract be terminated by mutual agreement. The Bureau of Mines engineer agrees with this conclusion and recommends that the contract be terminated. A. F. Shride of the Geological Survey concurs with this recommendation, as do I.

Walter R. Storms

Walter R. Storms

CC W. H. King (5)
DMEA-2550
DF

WRStorms:frj

MINING DIVISION
REGION IV

October 26, 1953

Memorandum

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

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

Subject : Proposed termination of contract Idm-E446, Docket DMEA-2550, (Asbestos), Bear Canyon Mining Co., Gila County, Ariz.

A letter from the Bear Canyon Mining Company dated October 14, 1953, was received requesting consideration of termination of contract Idm-E446 by mutual agreement before completion. The matter was discussed with A. F. Shride, geologist, U. S. Geological Survey, who stated that if the work to date failed to disclose 3 fiber zones and the 2 zones exposed did not contain fiber of marketable quality, then the contract should be terminated.

In accordance with your request, the subject property was visited on October 22, 1953. The contract advance in the No. 2 raise is 44.0 feet from the back of the old raise, or a total of 58.5 feet from the starting point. The October footage now subject to payment and allowable under the contract is 5.0 feet.

The 5.0-foot advance beyond the point of the September progress failed to disclose the expected 3rd fiber and/or serpentine zone. The operator drilled an 8-foot hole in the back of the raise, but the cuttings did not contain fiber or serpentine.

The result of the work under the amendment indicates that further work is not justified for 2 reasons: First, the potential of the area is limited since no fiber was found in the No. 1 raise; and second, the fiber exposed in the No. 2 raise is harsh to semi-harsh, with no 3rd zone exposed. Therefore, it is recommended that contract Idm-E446 be terminated by mutual agreement before completion, and that payment for the 5.0-foot advance during October, together with the 4.0-foot advance during September, be withheld until a final report is received from the operator.

Robert W. Ageton

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

CC W. H. King (Orig. & 5)
DMEA-2550
DF

RWAgeton:frj

Globe, Arizona
October 14, 1953
P. O. Box 1730

Mr. W. H. Storm
United States Bureau of Mines
P. O. Box 4097 University Station
Tucson, Arizona

Referring to Docket DMSA 2550, Commodity Asbestos, Contract Number IDM-S 446 and Amendment dated March 25, 1953.

On March 25th, 1953 amendment to the above referred to contract was granted as requested by the Bear Canyon Mining Company. It had been discussed and mutually agreed by the operators of the Bear Canyon Mining Company and the field team with the Bureau of Mines of Tucson, Arizona, that the possibilities of discovering commercial ore bodies under the original agreements had been explored and that further footage under the original contract would be to no avail. Therefore, an amendment was requested and granted for revision in the original plan for the purpose of drifting and raising, in an effort to explore the possibilities of a commercial ore body in the west edge of the stope.

At the time this request was made, Bear Canyon Mining Company was advised by Mr. Andy Schribe, government geologist of the Bureau of Mines of Tucson, that by drifting and raising through the diabase in the west portion of the mine we would likely encounter lime-stone and possibly an ore zone. However, Mr. Schribe, also advised us that even though we did encounter an ore zone, the fiber might be too harsh to be of commercial value.

This work under the above referred to amendment has been carried forward to the extent of drifting and raising as reflected in our monthly progress reports. Since our recess period dated from July 1st, 1953 until resumption of work in the latter part of September 1953, we have completed about 8 or 10 feet in Zone Number Two(2) in an effort to cut a possible third ore zone, we also drilled an 8 foot test hole and the third zone was not encountered. Since there was very little fiber in zone Number One (1) and zone Number Two(2) and the fiber that was encountered is of such a harsh quality, that it is in our opinion not marketable and that the above mentioned 8 or 10 feet together with the 8 feet test hole eliminates the possibility of a third ore zone. We desire to make the following request:

The Bear Canyon Mining Company, is of the opinion that all possibilities under the original contract and it's amendment have been explored to the fullest extent without the discovery of a commercial ore zone. We therefore, respectfully request the termination of this contract in the belief that further expenditures would be wasteful and to no avail. This matter has been discussed with Mr. Robert Ageton and Mr. Andy Schribe, Tucson field team, and we feel sure that they concur with us in this decision.

Yours very truly,
Bear Canyon Mining Company

By D. E. Greene

DEG:a

140

FILE COPY
SURNAME:

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

Houk

March 3, 1954

Mr. George M. Hill
Shimmel, Hill & Hill
Title & Trust Building
Phoenix, Arizona

Re: Docket No. DMEA-2550 ~~(Asbestos)~~
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Dear Mr. Hill:

Reference is made to your letter of February 24 to the Administrator, copies of which it is indicated went to Mr. D. E. Green and Mr. R. W. Storms of the Bureau of Mines at Tucson. Your letter has been referred to me for reply.

I cannot gather from your letter just what it is that you wish to accomplish. Does the Operator now wish to terminate the work? If, as you seem to indicate, some of the "interested parties" wish to withdraw from the project, and others wish to continue with it, it seems to me that these parties will have to come to some agreements among themselves before this agency can do anything for them.

I am forwarding a copy of this letter to Mr. Storms at Tucson, and perhaps with further advice from him and from you, we can determine what it is that the "interested parties" wish to do, and whether we can agree with them on the subject.

Very truly yours,

J. L. Hofflund

J. L. Hofflund
Chief Counsel

JLHofflund/emd
Copy to: Docket
Adm. R. File
Mr. R. W. Storms, Bu. Mines, Tucson, Ariz.
Op. Comm.
Mr. Larrabee
Mr. Bowles
L. G. Houk
Field Team, Reg. IV (2)
J. L. Hofflund
chron.

R.C.B. 3-4-54

LAW OFFICES
SHIMMEL, HILL & HILL
TITLE & TRUST BUILDING
PHOENIX, ARIZONA

BLAINE B. SHIMMEL
ROULAND W. HILL
GEORGE M. HILL
HARRY J. CAVANAGH
ROBERT R. STEWARD

Defense Minerals Administration
RECEIVED
FEB 26 1954

February 24, 1954

ana 3/3/54 J.H. emd

Mr. C. O. Mittendorf, Administrator
United States Department of the Interior 140
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Docket No. DMEA-2550 (Asbestos)
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Dear Mr. Mittendorf:

On behalf of Mr. D. E. Green of Globe, Arizona and other interested parties in the Bear Canyon Mining Company, I am writing to you to explore various alternatives with relation to the Bear Canyon project.

Mr. Green advises me that this project was not terminated at the request of the Bear Canyon Mining Company, but that the company did request a termination for its sole convenience, in which the Government was not willing to acquiesce; and that as a result of the refusal of the Government to acquiesce a crew was put back to work on the property and carried the project to a point required by the Government, which failed to disclose or locate any asbestos; at which point it was the understanding, at least of the Bear Canyon Mining people, that the countract would be terminated under the provisions of Article 8.

It appears, under these circumstances, that the only alternative would be to complete the project, inasmuch as certain of the Bear Canyon Mining Company parties are desirous of withdrawing from any further participation in the operation, while others would like to carry on a prospecting operation on other parts of the leased property on which no Government funds were expended. However, there is a 10% royalty due the Indian Service because the property is on an Indian reservation; and that, coupled with the Government royalty, eliminates the feasibility of going ahead with prospecting on the property.

I am sure that at some point there has been a misunderstanding between the parties, because equipment was returned to the property and a crew was returned there for the purpose of completing the project to a point that would satisfy the Government, and it does not appear that such expense would have been incurred had the Government been willing to terminate the contract on the written request of the operator.

I am sending a copy of this letter to Mr. W. R. Storms at Tucson, and I would like to have him either verify or advise you of the true facts if they are not set forth in this letter.

While I do not represent Mr. Green, I do represent a number of the other interested parties in this project who are anxious to withdraw from it and have the liability terminated regardless of anything further that is done on the property. They do not, however, desire to stand in the way of other members of the syndicate who may want to do additional prospecting.

Very truly yours,

George M. Hill

For SHIMMEL, HILL & HILL

George M. Hill/LL

cc: Mr. D. E. Green
P. O. Box 1730
Globe, Arizona

cc: Mr. R. W. Storms
U. S. Bureau of Mines
University Station
Tucson, Arizona

FILE COPY
SURNAME:

140

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

Houk
Chambers
Rewritten by Rubin
Hofflund
Patterson
Chambers

JAN 20 1954

Mr. D. E. Green
Bear Canyon Mining Company
P. O. Box 1730
Globe, Arizona

Re: Docket No. DMEA-2550 (Asbestos)
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Dear Mr. Green:

Reference is made to your letter of December 17, 1953, to Mr. W. R. Storms, requesting clarification of paragraph 4 of the termination agreement, with reference to Articles 6 and 8 of the contract.

Under the provisions of the contract, the operator is obligated to complete all the work described in the contract, unless the Government terminates the contract under the provisions of Article 8. The Government has not terminated the contract and does not desire to do so without assurance that in the event there is production from the land described in the contract the Government will receive royalty.

At the operator's request, and for its sole convenience, the Government, on November 1, 1953, offered to terminate the work under the contract, provided, among other things (paragraph 4), that the operator agrees to pay royalty on any production from the land described in the contract, in the same manner and to the same extent as if the Government had certified the project under the provisions of Article 6 of the contract. This provision is a consideration to the Government for releasing the operator from the obligation to complete the work.

If it is preferable to the operator to repay the Government's contribution to the cost of the project work, than to execute the termination agreement, it would be satisfactory to the Government.

LGHouk/HCRubin:m/emd 1/19/54
Copy to: Docket
Adm. R. File
Op. Comm.
Mr. Larrabee
Mr. Bowles
L. B. Houk
Field Team, Reg. IV (2) J.L.Hofflund H.C.Rubin chron. pending

Sincerely yours,

O. O. Mittendorf (fw)

Administrator

R.C.G. 1-20-54

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

224 New Customhouse
Denver 2, Colorado

January 4, 1954

Memorandum

To: C.O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2550 (Asbestos), Contract Idm-E446, Bear Canyon Mining Co., San Carlos Indian Reservation, Gila County, Arizona

Enclosed is the original of a letter from D. L. Green of the Bear Canyon Mining Company, dated December 17, 1953, and memorandum of transmittal dated December 21, 1953 from the Chief, Mining Methods Branch, Mining Division, Region IV, relevant to a request by the operator for clarification of the last paragraph of the termination agreement mailed to them for signature.

We will appreciate it if you will reply direct to the operator in answer to his inquiry, with a copy to this office.

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

January 4, 1954

Memorandum

To: C.O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2550 (Asbestos), Contract Idm-E446, Bear Canyon Mining Co., San Carlos Indian Reservation, Gila County, Arizona

Enclosed is the original of a letter from D. L. Green of the Bear Canyon Mining Company, dated December 17, 1953, and memorandum of transmittal dated December 21, 1953 from the Chief, Mining Methods Branch, Mining Division, Region IV, relevant to a request by the operator for clarification of the last paragraph of the termination agreement mailed to them for signature.

We will appreciate it if you will reply direct to the operator in answer to his inquiry, with a copy to this office.

W H King
W. H. King

Enclosures

Mining Division
Date Rec'd
DEC 21 1953
BUREAU OF MINES
Denver Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

SOUTHWEST EXPERIMENT STATION
Box 4097
UNIVERSITY STATION

5
TUCSON, ARIZONA

December 21, 1953

Memorandum

To: W. H. King, Denver, Colorado

From: Chief, Mining Methods Branch, Mining Division, Region IV

Subject: Termination Agreement, Contract Idm-E446, Docket DMEA-2550, Bear Canyon Mining Co.'s Asbestos Mine, San Carlos Indian Reservation, Gila County, Ariz.

On November 9, we received from you a Termination notice (original and 5 copies) signed by the Administrator, Defense Minerals Exploration Administration, for Contract Idm-E446. On November 9, we sent original and 4 copies of this agreement to Mr. Dennis E. Green of the Bear Canyon Mining Co. for signature, retaining the Operator's Copy here.

A few days after Green had received this agreement, he called at our Tucson office with his brother, James B. Green, and a J. A. Cunningham, to discuss Item 4 of the Termination agreement. This article states: "4. The Government's right to a percentage royalty on production and lien for its payment, and all provisions relevant thereto, are preserved with respect to all of the land described in the contract and any production therefrom, in the same manner and to the same extent as if the Government, as of November 1, 1953, had made its certification of discovery or development as provided in the Exploration Project Contract."

It seems that Cunningham wants to lease the Bear Canyon property and do some prospecting on the claims at an entirely different place than where the DMEA exploration project took place. However, Cunningham will not lease the property if he will have to pay royalty to the Government on any ore that he might find.

Green and the other partners argue that the contract states that no royalty must be paid unless a Certification of Discovery is issued. Therefore, they do not want to sign the Termination agreement.

Enclosed are original and 5 copies of a letter from Green asking about Item 4 of the Termination agreement. Will you or the Administrator write directly to Green with a copy to this office?

FOR VICTORY
BUY UNITED STATES SAVINGS BONDS AND STAMPS

Walter R. Storms

Walter R. Storms

U. S. BUREAU OF MINES
MINING DIVISION
DEC 21 1953
TUCSON, ARIZONA

Globe, Arizona
P. O. Box 1730
December 17, 1953

Mr. W. R. Storm
Box 4097 University Station
U. S. Bureau of Mines,
Tucson, Arizona

Dear Mr. Storm: RE: Docket No. DMEA 2550, Commodity, Asbestos
Contract Number IDM-E 446.

In view of the facts that have been established and reported by our monthly progress reports, made by the Bear Canyon Mining Company, and by the Tucson Field Team, through the conclusion of the work completed on the above mentioned contract, and the request for the termination of this contract, I would like the following information:

Referring to Article 6, and Article 8, of said contract, I would appreciate very much clarification of the last paragraph of the termination agreement mailed to us for signature.

With kindest regards, I am

Yours very truly,
Bear Canyon Mining Company

D E Green

DEG:a

C
O
P
Y

Globe, Arizona
P. O. Box 1730
December 17, 1953

Mr. W. R. Storm
Box 4097 University Station
U. S. Bureau of Mines
Tuscon, Arizona

Dear Mr. Storm:

Re: Docket No. DMEA-2550, Commodity, Asbestos
Contract No. Idm-E446

In view of the facts that have been established and reported by our monthly progress reports, made by the Bear Canyon Mining Company, and by the Tuscon Field Team, through the conclusion of the work completed on the above mentioned contract, and the request for the termination of this contract, I would like the following information:

Referring to Article 6, and Article 8, of said contract, I would appreciate very much clarification of the last paragraph of the termination agreement mailed to us for signature.

With kindest regards, I am

Yours very truly,
Bear Canyon Mining Company

/s/ D. E. Green

FILE COPY
SURNAME:

Robertson
Houk

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

December 9, 1953

Not. S in Y.R.

Memorandum

To: Administrator

From: Nonmetallic Minerals Division

Subject: Docket No. DMMA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Re: Amendment No. 2

This amendment was prepared and executed by Mr. King, Region IV. It authorized a recess of operations effective July 1, 1953. This amendment was prepared in conformity with authority contained in a teletype to Mr. King from the Chairman of the Operating Committee on September 28, 1953.

The Nonmetallic Minerals Division concurs in the amendment as prepared.

Note: It should be noted that there has been managerial difficulties since about the first of July, 1953, in this copartnership. The mananger's power of attorney to sign documents may not now be valid. Therefore, signature on the Termination Agreement of November 2, 1953, should be checked when this document is returned fully executed.

/S/
J. T. Robertson
Nonmetallic Minerals Division

JTRobertson:ag 12/9/53
Copy to: Admr. R. File
Docket File
Mr. Houk

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

December 9, 1953

Memorandum

To: Administrator

From: Nonmetallic Minerals Division

Subject: Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Re: Amendment No. 2

This amendment was prepared and executed by Mr. King, Region IV. It authorized a recess of operations effective July 1, 1953. This amendment was prepared in conformity with authority contained in a teletype to Mr. King from the Chairman of the Operating Committee on September 28, 1953.

The Nonmetallic Minerals Division concurs in the amendment as prepared.

Note: It should be noted that there has been managerial difficulties since about the first of July, 1953, in this co-partnership. The mananger's power of attorney to sign documents may not now be valid. Therefore, signature on the Termination Agreement of November 2, 1953, should be checked when this document is returned fully executed.

J. T. Robertson
Nonmetallic Minerals Division

FILE COPY
SURNAME:

140

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

NOV 2 1953

Mr. M. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-2550 (Asbestos)
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Dear Mr. King:

Reference is made to your teletype to the Administrator, dated October 29, 1953, in which you request authority to terminate the contract.

There is enclosed herewith duly signed by the Administrator an agreement terminating the work under the contract but preserving the Government's right to a percentage royalty.

When this termination agreement is executed by the Operator, the copies should be distributed in the usual manner.

AEKane/emd 10/30/53

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (24B)

Enclosure

Approved:

J. H. Hedges (24B)
Member, Bureau of Mines

T. P. Thayer
Member, Geological Survey (24B)

Copy to: Docket
Adm. R. File
Operating Comm.
J. H. Hedges
T. P. Thayer
L. B. Houk
J. L. Hofflund
A. E. Kane
chron.
pending

Mr. C. O. Mittendorf
10-29-53
4:05 P.M.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 30 1953

DN 235 BUREAU MINE 10-29-53 1-59 PM

C O MITTENDORF

REK
REFERENCE DOCKET 2550, CONTRACT IDM-E446, BEAR CANYON MINING CO., OPERATOR REQEXXX REQUESTS TERMINATION OF CONTRACT BY MUTUAL AGREEMENT EFFECTIVE OCTOBER 1,1953 WHCICCC XXX WHICH HAS OCXXX CONCURRENCE OF FIELD AND THIS OFFICE. SEPTEMBER 104 REPORT FORWARDED TO SECRETARY, OPERATING COMMITTEE, OCTOBER 27,1953. PLEASE TELETYPE AUTHORIZATION FOR US TO PREPARE AGREEMENT.

W H KING

Denver, Colo.

:T 30 8 25 AM '53

UREAU OF MINES
MAIL ROOM
ASHINGTON D. C.

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

RECEIVED
OCT 30 1953

224 New Customhouse
Denver 2, Colorado

OCT 26 1953

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 2550 (Asbestos), Contract Idm-E446, Bear Canyon Mining Company, a limited co-partnership comprised of Dennis E. Green, James B. Green, Roy O. Yarbrough and H. A. King, Gila County, Arizona

Enclosed are the original and two copies of Amendment No. 2 to Contract Idm-E446 which has been executed to authorize a recess of operations effective July 1, 1953, with operations to be resumed on or before November 1, 1953. The amendment was prepared in conformance with authority contained in a teletype from the Chairman of the Operating Committee dated September 28, 1953. Also enclosed are three sets of data relevant to the amendment.

Copies of this amendment 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

RECEIVED
DEC 10 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

Coe
10-28

✓ 7

1-1027
(April 1946)

UNITED STATES
DEPARTMENT OF THE INTERIOR

C O P Y

AGENCY DMEA WASH

TELETYPE

Originator:
Ext.: Room:

Appro.:
Date: 9/28/53
Time: 439P
No.:
To: W H KING EXECUTIVE OFFICER DMEA FIELD TEAM REG IV 224 NEW CUSTOMHOUSE BLDG DN
Subject: DOCKET NO. DMEA-2550, CONTRACT NO. ID06-2446, BEAR CANYON MINING CO.

YOU ARE AUTHORIZED TO RECESS DMEA-2550, ID06-2446 FROM JULY 1 TO NOVEMBER 1. HOWEVER TERMINATION FOR NON PERFORMANCE WOULD NOT BE IN THE BEST INTEREST OF THE GOVERNMENT. WE CONCUR IN PROCEDURE OUTLINED IN YOUR LETTER OF JULY 9 TO THE OPERATOR.

GEORGE C. SELFRIDGE CHAIRMAN OPERATING COMMITTEE DMEA

Authorized:

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

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

P. O. Box 1730
Globe, Arizona
August 31, 1953

Mr. W. H. King
224 New Customhouse
Denver 2, Colorado

Dear Mr. King:

Re: Docket No. DMA1 -8550 (Asbestos)
Contract IDB-5 446
Gila County, Arizona

In accordance with your instructions of August 18, 1953 to carry through the proper procedure of our obligations under the above referred to contract. We wish to make the following request:

On or about July 1st, 1953 operations at the Bear Canyon Mining Company were discontinued, due to certain managerial difficulties as has been previously outlined. We respectfully request your authorization of a recess period from July 1st, 1953 to a date of on or before November 1st, 1953. It is our expectation that our remaining difficulties will be resolved and work resumed within the next few days, or at least will not exceed the date of November 1st, 1953.

Thanking you kindly for your indulgence, I am

Yours very truly,
Bear Canyon Mining Company
By [signature]

DMJ:sa

FILE COPY
SURNAME:

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

Hush
Kimball
Hedges
Selfridge
Fitzhugh

DMEA

2971 4637

1413923.970 Working Fund, Interior, Defense Minerals Exploration Administration
September 28, 1953
12:00 M

W. H. King, Executive Officer, DMEA Field Team, Region IV, 224 New Customhouse Building, Denver 2, Colorado
Docket No. DMEA-2550, Contract No. Idm-E446, Bear Canyon Mining Co.

You are authorized to recess DMEA-2550, Idm-E446 from July 1 to November 1. However termination for nonperformance would not be in the best interest of the Government. We concur in procedure outlined in your letter of July 9 to the operator.

George C. Selfridge

(HB)

George C. Selfridge, Chairman
Operating Committee, DMEA

LGHouk:gad 9/28/53

Copy to: Admr. R. File
Docket File
Operating Committee
Dr. Bowles, 3520
Mr. Larrabee, G-232 GSA Bldg.
Mr. Houk

R.C.G. - ?
9-28-53

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

September 28, 1953

Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Memorandum

To: Mr. C. O. Mittendorf

From: Lawrence G. Houk

Subject: Termination of subject contract.

The May Monthly Operator's Report (last received) shows $18,724.50 expended under $26,220.00 with 657 foot units completed of 920 authorized.

The DMEA field team wrote the Operator July 9 that it was desireous of bringing the project to a satisfactory conclusion and the Government will demand repayment of all contribution if the Operator willfully breaches the contract by failing to complete work.

As of July 3 there remained 170.5 feet of drifting and/or raising.

Lincoln Stewart recommends completion of contract inasmuch as a certification of discovery may be possible, with additional work.

The Nonmetallic Minerals Division concurs with procedure outlined in letter of July 9, 1953 from the field team to the Operator and recommends that the contract work be completed.

FILE COPY
SURNAME:

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

600

September 28, 1953

Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Memorandum

To: Mr. G.O.Mittendorf

From: Lawrence G. Houk

Subject: Termination of subject contract.

The May Monthly Operator's Report (last received) shows $18,724.50 expended under $26,220.00 with 657 foot units completed of 920 authorized.

The DMEA field team wrote the Operator July 9 that it was desireous of bringing the project to a satisfactory conclusion and the Government will demand repayment of all contribution if the Operator willfully breaches the contract by failing to complete work.

As of July 3 there remained 170.5 feet of drifting and/or raising.

Lincoln Stewart recommends completion of contract inasmuch as a certification of discovery may be possible, with additional work.

The Nonmetallic Minerals Division concurs with procedure outlined in letter of July 9, 1953 from the field team to the Operator and recommends that the contract work be completed.

LGHouk:gad 9/28/53
Copy to: Admr. R. File
Docket File
Mr. Houk

R.C.J. 9-28-53

Mr. C. O. Mittendorf
Sept. 25, 1953
12:53 PM

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 25 1953

DN 235 BUREAU MINES 9-25-53 9-34 AM

C O MITTENDORF

REFERENCE DOCKET 2550, CONTRACT IDM-E446, BEAR CANYON MINING CO. OPERATOR HAS REQUESTED AUTHORIZATION FOR RECESS OF OPERATIONS FRMXX FROM JULY 1,1953 TO NOVEMBER 1,1953 ON ACCOUNT OF MANAGERIAL DIFFICULTIES. PLEASE TELETYPE AUTHORIZATION FOR PREPARATION OF AMENDMENT TO THAT EFFECT WITH INCLUDED RECITATION TERMINATING CONTRACT IF WORK IS NOT RESUMED BY NOVEMBER 1,1953.

W H KING

Denver, Colo.

SEP 25 1 31 PM '53
BUREAU OF MINES
MAIL ROOM
WASHINGTON D.C.

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

224 New Customhouse
Denver 2, Colorado

August 13, 1953

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA-2550 (Asbestos), Contract Idm-E446
Bear Canyon Mining Co., Gila County, Arizona

In conjunction with the interim report by Lincoln A. Stewart dated July 3, 1953, which was forwarded to this office by your memorandum of July 6, 1953, and our memorandum to A.C. Brunner, dated July 9, 1953, we will appreciate your advice as to developments at the project subsequent to the date of the interim report and your recommendations in the matter.

W. H. KING

W. H. King

JWT:jp
cc Contract
Chron
AHKoschmann
JWTownsend
Secretary to Operating Committee

Defense Minerals Administration
RECEIVED
JUL 13 1953

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

224 New Customhouse
Denver 2, Colorado

July 9, 1953

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA-2550 (Asbestos), Contract Idm-E446, Bear Canyon Mining Company, Gila County, Arizona

Enclosed are three copies of an interim report by Lincoln A. Stewart of the Bureau of Mines, dated July 3, 1953, pertaining to operations under the subject contract. Also enclosed is a copy of a letter from the Field Team, Region IV, to the operator, dated July 9, 1953.

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

July 9, 1953

Mr. A. C. Brunner, Manager
Bear Canyon Mining Company
Box 288
Globe, Arizona

Re: Docket No. DMEA-2550
Contract Idm-E446

Dear Mr. Brunner:

It has come to our attention that operations under Contract Idm-E446 were suspended on or about June 30, 1953.

An operator should not suspend operations without obtaining the consent and agreement of the Government in advance. Wilfull suspension of operations by an operator is a breach of the contract and gives to the Government all the rights and remedies arising out of that fact. In the absence of any such agreement the operator is in default when he suspends operations, therefore further participation by the Government in the costs of work performed will be deferred until normal operations have been resumed.

Your request for authorization of a temporary recess period should state the date that operations were suspended and the date on or before which operations will be resumed.

The DMEA is desirous of continuing the project to a satisfactory completion under the terms of the contract, otherwise the operator may subject himself to demand for repayment of all contributions previously made.

Very truly yours,

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

DMEA Field Team, Region IV

JWT:jp
cc Contract
Chron
WRStorms
AHKoschmann
JWTownsend
Secretary to Operating Committee

MINING DIVISION
REGION IV

July 6, 1953

Memorandum

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

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

Subject : Contract Idm-E446, Docket DMEA-2550, Bear Canyon Mining Co., Gila County, Ariz.

Enclosed are original and 6 copies of an interim report on the above property by L. A. Stewart of the Bureau of Mines.

Walter R. Storms

Walter R. Storms

CC W. H. King (6)
DMEA-2550
DF

WRStorms:frj

MINING DIVISION
REGION IV

July 3, 1953

Memorandum

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

From : Lincoln A. Stewart, Mining Engineer, Tucson, Arizona

Subject : June drifting and raising progress, Bear Canyon Mining Co., Docket DMEA-2550, Contract Idm-E446, Gila County, Ariz.

On our visit to Bear Canyon, Ageton and I found the place in a turmoil. For some time operations have been conducted at a loss, as the entire production has been limited to small quantities of asbestos produced from the 2 local lenses on the lower level, found by DMEA exploration.

Although Dennis Green still has the authority to sign the progress reports, he was relieved as manager sometime in March and his place taken by A. C. Brunner. The latter told me that about 8 of the stockholders representing over 90 percent of the stock held a meeting June 26. Each one apparently had a different idea as to future policy. Some wanted to close down as of that day. Brunner and his foreman argued to complete the DMEA exploration before closing down. The meeting ended in discord and indecision but all seemed agreed that the shut down was to be temporary. Brunner was allowed to continue work in Raise No. 2 only to June 30. They pushed the work but the raise is unfinished.

Limestone was encountered at 42 feet in the raise, one serpentine zone containing at least an inch of short fiber was encountered at 4 feet above the diabase and the top of the raise is at the bottom of a second fiber zone at 7.5 feet above diabase. The writer is confident that a third ore-bearing zone should be encountered at about 8 feet above the top of the raise. If this assumption is correct, there may be a relatively narrow deposit (possibly 20 or 30 feet wide) along the northwest side of the discordant diabase sill. The amendment (No. 1) was drawn up to prospect this belt, wherever it was found. There still remains unused 170.5 feet of drifting and/or raising of the contracted work.

CC W. H. King (orig. & 6)
DMEA-2550
BF

LAStewart:frj

I indicated to Brunner that, if at our next monthly inspection, no work had been done, then the company must ask for a formal recess.

On account of the bickering among the group of owners, and the possibility that some may wish to discontinue any future work, I suggest that the June payment be held in abeyance. I also recommend that the Region IV Field Team inform the Company that the Government will expect completion of the contract, for the reason that a possible discovery (even though small) may be made by continuation of the exploration.

Lincoln A Stewart

Lincoln A. Stewart, Mining Engineer
Mining Methods Branch
Mining Division, Region IV

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

April 3, 1953

Memorandum

To: Administrator

From: Nonmetallic Minerals Division

Subject: Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona

Re: Amendment No. 1 to Contract No. Idm-E446
Recommendation of approval.

The amendment does not increase the total cost of the project but simply permits a diversion of a portion of the work to another part of the mine, and is recommended by the field engineers after a recent inspection.

This Division concurs in the recommendation of the amendment as written and signed in Region IV.

Posted 4-7-53

FILE COPY
SURNAME:

Houk

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

600

April 3, 1953

Memorandum

To: Administrator

From: Nonmetallic Minerals Division

Subject: Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona

Re: Amendment No. 1 to Contract No. Idm-E446
Recommendation of approval.

The amendment does not increase the total cost of the project but simply permits a diversion of a portion of the work to another part of the mine, and is recommended by the field engineers after a recent inspection.

This Division concurs in the recommendation of the amendment as written and signed in Region IV.

LGHouk:gad 4/3/53

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

Docket Copy

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

224 New Customhouse
Denver 2, Colorado

March 25, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAR 30 1953

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Amendment No. 1 to Contract Idm-E446, Docket DMEA 2550, Bear Canyon Mining Company

Enclosed are the original and two copies of Amendment No. 1 to Contract Idm-E446. Copies of this amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

Also enclosed are three copies of a letter from the operator requesting this amendment and three copies of a memorandum from a Bureau of Mines engineer approving this amendment.

W. H. King
W. H. King

Enclosures

cal 3/30

RECEIVED
APR 17 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

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

224 New Customhouse
Denver 2, Colorado

March 19, 1953.

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region IV

Subject: Form MF-104, DMEA Docket 2550, Contract Idm-E446 (Asbestos), Bear Canyon Mining Company, Gila County, Arizona.

Enclosed are two copies of the Operator's Monthly Progress Report MF-104 and 104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data for the month of February 1953, pertaining to DMEA Docket 2550, Contract Idm-E446 (Asbestos), Bear Canyon Mining Company, Gila County, Arizona.

W. H. King

W. H. King

Enclosures

MINING DIVISION
REGION IV

March 12, 1953

Memorandum

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

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

Subject : Proposed amendment, Contract Idm-E446, Docket DMEA-2550, Bear Canyon Mining Co. (Asbestos), Gila County, Ariz.

Enclosed are original and five copies of a requested amendment to contract Idm-E446 from the above company and memorandum from L. A. Stewart of the Bureau of Mines with detailed recommendations. A. F. Shride of the Geological Survey concurs with these recommendations of Stewart's, as do I.

Walter R. Storms

Walter R. Storms

CC W. H. King (5)
DMEA-2550
DF

WRStorms:frj

MINING DIVISION
REGION IV

March 12, 1953

Memorandum

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

From : Lincoln A. Stewart, Mining Engineer, Tucson, Ariz.

Subject : Amendment to include an additional work site, Bear Canyon Mining Co., Docket DMEA-2550, Contract Idm-1446, Gila County, Ariz. (Asbestos).

Work under this contract was started Nov. 28, 1952, and has progressed according to contract. At 237 feet from the starting point of the proposed 470-foot inclined drift, a crosscutting diabase sill has cut off the favorable limestone beds. The contact of the crosscutting diabase is roughly along the strike of the beds, as is shown by 150 feet of crosscut driven to date. It appears likely that this general condition will prevail entirely across the projected width of the ore shoot, and thus will reduce the potential area of exploration by about one-half.

A proposal had been included in the original application to explore an area on the northwest side of the mine by drilling 6 holes for a total of 322 feet. When an amended application was made, the operator decided to devote all work to the exploration of the down-dip portion of the mine, notwithstanding the fact that exploration of this northwest area had merit.

On the DMEA examiners' 1/ visit to the mine on February 3, 1953, when it had become evident that the crosscutting diabase might reduce the size of the target, Green of the Bear Canyon Mining Co. suggested a revival of this northwest exploration by amendment of the contract. Shride discussed the geological conditions that might be present on that side of the mine, and it was decided to delay request for amendment until sufficient work had been done to demonstrate that excess footage would be available.

By March 1953 it appeared that this amendment was justified, and Green submitted the attached request.

1/ Shride, A. F., Geological Survey and Stewart, L. A., Bureau of Mines.

CC W. H. King (Orig. & 5)
DMEA-2550
DF

LAStewart:frj

In the Bear Canyon mine, the bed of limestone that contains the ore zones is overlain and underlain by diabase sills, and is cut off on each side by crosscutting diabase structures that are roughly parallel and about 400 feet apart. Quoting from the July 1952 Bear Canyon geologic report by Shride: "The crosscutting portion of the diabase sill that bounds the fiber-bearing limestone on the northwest side of the deposit is not exposed at the surface, but pinches out underground about 70 feet northeast of the southwester-most portal of the mine". Figure 5, section B-B', of the same geologic report indicates the likelihood of a "matching" limestone-diabase contact at some unknown distance to the northwest. Shride further states in his original report "- - - it is unfortunate that some sort of exploration is not planned in that (the northwest) direction as the geologic possibilities of a "blind" ore body beyond the cross-cutting portion of the diabase sill are good".

The requested amendment proposes to explore for this contact with the contracted footage <u>that is unused in the current exploration</u>.

Mr. Green furnished a map showing the location of the proposed work, but it has been thought advisable to include a map showing revised geology and a postulated section of this area so a better understanding may be had of the exploration problem (figure A).

It is possible that the "matching" feature shown in figure 5 of the original report will be at approximately the same elevation on the northwest side of the crosscutting diabase, but the probability is that it will be higher. Figure A has been drawn on the latter assumption. It is likely that the diabase will maintain concordancy along the same bedding plane, which is about 15 feet below the ore zone.

Tentatively, it is suggested that the best approach would be to drift 50 feet into the diabase, then raise, say 25 feet, and drill a 12-foot hole in the top of the raise. If limestone is not encountered, advance the drift an additional 50 feet and again raise. It is obvious from surface exposures on this side of the hill that the diabase contact must dip to the northwest, thus the drift and the diabase contact should be converging in section in that direction. If limestone is intersected in a raise and the ore zone is present, any remaining footage should be devoted to exploring the width of the ore shoot. The length of the ore body adjacent and parallel to the diabase-limestone contact will be determined by mining development.

The applicant has offered unit cost figures that are in line with the costs of the current contract. As indicated by the request, the prospect raise that encounters the ore zone will become the access raise, hence will have to be enlarged to accommodate a timbered manway. It will have to be provided with a chute. The additional work and timbering necessary for this raise has been estimated at an increased cost of $10.00 per foot over the prospect raising. The unit bid costs of drifting and prospecting raising at $28.50 per foot, and the timbered access raise at $38.50 per foot are considered reasonable.

It is recommended that this amendment be granted and that the specified unit costs be approved. On account of the indeterminate location of the "matching" structure, and the presently unknown amount of excess footage available, the total footage of the drifting and/or raising should be specified only as the amount unused in the primary contract.

It is suggested that the effective date of this amendment be made as of the date it is approved by the Executive Officer. By that time, the present exploration probably will have progressed sufficiently to indicate that adequate footage remains to justify starting the new exploration, concurrent with finishing up the primary exploration.

The details of this memorandum have been discussed with A. F. Shride of the Geological Survey who concurs with the statements made and with the above recommendation.

Lincoln A Stewart

Lincoln A. Stewart, Mining Engineer
Mining Methods Branch
Mining Division, Region IV

P. O. Box 1730
Globe, Arizona
March 2, 1953

Mr.W. H. King, Executive Officer
U. S. Bureau of Mines,
224 New Customs House Bldg.
Denver 2, Colorado

Dear Mr. King:

Please refer to the Bear Canyon Mining Company contract for exploration work with DMEA Docket Number DMEA 2550, Commodity, Asbestos, Contract Number IDM-E446.

At a point 237 feet from the beginning of our incline drift we encountered diabase. We immediately contacted your field team at Tucson and requested an inspection. This inspection was made and it was decided that we would drift 25 feet into this diabase, and then drill a 12 foot hole in the face and if the indications were still diabase, it would be inadvisable to continue forward. It was mutually agreed that cross cutting would be located at the contact and carried out both to the east and to the west and to follow along said contact. This 12 foot text hole was drilled the night of February 6th, 1953 and proved to be still in diabase. We have therefore discontinued our forward drift and have begun cross cutting as proposed by Andy and Lincoln. To date we have extended our cross cuts a total of 66 feet each way.

In view of the fact that some 200 feet of this proposed 470 foot incline drift will be unused, we therefore wish to ask for an amendment of the above mentioned contract to-wit.

Referring to the map of Bear Canyon which is attached hereto. In the west section of the mine you will note an old drift in a westerly direction into a diabase intrusion thence in a southerly direction. Our amended proposal is to continue this drift in a westerly direction in an effort to pass through this diabase intrusion. We are of the opinion that a lime bed will be encountered with a gold possibility for asbestos.

Amendment: A 5 foot by 7 foot drift in the west part of the mine to be carried in a westerly direction to explore for asbestos on the west side of the diabase intrusion. Raises at intervals may be necessary to probe upward for the limestone bed. If asbestos is found in araise it is proposed to drift on the vein. Therefore the Bear Canyon Mining Company will be willing to contract the above mentioned proposed drifting and raising at $28.50 per foot which is in accord with the original contract. The raise that encounters fiber will become the access way for drifting on the higher level. The raise will have to be enlarged for a timbered manway. This raise will be contracted at $38.50 per foot. The allowable total footage of this drifting and raising to be that amount that is unused in the exploration of the central portion of the

mine, possibly two or three hundred feet. In no event will this amendment exceed the total overall expenditure of the original contract.

It is the desire of the Bear Canyon Mining Company to carry out this amended program if it is approved, simultaneously with the cross cutting that is now in progress, as soon as it is evident that this excess footage will be available. For this reason it will be appreciated very much for you to give this proposal your attention at your very earliest convenience.

Thanking you in advance, I am

Yours very truly,
Bear Canyon Mining Company

/d/ D. E. Green

SCALE 1" = 100'

GEOLOGY AFTER A.F. SHRIDE, U.S.G.S.

MARCH 1953

DMEA 2550

FIGURE A.- GENERALIZED GEOLOGICAL SKETCH, SHOWING PROPOSED AMENDED WORK

BEAR CANYON ASBESTOS MINE

GILA COUNTY, ARIZONA

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

March 13, 1953

Memorandum

To: A. N. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Proposed Amendment, Idm-2446 (DMEA 2550), Bear Canyon Mining Company, Gila County, Arizona (Asbestos)

I have reviewed in the field the proposed amendment to the above contract to do drifting from the northwest part of the Bear Canyon Mine, and have read Lincoln A. Stewart's (Bureau of Mines) appraisal of the proposal. This appraisal is being submitted to Denver today with the request for amendment.

I am in complete agreement with Stewart's conclusions, and his favorable recommendation of the amendment.

A. F. Shride

A. F. Shride
Geologist

MAR 1953
RECEIVED
U.S. Geological Survey
Mineral Deposits Branch
Denver

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

224 New Customhouse
Denver 2, Colorado

February 17, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 20 1953

Memorandum

To : Secretary to the Operating Committee

From : Executive Officer, Field Team, Region IV

Subject: Form MF-104, DMA Docket 2550, Contract Idm-E446, (Asbestos) Bear Canyon Mining Co., Gila County, Arizona.

Enclosed are two copies of the Operator's Monthly Progress Report MF-104 and 104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data for the month of January, 1953, pertaining to DMA Docket 2550, Contract Idm-E446, (Asbestos) Bear Canyon Mining Company, Gila County, Arizona.

W. H. King

W. H. King

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse WASHINGTON 25, D. C.
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

January 27, 1953

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, Field Team, Region IV

Subject: Form MF-104, DMEA Docket 2550, Contract Idm-E446
Asbestos, Bear Canyon Mining Co., Gila County, Arizona

Enclosed are two copies of the Operator's Monthly Progress Report MF-104, and 104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data for the month of December, 1952, pertaining to DMEA Docket 2550, Contract Idm-E446, Bear Canyon Mining Co.

W. H. King
W. H. King

Enclosures

FILE COPY
SURNAME:

Houk
Mutheady

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

600

3558

BW

Mr. Denis Green
Bear Canyon Mining Company
Box 1730
Globe, Arizona

JAN 23 1953

Dear Mr. Green:

Reference is made to your telephone request for information on the status of your lease requests in the Bureau of Indian Affairs, Washington Office.

Mr. H. F. Larkin of Indian Affairs, indicated today the lease requests of Green & Neal and Metate Asbestos Corp. have been received in his office and would be processed as rapidly as possible. The authority to waive the advertising in these cases may be delegated to the regional office at Phoenix. If this office can be of further service, please advise.

Sincerely yours,

J.C. 1/23/53

Lawrence G. Houk, Chief
Nonmetallic Minerals Division

LGHouk:fls 1/22/53

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

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

November 20, 1952

Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

Memorandum

To: Chairman, Operating Committee

From: Nonmetallic Minerals Division

Subject: Region IV Delegation Contract

Recommendation: Approval

Past experience in exploring and developing this deposit indicates that it should continue down dip. If such proves to be the case, drifts driven from the bottom of the proposed incline would be good exploration. Since the exploratory work can be stopped at any time it becomes unpromising, no great risk is involved and there appears to be a reasonable chance of making an important addition to the reserve tonnage. The contract should be approved.

Laurance F. Hearne

Laurance F. Hearne
Nonmetallic Minerals Division

RECEIVED
NOV 28 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

FILE COPY
SURNAME:

Hearne
Houk
Rubin

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

November 20, 1952

Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-[illegible]446

Memorandum

To: Chairman, Operating Committee

From: Nonmetallic Minerals Division

Subject: Region IV Delegation Contract

Recommendation: Approval

Past experience in exploring and developing this deposit indicates that it should continue down dip. If such proves to be the case, drifts driven from the bottom of the proposed incline would be good exploration. Since the exploratory work can be stopped at any time it becomes unpromising, no great risk is involved and there appears to be a reasonable chance of making an important addition to the reserve tonnage. The contract should be approved.

Laurance F. Hearne
Nonmetallic Minerals Division

LFHearne:fls

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

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

November 20, 1952

Memorandum

To: Chairman, Operating Committee

From: Nonmetallic Minerals Division

Subject: Review of Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-E446

5/26/52 Received application dated 5/1/52.
8/21/52 Received copy of Field Team report from Region IV dated July, 1952, outlining exploration program.
8/27/52 Memorandum from U.S.G.S. suggesting favorable action.
9/2/52 Letter from Administrator to Region IV suggesting that the operator obtain a renewal of his lease for at least four years from the San Carlos Indian Council.
11/17/52 Received executed contract from Region IV dated 11/13/52.

Laurance F. Hearne

Laurance F. Hearne
Nonmetallic Minerals Division

FILE COPY
SURNAME:

Hearne
Houk

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

November 20, 1952

Memorandum

To: Chairman, Operating Committee

From: Nonmetallic Minerals Division

Subject: Review of Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona
Contract No. Idm-2446

5/26/52 Received application dated 5/1/52.
8/21/52 Received copy of Field Team report from Region IV dated July, 1952, outlining exploration program.
8/27/52 Memorandum from U.S.G.S. suggesting favorable action.
9/2/52 Letter from Administrator to Region IV suggesting that the operator obtain a renewal of his lease for at least four years from the San Carlos Indian Council.
11/17/52 Received executed contract from Region IV dated 11/13/52.

Laurance F. Hearne
Nonmetallic Minerals Division

LFHearne:fls

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

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

224 New Customhouse
Denver 2, Colorado

November 17, 1952
Mr. Hearne

Memorandum

To: C. O. Mittendorf

From: Executive Officer, Field Team, Region IV

Subject: DMEA Docket 2550, Contract Idm-E446, Bear Canyon Mining Company

Enclosed are three copies of a Power of Attorney authorizing Dennis E. Green to sign for the Bear Canyon Mining Company.

W. H. King
W. H. King

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 20 1952

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, the Bear Canyon Mining Company is a limited co-partnership, comprised of DennisE. Green, James B. Green, Roy O. Yarbrough and H. A. King, duly organized and existing under and by virtue of the laws of the State of Arizona, with certificate of co-partnership filed in the office of the County Clerk of Gila County, Arizona, and is engaged in the business of mining and milling asbestos ore, or fiber, and

WHEREAS, a certain Mining Lease of Tribal Indian Lands was made and entered into on the 6th day of October, 1952, by and between the San Carlos Apache Tribal Council of San Carlos, State of Arizona, lessors, and the Bear Canyon Mining Company of Globe, State of Arizona, lessee, covering certain lands in Gila County, State of Arizona, to-wit:

> Mineral Survey No. 3752, of the San Carlos Indian Reservation, more particularly described in said lease,

for a term of five (5) years from and after the date of approval thereof by the Secretary of Interior, and

WHEREAS, the Bear Canyon Mining Company has applied for an exploration loan through the Defense Mineral Emergency Agency of the United States Government, and are desirous of empowering Dennis E. Green, Operator of the Bear Canyon Mining Company, to execute all papers incident or necessary in connection with the application or agreement for said loan;

NOW, THEREFORE, we, the undersigned James B. Green, Roy O. Yarbrough and H. A. King have made, constituted and appointed and by these presents do make, constitute and appoint Dennis E. Green our true and lawful attorney for us and in our name, place and stead, and for the use and benefit of the Bear Canyon Mining Company, the full power and authority to execute said loan papers for an exploration loan or agreement and all papers in connection with said exploration loan with the Defense Mineral Emergency Agency of the United States Government, on our behalf or on behalf of the Bear Canyon Mining Company, giving our said attorney full power to do everything whatsoever requisite and necessary to be done in the premises, as fully as we might do if personally present with full powers of substitution and revocation, hereby ratifying and confirming all that our said attorney shall lawfully do or cause to be done therein by virtue hereof.

IN WITNESS WHEREOF, we have hereunto set our hand, this 7 day of October, 1952.

James B. Green
James B. Green

Roy O. Yarbrough Jr
Roy O. Yarbrough

H. A. King
H. A. King

STATE OF OKLAHOMA)
COUNTY OF OKLAHOMA) ss.

Before me, a notary Public, in and for said county and State, on this ____ day of October, 1952, personally appeared H. A. King, to me known to be the identical person who executed the

within and foregoing instrument, and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

Merl Siler
Notary Public

My commission expires: August 6, 1956.

STATE OF NEW MEXICO)
COUNTY OF LEE) ss.

Before me, a Notary Public, in and for said county and State, on this 9th day of October, 1952, personally appeared James B. Green and Roy O. Yarbrough, to me known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their free and voluntary act and deed for the uses and purposes therein set forth.

D M Vaughan
Notary Public

My commission expires: Oct. 24, 1953.

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That,

WHEREAS, the Bear Canyon Mining Company is a limited co-partnership, comprised of DennisE. Green, James B. Green, Roy O. Yarbrough and H. A. King, duly organized and existing under and by virtue of the laws of the State of Arizona, with certificate of co-partnership filed in the office of the County Clerk of Gila County, Arizona, and is engaged in the business of mining and milling asbestos ore, or fiber, and

WHEREAS, a certain Mining Lease of Tribal Indian Lands was made and entered into on the 6th day of October, 1952, by and between the San Carlos Apache Tribal Council of San Carlos, State of Arizona, lessors, and the Bear Canyon Mining Company of Globe, State of Arizona, lessee, covering certain lands in Gila County, State of Arizona, to-wit:

> Mineral Survey No. 3752, of the San Carlos Indian Reservation, more particularly described in said lease,

for a term of five (5) years from and after the date of approval thereof by the Secretary of Interior, and

WHEREAS, the Bear Canyon Mining Company has applied for an exploration loan through the Defense Mineral Emergency Agency of the United States Government, and are desirous of empowering Dennis E. Green, Operator of the Bear Canyon Mining Company, to execute all papers incident or necessary in connection with the application or agreement for said loan;

NOW, THEREFORE, we, the undersigned James B. Green, Roy O. Yarbrough and H. A. King have made, constituted and appointed and by these presents do make, constitute and appoint Dennis E. Green our true and lawful attorney for us and in our name, place and stead, and for the use and benefit of the Bear Canyon Mining Company, the full power and authority to execute said loan papers for an exploration loan or agreement and all papers in connection with said exploration loan with the Defense Mineral Emergency Agency of the United States Government, on our behalf or on behalf of the Bear Canyon Mining Company, giving our said attorney full power to do everything whatsoever requisite and necessary to be done in the premises, as fully as we might do if personally present with full powers of substitution and revocation, hereby ratifying and confirming all that our said attorney shall lawfully do or cause to be done therein by virtue hereof.

7th IN WITNESS WHEREOF, we have hereunto set our hand, this day of October, 1952.

James B. Green
James B. Green

Roy O. Yarbrough Jr
Roy O. Yarbrough

H. A. King
H. A. King

STATE OF OKLAHOMA)
COUNTY OF OKLAHOMA) ss.

Before me, a notary Public, in and for said county and State, on this ____ day of October, 1952, personally appeared H. A. King, to me known to be the identical person who executed the

within and foregoing instrument, and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

Merl Siler
Notary Public

My commission expires: August 6, 1956.

STATE OF NEW MEXICO)
COUNTY OF LEE) ss.

Before me, a Notary Public, in and for said county and State, on this 9th day of October, 1952, personally appeared James B. Green and Roy O. Yarbrough, to me known to be the identical persons who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their free and voluntary act and deed for the uses and purposes therein set forth.

[illegible]
Notary Public

My commission expires: Oct. 24, 1953.

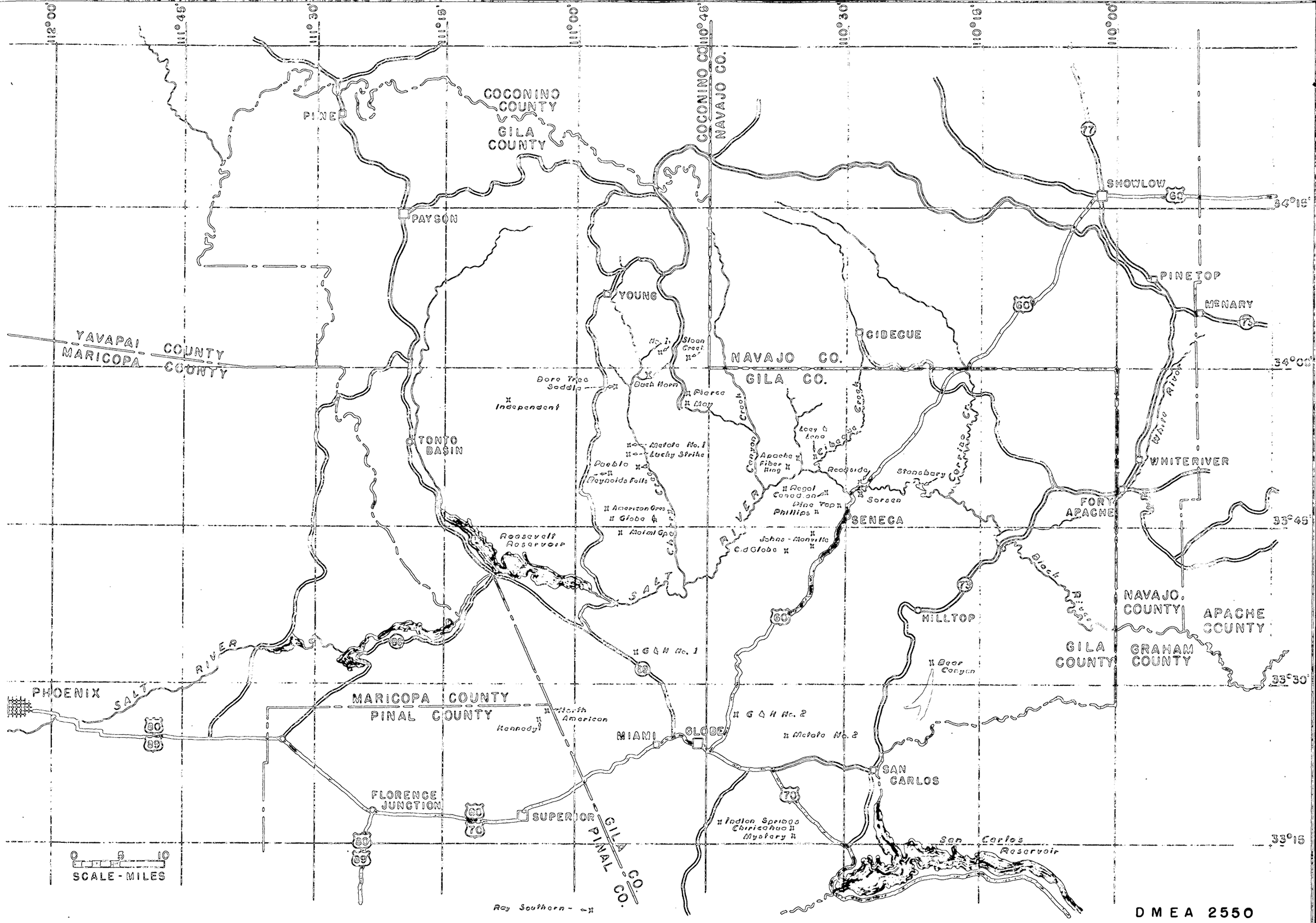


FIGURE 1. - LOCATION MAP - ASBESTOS DEPOSITS - CENTRAL ARIZONA

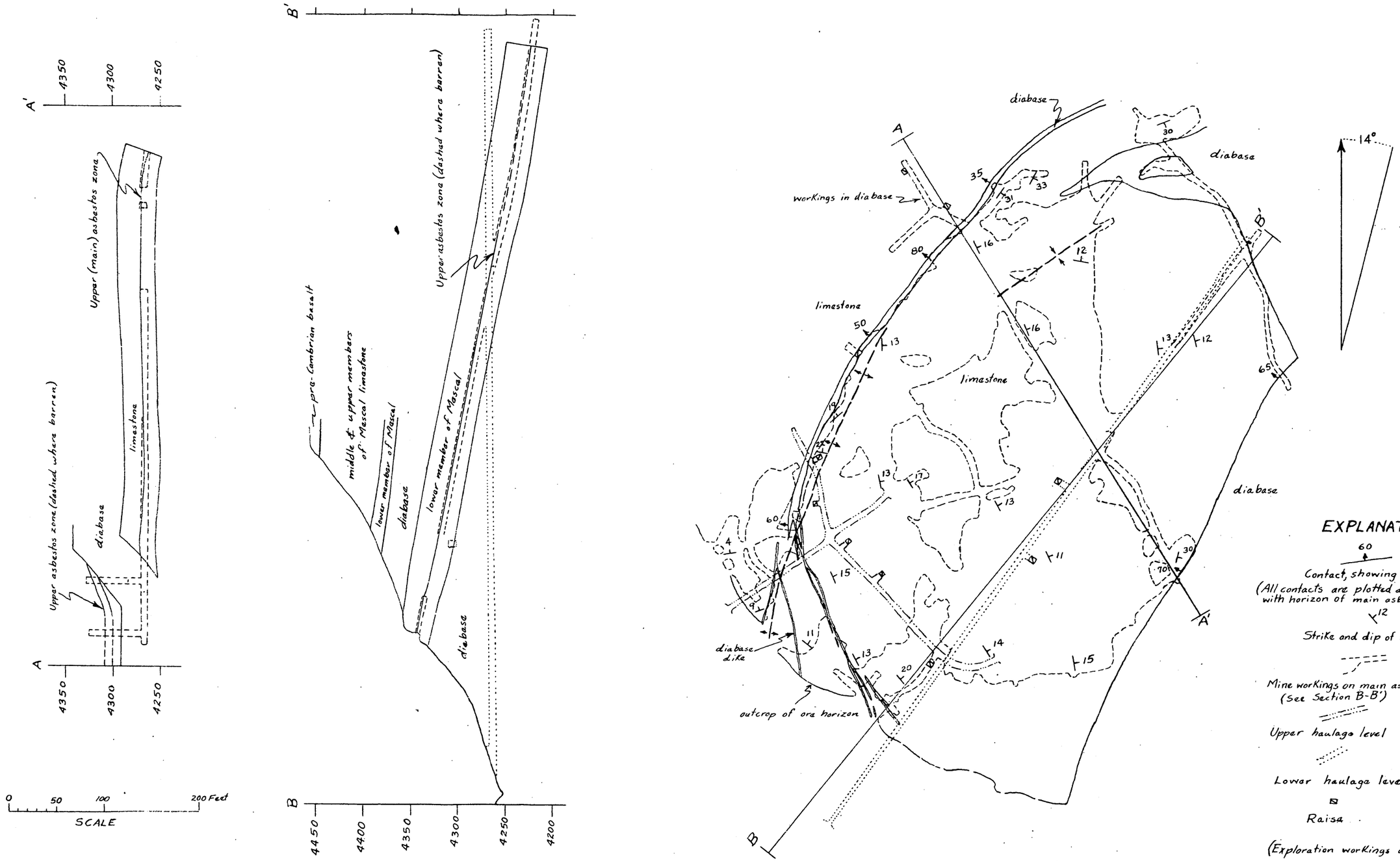


FIGURE 1.- GEOLOGIC MAP AND SECTIONS OF THE BEAR CANYON MINE

DMEA-2550
CONTRACT Idm-E446

terminated down-dip, to the northeast, by a cross-cutting part of the enclosing sills; this contact strikes N. 30° W., approximately parallel to the dike swarm.

Asbestos was concentrated along an arch, which parallels the dike that bounds the northwest side of the block, and adjacent to the fold along which the dike swarm was intruded. Pre-asbestos bedding-plane and thrust faults caused much shattering and preparation of the limestones for mineralization in the vicinity of both of these folds. A lesser concentration of asbestos was deposited in the vicinity of a small syncline in the northwestern part of the block (figure 1). Along the contact which bounds the block on the southeast the limestone was folded and fractured only locally to cause localization of small concentrations of asbestos. The central part of the stoped area included only marginal amounts of asbestos, as evidenced by the pillars left in the old mine workings.

EXPLORATION

Winzing and drifting of original contract

Exploration as set forth in the contract was to be drifts that would test areas in which the limestones might be folded adjacent to the diabase intrusions that bound the limestone block on the northwest and northeast. The end of a 470-foot access incline was to have been the starting point for these drifts. The incline was to be driven almost down the dip of the limestones that are hosts for asbestos. However, because of lack of favorable structure, little asbestos was anticipated in the incline which was positioned for ease of haulage.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 1 7 1952

224 New Customhouse
Denver 2, Colorado

Registered Mail
#54267

November 13, 1952

Memorandum

To: C. O. Mittendorf, Administrator, Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Contract Idm-E446, Docket DMEA-2550, Bear Canyon Mining Company (Asbestos)

Enclosed are the original and two copies of Contract Idm-E446. Copies of this contract have been given to the Operator, the Fiscal Office of Region IV, and a copy has been retained for our files.

W. H. King

W. H. King

Enclosures (3)

cc
11-17

(original teletype in Dmea 2446)

C. O. Mittendorf
11/13/52
Rec'd 1:20 P.M.

C C
O O
P P
Y

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 13 1952

SPECIAL

DN 235 BUREAU MINES 11 - 13 - 52 11 - 20 AM

COMITTENDORF PLS DELIVER IMMEDIATELY SPECIAL SPECIAL

PLEASE ASSIGN NUMBERS FOR THE FOLLOWING CONTRACTS— /1/ DOCKET NUMBER DMEA 2446, BOOMERANG MINING COMPANY, A PARTNERSHIP CONSISTING OF HAROLD C. ANDERSON, FRANK E. WOODWARD AND CHARLES V. WOODWARD, P O BOX 112, GATEWAY, COLORADO, COMMODITY URANIUM, PROPERTY IN GRAND COUNTY, UTAH, CONTRACT DATED NOBXXX NOVEMBER 4, 1952, GOVERNMENT PARTICIPATION $21,705.84, TOTAL AMOUNT OF CONTRACT $24,117.60. /2/ DOCKET NUMBER DMEA 2550, BEAR CANYON MINING COMPANY, A LIMITED CO-PARTNERSHIP, COMPRISED OF DENNIS E. GREEN, JAMES B. GREEN, ROY O. YARBROUGH AND H. A. KING, DULY ORGANIZED AND EXISTING UNDER AND BY VIRTUE OF THE LAWS OF THE STATE OF ARIZONA, P O BOX 1730, GLOBE, ARIZONA, COMMODITY ASBESTOS PROPERTY LOCATED IN GILA COUNTY, ARIZONA, CONTRACT DATED NOVEMBER 13, 1952, GOVERNMENT PARTICIPATION $12,598.00, AMOUNT OF CONTRACT $26,220.00. PLEASE REPLY RETURN TELETYPE. DENNIS GREEN OF THE ARIZONA ASBESTOS PRODUCERS ASSOCIATION IS IN THIS OFFICE AND DESIRES TO TAKE CONTRACT WITH HIM TONIGHT.

W H KING

MIN PLS
IN FOURTH LINE FROM BOTTOM FIGURE SHOULD BE "$23,598.00"
INSTEAD OF "12,598.00"

Denver, Colo.

C C
O O
P P
Y

2446 - 445 90%
2550 - 446 90%

FILE COPY
SURNAME:

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

2971

Houk
Owen 4637

14X3923.970 Working Fund, Interior, Defense Minerals Exploration Administration
October 31, 1952
3:00 P. M.

W. H. King, Executive Officer, DMEA Field Team, Region IV
Bureau of Mines, 224 New Customhouse Bldg., Denver 2, Colorado
DMEA-2550, Bear Canyon Mining Company

Region IV is authorized to waive Owner's Consent to Lien on DMEA-2550, Bear Canyon Mining Company, by striking out "and the Owner's Consent to Lien is attached" in Article 2 (b) of the Contract.

C. O. Mittendorf (for)

P.H. 10-31-52

Administrator
Defense Minerals Exploration
Administration

Confirmation Copy

LGHouk:gad

2071

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

SPECIAL

C. O. Mittendorf
10-31-52
10:30 A.M.
fas

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 31 1952

BUR MINES DN 235 10-31-52

C O MITTENDORF

PLEASE GIVE US AUTHORITY TO WAIVE OWNER,S CONSENT TO LIEN ON CONTRACT COVERING DOCKET DMEA 2550, BEAR CANYON MINING COMPANY, COMMODITY ASBESTOS, PROPERTY LOCATED ON SAN CARLOS APAHCE RESERVATION. D. E. GREEN, PRESIDENT ARIEONA ASBESTOS PRODUCERS ASSOCIATION WILL ARRIVE IN THIS OFFICETODAY WITH APPROVED LEASE IN ORDER TO EXPEDITE PROCESSING CONTRACT. PLEASE ADVISE RETURN TELETYPE.

W H KING

LAST MS PLS DELIVER IMMEDIATELY THKS

Denver, Colo.

OCT 31 10 36 AM '52

BUREAU OF MINES
MAIL ROOM
WASHINGTON, D.C.

IN REPLY REFER TO:

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

Bureau of Indian Affairs

H. F. Larkin
3061 4448

1432201 1861.2 Resources, Land, Bureau of Indian Affairs
October 30, 1952

Mr. Ralph M. Gelvin, Area Director, 3508 North 7th Street, Phoenix, Arizona

Reurtel 28. Have been informally advised by Defense Minerals Production Administration that Bear Canyon Mining Company/desires proposed asbestos lease be effective immediately and not await expiration existing lease. If you agree this action desirable and no delinquencies you are authorized accept surrender existing lease pursuant terms Section 7 and approve new lease to Bear Canyon subject to compliance with provisions of regulations Part 186 regarding surrender and approval leases, and also obtaining prior recommendation Mining Supervisor and Area Counsel exact language to include in royalty provisions. Term of lease not to exceed beyond

IN REPLY REFER TO:

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

5 years. Letter follows advising you disposition copies lease and bond.

(Sgd) E. J. UTZ
Assistant Commissioner

Copy to: Mr. R. H. Allport, District Mining Supervisor
Geological Survey
P. O. Box 829
Carlsbad, New Mexico

Mr. Houk
Room 4637
Interior Building
Washington, D. C.

2

BUREAU OF MINES
WASHINGTON, D. C.

OCT 31 1 50 PM '52

FILE COPY
SURNAME:

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

Hearne
Houk
Holland
Johnson
Lemmon
Miller

SEP 2 1952

Mr. V. H. King
Executive Officer, DMEA
Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Subject: Docket No. DMEA-2550 - Asbestos
Bear Canyon Mining Company
Gila County, Arizona

Dear Mr. King:

Receipt of your two memoranda of August 13, 1952, regarding the above application is acknowledged.

You are advised that the DMEA is authorized to waive "Owner's Consent to Lien" on Indian lands. The applicant's lease must be for a minimum of four years, preferably five. It is suggested in this case that the applicant obtain a renewal of his lease, explaining his situation to the San Carlos Indian Council.

Sincerely yours,

C. O. Mittendorf (for) 9-2-52

Acting Administrator

LFHearne:gad 8/26/52

Copy to: Admin. Reading File
Docket File
Mr. Morton, G-232 GSA Bldg.
Dr. Bowles, 3510
Mr. Houk

IN REPLY REFER TO:

G-MD-CNM

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

Memorandum August 27, 1952

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA 2550 (Asbestos).

To: L. W. Houk, Defense Minerals Exploration Administration

From: P. L. Weis, U. S. Geological Survey

Applicant: Bear Canyon Mining Company

Name of property: Bear Canyon Mine

Location of property: Gila County, Arizona

Date of field team report: July, 1952

Authorship of field team report: L. A. Stewart and A. F. Shride

Field team's recommendation: To grant a loan of $26,220 to allow the excavation of 920 feet of exploratory drifting.

Action suggested: In view of the fact that it is impossible to obtain a lease for longer than 5 years on any property on the San Carlos Indian Reservation, DMEA should determine whether (1) it is possible to change DMEA regulations to include properties covered by only a 5 year lease, (2) future policy in this promising asbestos area should be modified in order to make a loan legal in the area, and (3) take action on this application appropriate with (1) and (2) above.

Paul L. Weis

Paul L. Weis

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

224 New Customhouse
Denver 2, Colorado

August 13, 1952

Memorandum

To: C. O. Mittendorf, Acting Administrator
Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2550 (Asbestos), Bear Canyon Mining Company, Gila County, Arizona

The subject property is on the San Carlos Indian Reservation and the tribal council has no authority to sign the Owner's Consent to Lien, Form MF-203, or to grant leases for periods longer than five years.

Reference is made to memorandum dated July 10, 1952, from the Chief Counsel to the Acting Administrator, DMEA, regarding a similar situation involving DMEA 1776X.

Please advise if there is any possibility of obtaining a waiver so that a contract may be prepared or if we should prepare a letter of denial to the applicant.

W. H. King

W. H. King

AUG 21 1952

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

224 New Customhouse
Denver 2, Colorado

August 13, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 210

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2550 (Asbestos), Bear Canyon Mining Company, Gila County, Arizona

Enclosed are the original and three copies of the final report on DMEA 2550.

We recommend that an exploration loan in the amount of $26,220, Government participation $23,598, be granted. However, the San Carlos Indian Council does not have authority to sign Owner's Consent to Lien, Form MF-203, or to grant leases for periods longer than five years.

The applicant's present lease will expire in about one year, but he believes he can obtain a five year renewal. However, there is no guarantee that this renewal will be forthcoming.

We are holding the contract in abeyance pending completion of satisfactory arrangements.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 21 1952

Enclosures

FILE COPY
SURNAME:

Houk
Mittendorf

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

JUL 2 1952

Hon. Ernest W. McFarland

United States Senate

My dear Senator McFarland:

Reference is made to your letter of June 26, 1952, requesting information on the following applications:

Bear Canyon Mining Company	DMA-2550
Metate Asbestos Corporation	DMA-2005
Apache Asbestos Mine	DMA-2384
D. W. Jaquays Mining Company	DMA-2338

All of the above applications are being processed by the Denver office of the Defense Minerals Exploration Administration, Region IV, under delegation of authority. On June 30th that office informed us regarding these applications as follows:

Bear Canyon Mining Company, DMA-2550 - application for $35,000. A Field Team examination will be made on this property as soon as possible.

Metate Asbestos Corporation, DMA-2005 - application for $150,760. The Denver staff and the applicant have been attempting to work out a mutually agreeable exploration assistance program.

Apache Asbestos Mine, DMA-2384 - application for $24,616.49. The applicant has exposed some good grade asbestos and we wants report be held up until August 1 as he may decide to cancel loan application.

D. W. Jaquays Mining Company, DMA-2338 - application for $16,220. Final Field Team Report expected in Denver this week.

For further detail on these projects, it is suggested you contact the Denver Office of the Defense Minerals Exploration Administration, attention Mr. W. H. King, Bureau of Mines, 224 New Customhouse Building, Denver 2, Colorado.

Sincerely yours,

C. O. Mittendorf (for)

Acting Administrator
Defense Minerals Exploration
Administration

7/2

LOHouk:gad 6/1/52
Copy to: Admin. Reading File
Dr. Bowles, 3522
Mr. Norton, G-232 GSA Bldg.
Operating Committee
Field Team, Region IV
Docket File
Mr. Houk

ERNEST W. McFARLAND
ARIZONA

United States Senate
Office of the Majority Leader
Washington, D. C.

June 26, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 30 1951

Mr. C. O. Mittendorf
Acting Administrator
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Mittendorf:

I am advised that several asbestos producers in Arizona have applications for loans under active consideration of your agency. I would greatly appreciate receiving any information available on the following applications:

2550 Bear Canyon Mining Company Being processed Reg IV
DMEA-2005 Metate Asbestos Corporation Being processed Reg IV (East)
2384 Apache Asbestos Mine Being processed Reg IV
2338 D. W. Jaquays Mining Company

Processed in Reg IV

Very sincerely yours,

Ernest W. McFarland

Ernest W. McFarland

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

224 New Customhouse
Denver 2, Colorado

May 23, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration - Attention: Code 210

From: Executive Officer, Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate are DMA Forms 3a and Forms MF-100 and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work.

DMEA-2548 Robitsch & Brewster
P. O. Box 232
Ouray, Colorado

DMEA-2549 Earnest Vanderhoff, Agent
234 South Knox Court
Denver, Colorado

DMEA-2550 Bear Canyon Mining Co.
Box 1730
Globe, Arizona

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 26 1952

W. H. King
W. H. King

Returned to Region IV - DMEA-2548 - One copy each of MF-103 and 100 with attachments and 1 map.
DMEA-2549 - One copy each of MF-103 & 100 with attachments and 1 map.
DMEA-2550 - One copy each MF-103 and 100 with attachments.

Box 54
Young, Arizona
April 30, 1952

Mr. Dennis E. Green, Gen. Mgr.
Bear Canyon Mining Company
Box 1730
Globe, Arizona

Dear Mr. Green;

Enclosed is a brief report on the Bear Canyon Mine with recommendations for a development program.

This program has been divided into two stages, the first to consist of diamond drilling to determine the outline of the three possible ore blocks, and the second, the development of the block of ore below the haulage drift by an inclined drift.

To do this work it will be necessary to secure at least 210 cubic feet more compressor capacity and a tugger hoist. It will be cheaper for the Company to contract the diamond drilling.

It is estimated that 1,177 feet of diamond drilling will cost $13,516.00, and 330 feet of incline another $9,784.55, making a total direct cost of $23,300.55. Supervision and contingencies will raise this total to $25,000.00. This program should develope 7,100 tons of ore.

The minimum time estimated to complete this program is 7.5 months, the maximum time is estimated to be 12 months.

Respectfully submitted,

L. J. Brewer

L. J. Brewer

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1

MF-103 Should Be Filed With General Technical Data Form MF-100

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

Not To Be Filled in by Applicant

Docket No. DMEA-2550
Metal or Mineral
Date Received 5-26-52
Amount $
Participation (Government %)

Bear Canyon Mining Company
Box 1730
Globe, Arizona

Name and address of applicant

Date May 1, 1952

If you have already filed MF-100, give date filed ....., type of assistance requested .....,

DMA Docket Number (if available) .....

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

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

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

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

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

DEPARTMENT OF THE INTERIOR
MAY 26 1952

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

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

CERTIFICATION

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

Bear Canyon Mining Co (Name of company) By D. G. Green (Signature of authorized official)

5 13 52 (Date) Operator (Title)

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

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

Bear Canyon Mining Company
Box 1730
Globe, Arizona.

Form MF 103

1. (a) The real property involved in the exploration project consists only the mine proper, which is known as the Bear Canyon Mine.

(b) Leased, copy enclosed.

(c) The claims on which the mine is located are located in Section 1, Township 2N, Range 18 East, and Section 36, Township 3N, Range 18E.

2. (a) Chrysotile asbestos is the only commercial mineral found on the property.

(b) A geological report is enclosed with the application.

3. (a) Work to consist of 1,177 feet of diamond drilling, and 330 feet of 8'x 8' inclined drift. Total cost estimated to be $25,000.00 See enclosed report for detail.

(b) The program can be started within one month, and completed 12 months after starting.

4. Report enclosed.

5. On the property there are three bunkhouses, cookshack, washroom, and shop, that are in good condition, and ample space is available for the extra men needed to do the proposed work.

7. (a) A 210 cubic foot compressor, and a tugger hoist is to be rented. Diamond drilling to be contracted.

(b) None.

(c) The Company will furnish machine, hose, steel, and mine cars to drive the drift. Normal depreciation and repairs have been taken into consideration in the cost of the project.

8. For the project the only labor will be 1 miner at $12.00 per shift, and 3 muckers at $10.00 per shift. Supervision and engineering work for the project estimated at $140.00 per month, or $1,700.00 during the life of the project.

9. Compressor and tugger rent $3,420.00; gas and oil for compressor $1,802.00; powder, caps, and fuse $1,402.50; pipe $247.00; rail, fishplates, and spikes $231.00; Detachable bits $165.00; Repairs and depreciation of machine and hose $148.00; Breakage of drill steel $330.00.

10. (a) $2,500.00

(b) Yes.

11. None.

Form MF-100
(May 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA FOR USE UNDER THE DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMEA-2550

Date received 5-26-52

Bear Canyon Mining Company
Box 1730
Globe, Arizona

Name and address of applicant

Date May 1, 1952

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 26 1952

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
D.E. GREEN	PARTNER						
PO BOX 1730, GLOBE ARIZ							
J. B GREEN	PARTNER						
HOBBS N.M.							
ROY VARBROUGH	PARTNER						
HOBBS N.M.							
H. A. KING	PARTNER						
OKLAHOMA CITY, OKLA	TOTAL		X X X X X			X X X X X	X X X X X

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, ~~long, metric~~ tons; ~~barrels, pounds, etc.~~)	Asbestos Ore	NONE	300	220	30
2. Quantity of product processed (specify unit of measure and type of process)	Fiber	NONE	16 Tons fiber	55 Tons fiber	15 Tons fiber
3. Quantity and grade of product sold or shipped (specify units of measure)	Fiber	NONE	10% No 1 10% No 2 80% No 3	10% No 1 10% No 2 80% No 3	10% No 1 10% No 2 80% No 3

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

Bear Canyon Mining Company
Box 1730
Globe, Arizona

Form MF - 100

1. (a) The chief mine and mill products are crude No. 1 and No. 2 chrysotile asbestos, and simi-fiberized No. 3 fiber.
   (b) There are no byproducts.

2. The name of the property is the Bear Canyon Mine. A plan of the underground workings is being sent along with a report on the property.
   (a) There are no shafts on the property.
   (b) There are 1855 feet of drifts and crosscuts.
   (c) Included in (b)
   (d) There are 9 raises totaling 195 feet, and 1 winze of 30 feet. The mine is dry.

3. (a) Globe, Arizona is the nearest shipping point, and is 42 miles southwest of the mine.
   (b) The mine is on the San Carlos Indian Reservation, and the ground is not open for location.
   (c) The claims are in Section1, Township 2 N, Range 18 E, and Section 36, Township 3 N, Range 18 E.
   (d) Gila County, Arizona

4. (a) The property is being operated by the Bear Canyon Mining Company, Dennis E. Green, General Manager.
   (b) The property is leased from the San Carlos Indian Tribe.

5. The property has been operated for the past 4 years by the same group of owners.

6. Have been connected with Bear Canyon Mine for past two years, but only since January 1, as operator.

7. (a) Property was opened and operated for a number of years by Keasby & Mattison. Operations were suspended when the fiber no longer meet their requirements.
   (b) There are no other asbestos properties near the mine.
   (c) A report with recommendations is enclosed.

8. See form MF 100

9. See form MF 100

10. See form MF 100

11. Intentions are to double production by operating the mill another shift. On a two shift basis the mill will treat 60 to 100 tons of hand cobbed and sorted per month

12. (a) See enclosed report for description.
(b) 1. Measured Ore.

At northern end of sope area, east wall, 55 feet back from face:

32.3' long x 10' wide x 6.0' heigh = 1938 cubic feet.

$\frac{1938}{12.9}$ = 150 tons of ore.

2. Indicated Ore.

Same location, but extending width of ore zone an additional 20 feet into wall.

32.3' long x 20' wide x 6' heigh = 2,870 cubic feet.

$\frac{2,870}{12.9}$ = 300 tons of ore.

13. 42 Miles to Globe, the shipping and supply point. 34 Miles of this road is poor secondary road. 8 Miles pavement. Residence are at the mine.

14. Water for the camp is secured from a spring that makes 10 to 15 gallons per minute. No water is used for milling.

15. Power for the mill consists of a 60 HP Diesel, and a 30 HP gasoline engine. Power for the mine is a 45 HP gasoline compressor, and a 2 KW gasoline light plant.

16. Labor is by Mexicans and Indians. Crew consists of;

2 miners
6 muckers
4 millmen
1 cook
13

17. 3 Bunkhouses, cookshack, washroom, and shop, are ample for the extra work considered. It will be necessary to secure a 210 cubic foot compressor, and a tugger hoist for the work planned. Diamond drilling to be contracted.

18. No.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)	150	10%	$48.00	$48.00	$40.00
Indicated (probable)	300	10%	$48.00	$48.00	$40.00

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

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

Bear Canyon Mining Co.
(Name of company)

By D. K. Green
(Signature of authorized official)

5 13 52
(Date)

operator
(Title)

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

U. S. GOVERNMENT PRINTING OFFICE 16—63792-1

Report of Examination of the Bear Canyon Mine
San Carlos Indian Reservation, Gila County, Arizona

General:

Ore reserves of the mine are seriously depleted, and it is imperative that an intensive development program be instigated as soon as possible.

The northeast extension of the ore body offers the best possibilities for a quick return on invested capital. Thirteen diamond drill holes in this area should outline over 4,000 tons of ore. It is believed that this is a conservative estimate as the width of the vein was calculated as two feet. To the west of this area, the Company is mining an ore lense that ranges from four to five feet wide.

Two other areas along the western wall of the stope should be investigated. The southern block lies on the western flank of an arch that strikes along the stope wall. The eastern flank of this arch has been a large productive area.

In the northern block, indications are that the two ore horizons have been split by a diabase sill. The upper ore horizon has been the most productive, and should be investigated by diamond drilling.

Six diamond drill holes in these two areas will determine if the ore zone extends to the west, and may outline some 2,600 additional tons of ore. It is my opinion that the nineteen diamond drill holes plotted on the plan of the mine will secure for the Company the maximum amount of information at a minimum cost.

Geology:

Productive workings of the Bear Canyon Mine are confined to a 50 foot strata of the Mescal limestone. This strata lies between two diabase sills, and dips steeply into the mesa. The beds have a general strike of N 15°W, and dip 12° to the east.

Section A - A' is an ideal section along the long axis of the ore body. At the northern extremity of the section there is an abrupt change in the dip of the beds. This change in dip is attributed to a roll in the lower diabase sill. A line of weakness was formed along the strike of this roll and a final emination from the intrusive invaded this weak point. This structure has been cut at two points, one resembles a dike and the other a sill. It is believed that the strike of the roll continues to the northeast, and to the north of the proposed drilling in Block No. 1. Only one ore horizon was found on the northern side of the structure. It is believed that the upper ore horizon lies 4 to 8 feet above the back of the drift.

Report of Examination of the Bear Canyon Mine
San Carlos Indian Reservation, Gila County, Arizona

General:

The reserves of the mine are seriously depleted, and it is imperative that an intensive development program be instituted as soon as possible.

The northeast extension of the ore body offers the best possibilities for a quick return on invested capital. Fifteen diamond drill holes in this area should outline over 4,000 tons of ore. It is believed that this is a conservative estimate as the width of the vein was calculated as two feet. To the west of this area, the Company is mining an ore lense that ranges from four to five feet wide.

Two other areas along the western slope should be investigated. The southern block lies on the western flank of an arch that strikes along the slope well. The eastern flank of this arch has been a large productive area.

In the northern block, indications are that the two ore horizons have been split by a diabase sill. The upper ore horizon has been the most productive, and should be investigated by diamond drilling.

Six diamond drill holes in these two areas will determine if the ore zone extends to the west, and may outline some 2,000 additional tons of ore. It is my opinion that the nineteen diamond drill holes plotted on the plan of the mine will secure for the Company the maximum amount of information at a minimum cost.

Geology:

Productive workings of the Bear Canyon Mine are confined to a 50 foot strata of the Mescal Limestone. This strata lies between two diabase sills, and dips steeply into the mass. The beds have a general strike of N 15°W, and dip 12° to the east.

Section A - A' is an ideal section along the long axis of the ore body. At the northern extremity of the section there is an abrupt change in the dip of the beds. This change in dip is attributed to a roll in the lower diabase sill. A line of weakness was formed along the strike of this roll and a final emination from the intrusive invaded this weak point. This structure has been cut at two points, one resembles a dike and the other a sill. It is believed that the strike of the roll continues to the northeast, and to the north of the proposed drilling in Block No. 1. Only one ore horizon was found on the northern side of the structure. It is believed that the upper ore horizon lies 4 to 8 feet above the back of the drift.

The eastern boundary of the ore body has not been definitely determined. The eastern drift on the lower haulage level cut what appears to be a diabase dike at the end of the drift. No other diabase was observed along the eastern stope wall.

Pronounced arching of the limestone beds was observed along the western wall of the stope, see Section C - C'. This opens the possibility of discovering more ore on the western flank of this arch. This possibility has been strengthened by the recent mining of a small lense of ore found at the southwestern end of the old stope line. The arching gradually dies out to the north. Past this point a series of small lenses of diabase have intruded the limestone bedding planes between the two ore horizons. The intrusives are thicker to the north. Section B - B' shows the extent of deformation in this locality. Ore containing a high percentage of No. 1 fiber was observed along the stope wall, above the intrusive. A winze in the floor of the haulage drift, and a raise in the same drift, shows the sill to be over 20 feet in thickness.

Two ore horizons have been mined in the stope area. These horizons are separated by 6 to 9 feet of limestone that dips 12° to the east. The area has been mined by carrying the upper horizon in the back and the lower in the floor of the stope. The upper vein is the stronger and more consistant. The lower horizon tends to form ore in small lenses. Many local variations in dip and strike of the ore beds were observed.

The best ore zone occurs near the diabase intrusive at the northern end of the stope. In this locality the ore zone reaches a maximum width of five feet, with at least 12 inches of this zone being fiber. No. 1 fiber, up to four inches in length is abundant in this area.

The mine has been developed by two haulage drifts. Drifts were run on grade and intersected the ore horizons at 200 and 450 from their portals. Both of these drifts are in the lower diabase sill.

The eastern boundary of the ore body has not been definitely determined. The eastern drift on the lower haulage level cut what appears to be a diabase dike at the end of the drift. No other diabase was observed along the eastern stope wall.

Pronounced arching of the limestone beds was observed along the western wall of the stope, see Section C - C'. This opens the possibility of discovering more ore on the western flank of this arch. This possibility has been strengthened by the recent mining of a small lense of ore found at the southwestern end of the old stope line. The arching gradually dies out to the north. Just this point a series of small lenses of diabase have intruded the limestone bedding planes between the two ore horizons. The intrusives are thicker to the north. Section B - B' shows the extent of deformation in this locality. Ore constituting a high percentage of No. 1 fiber was observed along the stope wall, above the intrusive. A winze in the floor of the haulage drift, and a raise in the same drift, shows the sill to be over 20 feet in thickness.

Two ore horizons have been mined in the stope area. These horizons are separated by 6 to 9 feet of limestone that dips 12° to the east. The area has been mined by carrying the upper horizon in the back and the lower in the floor of the stope. The upper vein is the stronger and more consistent. The lower horizon tends to form ore in small lenses. Many local variations in dip and strike of the ore beds were observed.

The best ore zone occurs near the diabase intrusive at the northern end of the stope. In this locality the ore zone reaches a maximum width of five feet, with at least 12 inches of this zone being fiber. No. 1 fiber, up to four inches in length is abundant in this area.

The mine has been developed by two haulage drifts. Drifts were run on grade and intersected the ore horizons at 200 and 270 from their portals. Both of these drifts are in the lower diabase sill.

DIAMOND DRILLING

Block No. 1

Block is in haulage drift ahead, and above, stoped area. Dip of beds in stoped area averages 12° north.

Station is in face and is 225 feet north of point where upper ore horizon disappears into floor.

Hole No. 1

At station in Face - To cut ore horizons 50 feet north of face.

225 plus 50 = 275 feet

Sin 12° = 0.208

275 x 0.208 = 57.2 feet below haulage level.

$$\text{Tan} = \frac{57.2}{50} = 1.15 = 49°, \text{ Sin } 49° = 0.755$$

Length of hole $\frac{275 \times 0.208}{0.755}$ = 76.0 feet plus 17 feet to cut lower zone.

TOTAL 93.0 feet.

BEARING N 34°E, Dip -49°

Hole No. 2

At station in Face - To cut ore horizons directly below.

225 x 0.208 = 46.8 feet plus 10 feet to cut lower zone.

TOTAL 57.0 feet.

VERTICAL HOLE

Hole No. 3

At station in Face - To cut ore horizons 50 feet west of drift.

$$\text{Tan} = \frac{46.8}{50} = 0.938 = 43°, \text{ Sin } 43° = 0.682$$

$\frac{225 \times 0.208}{0.682}$ = 68.8 feet plus 15 feet to cut lower zone.

TOTAL 84.0 feet.

BEARING N 56°W, Dip -43°W

Hole No. 4

At station in Face - To cut ore horizons 50 feet east of drift.

$$\text{Tan} = \frac{46.8}{50} = 0.938 = 43°, \text{ Sin } 43° = 0.682$$

$\frac{225 \times 0.208}{0.682}$ = 68.8 feet plus 15 feet to cut lower zone.

TOTAL 84.0 feet.

BEARING S 56°E, Dip -43°E

Hole No. 5

50 feet south of Face - To cut ore horizons directly below.

175 x 0.208 = 36.4 feet plus 10 feet to cut lower zone.

TOTAL 46.0 feet.

VERTICAL HOLE

Hole No. 6

50 feet south of Face - To cut ore horizons 50 feet west of drift.

$$\text{Tan} = \frac{36.4}{50} = 0.728 = 36°, \text{ Sin } 36° = 0.588$$

$$\frac{175 \times 0.208}{0.588} = 62.0 \text{ feet plus 15 feet to cut lower zone.}$$

TOTAL 77.0 feet.

BEARING N 56°W, Dip - 36°W

Hole No. 7

50 feet south of Face - To cut ore horizon 50 feet east of drift.

$$\text{Tan} = \frac{36.4}{50} = 0.728 = 36°, \text{ Sin } 36° = 0.588$$

$$\frac{175 \times 0.208}{0.588} = 62.0 \text{ feet plus 15 feet to cut lower zone.}$$

TOTAL 77.0 feet.

BEARING S 56°E, Dip -36°E

Hole No. 8

100 feet south of Face - To cut ore horizons directly below.
125 x 0.208 = 26.0 feet plus 10 feet to cut lower zone.

TOTAL 36.0 feet.

VERTICAL HOLE

Hole No. 9

100 feet south of face - To cut ore horizons 50 feet west of drift.

$$\text{Tan} = \frac{26.0}{50} = 0.520 = 27°\text{-}30', \text{ Sin } 27°\text{-}30' = 0.462$$

$$\frac{125 \times 0.208}{0.462} = 56.2 \text{ feet plus 15 feet to cut lower zone.}$$

TOTAL 71.0 feet.

BEARING N 56°W, Dip -27°-30'W.

Hole No. 10

100 feet south of Face - To cut ore horizons east of drift.

$$\text{Tan} = \frac{26.0}{50} = 0.520 = 27°\text{-}30', \text{ Sin } 27°\text{-}30' = 0.462$$

$$\frac{125 \times 0.208}{0.462} = 56.2 \text{ feet plus 15 feet to cut lower zone.}$$

TOTAL 71.0 feet.

BEARING S 56°E, Dip - 27°-30'E

Hole No. 11

150 feet south of Face - To cut ore horizons directly below.
75 x 0.208 = 16.6 feet plus 10 feet to cut lower zone.

TOTAL 27.0 feet.

VERTICAL HOLE

Hole No. 12

150 feet south of face - To cut ore horizons 50 feet west of drift.

$$\text{Tan} = \frac{16.6}{50} = 0.332 = 18°\text{-}30', \text{ Sin } 18°\text{-}30' = 0.317$$

$$\frac{75 \times 0.208}{0.317} = 51.3 \text{ feet plus 15 feet to cut lower zone.}$$

TOTAL 66.0 feet.

BEARING N 56°W, Dip -18°-30'W

Hole No. 13

150 feet south of Face - To cut ore horizons 50 feet east of drift.

$$\text{Tan} = \frac{16.6}{50} = 0.332 = 18°\text{-}30', \text{ Sin } 18°\text{-}30' = 0.317$$

$$\frac{75 \times 0.208}{0.317} = 51.3 \text{ feet plus 15 feet to cut lower zone.}$$

TOTAL 66.0 feet.

BEARING S 56°E, Dip -18°-30'W

South of this station the vertical angles will be too small for effective drilling of the zone below.

Total diamond drill footage to develop this block is calculated to be 855.0 feet.

The haulage drift will average 4' x 6' in section. It will be necessary to enlarge the section at the four stations in this drift to a minimum of 10'x 10'x 3', in order to drill the above holes. It is estimated that the cost for drilling, blasting, and cleaning each of these sections will be $75.00, a total of $300.00.

CALCULATED TONNAGE EXPECTED

315 x 50 =	15,750	square feet
256 x 50 =	12,800	square feet
Total	28,550	square feet

Disregarding any ore found in the lower horizon and assuming the average width of the upper ore horizon to be 2.0 feet;

$$\frac{28,550 \times 2}{12.9} = 4,420 \text{ tons of ore.}$$

Block No. 2

This block is west of the stope line and above the upper haulage level.

Dip of the stoped area averages 12°.

The vertical distance from the back of the haulage level to the upper ore horizon is 22.0 feet.

Hole No. 14

Station in Face of haulage drift - To cut ore horizons west of Face.

$$\text{Tan} = \frac{22.0}{50} = 0.440 = 24°, \text{ Sin } 24° = 0.407$$

$$\frac{22.0}{0.407} = \underline{54.0 \text{ feet}} \text{ (Along strike of beds)}$$

BEARING N 54°W, Dip Plus 24°W

Hole No. 15

Station in Face of haulage drift - To cut ore horizons west of face. Beds dipping down toward hole.

Sin 12° = 0.208

22.0 x 0.208 = 4.6 feet. 22.0 - 4.6 = 17.4 feet

$$\text{Tan} = \frac{17.4}{50} = 0.348 = 19°, \text{ Sin } 19° = 0.326$$

$$\frac{17.4}{0.326} = \underline{53.4 \text{ feet}}.$$

BEARING N 10°E, Dip Plus 19°N

Total footage necessary to develop e Block No. 2 is 108 feet. Estimated cost for enlarging drift to 10'x 10'x 3' for diamond drill station is $125.00.

CALCULATED TONNAGE EXPECTED

$65 \times \frac{40}{2} = 1,300$ square feet
$35 \times \frac{40}{2} = 700$ square feet
$42 \times \frac{30}{2} = 630$ square feet
$33 \times 40 = 1,320$ square feet
$43 \times 39 = 1,677$ square feet
Total 5,627 square feet

$$\frac{5,627 \times 2.0}{12.9} = 872 \text{ tons of ore.}$$

Block No. 3

Block is above main haulage drift at the northwest end of the stoped area. In this area a sill has split the two ore horizons, and has changed the normal dip of the beds from 12° to 0°. The upper horizon is above the sill and the lower horizon is below the sill. Measured distance from the back of the drift to the upper ore horizon was 19.0 feet.

(See following page Hole No. 16)

Hole No. 17

At station in west face of haulage drift. To cut upper ore horizon west of station.

$$\text{Tan} = \frac{19.0}{50} = 0.380 = 21°, \text{ Sin } 21° = 0.356$$

$$\frac{19.0}{0.356} = \underline{53.5 \text{ feet.}}$$

BEARING N 49°W, Dip Plus 21°W

Second station 62.0 feet northeast of face in same drift.

Hole No. 16

At station in west face of haulage drift - To cut upper horizon west of station.

$$\text{Tan} = \frac{19}{50} = 0.380 = 21°, \text{ Sin } 21° = 0.356$$

$$\frac{19.0}{0.356} = \underline{53.5 \text{ feet.}}$$

BEARING S 44°W. Dip plus 21°W

Hole No. 18

At second station - To cut upper horizon west of drift.

$$\text{Tan} = \frac{19}{50} = 0.380 = 21°, \text{ Sin } 21° = 0.356$$

$$\frac{19.0}{0.356} = \underline{53.5 \text{ feet.}}$$

BEARING N 40°W, Dip Plus 21°W

Hole No. 19

At second station - To cut upper ore horizon north of drift.

$$\text{Tan} = \frac{19}{50} = 0.380 = 21°, \text{ Sin } 21° = 0.356$$

$$\frac{19.0}{0.356} = \underline{53.5 \text{ feet.}}$$

BEARING N 42°E, Dip Plus 21°N

Total footage to develope Block No. 3 , 214.0 feet.
Cost of enlarging two stations to a 10'x 10'x 3' section $150.00.

CALCULATED TONNAGE EXPECTED

4 x 75 = 300

$45 \times \frac{40}{2} = 900$

45 x 13 = 585
153 x 32 = 4,896
75 x 54 = 4,050

$52 \times \frac{38}{2} = 988$

Total 11,719 square feet.

$$\frac{11,719 \times 2}{12.9} = 1,817 \text{ tons ore.}$$

COST ESTIMATION OF DIAMOND DRILLING

The company will have to rent or buy another 210 cubic foot compressor to expand operations. Rental for a machine of this capacity is $285.00 per month. Gasoline and oil consumption per shift will be approximately $6.20 per day. Estimated cost for contract drilling for a project of this size is $10.00 per foot.

SUMMARY OF DIAMOND DRILLING

Block	Footage	Cost of Drilling	Slabbing	Total Cost	Tonnage
1	855.0	$8,550.00	$300.00	$8,850.00	4,420
2	108.0	$1,080.00	$125.00	$1,205.00	872
3	214.0	$2,140.00	$150.00	$2,290.00	1,817
Total	1,177.0	$11,770.00	$575.00	$12,345.00	7,109
			Rent Compressor	755.00	
			Fuel and oil	416.00	
				$13,516.00	

ESTIMATED TIME FOR DRILLING

BASIS:

25 Work days per month
25 Feet of hole per shift (1,177 feet / 25 = 48 days)
1 Day moveing from station to station (7 Stations)
10 Days installing pipe, track, and slabbing drifts for stations in haulage drifts.

Drilling	48 shifts
Moveing	7 shifts
Slabbing	10 shifts
TOTAL . . .	65 shifts

MINIMUM TIME 3 MONTHS FROM START OF PROGRAM TO COMPLETE DRILLING

SECOND STAGE

Driving 8'x8' haulage drift on the dip of the beds (12°). This haulage drift is to be used for extracting any ore drilled in Block No. 1. Drift to be carried on line and grade, and the muck to be pulled up the incline by a single drum tugger. This proposed drift to be located after the information from the diamond drill holes is evaluated.

The size of the haulage drift seems excessive, but it must be remembered that there are two ore horizons, and the diamond drilling may prove up both of them. One horizon would be carried in the back and the other in the floor of the drift.

Length of proposed drift 330 feet. To reach northern drill hole.

Estimated rate of advance, 3 feet per day. Two men per shift, two shifts per day. 110 Working days to complete.

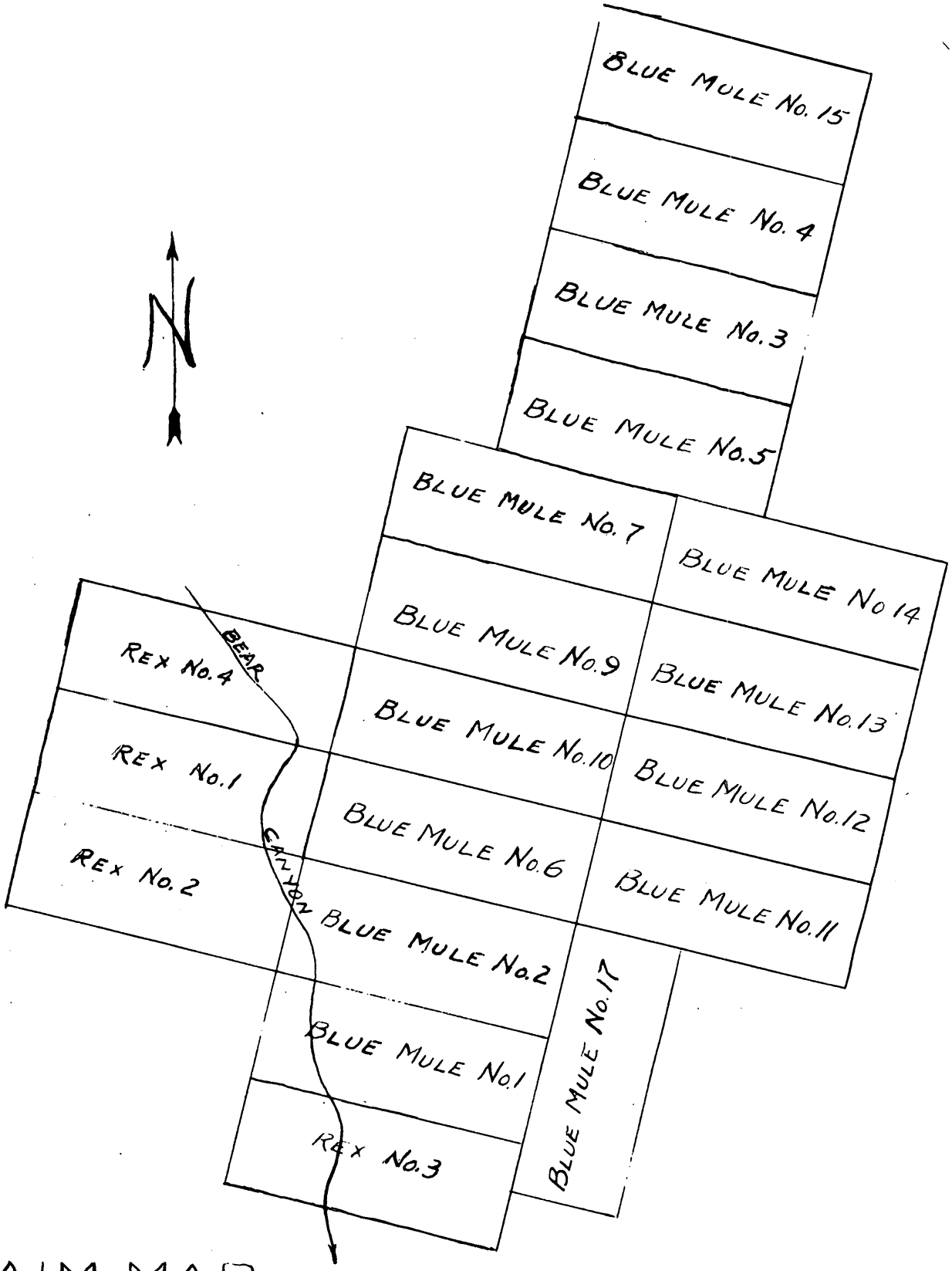
MINIMUM TIME TO COMPLETE DRIFT 4.5 MONTHS

Estimated Cost of Drift per foot Advance

-o-

2" Air line	$0.50 ft.	Labor	$14.00 ft.
1" Water line	.25 ft.	Compressor rent	3.80 ft.
2 ft. 16 lb. rail . . .	.70 ft.	Gas and oil for compressor	4.20 ft.
Bits, steel, oil and machine repairs	1.95 ft.	TOTAL . . .	$29.65 ft.
Powder, caps and fuse .	4.25 ft.		

COST OF 330 FOOT DRIFT $ 9,784.55



CLAIM MAP
of the
Bear Canyon Mining Co.
MINERAL SURVEY No. 3732
San Carlos Indian Reservation
Gila County, Arizona
Scale 1" = 800'
April 13, 1952 L. J. Brewer

APPROXIMATE
Sec. 1, T 2N, R 18E
AND
Sec. 36 T 3N, R 18E
UNSUR

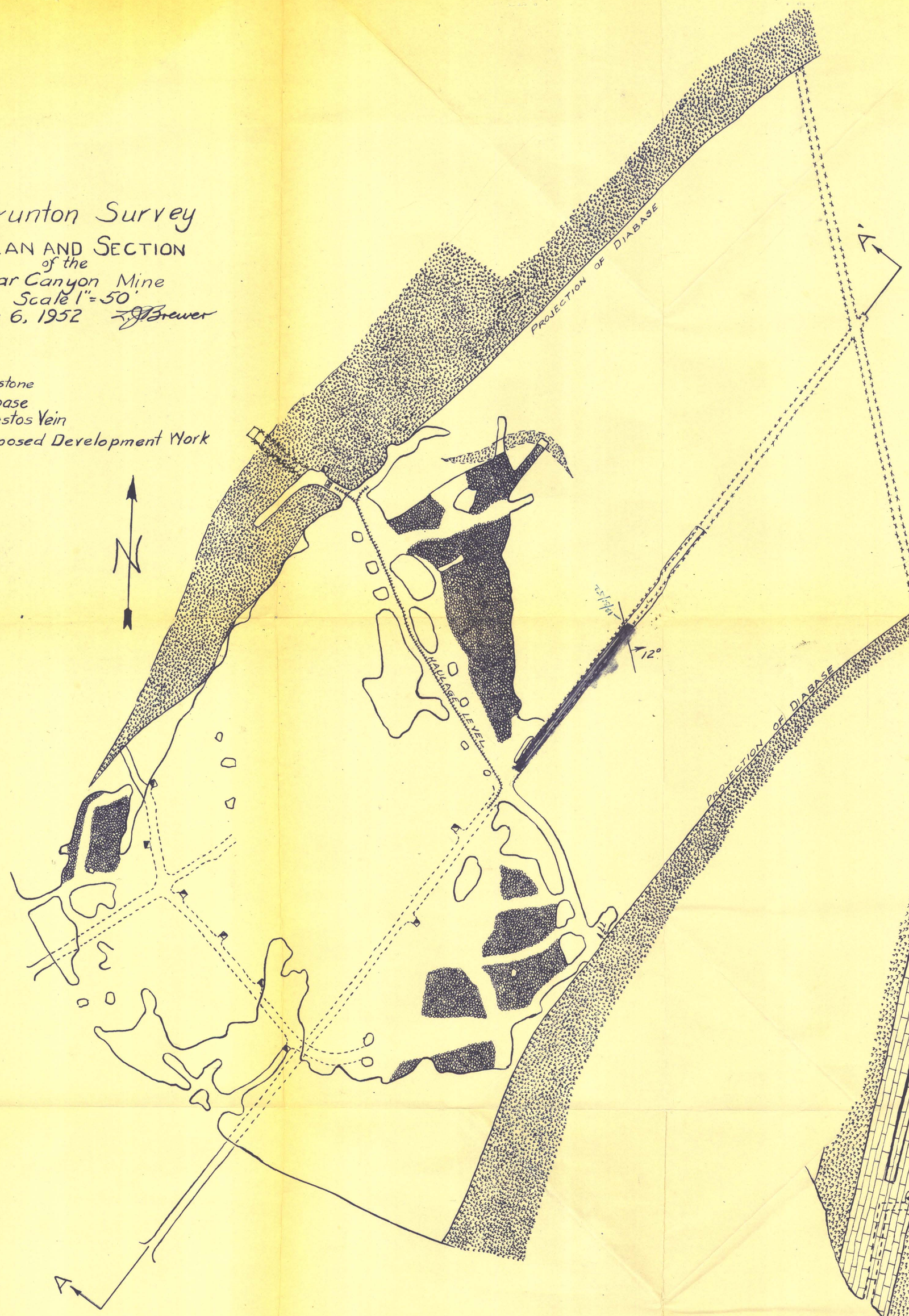
Brunton Survey
PLAN AND SECTION of the Bear Canyon Mine

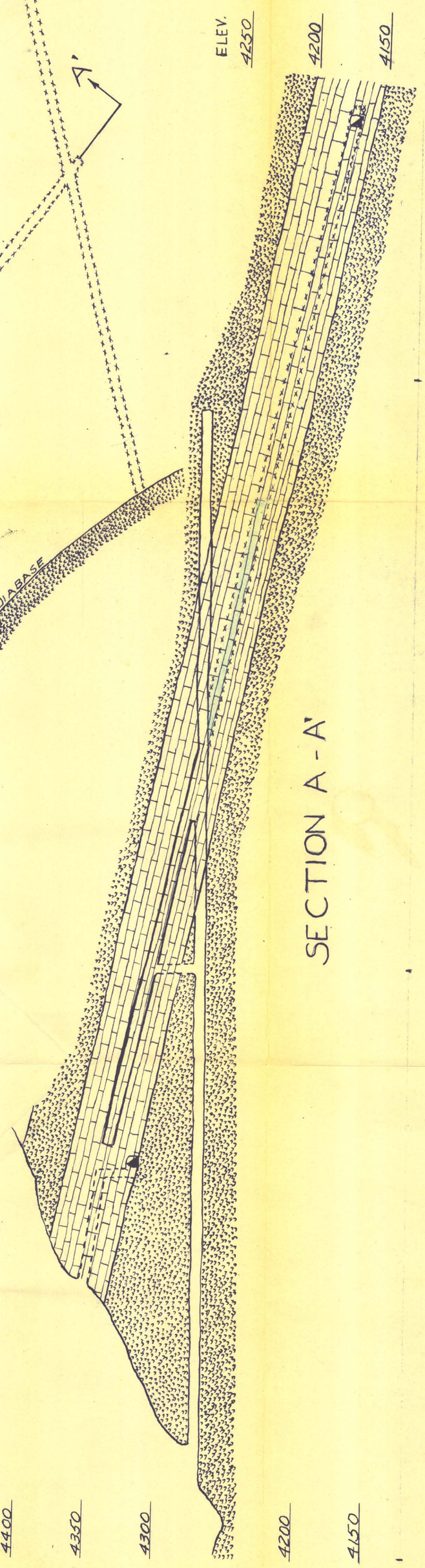
Scale 1" = 50'

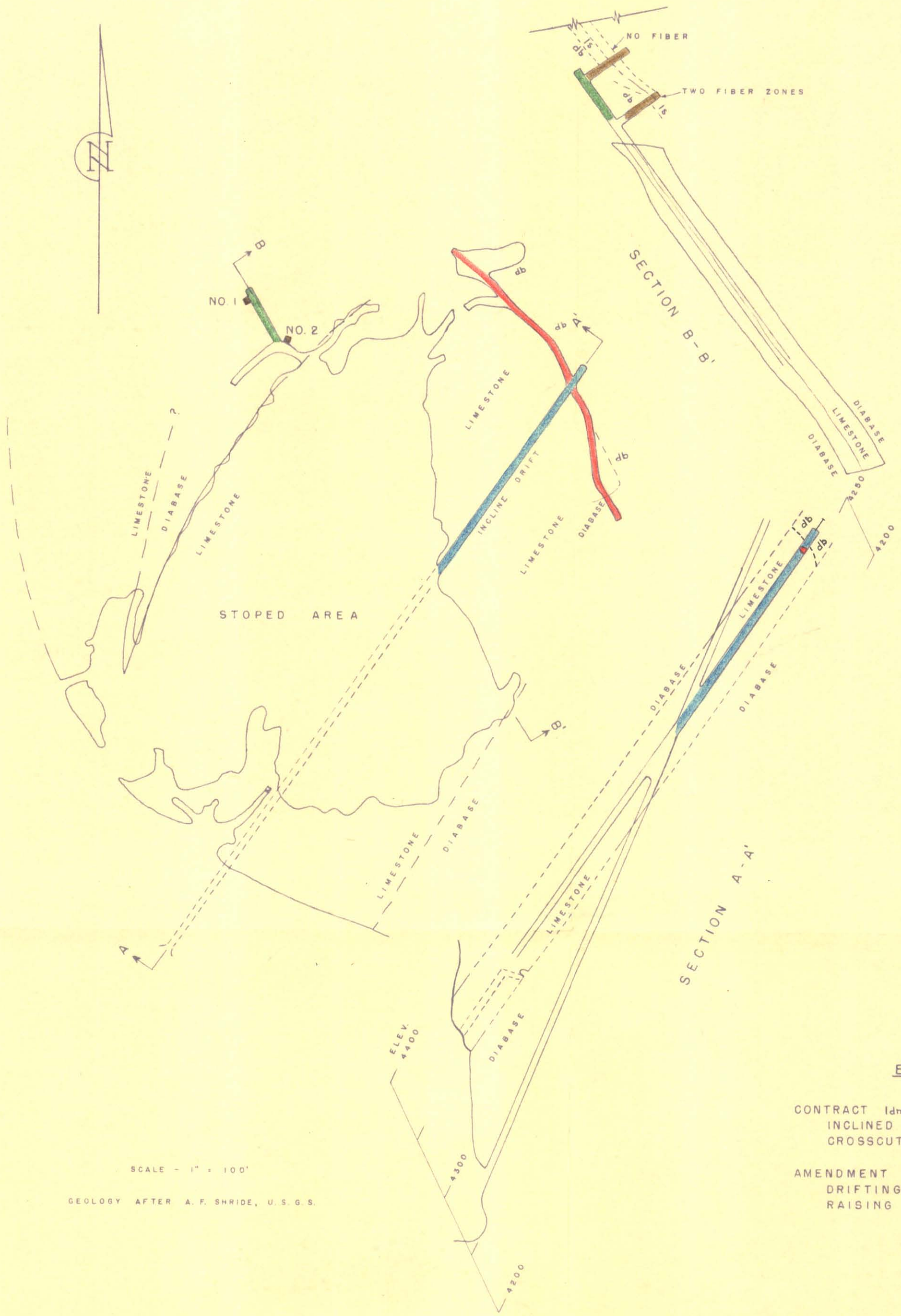
July 6, 1952 J. J. Brewer

LEGEND

- Limestone
- Diabase
- Asbestos Vein
- Proposed Development Work







EXPLORATION

		FEET
CONTRACT Idm-E 446		
INCLINED DRIFTING		260
CROSSCUTTING		338
AMENDMENT NO. 1		
DRIFTING		62.5
RAISING		98.0

SCALE - 1" = 100'

GEOLOGY AFTER A. F. SHRIDE, U. S. G. S.

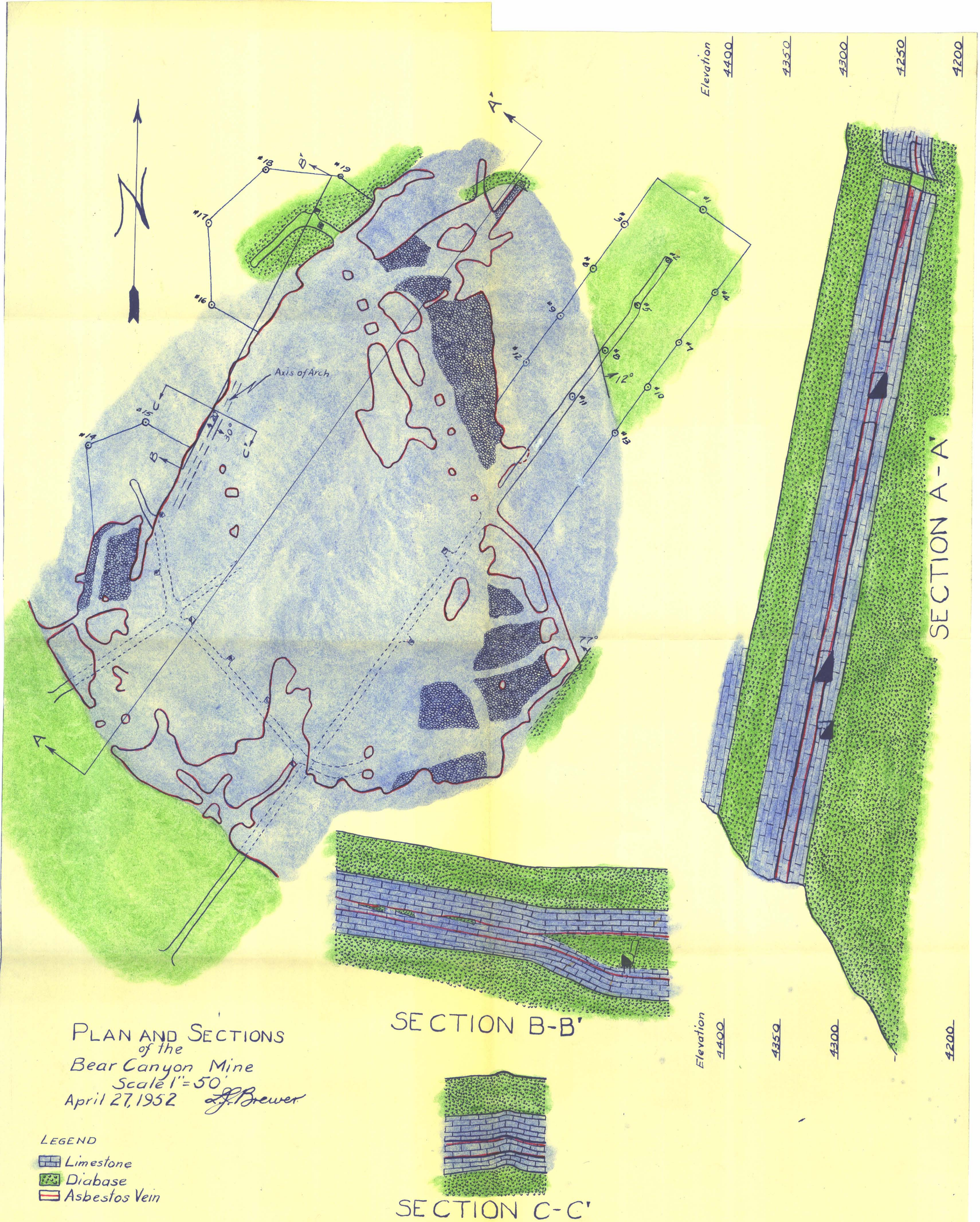
OCTOBER 1953

DMEA 2550

FIGURE 2. - GENERALIZED GEOLOGIC SKETCH SHOWING WORK PERFORMED UNDER CONTRACT Idm-E 446

BEAR CANYON ASBESTOS MINE

GILA COUNTY, ARIZONA


N
Axis of Arch
A
A'
B
B'
C
C'
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
#11
#12
#13
#14
#15
#16
#17
#18
#19
12°
30°
77°
Elevation
4400
4350
4300
4250
4200
SECTION A-A'
SECTION B-B'
SECTION C-C'
PLAN AND SECTIONS
of the
Bear Canyon Mine
Scale 1" = 50'
April 27, 1952
L.J. Brewer
LEGEND
Limestone
Diabase
Asbestos Vein