DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4817

Application
- [ ] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

Folders No._____: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

17963

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 21 1957

DATE	INITIALS	CODE

August 19, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Application for DMEA Aid (Manganese) Chris G. Muller (Muller Manganese Nos 1 and 2 claims) Luna County, New Mexico

Enclosed are the original and two copies of the subject application. One copy of the application is being retained in our file.

The Applicant proposes to explore a mineralized target area by 100 feet of sinking and 400 feet of drifting at a total estimated project cost of $21,786.08.

You will note that the Applicant has requested the return of Exhibit No. 2, Topographic and Generalized Geologic Map of Little Florida Mountains, N. Mex., which is attached to the original of the application only.

By J. W. Townsend
Alternate Acting Executive Officer

Enclosures

HMC file

CERTIFIED MAIL
724647 5

DMEA
DEPARTMENT OF THE INTERIOR
AUG 19 1957
REGION III
DENVER, COLORADO

August 17, 1957

Box 705
Willcox, Arizona

Re: DMEA Application
(Manganese)

Mr. W. H. King, Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Dear Mr. King:

Attached is my application for aid in an exploration project for manganese ores in quadruplicate with accompanying exhibits #1 thru #5.

I trust this application is complete with all the necessary information required.

Yours very truly,

Chris G. Muller

Chris G. Muller
Muller Manganese
Box 705
Willcox, Arizona

CGM:cep
Encls.

Form MF–103
Revised Feb. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42–R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed)

Chris G. Muller
Muller Manganese
Box 705
Willcox, Arizona

DMEA
DEPARTMENT OF THE INTERIOR
AUG 19 1957
REGION III
DENVER, COLORADO

APPLICANT NOT TO USE THIS BLOCK

Docket Number: 4817
Date Received: 8/21/57
Government Participation %:
Region: III
Division Code: 400

BUSINESS ORGANIZATION (Check one)

- Individual [X]
- Corporation [ ]
- Partnership [ ]
- Other (Specify) [ ]

State in which firm is organized:

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title

Mineral(s) for which you wish to explore: Manganese

Estimated Cost of Project: $ 21,786.08

LOCATION OF PROPERTY

Name	County	State
	Luna	New Mexico

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order–I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

CERTIFICATION

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

August 16, 1957
Dated

Chris G. Muller
BY *(Signature)*
(Chris G. Muller)

Owner
Title

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2*(a)*.

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *property boundaries* or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. *(Note* – If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

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

7. *(a)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 15539

CHRIS G. MULLER
Muller Manganese
Box 705
Willcox, Arizona

APPLICATION FOR AID IN AN EXPLORATION PROJECT-MANGANESE

1. Applicant's Property Rights:

(a) Attached are four copies each, certified as true and exact, of two Location Notices showing legal descriptions. (Exhibit #1)

This property is located on Government land, as verified by the Luna County Assessor.

(b) No other names known.

(c) Interest in land - Owner.

(d) There are no liens, mortgages or other encumbrances on the property.

2. Physical Description:

(a) Maps and Sketches attached:

Exhibit #2 - U.S. Department of the Interior Geological Survey of Little Florida Mountains, New Mexico (Please return)

Exhibit #3 - Sketch of Area (Deming, N.M. and Manganese Claims)

Exhibit #4 - Sketch giving Plan View of Muller Manganese Claims.

Existing mine workings: Mine shaft 24 feet deep, which is 210 feet south of the north center monument of Claim #1; 24 feet south of this is a 5 foot shaft; 107 feet north of the main 24 foot shaft is a 7 foot shaft 15 feet from the foot wall showing little ore; 115 feet north of main shaft is a 5 foot hole (Sample #4) and 265 feet from the 24 foot shaft on Claim #2 is a 10 foot shaft (Sample #5). Sample Assays #1, 2 and 3 are from the main shaft, lead assay is composite of these three manganese samples.

On peak where monument is located ant-hills show high grade manganese 45 feet from monument. Enriched are of the last workings are 30 feet wide, all of the workings show considerable mill ore of approximately 10% manganese which has already been milled to 42% grade manganese concentrates with an

CHRIS G. MULLER
Muller Manganese
Box 705, Willcox, Arizona

approximate recoverability of 80.7%. One shipment was made of concentrates taken from ore that was mined in October 1955 by Harris Brothers of Arizona.

(b) Interest in 2 (a): Sampling of ore and procuring the mine.

(c) See 2 (a). No settlement Sheet available.

(d) Ore reserves are indicated by vein averaging 8 feet (6' to 15') wide by 1,500 feet in length (a total of 3,000 feet on both claims however) by 300 feet depth. The main 24 foot shaft is 6' x 8' at the top and 8' x 8' at the bottom with a 5' drift north of bottom of shaft. Samples are taken from 6' level, 15' level and from the 24' bottom. Outcrop is 45 feet wide at the monument, surface shows small veins pitching toward footwall - vein would be 8' to 12' wide with vein approximately 1,500 feet in length. All shafts or holes are on vein except the 7 foot shaft.

To arrive at estimate of ore reserve: 1,500' length x 8' width x 300' depth equals 3,600,00^{0}cubic feet; divided by 12 (12 cu. ft to the ton) gives an estimated 300,000 Short Wet Tons of ore reserve. All manganese ore in the Little Florida Mountains go to a depth of at least 400 to 500 feet. Exhibit #5 - Assays of Samples (Assays done by A.F. Hallett, Chemist for Peru Mining Co. of Deming, N.M. Mr. Hallett did all assay work for Florida Manganese, Inc.)

(e) The geologic features are the same formations as the workings on the Easterly side of the Florida Mountains which is being (or has been) mined by Florida Manganese, Inc. The type of deposits are pudding manganese ore, psilomelane manganese oxide in veins, vertical vein pitched the same as Manganese Valley Mine veins.

(f) Exhibits #2, 3, 4 and 5 attached are reasons for expecting ore in quantity to be present on these two manganese claims.

(g) Exhibits attached #2 thru #5 - only Exhibit #2 is to be returned.

CHRIS G. MULLER
Muller Manganese
Box 705, Willcox, Ariz.

3. Accessibility of Project:

(a) The owner of property will meet DMEA representatives, address as given on this Application and phone number is Willcox, Dudley 4-2585. Address, when in Deming is Chinese Gardens, house at the General Services Administration Depot gate. The workings are reached by road by way of the Spanish Stirrup Guest Ranch approximately 15 miles from Deming, N.M. The end of the road to the workings is passable but needs additional road work.

(b) Shipping and supply point is Deming, New Mexico, approximately 15 miles from mine. Employees reside in Deming, N.M.

4. The Exploration Project:

(a) The owner proposes to deepen the shaft 100 feet and explore the vein for a distance of 300 feet to the north and 100 feet to the south. The shaft will be on the vein as shown on accompanying sketches. (Exhibits #3 and #4) This will be a continuation of the shaft that is now 24 feet.

(b) The existing road only needs some additional work.

(c) In the event that an exploration contract with DMEA is executed, work will start immediately and will take approximately 6 months or 132 working days to complete. Progress will be 2½ feet per day on sinking the shaft and work along the drifts will be at the rate of 3 feet per day.

5. Experience:

The applicant (owner) will supervise and engage in this project. Present mining activity is mining and milling ore from American Claim #29 in the Little Florida Mining District, selling concentrates to Mohave Mining & Milling Company at Wickenburg, Arizona; past positions have been with Florida Manganese, Inc., Deming, New Mexico as superintendent of their Jig Plant during 1955 and 1956; supervisor of milling operations for North London Mines at Alma, Colorado; superintendent for Santa Rita Mining

CHRIS G. MULLER
Muller Manganese
Box 705
Willcox, Arizona

Company at Dos Cabezes, Arizona.

6. Estimate of Costs:

(a) The applicant (owner) will supervise this project and hire the necessary labor for the work to be done.

(b) Personal Services:

ROAD WORK

Bulldozer - 16 hours @ $17.00 per hour (includes operator)	$ 272.00

LABOR, SUPERVISION AND CONSULTANTS: (All locally available)

3 Miners @$15.00 per day x 132 days	$5,940.00
1 Supervisor @ $25.00 per day x 132 days	3,300.00
1 Mechanic @$15.00 per day x 132 days	1,980.00
1 Engineer & Geologist (Special part time work)	500.00
	$11,720.00

(c) Operating Materials and Supplies:

Water hauling 2 or more barrels a day @$3.60 per day x 132 days	475.20
Pipe 1" water line @$.30 -- 520'	156.00
Pipe 3" air line @ .75¢ -- 520'	390.00
Rails 800' @ .65¢ per ft. (400 x 2)	520.00
Timber - 2,500' @ .07½¢	187.50
Ties - 80 - @ .40¢ apiece	32.00
Powder - 5,000 lbs. @ $19.70 Cwt.	985.00
Fuse - 19,800 ft. @ .0116c per ft.	229.68
Caps - 2,490 @ $21.50 per M	53.54
	$3,028.92

CHRIS G. MULLER
MULLER MANGANESE
BOX 705
WILLCOX, ARIZONA

(d) Operating Equipment:

Compressor - rental for 6 months @ $125.00 per mo.	$ 750.00
Fuel - purchase for compressor and hoist, gas and oil	751.00
2 Drilling machines: 1 jackhammer, 1 Swedish jackleg - rental	430.00
1 Hoist - rental @ $25.00 per mo.	150.00
1 Slusher @ $2.00 per day - rental	264.00
Drill steel - purchase (drill steel and bits)	162.00
Hoses - use allowance	50.00
1 Mucking machine @ $5.00 per day x 132 days	660.00
1 mine car - purchase (used car)	125.00
1 Blower - rental @ .50¢ per day x 132 days	66.00
Air pipe for blower - purchase - 450 feet	450.00
1 truck - rental $30.00 per mo.	180.00
Fuel for truck - purchase @ .32¢ gal and oil	175.00
	$4,213.00

(e) Initial Rehabilitation and Repairs:

None

(f) New Buildings, fixtures, Installations:

Powder Magazine and Shed

Materials - native rock, cement and lumber	25.00
Labor	75.00
	$100.00

(g) Miscellaneous:

Estimate of General Repairs of Equipment	150.00
Accounting	600.00
Workmens' Compensation & Employees' Liability Insurance (@ 7.316 per 100)	862.92
Payroll Taxes @ 5.25% (this rate for 1957, expect 1958 to be higher)	619.24
	$2,452.16

7. (a) The applicant is prepared to furnish his share of the cost of the proposed work of the project in accordance with the regulations.

(b) Explanation of share of costs of Project:

Road Work	272.00
Labor, Supervision, etc.	11,720.00
Operating Materials, Supplies	3,028.92
Operating Equipment	4,213.00
Powder Magazine	100.00
Miscellaneous	2,452.16
	$21,786.08

CHRIS G. MULLER
MULLER MANGANESE
BOX 705
WILLCOX, ARIZONA

7 (b) - Continued -

Total Cost of Project	$21,786.08
Government Participation @ 75%	$16,339.56
Applicant's Participation @ 25%	$ 5,446.52

Applicant will provide necessary money, provide equipment and materials, etc. as his share of cost of project.

100 feet of shaft @ $65.00 per foot	$6,500.00
400 feet of drifting @ $38.22 per foot	$15,286.08
TOTAL	$21,786.08

EXPLANATION SHOWING SHARE OF EXPENSES BY APPLICANT:

Water Hauling (6 (c)	475.20
Compressor (provided by applicant) (6.(d)	750.00
2 drilling machines - provided by applicant 6. (d)	430.00
1 hoist " " " "	150.00
1 Slusher " " " "	264.00
Hoses " " " "	50.00
Blower " " " "	66.00
450 ft. air pipe for blower " " "	450.00
truck - use " " " "	180.00
Powder Magazine	100.00
Money (from Supervisor's salary) 6. (b)	2,531.32
	$5,446.52

LOCATION NOTICE

RECEIVED AUG 2 1957 D.M.E.A.

On this 31st day of July, 1957 ~~194x~~, under authority of the laws of the United States, and in compliance with the requirements of the Statutes of New Mexico, and with the regulations and customs of miners, the undersigned locate _____ 1500 feet along the general Northly course of this lode or vein, with 300 feet on each side of middle of same.

Beginning at this initial monument bearing this notice of location, being at the point of discovery which is _____ feet from the Exact end center of claim. The metes and bounds of this mineral location are described as follows: Beginning at the Exact end center which is marked by a substantial { Monument / ~~Post~~ } and which is _____ feet distant along the course of the vein in a _____ direction from this point of discovery, and running Easterly 300 feet to the S.E. corner; thence Northly 1500 feet to the N.E. corner; thence Westerly 600 feet through North end center monument to the N.W. corner; thence Southerly 1500 feet to the S.W. corner; thence Easterly 300 feet to place of beginning.

Claim is situated in Luna Mining District, Luna county, State of New Mexico, shall be known as the Muller Manganese No. 2 lode mining claim, and includes all veins, deposits and the surface ground within said lines. Discovery _____ is 2400 feet from East of gulch end line. A natural object known as Lost Wife Canyon is _____ distant in a _____ direction A permanent object known as _____ is _____ distant in a _____ direction from the _____ corner of this mineral location.*

The corners of this mining claim are conspicuously marked by substantial { Stone Monuments / ~~xPosts~~ }

Claim is located in S.W. ¼ of Sec. 5 Tw. 25 Rge 7 W. N.M.P.M.

Witness:

Henry Andrade

Chris G. Muller

Locator

*A claim must be located with reference to some natural object, such as a well known or conspicuous hill, or peak, a prominent tree blazed and marked; or, to a permanent monument, such as a deep shaft on some neighboring mine, a house, a town or mining camp. One such reference will suffice, although the identification is, of course, more complete if the ties be to a natural object and a permanent monument.

Under New Mexico laws this notice must be posted on some conspicuous place on the location, and within three months of such posting, a copy of the same must be filed for record with the county recorder. Within 90 days from taking possession, the locator must sink ten feet of shaft or drive ten feet of tunnel, or open adit or cut to depth of 10 feet at face exposing mineral in place. There must be a substantial post or monument at each corner.

EXHIBIT #1

Book 2, - Page 23

I CERTIFY THAT THIS IS A

TRUE AND EXACT COPY.

Catherine E. Phillips

Notary Public

My com. expires 6-6-60

(SEAL)

LOCATION NOTICE

_____ Mine

_____ District

State of New Mexico, }
County of Luna } ss.

I hereby certify that the within instrument of writing was filed for record in my office on the 31 day of July A. D. 1957 at 2 o'clock 37 Min. P. M., and recorded in Book 7 of Locations Page 276

John Hough
County Clerk

_____
Deputy

Printed and For Sale by
THE SILVER CITY ENTERPRISE,
Silver City, New Mexico

LOCATION NOTICE

On this 31st day of July, 1957 ~~194~~, under authority of the laws of the United States, and in compliance with the requirements of the Statutes of New Mexico, and with the regulations and customs of miners, the undersigned locate _____ 1500 feet along the general Southerly course of this lode or vein, with 300 feet on each side of middle of same.

Beginning at this initial monument bearing this notice of location, being at the point of discovery which is _____ feet from the exact end center of claim. The metes and bounds of this mineral location are described as follows: Beginning at the exact end center which is marked by a substantial { Monument / ~~Post~~ } and which is _____ feet distant along the course of the vein in a _____ direction from this point of discovery, and running Easterly 300 feet to the N.E. corner; thence Southerly 1500 feet to the S.E. corner; thence WESTERLY 600 feet through South end center monument to the S.W. corner; thence Northerly 1500 feet to the N.W. corner; thence Easterly 300 feet to place of beginning.

Claim is situated in Luna Mining District, Luna county, State of New Mexico, shall be known as the Muller Manganese No. 1 lode mining claim, and includes all veins, deposits and the surface ground within said lines. Discovery _____ is 2400 feet from East of gulch end line. A natural object known as Lost Wife Canyon is _____ distant in a _____ direction A permanent object known as _____ is _____ distant in a _____ direction from the _____ corner of this mineral location.*

The corners of this mining claim are conspicuously marked by substantial { Stone Monuments / ~~Posts~~ }

Claim is located in S.W. ¼ of Sec. 5 Tw. 25 Rge 7 W. N.M.P.M.

Witness:

Henry Andrade

Chris G. Muller

Locator

*A claim must be located with reference to some natural object, such as a well known or conspicuous hill, or peak, a prominent tree blazed and marked; or, to a permanent monument, such as a deep shaft on some neighboring mine, a house, a town or mining camp. One such reference will suffice, although the identification is, of course, more complete if the ties be to a natural object and a permanent monument.

Under New Mexico laws this notice must be posted on some conspicuous place on the location, and within three months of such posting, a copy of the same must be filed for record with the county recorder. Within 90 days from taking possession, the locator must sink ten feet of shaft or drive ten feet of tunnel, or open adit or cut to depth of 10 feet at face exposing mineral in place. There must be a substantial post or monument at each corner.

EXHIBTT NO. 1

Rec. 1, B. 7 P. 275
" 2 B. 7 P. 276

SW ¼ Sec. 5 T. 25 S, R. 7 W. N.M.P.M.

I CERTIFY THAT THIS IS A
TRUE AND EXACT COPY.

Catherine E. Phillips
Notary Public

My Com. Expires 6-6-60

(SEAL)

LOCATION NOTICE

_____ Mine

_____ District

State of New Mexico,
County of Luna } ss.

I hereby certify that the within instrument of writing was filed for record in my office on the 31 day of July A. D. 1957 at 2:35 o'clock P. Min. M., and recorded in Book 7 of Locations Page 275

John Hough
County Clerk

Deputy

Printed and For Sale by
THE SILVER CITY ENTERPRISE,
Silver City, New Mexico

MULLER MANGANESE CLAIMS #1 AND #2
FOR: CHRIS G. MULLER
BOX 705, WILLCOX, ARIZONA

Deming, New Mexico

ASSAY REPORT

DATE REPORTED August 14, 1957

DATE SAMPLED August 13, 1957

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
#1							
24' Shaft at 6' Level				0.8			11.8

A. F. Hallett
(A.F. Hallett) Chief Chemist

Exhibit #6

MULLER MANGANESE CLAIMS #1 AND #2
FOR: CHRIS G. MULLER
BOX 705, WILLCOX, ARIZONA

Deming, New Mexico

ASSAY REPORT

DATE REPORTED August 14, 1957

DATE SAMPLED August 13, 1957

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
#2							
24' Shaft at 15' Level							7.7

EXHIBT #5

A. F. Hallett
(A.F. Hallett) Chief Chemist

MULLER MANGANESE CLAIMS #1 AND #2
FOR: CHRIS MULLER
BOX 705, WILLCOX, ARIZONA

Deming, New Mexico

ASSAY REPORT

DATE REPORTED August 14, 1957

DATE SAMPLED August 13, 1957

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
#3							
BOTTOM OF 24' SHAFT							12.3

EXHIBIT #5

A. F. Hallett
(A.F. Hallett) Chief Chemist

MULLER MANGANESE CLAIMS #1 AND #2
FOR: CHRIS G. MULLER
BOX 705, WILLCOX, ARIZONA

Deming, New Mexico

ASSAY REPORT

DATE REPORTED August 14, 1957

DATE SAMPLED August 13, 1957

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
#4							
5' Hole - 114' North of 24' Shaft							13.5

EXHIBIT #5

A. F. Hallett
(A.F. Hallett) Chief Chemist

MULLER MANGANESE CLAIMS #1 AND #2
FOR: CHRIS G. MULLER
BOX 705, WILLCOX, ARIZONA

Deming, New Mexico

ASSAY REPORT

DATE REPORTED August 14, 1957
DATE SAMPLED August 13, 1957

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn	Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
								#5							
								10' Hole North of Center Monument							17.0

EXHIBIT #5

A. F. Hallett
(A.F. Hallett) Chief Chemist

MULLER MANGANESE CLAIMS #1 AND #2
FOR: CHRIS G. MULLER
BOX 705, WILICOX, ARIZONA

Deming, New Mexico

ASSAY REPORT

DATE REPORTED August 14, 1957

DATE SAMPLED August 13, 1957

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
COMPOSITE OF SAMPLES #1, #2 AND #3:							
		0.22					

Chief Chemist

EXHIBIT #5

DATE REPORTED 8-27-67

ASSAY REPORT

DATE SAMPLED

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
MINE Rock			Coarse				13.4
MINE Fines							14.2

Description	% Zn	% Pb	% Cu	% Fe	% Insol	% H20	% Mn
Mr. Muller							
Fines (After Milling)							42.3
Coarse	"		"				41.7

MILL REPORT

RECOVERY 80.7 ACC

B. Hallett

Chief Chemist

. S. Government Messenger Envelope

ndard Form No. 65 (Rev. 1/46)

1. Use blocks consecutively, one at a time.
2. Void previous block.
3. Write clearly.

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
Paul Rusby U.S. Geol. Survey G.S. Bldg. Room 4204	RUN STOP 29A		RUN STOP
~~Thor Kiilsgaard~~ ~~5224 Mt~~	RUN STOP		RUN STOP
Mail & Files M & A 4450	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
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	RUN STOP		RUN STOP

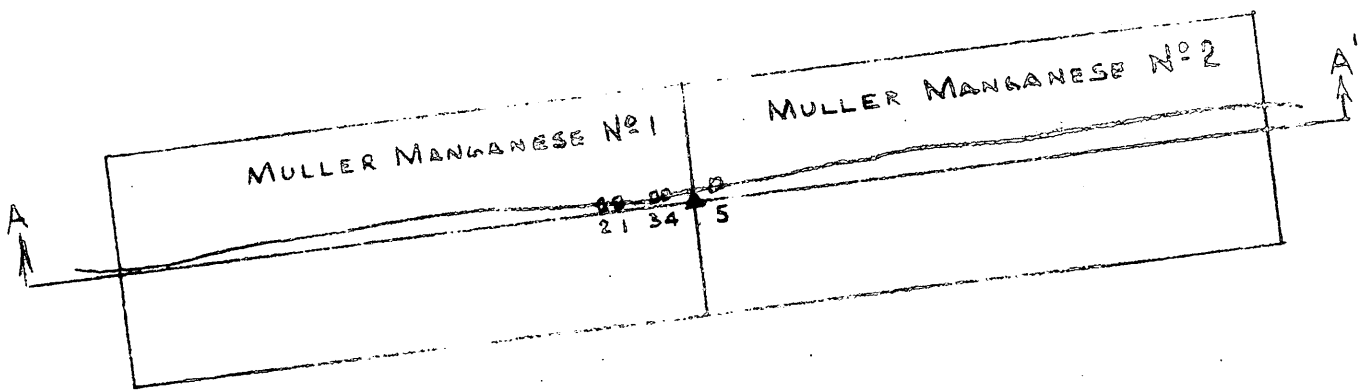
nd surplus envelopes to pply room for reissue.

Use other side

Use RUN and STOP only when messenger service between Government buildings in Washington is required. Your mail room has RUN and STOP information.

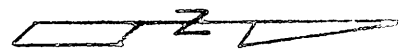
CHRIS G. MULLER
MULLER MANGANESE
BOX 705
WILLCOX, ARIZONA

PLAN VIEW

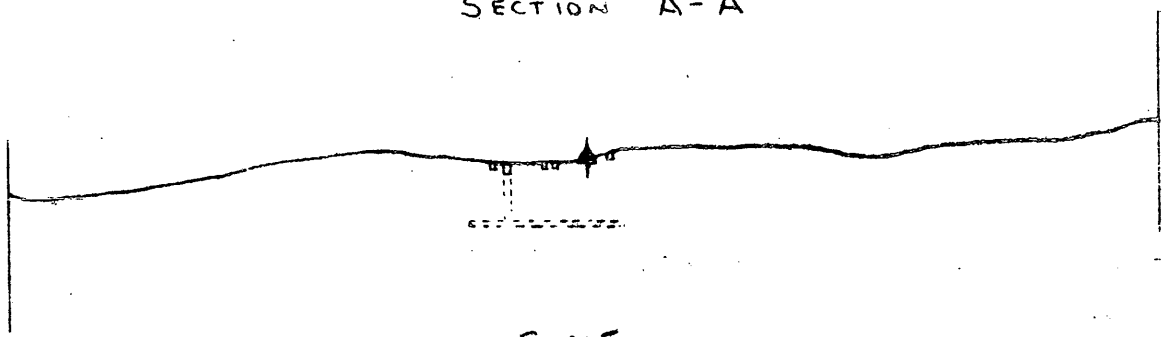


LEGEND

△ MONUMENT
□ SHAFTS
Nº 1 - 24' DEEP
" 2 - 5 "
" 3 - 7 "
" 4 - 5 "
" 5 - 10 "



SECTION A-A'



LEGEND

SHAFTS
PROPOSED SHAFT
PROPOSED DRIFT

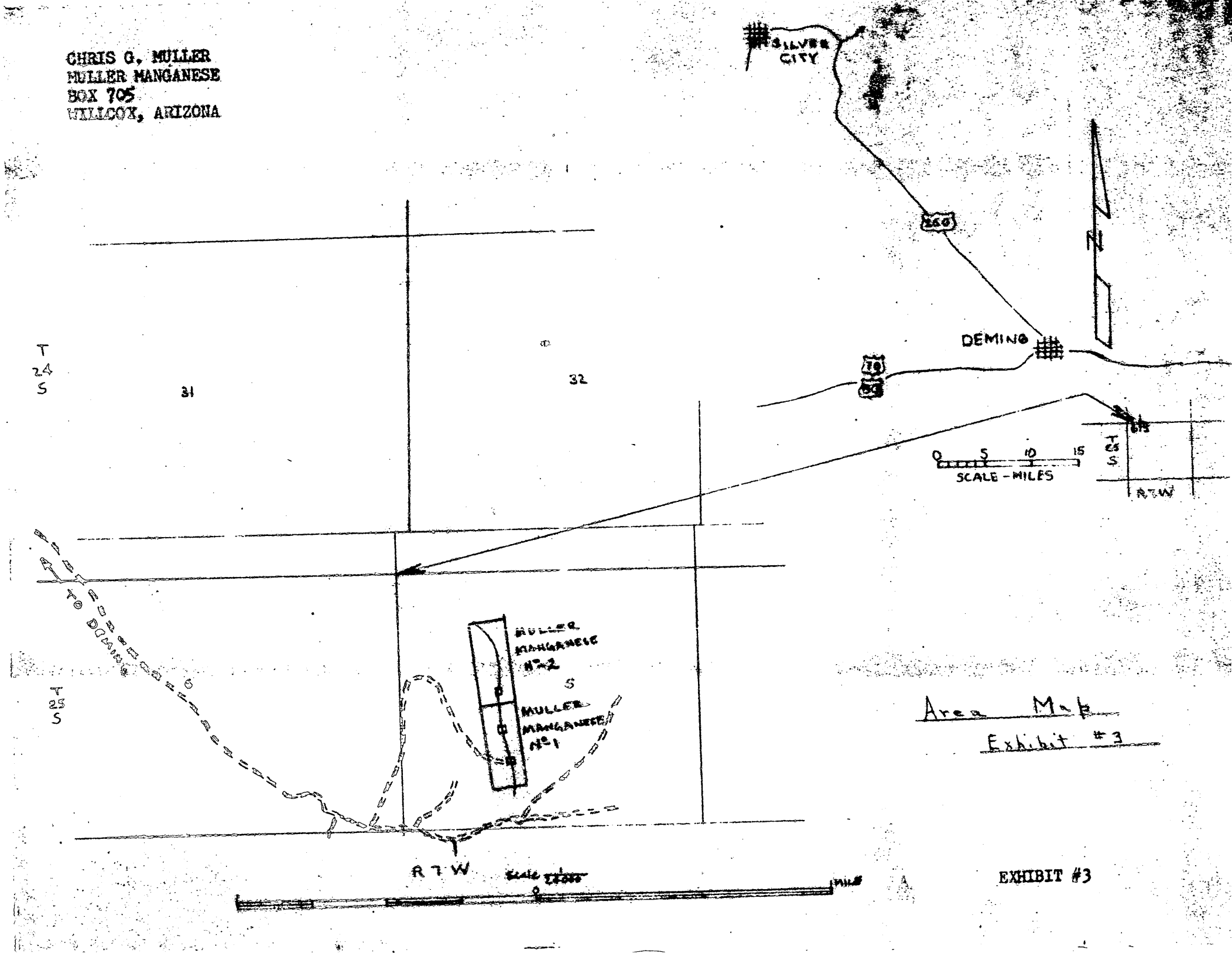
SCALE

500' 400' 300' 200' 100' 0 500'

1" = 500'

Exhibit #4

CHRIS G. MULLER
MULLER MANGANESE
BOX 705
WILLCOX, ARIZONA



Area Map
Exhibit #3

EXHIBIT #3

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12-3	Chapman	400
12-3	Martin	400
12/6	Selbridge	130
12/6	Jones	130
12/6	Allman	130
"	Johnson	110
"	Mittendorf	100
12/9	gb	220
		225

Mr. Chris G. Muller
Box 705
Willcox, Arizona

Re: Docket No. DMEA 4817 - Manganese
Muller Manganese Nos. 1 and 2 claims
Luna County, New Mexico

Dear Mr. Muller:

Your application for exploration assistance and other data available to us in Washington concerning the referenced property have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgement, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position of the National Defense Program.

Careful study of all our information, although noting the occurrence of manganese mineralization on your property, indicates to us that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. Under these circumstances we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

TLCHAPMAN/dlm 12-3-57
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. III
Messrs: Gilbert DeHuff, Jr. USBM
T. H. Kiilsgaard, USGS

8623

DMEA Form 7
(12-56)

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Date	Surname	Code
12-3	Chapman	400
12-3	Martin	400
		110

December 3, 1957

MEMORANDUM

To: Administrator, DMEA

From: Division of Iron and Ferro-Alloys, DMEA

Subject: Denial of the subject application for exploration assistance in the amount of $21,786.08.
Docket No. DMEA 4817 - Manganese
Chris G. Muller
Muller Manganese Nos. 1 and 2 claims
Luna County, New Mexico

A denial of the subject application is recommended by this Division based on the following information.

The above-noted property was the subject of an application for exploration assistance, dated August 16, 1957, the work to consist of sinking 86 feet of shaft and 400 feet of drifting and crosscutting at an estimated cost of $21,786.08. The property was examined on October 8, 1957, by W. L. Emerick, Geological Survey, and T. M. Romolo, Bureau of Mines, accompanied by the Applicant.

Applicant: Chris G. Muller
Box 705
Willcox, Arizona

Property Ownership: The property consists of two unpatented lode mining claims located in section 5, T. 25 S., R. 7 W., New Mexico Post Meridan, Luna County, New Mexico, and recorded as follows:

Claim Name	Book No.	Page No.
Muller Manganese No. 1	7	275
Muller Manganese No. 2	7	276

The property was located by the Applicant on July 1, 1957.

Geology: The exposed rocks of the Little Florida Mountains consists of two main groups, (1) an older Miocene? series of interbedded flows, tuffs, and breccias, separated by erosional unconformities, and (2) a massive Pliocene? deposit composed of variable sized, rounded to angular felsite fragments. This latter formation is the host rock in which all the veins of the producing mines are located. Numerous faults cut the formations and now contain manganese deposits.

The veins on this property are short and discontinuous and range in width from less than 2 feet to 4 feet. Where observed in shafts and pits the veins pinch, swell and branch with barren rock between vein-like portions filled with manganese oxides. The ore minerals consist of psilomelane, pyrolusite and wad. The several veins on the property are tight and well cemented.

Development:

Development on the property consists of numerous pits and cuts and one 24-foot shaft.

Past History and Production:

The property was first located during World War 1. A few pits were opened up at this time. The locations were allowed to lapse. In 1955 the property was relocated and the locators sunk a 24 foot shaft on the property and mined and sold a few tons of ore. The locations were again allowed to lapse and were relocated as noted by the Applicant.

Ore Values and Tonnage:

Samples taken on the property gave the following results:

Sample No.	Location	Percent Mn.	Percent Fe.	Remarks
13443	Manganese No. 1 24 -foot shaft	5.45	1.38	8 feet down shaft 4'8" channel across tight and hard vein
13444	Manganese No. 2 Pit #5	13.60	0.95	2½ foot channel across tight and hard vein.
13445	Manganese No. 1 Pit #2	2.10	1.88	2½ foot channel across tight and hard vein. Rounded to angular fragments of felsite in manganiferous calcite.

The indicated reserves of manganese are confined to three zones that have an estimated length of 250 feet and an average width of about 3 feet. It is indicated that reserves will amount to approximately 90 tons of manganese ore per foot of depth, with an average grade of 2.10 to 13.60 percent manganese. There is small probability that materially greater reserves may be found at other places along the strike, and the compactness of the veins seems to preclude enrichment with depth.

Exploration:

The Applicant proposes to sink the 24 foot shaft an additional 86 feet and do 400 feet of drifting and/or crosscutting at an estimated cost of $21,786.08.

Conclusions
and
Recommendations:

The examining team concludes that manganese oxides on the property are confined to discontinuous, and narrow veins, and to some of the faults in the volcanics; that the indicated reserves comprise a small amount of material of milling grade; and recommends denial of the project. The Field Team concurs in this recommendation.

The Commodity Divisions of the Bureau of Mines, and the Geological Survey, concur in the recommendations of the Field Team.

W S Martin

W. S. Martin, Director
Division of Iron and Ferro-Alloys

IN REPLY REFER TO:

RECEIVED NOV 26 1957

DATE	INITIALS	
11/27	gb	220
11/27	WSM	400

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

November 26, 1957

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 4817 (manganese) Chris G. Muller, Muller Manganese Claims, Luna County, New Mexico

The field examiners report that geologic conditions on the applicant's property are unfavorable for manganese ore deposits of important size.

The examiners have shown that the veins that contain the manganese minerals are small. The veins range in width from less than 2 feet to about 4 feet. Where they can be observed in shafts or pits the veins pinch and swell and, at many places, contain barren rock. The pinching and swelling appears to be present along the strike as well as down the dip. The veins are tight and well cemented.

The examiners took three samples from the property. The best of those samples assayed only 13.60 percent manganese. According to the sample description part of that sample is unrecoverable wad.

The property does not appear to have the potentialities for a significant ore discovery. For that reason I agree with the recommendations of the examining team for denial of the application.

W. P. Williams

W. P. Williams

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DMEA
RECEIVED NOV 21 195

DATE	INITIALS	CODE
11/21	C	220
11/21	WSM	400

November 20, 1957

DMEA Project No. 4817
MMA Project No.
Commodity Manganese
Name of applicant Chris G. Muller
Name of property Muller Manganese
Location of property Luna Co., New Mexico
Estimated cost of project $21,786

W. S. Martin, DMEA.

G. L. DeHuff, Jr., Commodity Specialist
Branch of Ferrous Metals and Ferroalloys
Field Team Report
(Application, Field Team Report, etc.)

1. Date subject to DMEA 11/12/57 2. Date received by Field Team 11/19/57

3. Is information on this property known to reviewer: Yes [ ] No [X]

4. Is information on applicant known to reviewer: Yes [X] No [ ]

5. Information available on past production: Yes [ ] No [X]

6. Other pertinent factors known to reviewer: Yes [X] No [ ]

7. Details (Item numbers above):

Please see my 8/29/57 memo.

8. Factors meeting primary consideration:
a. Location [ ]
b. Commodity [ ]
c. Evidence of mineralization
d. Grade [ ]
e. Prepared exploration method [ ]
f. Alternate exploration method [ ]
g. Costs [ ]
h. [ ]

9. Action recommended:
a. Obtain information from applicant [ ]
b. Refer to Field Team [ ]
c. Email [X]
d. Agree with Field Team [X]
e. Disagree with Field Team [ ]
f. Suggest alternate plan [ ]
g. Request another examination [ ]
h. Approval [ ]
i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary)

G L DeHuff Jr.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

November 12, 1957

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DMEA
RECEIVED NOV 18 1957

DATE	INITIALS	COPY
11/15	gb	220
11-19	[illegible]	130
11/20	C	220
11/21	WSM	400

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 4817 (Manganese) Chris G. Muller (Muller Manganese Nos. 1 & 2 claims) Luna County, New Mexico

Enclosed are the original and two copies of the Joint Report of Examination on the subject property by T. M. Romslo, USBM, and W. L.Emerick, USGS.

The field examiners conclude that the probability for making a significant discovery is not sufficiently promising to justify Government participation. Accordingly, they recommend that the Applicant's work proposal be denied in which the Field Team concurs.

E. N. Harshman

E. N. Harshman
Acting Executive Officer

Reviewed by
DMEA OPERATING COMMITTEE
11-19-57
(date)

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DMEA
RECEIVED NOV 12 1957
11/19 JHB 130 220

MINERAL DEPOSITS DATA
RECEIVED
NOV 12 1957
U.S. GEOLOGICAL SURVEY
DENVER, COLORADO

DMEA
DEPARTMENT OF THE INTERIOR
NOV 12 1957
REGION III
DENVER, COLORADO

Box 4126 University Station
Tucson, Arizona

November 8, 1957

TRANSMITTED
NOV 12 1957

Memorandum

To: Acting Executive Officer, DMEA Field Team, Region III

From: T. M. Romslo
W. L. Emerick

Through: E. N. Harshman EMH

Subject: Docket No. DMEA-4817 (Manganese)
Chris G. Muller, Muller Manganese Nos. 1 and 2 Claims,
Luna County, New Mexico -- Joint field examination report.

Enclosed is the original and 8 copies of a joint field examination report on the above subject docket, recommending denial of the application.

Also enclosed is the DMEA/TUC Routing sheet of the application. The Survey copy of the application is being sent direct to Mr. Harshman's office.

T M Romslo
T. M. Romslo
Mining Engineer, U. S. Bureau of Mines

W L Emerick
W. L. Emerick
Geologist, U. S. Geological Survey

TMR:WLE:ms

cc: Acting Executive Officer (8)
E. N. Harshman
DMEA/TUC
W. L. Emerick

Reviewed by
DMEA OPERATING COMMITTEE
11-19-57
(date)

FOR UNITED STATES GOVERNMENT USE ONLY

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

TRANSMITTED

NOV 12 1957

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

General Files Copy
DMEA
RECEIVED
DATE
11/19 NB 130
220

DMEA-4817 (Manganese) Chris G. Muller

Muller Manganese Nos. 1 & 2 claims

Luna County, New Mexico

ON SITE EXAM

W. L. Emerick, Geologist
U. S. Geological Survey

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
11-19-57
(date)

November 1957

DMEA-4817 (MANGANESE) CHRIS G. MULLER
MULLER MANGANESE NOS.1 AND 2 CLAIMS
LUNA COUNTY, NEW MEXICO

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	Page
Summary, conclusions and recommendation	1
Introduction	3
Location and accessibility	3
Physical features and climate	4
History and production	5
Extent and ownership of the property	5
Geology	6
Ore reserves	9
Conclusions and recommendation	10

ILLUSTRATIONS

Figure		Following page
1	Location map	3
2	Claim and geology map	5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Muller Manganese Nos. 1 and 2 claims in Luna County, New Mexico were examined by the Defense Minerals Exploration Administration in connection with an application by Chris G. Muller for Government aid in proposed explorations for manganese ore. The proposed explorations were confined to sinking 86 feet from the bottom of a 24-foot shaft and then driving 400 feet of drifts. The total cost of the work was estimated to be $21,786.08.

The property of the applicant's claims probably was first located and prospected by a few shallow pits during World War I. Essentially all subsequent work on the property was confined to sinking of the 24-foot shaft during 1955. A few tens of tons of ore produced from the shaft was sold to the Florida Manganese Corp. At present the property is inactive and contains no mining or milling equipment.

The Muller Manganese Nos. 1 and 2 claims lie on the southernmost tip of the Little Florida Mountains in an area underlain by interlayered volcanic rock of Miocene(?) age. Narrow and short faults in the formation are in places filled with manganese oxides and a relatively high proportion of manganiferous calcite. Locally, felsite fragments comprise a substantial portion of the material that compactly fills the faults and is tightly cemented to both walls.

The manganese reserves on the Muller Manganese Nos. 1 and 2 claims, as indicated by shallow workings and outcrops, consists of a relatively small tonnage of present day milling grade material. Furthermore, the presence of significant reserves in other parts of the mineralized zones are not expectable as conditions are unfavorable for a material increase in the extent and/or degree of mineralization. Therefore, the request for aid in exploration of the property should be denied.

INTRODUCTION

The Defense Minerals Exploration Administration received an application from Chris G. Muller on August 19, 1957 for aid in exploration for manganese on the Muller Manganese Nos. 1 and 2 claims in Luna County, New Mexico. The application was given docket No. DMEA-4817, reviewed and forwarded to the Field Team, Region III for a field examination and recommendations.

Exploratory work proposed by the applicant comprised an 86-foot extension of an existing 24-foot deep shaft and the driving of 400 feet of drifts from the bottom of the shaft. The total cost of the work was estimated to be $21,786.08.

The field examination of the property was made October 8, 1957 by W. L. Emerick, geologist, U. S. Geological Survey, and T. M. Romslo, mining engineer, U. S. Bureau of Mines. The examining team was accompanied by the applicant.

LOCATION AND ACCESSIBILITY

The Muller Manganese Nos. 1 and 2 claims are about 12 air-miles southeast of Deming, New Mexico, in sec. 5, T. 25 S., R. 7 W., Luna Mining District, Luna County, New Mexico (fig. 1). Deming, one of the largest towns of southern New Mexico, is located on U. S. Highways 70 and 260 and is a station on the Southern Pacific and the Atchison, Topeka and Santa Fe Railroads.

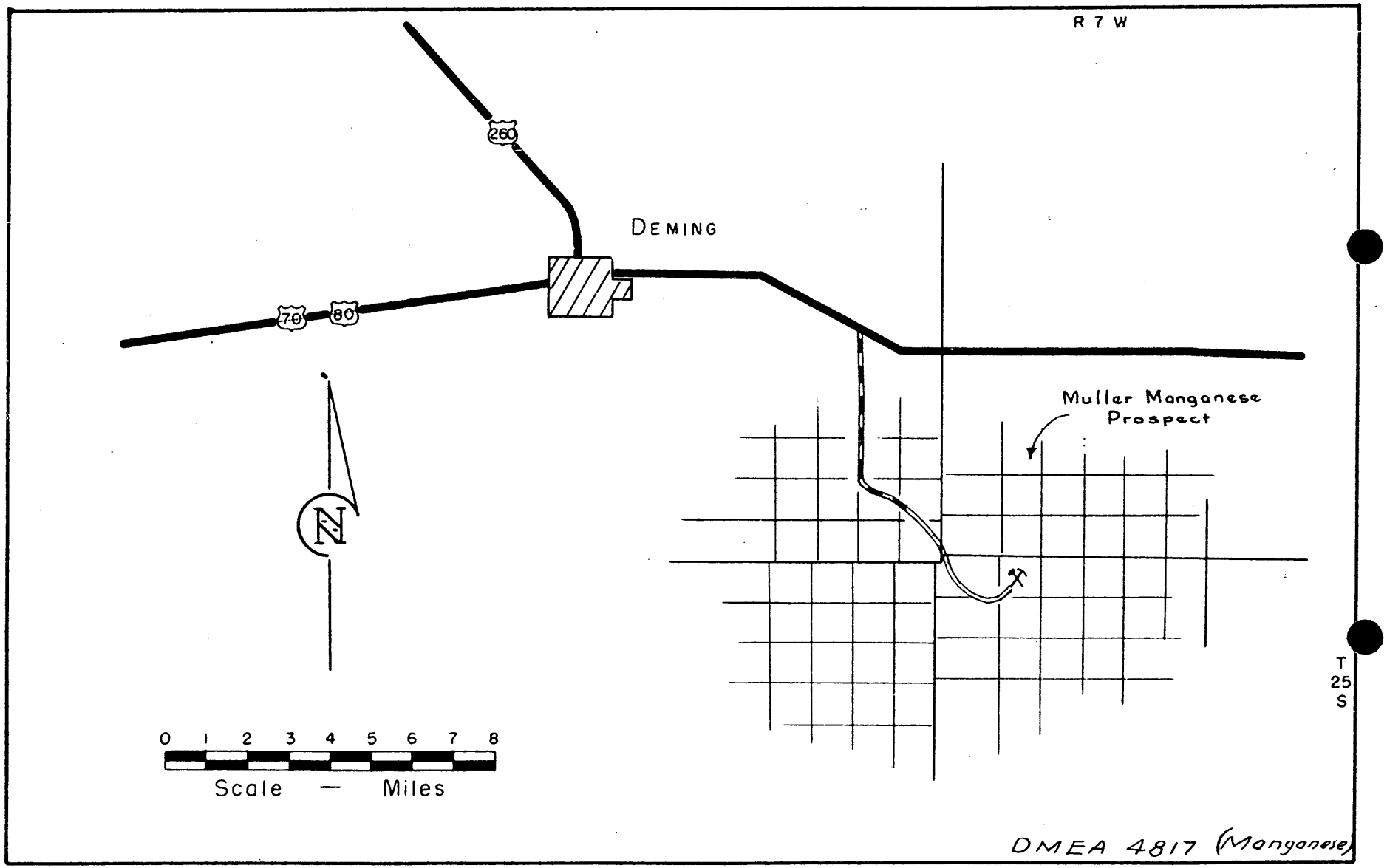


Fig. 1 Location map, Chris G. Muller, Luna County, New Mexico

The claims may be reached from Deming by driving 15.8 miles on improved and unimproved roads and then by walking approximately 0.5 mile. Following is a log of the trip that commences by driving eastward on U. S. Highway 70 from its intersection with U. S. 260:

	Miles
Deming	0.0
Turn right onto Spanish Stirrup Ranch graded road	6.7
Straight ahead at fork in road	11.2
Straight ahead at fork onto unimproved road	14.7
Take left branch onto winding, rough road that ends at	15.8

The prospect workings are about 0.5 mile to the northeast on the west slope of a north-south trending ridge.

PHYSICAL FEATURES AND CLIMATE

The Muller Manganese Nos. 1 and 2 claims are at an average altitude of about 4,500 feet on the east slope of the southernmost tip of the Little Florida Mountains. The area of the claims is moderately rugged.

Vegetation is confined to a sparse growth of forage grass.

Summers are pleasant and winters are not severe.

Precipitation per annum averages about 15 inches and occurs mainly as heavy summer rainstorms and light rain and snowfalls in the winter.

HISTORY AND PRODUCTION

The property of the present Muller Manganese claims Nos. 1 and 2 probably was first located and prospected by a few shallow pits during World War I. Little or no additional work is believed to have been done to 1955 when the Harris Bros. worked the property for a few months. Their work was confined to the sinking of a 24-foot deep shaft on an existing pit and the production of a few tens of tons of sorted ore from the shaft. According to Chris G. Muller, the applicant, the ore was sold to the Florida Manganese Corp., Deming, New Mexico. The property then remained inactive to July 31, 1957, when it was relocated by the applicant. Subsequent activity has been confined to a minor amount of sampling and a metallurgical test on ore obtained from the dump at the shaft.

At present the property is inactive and contains no mining or milling equipment.

EXTENT AND OWNERSHIP OF THE PROPERTY

The property of the proposed explorations comprises the adjoining Muller Manganese Nos. 1 and 2 unpatented lode mining claims (fig. 2). It is owned by the applicant, Chris G. Muller, Box 705, Willcox, Arizona.

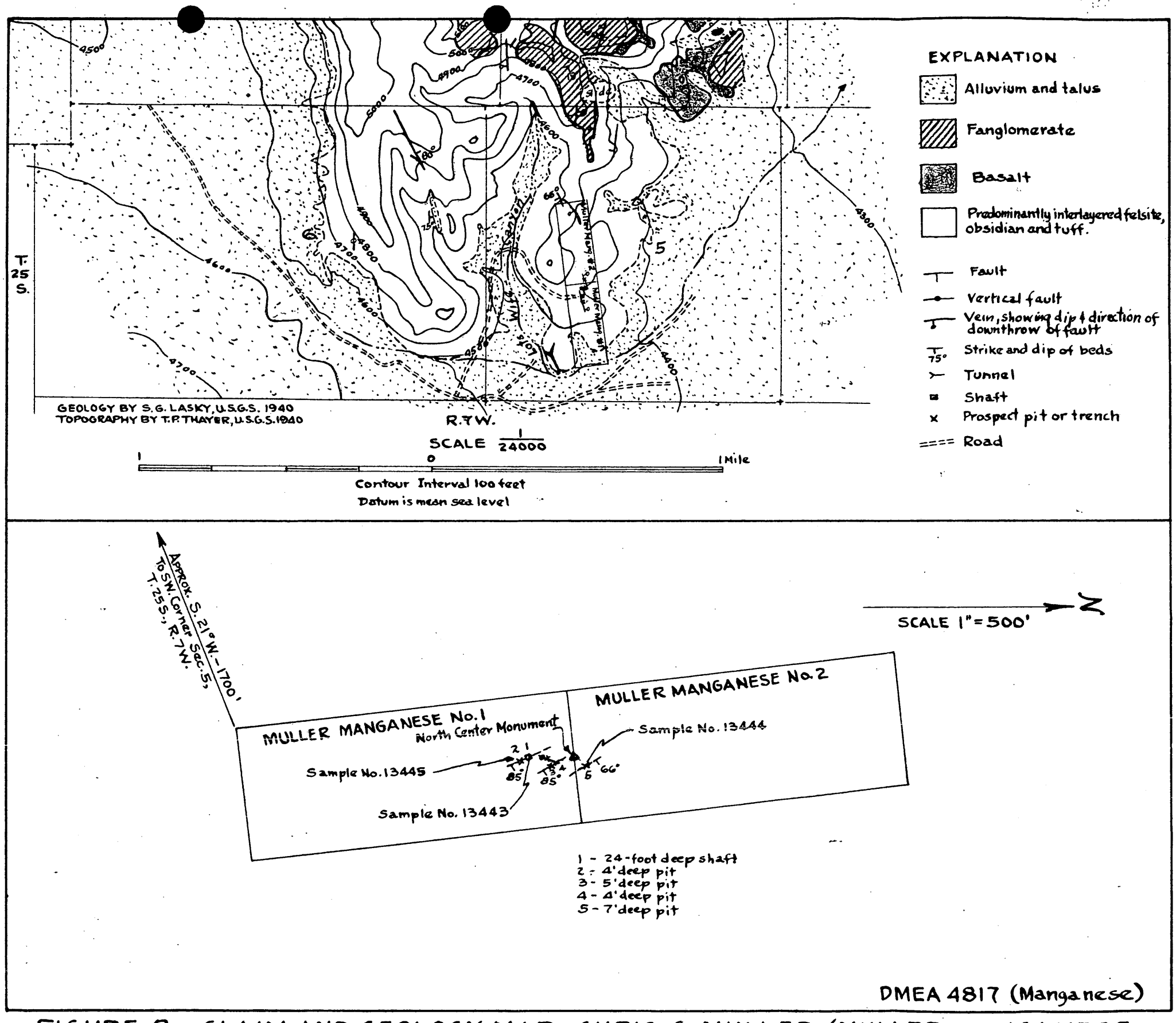


FIGURE 2.- CLAIM AND GEOLOGY MAP, CHRIS G. MULLER (MULLER MANGANESE Nos. 1 & 2 CLAIMS), LUNA COUNTY, NEW MEXICO.

GEOLOGY

Lasky[1/] separates the exposed rocks of the Little Florida Mountains into two main groups, namely, (1) an older Miocene(?) series of interbedded flows, tuffs and breccias in which the several members are separated by erosional unconformities, and (2) a massive Pliocene(?) deposit composed of variable sized, rounded to angular, felsite fragments. This latter formation is dark red brown in color, appears to be primarily of sedimentary origin, and is a typical fanglomerate (Lasky, 1940). The fanglomerate is the host rock for the veins in which all of the producing mines are located. Folding in the formations is minor and limited to the Miocene(?) volcanics. All of the formations dip eastward. Lasky continues, "Numerous faults cut the formations. A few strike northeast or northwest, but the general trend is northward. Many of them are grouped in the north and east-central parts of the range, and the fault zones now contain manganese deposits."

The Muller manganese claims lie on the southernmost tip of the Little Florida Mountains in an area underlain by Miocene(?) volcanics of interlayered felsite flows, tuffs and breccia (Fig. 2). Felsite underlies most of the two claims of the property. Faults and fault veins in the formation trend principally to the northwest,

---

1/ Lasky, S. G., Manganese deposits in the Little Florida Mountains, Luna County, New Mexico: U. S. Geol. Survey Bull. 922-C, 1940, pp. 59-60.

dip steeply to the east, and they appear to be short and discontinuous. Surface indications of the veins are sometimes obscure owing to a thin cover of surface debris, but it is possible to trace the stronger ones for short distances by meager amounts of float. The veins range in width from less than 2 feet to about 4 feet. Where they can be observed in shafts or pits the veins pinch, swell and branch, with barren rock between vein-like portions filled with manganese oxide. In contrast to the veins in the fanglomerate farther northward in the range, the veins in the Miocene(?) volcanics are characteristically tight on both walls and well cemented within the vein. The pinching and swelling appears to be present along the strike as well as dipwise.

The ore minerals of the deposits consist of psilomelane, pyrolusite and wad. In most of the veins a high percentage of black calcite, or manganiferous calcite, and white calcite are present. The black calcite occurs in the vein along with psilomelane, pyrolusite and wad. The white calcite commonly occurs on the hanging wall side of the vein or as thin stringers coursing through the vein, and it is undoubtedly secondary. In places along the hanging wall side the white calcite veins can be seen grading into manganiferous calcite. Fragments of felsite with a hard coating of psilomelane, the so-called "pudding ore", fill parts of the veins in places. Usually psilomelane, and black calcite, along with a soft material probably composed largely of pyrolusite and wad, occur as filling between

felsite fragments or as vein-like occurrences between barren material within the veins, probably as replacements of the original finer-grained brecciated material of the fault fissure (Lasky, 1940). Presence of the black manganiferous calcite could indicate these veins in the felsite are exposing the primary source of the manganese oxides.

The manganese veins are exposed on the property in one 24-foot shaft, and several shallow pits (Fig. 2). The vein in the shaft on the Manganese #1 claim strikes N 25° W, dips about 85° east, and varies from a thickness of about 4' 8" at a point eight feet below the shaft collar to 3 feet about $3\frac{1}{2}$ feet lower down the shaft. The shaft was inaccessible below the 8-foot point but applicant stated the vein widened again at the bottom of the shaft. Although locally the vein contained good manganese ore, it also contained considerable black calcite and barren rock across the width. The vein is tight and well cemented.

Aside from a small pit about 15 feet south of the 24-foot shaft on the Manganese No. 1 claim, most of the other pits on the claim, and the one on Manganese No. 2 claim (Fig. 2), are on separate mineralized veins trending to the northwest and dipping northeasterly. One small pit to the west of the Nos. 3 and 4 pits is on a vertical northeast-trending vein. All of the veins, as in the 24-foot shaft, were tight and well-cemented. None of these veins would average over 2 feet in width.

Three samples were taken by the field examiners. The locations and assay results of the samples are given below:

Sample No.	Location	Percent Mn	Percent Fe	Percent Pb	Remarks
13443	Manganese No. 1 24-foot shaft	5.45	1.38	<0.01	8 feet down shaft. 4'8" channel sample across tight and hard vein. Psilomelane, pyrolusite, black calcite.
13444	Manganese No. 2 Pit #5	13.60	0.95	<0.01	2½ ft. chip channel sample across tight and hard vein. Psilomelane, pyrolusite, wad, and black calcite.
13445	Manganese No. 1 Pit #2	2.10	1.88	<0.01	2½ ft. chip channel across tight and hard vein. Rounded to angular fragments of felsite in manganiferous calcite, psilomelane, pyrolusite, and wad cement or filling.

ORE RESERVES

The indicated reserves of manganese are confined to 3 zones that have an estimated total strike length of about 250 feet and an estimated average width of approximately 3 feet. Assays of samples from these zones indicate the manganese content is between 2.10 and 13.60 percent. On these bases and a factor of "8 tons per cubic foot", the indicated reserves per foot of depth are about 90 tons of material containing 2.10 to 13.60 percent manganese. Probabilities that these reserves may be materially greater at other places are unfavorable because the compactness of the veins probably precludes enrichment with depth through leaching of the manganiferous calcite, and an increase in the size of the mineralized zones is not expectable along the strike or dip.

CONCLUSIONS AND RECOMMENDATION

The examining team concludes that manganese oxides on the applicant's property are confined to discontinuous, and narrow veins that fill some of the faults in Miocene(?) volcanics. In general a high proportion of manganiferous calcite is associated with the manganese oxides and locally felsite fragments form a substantial portion of the vein. These materials compactly fill the vein and are tightly cemented to both walls. The indicated manganese reserves comprise a small amount of material of milling grade, and inferred reserves probably are not significant as a material increase in the extent and degree of mineralization is not expectable. Therefore, Governmental aid in exploration of the Muller Manganese Nos. 1 and 2 claims is not recommended.

OFFICIAL FILE COPY
DMEA

9/9 Q 220
WSM 400

224 New Customhouse
Denver 2, Colorado

Memorandum September 4, 1957

To: W. L. Emerick) W/enclosures, Items 1-5 Below
DMEA/TUC) " " " "

From: DMEA Field Team, Region III

Subject: Docket DMEA 4817 (Manganese) Chris G. Muller (Muller Manganese Nos. 1 and 2 Claims) Luna County, New Mexico

Enclosed is the following material relating to the subject docket:

1. Copy of application for Government assistance in exploration work under the DMEA program.
2. Memorandum of Review by Gilbert DeHuff, Jr., USBM.
3. Memorandum of Review by W. P. Williams, USGS.
4. Letter of transmittal of the foregoing to this office, dated August 30, 1957, from the Chairman, Operating Committee, DMEA.
5. Routing Control Sheet.

A field examination of the property and a joint report of findings and recommendations pertaining to the Applicant's work proposal are requested.

If the field examiners recommend Government participation in the proposed exploration program, please submit eleven extra copies of each map used in the joint report which show the land to be subordinated and the location and extent of recommended work, relative to property boundaries.

The Bureau of Mines' copy of the application should not be returned to this office, but is to be kept for the Examining Engineer's file. The Routing Control Sheet, however, is to be completed, detached from the application, and forwarded to the Executive Officer with the Joint Examination Report. The Survey's copy of the application is to be returned to Mr. Harshman's office.

Enclosures
MHM:ah
cc: Sec. Op. Comm. (2)
Harshman, Items 2-4
DMEA/DFC (2)
Docket
Chron.

Original signed by
E. N. HARSHMAN
E. N. Harshman
Acting Executive Officer

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8-30	Chapman	400
8-30	Martin	400
8/30	Bassford	130
8/30	Selfridge	130
8/30	Kilgaard	130
"	Johnson	110
"	Mittendorf	100
8/30	C	220
		400

Mr. Chris G. Muller
Box 705
Willcox, Arizona

AUG 30 1957

Re: Docket No. DMEA 4817 - Manganese
Muller Manganese Nos. 1 and 2 claims
Luna County, New Mexico

Dear Mr. Muller:

The above-referenced application for exploration assistance for manganese ores has been reviewed by the Division of Iron and Ferro-Alloys, of the Defense Minerals Exploration Administration, and referred to Mr. William H. King, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado, for a field examination of the property.

Any assistance you can give the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

TLCHAPMAN:foc
8-30-57
cc to: Docket
Code 400
Admr. R. File
Oper. Comm.
FT. REG. III
Messrs. Gilbert DeHuff, Jr., USBM
T. H. Kiilsgaard, USGS

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8-30	Chapman	400
8-30	Martin	400
8/30	[illegible]	130
"	Johnson	110
"	Mottesday	100
		220
		400

AUG 30 1957

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

Re: Docket No. DMEA 4817 - Manganese
Chris G. Muller
Muller Manganese Nos. 1 and 2 claims
Luna County, New Mexico

Dear Mr. King:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property.

Copies of memoranda dated August 22 and 29, 1957, by W. P. Williams, Geological Survey, and Gilbert DeHuff, Jr., Bureau of Mines, respectively, relating to the project are enclosed. Also enclosed are two extra copies of the application for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

O. M. Bishop (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

TLCHAPMAN:foc 8-30-57
cc to: Docket
Code 400
Admr. R. File
Oper. Comm.
FT. REG. III
Messrs. Gilbert DeHuff, Jr. USBM
T. H. Kiilsgaard, USGS

Enclosure

8623

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 30 1957

DATE	INITIALS	CODE
8/30	C	220
		400

[illegible]
[illegible] OF THE INTERIOR
[illegible] OF MINES
[illegible] 25, D. C.

Date August 29, 1957

DMEA Docket No. 4817
DMEA Contract No.
Commodity Mn
Name of applicant Chris. G. Muller
Name of property Muller Mn
Location of property Luna Co., New Mexico
Estimated cost of project $21,786

To: W. S. Martin, DMEA

From: G. L. DeHuff, Jr., Commodity Specialist
Branch of Ferrous Metals and Ferroalloys

Subject: Review of Application
(Field Team, Field Team Report, etc.)

1. Date project last visited: 8/16/57 2. Date received by Bureau: 8/21/57

3. Other data on this property known to reviewer: Yes [ ] No [X]

4. Other data on mining preparation known to reviewer: Yes [X] No [ ]

5. Information available on past production: Yes [ ] No [X]

6. Other pertinent factors known to reviewer: Yes [X] No [ ]

7. Explain item marked yes above: There is current DMEA activity nearby in the Little Florida Mountains. The Bureau of Mines is also currently engaged in a program of examination of all manganese deposits in New Mexico. USGS Bull 922-C describes "Manganese Deposits in the Little Florida Mountains, Luna Co., New Mexico."

8. Factors meeting special consideration:
- a. Location [ ]
- b. Ownership [ ]
- c. Evidence of mineralization [ ]
- d. Geology [ ]
- e. Proposed exploration method [X]
- f. Alternate exploration method [ ]
- g. Costs [ ]
- h. _____ [ ]

9. Action recommended:
- a. Obtain information from applicant [ ]
- b. Refer to Field Team [X]
- c. Denial [ ]
- d. Agree with Field Team [ ]
  - 1. Consult with Mr. _____ at _____ AEC office.
- e. Disagree with Field Team [ ]
- f. Suggest alternate plan [ ]
- g. Request another examination [ ]
- h. Approval [ ]

10. Remarks: (Use back of page if necessary) I recommend that the application be referred to the Field Team for a field examination. The possibility of obtaining the exploration objectives by diamond drilling, instead of sinking and drifting, might be given some consideration.

G L DeHuff Jr.

IN REPLY REFER TO:

OFFICE COPY		
RECEIVED AUG 23 1957		
DATE	INITIALS	CODE
8/23	G	220
8/23	WSM	400

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

August 22, 1957

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 4817, (manganese), Chris G. Muller, Muller claims, Luna County, New Mexico

The applicant proposes to explore for manganese ore deposits on two mining claims located in the Florida Mountains of southern New Mexico.

Past work on the claims seems to consist of some shallow shafts and drill holes, none of which found high-grade ore. The proposed DMEA project would consist of deepening an old 24-foot shaft 100 feet, and 400 feet of drifting from the bottom of the shaft. Total cost of the project is estimated to be $21,786.

The applicant did not submit a good map showing the geologic objective of the proposed project or the proposed mine openings. Presumably, he wishes to explore the down-dip extension of a vein that has been cut by the shallow shaft.

I recommend that the application be referred to the Field Team, as the best final evaluation of the application would be achieved through field examination of the claims. Considerable up-grading of the applicant's ore would be required, as the best assay submitted showed 17.0 percent manganese.

W. P. Williams

W. P. Williams

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

August 21, 1957

Mr. Chris G. Muller
Muller Manganese
Box 705
Willcox, Arizona

Subject: DMEA 4617

Dear Mr. Muller,

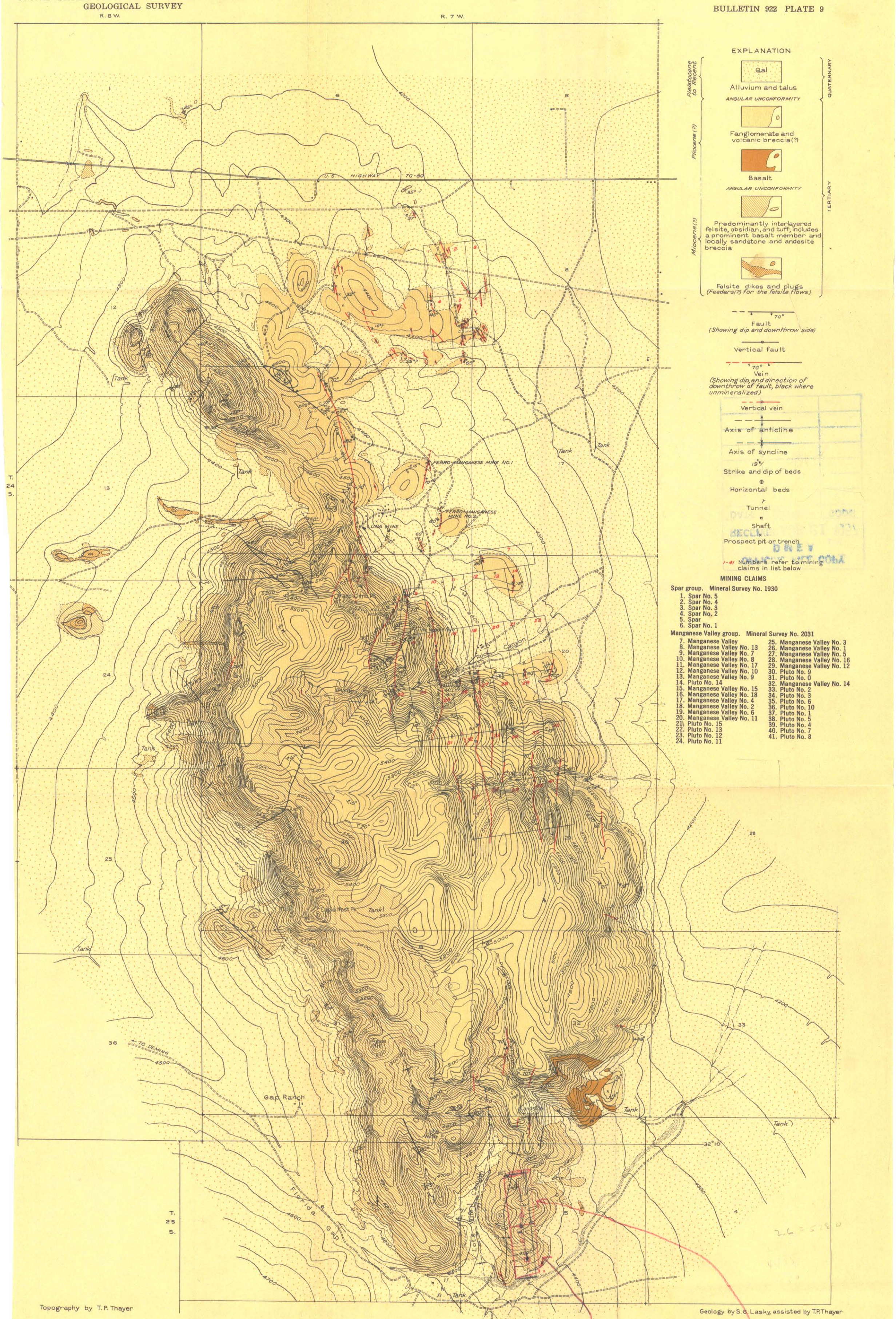
Your application for exploration assistance, dated August 16, 1957 submitted to our office at Denver, Colorado has been assigned Docket Number 4617 and referred to the Division of Iron & Ferro-Alloys in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to:
Region III

EXHIBIT #2 (PLEASE RETURN TO: CHRIS G. MULLER, BOX 705, WILLCOX, ARIZONA)



MINING CLAIMS

Spar group. Mineral Survey No. 1930

1. Spar No. 5
2. Spar No. 4
3. Spar No. 3
4. Spar No. 2
5. Spar
6. Spar No. 1

Manganese Valley group. Mineral Survey No. 2031

7. Manganese Valley
8. Manganese Valley No. 13
9. Manganese Valley No. 7
10. Manganese Valley No. 8
11. Manganese Valley No. 17
12. Manganese Valley No. 10
13. Manganese Valley No. 9
14. Pluto No. 14
15. Manganese Valley No. 15
16. Manganese Valley No. 18
17. Manganese Valley No. 4
18. Manganese Valley No. 2
19. Manganese Valley No. 6
20. Manganese Valley No. 11
21. Pluto No. 15
22. Pluto No. 13
23. Pluto No. 12
24. Pluto No. 11
25. Manganese Valley No. 3
26. Manganese Valley No. 1
27. Manganese Valley No. 5
28. Manganese Valley No. 16
29. Manganese Valley No. 12
30. Pluto No. 9
31. Pluto No. 0
32. Manganese Valley No. 14
33. Pluto No. 2
34. Pluto No. 3
35. Pluto No. 6
36. Pluto No. 10
37. Pluto No. 1
38. Pluto No. 5
39. Pluto No. 4
40. Pluto No. 7
41. Pluto No. 8

Topography by T. P. Thayer

Geology by S. G. Lasky, assisted by T. P. Thayer

TOPOGRAPHIC AND GENERALIZED GEOLOGIC MAP OF LITTLE FLORIDA MOUNTAINS, N. MEX.

Scale $\frac{1}{24000}$

1 0 1 Mile

Contour interval 25 feet
Datum is mean sea level

1940

Muller Manganese #2

Muller Manganese #1

Exhibit #2

1" = 2000'