UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

Terminated (or cancelled) without certification. DMEA No. 1514

This is the official contract file containing all official records of the project. Duplicate material has been removed. The records contained in the files are checked and are arranged in this manner:

Left Side

Certificate of Audit (Final).

Interim Audit(s).

✓ Report of Review.

✓ Termination Notice or Agreement.

Recision Notice.

Assignment of Contract.

Contract Amendments (latest on top).

✓ Contract with all exhibits and annexes.

Owner's Consent to Lien.

Subordination Agreement.

Leases and assignments of leases.

✓ Application and attachments.

Schedule of Collections.

✓ Operator's monthly reports and all attachments (latest on top).

Right Side

✓ Project summary.

✓ Work completed analysis.

✓ All other material is filed in chronological order with correspondence including the following reports as checked:

✓ Final Field Team Report. (Tab)

✓ Operator's Final Report.

Interim Reports.

✓ On-site Exam Report(s). (Tab)

Settlement Sheets.

If additional folders are required because of volume of records, show folder numbers and contents below:

Maps in folder number _____

Operator's Monthly Reports in folder number _____

CW
Reviewer's Initials

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF REVIEW

I have reviewed the Monthly Reports of :

McAnulty, Bennett, Miller, Haydnck, Avitts & Purnell
d/b/a
Marvellos Minerals Company
Alpine, Texas

pertaining to Exploration Project Contract No. Idm-2112, Docket No. 1514X, covering a project for exploration of Mercury, for the months of October 1951 to December 1951.

My review included an examination of the Monthly Reports (Form MP-104) and supporting documents attached thereto, comparison of costs claimed with the contract and pertinent schedules, consultation with the Executive Officer of the Field Team in charge of the project, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the following reasons:

> The administrative costs to the Government of an audit would be excessive in relation to the estimated amount of possible disallowances thereunder.
>
> The Monthly Reports were supported by documentary proof of the costs incurred under the contract.

The review disclosed the following facts in regard to the amount paid or to be paid the contractor:

Total cost as billed by Operator		$2,970.91
Exceptions:		
By DMEA Finance Officer	None	
Herewith	None	None
Total Accepted Cost		$2,970.91

The contract calls for a 75 percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Two thousand two hundred twenty-eight and 18/100 Dollars

-$2,228.18-

is considered valid and proper.

Dated: June 5, 1953

T. H. Brading, Auditor

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Joplin, Missouri
June 8, 1953

C O P Y

Mr. T. H. Brading, Auditor
Defense Minerals Exploration
Administration, Region IV
224 New Customhouse
Denver 2, Colorado

Re: Contract No. Idm-E112
Docket No. 1514X
Maravillas Minerals Co.
Alpine, Texas

Dear Mr. Brading:

I have just received a copy of Report of Review on the subject contract. In your covering letter you state you would like my approval of your actions before releasing the reports.

I have examined the Report of Review and this letter constitutes my approval of same.

Sincerely yours,

/s/ W. P. Williams

W. P. Williams
Executive Officer
Field Team, Region VI

WPW:jd

NOV 1 - 1952

Government Copy
Mercury

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

It is agreed this 28th 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 W. N. McAnulty, John T. Bennett, Mrs. Leona Worley Miller, Charles B. Heyduck, E. S. Avitts, L. C. Purnell, a limited partnership doing business as Maravillas Minerals Company, Alpine, Texas, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E112, Docket No. DMA-1514X, dated August 14, 1951, 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.

UNITED STATES OF AMERICA

By David Gallagher
David Gallagher, Executive Officer
DMEA Field Team, Region VI

MARAVILLAS MINERALS COMPANY

By W. N. McAnulty

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON, D.C.~~
Joplin, Missouri
November 28, 1952

Mr. W. N. McAnulty
1405 Palo Road
Austin, Texas

Re: Docket No. DMA-1514X
Contract No. Idm-E112
Maravillas Mineral Co.

Dear Mr. McAnulty:

Your copy of the "Termination of Exploration Project Contract by Agreement" is transmitted herewith.

The two copies of your paper on "Cinnabar Near Persimmon Gap", published in The Texas Journal of Science on September 30, 1952, were received by this office with much interest.

As stated in the second paragraph of the "Termination" document, you also may submit a final report of the costs along with the final geologic and engineering report on the results of the project which you are required to furnish in quadruplicate under Article 14 of the contract, as previously mentioned in my letter of November 6.

Hoping to receive those final reports at your earliest convenience so that we can prepare our final report and close that file, I remain,

Sincerely yours,

David Gallagher
Executive Officer
DMEA Field Team, Region VI

/jd
cc - Operating Committee

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

Joplin, Missouri
NOV 28 1952

Re: Docket No. DMA-1514X
Contract No. Idm-112
Narrvillas Mineral Co.

Memo

To: Operating Committee

From: David Gallagher, Executive Officer, Field Team, Region VI

Transmitted herewith is the original and two copies of the termination by mutual agreement of the above subject contract.

David Gallagher

/jd
Encs.

cc - Ray C. Jonas (copy termination)
W. M. McAnulty " "

MF-200
(June 1951)

Docket No. DMA 151-X
Commodity Mercury
Idm-E112

Index
Mag.
Geol.
Reviewed 10/15/51

RECEIVED
SEP 10 1951
G. A. O.

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

EXPLORATION PROJECT CONTRACT [1]

It is agreed this 14th day of August, 1951, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, hereinafter called the "Government," and [2] W. N. McAnulty, John T. Bennett, Mrs. Leona Worley Miller, Charles B. Heyduck, E. S. Avitts, L. C. Purnell, a limited partnership doing business as Maravillas Minerals Company, Alpine, Texas. hereinafter called the "Operator," as follows:

1. *Authority for contract.* This agreement is entered into under the authority of the Defense Production Act of 1950, pursuant to Mineral Order 5, entitled "Regulations Governing Government Aid in Defense Exploration Projects."

2. *Operator's property rights.* The exploration project shall be conducted on that certain property situated in the State of Texas, County of Brewster described as follows: [3] five located lode mining claims: Lucky Strike, Manana, Quen Sabe, Last Chance, and Rayona, duly awarded by State of Texas and assignments recorded in Brewster County, Texas.

with respect to which the Operator represents and undertakes: [4]

(*a*) That he is the sole owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:

(*b*) ~~That he is owner, in possession and entitled to possession, and the subordination agreement of the lessor is attached.~~

3. *Exploration project.* The Operator, within sixty (60) days from the date of this contract shall commence work on a project of exploration for [5] mercury ore; shall prosecute the work efficiently, expertly, in a workmanlike manner, in accordance with good mining standards, with suitable and adequate equipment, materials, and labor, all properly designed to bring the project to completion within a period of [6] six (6) months from the date of this contract. The exploration project and the work to be performed are more fully described on Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, is made a part of this contract.

4. *Performance of the work.* The work shall be performed by the Operator, under his sole direction and control: *Provided,* That with the consent of the Government and its written approval of the contract or contracts, all or any part of the work may be performed by the Operator through contract or contracts with independent contractors. 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.

5. *Fixtures and improvements.* 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. Any additional facilities, buildings, and fixtures, to be purchased, installed, or erected by the Operator, with the estimated cost of each, to which the Government will contribute currently its agreed pro rata share, are listed in Exhibit "A" attached hereto. The difference between the cost of such additional facilities, buildings, or fixtures, and the salvage value thereof at the conclusion of the work, shall be charged as a cost of the project to which the Government has contributed its pro rata share.

6. *Operating equipment.* Any operating equipment to be rented, purchased, or furnished by the Operator, with the allowable rental, purchase price, or depreciation, as the case may be, is listed under appropriate headings on Exhibit "A" attached hereto. As to equipment purchased for the project, the Government will contribute its agreed pro rata share of the cost thereof, and the difference between the cost and the salvage value at the conclusion of the work shall be charged as a cost of the project to which the Government has contributed its pro rata share.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property.
[4] Strike out the provision not applicable.
[5] Name of mineral.
[6] Not in excess of 2 years.

RECEIVED
CONTRACT CONV. SEC.
G. A. O.

16—64066-2

7. *Title to and disposition of property.* All facilities, buildings, fixtures, equipment, or other items costing more than $50 each, paid for or purchased with funds contributed jointly by the Operator and the Government, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the termination of the contract, if they have any salvage value, shall be disposed of for their joint account unless the Government, in writing, waives its interest in any such items. The Government may require the dismantling, severance from land, and removal of any such items in order to realize its interest in the salvage value thereof, and the cost of any such removal and of the disposal of the items shall be for the joint account of the parties in proportion to their respective interests.

8. *Labor and supervision.* An itemized schedule of labor, by numbers and classes (miners, muckers, millmen, etc.), and of supervisors, by numbers and positions, with the maximum wages or salaries that may be paid to each as an allowable cost of the project is set forth in Exhibit "A" attached hereto.

9. *Rehabilitation and repairs.* A statement of the cost of any necessary rehabilitation or repairs to put existing facilities, buildings, installations, and fixtures into useful and operable condition and which are to be allowed as costs of the project is included in Exhibit "A."

10. *Allowable costs of the project.* The costs of the project in which the Government will participate are limited to the necessary, reasonable, direct costs of performing the exploration work, including the costs of materials, supplies, engineering, power, water, analytical work, accounting, and utilities, including items of equipment costing less than $50 each; and the costs referred to in Articles 5, 6, 8, and 9, and the exhibits annexed to and referred to in this contract. Although the Government may pay part of the cost of new or additional facilities, structures, buildings, and equipment, only the depreciation on such items, computed as indicated in Articles 5 and 6, will be charged as a cost of the project. No items of general overhead, corporate management, interest, taxes, or any other indirect costs not expressly allowed by these provisions, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

11. *Accounts and audits.* The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, 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.

12. *Progress reports.* The Operator shall provide the Government with monthly reports of work performed under the contract upon forms to be provided by the Government. Each monthly progress report shall bear the certification of the Operator and shall constitute the Operator's invoice of costs incurred on the project during the period covered by the report.

13. *Payment to the Operator.* The monthly progress report (invoice), to the extent approved by the Government, shall be processed for payment by the Government. Payment shall be made in the amount of 75 percent of the approved costs incurred; *Provided,* That the aggregate total of all sums paid by the Government under this agreement shall not exceed $7,837.50, which is 75 percent of the agreed estimated total cost of this project, $10,450.00.

14. *Final reports by Operator.* Upon completion of the project or termination of this contract, the Operator shall provide the Government with a comprehensive geologic and engineering report, including an estimate of ore reserves, to the best of his ability. Four copies of all reports shall be furnished to the Government.

15. *Repayment by Operator.* If, upon the completion of the exploration project or termination of the contract, the Government considers that a discovery or development has resulted from the work from which commercial production of ore may be made, the Government, within 6 months thereafter, shall so certify to the Operator, particularly describing and delimiting its estimate of the discovery or the development. Thereafter, if and as ore is produced as a result of such discovery or development, the Operator and his successor in interest shall be and become obligated to pay to the Government a percentage royalty on the net smelter returns or other net proceeds realized from such ore, concentrates, or metal produced within ten (10) years from the date of this contract, until the total amount contributed by the Government, without interest, is fully repaid or said 10 years have elapsed, whichever occurs first, as follows:

Of net smelter returns or other net proceeds not in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent.

Of net smelter returns or other net proceeds in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent, plus one-half (½) percent for each additional full fifty cents ($0.50) in excess of eight dollars ($8.00) per ton of ore, but not in excess of a maximum of five (5) percent.

This obligation to repay from net returns or proceeds shall be and remain a claim and lien upon the mineral deposit which is the subject of the exploration project and upon any production resulting from such discovery or development, in favor of the Government, until fully paid, or until said 10-year period has elapsed; and this claim and lien and the Government's right to repayment shall survive any termination of the contract, whether by completion of the exploration project or otherwise. This article is not to be construed as imposing any obligation on the Operator or his successor in interest to produce ore from any such discovery or development.

16. *No assignment of contract.* Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder.

17. *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 worthwhile discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; shall dispose of any unused materials, supplies, and equipment for the joint account of the Operator and the Government in the proportion of their respective interests; and shall pay to the Government its pro-rata share of any money remaining.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. D. Mettendorf

Director, Production Expansion Division
Defense Minerals Administration

Maravillas Minerals Company
(Operator)

By W. N. McCrulty
attorney in fact
for Maravillas Minerals Co., Ltd.

U. S. GOVERNMENT PRINTING OFFICE 16—64066-2

EXHIBIT A - Exploration Project

The exploration of a mineralized outcrop containing mercury to consist of two projects with starting of second project dependent upon completion of first project, DMA Field Team examination of results and approval of additional work.

Project #1

Eleven test pits adequate for exposing and sampling mineralized fissure zone and located at reference points numbered 5 to 15 inclusive as shown on map attached.

Project #2

Either (a) or (b) below, as may be approved by field team.

(a) 3,200 feet of churn drilling consisting of seven holes located at reference points 16 to 20 inclusive and 3 and 4 as shown on map attached.

(b) Series of trenches at 50 foot intervals across mineralized zone and prospect shafts to explore most highly mineralized leads.

The government will participate in (a) or (b) above to the maximum of $7150.00 for either the drilling or trenching and shaft work.

Estimated costs of the projects are as follows:

Project #1

(1)	Repair of road to campsite	$ 250.00
(2)	Purchase of tents for camp	300.00
(3)	Rental of pickup truck	500.00
(4)	Labor for test pitting	650.00
(5)	Miscellaneous supplies	350.00
(6)	Supervisory, engineering, consulting, and assaying	750.00
(7)	Rental of air compressor and air drill	500.00
	Total Project #1	$3300.00

Project #2

(1)	3200 feet of churn drilling (a) @ $2.00 per foot or labor and supply costs for trenching (b)	$ 6,400.00
(2)	Supervisory, engineering, consulting, and assaying	750.00
	Total Project #2	$ 7,150.00
	Total both Projects	$10,450.00

Expenditures as shown above shall constitute an allowable cost of the within described projects to the extent allowed by the Regional Office of DMA, Joplin, Missouri, and to the maximum designated.

THE STATE OF TEXAS

COUNTY OF BREWSTER

We, W. N. McAnulty of Brewster County, Texas, Mrs. Leona Worley Miller, of Bexar County, Texas, Charles B. Heyduck, and E. S. Avitts, of Brazoria County, Texas, and John T. Bennett of Brewster County, Texas being all of the Limited Partners of the MARAVILLAS MINERALS COMPANY, LTD. at a meeting of the co-partners held in San Antonio, Texas on the 11th day of August A. D. 1951, the following business was transacted:

WHEREAS, in the Artles of Partnership there was set aside and outstanding a 5% interest in and to the capital stock of said Partnership to be given to the land owner, L. C. Purnell, as the owner of the lands upon which the mineral awards of said co-partnership exist; and

WHEREAS, the said 5% interest has never been transferred and assigned to the said L. C. Purnell nor has he accepted any assignment thereof; and

WHEREAS, it was mutually agreed and understood by the undersigned that if the same was not accepted by the said L. C. Purnell the same would be assigned to Mrs. Leona Worley Miller and she would thereafter have and hold a 30% of the capital stock in and to the said Maravillas Minerals Company Ltd.

NOW THEREFORE, IN CONSIDERATION OF THE PREMISES, we, the said W. N. McAnulty, John T. Bennett, Charles B. Heyduck and E. S. Avitts, do by these presents transfer and assign unto the said Mrs. Leona Worley Miller, of Bexar County, Texas, said 5% outstanding interest in and to the Capital Stock of the said Limited Partnership known as Maravillas Minerals Company, Ltd.

IN TESTIMONY WHEREOF, we have hereunto executed this document on this the 24th day of August A. D. 1951.

(signed) Leona Worley Miller
John T. Bennett.
Charles B. Heyduck
E. S. Avitts
W. N. McAnulty.

STATE OF TEXAS

COUNTY OF BRAZORIA

BEFORE ME the undersigned authority, on this day personally appeared E. S. Avitts, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN under my hand and seal of office on this the 24th day of August A. D. 1951.

(signed) T. J. Hicks, Jr.
Notary Public, Brazoria County, Texas.

(Seal)

THE STATE OF TEXAS

COUNTY OF BRAZORIA

BEFORE ME, the undersigned authority, on this day personally appeared Charles B. Heyduck, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN under my hand and seal of office on this the 24th day of August A. D. 1951.

(Seal) (signed) T. J. Hicks, Jr.,
Notary Public, Brazoria County, Texas.

THE STATE OF TEXAS
COUNTY OF BREWSTER

BEFORE ME, the undersigned authority on this day personally appeared W. N. McAnulty and John T. Bennett, known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN under my hand and seal of office on this the 28th day of August A. D. 1951.

Virginia Y. Granger, J. P. and Ex Officio Notary Public, in and for Brewster County, Texas.

(Seal).

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1514 X

Date received 6/4/51

Participation

U. S. Department of Interior
Defense Minerals Administration
Washington, D. C.

W. N. McAnulty
Alpine, Texas

Name and address of applicant

Date May 30, 1951

FILL IN THIS BLOCK

Date of application May 30, 1951

Estimated cost $51,379.00

Mineral or metal Mercury (cinnabar)

Percentage of Government participation 75 per cent

Location of mine Brewster County, Texas

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

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

    NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons. State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*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.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

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.

Maravillas Minerals Company
(Name of company)

By W. N. McAnulty
(Signature of authorized official)

May 30, 1951
(Date)

Manager
(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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

Alpine, Texas
May 30, 1951

To: U. S. Department of Interior
Defense Minerals Administration
Washington, D. C.

From: W. N. McAnulty, Manager
Maravillas Minerals Company
Alpine, Texas

Subject: Application for Aid for an Exploration Project Pursuant to Mineral Order 5, under Defense Production Act of 1950.

Attached herewith is completed Form MF-103 and supplementary supporting data requesting a Government loan to assist in exploration for economic deposits of mercury ore on property owned by the Maravillas Minerals Company in Brewster County, Texas.

We have done the best we could on short notice to prepare this request in the proper manner, however, insufficient time forced us to be hasty in the preparation of certain sections--particularly question 23.

It is hoped that we have been able to show that the project is worthwhile.

Yours very truly,

W. N. McAnulty

W. N. McAnulty, Manager
Maravillas Minerals Co.
Alpine, Texas

1. Is applicant an individual, partnership, or corporation?

The applicant is a limited partnership, doing business under the name of Maravillas Minerals Company, Alpine, Texas.

2. If a partnership, state names and addresses of partners.

Mrs. Leona Worley Miller, 915 W. Agarita St., San Antonio, Texas (25%)

John T. Bennett, Marathon, Texas (25%)

W. N. McAnulty, Alpine, Texas (25%)

Charles B. Heyduck, Alpine, Texas (10%)

E. S. Avitts, Alpine, Texas (10%)

L. C. Purnell, Rt. 7, Box 68A, Austin, Texas (5%)

3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.

Not a corporation.

4. Describe the mining and general business experience of (a) the applicant, and (b) the person or persons who will manage the project.

Under the terms of the partnership agreement, W. N. McAnulty directs all operations of the company. W. N. McAnulty, a geologist with an M. S. degree in geology from the University of Oklahoma, is now employed by Sul Ross State College as Associate Professor of Science and Head of the Geology Department. His experience includes four years as supervisor of a Statewide Paleontologic-Mineralogic Survey in Texas (1939-42), a project sponsored by the Bureau of Economic Geology of the University of Texas and the Works Projects Administration. During World War II (1942-45) he was Production Manager of the Phoenix plant of the Airesearch Manufacturing Company. He has worked in the Big Bend Country of Texas off and on since 1938. Mr. McAnulty is not a mining engineer and will not attempt to direct

the actual mining operations. A competent mining engineer will be hired to direct the exploratory mining operations. McAnulty's services as a consultant will be available, and he will be responsible for over-all supervision of the project.

5. Are you the owner or the lessee of the property?

Mineral rights on the area on which the mining claims are situated are owned by the State of Texas. Five claims (94.65 acres) have been duly staked, surveyed and awarded by the State Land Office of Texas, and the awards have been assigned to the Maravillas Minerals Company. Assignments have been recorded with the County Clerk of Brewster County, Texas. All assessment work and rental payments are paid up for 1951.

6. If owner, state what claims, liens, or encumbrances, if any, are against the property.

There is nothing against the property.

7. If lessee, attach a copy of the lease and state if it is in good standing.

Not lessee.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.

Assets:

Hand tools, shovels, drills, picks, etc.	$150.00
Cash on hand (First Nat'l Bank, Alpine, Tex.)	$125.00
Five Mining Claims (94.65 acres)	

Nothing against the property, no debts owed.

There has been no ore sold or retorted, therefore, no profit.

$2,124.82 were spent by the Company (January to May, 1951) in exploration work on the claims.

The company has all but exhausted funds originally set up for exploration work, however, additional funds in the amount of $12,845.00 which amount is 25% of the total estimated cost of the exploration work proposed in this application, will be appropriated if this application is approved.

9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

The applicant is prepared to invest $12,845.00. This amount is equal to 25% of the total cost as outlined in question 23, and is in accordance with the regulations on Government participation.

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

The mining claims are located on Section 28, Block 235, T. & St. L. R. R. Survey, Brewster County, Texas.

Exploration work will be conducted on five mining claims located on the above mentioned section; namely the Lucky Strike, Manana, Quen Sabe, Last Chance, and Rayona Claims. See attached map for their location within the section.

11. State the present and former names of the property, if any.

Property has no former name (s). Now the property of Maravillas Minerals Company; claim names are given in question 10.

12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

The claims may be reached by taking State Highway 227 at Marathon, Texas (a paved highway to Big Bend National Park). Travel southward on Highway 227 for 34.9 miles, at which point turn east (left) on good gravelled ranch road (Black Gap road) for 10.3 miles (to a point just across Maravillas Creek), thence take a dim ranch road west for 2.5 miles to the claims. The property is 1.5 miles northeast of Dog Canyon, and immediately south of the confluence of Dog Creek and Maravillas Creek. All roads are good and can be travelled easily in a passenger car. Marathon, Texas, 47.7 miles away, is the nearest railroad (main line of Southern Pacific).

13. State source and quantity of water available for operations and its sufficiency at all seasons.

Plenty of water is available in the alluvial fill along Maravillas Creek, which flows within 1500 feet of the property. Maravillas Creek is an intermittent stream and the bed is dry along this reach except during run-off of occasional rainfall. However, some 8 miles upstream it is a perennially flowing stream (spring fed), with all of this water flowing beneath the surface along the reach near the property. An abundant supply of water is available from 10 feet to 15 feet below the surface. A well could be dug in the alluvium from which plenty of water could be pumped via a 1500 foot pipe line to the operations.

14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

There are no existing facilities, equipment, buildings, or structures now on the property.

15. State in detail how the ore could be shipped and how and where milled.

The ore (cinnabar) would be treated either by retort or furnace on the property. The mercury, in flasks, would then be shipped from Marathon, Texas. Actually, during the period of exploration the ore would be stock piled until the production phase of the work is started.

16. History:

(a) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(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.

The Maravillas Minerals Company took over the property in January, 1951. Up until that time two claims were controlled by Ray W. Miller (now deceased) and John T. Bennett. These men had done a small amount of prospecting, including two or three shallow (2' - 3') test pits and one pit about 12 feet deep. Their work revealed shows of cinnabar at three different places on the claims, including a high grade show in the deepest pit. In February, 1951 the Maravillas Minerals Company started exploratory work on a small scale and worked a crew of four men with pneumatic drilling equipment during February, March and April, 1951. The work accomplished includes three shafts 20 feet deep, a trench 60 feet long,

6 feet wide and 5 feet deep, and several shallow test pits. (See map showing work done). No mercury was produced, however approximately 5 tons of high-grade ore, and 10 tons of lower-grade ore were stock piled. Work was suspended due to the exhaustion of funds. This occurrence is a new discovery in an area where mercury ore was not previously known to occur. The area is approximately 50 miles (airline) from the well-known Terlingua district.

A geologic report accompanies this application.

17. Production:

No production to date.

18. Ore or mineral reserves: (If property is or has been operating.)

(a) Describe the ore or mineral deposits briefly.

(b) Submit available maps and assay data.

(c) Give estimated tonnage and grade of each class of ore reserves.

It appears that cinnabar is the only mineral of economic importance. However, it is likely that some secondary mercury minerals also occur along with the cinnabar. Some of the prominent yellow-colored material, rather abundant in places, may well prove to represent one or more of the mercury minerals commonly found in weathered zones. Calcite, salmon-colored chert, and greenish crystalline quartz constitute the major gangue mineral. The ore occurs in joints and fissures (along which there has been some horizontal movement) and is disseminated through collapse-debris in filled subterranean passages and caverns in the Georgetown limestone (Lower Cretaceous). The collapse-debris is made up of rubble (mixture of limestone and chert blocks), clay and caliche ("haboncillo").

This jumbled-up mixture is cemented to a slight degree with calcium carbonate. Zones of the salmon-colored chert and green quartz carry cinnabar as minute veinlets in the chert and as fillings in the vuggy quartz. The richest ore has been found as narrow veins (1" - 3") along a major fissure along one side of an elongated collapsed subterranean passage. Two 6' x 6' shafts 20 feet deep and approximately 50 feet apart and a trench 60 feet long were put down along this fissure. High-grade (pure) cinnabar occurs in this vein and was still present at the bottom of the shafts. A sample of the salmon-colored chert assayed 0.8% mercury, one sample of caliche taken from the collapse-debris assayed .095% and another 0.12% Hg. However, much of the cinnabar-bearing caliche is of much higher grade.

See maps enclosed.

Not enough work has been done to make an intelligent estimate of tonnage possible.

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

See geologic report and statement of proposed work, both of which are attached.

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

The exploration will be conducted in search for mercury minerals, especially cinnabar (HgS).

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

Proposed work. (See accompanying map showing proposed work; also see recommendations stated in geologic report, question 22).

1. Sink a shaft 5' x 9' to a depth of 350 feet +/- or to the base of the Kiamichi formation. No. 2 on map.
2. Sink a shaft 4' x 6' in sink area on Quen Sabe claim to a depth of 50 feet, or through the collapse-debris fill. No. 4 on map.
3. Sink a shaft 4' x 6' in sink area on Last Chance claim to a depth of 50 feet, or through the collapse-debris fill. No. 3 on map.
4. Do drifting in shafts as may be required to follow ore leads.
5. Drive a tunnel in along fissure zone for a distance of 300 feet. No. 1 on map.
6. Drill a total of 3000 feet of hole for subsurface information. Use churn drill, 5" hole, catch samples every 2 feet. Holes to be drilled at locations shown on the map. Drill to sufficient depth to penetrate the top of the Edwards limestone. Churn drill to be used rather than diamond coring for two reasons; namely (1) core drilling would cost $10.00 per foot as against $2.00 for churn drilling; and (2) the cinnabar frequently occurs in soft caliche-like material of a type difficult to recover in coring. (Nos. 16, 17, 18, 19 and 20 on map.)
7. Dig numerous shallow test pits, two or three feet deep (at least 10 pits) at points shown on the map. (Nos. 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 on map.)

It is estimated that 225 working days (9 months) will be required to do the work outlined above, working two 8-hour shifts per day.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

GEOLOGIC REPORT ON A PORTION OF THE BONE SPRING QUADRANGLE, BREWSTER COUNTY, TEXAS.

(Includes area in which mining claims owned by the Maravillas Minerals Company are situated).

by

W. N. McAnulty

Location

The area covered by this report lies along the east side of the central rectangle and in the west-central portion of the east-central rectangle of the Bone Spring Quadrangle, Brewster County, Texas. The area lies immediately northeast of the northeastern boundary of Big Bend National Park, and is approximately 40 miles south-southeast of Marathon, Texas. The mining claims, which lie toward the northwestern edge of the area covered by this report, are in Section 28, Block 235, T. & St. L. R. R. Survey, and may be reached by taking State Highway 227 at Marathon, Texas (a paved highway to Big Bend National Park). Travel southward on Highway 227 for 34.9 miles, at which point take the Black Gap road (turn east, left) and go approximately 10.3 miles to a dim road to the right a short distance after crossing Maravillas Creek. Travel this ranch road westward for 2.5 miles to the workings. The

property is 1.5 miles northeast of Dog Canyon and immediately south of the confluence of Dog Creek and Maravillas Creek. All roads can be travelled easily in a passenger car. See the Bone Spring topographic map which is attached for topography, drainage, etc.

Physical Features

The area is drained by Maravillas Creek, an intermittent stream, but a through flowing stream which drains a large area. Dog Creek is the principal tributary in the area covered by this work. Maravillas Creek meanders through a broad alluvial flat which is more than a mile wide, and which flat is covered by a rather thick growth of catclaw and other thorned desert plants. Away from the alluviated valleys of the Maravillas and Dog Creeks are mature limestone ridges and hills. High-level stream gravel blanket certain areas of the hilly land, but in other places bare bed rock is extensively exposed. The mining claims are located on limestone which forms a rather rugged, irregular terrane with as much as 250 feet of relief. This is a semiarid region and outside the stream valleys only a scanty growth of plants adapted to semi-arid conditions are supported on the nearly bare bed rock outcrops. Lecheguilla, sotol, greasewood, cacti and dagger are found on the hills and ridges.

Property and Ownership

The mining claims are owned by the Maravillas Minerals Company of

Alpine, Texas. This business is organized as a limited partnership, with W. N. McAnulty as the Manager. The partners are Mrs. Leona Worley Miller, 915 West Agarita Street, San Antonio, Texas; John T. Bennett, Marathon, Texas; Charles B. Heyduck, Alpine, Texas; E. S. Avitts, Alvin, Texas; and W. N. McAnulty, Alpine, Texas. Five (5) adjoining claims (94.65 acres) have been duly staked, surveyed and awarded by the Texas Land Office, and have been assigned to the Maravillas Minerals Company. In addition, all of the remainder of Section 28, Block 235, has been claimed, however, these claims are yet to be surveyed and filed with the State Land Office.

Development

The exploration work done to date includes three (3) shafts (6' x 6'), each of which is approximately 20 feet deep; one test pit 10 feet deep; several test pits two to three feet deep; and a trench more than sixty feet long, five feet wide, and four feet deep.

The work done has revealed shows of cinnabar at several places, including a mineralized fissure zone which can be traced for more than 300 yards.

General Geology

Rocks of both Lower and Upper Cretaceous age, and Quaternary alluvial and colluvial deposits are found at the surface in this area. The Georgetown limestone, Lower Cretaceous (Fredericksburg) is the oldest formation outcropping in the area, and is the only outcropping formation in the immediate vicinity of the mining claims. However, the

normal overlying section of Cretaceous rock may be seen nearby; i.e., Del Rio clay (Grayson) and Buda limestone of the Lower Cretaceous series; and the Boquillas formation of the Upper Cretaceous series. Paleozoic rocks outcrop at Persimmon Gap, about five miles to the northwest, and a few miles northward in the Marathon basin. The valleys traversed by Maravillas and Dog Creeks are broad and have a thick cover of alluvial fill. High-level stream gravels and boulders have been let down as the areas in which they were deposited were dissected and now completely blanket the slopes and summit areas of localized hilly sections. These high-level gravels are shown on the accompanying geologic map as Quaternary colluvium.

Georgetown limestone.--The term Devils River has been used in this part of the country to include the Edwards limestone, Kiamichi marl and Georgetown limestone, and in the past these formations have usually not been separated. However, since the Del Rio shale, and, in turn, the Buda limestone lie directly above in this area it seems justifiable to assume that a normal section is present and that it is the Georgetown limestone which occurs here immediately below the Del Rio shale.

The formation consists of buff or gray crystalline limestone and marly limestone in beds a few inches to a few feet thick. The more massive beds stand out as ledges. Brown ovoid chert concretions are abundant, and some layers are crowded with the remains of rudistids and oysters. The formation is probably from 250 feet to 450 feet thick in this area. From the number of surface indications of collapsed subterranean passages and caverns it appears that the Georgetown limestone

was very suseptible in the past to solution activity by ground water.

Del Rio shale.--This formation lies above the Georgetown limestone and is composed of soft, sandy clay and shale, with some layers of brown, thinly laminated sandy limestone. It contains abundant limonite psuedomorphs after pyrite and numerous foraminifera (Haplostiche) as well as great numbers of small oysters (Exogyra arietina). It appears to be from 70 to 100 feet plus in thickness in this area.

The Del Rio shale outcrops along the axial portion on an anticlinal structure just west of the Black Gap road (see geologic map) and along the west flank of a syncline in the south-central portion of the area mapped.

Although the Del Rio shale is not now present in the area of the mining claims, it is present nearby and was undoubtedly present at the time the mineralization took place and probably played an important role in stopping the advance of the mineral-bearing solutions and thereby contributing to the formation of ore deposits in the underlying Georgetown limestone. Being impervious, it would have checked upward movement of the mineralizing solutions and vapors.

Buda limestone.--Overlying the Del Rio shale is the Buda limestone. This formation outcrops in the same areas as the Del Rio shale. It is a thick-bedded light gray or white, hard, sub-lithographic, thin to moderately bedded limestone, interbedded with thin seams of yellow calcareous marl. It is approximately sixty feet thick.

Boquillas flags.-- (Gulf Series) - This formation outcrops along the east limb of an anticlinal structure in the southeastern portion of the area mapped and in small outliers on summit areas a short distance south of the claims. In general, the formation is composed of hard, dense, slightly crystalline, light tan to dirty white, thin flags, and very thin calcareous marl seams. The formation reaches a maximum thickness of approximately 700 feet where fully preserved.

Quaternary colluvium.--High-level, well rounded stream gravels and boulders of both sedimentary and igneous rock types occur in certain isolated areas and completely cover the slopes and summits of well dissected hills in a large part of the area. Apparently, Dog Creek, an antecedent stream, has been diverted by capture just east of Dog Canyon, having formerly flowed in a line across the hills now covered with gravels and boulders and having deposited these materials over a broad valley, which after capture of the stream at a point above, was dissected by stream erosion. All bed rock outcrops are completely obscured in the hilly areas covered by this stream rounded debris.

Quaternary alluvium.--Stream gravels, sands, silts and clays cover rather large expanses adjacent to the major drainages. The thickness of these deposits will vary considerably from place to place, but probably nowhere exceed 100 feet. Such materials along Maravillas Creek yield an abundant supply of ground water to tanks and wells for ranch use.

Igneous intrusions.--There are no igneous rocks in the area mapped,

however, a relatively short distance away, south of Dog Canyon, is a rather large igneous plug, and there are several plug-like intrusions to the north and east of the area. Remnants of lava rocks cap a series of hills only a few miles to the east.

Structural Geology

General.--The area embracing the mining claims is situated along the northeast flank of the southern portion of the Santiago Mountains and on the southeast flank of the large Marathon dome. The Marathon basin on the crest of the Marathon dome is approximately 30 miles wide and 40 miles long. Truncation of the dome has exposed complexly folded Paleozoic rocks, the more resistant of which stand up as low northeast-southwest trending ridges; while the weaker shales make broad valleys. The topographic basin is surrounded by limestone escarpments which stand higher than any of the ridges in the basin. On the east, south, and west sides limestone formations making the escarpments are of Cretaceous age and are gently tilted away from the uplift.

The escappments along the west side of the Marathon basin are known as the Del Norte Mountains in the north, and the Santiago Mountains to the south. Structurally these mountains are a continuous unit of Laramide origin. The Santiago Mountains are about 40 miles in length, giving way to the Sierra Del Carmen range at Dog Canyon. For most of their length they form a steep-sided ridge almost 2 miles across carved from a narrow belt of vertical and overturned limestone. The

Santiago Mountains owe their height partly to a large normal fault that has downthrown the Cretaceous beds on the east. South of the Marathon basin these mountains continue for about 20 miles as a sharp, narrow anticline which passes into a great recumbent fold in the vicinity of Dog Canyon.

Structure of area mapped.--The mining claims are on the southwest limb of a faulted anticline which plunges southeastward, into a synclinal area. The southwest limb is cut by a normal fault trending N 60° W and the northeast side has been dropped down approximately 200 feet. The claims are on the downthrown block and a few hundred feet southwest of the axis of the anticline. Fissure zones trend at nearly right angles to the fault mentioned above, and it is along these fissures and in sink holes that the mineralization occurs.

Another fault, which may be a continuation of the fault already mentioned, makes a prominent escarpment beginning about 0.6 mile to the southeast and continuing for a distance of 1.8 miles. This escarpment trends approximately N 45° W. The downthrown side is to the northeast where Buda limestone is dropped down against the Georgetown limestone. To the northeast of this fault is an anticline whose axis strikes approximately N 30° W. Del Rio shale is exposed in three small inliers along the axial portion of this anticline. The northeast limb of this anticline is capped by Boquillas flags.

Evidence of horizontal movement was seen in test pits located

along one of the fissure zones which traverses the claims, and it is probable that considerable movement has occurred along some of these zones. The fissure zones can be traced easily along the surface because they are less resistant to erosion and form saddles where they cross ridges.

Ore Deposits

The only mineral of economic importance discovered on the property to date is cinnabar (HgS) which is the main ore of mercury. It is very likely, however, that some secondary mercury minerals occur along with the cinnabar, such as calomel, eglestonite and terlinguaite. Calcite, quartz, and iron oxides are the major gangue minerals.

The ore occurs in joints and fissures along definite fissure-zone trends which appear to be complementary to a normal fault of some 200 feet of displacement which strikes N 60° W, across the western side of the section in which the claims are located. Good shows of cinnabar are also found disseminated through caliche, silicia-replaced limestone blocks, and in vugs in green quartzitic material, all of which makes up a rubble-like fill in collapsed subterranean passages and small caverns. This jumbled-up mixture of rubble, clay and caliche is cemented to a slight degree with calcium carbonate. Along some of the major joints are veins of calcite and silicified limestone which carry encrustations of pure cinnabar up to two inches thick.

Conclusions and Recommendations

This property is interesting in that it reveals cinnabar deposits

very similar in occurrence to those in the Mariposa area of the Terlingua district in an area more than 40 miles to the northeast. It is a new discovery in an area where mercury ores were not previously known to occur. There is a striking resemblance between this occurrence and occurrences in the Mariposa area. There, the ore also occurs in fissures and filled sinks in the Georgetown-Edwards limestone.

The following are considered to be major factors governing the occurrence of cinnabar:

(1) Structural control. Cinnabar deposits are concentrated in upper parts of anticlinal structures, being similar in this respect to oil and gas.

(2) Any opening in the rocks which mercury-bearing solutions can enter and accumulate may contain ore.

(3) An impervious bed, such as clay, or marl, should lie above to prevent the solutions or vapors carrying the mercury from moving onto the surface and escaping.

All three of these conditions prevail (ed) in the area in which the property in question is located. Condition No. 3, an overlying impervious layer, does not exist today in the immediate area of the claims, but the Del Rio shale does occur nearby on the flanks of the structure, and, no doubt, the Del Rio was present over the entire area during the time the mineralization took place. In fact, indications are that the Del Rio has only recently been stripped off by erosion.

Sink holes, collapsed underground caverns and solution channels are numerous in the Georgetown limestone. Many of these debris-filled solution voids can be easily outlined on the surface. Commonly they are small near the surface but expand downward, and a small surface sink may open downward into a large debris-filled cavern.

A considerable amount of mercury has been produced from ore taken from such fissures and filled caverns in the Terlingua district. Enough exploratory work has been done in this new area to reveal excellent surface and near-surface shows of ore, and, in view of the showing, the property should be thoroughly explored.

Geologically, this new area appears to be as favorable for occurrences of economic deposits as the Terlingua district. In fact, from the standpoint of purely geologic considerations, the area embracing this property seems to have some advantages over the Terlingua district. Underlying the Georgetown limestone in this area is from 40 to 60 feet of marly shale and clay (Kiamichi formation) which is not present, or, if so only very poorly developed, in the Terlingua district. The presence of the Kiamichi in this area lying between the Georgetown and Edwards limestones could prove to be very important from the standpoint of the formation of valuable mercury ore deposits. This formation being rather impervious could have acted as a trap which checked or slowed the ascent of mercury-bearing solutions, thereby causing the deposition of ore bodies, just as the Del Rio shale did in the Terlingua district. Also, because the water table is relatively shallow around Terlingua most of the mines in that area have had to

cope with a rather serious water problem. The water table in the area in which these claims are located is deeper and it would, therefore, be possible to explore much more of the Lower Cretaceous section without encountering any great amount of water.

In view of the above facts and observations, it is recommended that the property be explored according to the following plans. (See accompanying map which shows the proposed work).

I. Along the fissure zone on which most of the previous work has been done it is suggested that:

(1) Sink a shaft (5' x 9') to a depth of 350 feet, or to the base of the Kiamichi formation. This shaft should be located in about the middle of the long trench which has been dug. (See map showing work done).

(2) Beginning in the little canyon at a point some 25 feet above the valley floor on the above mentioned fissure zone, drive a tunnel (5' x 7') in along the fissure zone for a distance of 300 feet.

II. Sink a shaft (4' x 6') in the large sink situated in the eastern part of the Quen Sabe claim and extending into the Rayona claim to a depth of 50 feet.

III. Sink a shaft (4' x 6') in the large sink situated in the northwest corner of the Last Chance claim and extending into the west end of the Rayona claim to a depth of 50 feet.

IV. Dig numerous shallow test pits over the claims, especially at points shown on the map.

V. Drill churn holes to the top of the Edwards limestone at points shown on the map. (A total of 3000 feet of 5" hole).

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(a) Labor, by numbers and classes (miners, muckers, millmen, etc.) with wages of each.

(b) Supervisors, by numbers and positions, with salaries of each.

(c) Cost of necessary repairs to existing facilities, structures, and buildings.

(d) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(e) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(f) Cost of rental for equipment which the operator proposes to rent.

(g) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(h) Cost of materials and supplies, including items of equipment costing less than $50 each.

(i) Cost of power, water, utilities, and any other items not provided for above.

Labor:

Shift No. 1:

2 muckers @ 85¢/hr.	$ 6.80/shift	
1 hoistman @ $1.25/hr.	10.00/shift	
1 trammer-roustabout @ 85¢/hr.	6.80/shift	
1 mechanic @ $1.50/hr.	12.00/shift	
		$35.60

Shift No. 2:

1 driller (miner) @ $1.25/hr.	10.00/shift	
1 driller's helper@ $1/hr.	8.00/shift	
1 hoistman @ $1.25/hr.	10.00/shift	
1 compressor tender-roustabout @ $1/hr.	8.00/shift	
		$36.00
Labor - Total per day (2 shifts)		$71.60

(b) Supervision:

Engineer-in-charge (competent mining engineer includes his expenses, mileage, etc.)	$30.00/day	
Consulting fees for project, geologic and otherwise	$750.00	
Total for project (9 months)		$7500.00

(c) Repairs to existing facilities:

Road work	250.00

(d) Cost of necessary installations, facilities, buildings, etc.

Tents for workers to live in:

3 - 16' x 16' @ $100.00 ea.	300.00	
All-purpose building for small office, storage, and shop, 20' x 24', cheaply constructed temporary building	2000.00	
Small powder house	125.00	
Total		$2425.00

(e) Cost of items of equipment which must be purchased at cost of $50 or more each:

(1)	Combination wench, gasoline motored hoist	$2500.00	
(2)	Ore bucket, ½ ton 3 @ $65 ea.	195.00	
(3)	Ore car, @ $50.00 (used)	50.00	
(4)	Sheave, 30" @ $50.00	50.00	
(5)	Track (used) 1½ ton @ $90/ton	135.00	
(6)	Forge, blacksmith	125.00	
(7)	Vise	60.00	
(8)	Anvil - 75 lbs.	125.00	
(9)	Bolt stock die set	65.00	
(10)	Pipe stock die set	75.00	
(11)	Jack hammer, 67 lb. 2 @ $250 ea.	500.00	
(12)	Cradle, arm and column for jack hammer	225.00	
(13)	Electric detonator	75.00	
(14)	Miscellaneous	500.00	
	Total		$4680.00

(f) Cost of rental for equipment:

Air compressor (105 c.f.)	$350.00/mo.	
Total for 9 months		$3150.00

(g) Rental value of equipment owned by operator:

Truck, ½ ton pick-up	$125.00/mo.	
Total for 9 months		$1125.00

(h) Cost of materials & supplies:

(1)	Gasoline, 2000 gals. @ 22¢/gal.	440.00
(2)	Oil, lubr. 20 gals. @ $1.25/gal	25.00
(3)	Grease, 30 lbs. @ 30¢/lb.	9.00
(4)	Shovels, picks, & misc. hand tools	150.00
(5)	Dynamite, 1000 lbs. @ $21.25/100 lbs.	212.00
(6)	Caps - electric & fuse	125.00
(7)	Fuse	15.00
(8)	Timber - 1 x 4, 2 x 4, 4 x 4, 8 x 8 - 3000 bd. ft. @ $250/1000 ft.	750.00
(9)	Cable, steel - ½" 400' @ 20¢/ft.	80.00
(10)	Jack bits - 1200 @ 60¢ ea.	720.00
(11)	Steel-drill (jack hammer) 2', 4' & 5' lengths @ $1.50/ft.	375.00
(12)	Pipe, steel - 2" for air-lines & water lines in shafts & tunnels - 1000' @ 65¢/ft.	650.00
(13)	Bolts, washers & nuts	50.00

(14)	Wrenches, pipe	60.00	
(15)	First aid & safety equipment & supplies	150.00	
(16)	Air hoses - 2" 75' @ $1.00/ft.	75.00	
(17)	Windlass	35.00	
(18)	Rope, 5/8" 75' for windlass	7.50	
(19)	Ore bucket - small for windlass	30.00	
(20)	Air & water line valves & connections	75.00	
(21)	Vent pipe - 12" 300' @ 60¢/ft.	180.00	
(22)	Misc. supplies	600.00	
	Total		$4814.00

(i) Cost of water, churn drilling, and haulage; Social Security payments and insurance; auditor fees.

Water supply costs:

(1)	Dig well (4' x 4') 25' deep	$ 75.00
(2)	Centrifugal pump w/4 hp. gasoline engine	250.00
(3)	Tank for water storage galv. 16 gauge, 750 gal. cap.	350.00
(4)	Pipe, 1½" - 1500' @ 50¢/ft.	750.00
	Total	$1425.00

Churn drilling costs:

3000' of 5" hole @ $2.00/ft.	$6000.00
Haulage	300.00
Social Security payments and insurance	3000.00
Auditor fees	600.00
Total	$9900.00

Total Item (1) $11,325.00

COST BREAK-DOWN SUMMARY

Totals for project - 9 months or 225 working days

a.	Labor	$16,110.00	
b.	Supervision & consulting fees	7,500.00	
c.	Repairs to existing facilities (roads)	250.00	
d.	Cost of necessary buildings, structures	2,425.00	
e.	Cost of items of equipment to be purchased	4,680.00	
f.	Cost of rental equipment	3,150.00	
g.	Cost of rental from operator	1,125.00	
h.	Cost of materials & supplies	4,814.00	
i.	Cost of water, churn drilling, Soc. Sec., insurance and auditor fees	11,325.00	
	Total cost of project		$51,379.00
	Amount to be furnished by applicant	$12,845.00	
	Amount requested from Government	$38,534.00	

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

It is estimated that 9 months, or 225 working days, will be required to complete work outlined in this application, from the time work is started. The applicant will start work within 60 days after the project is approved.

I. Preparatory Stage (1st month of operation):

1. Dig water well, install water pump, lay pipe line and erect storage tank.
2. Do necessary road work.
3. Erect temporary building.
4. Put up tents for workers to live in.
5. Move in and set up air compressor.
6. Build head frame and set hoist.
7. Purchase necessary supplies, hand tools, equipment, etc. for the project.
8. Start work on main shaft.

ESTIMATED COSTS FOR STAGE I $16,000.00

II. Sinking of main shaft (2nd, 3rd, 4th and 5th months):

1. Complete main shaft to depth of 350' +/-
2. Complete one 4' x 6' shaft to depth of 50'
3. Start and complete one-half of the churn drilling program.
4. Dig some test pits.

ESTIMATED COSTS FOR STAGE II $13,000.00

III. Begin main tunnel operation (6th month):

1. Move compressor and other equipment to adit location and start tunnel into hill along fissure zone.

2. Continue test pitting.

3. Complete churn drill operations.

ESTIMATED COSTS FOR STAGE III $8,500.00

IV. Completion of tunnel and all other work proposed. (7th, 8th and 9th months):

1. Complete tunnel - distance of 300'

2. Complete all test pitting.

3. Complete study of drill samples.

4. Sink second 4' x 6' shaft to depth of 50'

ESTIMATED COSTS FOR STAGE IV $13,879.00

NOV 17 1952

FIG. 1—Method of distilling mercury in the 15th century from Agricola's De Re Metallica. Ore was put in the upper of the two pots, separated by moss and sealed with clay. Heat distilled the mercury into the lower pot.

CINNABAR NEAR PERSIMMON GAP BREWSTER COUNTY, TEXAS

W. N. McANULTY
Department of Geology
University of Texas

INTRODUCTION

In 1949, John Bennett, a bee-keeper and prospector who lives on Maravillas Creek near the north entrance to Big Bend National Park, Brewster County, Texas, while hunting for agate and other materials for the rock-hound trade, found cinnabar in a siliceous fissure-vein in the Georgetown limestone on a section of land which joins Big Bend National Park not far from Persimmon Gap. Small scale hand-tool type of prospecting carried on

by Bennett during 1949-1950 revealed in two test pits interesting shows of cinnabar. In the latter part of 1950 a partnership was formed to further explore the area, and during the first quarter of 1951 several test pits and trenches were dug over 5 claims. In April, 1951, the Defense Minerals Administration announced a program designed to encourage prospecting for certain minerals in short supply. Under this program the DMA contributes 75 per cent of the cost of exploration for mercury minerals. A DMA project for exploring the property in question was started October 1, 1951.

LOCATION

The occurrence is located immediately northeast of the northeast boundary of the Big Bend National Park, approximately 5 miles east of Persimmon Gap, about 1½ miles northeast of Dog Canyon, and immediately south of the confluence of Dog Creek and Maravillas Creek. The claims are on the Purnell Ranch, approximately 45 miles south-southeast of Marathon, Texas, in the Bone Spring Quadrangle.

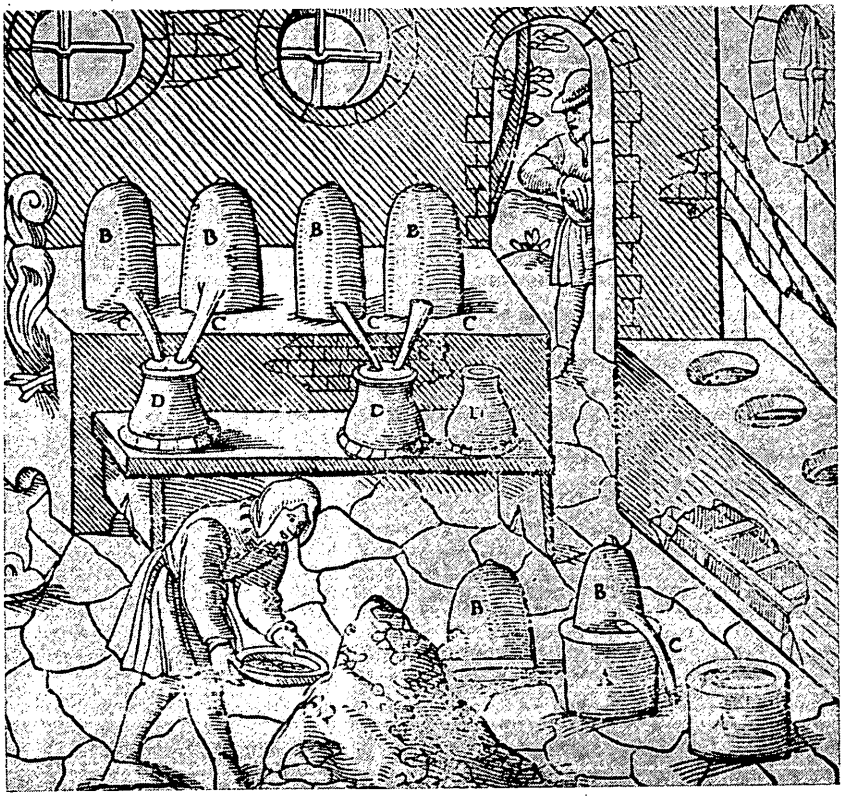


FIG. 2—In another method, the quick silver fumes from furnace pots (A) passed through nozzles (C) to condense in the gourd-shaped vessels (D).

GENERAL GEOLOGY

The Georgetown limestone of Lower Cretaceous age forms a rather rugged, irregular terrane with as much as 250 feet of relief. Although this is the only formation outcropping in the immediate vicinity of the mining claims, younger Cretaceous rocks occur within one-fourth of a mile, including the Del Rio clay and Buda limestone of the Lower Cretaceous, and the Bouquillas formation of the Upper Cretaceous. Paleozoic rocks outcrop in Persimmon Gap and a few miles northward in the Marathon Basin. Over much of the area adjacent to the property on the south and southeast is a mantle of high level stream gravels and boulders. This material is composed of well rounded gravels and boulders of both sedimentary and igneous rock types, apparently deposited by Dog Creek before it was diverted by capture at a point just east of Dog Canyon.

Within the Boquillas formation on an anticlinal structure about 1½ miles to the southeast a synodioritic sill about 100 feet thick is exposed, and there are several plug-like intrusives to the north and east. Remnants of lava rocks cap a series of hills a few miles to the east.

FIG. 3—Sometimes the ore was covered with sand or ashes. Vapors sought refuge in upper jar; mercury fell into sand.

STRUCTURE

The area is situated along the northeast flank of the southern end of the Santiago Mountains and on the southern flank of the Marathon Dome. The Santiago Mountains are about 40 miles long extending from Dog Canyon northwestward to Del Norte Gap where they give way to the Del Norte Mountains. The southeastward extension of these mountains from Dog Canyon is called the Sierra del Carmen range. Santiago Mountains owe their height partly to a large normal fault which has downthrown the Cretaceous beds on the east. South of the Marathon Basin these mountains continue for about 20 miles as a sharp narrow anticline which passes into a great recumbent fold in the vicinity of Dog Canyon. Between the area in which the claims are situated and the Santiago Mountains are 2 or 3 normal faults of considerable displacement. The claims are on one of a series of low hills, foot hills, which parallel the Santiago Mountains for several miles along their northeast face. They are situated on the southwest limb of an anticlinal structure which plunges southeastward. Indications are that this structure is quite large, however, Maravillas Creek cuts across it on the north and northeast and all bed rock is covered over the broad alluvial flat through which Maravillas Creek meanders. Along the southwest side of the property

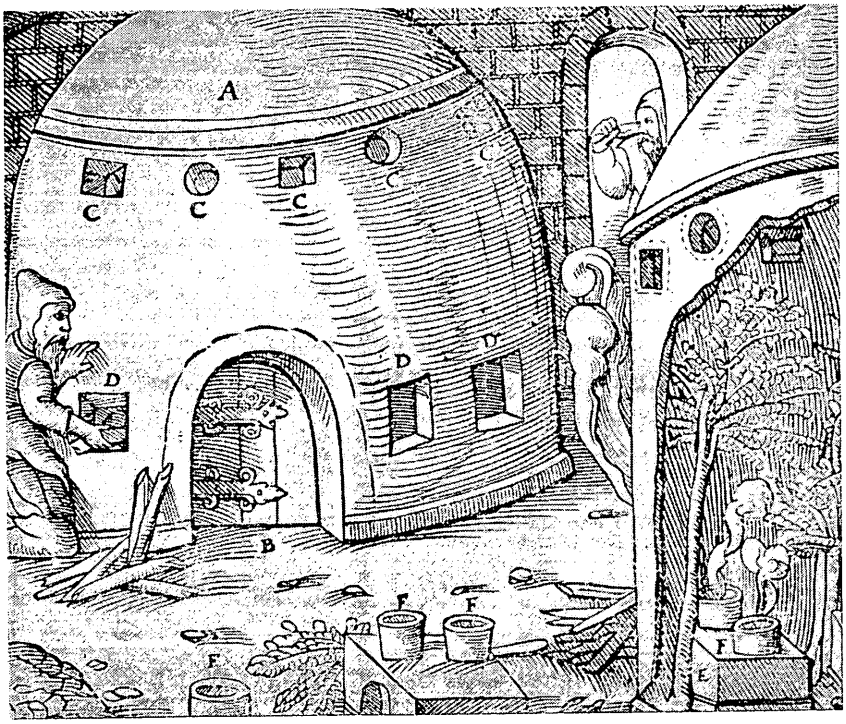


FIG. 4—The sloping floor of these condensing chambers collected the droplets which fell from the cool leafy branches put there to assist condensation.

to be present in the area; that is structural control, openings in the rock through which mercury bearing fluids could enter and accumulate, impervious materials to stop the advance of the fluids and permit precipitation, and intrusive igneous bodies as a source for the mercury. From a geological point of view this area appears to offer considerable promise for the occurrence of economic deposits of mercury minerals. It may have some advantages over the Terlingua district. The exact thickness of the Georgetown in this area is not known, however, it is probably less than 600 feet in thickness, and the Kiamichi clay which underlies the Georgetown here might prove to be a very favorable horizon for the accumulation of mercury minerals, just as the Georgetown-Del Rio contact is important in the Terlingua district. Where the Terlingua mines encountered large quantities of ground water at relatively shallow depths, there should be no ground water problem in the Maravillas country.

Whether or not this particular property will prove to be of economic importance remains for future exploration work to determine. This discovery is significant and this area warrants further investigation.

is a normal fault trending N. 60° W., with approximately 200 feet downthrow on the northeast side. Several fissure-zone trends complementary to this fault cross the downthrown block on which the claims are located.

MINERALIZATION

It is in fissure veins and in collapse-debris filling of subterranean passages along northeast-southwest trending fissue zones that the mineralization occurs. Cinnabar (HgS) is the only mercury mineral that has been definitely identified, however, associated yellowish materials possibly represent secondary mercury minerals such as calomel (Hg_2Cl_2), eglestonite (Hg_3OCl_4), and terlinguaite (Hg_2OCl). Calcite, quartz, and iron oxides are the main gangue minerals. Cinnabar occurs in veins mixed with calcite, cryptocrystalline quartz, and as an encrustation along joints and fissures. It is also found disseminated through caliche and clay (jaboncillo), silica-replaced limestone blocks, and in vugs in green crystalline quartzitic material, all of which makes up a collapse rubble-like fill in slumped solution cavities in the Georgetown limestone, which are located at intervals along the fissure-trends.

FUTURE POSSIBILITIES

This property is interesting in that it reveals cinnabar deposits very similar in occurrence to those in the Mariposa area of the Terlingua district. All of the known geologic requisites for the occurrence of cinnabar seems

FIG. 5—This method is similar to the one shown, in which sand or ashes are used cover the ore. Here, however, a furnace is used, instead of a tripod and pots.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
Joplin, Missouri
December 27, 1951

DEPARTMENT OF THE INTERIOR
RECEIVED
JAN 2 1952
Defense Minerals Administration,
Production Expansion Division.

Defense Minerals Exploration
Administration
U. S. Department of Interior
Washington 25, D. C.

Re: Docket No. DMA 1514X
Contract No. Idm-E112
Maravillas Minerals Co.

Dear Sirs:

Transmitted herewith are two copies of the monthly report for the subject Exploration Project for December, 1951 on Form MF-104 with appropriate attachments, as required by the Washington office of the Defense Minerals Exploration Administration.

The original has been forwarded on this date to the office of the U. S. Bureau of Mines, Amarillo, Texas, and one copy is retained in the Joplin file of this office.

Sincerely yours,

David Gallagher

David Gallagher
Chairman
DMEA Field Team, Region VI

/jd
Enclosures

Note statement by Chief Counsel's memo in DMA 1514X Maravillas Minerals Co. re: incorporating Project I of 1514 in new contract in ~~these~~ there would be a certification under the new agreement. ???

MF-104
(August 1952)

DEC 26 1951

Budget Bureau No. 42-R1036.2.
Approval Expires 6-30-52.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Contract No. 112
Idm-E

Maravillas Minerals Company
Name of Operator
1514 X
Docket No. DMA
3300.00
Total Contract Amount $
75
Government Participation:
December, 1951
Distribution of Expenditures for Month of

STRATEGIC AND CRITICAL MINERAL EXPLORATION PROGRAM
OPERATOR'S MONTHLY PROGRESS REPORT

Operators are to submit monthly reports to the designated field representative of the Defense Minerals Administration. Reports are to be submitted in quadruplicate prior to the 15th day of the month following the reporting period.

Narrative.—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered is to be furnished.

Maps.—Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

Cost Accounts.—All applicable parts of this form are to be filled in. This report will form the basis for payments of the Government's participating share of expenses. Audits of accounts may be made from time to time.

CERTIFICATION

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

Maravillas Minerals Company
(Name of Company)

By W. H. McCrulty
(Signature of Authorized Official)

December 23, 1951
(Date)

Manager
(Title)

NOTE.—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.

16—64068-3

MONTHLY SUMMARY COST STATEMENT

List as Shown on Exhibits Attached to Contract

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
1. Fixtures and Improvements:						
(a) Facilities						
(b) Buildings (tents)		149.25	149.25			
(c) Fixtures						
2. Operating Equipment:						
(a) Purchased[1]						
(b) Rented[2]	145.84	666.66	812.50			
(c) Furnished by operator						
3. Rehabilitation and Repairs:						
(a) Facilities						
Road work	--	300.00	300.00			
(b) Buildings						
(c) Installations						

16—64068-3

NARRATIVE PROGRESS REPORT OF WORK DONE
BY MARAVILLAS MINERALS CO.
DURING DECEMBER, 1951

Docket No. DMA 1514 X
Contract No. Idm-5112

Project No. 1 was completed on December 15, 1951. This project included the exploration of a mineralized outcrop containing mercury by means of eleven test pits, located as shown on "Map of Proposed Exploration Work" attached to the above mentioned contract. Ten of these test pits were completed during October and November, 1951. The one remaining pit (No. 15 on the map) was dug and additional work was done on pits 10 and 11 during this month.

Pit No. 15. - 4' x 6' x 10', located in what appears (topographically) to be a sink in the Lower Cretaceous (Georgetown) limestone. The limestone penetrated by the hole is highly broken but did not contain collapse debris such as was found in other tests showing mercury minerals. It is possible that the hole was too shallow to encounter the slump material.

Dr. David Gallagher and Mr. Clinton C. Knox, DMA Field, Region VI, visited the prospect with the writer on December 15, 1951 and examined results of work done during the operation of Project No. 1.

W. N. McAnulty
W. N. McAnulty, Manager
Maravillas Minerals Co.

December 23, 1951

SUMMARY NARRATIVE REPORT OF WORK DONE BY
MARAVILLAS MINERALS COMPANY, OCTOBER 1, 1951
through December 15, 1951 - Project No. 1 of
Contract No. Idm-E112, Docket No. 1514 X

Project No. 1, according to Exhibit A of subject contract, authorized the digging of "eleven test pits adequate for exposing and sampling mineralized fissure zone and located at reference points numbered 5 to 15 inclusive as shown on map attached". Monthly narrative progress reports of work done by Maravillas Minerals Company give the results of the work done. A summary of the results follows below:

Pits averaging 4' x 6' x 10' each were dug at the reference points shown on map attached to Exhibit A. Shows of cinnabar were found in Pits 5, 6, 10, and 12. The other tests passed through interesting sections of broken mineralized limestone and in some cases brecciated collapse debris which might well carry mercury minerals at greater depth.

A good access road was built into the prospect, which involved two days work with a bull dozer, and several trails over which a truck could move an air compressor were cleared over the claims.

It is the writer's opinion that Project No. 1 produced favorable results. The work verified the existence of mineralized trends which the writer had postulated on the basis of insufficient prospecting done previously. Cinnabar is now known to be present at the following places over the claims (see Exploration Map in your files): Pits 1, 2, 3, 4, 5, 6, 10, 12, and in a trench approximately 150 feet long across the middle of the east end of the Manana Claim and extending on across into the Quien Sabe Claim. The cinnabar occurs in fissure veins and is disseminated through collapse breccia in solution cavities in the Lower

Cretaceous (Georgetown) limestone. Numerous collapsed solution cavities aligned along fissure-zone trends appear to be present in the area of the claims, and each of these filled cavities could possibly contain ore bodies of economic importance.

A. H. McAnulty
Mgr., Marcellus Minerals Co.
12/23/51

EXPENDITURES, PROJECT I - October, 1951

Date	Item	Cost	Check No.
Sept. 27	Rental, air compressor & jack hammer (R.N. Pulliam, Alpine)	166.66	1A
Oct. 6	Gasoline, 110 gals @ 21¢ (Magnolia Petr. Co., Alpine)	23.10	13
" "	Motor oil, 5 gals @ 88¢ (Magnolia Petr. Co., Alpine)	4.40	13
" "	Dynamite, 1 case (Alpine Lbr. Co.)	12.50	14
" "	Fuse, 300 ft. @ $1.75 per 100 ft. (Alpine Lbr. Co.)	5.50	14
" "	Fuse caps, 200 @ 3¢ ea. (Alpine Lbr. Co.)	6.00	14
" "	Plug, galv. 1" (Alpine Lbr. Co.)	.17	14
" "	Tents, 3 - 9' x 12', @ $49.063 ea. (refund to E.S. Avitts who had paid for them with personal funds)	149.29	15
" "	Jack bits, Timkin, 100 (refund to E.S. Avitts who had paid for them with personal funds)	54.80	15
Oct. 8	Labor (Sotero Morin) 29 hrs. @ 85¢/hr. 10-3 to 10-6 inc.	24.27*	1
" "	Labor (Bill Dodson) 29 hrs. @ 75¢/hr. 10-3- to 10-6 inc.	19.82*	2
Oct. 12	Labor (Sotero Morin) 40 hrs. @ 85¢/hr. 10-8 to 10-12 inc.	31.52*	3
" "	Labor (Bill Dodson) 40 hrs. @ 75¢/hr. 10-8 to 10-12 inc.	26.35*	4
Oct. 13	Gasoline, 55 gals @ 21¢/gal. (Magnolia Petr. Co., Alpine)	11.55	5
" "	Fuse, 400 ft. @ $1.75/100 ft. (Alpine Lbr. Co.)	7.00	6
" "	Fuse caps, 100 @ 3¢ ea. (Alpine Lbr. Co.)	3.00	6
Oct. 16	Labor (Sotero Morin) 16 hrs. @ 85¢/hr. 10-15 to 10-16 inc. plus $2.00 error from previous week's pay.	15.36*	7
" "	Labor (Bill Dodson) 16 hrs. @ 75¢/hr. 10-15 to 10-16 inc.	11.82*	8
Oct. 24	Gasoline, 55 gals @ 21¢/gal (Magnolia Petr. Co., Alpine)	11.55	9

EXPENDITURES, PROJECT I - October, 1951 (continued)

Date	Item	Cost	Check No.
Oct. 24	Dynamite, 1 case (Alpine Lbr. Co.)	12.50	10
Oct. 31	Labor (John T. Bennett) 155 hrs. @ 85¢/hr. 10-1 to 10-28 inc.	132.50*	11
" "	Supervision (Foreman - E.S. Avitts) 10-3 to 10-31 inc. @ $200.00/mo.	192.75	12
" "	Rental, pickup truck, 1 mo. (E.S Avitts)	125.00	12
" "	Consulting (W. N. McAnulty) 2½ days @ $50.00/day	125.00	27
	Total expenditures for October	$1172.42	
	Total approved by DWA office	1145.52	

* Does not include soc. sec. withheld and matching soc. sec. payment

EXPENDITURES, PROJECT I - November, 1951

Date	Item	Cost	Check No.
Oct. 27	Rental, air compressor & jack hammer (part payment) (R. N. Pulliam, Alpine)	166.66	26
Nov. 2	Labor (Guillermo Ortiz) 40 hrs. @ 85¢/hr 10-29 to 11-2 inc.	33.49*	16
Nov. 3	Gasoline, 55 gals @ 21½¢ (Magnolia Petr. Co., Alpine)	11.82	17
" "	Motor oil, 6 gals @ 99¢ (Magnolia Petr. Co., Alpine)	5.94	17
" "	Dynamite, 1 case (Alpine Lbr. Co.)	12.50	18
" "	Fuse caps, 200 @.03¢ ea. (Alpine Lbr. Co.)	6.00	18
" "	Fuse, 400 ft. @ $1.75 per 100 ft. (Alpine Lbr. Co.)	7.00	18
Nov. 16	Labor (Jose Ortega) 40 hrs. @ 85¢ /hr. 11-12 to 11-16 inc.	33.49*	19
Nov. 17	Gasoline, 55 gals @ 21½¢/gal. (Magnolia Petr. Co., Alpine)	11.82	20
Nov. 23	Labor (Jose Ortega) 40 hrs. @ 85¢/hr. 11-19 to 11-23 inc.	33.49*	21
" "	Labor (Felipe Hinajas) 40 hrs. @ 85¢/hr. 11-19 to 11-23 inc.	33.49*	22
Nov. 30	Labor (Felipe Hinajas) 40 hrs. @85¢/hr. 11-26 to 11-30 inc.	33.49*	23
" "	Labor (Pablo Fierro) 40 hrs. @ 85¢/hr. 11-26 to 11-30 inc.	33.49*	24
" "	Labor (John L. Bennett) 177 hrs. @ 85¢ per. hr. 10-29 to 11-30 inc.	139.56*	25
" "	Supervision (Foreman - E.S. Avitts) 1 mo.	200.00	28
" "	Rental, pickup truck, 1 mo.(E.S.Avitts)	125.00	39
" "	Rental, air compressor & jack hammer (balance of payment) (R.N. Pulliam)	83.34	30
" "	Road work - bull dozer (Loyd Wade)	250.00	38
" "	Consulting, 3 days @$50/day (W.N.Mc Anulty)	150.00	30A
	Total expenditures for November	$1370.58	

* Does not include soc. sec. withheld and matching soc. sec. payment

EXPENDITURES, PROJECT I - December, 1951

Date	Item	Cost	Check No.
Dec. 1	Handle, hammer, (Alpine Lbr. Co.)	1.42	31
Dec. 7	Labor (Felipe Hinajas) 40 hrs. @ 85¢/hr. 12-3 to 12-7 inc.	31.69*	32
" "	Labor (Luiz Trejo) 40 hrs. @ 85¢/hr. 12-3 to 12-7 inc.	31.69*	33
" "	Labor (John T. Bennett) 40 hrs. @ 85¢/hr 12-3 to 12-7 inc.	31.69*	34
" "	Tools sharpening (Motor Inn Machine Shop) Alpine, Texas	11.25	36
Dec. 15	Supervision (Foreman)(E.S. Avitts) ½ mo. @ $200/mo. (Less Soc. Sec. for entire project No. 1. See payroll summary).	92.55	35
" "	Rental, pickup truck (E.S. Avitts) ½ mo. @ $125.00/mo.	62.50	35
" "	Rental, Air compressor & jack hammer (R.N. Pulliam, Alpine, Texas)	83.34	40
" "	Soc. Sec. & income tax withholdings entire project No. 1. See payroll summary	58.68	37
" "	Consulting (W.N. McAnulty) 1 day @ $50/day	50.00	41
	Total expenditures for December	4521.81	
		4521.81	

* Does not include soc. sec. withheld and matching soc. sec. payment

PAYROLL SUMMARY FOR PROJECT NO. I - October 1 - December 15, 1951

Docket No. DMA 1514 X
Contract No. Idm-E112

Employee	Rate	Total time worked	Gross earnings	Soc. Sec. withheld	Income Tax withheld	Net Paid	Matching S.S. payments by Mar. Min. Co.
Sotero Morin (L)	85/hr	85	72.25	1.10	--	71.15	1.10
Bill Dodson (L)	75/hr	85	63.75	0.96	4.80	57.99	0.96
Guillermo Ortiz (L)	85/hr	40	34.00	0.51	--	33.49	0.51
Jose Ortega (L)	85/hr	80	68.00	1.02	--	66.98	1.02
Felipe Hinajas (L)	85/hr	120	102.00	1.53	--	100.47	1.53
Pablo Fierra (L)	85/hr	40	34.00	0.51	--	33.49	0.51
Luiz Trejo (L)	85/hr	40	34.00	0.51	1.80	31.69	0.51
John T. Bennett (L)	85/hr	381	323.85	4.85	15.20	303.80	4.85
E.S. Avitts (F)	200/mo	2.41 mos.	492.75	7.45	--	485.30	7.45
W.N. McAnulty (C)	$50/day	6½ days	325.00	--	--	325.00	--
Totals			1549.60	18.44	21.80	1509.36	18.44
Income tax withheld & soc. sec. payments to Gov't.						58.68	
			GRAND TOTAL			$1568.04	

SUMMARY OF EXPENDITURES FOR PROJECT NO. I

Docket No. DMA 1514 X
Contract No. Idm-E112

Month	Total Expenditure	Total Approved by DMA
October, 1951	1172.41 ~~1162.42~~ DG	1145.52
November, 1951	1370.58	1370.58
December, 1951	457.81 DG	457.81 DG
TOTAL	~~$2994.81~~	$2967.91

Total authorized for Project No. 1 - 2997.80 DG $3300.00

Ok DG

MONTHLY SUMMARY COST STATEMENT—Continued

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(d) Fixtures						
	95.07	537.70	632.77			
	142.55	655.60	798.15			
4. Labor[3]						
5. Supervision		71.75	71.75			
6. Supplies						
(a) Timber	12.67	135.14	147.81			
(b) Explosives						
(c) Repair Parts						
(d) Other						
7. Power						
8. Transportation						
9. Insurance						
(a) Fire						
(b) Public Liability						
(c) Workmen's Compensation						
Sec. Sec. & Income						
10. Contract Work	53.68	none	53.68			
11. Other (specify) Tax Withheld for all of Project 1						
	454.81	2516.10	2970.91			
Total						
Deletions						
Adjusted totals						
Totals previously reported						
Totals to date						

[1] Enter amount paid during month toward total purchase price.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.
[3] Submit copy of the Social Security form filed under the Old Age Insurance system showing complete wage and salary data or furnish copy of payroll sheet giving same data.

NOTE.—Indicate that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by Edwin T. Perkins

Entered by

Approved by David Gallagher

Amount approved for payment

Remarks

16—64068-3

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF December, 1951

(Supply Data Below Applicable Only to Your Operations)

Item	Costs					Progress [4]				
	Wages [1] and salaries	Equipment [2]	Supplies	Other [3]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract (Exhibit A)
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes										
Overburden										
Rehabilitation and preparation										
Geology and ~~geophysics~~ consulting	50.00				50.00					
Trenching										
Sampling and assaying										
Roads and trails	—									
Test pits	187.62	145.84	12.67	58.68	404.81	pit	1	10	11	11
Other (specify)										
Totals	237.62	145.84	12.67	58.68	454.81		1	10	11	11

[1] Prorate supervisory, engineering, and office salaries in proportion to man-shifts of direct labor.
[2] Prorate charges for equipment that is not exclusively for one type of job (such as compressors) against authorized units of work in each category.
[3] Where entries in the "Other" column (above) are more than 25 percent of the total expenditures, a breakdown of this item should be made.
[4] Specify whether feet, cubic feet, acres, miles, etc.

16—64068-3 U. S. GOVERNMENT PRINTING OFFICE

NARRATIVE FROM REPORT ON TERMINATED CONTRACTS AS OF DECEMBER 31, 1952, SUBMITTED TO THE ADMINISTRATOR JANUARY 9, 1953.

Contract No. Idm-E112
Docket No. DMA-1514X
Contract date: August 14, 1951
Commodity: Mercury
Contractor: Maravillas Minerals Company
Location: Brewster County, Texas
Contract Amount: Project #1 - $ 3,300.00
Project #2 - 7,150.00
Total - $10,450.00
Govt. participation: 75% - $7,837.50
Total spent: $2,970.91 (Government paid $2,228.18)

This contract was terminated on November 28, 1952, before completion of the project.

The contract consisted of two stages. Project #1, consisting of shallow test pits, evidently revealed the presence of mercury mineralization. Project #1 was completed to the satisfaction of the Field Team as of December 15, 1951. The Field Team, however, did not approve of proceeding with Project #2 as drawn up in the contract. Much time was consumed by correspondence between the Operator and the Field Team in attempting to arrive at a satisfactory method of exploration under the contract. The Operator desired to sink a 5 x 7 shaft 100-150 feet in depth and then do a certain amount of drifting on the level reached. However, it was questionable whether sufficient funds remained for doing this work and an alternative proposal was made. In due time, the Operator moved to another location and decided to reactivate the project at a later date if agreeable to the Government. By letter dated November 12, 1952, the Operator requested that the contract be allowed to remain dormant until after June, 1953. Accordingly, it was mutually agreed to terminate the contract as per the date above.

It is Legal's opinion that should the Operator desire to reactivate the property and apply for a new project and if a new contract is drawn up, the first project (under subject terminated contract) should be incorporated in the new contract by reference for the purpose of reactivating the Government's right to a percentage royalty for the money contributed under Project #1.

The small amount of camp equipment, including tents purchased under the contract, were stored, presumably in Alpine, Texas.

1514X

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

December 6, 1951

Defense Minerals Exploration Administration
U. S. Department of the Interior
Washington 25, D. C.

Re: Docket No. DMA-1514X
Contract No. Idm-E112
Maravillas Minerals Co.

Dear Sirs:

Transmitted herewith is one copy of the Monthly Progress Report, Form MF-104, for the subject exploration project for November, with appropriate attachments, as required by the Washington office of the Defense Minerals Exploration Administration.

The original and one copy of the report have been forwarded on this date to the office of the U. S. Bureau of Mines, Amarillo, Texas, and one copy is retained in the Joplin file of this office.

Sincerely yours,

Clinton C. Knox

Clinton C. Knox
For David Gallagher

Enclosure

/lh

1951

xxxxxxxxxxxxxx
Joplin, Missouri

December 6, 1951

Defense Minerals Exploration Administration
U. S. Department of the Interior
Washington 25, D. C.

Re: Docket No. DMA-1514X
Contract No. Idm-K112
Maravillas Minerals Co.

Dear Sirs:

Transmitted herewith is one copy of the Monthly Progress Report, Form MF-104, for the subject exploration project for November, with appropriate attachments, as required by the Washington office of the Defense Minerals Exploration Administration.

The original and one copy of the report have been forwarded on this date to the office of the U. S. Bureau of Mines, Amarillo, Texas, and one copy is retained in the Joplin file of this office.

Sincerely yours,

Clinton C. Knox
For David Gallagher

Enclosure

/lh

MF-104
(August 1951)

2nd Copy

Budget Bureau No. 42-R1036.2.
Approval Expires 6-30-52.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Contract No. 112
Idm-E

Name of Operator Maravillas Minerals Company
Docket No. DMA 1514X
Total Contract Amount $ 10,450.00
Government Participation: 75% Amount, $ 7,837.50
Distribution of Expenditures for Month of November, 1951

RECEIVED
DEC 1 1951

STRATEGIC AND CRITICAL MINERAL EXPLORATION PROGRAM
OPERATOR'S MONTHLY PROGRESS REPORT

Operators are to submit monthly reports to the designated field representative of the Defense Minerals Administration. Reports are to be submitted in quadruplicate prior to the 15th day of the month following the reporting period.

Narrative.—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered is to be furnished.

Maps.—Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

Cost Accounts.—All applicable parts of this form are to be filled in. This report will form the basis for payments of the Government's participating share of expenses. Audits of accounts may be made from time to time.

CERTIFICATION

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

Maravillas Minerals Company
(Name of Company)

By W. N. McCrulty
(Signature of Authorized Official)

December 3, 1951
(Date)

Manager
(Title)

NOTE.—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.

16—64068-3

MONTHLY SUMMARY COST STATEMENT

List as Shown on Exhibits Attached to Contract

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only		
				Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
1. Fixtures and Improvements:						
(a) Facilities						
(b) Buildings (tents)		149.25	149.25			
(c) Fixtures						
2. Operating Equipment:						
(a) Purchased[1]						
(b) Rented[2]	375.00	291.66	666.66			
(c) Furnished by operator						
3. Rehabilitation and Repairs:						
(a) Facilities						
Road work	250.00	50.00	300.00			
(b) Buildings						
(c) Installations						

NARRATIVE PROGRESS REPORT OF WORK DONE BY
MARAVILLAS MINERALS COMPANY DURING NOVEMBER, 1951

Docket No. DMA 1514X
Contract No. Idm-E112

Five test pits (Nos. 7, 8, 10, 11, and 14 as shown on Exploration Work sketch map in your files) were completed during this reporting period. A description of each of these pits follows:

Test Pit No. 7 - 4' x 5' x 10'. In the vicinity of this pit the bedrock is concealed by a thin veneer of alluvium and we were trying to place both this pit and No. 8 on the fracture zone which is exposed approximately 100 yards to the northeast. (See map.) However, apparently both holes missed the main trend. No mercury minerals were recognized in this pit, however, there was some indication of mineralization in the form of silica-replaced limestone and iron oxides. From the surface down to about 2.5 feet there was alluvial material well cemented with lime (old "high level" alluvium). The balance of the hole passed through highly fractured limestones containing zones of silicified limestone, especially along fractures.

Test Pit No. 8 - 5' x 8'. Whereas Hole No. 7 was possibly in the edge of fissure zone being searched for, Hole No. 8 appears to have been completely off it. No evidence of any mineralization was observed in this hole. The bedrock was white somewhat chalk limestone (characteristic Georgetown limestone).

Test Pit No. 10 - 4' x 5' x 10'. This test pit was put down at a location approximately 50 yards south of the location shown on the map. It is located near the center of the north end of the Last Chance Claim. It sets on the edge of a collapsed area. The southwest side of the hole is against solid light-gray unaltered limestone. The hole passed through a "collapse-debris" fill consisting of a jumbled-up mixture of clay, caliche and blocks of silicified limestone and relatively unaltered limestone. One boulder in this debris, at a depth of 5 feet, contained a seam of good grade cinnabar. Some cinnabar (flecks) was panned from the clay and caliche material. The thickness of this collapsed debris is not known, since the hole was bottomed in it. The occurrence of cinnabar in this pit, in the writer's opinion, is significant in that it shows that mercury minerals were deposited along the fissure trend as shown on the map. Although only a small amount of cinnabar was found, this test pit is one of the most interesting that has been dug.

Test Pit No. 11 - 4' x 6' x 8'. This hole is located on the same trend as Hole No. 10. The entire hole was in fill and collapse-debris. No undisturbed bedrock was encountered. The debris-fill was composed of a few limestone blocks, but mostly caliche and calcareous silt. No mercury minerals were found, however, some of the limestone boulders were partially replaced by silica and have a vuggy texture very similar to the siliceous limestone found in the vicinity of shaft No. 2, which contained cinnabar in the vugs.

Test Pit No. 14 - 5' x 6' x 7'. This hole passed through 3 feet of snow white caliche and from that on into unaltered Georgetown limestone which showed no mineralization at all.

Ten of the eleven test pits approved for Project No. 1 have now been completed. Cinnabar, in at least megascopically recognizable amounts, has been found in four of the ten test pits; namely pits 5, 6, 10 and 12.

The main road into the prospect was worked with a bull-dozer during the month. A hairpin curve about half way up a rather steep hill was widened and some cutting and grading done which reduced the grade considerably. Also the dozer was used to clear a road over Maravillas Creek flat leading to the area of the claims. The road is now in pretty good shape.

The crew for the month included three laborers and one foreman. The writer spent three days on the job during the latter part of the month.

We estimate that about one more week's work will be required to complete Project No. 1. It is hoped that soon afterward we can go over the ground with a DMA representative to check the results of the project.

MARAVILLAS MINERALS COMPANY

BY: W. N. McAnulty

W. N. McAnulty, Manager

December 3, 1951

MONTHLY SUMMARY COST STATEMENT—Continued

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(d) Fixtures						
4. Labor[3]	340.50	197.20	537.70			
5. Supervision	350.00	305.60	655.60			
6. Supplies						
(a) Timber						
(b) Explosives	25.50	46.25	71.75			
(c) Repair Parts						
(d) Other	29.58	105.56	135.14			
7. Power						
8. Transportation						
9. Insurance						
(a) Fire						
(b) Public Liability						
(c) Workmen's Compensation						
10. Contract Work						
11. Other (specify)						
Total	1370.58	1145.52	2516.10			
Deletions						
Adjusted totals						
Totals previously reported						
Totals to date						

[1] Enter amount paid during month toward total purchase price.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.
[3] Submit copy of the Social Security form filed under the Old Age Insurance system showing complete wage and salary data or furnish copy of payroll sheet giving same data.

NOTE.—Indicate that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by Clinton C. Knox
Entered by
Approved by David Gallagher
Amount approved for payment
Remarks

16—64068-3

* Less withholding taxes and social security. This will be reported at end of project #1 for all of project #1.
** Including geological consulting.

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF November, 1951

(Supply Data Below Applicable Only to Your Operations)

Item	Costs					Progress [4]				
	Wages [1] and salaries	Equipment [2]	Supplies	Other [3]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract (Exhibit A)
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes										
Overburden										
Rehabilitation and preparation										
Geology and ~~geophysics~~ consulting	150.00				150.00					
Trenching										
Sampling and assaying										
Roads and trails	250.00				250.00					
Test pits	540.50	375.00	55.08		970.58	pit	5	5	10	11
Other (specify)										
Totals	940.50	375.00	55.08		1370.58		5	5	10	11

[1] Prorate supervisory, engineering, and office salaries in proportion to man-shifts of direct labor.
[2] Prorate charges for equipment that is not exclusively for one type of job (such as compressors) against authorized units of work in each category.
[3] Where entries in the "Other" column (above) are more than 25 percent of the total expenditures, a breakdown of this item should be made.
[4] Specify whether feet, cubic feet, acres, miles, etc.

16—64068-3 U. S. GOVERNMENT PRINTING OFFICE

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON, D.C.~~
Joplin, Missouri

December 6, 1951

Mr. W. N. McAnulty, Manager
Maravillas Minerals Company
1405 Palo Duro Road
Austin, Texas

Re: Docket No. DMA-1514X
Contract No. Idm-8112

Dear Mr. McAnulty:

Your November Monthly Progress Report was received and approved by this office today and transmitted to the Field Finance Officer at Amarillo for approval for payment. We believe it is possible that he will approve the report despite the fact that you did not "furnish copy of the payroll sheet" — "showing complete wage and salary data" attached to your report in accordance with footnote 3 on the Monthly Summary Cost Statement. That footnote was previously called to your attention in our letter to you on November 7. We hold that belief that your report will be approved for payment because we have explained to the Field Finance Officer that we intend to examine your project soon. Then we will also check the receipted bills you have paid against the total project costs which you certify to us for Government participation payments upon completion of Project #1. Total allowable expenditures of that first project must not exceed the $3,300 "maximum designated" in "Exhibit A" of the above-captioned contract which you signed with the Government. Also this DMA Field Team have approved the $50 excess on your monthly report over the $250 estimated road repair costs listed in "Exhibit A" since we interpret that we are authorized to do so as long as you stay within the $3,300 maximum designated total cost of Project #1 and still satisfactorily complete the required total 11 test pits.

In reply to your December 3 letter to me, which was also received this morning, tentative arrangements are being made for me to arrive in Alpine, Texas about the night of December 14. I plan to wire you about December 10 to advise you of the exact date ~~when I will arrive~~ when definite plans are completed here. In case our plans work out, I expect to examine your project and check your cost supporting documents over the week-end of December 14 or the first part of the next week.

With further reference to your letter to me, no information regarding your October report has been received, ~~which~~ we transmitted to the Field Finance Officer at Amarillo on November 7, so we presume it was approved for payment, in which case you should receive your Government participation check shortly.

Enclosed are five copies of Form MP-104 on which to prepare your final report for Project #1.

Best personal regards, and I hope that I may visit your project soon. I remain,

Sincerely yours,

Clinton C. Knox

Clinton C. Knox

Enclosures

CCK/lh

BU. Vou. No. DMA-6.-9

IF-104
pril 1951)

Budget Bureau No. 42-R1036.
Approval expires 6-30-51.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Copy
15147 Oct. Report

POSTED
DEC 3 1951
By

STRATEGIC AND CRITICAL MINERAL EXPLORATION PROGRAM
OPERATOR'S MONTHLY PROGRESS REPORT

Operators are to submit monthly reports to the designated field representative of the Defense Minerals Administration. Reports are to be submitted in quadruplicate prior to the 15th day of the month following the reporting period.

Narrative.—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered is to be furnished.

Maps.—Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

Cost Accounts.—All applicable parts of this form are to be filled in. This report will form the basis for payments of the Government's participating share of expenses. Audits of accounts will be made from time to time.

CERTIFICATION

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

Maravillas Minerals Company
(Name of Company)

By J. N. McAnulty
(Signature of Authorized Official)

November 1, 1951
(Date)

Manager
(Title)

NOTE.—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.

16—64068-1

MONTHLY SUMMARY COST STATEMENT

Name of operator Maravillas Minerals Co.
Project No. DMA 1514X (Contract # Idm-5112)
Total contract amount $10,450.00
Government participation percent 75

Distribution of Expenditures for Month of October, 1951

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals to Date
Wages and salaries	552.80 ~~579.44~~	C.C.K. None	552.80 ~~579.44~~	C.C.K.		
Equipment purchase [1]						
Equipment rental [2]	291.66	—	291.66			
Buildings (tents)	149.25	—	149.25			
Explosives	46.25	—	46.25			
Repair parts						
Other supplies	105.56	—	105.56			
Power						
Transportation						
* Withholding taxes						
Compensation insurance						
Other insurance						
Contract work						
Other (specify)						
Total	1145.52 ~~1172.16~~	C.C.K. None	1145.52 ~~1172.16~~	C.C.K.		
Totals previously reported			None			
Totals to date	1145.52 ~~1172.16~~		1145.52 ~~1172.16~~	C.C.K.		

* Will report at end of quarter.

FOR GOVERNMENT USE ONLY

Checked by Clinton C. Knox
Entered by
Approved by Paul Gallagher
Amount approved for payment $859.14
Remarks

[1] Enter total purchase price in month purchase is made.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.

16—64068-1

NARRATIVE PROGRESS REPORT OF WORK DONE BY
MARAVILLAS MINERALS COMPANY DURING OCTOBER, 1951

Docket No. DMA 1514X
Contract No. Idm-E112

Work was started on Project No. 1 under Contract No. Idm-E112 on October 2, 1951. Project No. 1 calls for digging test pits to be located as shown on "Map of Proposed Exploration Work" attached to above mentioned contract.

W. N. McAnulty, Geologist and Manager of the Maravillas Minerals Company, and E. S. Avitts, partner in the Company and foreman for the project, visited the claims on September 29-30, 1951 and made necessary plans and arrangements for starting the work on October 2. Mr. Avitts had previously purchased 3 tents, jackbits, and etc. which were delivered to the project at that time.

In order to get an air compressor, which was rented from R. N. Pulliam of Alpine, Texas, on location it was necessary to do some road work at different places over the claims. Approximately 200 yards of road adequate for a truck pulling the compressor in to locations was built by hand.

During the month test pits at the following locations (se map of Proposed Exploration Work attached to your copy of the contract) were completed: Nos. 13, 12, 6, 5, and 9.

Test Pit No. 13 - 15 feet long and 4 feet wide. Encountered approximately 2 feet of colluvium before passing into solid limestone. At the bottom of the hole on the west side a calcite vein 14 inches wide was found. This vein is composed of coarsely crystalline calcite admixed with considerable reddish and brown iron oxides. No mercury minerals were found, however, it might prove profitable to deepen this hole, especially in view of the fact that cinnabar was found previously in a calcite vein on this same trend some 200 yards to the southeast.

Test Pit No. 12 - 6 feet deep and 5 feet wide, located on the same fissure-zone trend as hole No. 13. The hole was in bedrock (Georgetown limestone) all the way down, however, fissure veins occur in the rock. A small amount of high grade cinnabar was found in a calcite-iron oxide-organic material vein in this pit.

Test Pit No. 6 - 6 feet deep and 4 feet wide, located about 50 feet southeast of pit No. 12 on same fissure trend. The limestone is cut by numerous veins composed of siliceous material, iron oxide, and calcite. Cinnabar was found disseminated in this vein material, and also in small pockets of caliche-like material. Approximately 200-300 pounds of cinnabar-bearing material was taken from this pit.

Test Pit No. 5 - 10 feet deep and 4 feet wide, approximately 100 yards southeast of hole No. 12. Solid limestone was encountered all the way down. The limestone is cut by closely spaced joints,

and brightly colored cinnabar occurs as a coating along the walls of these joints. Cinnabar was found from the grass roots all the way down and was still present in the bottom of this hole.

Test Pit No. 9 - 6 feet deep and 4 feet wide in massive limestone. No mercury minerals were found.

We were not able to complete as much work as we had hoped to do during the past month because sufficient labor could not be obtained and we were forced to operate with a very small crew, however we think we have solved, at least temporarily, our labor problem and hope to get much more done during November.

Prepared by:

W. N. McAnulty

W. N. McAnulty, Manager
Maravillas Minerals Co.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Joplin, Missouri
November 7, 1951

Mr. W. N. McAnulty, Manager
MaravillasMinerals Co.
1405 Palo Duro Road
Austin, Texas

Subject: Docket DMA 157hX(Mercury)
Contract Idm-E112

Dear Mr. McAnulty:

Your October Monthly Progress Report, the first under the above subject project, has been transmitted to the Field Finance Officer at Amarillo for approval for payment. In view of your expressed concern over the promptness of Government payments, I attempted to correct minor apparent errors on the report as I have indicated on the enclosed work copy in order to expedite your report for prompt Government payment.

In answer to your November 1 letter of transmittal, checks for Government participation have been received by the operator from 2 to 3 weeks after approval by this DMA Field Team office and transmittal to the Finance Officer for payment approval providing he finds no other errors or irregularities. No definite time for those payments is stipulated, however, in the above captioned contract you signed with the Government. The Field Finance Officer is responsible for those payments and cannot place himself in a position of liability because of arithmetical error or any irregularities in compliance with the contract.

In your case, I was unable to check your extended totals when multiplying total time units by rate per unit, so have reduced the totals for muckers and the foreman accordingly as shown in my above-mentioned work copy. Also yours is the first case we have had where the operator elected to delay charging the various taxes and insurances on employees until the end of the quarter. I have assumed that will be acceptable for this first month but those totals will have to be included upon completion of "Project #1" as designated in "Exhibit A" of the above captioned contract. As you will note, it specifies that not more than a total of $3,300.00 can be spent completing "Project #1" at which time you can notify me and we will try to send an engineer or geologist from this office as soon as possible to make the required examination in order to approve starting of "Project #2".

Just now we are pretty short handed here. I have been away and now Dr. David Gallagher is away on a trip to Washington so it will be impossible for me to leave this office. We will appreciate hearing from you well in advance so that we can anticipate any action that is to be required of us.

I am enclosing 5 copies of the revised Form MF-104 to be used in making your November Monthly Cost Report, one copy of which is for your files. You will note that they have been changed slightly, and require an attached copy of wage and salary data, etc.

We are very pleased to hear of progress on the project, and don't hesitate to write anytime this office can be of assistance to you.

I note that you have a change of address to Austin and have wondered if you have left Alpine, Texas permanently. With best personal regards to you, Mrs. McAnulty and your children and best wishes for the continued success of your DMA project, I remain,

Very sincerely yours,

Clinton C. Knox
For David Gallagher
Chairman
DMA Field Team, Region VI

CCK/jd
Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Joplin, Missouri
November 7, 1951

DIREC. X
NOV 13 1951

U. S. Bureau of Mines
Room 814 Barfield Bldg.
Amarillo, Texas

Subject: Maravillas Minerals Co.
Docket No. DMA-1514X
Contract No. Idm-E112

Dear Sirs:

Transmitted herewith is the original and one copy of the monthly report for the subject Exploration Project for October on Form MF-104, with appropriate attachments, as required for the Regional Finance Office, U. S. Bureau of Mines, Amarillo, Texas.

One copy has been forwarded on this date to Defense Minerals Administration, U. S. Department of Interior, Washington 25, D. C., and one copy is retained in the Joplin file of this office.

Sincerely yours,

Clinton C. Knox

Clinton C. Knox
For David Gallagher
Chairman
DMA Field Team, Region VI

/jd

Enclosures

C
O
P
Y

1405 Palo Duro Road
Austin, Texas
November 1, 1951

Mr. David Gallagher, Chairman
DMA Field Team, Region VI
Joplin, Missouri

Dear Mr. Gallagher:

Attached herewith is Form MF104, Monthly Report, reporting results of work done by Maravillas Minerals Company under contract Idm-E112, Project DMA 1514X (Mercury) for the month of October, 1951.

Please advise me as to when we can expect payment of the Government's participating share of expenses incurred during this reporting period. It will be necessary, in order to maintain continuous operations, for us to receive payments without too much delay. In other words, we are not prepared to finance the entire project and then wait on the Government to eventually pay its share of the costs.

Sincerely yours,

(Signed)
W. N. McAnulty, Manager
Maravillas Minerals Co.

DISTRIBUTION OF WAGES AND SALARIES FOR MONTH OF October, 1951

Name of operator Maravillas Minerals Co.
Project No. DMA 1514X (Contract #Idm-E112)
Total contract amount $10,450.00
Government participation percent 75

TYPE	NUMBER	8 hr. MAN-SHIFTS	RATE /hr.	TOTAL
Miners	2	30	$ 0.85	$204.00
Muckers	1	7.2	0.75	~~57.60~~ 43.20 C.C.K.
Trammers				
Timbermen				
Pumpmen				
Hoistmen				
Surface				
Samplers				
Assayers				
Shift bosses				
Mechanics				
Electricians				
Blacksmiths				
Carpenters				
Drill runners				
Drill helpers				
Teamsters				
Manager				
Superintendent				
Engineers				
Geologists consulting ~~and Manager~~	1	2.5 Consultant basis	$50.00 /da. C.C.K.	125.00
Bookkeeper				
Foreman	1	month (28/31 days)	$200/m	~~192.75~~ 180.60 C.C.K.
Clerks				
Stenographers				
Other				
TOTAL	5	39.7	—	~~579.44~~ 552.80 C.C.K.

NOTE.—Show only that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by Clinton C. Knox
Entered by
Approved by David Gallagher
Remarks

16—64068-1

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF October, 1951

Name of operator Maravillas Minerals Co.
Project No. DMA 1514X (Contract No. Idm-E112
Total contract amount $10,450.00
Government participation, percent 75

Item	Costs					Progress				
	Wages [1] and salaries	Equipment [2] Rental	Supplies	Other [3]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes										
Overburden										
Rehabilitation and preparation			149.25		149.25					
Geology and geophysics	125.00				125.00					
Trenching										
Sampling and assaying										
Roads and trails	50.00				50.00					
Test pits	~~404.44~~ 377.80	291.66 C.C.K.	151.81		~~847.91~~ 821.27 C.C.K.	pit	5	None	5	15
Other (specify)										
Totals	552.80 ~~579.44~~	C.C.K. 291.66	301.06		1145.52 ~~1172.16~~		5	None	5	

[1] Prorate supervisory, engineering, and office salaries in proportion to man-shifts of direct labor.
[2] Prorate charges for equipment that is not exclusively for one type of job (such as compressors) against authorized units of work in each category.
[3] Where entries in the "Other" column (above) are more than 25 percent of the total expenditures, a breakdown of this item should be made.

16—64068-1 U. S. GOVERNMENT PRINTING OFFICE

FOR GOVERNMENT USE ONLY

Checked by Clinton C. Tracy
Entered by
Approved by David Gallagher
Remarks

Docket
Surname
Murphy
Ellis

May 11, 1955

PROJECT SUMMARY REPORT

By: F. M. Murphy

1. Docket No. DMEA 1514X (Mercury)
Contract No. Idm-X112
Marevillas Minerals Co., (Limited partnership)
Brewster County, Texas

Operator's Property Rights: Cumaru, 5 lode mining claims, Lucky Strike, Marana, Quen Sabe, Last Chance and Rayona.

Contract: - dated August 14, 1951.

Work authorized - (actual cost)

Project No. 1.

(1)	Repair road to campsite	$ 250.00
(2)	Purchase of tents for camp	300.00
(3)	Rental of pickup truck	500.00
(4)	Labor for test pitting	650.00
(5)	Miscellaneous supplies	350.00
(6)	Supervision, engineering, consulting, and assaying	750.00
(7)	Rental air compressor and air drill	500.00
	Total	$3,300.00

Project No. 2.

(1)	3200 feet churn drilling @ 2.00/ft., or labor and supply cost for trenching	$6,400.00
(2)	Supervision, engineering, consulting, and assaying	750.00
	Total	$7,150.00
	Total both Projects	$10,450.00

Work completed:

Project No. 1 completed.

(1)	Repair road	$300.00
(2)	11 - Test pits	2,670.91
	Total	$2,970.91

Contract terminated: November 28, 1952 by mutual agreement. The second project was not started.

3. Audit-Certificate issued June 5, 1953 - no exceptions

Total cost	$2,970.91
75% Government share	$2,228.18

4. Certificate of Discovery - not issued as only traces of mercury were found.

5. Comments:

The Operators original application was for $51,379.00 aid. However, the Washington office deemed the proposed work too broad in scope and suggested the modified program outlined in the contract.

The Maravillas mercury prospect lies on the southern flank of the large Marathon dendical uplift which has been deeply truncated by erosion. Here a low range of hills are formed by outcrops of the slightly southward-tilted Georgetown limestone strata. In the vicinity of the prospect the upper strata of the limestone, together with all the immediately overlying blanket of Del Rio clay formation, has been removed by erosion.

Altho the potential ore horizon was eroded, disseminated traces of cinnabar throughout a steeply southward-dipping fissure zone indicated that ore deposits might be found in "trap" structures beneath the surface exposures: (1) in flattened segments of the "hanging wall" of the fissure, underneath which manto-type lenses of ore might have been deposited; (2) in circular sink-type breccia-filled collapsed caverns where "pipe" deposits might have been formed 50 to 350 feet below the surface, similar to the largest mercury ore bodies mined in the Terlinqua district about 40 miles south west; (3) in manto-type deposits immediately beneath the Kiamichi Marl Formation in the topmost strata of the porous Edwards limestone, at least 250 feet, but possibly as deep as 600 feet below the surface at the Maravillas Prospect.

Recommendations by Field Team:

"A bolder, well-planned, privately financed exploration program evidently could be justified at the Maravillas Prospect but no further Government financial assistance is recommended."

The Operator was given an opportunity by the DMEA to complete

the work outlined for Project 2, or submit a modification of the work. However, in a letter dated October 12, 1952, the Operator informed the Executive Officer of Region VI that he was not in a position to reactivate the project until possibly the following June. Therefore, by mutual consent the contract was terminated.

F. M. Murphy

F.Murphy:foc
5-23-55
cc to: Docket
Code 400
Adm. Reading File
Mr. Murphy

Yes Audited

No Certified

[redacted]K ANALYSIS SHEET - DMEA PROJEC[redacted]

Analysis as of 9/23/55
Incl. Voucher for

Yes Actual Cost

Agreed Unit Costs

Name Maravillas Minerals Company

Docket No. DMEA 1514X

State Texas

Commodity Mercury

Idm-E No. 112

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Test-pitting ~~Drifting x&x Crosscutting~~		$ 3,050.00	11	$ 2,670.91	$ 2,970.91
Raising					
Shafts					
Winzes					
Drilling - churn (Specify)	3,200	$ 7,150.00			
Surface Excavation					
Underground Excavation					
Roads and Trails		$ 250.00		$ 300.00	
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify)					
Totals		$ 10,450.00		$ 2,970.91	$ 2,970.91

Prepared by ADM

71626

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

RECEIVED MAY 21 1956

Airmail

May 16, 1956

Dr. W. N. McAnulty, Geologist
Dow Chemical Company
Geological Department
104 Pecan Lane
Lake Jackson, Texas

Re: Docket DMA 1514-X
Maravillas Minerals Company
Project Contract Idm E-112

Dear Mac:

I was glad to receive your long distance call just now with the news that your associates in the Dow Chemical Company had taken an option on your Maravillas Mercury prospect on Marathon Dome, Brewster County, Texas. I have always regretted that it became impossible to carry out your previous exploration project there to a comprehensive conclusion. As you requested, enclosed herewith is a copy of DMEA Order-1, a booklet further explaining the Defense Minerals Exploration Program, and a set of the application forms MF-103.

After reading the enclosed information and instructions, should you and the men of Dow Chemical Company decide to file an application for DMEA exploration project contract, special attention should be directed to the instructions in paragraph 2, 4, 5 and 6 of the application form. I also advise that the maps and sketches referred to under 4(c) and 5(b) of the MF-103 form, likewise should be submitted in quadruplicate attached with each of the required four copies of the application and all other necessary supplemental sheets and documents.

If the mineral rights are held by virtue of a valid lease, please note the answers to questions 5 and 59 in the enclosed booklet. Ordinarily in such cases, a Consent To Lien (see enclosed sample of Form MF-203) is required from the land owner if and when a DMEA project is offered.

I further suggest that it is mutually advantageous if applications present firm evidence of a geologic probability for making a worthwhile ore discovery, an operating experience record and background with respect to the Applicant's ability to properly conduct the mining exploration program it proposes, and all details of the Applicant's plans and cost estimates for that program, essential for writing the specifications in the desired DMEA project contract.

Please do not hesitate to write for any further suggestions or assistance that might be needed for preparing the application. I will inform you if and when there is again an opportunity for me to be in Texas where I could consult with you directly on preparation of this application. I have just returned from spending the first week of this month in the Terlingua District, but while there, I was unable to learn of your whereabouts.

With best personal regards, I am,

Sincerely yours,

CCK/enn

Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV

cc: DMEA Op.Com.(2)
1514 file

COPY

February 11, 1955

Memorandum

To: Jay L. Chambers, Chief
Contract Adm. & Audit Division

From: Ernest Wm. Ellis, Chief
Rare & Miscellaneous Metals Division

Subject: Completed contracts - no discovery made

We have checked the attached list of contracts prepared by Mrs. Alley of your Division. It is not our intention to write "completion" letters to the Operators on these particular contracts, although in each instance the exploration work was unsuccessful, for the reason that the work was completed sometime prior to the adoption of the procedure to prepare final letters to the Operators.

/s/ Ernest Wm. Ellis

1-26-55

Rare and Miscellaneous Metals

Completed contracts on which certification or a closing letter of no discovery has not been issued.

Docket No.	Contract No.	Operator
1131	104	Sierra Copper Company
1324	108	Ashley J. Gold and Joe Gold
1514	112	Maravillas Minerals Company
1348	123	Elkhorn Mining Company
979	132	G. O. P. Antimony
1215	142	Compton I. White
1660	148	Oscar Svensson
1535	169	Columbia Mining Company
2013	215	Amador Mining Company
527	232	Yucca Mining & Milling Co.
1429	269	J. Walter Duncan, Jr.
1232	276	Alaska Copper Corporation

FILE COPY
SURNAME:
800

Chambers

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

JUL 2 1953

Mr. Thomas H. Brading
DMEA Auditor
224 New Customhouse Building
Denver 2, Colorado

Re: Idm-E112, DMEA-1514X
Marevillas Minerals Co.

Dear Mr. Brading:

The Report of Review for the referenced project, as submitted by your letter of June 23, 1953, has been accepted and normal distribution of the copies may be effected.

However, before making distribution please change the period covered from "November 1951 to January 1952" to "October 1951 to December 1951". We have changed the Washington copies accordingly.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Chief
Contract Administration
and Audit Division

WBorovies/wb
July 2, 1953

Copy to: Docket
Admr. Reading File
Mr. Chambers

R.C.G.
7-2-53

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

Joplin, Missouri
May 20, 1953

Mr. Ray C. Jonas
U. S. Bureau of Mines
814 Barfield Building
Amarillo, Texas

Re: Docket No. DMA-1514X(Mercury)
Contract No. Idm-K112
Maravillas Minerals Co.
Brewster County, Texas

Dear Ray:

Transmitted herewith are one copy each of the Operator's and the Field Team's Final Reports on the above-subject project contract.

Mr. T. H. Brading, Auditor, Region IV requested those copies in his letter to me on April 20, 1953. Because I presume he is making the audit review on the documents in your file on the subject project contract, because of the scarcity of copies of these reports, and so you also will be informed, I am transmitting the above-mentioned copies of the reports through your office. If those are mistaken presumptions, would you please forward the reports to Mr. T. H. Brading, D.M.E.A. Auditor, Region IV, 224 New Customhouse, Denver 2, Colorado, the address given on his letters of April 13 and 20, 1953.

Trusting that this satisfactorily closed the matters concerning the subject project contract, I remain,

Very sincerely yours,

Clinton C. Knox
Mining Engineer

:jd
Encs.

cc: Operating Committee
T. H. Brading

Reviewed by
DMEA OPERATING COMMITTEE
5-29-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Joplin, Missouri
May 20, 1953

BD

Operating Committee
Defense Minerals Exploration
Administration
Washington 25, D. C.

Re: Docket No. DMA-1514X(Mercury)
Contract No. Idm-E112
Maravillas Minerals Co.
Brewster County, Texas

Dear Sirs:

Transmitted herewith are the following:

√(1) the original and two copies of the Operator's Final Report, submitted to the Field Team on April 23, 1953, in compliance with the above-subject contract;

√(2) the single copy of a pertinent September, 1952, publication by the University of Texas, received from the Operator on November 17, 1952; and,

√(3) the original and three copies of the Field Team's Final Report on the subject project contract which was terminated on November 28, 1952.

One copy each of the Operator's and Field Team's Final Reports also are being sent to the Field Finance Officer, in compliance with the April 20 request by T. H. Brading, Auditor, Region VI, so that the audit review now can be completed.

Respectfully submitted,

Clinton C. Knox

Clinton C. Knox
Acting for L. T. McElvenny,
Acting Executive, Field Team, Region VI

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 22 1953

:jd
Encs.

cc: Operating Committee
Ray C. Jonas
L. T. McElvenny

APR 23 1953

FINAL REPORT

Maravillas Minerals Company
Mercury Exploration Project

Contract Idm-E112
Docket DMA-1514X
Brewster County, Texas

Under the DMA contract, approved by the Government on August 14, 1951, the specified work on Project No. 1 was started on October 2 and completed on December 15, 1951. During that time, details of the work, the results, and costs were described in the Monthly Progress Reports, previously submitted at the close of each month to the Joplin office of the Region VI DMA Field Team.

The work on Project No. 1, as specified, consisted of repairing the access road and necessary trails with a bulldozer, and the drilling, blasting and hand excavation of 11 test pits, "adequate for exposing and sampling the mineralized fissure zone." The test pits, averaging 4x6x10 feet in size and designated as No. 5 to 15, inclusive, were located as indicated on the attached map.

Traces of cinnabar were detected in some of the material excavated from pits No. 5, 6, 10, and 12. These indications as a result of the D.M.A. project work, add some verification to the postulated extensions of the cinnabar-bearing fissure zones which previously had been indicated more favorably in test pits No. 1, 2, 3, and 4, in the three shallow discovery shafts, and along the 150-foot length of the trench on the centerline near the east end of the Manana claim, all of which locations also are shown on the attached map.

The cinnabar is associated with gangue minerals of calcite, cryptocrystalline quartz, and iron oxides in incrustations along joints and fissure zones in the Lower Cretaceous (Georgetown) Limestone, and also in related disseminations in the caliche, clay, partially silica-replaced limestone blocks, and other collapse breccia materials in several indicated solution cavity structures aligned along the fissure zones.

The specified preliminary nature of the exploratory work done on Project No. 1 was designed to indicate the superficial extent and general characteristics of the mineralized fissure zones rather than probe to the depths at which potentially commercial ore deposits are expected to occur. In those shallow exposures along the fissure zones and in the related collapse structures, the varying but small mercury content of the cinnabar-bearing material was visually apparent enough for any practical purposes. Therefore no samples were assayed.

This Maravillas cinnabar discovery is of particular interest because it is the first in the vast Marathon Dome Region and it infers cinnabar deposits which appear geologically similar to those which were so highly productive in the Mariposa area of the Terlingua mercury mining district, 50 miles to the southwest. Actually the Maravillas area appears to present some advantages over the old Terlingua district for the development of commercial mercury ore deposits. The Kiamichi Marl underlies the Gerogetown Limestone in the Maravillas area at depths somewhat less than 600 feet. It is believed that that formation could have served as the trap underneath which much of the mercury minerals might have accumulated in the porous upper strata of the underlying Edwards Limestone, similar to the most important Terlingua mercury ore deposits which were mined immediately underneath the Del Rio Clay-Georgetown Limestone contact. Also no serious ground water problem is anticipated in the Maravillas area as was encountered in the deeper mines of the Terlingua-Study Butte area. The possible economic importance of the Maravillas discovery, however, is yet to be determined but would require a bold exploration program to obtain the necessary detailed information at depth.

Therefore, because the available funds remaining after completion of the specified additional superficial exploration work under Project No. 1, were insufficient to carry through a comprehensive exploration program under Project No. 2, the company after several months of careful consideration, felt obliged to terminate the project contract by mutual agreement with the Field Team on November 28, 1952.

W. N. McAnulty
Consulting Geologist and Manager
Maravillas Minerals Company

April 15, 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Joplin, Missouri
May 18, 1953

Memorandum

To: William P. Williams, Executive Officer, DMEA Field Team, Region VI

From: Clinton C. Knox, Mining Engineer, Bureau of Mines

Subject: Final Report: Project Contract Idm-E112, Docket DMA-1514X (Mercury), Maravillas Minerals Co., Dr. W. N. McAnulty, Partner, Consulting Geologist, and Manager, 1405 Palo Duro Road, Austin, Texas, (formerly Alpine, Texas).

Property and Location

The Maravillas Prospect is centrally located in the 100 acres, embraced by the group of five mining claims held by the company in the NW¼ of section 28, Block 235, T. & St.L. Ry. Survey, Brewster County, Texas, adjacent to Big Bend National Park, near the north entrance. By the road, via the small town of Marathon on the Southern Pacific Railroad, as shown on the attached location sketch, the prospect is 80 miles southeast of Alpine, the principal supply center for that vast Big Bend region of southwestern Texas.

Summary

The virtue of the 1949 Maravillas discovery by John Bennett, a local bee-keeper and prospector, was the revelation of the only cinnabar yet reported in the large, structurally uplifted, Marathon dome region.[1] Although bearing significant geologic similarity, the Maravillas Prospect is about 40 miles northeast of the previously known deposits where mercury mining was so productive in the Terlingua district.[2] A limited partnership, the Maravillas Minerals Co., was formed which reportedly spent about $3,000 in 1950 on surface trenching and shallow shafts to adequately prospect the outcrop of the mercury-bearing, southwesterly trending, fissure zone discovery. Then on May 30, 1951, the company submitted an application

1/ King, P. B., Geology of the Marathon Region, Texas: U.S.G.S. Prof. Paper 187, 1937.

2/ Knox, C. C., Memo Report on DMEA Field Examination, Application Docket DMA-2202X (Mercury), Amerimex Mining Co., Terlingua District, Texas, submitted to DMEA Operating Committee, Wash. D.C., on July 20, 1952.

Reviewed by
DMEA OPERATING COMMITTEE
5-29-53
(date)

F.T. FINAL RPT.

(Docket DMA-1514X) to Washington for a $51,379 exploration project contract. Without Field Team consultation, Contract Idm-E112 was approved in Washington, D.C. on August 20, 1951, allowing a maximum of $10,450 to be expended on a two-project, prospecting-exploration program by the Maravillas Minerals Co. Upon receiving the contract to administer, the Field Team obtained the Operator's signature of acceptance on August 30, 1951.

As specified in "Exhibit A" of the contract, the work on "Project #1", actually consisting of only preparing an access road and blasting out 11 more shallow pits to further prospect the inferred surface extension of the already indicated, mercury-bearing, fissure-zone outcrop, was started on October 2. Progressing efficiently for 2½ months, it was completed on December 15, 1951. On that date, David Gallagher, Executive Officer, Siegfried Muessig, of the Geological Survey and Clinton C. Knox, of the Bureau of Mines, made the Field Team inspection of the project, accompanied by Dr. W. N. McAnulty, Supervising Geologist and Partner in the company. He explained that the logical sequence of the project work, proposed in his application (of which the Field Team never has received a copy), was reversed by the contract, thereby denying his important request that some limited deeper exploration first be done to probe for the postulated most favorable horizons of the indicated marginal mercury ore deposit.

The total cost of the work done in completing "Project #1", was $2,970.91 of which the 75 percent paid by the Government amounted to $2,228.18.

Neither the Operator nor the Field Team, could devise a practical exploration plan by which "Project #2" under the terms of the contract, could be carried out with the remaining $7,479.09 authorized to be spent, so the project was disbanded and eventually the contract was formally terminated by mutual agreement on November 28, 1952.

Conclusions

The Field Team agreed that the work on "Project #1" had been completed in accordance with the contract terms; that their visual inspection verified the finding of cinnabar traces by the work in pits No. 5, 6, 10, and 12, but sampling and assaying would not be justifiable; and that the D.M.A. prospecting project therefore failed to extend the previously indicated ore zone on the surface. The project in no way altered the possibility, however, that bolder, well-planned, deeper exploration would reveal mineable mercury ore deposits in more receptive strata or "trap" structures, postulated at depths on the indicated ore zone that had been exposed originally by the shallow trench and prospect shafts on the outcrop.

Therefore, in retrospect, "Project #1" appears to have been ill-advised and the original exploration potentialities of the Maravillas Prospect remain, based on the three geologic premises for finding ore there: (1) higher grade lenses of ore might be found on the downward extension of the indicated submarginal cinnabar ore deposit that was previously prospected on the outcrop of the altered and brecciated limestone and clay-filled, fissure zone; (2) "pipe" deposits of mercury ore might be found, possibly at depths of 50 to 350 feet, in, around, or on the "floor" of some of the small clay and breccia-filled, collapse cavern structures, one of which is indicated on the surface at prospect shaft No. 2; and (3) manto-type deposits of mercury ore might be found "trapped" immediately beneath the Kiamichi Marl Formation, in the topmost strata of the porous Edwards Limestone, at least 250 feet, but possibly as deep as 600 feet, below the surface at the Maravillas Prospect.

Recommendations

A bolder, well-planned, privately financed, exploration program evidently could be justified at the Maravillas Prospect but no further Government financial assistance is recommended. Why?

The D.M.E.A. project under discussion here, was unsuccessful and production from the small amount of mercury-bearing material, previously exposed by the prospecting there, would not be economically feasible.

Description of the Work, Equipment, and Costs

The work completed consisted of that specified under "Project #1" of the contract which included repairing an access road and blasting out 11 test pits at locations shown as No. 5 to 15, on the attached sketch. Those pits were each excavated to about 4x6x10 feet in size.

The project work was started on October 2, 1951, and completed on December 15, 1951.

A practical plan for the "Project #2" explorations, specified under the contract terms, could not be devised by the Operator or the Field Team which could be carried out with the remaining $7,479.09 authorized to be spent, so the project was disbanded. Eventually the contract was terminated by mutual agreement on November 28, 1952.

If more funds were needed why didn't Field Office recommend for extension?

Under the $10,450 project contract, the allowable maximum which could be spent on "Project #1" was $3,300, of which only $2,970.91 was actually expended with the 75 percent paid by the Government, amounting to $2,228.18. Therefore $5,609.32 of the Government's maximum authorized share remains unexpended.

In the Field Team's letter to the Operator on December 15, 1952, the Government's interest was waived in the equipment purchased on the project, consisting only of three tents, costing $149.29 altogether.

The prospecting that was done on "Project #1", was completed by the Operator in an efficient manner, considering the apparent lack of previous mining experience. Although Dr. W. N. McAnulty, Project Supervisor for the Operator, seems capable as a reconnaissance geologist and is well-versed in the Texas Big Bend regional geology, his reports and map indicated inexperience in planning, executing, and mapping detailed mining explorations. Satisfactory Operator's Monthly Progress Reports, however, were submitted promptly at the close of each month's work on November 1, December 3, and 23, respectively, when each was promptly approved by the Field Team and transmitted to the Field Finance Officer at Amarillo for certification for the Government's participation payments.

A suggested Final Report, rough-drafted by the Field Team on December 15, 1952, was finally submitted as the Operator's Final Report on April 22, 1953, copies of which are attached herewith.

Geology

Lying on the southern flank of the large Marathon domical uplift which has been deeply truncated by erosion, the Maravillas Prospect is on the low range of hills, 1/4-mile south of Maravillas Creek and bordering that alluvium-filled valley. Those hills are formed of the outcrops of slightly southward-tilted Gerogetown Limestone strata, apparently the upper of which, together with all the immediately overlying blanket of the Del Rio Clay Formation, have been removed by erosion at the Maravillas Prospect.

The topmost strata of the Georgetown, sealed by the overlying Del Rio Clay, were the host rocks for the most productive, manto-type, mercury ore deposits that were mined in the geologically similar, Terlingua district to the southwest. Although that potential ore horizon is eroded at the Maravillas Prospect, the persistent cinnabar incrustations on the "hanging wall" of the steeply southward-dipping, discovery, fissure zone, together with disseminated traces of cinnabar throughout the fissure filling and in some obviously small collapse breccia areas aligned along that fissure, indicate that ore deposits might be found in "trap" structures beneath those surface exposures.

Three types of "trap" structures reasonably can be postulated at the Maravillas Prospect: (1) flattened segments of the "hanging wall" of the fissure, underneath which manto-type lenses of ore might have been deposited; (2) circular, sink-type structures in, around, and at the base of the collapsed, breccia-filled, solution caverns where "pipe" deposits might have been formed 50 to 350 feet below the surface, similar to the largest mercury ore bodies mined in the Terlingua district; and (3) in the topmost strata of the porous Edward Limestone, where flat-bedded deposits might have been "trapped" immediately underlying the Kiamichi Marl Formation which appears to have the necessary impervious characteristics, as imparted by the Del Rio Clay atop the Georgetown Limestone. Sections illustrating the geologic concept of the Maravillas Discovery are given on the attached sketch map.

Stratigraphic data is limited in the vicinity of the Maravillas Prospect where erosion apparently has not cut the Georgetown Strata very deeply. A few miles to the north, nearer the heart of the Marathon Dome, outcrops indicate, however, that the Georgetown is at least 250, and possibly 450 feet in thickness. It is 400 feet in a recently measured section along the Rio Grande River, south of Terlingua and may be up to 600 feet thick in some other places. The Georgetown is underlain by 40 to 60 feet of Kiamichi Marl, blanketing the Edwards Limestone which may be 1,200 feet thick.

Exploration of the wide-spread, mercury-bearing structures at depth in the vast Texas Big Bend Region, has been far short of reaching the postulated ore zone that might be found in the topmost Edwards Strata. The Maravillas Prospect presents the most practical place yet found in which that potential horizon beneath the Kiamichi Marl could be explored at the reasonable depth of possibly 250, but not exceeding 600 feet.

The cinnabar at the Maravillas Prospect is associated with gangue minerals of calcite, crypto-crystalline quartz, and iron oxides incrusted on the "hanging wall" and in jointing along the fissure zone. Also related traces of cinnabar are disseminated throughout the caliche, clay, partially silica-replaced limestone blocks, and other altered collapse breccia materials filling the fissure and several indicated solution cavern structures aligned therewith. One of those structures, indicated as the most favorable on the surface, is near prospect shaft No. 2.

A 20-pound, grab sample of a selected pile of the ore, at the original prospect trench, taken by Knox on July 10, 1951, while on a Bureau of Mines' assignment to obtain samples representing the various known Texas mercury deposits for metallurgical testing in the Rolla Laboratories, contained 0.29 percent, or 5.8 pounds of mercury per ton.

The cinnabar content of the ore can be estimated satisfactorily, however, by visual examinations and panning. The visual inspection by the Field Team verified the finding of cinnabar traces by the D.M.A. project work in pits No. 5, 6, 10, and 12, but clearly indicated that no sampling and assaying was warranted.

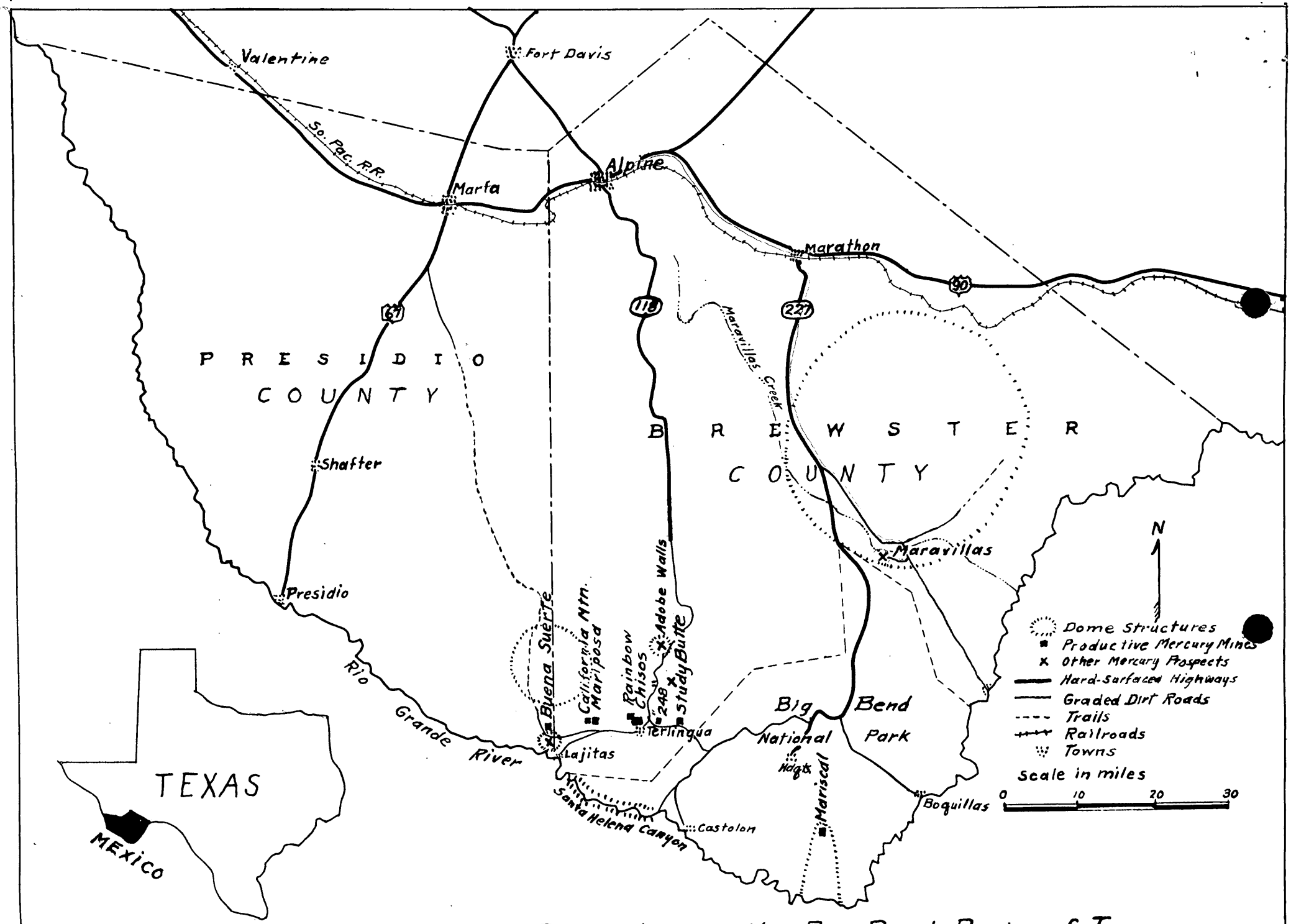
After completion of Project #1, when Knox made the survey on March 31, 1952, as a basis for the attached sketch map, excavation of a new pit had been completed by Mr. Bennett. It exposed mercury mineralization on the fissure, extending the indicated "ore zone" 80 feet southwest of the original 6-foot prospect trench.

Clinton C. Knox

Clinton C. Knox
Mining Engineer

:jd
Attachment

cc: Operating Committee(Orig & 3)
T. Brading through R. C. Jonas
L. T. McElvenny



Location of Mercury Mines and Prospects in the Big Bend Region of Texas

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

Joplin, Missouri
April 16, 1953

Mr. T. H. Brading, Auditor
Defense Minerals Exploration
Administration, Region W
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMA-1514X-Mercury
Contract No. Idm-X112
Maravillas Minerals Company
Austin, Texas

Dear Mr. Brading:

To prevent delaying you further in the necessary audit of the Amarillo files on the subject project contract, while Bill Williams is away from this office on DMEA project field inspections, I am answering the two questions in your April 13 letter to him, as follows:

(1) In accordance with Order No. 2684, the Government's equity in the three tents, purchased for $149.25 under the subject project contract, was "waived in writing" in the letter from David Gallagher to the Operator, dated December 15, 1952, a copy of which is attached hereto.

(2) On the basis of that letter, replying to the preceding letter from the Operator to David Gallagher on December 6, a copy of which also is attached hereto, this Field Team has been expecting to receive the Operator's Final Report during this month of April. Then with the necessary data at hand, the Field Team's Final Report on the subject project can be prepared. I believe it also should take into account any costs that the Operator might report to have been incurred in preparing his Final Report, as specified in the project termination agreement dated November 28, 1952.

If the Operator does not comply with the Field Team's request for the "Comprehensive geologic and engineering report" required under Article 14 of his contract with the Government, I presume the Field Team soon must resort to the prescribed measures for otherwise having such a report prepared.

Respectfully submitted,

Clinton C. Knox
Mining Engineer

/jd
Encs.
cc - Operating Committee
R. C. Jonas
W. N. McAnulty

Docket Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
Joplin, Missouri
December 15, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 18 1952

Mr. W. N. McAnulty
1405 Palo Duro Road
Austin, Texas

Re: Docket No. DMA-1514X
Contract No. Idm-E112
Maravillas Mineral Co.

Dear Mr. McAnulty:

In reply to your letter of December 6, 1952, the summary of the work completed on Project #1 which you submitted on December 23, 1951 does give most of the data which I believe you would want to submit as the final "comprehensive engineering and geologic report" required under Article 14 of the contract.

The locations of the test pits No. 1 through 15 and the 150-foot trench you mentioned, as well as the original three shallow discovery shafts, however, should be indicated on a map attached to each of the four required copies of the report. Those locations apparently are not shown correctly on the print of the map we have attached to the contract, to which you referred, nor is the scale given thereon. A sketch map made on the profile of the proposed adit under consideration last spring is enclosed herewith. Perhaps from your notes you can orientate that sketch and platt a map on a suitable scale showing all the necessary locations so that our record can be complete for any possible future needs.

Any assays or personal estimates you can give regarding the mercury content for definite widths of the vein at specific exposures would be of value as a permanent record. As stated in your pervious report, "shows of cinnabar" and later, "cinnabar now known to be present at the following places," both might be less misleading to some if the term "traces of cinnabar" was used, providing you believe that to properly describe the mercury content. A draft of suggested statements clarifying your previous summary are also enclosed herewith.

Also regarding the tents and a few other small items of unused operating supplies left on the project, the Field Team hereby formally confirms its previous verbal commitment to waive the Government's interest therein.

It is hoped that the foregoing suggestion may assist you in preparing the requested final report after meeting the current deadline you mentioned on your doctoral dissertation.

Sincerely yours,

David Gallagher
Executive Officer
DIEA Field Team, Region VI

/jd
Enc.

cc - Operating Committee

COPY

DOCKET COPY

1405 Palo Duro Road
Austin, Texas
December 6, 1952

Dr. David Gallagher
Executive Officer
DMEA Field Team, Region VI
Joplin, Missouri

Re: Docket No. DMA-1514X
Contract No. Idm-E112
Maravillas Mineral Co.

Dear Dr. Gallagher:

Receipt of your letter of November 28 is acknowledged. In regard to the final report you asked for, I would like to know what more in the way of a report is wanted than the final report submitted on December 23, 1951 on the completion of Project 1.

That report summarizes all work done under the contract and includes a complete summary of costs. I want to comply with the government's requirements and will do so, but at present I am working against time in an effort to complete my doctoral dissertation and meet an April 1 deadline, and I hope that the final report on Project 1 can be used for the "Termination" report.

Please advise me concerning this matter at your earliest convenience and I will do whatever is necessary.

Yours truly,

W. H. McAnulty

12/4/52 gla

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

NOV 28 1952

Re: Docket No. DMA-1514X
Contract No. Idm-112
Maravillas Mineral Co.

Memo

To: Operating Committee

From: David Gallagher, Executive Officer, Field Team, Region VI

Transmitted herewith is the original and two copies of the termination by mutual agreement of the above subject contract.

David Gallagher

David Gallagher

/jd
Encs.

cc - Ray C. Jonas (copy termination)
W. N. McAnulty " "

cc 12-1

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

OCT 28 1952

Mr. David Gallagher
Executive Officer, Region VI
Field Team
221 East 3rd Street
Joplin, Missouri

Re: Docket [illegible]-5114A (Mercury)
Contract No. [illegible]-112
Guravillas Minerals Co.
Brewster County, Texas

Dear Mr. Gallagher:

We have delayed our reply to your memorandum dated October 15, 1952, until a review of the contract and related data could be made by the Legal Division. These findings are summarized in the attached copy of the General Counsel Memorandum dated October 23, 1952. This memorandum appears to cover your questions in connection with this contract.

Sincerely yours,

H. F. Keller

ACTING Chairman, Operating Committee

Enclosure

cc: Mr. H. Hedges
Member, Bureau of Mines

A. R. Kinkel, Jr.
Member, Geological Survey

F.Knouse/jem 10/24/52
cc to: Adm. Reading File
Docket
Messrs; H. M. Meyer-2623
J.T.McKnight-4204
Ellis Knouse
Opr. Committee
Field Team, Region IV VI

FILE COPY
SURNAME:

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

October 23, 1952

Memorandum

To: Chairman, Operating Committee
Through: Mr. Ellis

From: Chief Counsel

Subject: Docket No. [illegible]-1514 (Mercury)
Contract No. [illegible]-112
Caravillas Minerals Company
Brewster County, Texas

Mr. Fred Crouse has informally requested my opinion on the question whether the above described contract is still in effect.

The contract, dated August 14, 1951, was written in two stages identified as Project 1 and Project 2. Project 2 was not to be undertaken until approval of the additional work was given by the Field Team. Project 1 was completed to the satisfaction of the Field Team on December 15, 1951. However, the Field Team has never approved the performance of the work described under Project 2. Instead, letters were exchanged between the Operator and the Executive Officer each suggesting to the other alternative programs to be substituted for the Project 2 as written in the original contract. The last proposal (according to the file) was made by the Executive Officer to the Operator in a letter dated July 28, 1952.

In a letter dated October 12, 1952, the Operator informed the Executive Officer that unless [illegible] is willing to allow the contract to [illegible] after June 1953, steps should be taken to terminate the contract. In a memorandum dated October 15, 1952, from the Executive Officer to the Chairman of the Operating Committee, it was stated that there is no acceptable plan for further operation under the existing contract and all efforts so far to formulate a mutually satisfactory plan of exploration have failed.

In these circumstances, it is my opinion that the Government has waived its right under the contract to require the performance of any additional work under Project 2. The performance of any further work by the Operator in the project area requires a new agreement, mutually satisfactory to the Operator and to the Government.

Therefore, the contract should be formally terminated by agreement between the parties. If a new project is authorized in the future, the first project should be incorporated therein by reference for the purpose of reactivating the Government's right to a percentage royalty for the money contributed under Project 1, in the event of a certification under the new agreement.

aek (mf)

J. L. Hofflund
Chief Counsel

MRubin/GL/jem
cc to: Adm. Reading File
Docket
Messrs. Hofflund
Rubin
Ellis
Knouse

10/17/52 gla

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Joplin, Missouri
October 15, 1952

Re: Docket DMA-1514X
Contract No. Idm-E112
Maravillas Mineral Co.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 16 1952

Memo

To: Operating Committee

From: David Gallagher, Executive Officer, Field Team, Region VI

Attached is a letter dated October 12, 1952 from W. N. McAnulty the operator.

Before taking any action, I would appreciate knowing your desires in this matter.

I suspect that by next summer McAnulty will have been offered another job too attractive to refuse, as his services are in great demand, and that again at that time he might be unable to reactivate the project. For this reason, and because of the remoteness of the earliest possible reactivation date, it would be my recommendation that the project be terminated with the understanding that if the operator desires to do further work on this project a new application be filed and a new contract entered into. This suggestion is in part motivated by my feeling that any future work, whether under the existing contract or under a new contract, requires better and more precisely formulated exploration plans.

At the present time there is no acceptable plan for further operation under the existing contract and all efforts so far to formulate a mutually satisfactory plan of exploration have failed either because one or another of us have considered a proposed plan impractical, or because a proposed plan could not be carried out with the money now available.

Your instructions as to the course of action you would prefer me to take would be welcome.

David Gallagher

David Gallagher

DG/jd
Enc.

cc
10-16

OCT 15 1952

26

1405 Palo Duro Road
Austin, Texas
October 12, 1952

Mr. David Gallagher
Executive Officer
DMEA Field Team, Region VI
Joplin, Missouri

Re: Docket DMA-1514X
Contract No. Idm-E112

Dear Mr. Gallagher:

It will be next summer (after June) before I will be in a position to reactivate our project, and, unless DMEA is willing to let it be dormant until that time, we should take steps to terminate the contract.

I am sorry that circumstances have not permitted me to follow through with this work, for I still think we have an excellent prospect which should be explored.

I want to express my appreciation to you and Mr. Knox for your generous assistance, and, especially your patience with us. It was a pleasure to have worked with both of you.

Yours truly,

W. N. McAnulty

W. N. McAnulty

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

~~WASHINGTON 25, D.C.~~
Joplin, Missouri
July 29, 1952

Re: Docket DMA-1514X(mercury)
Contract Idm-E112
Maravillas Minerals Co.
Alpine, Texas

Memo:

To: Operating Committee, DMEA

From: Clinton C. Knox, Mining Engineer, Field Team, Region VI

Subject: Field inspection

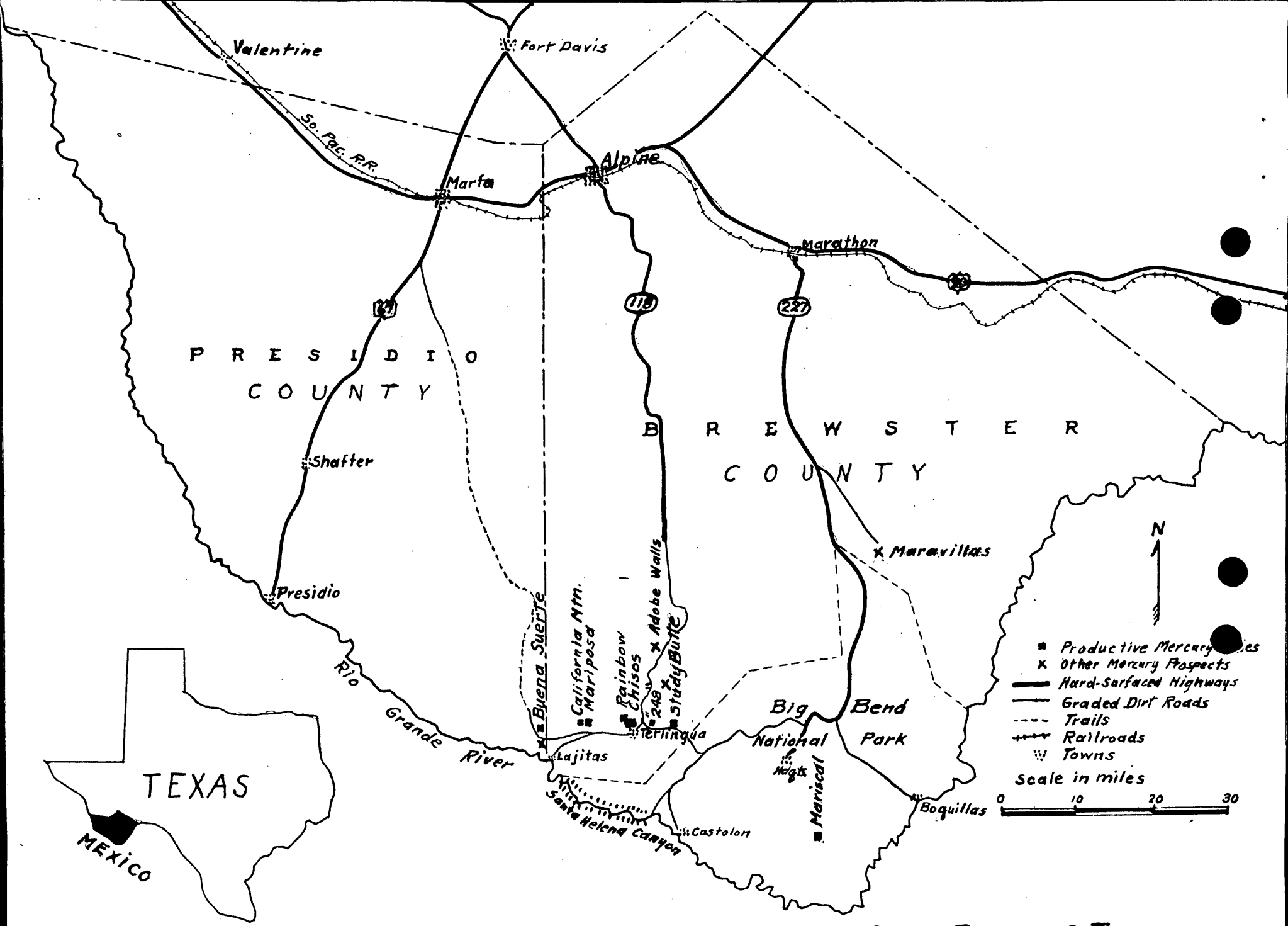
The Maravillas Minerals Co. of Alpine, Texas, in an application (Docket DMA-1514X) submitted to Washington on May 30, 1951, requested 75 percent Government participation in the estimated $51,379 cost of a project, primarily proposed to explore more deeply a new mercury discovery that had been indicated in a small area by surface trenching and three 20-foot prospect shafts. This new discovery in the remote Marathon dome region of Texas was made during 1950 by John Bennett now a partner in the applicant company which did most of the exploratory work early in 1951. Exposures in those shallow Maravillas prospects indicate a fissure containing clay, chert, calcite, iron and some cinnabar and brecciated limestone. The overburden on the fissure zone is generally recemented with white caliche and nearly flat-bedded Georgetown Limestone strata border the indicated deposit.

The Maravillas prospect is centrally located in a 100-acre area, embraced by a group of five mining claims held by the company in the NW¼ of Sec. 28, Block 235 of the T.&St.L.Ry. Survey, Brewster County, Texas, adjacent on the northeast of Big Bend National Park. Alpine, the principal supply center of that vast Big Bend region of Texas, is 80 miles by road, northwesterly from the prospect, as shown on the attached sketch. The prospect is reached from Alpine by traveling U. S. Highway No. 90, southeasterly 32 miles to the smaller town of Marathon which is also on the mainline of the Southern Pacific Railroad, then southward 35 miles on State Highway No. 227, and thence 10 miles southeasterly on the unimproved Black Gap road to a point on the south bank of the ephemeral Maravillas Creek. From there the applicant has prepared a passable access road 3 miles westerly along the south edge of the alluvial-filled valley to the Maravillas prospect.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 31 1952

Reviewed by
DMEA OPERATING COMMITTEE

8-8-52
(date)



Location of Mercury Mines and Prospects in the Big Bend Region of Texas

The prospect is on a low range of hills formed by the outcrops of gently southward tilted strata on the south flank of the large Marathon domical uplift which has been deeply truncated by erosion.[1] The Maravillas discovery significantly extends the hitherto known region of mercury mineralization in the Big Bend of Texas. This southwesterly trending, fissure zone in the Georgetown strata on the south flank of the large structural uplift, suggests a deposit geologically similar to those which were previously so productive, 40 miles to the southwest in the Terlingua mercury mining district.[2]

Contract Idm-E112, allowing a maximum expenditure of $10,450 on a two-project, DMA exploration program by the Maravillas Minerals Co., was approved in Washington on August 20, 1951, without prior consultation with the Field Team. The Project Contract was transmitted to the Field Team to administer and the applicant's signature of acceptance was obtained on August 30, 1951. Recently the applicant has explained that the logical sequence of doing the work as proposed in the application (of which the Field Team has never received a copy) had been reversed; the important request to first more deeply explore the deposit which had already been indicated, was denied.

The work on "Project #1", consisting of preparing an access road and blasting out 11 test pits in sites No. 5 to 15, inclusive as specified in "Exhibit A" and at locations designated on the map, also attached as a part of the contract, was started on October 2 and progressing efficiently was completed satisfactorily on December 15, 1951. The total approved cost was $2,970.91 of which $2,228.18 was paid by the Government. The project was disbanded and the small amount of equipment and the tent camp facilities were moved back to town.

On December 15, 1951, David Gallagher, Executive Officer, Siegfried Muessig of the Geological Survey, and Clinton C. Knox, of the Bureau of Mines made the Field Team inspection of the project, accompanied by W. N. McAnulty, Supervising Geologist and partner in the company. The Field Team agreed that the work under "Project #1" had been completed in full accordance with the terms of the contract and exactly as claimed in the three Operator's Monthly Progress Reports which were submitted promptly and in good order to the Field Team on November 1, December 3, and 23, 1951, respectively and each immediately approved by the Field Team. The reported discovery of cinnabar traces in pits No. 5, 6, 10, and 12 was verified by visual inspection which clearly indicated that

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1/ King, P. B., Geology of the Marathon region, Texas: U. S. Geol. Survey Prof. Paper 187, 1937.

2/ Knox, C. C., Memorandum Report on Amerimex Mining Co., (Docket DMA-2202X, mercury), submitted to DMEA Operating Committee in Washington D.C., July 20, 1952.

the mercury mineralization exposed in each was insufficient to justify the cost of sampling and assaying.

In the area of the Maravillas claims, erosion has removed the blanketing seal of Del Rio Clay and apparently some of the underlying topmost Georgetown strata in which the most productive deposits were found elsewhere in the Texas mercury mining region. Therefore in retrospect, Maravillas "Project #1" for further surface prospecting, appears to have been ill-advised and has in no way altered the possibility of finding mercury ore reserves below the exposures in the original shallow prospect shafts and trenches. In the previous visit by Knox to the Maravillas prospect on July 10, 1951, while on a Bureau of Mines' assignment to procure samples for metallurgical testing in its Rolla Laboratories from the various known Texas mercury deposits, he took a 20-pound, grab-sample from the dumps near the shallow Maravillas prospect shafts which had an average content of 0.29 percent mercury. The cinnabar content of the rocks can readily be estimated by visual examination or panning and assays of other samples were not made.

The original potentialities at the Maravillas prospect, therefore, still remain and three possibilities for finding ore by deeper exploration are presented. These possibilities include (1) an increase in cinnabar concentration below the present superficial exposures which are indicated to extend downward on the previously mentioned, steeply dipping, southwesterly trending, fissure zone, (2) a pipelike deposit which might be found at greater depth in, or around a small, circular-type, Del Rio Clay and breccia-filled, collapse cavern with surface indications cropping out in the area encircling the shallow prospect shafts No. 1 and 2 and also a part of the above mentioned fissure zone system, and (3) a recently postulated deeper level where manto-type deposits might be found about 250 to 300 feet below the surface in the topmost strata of the Edwards Limstone which are believed to have the necessary porosity for mercury ore deposition. The stratigraphic column, measureable a few miles to the north on outcrops nearer the heart of the uplift, indicates a normal 250-foot thickness of Georgetown Limestone at the Maravillas prospect, separated from the underlying Edwards strata by the 60 to 100-foot thickness of the Kiamichi Marl Formation. It could have served as the impervious "umbrella" to trap the mineralizing solutions percolating upward from the indicated, deep-seated sources. From a geological standpoint, exploration to that postulated deeper level for mercury ore deposition in the Big Bend region of Texas would be the greatest contribution that the Maravillas project could make. From a practical standpoint, that target is shallower at the Maravillas prospect than at any of the other known mercury mineral deposits in the Big Bend region and the two previously mentioned stratigraphically higher, possible zones for mercury ore deposition would be penetrated with the same exploratory work.

According to the terms specified in "Exhibit A" of the contract, the starting of work on "Project #2" was contingent upon the approval of applicant's work plan by the Field Team and upon the results of the work on "Project #1". The work on "Project #2" was to consist of either (1) exploratory holes aggregating a total not in excess of 3,200 feet of churn drilling, or (2) further surface trenching and prospect shaft sinking.

In response to the request by the Field Team, the Operator on January 15, 1952, submitted a written proposal to amend the contract and permit the sinking of a 5x7-foot prospect shaft, 100 to 150 feet in depth and to do whatever drifting was found to be necessary. A bid by a qualified sub-contractor was submitted which specified $49.32 per foot for sinking in good ground with light shaft sets and $10.62 per foot in addition whenever heavier timbering was required in bad ground. Drifting was to cost $18.32 per foot. In his letter to Mr. McAnulty on January 17, 1952, David Gallagher, Executive Officer of the Field Team, expressed doubt that shaft sinking could reach deeper than 128 feet on the remaining available funds which amounted to only $7,479.09 and suggested consideration be given to driving an adit from the small canyon as shown on the map attached to the contract to the northeast of the shallow prospect shafts. Subsequently on February 25, 1952, Mr. McAnulty submitted a written proposal by the Operator to spend the remaining funds in driving a prospect adit about 200 feet from the suggested portal location and possibly doing some horizontal diamond drilling from the heading of that adit. The same subcontractor submitted a bid to drive the prospect adit for $33 per foot. In a letter for the Field Team by Knox to Mr. McAnulty on March 14, 1952, a copy of which is attached hereto, objections were raised regarding the proposed cost of driving the adit, (2) its inefficacy to explore the inferred deposit which appeared on available maps, to be 700 feet southwest of the proposed portal and only 30 feet higher in elevation, and (3) the unsatisfactory target that would be presented for directing the proposed diamond drill holes from that adit. Consideration of a combination churn drilling, prospect shaft sinking, and drifting program was suggested. In September 1951, Mr. McAnulty had moved to Austin, Texas and all his time was being devoted to work at the University of Texas. The other partners in the Maravillas Minerals Co. could not take charge of planning the continuation of the project so the recess on the work continues.

When traveling through Austin on March 19, 1952 Knox conferred with Mr. McAnulty who rejected the suggested churn drilling both because the available churn drill contractors had recently raised prices to as high as $4.50 per foot, and because he believed that an equivalent amount spent in additional sinking in the proposed prospect shaft would be more apt to give favorable results. In addition to the necessary amendment of the project contract by the Field Team to extend the time limit, permit the deepening of one of the existing prospect shafts to at least 100 feet below the surface, and do some exploratory drifting therefrom, the Operator would need definite assurance that the Government would amend the allowable maximum to be expended on project to permit further work if found necessary to obtain reasonably conclusive results. Also the Operator inquired about the possibility of then assigning the contract to another concern if necessary to finance completion of the exploratory program.

After other DMEA field examinations in the Big Bend Region, Knox also stopped at the Maravillas prospect on March 31, 1952. With the assistance of John Bennett, partner in the Maravillas Minerals Co. who lived in an old ranch house nearby, the surface profile over the line of the proposed adit was surveyed. The survey definitely determined that driving of the proposed adit would be impractical. Mr. Bennett then had excavated a new test pit in which finely brecciated chert, containing much cinnabar mineralization, was exposed, 80 feet from the No. 3 shaft on the southwesterly extension of the fissure zone. Mr. Bennett has since moved to Arizona.

Again on a trip to the Big Bend region on May 19, 1952 in Alpine, Texas, Knox met with Mr. McAnulty who explained that although he had moved back to Alpine he was under contract to do geological work only for another private concern in that region until about September 1, 1952 when he hoped to reactivate the Maravillas project contract if agreeable with the Government. A letter from Knox for the Field Team, to Mr. McAnulty on July 28, 1952, a copy of which is attached, suggested that detailed written proposal be submitted as soon as possible definitely outlining the Operator's plans regarding the Maravillas project.

If the Operator can again arrange to finance the required share of the cost of completing a comprehensive exploration program at the Maravillas prospect it is recommended that the Government resume participation in the project. More detailed geological mapping should be done, covering the previous exploratory work, to support any definite plans that may be submitted for launching "Project #2". Then reasonable cost estimates for the proposed work should be obtained and possibly the contract should be translated into the "short-form" by the Field Team and submitted to Washington for reapproval. The $7,479.09 remaining to be spent within the allowable maximum of the present contract should be ample for the suggested deepening of the No. 2 prospect shaft at least to the 100-foot level and drift 75 feet on any mercury mineral that may be exposed there in either of the first two previously mentioned possibilities for successful exploration. The Operator should receive assurance that the allowable maximum to be spent can be increased if sinking or drilling below that level is found to be necessary.

Clinton C. Knox
Clinton C. Knox
Mining Engineer

/jd
Encs.

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

[redacted]
Joplin, Missouri
July 28, 1952

AIRMAIL

Mr. W. N. McAnulty
Supervising Geologist
Maravillas Minerals Co.
Alpine, Texas

Re: Docket DMA-151hX
Contract No. Ida-7132

Dear Mr. McAnulty:

The necessity for the Field Team to come to some decision regarding your Maravillas project becomes more pressing as the months go by. The contract is divided into Project I which has been completed, and Project II which has been under consideration. We know that you soon expect to be in a position to propose formally either (1) to terminate the project by mutual consent, or (2) to request reactivating the project work by undertaking Project II. In the latter case, your detailed plans, cost estimates, maps, etc., to support your proposal should be submitted to us as soon as possible so we will be in a position to try to have the necessary arrangements made by the time you are free to start the work.

In general, the tentative plans for Project II which you discussed verbally with Knox when he met with you in Austin on March 19 and in Alpine on May 19, 1952, appear reasonable and probably would appear the same to Washington if formally presented. Knox has written a memo report for Washington dated July 28, 1952, summarizing about all we know concerning the Maravillas prospect, in the hopes that they will be made aware of yours and our position in the matter.

Your suggestion to deepen one of your prospect shafts to at least the 100-foot level and drive therefrom a few feet of exploratory drifts wherever justified along the fissure, and into the indicated "Jaboncillo pipe", both of which contained significant mercury mineralization in the shallow prospects, appears now to be the best chance for early success in the proposed exploration. Knox has recommended in his memorandum report dated July 28, 1952 that Washington give consideration to eventually increasing the allowable maximum which can be expended on the project, if deeper exploration than is found to be necessary. Also if you find it necessary formally to request assignment of the contract to another responsible concern in order to obtain adequate financing for the possible exploration to the 200 or 300-foot level, we are sure that the request would be given consideration in Washington.

From the brief survey by Knox, on his visit to the property on March 31, assisted by Mr. Barnett, I gathered that some more detailed geologic and topographic mapping might be helpful in the small area where the new shallow exploratory work has been done which showed mercury mineralization. Careful estimates of the mercury content of the fissure zone at frequent intervals, and indicated on the map, might also lend some support to any proposal you may wish to make.

If you wish to discuss your plans further with Knox, he will be in Shafter, Texas on August 1 and on the return trip can be contacted at the Holland Hotel in Alpine anytime next Sunday.

With best personal regards, I remain,

Yours very truly,

David Gallagher
Executive Officer
DMEA Field Team, Region VI

/jd

cc: Operating Committee(4)

3/24/52 [illegible]

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Joplin, Missouri
March 19, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
(DMA)
MAR 20 1952

TPT

Operating Committee
Defense Minerals Exploration
Administration
U. S. Dept. of Interior
Washington 25, D. C.

Re: Docket No. DMA-1514X(Mercury)
Contract No. Idm-E112
Maravillas Minerals Co.
Alpine, Texas

Dear Sirs:

Your letter of March 17, 1952 inquires about stage two of this project.

For the past 3 months we have been in correspondence with the operator regarding the formulation of satisfactory plans for stage two.

The operator first proposed sinking one vertical shaft at a cost in excess of the money available. We disapproved this idea because of the costs and because we felt that a single vertical shaft was an impractical and ineffectual way of exploring this prospect.

We suggested that consideration be given to driving an adit along the sheared zone. The only contract quotation the operator could get was deemed by us to be at an excessive unit price. Further consideration also indicated that the money available could suffice only for an adit that would be too short to effectively explore the deposit and would not develop sufficient backs to make it worthwhile.

Long distance planning by mail has proved to be impractical. Consequently Clinton C. Knox, Bureau engineer of this office, left Joplin on March 18 accompanied by Wm. P. Williams, U S.G.S. geologist, to confer personally with the operator in an effort to formulate a practical stage two plan commensurate with the small amount of money available.

The virtue of this prospect is that it reveals the presence of cinnabar remote from the Terlingua district and therefore extends by several miles the possible range of the cinnabar bearing area there.

According to the operator, stage one of the project consisting of a few shallow pits, was recommended by Washington, and was accepted and carried out by him despite his belief that there was no use in it. These pits have given added confirmation of the fact already known, namely that specks of cinnabar can be found sparsely scattered along the sheared zone.

Reviewed by
DMEA OPERATING COMMITTEE
3-21-52 (Ph)
(date)

There are fair structural and stratigraphic reasons for hoping that cinnabar ore deposits may be present, but the size of the structures, and the depths to the beds that should be explored, barring extremely improbable good luck, would obviously require a far more extensive and expensive exploration program than could be carried out with the amount of money allotted to the present contract.

Possibly Knox and Williams will work out with the operator a scheme for putting down a few churn drill holes, which is about all that could be afforded with the money available. We all take a dim view of drilling for cinnabar, but with the small amount of money available this might be the most practical way of taking a long shot at the extremely improbable good luck referred to above.

Perhaps we had better wait and see what Knox has to say when he gets back from his trip.

Sincerely yours,

David Gallagher

David Gallagher
Executive Officer
DMEA Field Team, Region VI

DG/jd

FILE COPY
SURNAME:

Talbert
Chambers

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

BW

n.s. in R. v. R.

D. M. E. A.

E. D. Talbert
3719 2612

14X3923.970 Working Fund, DMEA
March 18, 1953

Omen 1514

Mr. Thomas H. Freeding, DMEA Auditor, 224 New Customhouse Building
Denver 2, Colorado

Re letter 3-13-53 re Report of Review of Maravillas Minerals Company.

Proper contact is: Ray C. Jones, Finance Officer, Bureau of Mines, 514 Barfield Building, Amarillo, Texas.

(Signed) J. L. Chambers

Jay L. Chambers, Chief
Contract Administration
and Audit Division

EDTalbert/wb
March 18, 1953

Copy to: Docket
Admr. Reading File
Bu Mines Audit
Mr. Chambers

SENT
MAR 18 1953
Clerical Service Section

700

FILE COPY
SURNAME:

Rutledge
Ellis
Meyer
McKnight

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

MAR 1 7 1952 AIR MAIL

Mr. David Gallagher
Executive Officer, Region VI
DMEA Field Team
221 West 3rd Street
Joplin, Missouri

Re: Docket No. DMA-1511X (Mercury)
Contract No. Idm-1112
Maravillas Minerals Co.
Alpine, Texas

Dear Mr. Gallagher:

It is noted the above contract was written in two stages with the second part of the project dependent upon favorable results from the exploration outlined in stage one. In the progress report of work done by the Maravillas Minerals Co. during December and the accompanying summary report of work done October 1 through December 15, 1951 no supporting data was given to substantiate significant discoveries of mercury mineralization.

Since stage one has been completed (December 15, 1951) and the results examined by the field team, may we be informed of the field team decision. Is stage two to be approved or should this contract be terminated?

Sincerely yours,

3/17

(signed) FRANK E. JOHNSON
(JB)

Chairman, Operating Committee
Defense Minerals Exploration
Administration

Concurred:

J. H. Hedges (JB)
Member, Bureau of Mines

T. P. Thayer (JB)
Member, Geological Survey

FARutledge/jem
3/14/52
cc to: Adm. Reading File
Docket
Miss H.M.Meyer, Rm. 3619
Messrs. E.T.McKnight, Rm. 4204 GS
Ellis
Rutledge
Field Team, Region VI

BL

xxxxxxxxxxxxx
Joplin, Missouri
March 14, 1952

AIR MAIL

Mr. W. N. McAnulty
1405 Palo Duro Road
Austin, Texas

Re: Docket DMA-1514X(Mercury)
Contract No. Idm-E112
Maravillas Minerals Co.
Marathon, Texas

Dear Mc:

All available data on your project have been reviewed since we received your February 25 letter to which you attached the bid by R. N. Pulliam to drive the proposed prospect adit on a contract basis.

Pulliam's price for driving a minimum of 200 feet of 5x7-foot adit ($33.00 per foot), does appear very high. At that price, the remaining funds which are available for your project, placed that 200-foot limitation on the proposed length of the adit.

I agree that it would therefore fall far short of exploring underneath the small area at your "main diggings" which now appears to be the most favorable for the mercury ore investigation. Probably the proposed adit would have to be driven about 700 feet to reach under those "main diggings". That could not be justified, even if the necessary additional funds could be secured, because as I recall the topography there (we do not have exact elevation data), the lowest point in the ravine from which the proposed adit could be driven would likely be only slightly below the outcrop at your "main diggings". Instead, I am sure you could obtain more precise information there, at a lower cost, by deepening one of your shallow prospect shafts at your "main diggings". The mercury mineralization you found in Pit #1, located near the proposed portal of the adit in the ravine, however, possibly would warrant driving a 25-foot adit there.

Your suggestion that the contractor might be induced to diamond drill the fractured zones from the proposed 200-foot adit, I believe, would prove too difficult and costly, in view of the results that could be expected. As you know, such drilling in the past has generally given very unsatisfactory sampling results, particularly in Texas mercury deposits, because the ore is very friable and usually occurs in small irregular bodies in the fractured zones. Anyhow, drilling would seldom eliminate the need for eventually extending underground mine workings to comprehensively explore the indicated favorable geological structures. Carefully directed preliminary drilling to probe for the favorable structures can oftentimes be justified however.

I feel, therefore, that it is advisable to propose a more practical alternative exploration program. Regardless of whether the proposed adit is driven or whatever other work is done which you may decide is more essential, I believe that other prospective contractors should be invited to submit bids to do the work. If the bids are all unreasonable high, perhaps you could rent the necessary equipment and hire a small crew to more satisfactorly do the work.

After visiting your project last December, I went to the mines of the Carpenter Exploration Co. with the manager, Wm. L. deCarbonel, Box 657, Van Horn, Texas. A. C. (Buzz) Williams an experienced Van Horn mine operator and contractor, was engaged there in sinking a prospect shaft on a contract basis, as I recall, at a price of about $18.00 per foot. Conditions for that shaft sinking appeared more difficult than would be encountered at your project. Because Williams had some idle mining equipment and sufficient experienced miners available, he expressed a willingness to consider invitations to bid on other mine exploration or development contracts.

The expenditures upon completion of "Project #1" of your explorations last December, under Contract Idm-E112, had totaled $2,970.91. Therefore the remainder ($7,479.09) can be made available for work designated under "Project #2" of the contract.

I also agree that those funds are inadequate to explore all the significant cinnabar mineralization which you have exposed in the widely scattered pits on your claims. "Project #1" failed, however, to divulge any cinnabar mineralization of any more consequence than that which you had previously exposed at your "main diggings" in the long trench and two shallow prospect shafts. Perhaps the remaining funds would be sufficient to adequately explore that most favorable appearing small area.

Since visiting your project last December, I have remained convinced that your next step in the exploration work should be to probe the structure indicated in your "main diggins" by churn drilling about three holes before definitely deciding to drive an exploratory adit or sink a shaft. I believe the three holes should be located on a south-to-north line (through the shallow east shaft at your "main diggings"), to cross section the "Jaboncilla pipe" indicated there.

With the Del Rio clay as the overlying seal, the uppermost part of the Georgetown limestone was the most productive mercury ore horizon known in the Terlingua mining district. That horizon has been removed by erosion of your "main diggings" in the Marathon region. The existence of mercury mineralization, widely scattered in the fault zones throughout your claims, which you have demonstrated in pit Nos. 1, 2, 3, 4, 5, 6, 10 and 12, excavated recently as your "Project #1", along with the more favorable indications you previously had shown in the 150-foot trench and the two shallow prospect shafts at your "main diggings," lend some promise of ore at greather depth, particularly surrounding the

possible "pipe", indicated at your east prospect shaft. Also, as you discussed with me, a deeper, hitherto unexplored horizon for mercury deposits has been postulated in the upper Edwards limestone, with the Kiamichi marl as the overlying "seal". Yours is the one mercury prospect known to be so situated stratigraphically, as to present a feasible place to drill through that horizon at a reasonable cost. From a geological standpoint, drilling of a 300 to 500-foot hole through that postulated new ore horizon would be a great contribution.

Therefore I suggest that the target for the first churn drill hole should be the intersection of the south wall of the westerly striking fault zone at your "main diggings" and the top of the Edwards limestone. From the superficial attitude of the fault, I would judge that that hole should be spotted well to the south of the east prospect shaft which you sunk in the small "Jaboncilla" outcrop. If that hole enters the "hanging wall" zone of the fault before penetrating the Kiamichi formation, due to changes in the indicated dip of the fault upsetting the calculations, it could be stopped after carefully sampling the possible mineralized "wall" zone. Then, accordingly, the second hole would be extended to test for a favorable "reservoir" structure in the upper strata of the Edwards. Two of the holes would be shallower and located so as to investigate the possible mercury mineralization extending downward along the "hanging and footwall" of the "Jaboncilla pipe" or fault breccia indicated in your "main diggings".

The three proposed churn drill holes should be very carefully logged and sampled. There appears to be a good chance that a suitable geological structure might be indicated which would justify sinking a prospect shaft. If mercury ore is indicated on shallower horizons around the breccia "pipe", the remaining available funds should be sufficient to permit sinking a 100-foot prospect shaft and do some exploratory drifting. Of course, if mercury ore possibilities are indicated beneath the Kiamichi marl, an amendment to your Contract Idm-E112 would have to be sought, or a new contract entered into, to provide the additional funds necessary to enable shaft sinking to that lower level and additional underground exploration.

Assuming that the test hole to the Edwards would be churn drilled 500 feet in depth, and each of the other two holes would be 250 feet deep, a total of 1,000 feet of churn drilling would be done. A cost of $2.00 per foot is estimated for this in "Exhibit A" of your contract.

Then if justified, it appears reasonable to estimate that considerable other work could be accomplished on your project with the remaining available funds. The total amount of work is estimated as follows:

1000 feet of churn drilling (in 3 holes)	@ $ 2.00...	$2,000.00
100 " prospect shaft sinking	@ 25.00...	$2,500.00
75 " " drifts and X-cuts	@ 20.00...	$1,500.00
25 " " adit	@ 18.00...	$ 450.00
Miscellaneous and contingencies		279.09
Consulting geologist, supervision & assays		750.00
Total		$7,479.09

We will be pleased to receive your evaluation of the foregoing revised proposals and will consider approving any counter proposals which you may wish to make.

With best personal regards, I remain,

Very sincerely yours,

Clinton C. Knox

/jd

FILE COPY
SURNAME:

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

Money 400
Mittendorf

SEP 21 1951

a.e.e.

Mr. W. N. McAnulty, Mgr.
Maravillas Minerals Company
1405 Palo Duro Road
Austin, Texas

Re: Docket No. DMA 1514X
Contract No. Idm-E112

Dear Mr. McAnulty:

In reference to your letter of September 16, 1951 and confirming telephone conversation of September 20, 1951; the first part of your exploration program, Project #1, is to be started at your convenience within 60 days from the date of the contract and all costs listed under Project #1 are allowed for payment when certified to and approved by the Regional Office of DMA at Joplin, Missouri.

Approval by the Region Office is required prior to start of work under Project #2 which will be based on data derived from Project #1 at completion.

Enclosed, herewith, are six copies of Form MF-104 to be used for the monthly report to the Regional Office and additional copies can be secured from that office as needed.

We are also enclosing a copy of an information bulletin which we have prepared and which answers many of the questions that have arisen in connection with the exploration program.

If you should have any further questions in connection with your project, it is suggested that you contact the Joplin Office of Defense Minerals Administration direct.

Sincerely yours,

C. O. Mittendorf (J.H.) JF 9/21

C. O. Mittendorf, Director
Production Expansion Division

Enclosures-6

Typed: 9/21/51
DEMoulds/meh
cc to: Reports and Records, Adm. Reading File, Messrs. Mittendorf, Olun
Mr. Moulds, Region VI, Docket

DEPARTMENT OF THE INTERIOR
RECEIVED
SEP 1 9 19
Defense Minerals Administration,
Production Expansion Division.

Mr. Thomas

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D. C.
SEP 18
2 PM '51

1405 Palo Duro Road
Austin, Texas
September 16, 1951

Mr. C. O. Mittendorf, Director
Production Expansion Division
Defense Minerals Administration
Department of Interior
Washington 25, D. C.

Dear Mr. Mittendorf:

Re: Docket No. DMA 1514 X
(Mercury) Maravillas Minerals Co.
Alpine, Texas

The original and four copies of contract for subject exploration project, properly signed, were mailed to the Joplin Office on August 28, 1951. Except for a statement of receipt and forwarding on to Washington, we have heard nothing further concerning the project.

We are ready and anxious to begin work as soon as we get a go-ahead signal and information on the procedures to be used. We know nothing about the regulations governing operating procedures, i.e. required paper work, reports, forms, etc. Will you please advise us when we can expect to begin operations and supply us with the necessary information.

Sincerely yours,

W. N. McAnulty

W. N. McAnulty, Manager
Maravillas Minerals Co.

P. S. Please note the change in address. I am now at the University of Texas. Mailing address--1405 Palo Duro Road, Austin, Texas; telephone number 5-8193.

OFFICAL FILE COPY

To	Init.	Date
300	R.E.C.	9-19-51
210		

1607 Palo Duro Road
Austin, Texas
September 18, 1951

Mr. G. C. Mittenbert, Director
Production Expansion Division
Strategic Materials Administration
Department of Interior
Washington 25, D. C.

Dear Mr. Mittenbert:

Re: Docket No. DMA 1214 X
(Mercury) Marvilliar Minerals Co.
Alpine, Texas

The original and four copies of contracts for subject exploration project, properly signed, were mailed to the Dallas Office on August 24, 1951. Except for a statement of receipt and forwarding on to Washington, we have heard nothing further concerning the project.

We are ready and anxious to begin work as soon as we get a go-ahead signal and information on the procedures to be used. We know nothing about the regulating governing operating procedures, i.e. required paper work, reports, forms, etc. Will you please advise us when we can expect to begin operations and supply us with the necessary information.

Sincerely yours,

F. M. McDonald, Manager
Marvilliar Minerals Co.

P. S. Please note the change in address. I am now at the University of Texas. Mailing address--1607 Palo Duro Road, Austin, Texas; telephone number 2-8132.

FILE COPY
SURNAME:

Mittendorf
100

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

SEP 7 1951

a.s.c.

Contract Service Section
General Accounting Office
Washington 25, D. C.

Re: Docket DMA 1514X
Exploration Project Contract
Idm-E112
Maravillas Minerals Company
Alpine, Texas

Gentlemen:

Enclosed for recording in your office is the original, signed copy of an Exploration Project Contract executed between the operator named in the above reference and the Government of the United States.

Sincerely yours,

C. O. Mittendorf (rest)

C. O. Mittendorf, Director
Production Expansion Division

JF 7-9

Enclosure-1

DEMoulds/bjs
9/5/51
cc to: Adm. Reading File
Reports & Records
Mr. Mittendorf, Mr. Olund
Mr. Moulds
Docket

FILE COPY
SURNAME:

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

Moulds
Mittendorf

AUG 17 1951

Mr. David Gallagher
Executive Officer
Region VI
Defense Minerals Administration
221 West 3rd Street
Joplin, Missouri

Re: Docket No. DMA 1514X (Mercury)
Maravillas Minerals Company
Alpine, Texas

Dear Mr. Gallagher:

Please find herewith six copies of contract for subject exploration project. The contract has been signed by the Government and bears serial number and effective date as shown.

The contract is to be signed by all members of the partnership in the presence of yourself or member of the DMA staff without any changes to its contents. If any provisions are unsatisfactory to the operator, the contract must be returned to this office for re-execution.

After signing the contract one copy is to be given to the contractor and one copy retained for your files. The remaining copies including the original are to be returned to this office as soon as possible.

A copy of the contract required by the Regional Finance Office will be forwarded directly by the Washington Finance Section.

Sincerely yours,

C. O. Mittendorf

C. O. Mittendorf, Director
Production Expansion Division

Enclosures-6

APPROVED:

Tom Lyon
Chairman, Coordinating Committee

Lowell B. Moon
Member, Bureau of Mines

Olaf N. Rove
Member, Geological Survey

DEMoulds/bjs
8/14/51

cc to: Adm. Reading File
Reports and Records
Mr. Moon
Mr. Mittendorf, Mr. Olund
Mr. Moulds
Mr. Bourret
Mr. McKnight
Region II
Docket copy
Chron. copy

FILE COPY
SURNAME:
Docket
Gordon
Bourret

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

AUG 10 1951

Memorandum

To: Director, Production Expansion Division

From: Director, Supply Division

Subject: Maravillas Minerals Company
Mercury, DMA docket 1514x

We refer to applicant's letter of August 1, 1951, requesting allowance of an additional estimated cost increase of $800 in part one of proposed contract.

Applicant states that, basing on actual experience on the ground, satisfactory test pitting requires drilling and blasting and requests allowance for necessary drilling equipment, blasting, supplies, etc.

In view of the above, it is hereby recommended that the total cost of the project be increased from $9,650.00 to $10,450.00, to include the following, additional, specific items:

(a)	Rental of compressor and rock drill	$500.00
(b)	Dynamite and miscellaneous supplies	300.00*
	Total additional	$800.00

*~~Minor~~ FORMER allowance was $50.00, so final total allowance for this item will become $350.00.

Tom Lyon

Tom Lyon, Director
Supply Division

EGordon/mh 8-9-51
cc: Adm. Read. File
Reports and Records
Lyon
Meyer, Bur. of Mines
Mcknight, USGS
Bourret
Field Team, VI
DMA docket files

Alpine, Texas
August 9, 1951

Mr. C . O. Mittendorf, Director
Production Expansion Division
Defense Minerals Administration
Department of Interior
Washington 25, D.C.

Dear Mr. Mittendorf:

As per your telegram of August 8, 1951, I am returning all copies of Exploration Project Contract.

At a recent meeting of the partners to discuss this contract it was decided to go ahead and sign it since we were all assembled, but hold it until an answer to our request for revision was received. Therefore, you will notice that the copies have been signed and voided.

Hoping to receive the revised contract soon, I am

Yours truly,

W. N. McAnulty

W. N. McAnulty, Mgr.
Maravillas Minerals Co.
by Secretary

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 13 1951

FILE COPY
SURNAME:

400

Royce Mittendorf

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

C. O. Mittendorf, Director
Production Expansion Division
Defense Minerals Administration X5371

1420137 Salaries & Expenses
Defense Production Activities
Interior, 1952 (10.1)

August 8, 1951

W. N. MC ANULTY
ALPINE, TEXAS

CHANGES YOU SUGGEST AGREEABLE. RETURN PRESENT CONTRACTS UNSIGNED AND UPON RECEIPT A NEW CONTRACT COVERING REVISION WILL BE MAILED FOR SIGNATURE.

C. O. Mittendorf (J. M.)

C. O. MITTENDORF, DIRECTOR
PRODUCTION EXPANSION DIVISION

JCA

DEMoulds/bjs
cc to: Reports and Records
Mr. Mittendorf, Mr. Olund
Mr. Moulds
Docket copy

Air Mail
Special Delivery

Alpine, Texas
August 1, 1951

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 3 1951

C. O. Mittendorf, Director
Production Expansion Division
Defense Minerals Administration
Department of Interior
Washington 25, D. C.

Re: Docket No. DMA-1514-X

Sir:

Receipt of Exploration Project Contract (MF-200) covering two exploratory projects on property owned by the Maravillas Minerals Company in Brewster County, Texas, is acknowledged.

This contract has been considered by all parties concerned and we propose some minor changes and await an answer before signing the contract.

Of course, we are glad that the Government is willing to assist in an exploration program, but we are somewhat disappointed in that the Government has seen fit to approve so little of the whole program submitted by us. However, with certain changes in Project #1 in Exhibit A we are ready to sign the contract and get going as soon as possible. We believe that the changes proposed below are necessary in view of experience recently gained from working the property, for during February, March and April of this year we carried out a program of work almost identical to Project #1, and from the experience gained from that work the following changes in Project #1, Exhibit A, are suggested:

(1) An item covering the rental of a portable air compressor and jack hammer should be added. It would be a waste of time and money to do the work with picks and shovels alone. The host rock is a hard crystalline limestone and the fissured zones contain brecciated materials often cemented with silica, and there are highly silicified areas. Picks just won't do the job. Therefore, the amount of $500.00 should be added for rental of an air compressor and a jack hammer.

(2) Only $50.00 has been set up for supplies (Item 5). We will need nearly that much for dynamite. We will need $100.00 worth of gasoline, oil, and grease to operate the compressor; we will need jack bits and a few pieces of drill steel, some hand steel, picks must be sharpened, etc. At least $350.00 should be set up for miscellaneous supplies.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 6 1951

LANDON F. STROBEL
Executive Secretary

Project #1, Exhibit A, would then read as follows:

(1)	Repair of road to camp site -	$ 250.00
(2)	Purchase of tents & other camping equipment & supplies - - - - -	300.00
(3)	Rental of pickup truck -	500.00
(4)	Labor for test pitting -	650.00
(5)	Miscellaneous supplies -	350.00
(6)	Supervisory, engineering, consulting, assaying - - - - - - - - - -	750.00
(7)	Rental of air compressor and jack hammer - - - - - - - - - - - - -	500.00
	TOTAL OF PROJECT #1 - - - - - - - - - - - -	$3300.00
	(An increase of $800.00)	

Project #2 in Exhibit A in the amount of $7150.00 appears to be satisfactory. Including the suggested changes in Project #1, the total for both projects would be $10,450.00. Of this amount the Government would contribute $7,837.50 and the Maravillas Minerals Company would contribute $2,612.50.

We will hold the present contract until a reply relative to the above suggestions is received.

Hoping that these suggestions meet with your approval, I am

Sincerely yours,

W. N. McAnulty

W. N. McAnulty, Mgr.
Maravillas Minerals Co.

FILE COPY
SURNAME:

Moulds
Mittendorf

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

July 26, 1951

a. f.

Mr. W. N. McAnulty, Manager
Maravillas Mineral Company
Alpine, Texas

Re: Docket No. DMA 1514-X

Dear Mr. McAnulty:

Please find herewith six (6) copies of exploration project contract covering the approved program for your mercury deposit in Brewster County.

If contract is satisfactory kindly have all partners sign all six copies of contract and return all copies as soon as possible to this office for completion. A copy will then be returned to you bearing effective date and register number.

Sincerely yours,

C. O. Mittendorf 7/27

C. O. Mittendorf, Director
Production Expansion Division

Enclosures-6

DEMoulds/meh
cc to: Reports and Records
Adm. Reading File
Mittendorf, Olund
Moulds
Region VI (2)
Merrill
McKnight

FILE COPY
SURNAME:

McAnulty

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

July 25, 1951

Delivered by hand

Memorandum

To: Chief, Production Expansion Division

From: General Counsel

Subject: W. N. McAnulty, et al, exploration contract -- Docket No. DMA- 1514

The contract in the subject case is approved as to form and legality subject to execution by each of the partners and the Government.

At the time of execution by the Government, the effective date should be inserted in the contract.

Your file is returned herewith.

J. L. Hofflund
J. L. Hofflund
General Counsel

Attachment

CJKoontz/ema

Copy to: C. J. Koontz
J. L. Hofflund } deld. by hand
Chron.
Files

DMA-1514

FILE COPY
SURNAME:

Gordon
Bowell
Meyer

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

June 26, 1951

Memorandum

To: Director, Production Expansion Division

From: Director, Supply Division

Subject: Maravillas Minerals Company, Alpine, Texas
Mercury - DMA docket - 1514x

Underdate of May 30, 1951, the Maravillas Minerals Company submitted the subject application, DMA-1514x requesting a project totaling $51,379, with a government participation of 75% ($38,534.25). They state they will put up $12,845 in funds. After careful review the committee has decided to recommend a modified program in the amount of $9,650.00, with government participation of $7,237.50.

The following factors have been considered and weighed in reviewing this application:

1. Reference MO-5 Section 7 (Criteria)

(a) Although the mercury supply position is not critical, additional sources should be investigated with a view toward increasing domestic reserves.
(b) According to the U.S.G.S. the subject project is in a new district, with geology similar to that of the Terlingua district; there is evidence of the presence of mercury in sinks and a mineralized fissure zone.
(c) Sufficient labor is believed available.
(d) Churn drilling may be contracted for in the general region.
(e) The project area is 47.7 miles from Marathon, Texas, a point on the main line of the S.P.R.R., and tributory thereto are good roads.
(f) Sufficient water for churn drilling may be hauled in.
(g) Company states "A competent mining engineer will be employed to direct the exploration. McAnulty's services as a consultant will be available", this man is regarded as a capable geologist.

2. The five claims comprising the property have been assigned to the Maravillas Minerals Company, a limited partnership, and the assignments duly recorded. There are no liens nor encumbrances against the property.

3. The applicant estimates it will start work within sixty days after approval of the subject application and that the project can be completed within nine months thereafter. However, we have cut out parts of his proposed program as being more suited to mine development. We estimate the reduced program can be completed within 4 months from time of inception.

Progress Schedule Follows:

(a) First Quarter - Repair road and construct temporary camp, complete test pitting and sink 2,500ft. of churn drill hole.
(b) Fourth month - complete churn drill program.

4. The project consists of exploring potentially attractive ground for mercury deposits.

(1) Exploration will consist of at least eleven test pits, each two or three feet deep, as shown on map under reference points 5 to 15 inclusive. (Allowance being made for more pits, at option of field team).
(2) Either (a) or (b) below, as may be agreed, following field team's examination, by field team and applicant's consultant.
(a) 3,000 feet of 5" churn drill hole, consisting of five holes; refer to points 16 through 20 on map, each hole to penetrate the top of the Edwards limestone.
(b) Series of shallow trenches at fifty foot intervalsacross main mineralized zone, and prospect shafts to follow most highly mineralized leads. Detailed program and cost estimate to be submitted by applicant after approval by field team. Cost limit to be same as alternate program of churn drilling, (3,000 feet of 5" churn drill hole at $2 per foot, $6,000.00).

(3) We recommend two more churn drill holes of 100 feet each, at sites 3 and 4 on map, where applicant had proposed two fifty foot shafts, drilling these holes to depend upon their advisability as determined by the field team after inspection of the property.

(4) The shaft-sinking and drifting proposed by applicant are denied as not being warranted by the data submitted.

5. Estimated Costs are as follows:

Roadwork	$ 250.00
Tents for temporary camp	300.00
Rent and operation of ½ ton pickup to haul drilling water, $125-per month	500.00
3,200 ft. of churn drilling $2-per foot, or trenching and prospect shafts, sec. 4-(2Xb) above	6,400.00
Miscellaneous supplies for test pitting	50.00
Labor for test pitting	650.00*
Supervisory engineering, consulting, assaying	1,500.00
TOTAL	$9,650.00

*Subject to field team review.

Recommendation

It is therefore recommended that the Production Expansion Division negotiate a formal contract which will permit the applicant to undertake the following specific exploration, along the lines described above:

1. Repair the last 2.5 miles of road to the applicant's claims.
2. Contract or otherwise arrange for 3,200 feet of 5 inch churn drill hole. (or alternative trenching and test shaft, sec. 4. (2) (b).
3. Sampling and logging of holes
4. Test-pits up to a cost limit of $650.00 to be made out after consultation with field team.
5. Provide for supervision, consulting, and assaying up to total $1500.00.
6. Final report to AMA to be presented by applicant showing results of work, logs, position of all test openings etc.

Tom Lyon, Director
Supply Division

Attachments

Recommendation approved.
Production Expansion Division

W Bourret/mh
cc: Adm. Asst. File
Strobel
Lyon
Field Team VI
Bourret
Files

FILE COPY
SURNAME:

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

June 20, 1951

Mr. W. N. McAmulty
Maravillas Minerals Company
Alpine, Texas

Subject: DMA-1514X
Re: Exploration Loan
Lucky Strike, Manana, Quen Sabe,
Last Chance, Rayona Claims

My dear Mr. McAmulty:

Receipt is acknowledged of your application and attachments of May 30, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1514X and was referred to Mr. Weston G. Bourret, Chief, Minor and Rare Metals Branch on June 7, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1514X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:Jeb
cc: Strobel-2
Files
Bourret
Lyon

DMA 1514

Re DMA 1514X

I have sent one copy of this to Bob Yates because of his familiarity with Texas Mercury. He will call me (I hope on Tuesday) when he has reviewed it.

E.T. McKnight.

new drawing 40 mi SW of Sterlingua Dist.

fissures + filled sinks

prob. 250'-400' thick

Comanchean

In Georgetown limestone, - Del Rio Shale eroded, but nearby.

below Georgetown LS is Kiamichi formation (nearly shale & clay), then Edwards LS.

3 shafts of 20' - 1-10' test pit. several 2 & 3' pits & 60' trench 5' with 44 drops.

showing cinnabar at several places, including mineralized fissured zone traced more than 300 yds.

Shaft 350', at base of Kiamichi - 300' trench along fissure zone. -

2-50' shafts in sinks - numerous test pits.

5" churn drill holes to top of Edwards LS. - ±3000' @ $42/ft start 5 holes.

Maravillas Mining Co. W. N. McDonald

Prof Geol - Sul Ross

McDonald estimated as to cost, & thought a field man is indicated.

Can Gallagher make it, if so will send checks

shorthanded - concurs with recommend drilling a test pits, ~~concurs~~ ~~agrees~~ some.

51,319.00
12844.75
38,534.25

Copy.

Notes on the Maravillas Minerals Company's application for a D.M.A. exploration loan on a mercury property in Brewster County, Texas (Docket No.-DMA 1514x)

(The following notes are an expansion of a telephone conversation between E. T. McKnight and Robert G. Yates on June 19, 1951.)

On the whole the report submitted by the Maravillas Minerals Company is in very good shape.

I am not familiar with any of the partners in the Maravillas Minerals Company.

To the best of my knowledge mercury has never been reported from the Maravillas Creek area. The map and the geologic report submitted with the application indicate that the area has much in common with the Terlingua district. Except for the reported presence of the Kiamichi formation, the rocks are the same in both areas. The map shows structures similar to those in the Terlingua district.

It must be emphasized, however, that in the Terlingua district, the best ore horizon was at the contact between the Devil's River limestone (Georgetown of the report) and the overlying Del Rio clay. This is the horizon that is probably represented by the present erosion surface at the Maravillas property. In the Terlingua district no profitable ore bodies were found more than 50 feet below this horizon. The few ore pockets that were found at greater depths did not pay for the cost of exploration. If geologic conditions are similar at the Maravillas property, I doubt if ore will extend more than fifty feet below the present surface. It is possible, however, that the character of the Georgetown limestone at the Maravillas property is sufficiently different from that at Terlingua to be favorable at greater depths. This, of course, is an unknown. It is also possible that the Kiamichi marl (estimated as 350 feet below the present surface by McAnulty) is a favorable ore horizon. This also is an unknown.

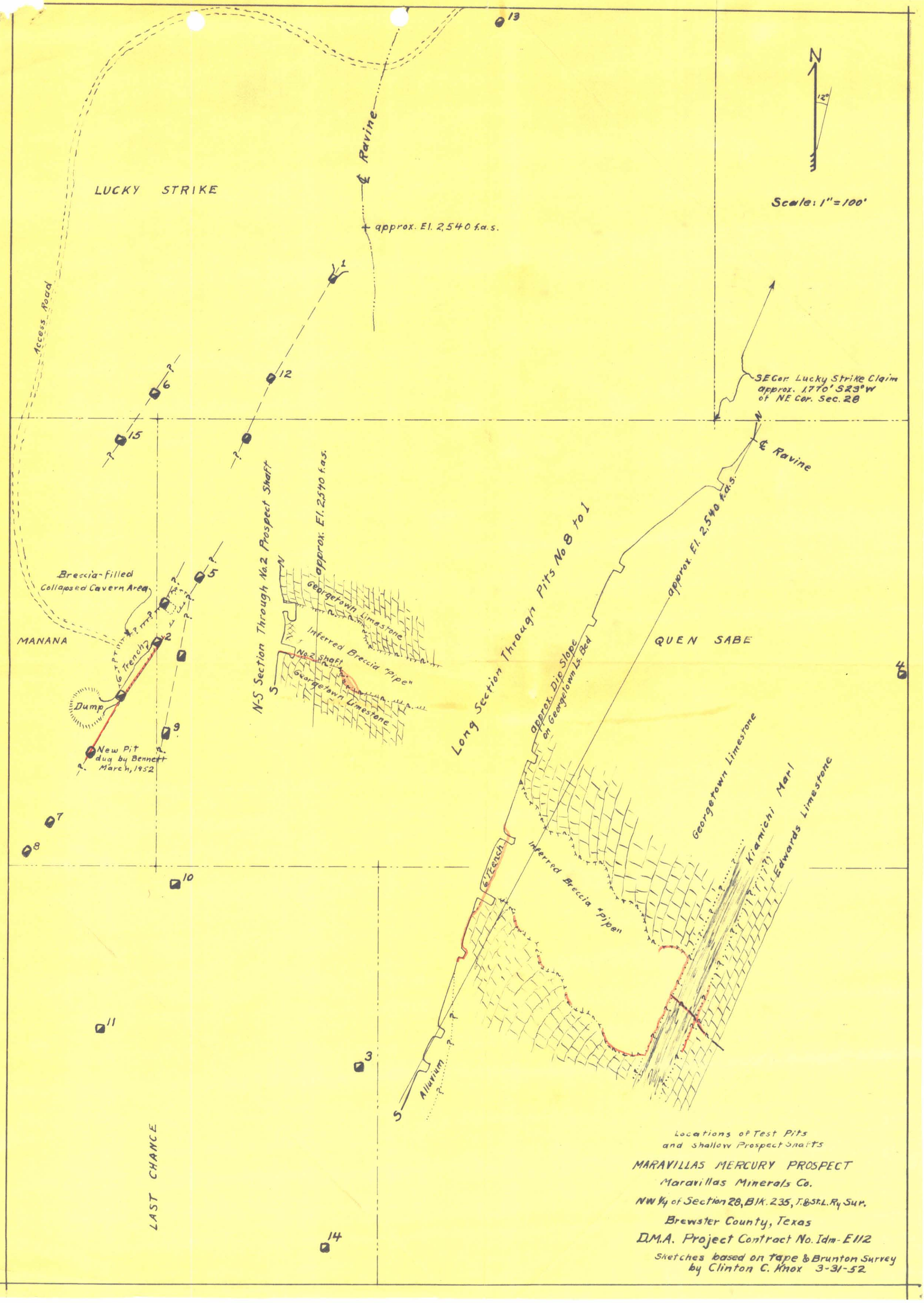
The assay data included in the application, although it suggests the presence of good ore, is too scanty to permit ~~evaluation~~ any evaluation of the surface mineralized rock. If, as claimed on the map, there is a zone over 150 feet long and 10 feet wide of "high grade" ore an exploration loan is not necessary. The money the Company is willing to invest could pay for the mining and retorting of this ore and the money realized from this operation would pay for the exploration proposed in the application.

I do not agree with the exploration project outlined. If the surface showings are as good as claimed, I would suggest the following program. Cut shallow trenches across the main mineralized zone ~~that the samples~~ at intervals not greater than 50 feet apart. Take a series of channel samples from these trenches. Then sink prospect shafts in places in the mineralized zone that the samples show to be the most highly mineralized (with cinnabar). These prospect shafts should follow the ore down. If it is not possible to keep the prospect shafts on the ore, drifts at frequent intervals should keep the shafts in close contact with the ore. Until this work is done, a shaft should not be sunk to the Kiamichi marl.

Churn drilling was done at the Fresno mine in the Terlingua district with some success, but it has its disadvantages. Drilling on the Maravillas property would be in cavernous limestone and in "cave fill" (rock fragments in a clay matrix resulting from solution collapse). The caverns in the limestone would give trouble. The collapse sink areas probably could be drilled with little trouble. However, the probable vertical character of the main mineralized zone might make exploration by churn drilling difficult because of irregularities in the walls.

Because this property is a new area, previously not known to contain cinnabar, I believe a field examination is necessary. As Dave Gallagher is fairly close to the area & has had considerable experience with quicksilver deposits he is the ideal man to make the examination. I would suggest that while in the area the field man visit the Marfa-Presidio mine in the Terlingua district in order to compare the two deposits.

R. G. YATES, U.S.G.S.



Locations of Test Pits
and Shallow Prospect Shafts

MARAVILLAS MERCURY PROSPECT

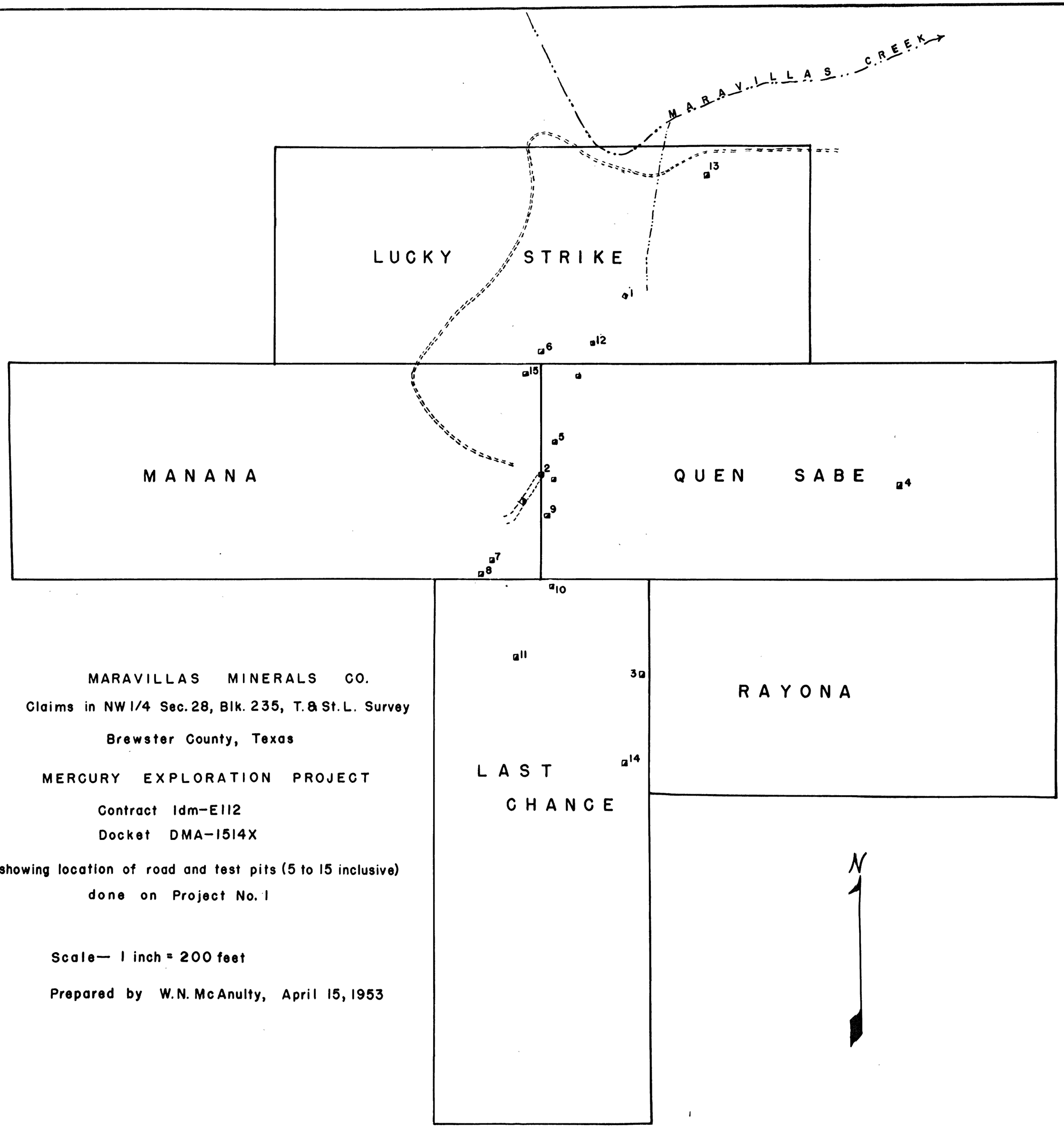
Maravillas Minerals Co.

NW ¼ of Section 28, Blk. 235, T.&St.L.Ry Sur.

Brewster County, Texas

D.M.A. Project Contract No. Idm-E112

Sketches based on tape & Brunton Survey
by Clinton C. Knox 3-31-52



MARAVILLAS MINERALS CO.

Claims in NW 1/4 Sec. 28, Blk. 235, T. & St. L. Survey

Brewster County, Texas

MERCURY EXPLORATION PROJECT

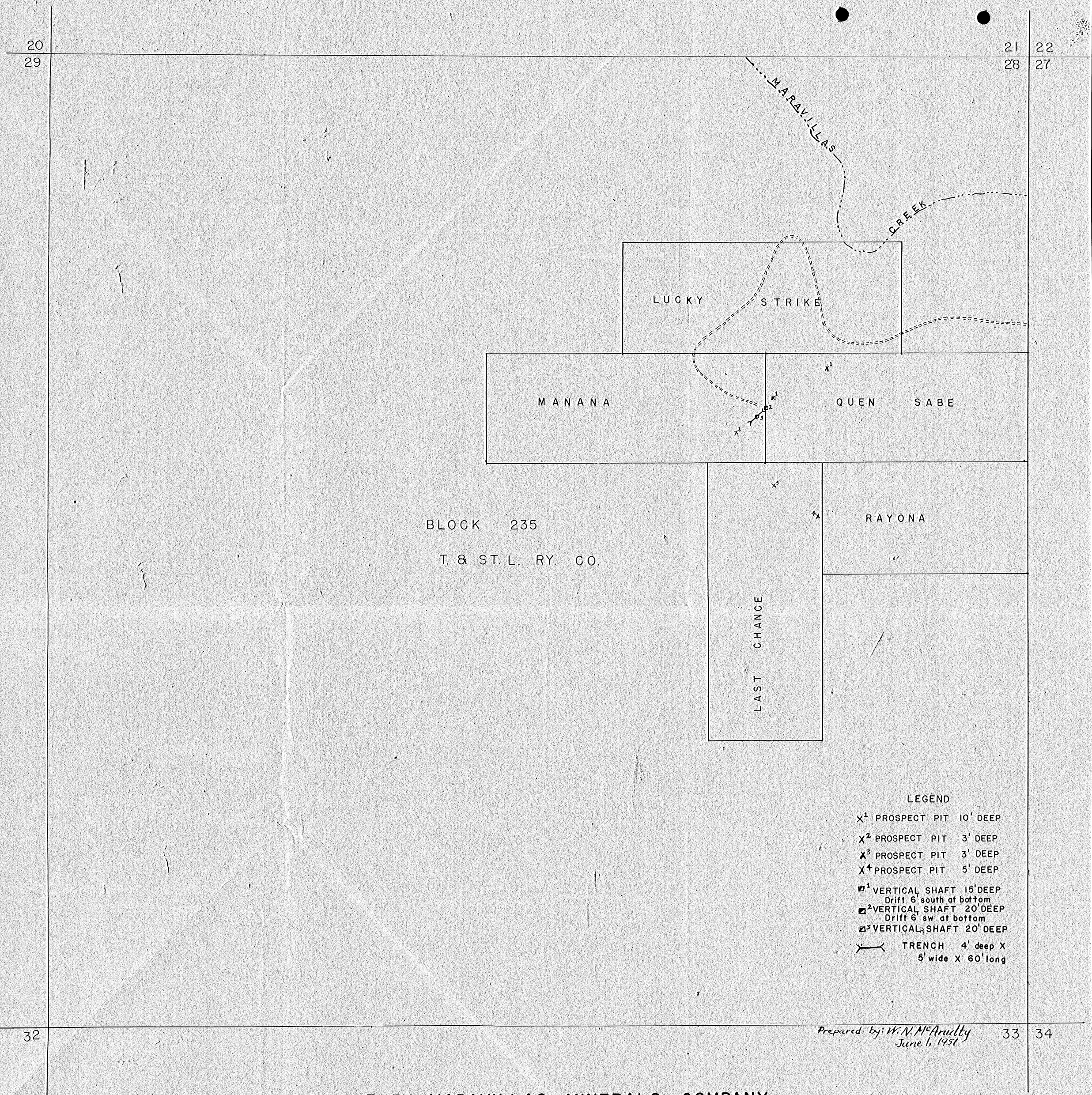
Contract Idm-E112

Docket DMA-1514X

Map showing location of road and test pits (5 to 15 inclusive) done on Project No. 1

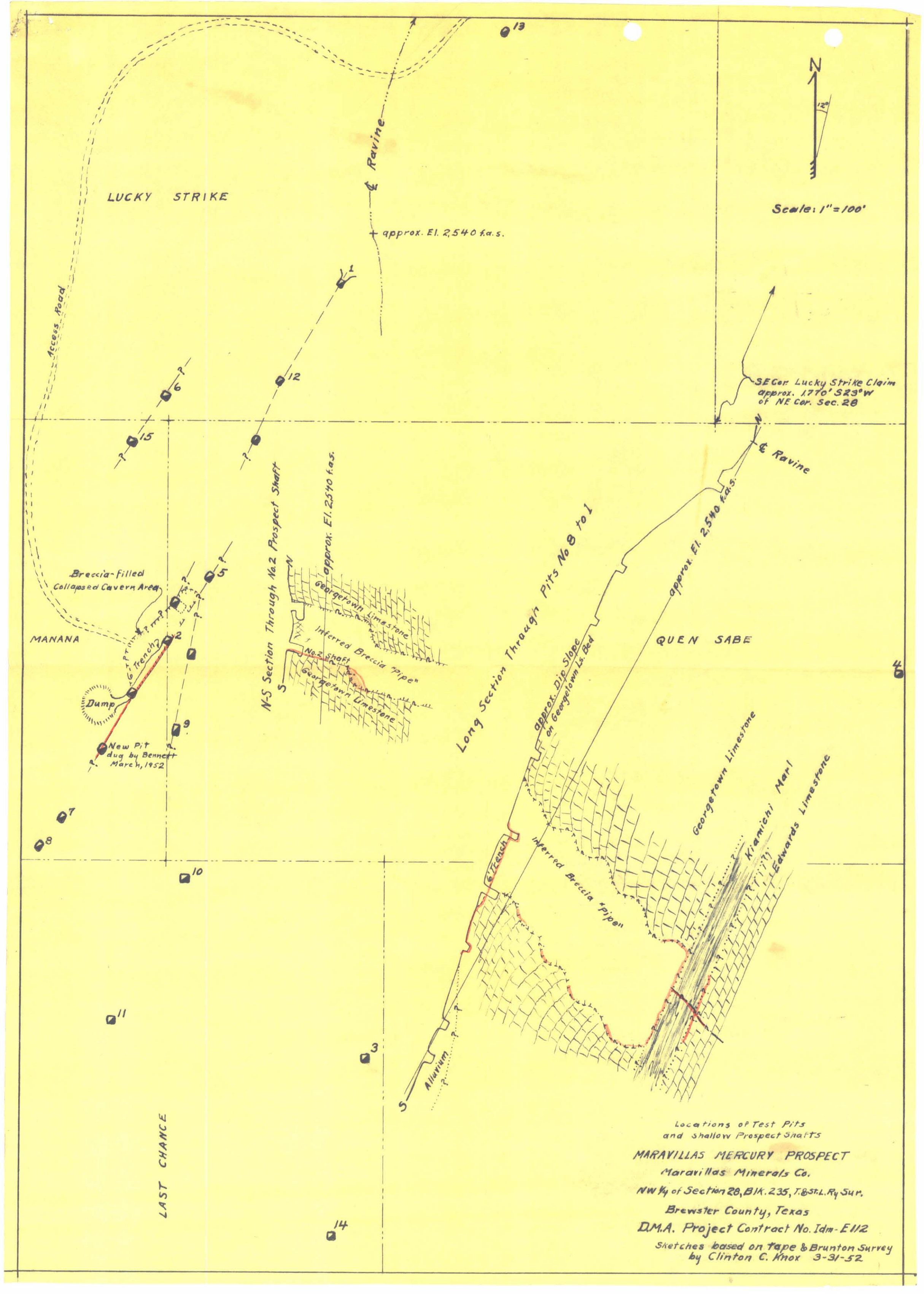
Scale— 1 inch = 200 feet

Prepared by W. N. McAnulty, April 15, 1953



MAP SHOWING WORK DONE BY MARAVILLAS MINERALS COMPANY

AS OF JUNE 1, 1951



Locations of Test Pits
and Shallow Prospect Shafts

MARAVILLAS MERCURY PROSPECT

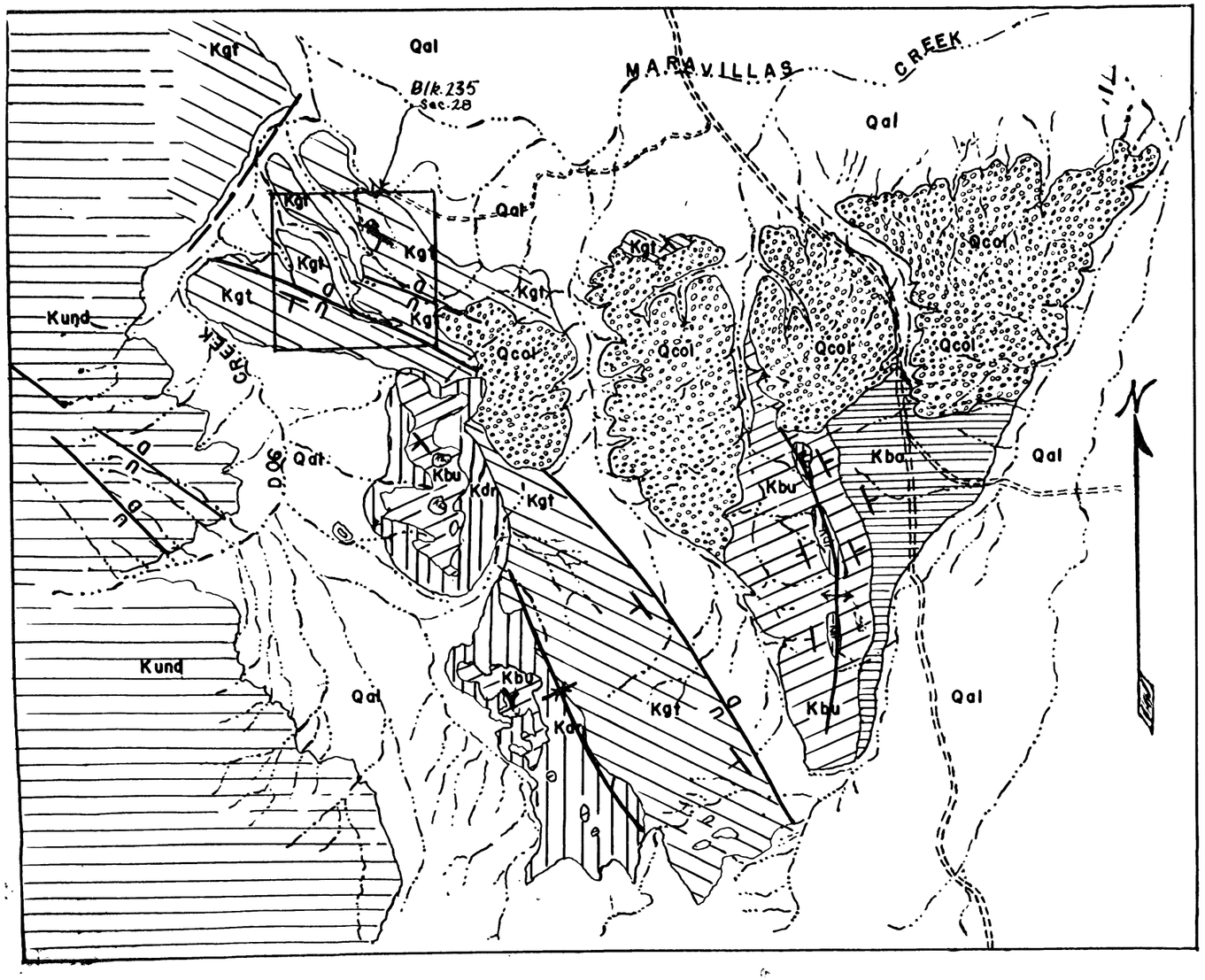
Maravillas Minerals Co.

NW ¼ of Section 28, Blk. 235, T.&St.L. Ry Sur.

Brewster County, Texas

D.M.A. Project Contract No. Idm-E112

Sketches based on tape & Brunton Survey
by Clinton C. Knox 3-31-52



GEOLOGIC MAP OF A PORTION OF THE BONE SPRING QUADRANGLE, BREWSTER CO., TEXAS

INCLUDING AREA IN WHICH MINING CLAIMS OWNED BY THE MARAVILLAS MINERALS CO. ARE SITUATED

SCALE — 1:50000

AERIAL PHOTO BASE

PREPARED BY: A. N. McAnulty

MAY, 1951

LEGEND

QUATERNARY

- Qal — ALLUVIUM
- Qcol — COLLUVIUM — High level boulders, gravel, sand, & silt. Deposited during an earlier fuvial cycle.

CRETACEOUS SERIES

GULF SERIES

- Kbo — BOQUILLAS FORMATION — Flaggy limestone alternating with thin layers clay.

GOMANCHEAN SERIES

- Kbu — BUDA LIMESTONE — Massive, gray ls.
- Kdr — DEL RIO CLAY — Yellowish-brown clay with brown flaggy limestone interbedded.
- Kgt — GEORGETOWN LIMESTONE — Massive chalky ls.
- Kund — CRETACEOUS LIMESTONES Undifferentiated, probably including Edwards, Kiamiche, Georgetown, Del Rio & Buda.

U/D — NORMAL FAULT

INFERRED FAULT

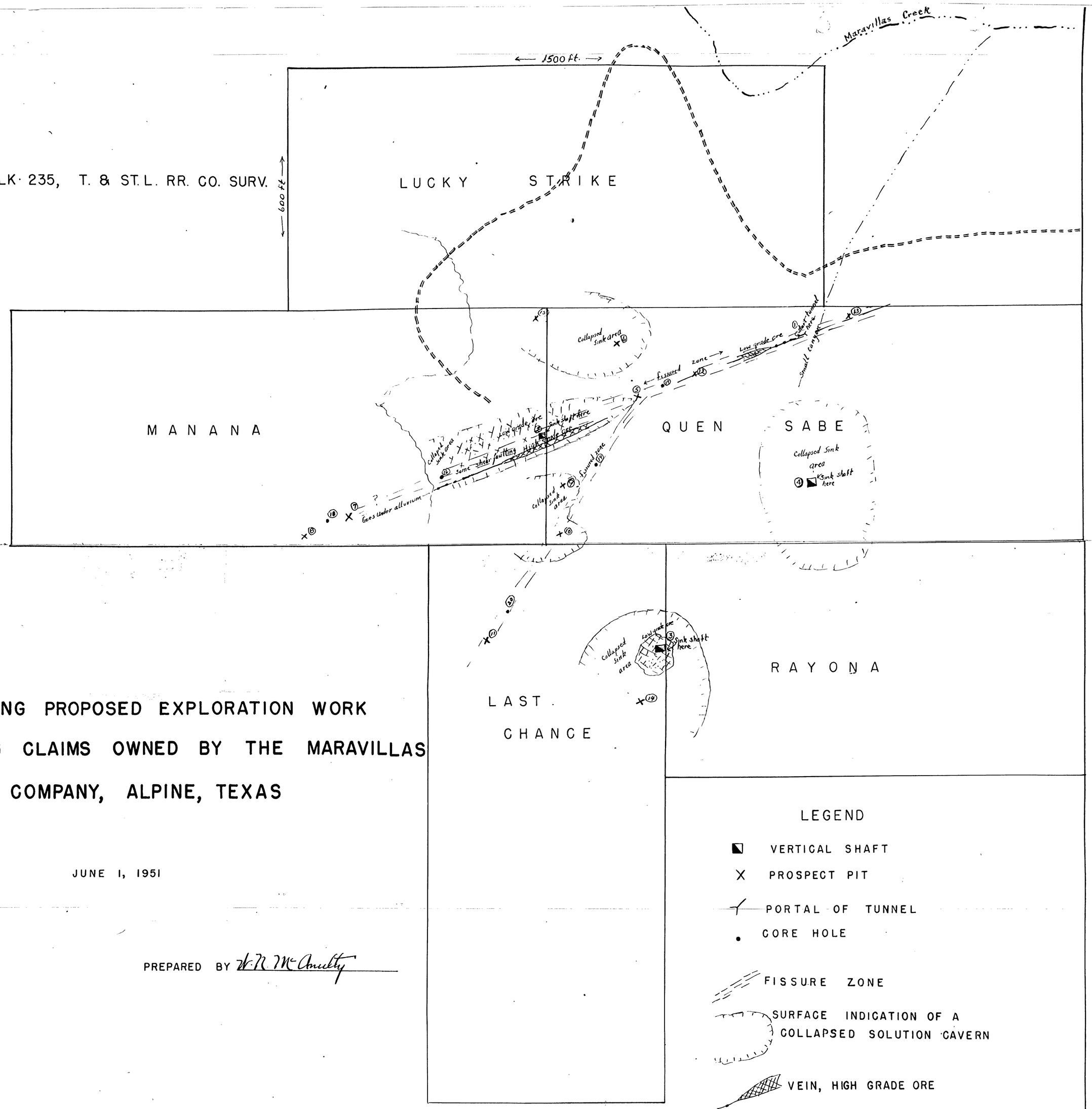
STRIKE & DIP OF BEDS

AXIS OF ANTICLINE

AXIS OF SYNCLINE

PROSPECT PITS & TRENCHES

SECTION 28, BLK. 235, T. & ST. L. RR. CO. SURV.



MAP SHOWING PROPOSED EXPLORATION WORK ON MINING CLAIMS OWNED BY THE MARAVILLAS MINERALS COMPANY, ALPINE, TEXAS

JUNE 1, 1951

PREPARED BY W. R. McAnulty

LEGEND

- VERTICAL SHAFT
- PROSPECT PIT
- PORTAL OF TUNNEL
- CORE HOLE
- FISSURE ZONE
- SURFACE INDICATION OF A COLLAPSED SOLUTION CAVERN
- VEIN, HIGH GRADE ORE
- LOW GRADE ORE