DMA Form 1

DEFENSE MINERALS ADMINISTRATION
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DMA Docket No. 3607

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This document has been recorded as

Exploration Assistance

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Cys to USBM & USGS

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To:	400	Date	12/17/54
To:	Oper Com	Date	12-28-54
To:	Oper Com	Date	8-30-55
To:	Oper Com	Date	11-1-55
To:	" "	Date	11/28/55
To:	Mr. Johnson	Date	11/28/55
To:	Mr Pitt	Date	11-28-55
To:	Oper Com	Date	1-31-56
To:	F.E. Johnson	Date	2-1-56
To:	[illegible]	Date	2-1-56
To:	Oper. Com.	Date	5-10-56
To:	F.E. Johnson	Date	5-11-56
To:	[illegible]	Date	5-11-56
To:	Oper Com	Date	6-20-56
To:	F.E. Johnson	Date	6-22-56
	[illegible]		6-22-56
	Oper Com		7-2-56
	F.E. Johnson		7-3-56
	Oper Com		8-21-56
	F.E. Johnson		8-22-56
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	110	—	4-19-57

DO NOT DETACH
CONTROLLED DOCUMENT

INT.-DUP. SEC. WASH., D.C. 98868

September 25, 1956

MEMORANDUM

To: A. S. Bahan, Chief, Operations Control & Statistics Div.

From: W. S. Martin, Chief, Iron & Ferro-Alloys Division

Subject: Withdrawal of application
Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico
Contract No. Ida-3867

By letter of August 28, 1956, the Field Team notified the applicant that unless they received a reply by September 17, 1956, they would consider that he was no longer interested in a DMEA loan and would recommend that their application be considered withdrawn.

Since the applicant did not answer the Field Team's letter, it is recommended that we consider the application as having been withdrawn without prejudice.

The docket is sent you herewith to be placed in the inactive files.

1

W. S. Martin, Chief
Iron & Ferro-Alloys Division

FO'C 9/25/56
cc to: Docket
Code 400
Adm. Read. File

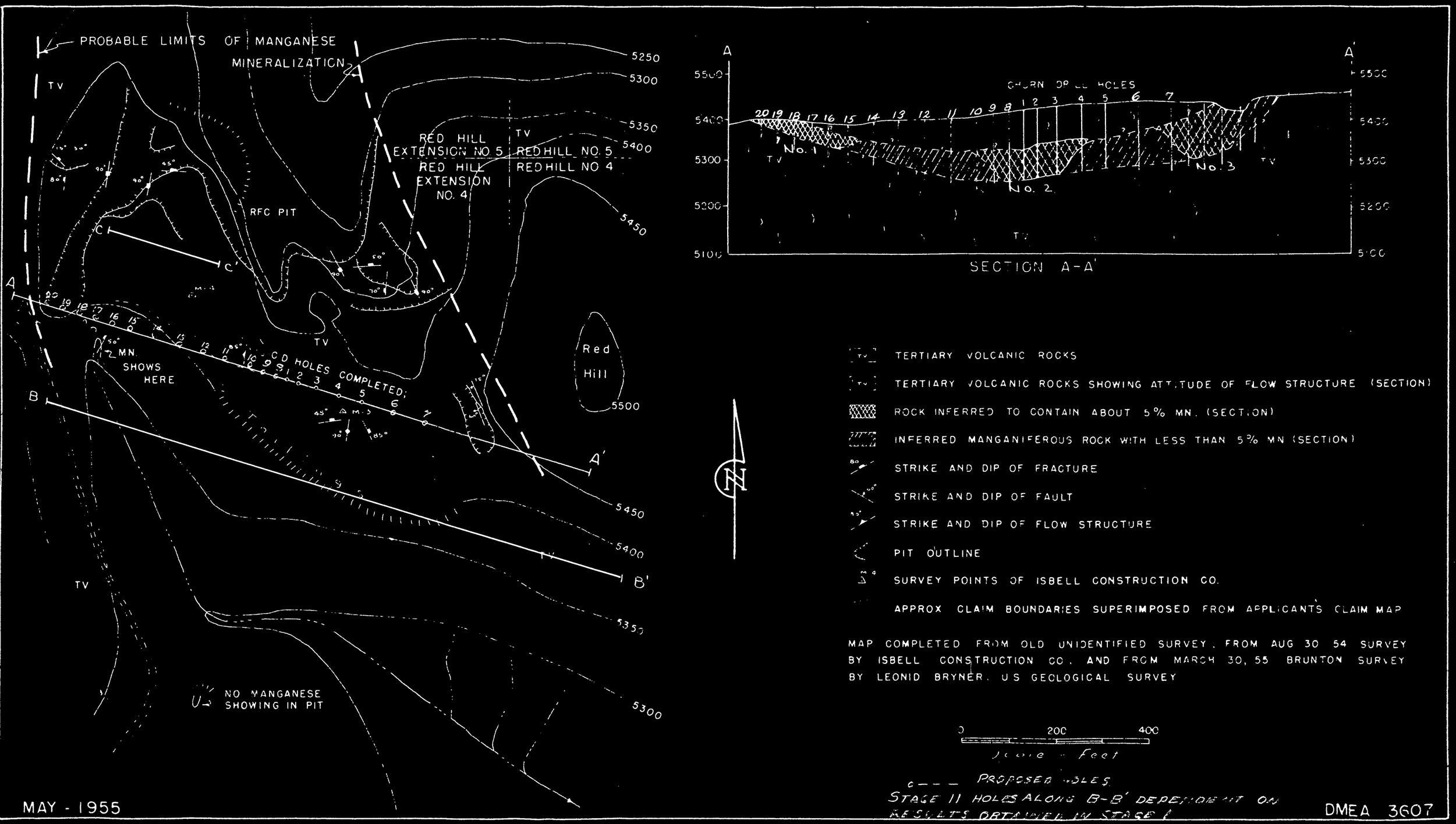

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

NOV - 9 1956

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket No. DMEA 3607 - Manganese
Red Hill Extension Claims
Socorro County, New Mexico

Dear Mr. Morgan:

By letter of August 28, 1956, W. H. Trexler, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse, Denver 2, Colorado, advised you as follows:

"If you wish DMEA to continue processing your application and will confirm your ability to obtain the required Performance Bond, we will notify the Washington office to prepare a contract.

It is not in accordance with DMEA policy to hold contracts in a pending state indefinitely. The original contract prepared on this docket was received in this office on September 6, 1955. Unless we receive your reply to this letter by September 17, 1956, we will consider that you are no longer interested in a loan and will recommend to Washington that the application be considered as withdrawn."

Accordingly, as no reply has been received to the above letter we infer that you are no longer interested in obtaining Government assistance in an exploration program at the captioned property. The subject docket, therefore, is being transferred to the inactive files and the application is considered as withdrawn.

Sincerely yours,

Frank E. Johnson

ACTING Administrator

TLCHAPMAN:foc 11/8/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. Gilbert DeRuff, USBM
T. H. Kiilsgaard, USGS

400

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

RECEIVED
SEP 21 1956

224 New Customhouse
Denver 2, Colorado

September 18, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Reference is made to our letter to the Applicant, dated August 28, 1956, wherein we advised that unless we received a reply by September 17, 1956, we would consider that he is no longer interested in a loan and will recommend to the Washington Office, DMEA, that the application be considered as withdrawn.

We have received no reply from the Applicant and we recommend that the application be considered as withdrawn.

W. M. Traver

W. M. Traver

400

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

RECEIVED
OCT 31 1956

224 New Customhouse
Denver 2, Colorado

October 29, 1956

WSM

Memorandum

To: Chairman, Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese) Proposed Contract Idm-E867 Manganese Corporation of Arizona (Red Hill Extension Claims) Socorro County, New Mexico

In our memorandum to you, dated September 18, 1956, we recommended that the subject application be considered as withdrawn.

Will you please advise what disposition has been made on this docket.

Original signed by
W. M. TRAVER

W. M. Traver

Withdrawn
9/25/56 as
Ft. recommended,

402

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

224 New Customhouse
Denver 2, Colorado

August 28, 1956

Mr. Dwight McClure
McClure-Wingar Insurance Service
420 Luhrs Building
Phoenix, Arizona

Copy retained 400

Re: Docket DMEA 3607 (Manganese) Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. McClure:

This is in further reference to our letter to Mr. Morgan of June 28, 1956, your letter of July 6 to me and my reply of July 9, all concerned with the captioned loan application.

We have been advised by the DMEA Washington office that according to the latest revised draft of a contract prepared in conformance with new information from the applicant and field examination, a Standard Performance Bond in the amount of $22,875.00 will be required.

Mr. Morgan has failed so far to reply to our letter of June 28 but has stated to field representatives of this office that he desires to continue with processing of the loan.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Copy to Victor J. Morgan
WMT/pw
cc: Chairman, Op. Comm. (2)
Docket 3607
Harshman
Storms
[illegible]erick
[illegible] Chron

402

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

224 New Customhouse
Denver 2, Colorado

August 28, 1956

Copy retained 400
W. S. Martin

Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA-3607 (Manganese) Proposed Contract Idm-3867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. Morgan:

According to information from our examining engineer, who revisited the property concerned with the referenced loan application on July 17, you are desirous of continuing the processing to contract.

We have submitted to the Washington office revised recommendations for a contract based on this most recent examination and taking into consideration work performed at the property since the date of the original investigation. As a result they have prepared a draft of a contract which will require a Performance Bond on Standard Form 25 in the amount of $22,875.00. This Bond is in lieu of Consent to Lien forms to protect the Government's interest. We have advised Mr. Dwight McClure of the McClure-Wingar Insurance Service, Phoenix, Arizona of this amount as requested by his letter of July 6, 1956.

If you wish DMEA to continue processing your application and will confirm your ability to obtain the required Performance Bond, we will notify the Washington office to prepare a contract.

It is not in accordance with DMEA policy to hold contracts in a pending state indefinitely. The original contract prepared on this docket was received in this office on September 6, 1955. Unless we receive your reply to this letter by September 17, 1956, we will consider that you are no longer interested in a loan and will recommend to Washington that the application be considered as withdrawn.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

WMT/pw
cc: Chair.Op.Comm. (2)
Harshman
Storms
Emerick
Townsend
Harold M. Smithells, S.B.A.
Docket 3607 Chron

IN REPLY REFER TO:

X-tra

RECEIVED
AUG 13 1956

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

August 10, 1956

Re: DMEA 3607
Manganese Corp. of Arizona
Red Hill Extension Zone
Socorro Co., New Mexico
$53,150.00 - Manganese

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of supplementary data.

The information concerning work by the applicant and the decision to reinstate the application has been reviewed.

The expectations of the examiners appear to have been met. Therefore concurrence with their recommendation of a revised work program is in order and I concur.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/10/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
G. DeHuff, 3521

IN REPLY REFER TO:

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

RECEIVED
AUG 13 1956

August 10, 1956

Re: DMEA 3607
Manganese Corp. of Arizona
Red Hill Extension Zone
Socorro Co., New Mexico
$53,150.00 - Manganese

Memorandum

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The expectations of the examiners appear to have been met. Therefore concurrence with their recommendation of a revised work program is in order and I concur.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/10/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
G. DeRuff, 3521

AUG 23 1956

Mr. W. M. Trevor, Executive Officer
DMEA Field Team, Region III
2th New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3687 - Manganese
Manganese Corp. of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Trevor:

Reference is made to your letter of July 30, 1956, and the enclosure listed therein regarding the subject application.

In regard to your suggestion that we review your letter of July 9, 1956, to Mr. Dwight McClure, we note that you needed to know the amount of the Government's contribution to the proposed contract in order to reply to Mr. McClure's letter to you of July 6. According to our latest draft this amount would be $22,875.00.

With reference to the last paragraph on page 2 of T. M. Rosalie's memorandum of July 26 to Walter R. Sharon, it is our understanding that the Small Business Administration's office here has referred the proposed loan application you mentioned to their Denver office. We are naturally anxious to complete action on this application promptly by writing a contract; otherwise Small Business Administration will be waiting to see that action DMEA takes while we are waiting for action by Small Business Administration.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Approved:

FRANK D. LAMB

Member, Bureau of Mines

W. P. Williams

Member, Geological Survey

WSMartin/fcc 8/20/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Gilbert DeRuff, USBM
T. N. Kiilsgaard, USGS

IN REPLY REFER TO:

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

402

August 10, 1956

Re: DMEA 3607
Manganese Corp. of Arizona
Red Hill Extension Zone
Socorro Co., New Mexico
$53,150.00 - Manganese

Copy retained 400

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of supplementary data.

The information concerning work by the applicant and the decision to reinstate the application has been reviewed.

The expectations of the examiners appear to have been met. Therefore concurrence with their recommendation of a revised work program is in order and I concur.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/10/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
G. DeHuff, 3521

402

RECEIVED
AUG - 8 1956

August 7, 1956

Memorandum

To: W. S. Martin, DMEA

From: Marvin T. Rees, Assistant Chief, Branch of Ferrous Metals and Ferroalloys

Subject: DMEA 3597. Manganese Corporation of Arizona Socorro County, New Mexico

Information in the memorandum from T. M. Ramsle, Mining Engineer, Tucson, Arizona, to Walter R. Storms, Superintendent, Southwest Experiment Station, Region III, of July 26, 1956, concerning the above subject, does not materially affect the request for exploration aid. Accordingly, G. L. DeHuff, Jr.'s memorandum of recommendation, August 26, 1955, is still valid.

Marvin T. Rees

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

July 30, 1956

RECEIVED
AUG - 3 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 3607 (Manganese) Proposed Contract DMx-3067, Manganese Corporation of Arizona (Red Hill Extension claims) Socorro County, New Mexico

Enclosed are four copies each of the following:

1. Memorandum from Walter R. Storms to the Executive Officer dated July 26, 1956

2. Memorandum from T. M. Romalo to W. R. Storms dated July 26, 1956

3. Memorandum from J. H. Faick to the Executive Officer, DMEA Field Team, Region III, dated July 13, 1956.

We have had no reply to our letter to the Applicant dated June 28, 1956, and we were unable to furnish the necessary details of a Performance Bond to the McClure-Winger Insurance Service. Please see copy of our letter to Mr. Dwight McClure dated July 9, 1956.

A revised two-stage program is recommended by the field examiners. If the Applicant has definitely made up his mind to explore the property with DMEA aid in this revised project and can provide a Performance Bond, the Field Team concurs in the recommendation of the field examiners.

Your reference to Figure 1 of the Report of Examination in your letter dated June 25, 1956 is correct. The claims from north to south should be numbered 6, 5, 4, 3, 8, and 10.

DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

RECEIVED
AUG - 3 1956
DMEA
Date Rec'd.
JUL 30 1956
BUREAU OF MINES
Denver, Colorado

Memorandum July 26, 1956

To : W. H. Traver, Executive Officer, DMEA Field Team

From : Superintendent, Southwest Experiment Station

Subject : Docket DMEA-3607 (Manganese), Manganese Corp. of Arizona, Socorro County, New Mex.

As requested in your recent teletype and memorandum, we are enclosing a memorandum from L. H. Monsio of the Bureau of Mines, regarding work at the property of the Manganese Corp. of Arizona at its mine southwest of Socorro, New Mex.

In a recent memorandum from Messrs. Emerick and Paick of the Geological Survey, they stated that this company probably would ask that its application be cancelled. However, when Mr. Monsio visited the property, the company's official reversed his stand and now wishes to continue with the project, provided that a bond can be arranged in lieu of "Owner's Consent to Lien".

Signed by Walter R. Storms

Walter R. Storms

cc: W. H. Traver (8)
W. L. Emerick
DMEA-3607
DM

WRStorms:fry

RECEIVED
AUG - 3 1956

July 20, 1956

Memorandum

To : Walter R. Storms, Superintendent, Southwest Experiment Station, Region III

From : T. M. Monsalo, Mining Engineer, Tucson, Arizona

Subject : Docket DMEA-3607 (Manganese) Manganese Corporation of Arizona, Socorro County, N. Mex.

Reference is made to W. M. Traver's teletype and letter to you of July 3, and 12, 1956, respectively.

On July 17, 1956, I visited the mines and mill of subject corporation while in the vicinity on other DMEA duties. Although I had made arrangements to meet V. J. Morgan, president of the corporation, I could not contact him until after I had inspected the workings of the M.F.C. pit and noted work accomplished since the DMEA examination report of May 1955.

Information obtained from Mr. Morgan follows:

He had reconsidered the advisibility of exploring the property with Government aid after talking Messrs. Emerick and Faick that he wanted to withdraw the corporation's application. (See Faick's memorandum of July 13). The corporation now wishes to go ahead with a revised program and is attempting to secure the necessary Performance Bond.

The originally proposed project provides for the first stage drilling of 2,500 feet in 21 churn drill holes along section A-A' of Figure 2. The second stage, if found warranted, provides for 4,400 feet of drilling in 35 churn drill holes along sections B-B' and C-C'. After the project was designed, 5 additional holes were drilled at locations shown on the attached revised figure 2. Since the corporation does not have its own maps of mine workings and the 5 holes were not identified, I have numbered them 5 to 10. Reported findings in holes were as follows:

Holes 6 and 7 - no ore.
Holes 8 and 9 - Overburden 0 to 70 feet, and 6 percent manganese from 70 to 160 feet.
Hole 10 - Overburden 0 to 80 feet, ore to 95 feet, where hole was lost in sloughing ground.

CC W. M. Traver (Orig. & 8)
W. L. Emerick
DMEA-3607
DF

TMonsalo:frj

The revised project that follows has been designed in close accordance with Morgan's requested provisions. It has my approval.

Stage I

1. Eliminate proposed drilling east of hole 5 of section A-A' because unfavorable findings of holes 6 and 7 indicated additional drilling in this area is not justified.

2. Provide for the drilling of 1,500 feet in 11 holes west of hole 9 of section A-A'.

Stage II

Drilling along section B-B' could be justified under stage I because of favorable findings of holes 1, 2, 3, 8, 9 and 10. However, I believe a more complete picture of conditions along A-A' should be available before the drilling of section B-B' is started.

1. Provide for 2,400 feet of churn drilling in 20 holes along section B-B'. Fifteen of the originally proposed 35 holes have been eliminated because: (a) A-A' drilling indicates the east portion of the section is unfavorable ground; and (b) drilling along C-C' is not warranted because this area presently is about to be stripped for mining.

The correct numbering of the Red Hill Extension claims from north to south reportedly is 6, 5, 4, 3, 8 and 10, as shown in Option of Title.

To arrive at estimated costs of the project I suggest that drilling be left at $7.00 per foot and that allowable total costs of casing and assays be reduced by about 40 percent for stage I and by about 50 percent for stage II. The suggested costs reductions are in line with the decrease in drilling footages.

Following are a few items of interest regarding present operations.

Mr. Morgan said that the corporation had applied for a $250,000.00 loan from the Small Business Administration. This federal agency had completed an examination of the corporation's accounts and operations and was about to grant the loan. The funds are to be used to pay off liens, mainly on equipment.

The corporation presently is milling 35,000 to 40,000 tons of ore per month for a daily production of 55 to 60 tons of concentrates, containing a little over 40 percent manganese. Much of the ore comes from the NPC pit.

I have discussed the revised project with W. L. Emerick. It has his approval.

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

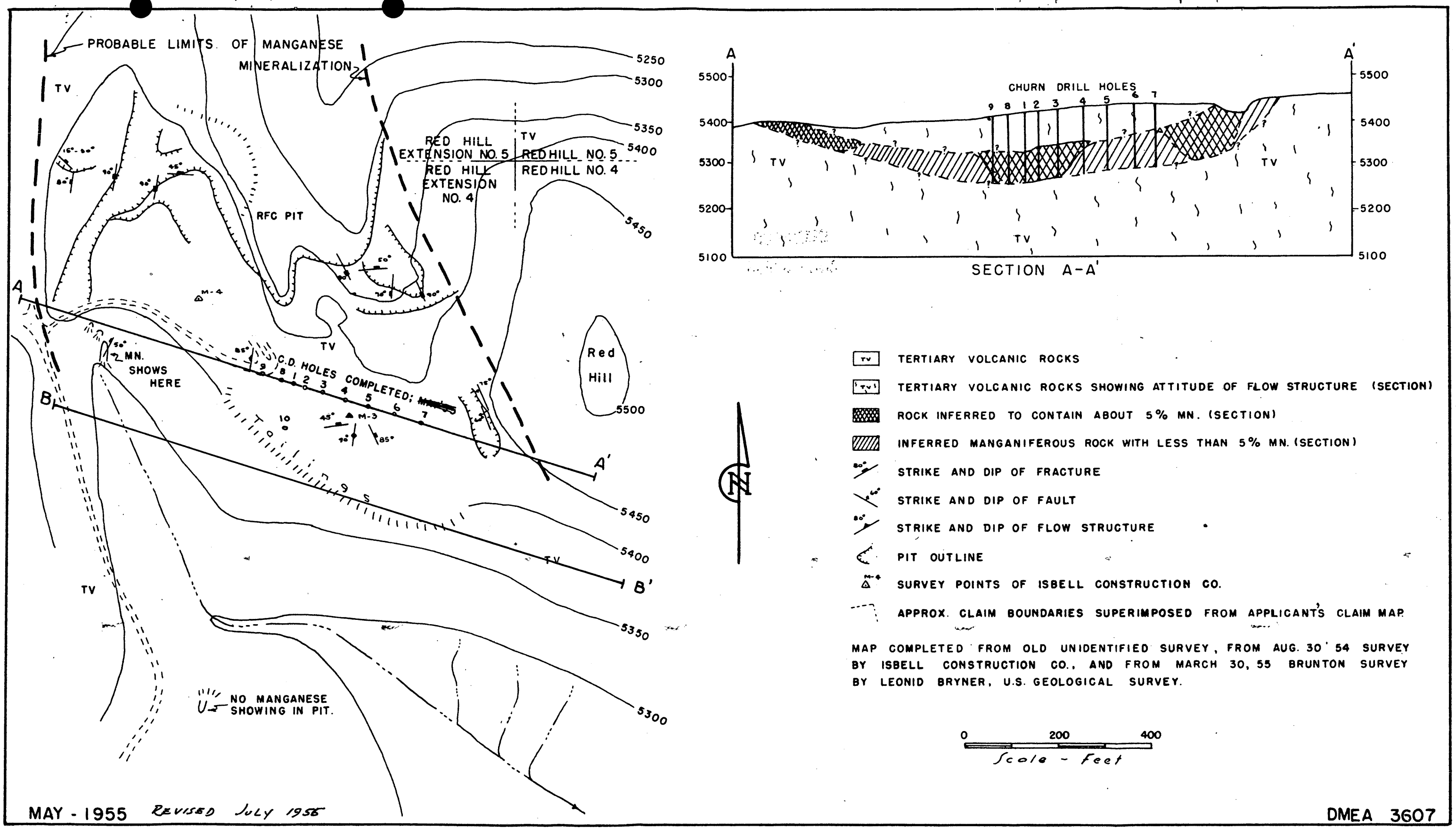

FIGURE - 2 - GEOLOGIC. AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

MINERAL DEPOSITS
DMEA
RECEIVED
RECEIVED JUL 16 1956
AUG - 3 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
Date Rec'd.
JUL 16 1956
BUREAU OF MINES
Denver, Colorado

Box 4126 University Station
Tucson, Arizona

July 13, 1956

MEMORANDUM

To: Executive Officer, DMEA Field Team, Region III

From: J. N. Faick

Through: W. L. Emerick WLE
E. N. Harshman ENH

Subject: Docket DMEA 3607 (Manganese), Proposed Contract Idm-2867, Manganese Corp. of Arizona, Socorro County, N. Mex.

On the afternoon of July 10, W. L. Emerick and the writer visited the Socorro County property of the Manganese Corp. of Arizona, for the purpose of becoming familiar with this project. We briefly visited the open pit mine and the mill, and discussed the project with Victor J. Morgan, president, and other members of the staff. Mr. Morgan advised us that his company was no longer interested in obtaining Government aid in exploration, and would reject the proposed contract. The principal reasons for this decision are: (1) part of the proposed exploration was completed by the company and greatly increased the ore reserves; (2) conditions had changed during the long time interval between submitting the application and receiving the contract.

Mr. Morgan indicated he would notify the Government of this decision. He advised us that he was pleased with Romslo's and Bryner's predictions, which subsequently were proven by the company's drilling. Morgan stated that he believes the minable reserves are now about 2,000,000 tons, which is sufficient to sustain the operation for several years.

J. N. Faick

John N. Faick

JNF:MS
cc: Harshman (8)
Stepras
Emerick

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

400

DMC.

July 9, 1956

224 New Customhouse
Denver 2, Colorado

Copy retained 400

Mr. Dwight McClure
McClure-Winger Insurance Service
420 Luhrs Building
Phoenix, Arizona

Re: Docket DMEA 3607 (Manganese) Proposed
Contract Idm-3867, Manganese Corporation
of Arizona (Red Hill Extension claims)
Socorro County, New Mexico

Dear Mr. McClure:

This will acknowledge receipt of your letter dated July 6, 1956 requesting information on a Performance Bond on the captioned proposed exploration contract.

The Performance Bond required is Standard Form 25, but we can not advise you the amount of the bond at this time. The amount of the bond required is the amount of the Government participation in the proposed exploration project. We will not know the amount of Government participation until we have knowledge of the amount of drilling which has been accomplished on the Red Hill Extension property subsequent to the DMEA examination of that property. Also, patent work done on these claims by the Manganese Corporation of Arizona may have caused them to desire some changes in the proposed exploration program.

When Mr. Victor J. Morgan replies to our letter of June 28, 1956, we may be able to determine at that time the amount of the Performance Bond.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

cc: Victor J. Morgan
Chair. Op. Comm. (2)
Harshman
Storms
Townsend
Docket 3607
Chron.

RECEIVED
JUL 12 1956

McCLURE-WINGAR INSURANCE SERVICE
Successor to Simis Insurance Service Agency
420 LUHRS BUILDING • TELEPHONE ALPINE 8-8941 • PHOENIX, ARIZONA

DMER
Date Rec'd.
JUL 9 1956
BUREAU OF MINES
Denver, Colorado

July 6, 1956

AIR MAIL

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

Re: Docket DMEA 3607 (Manganese), Proposed Contract Idm-E987, Red Hill Extension claims, Socorro County, New Mexico

Dear Mr. Traver:

Mr. Morgan of Manganese Corporation of Arizona, Socorro, New Mexico, forwarded your letter of June 28 to me.

Will you please advise us the details of the Performance Bond which you desire MCA to furnish. This agency has contacted a Surety Company, and pending receipt of your letter outlining such details they have stated that they will possibly be in a position to furnish the bond as required.

Thank you for an immediate reply.

Very truly yours,

McCLURE-WINGAR INSURANCE SERVICE

BY: Dwight McClure
Dwight McClure

DM:fd

JUL 3 - 1956

Interior Department
Defense Minerals
Exploration Administration
14X4401(01) Revolving Fund
Defense Production Act,
Interior (Allocated Working Fund
to the Office of the Secretary

T E L E T Y P E

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Reurtel June 29, Docket DMEA-3607, Manganese Corporation of Arizona. Continue with usual progress inspections and make a check examination of above-noted property as soon as an engineer is available.

George C. Selfridge

Chairman, Operating Committee

cc: Docket
Code 400
Oper. Committee
Adm. Read. File
T. Kiilsgaard, USGS
G. DeHuff, USBM
FT, Region 3

TLChapman/ls
7/2/56

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

RECEIVED
MAR - 1 1956

224 New Customhouse
Denver 2, Colorado

February 28, 1956

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA 3607 (Manganese),
Proposed Contract Idm-E867,
Manganese Corporation of Arizona,
Red Hill Extension Claims,
Socorro County, New Mexico

Dear Mr. Morgan:

Thank you for your letter of February 25, 1956, advising us on the status of your efforts to clear the property involved with proposed Exploration Project Contract Idm-E867.

We will defer action to rescind the Contract, giving you until March 26, 1956, to resolve all matters which are prerequisite to execution of the contract.

Very truly yours,

W. M. TRAVER
W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:prl
cc: Chairman, Oper.Comm. (3) } w/copy of Operator's letter
Storms
Townsend
Docket file
Chron.

RECEIVED
MAR - 1 1956

Manganese Corporation of Arizona

PHOENIX, ARIZONA | P. O. BOX 622 | SOCORRO, NEW MEXICO

February 25, 1956
Socorro, New Mexico

DMEA
Date Rec'd
FEB 27 1956
BUREAU OF MINES
Denver, Colorado

United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attn: W. M. Traver

Dear Mr. Traver:

Concerning DMEA Docket 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico, please be advised that we intend to proceed with this contract within thirty days. The holdup has been our final payment on the mining property covered by the contract. We intend to make this payment within the next several days, thus leaving the property free and clear and thereby avoiding complications arising from the repayment schedule.

x I would appreciate it very much if you would advise me wheather the above is satisfactory.

Deadline
hlm 3/26

Yours very truly,

MANGANESE CORPORATION OF ARIZONA

Victor J. Morgan
President

VJM:rm

400

RECEIVED
MAR - 1 1956

224 New Customhouse
Denver 2, Colorado

February 28, 1956

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

WSM

Re: Docket DMEA 3607 (Manganese),
Proposed Contract Idm-E867,
Manganese Corporation of Arizona,
Red Hill Extension Claims,
Socorro County, New Mexico

Dear Mr. Morgan:

Thank you for your letter of February 25, 1956, advising us on the status of your efforts to clear the property involved with proposed Exploration Project Contract Idm-E867.

We will defer action to rescind the Contract, giving you until March 26, 1956, to resolve all matters which are prerequisite to execution of the contract.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:prl
cc: Chairman, Oper.Comm. (3)) w/copy of Operator's letter
Storms)
Townsend
Docket file
Chron.

Manganese Corporation of Arizona

PHOENIX, ARIZONA P. O. BOX 622 SOCORRO, NEW MEXICO

February 25, 1956
Socorro, New Mexico

MAR - 1 1956
DMEA
Date Rec'd
FEB 27 1956
BUREAU OF MINES
Denver, Colorado

United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attn: W. M. Traver

Dear Mr. Traver:

Concerning DMEA Docket 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico, please be advised that we intend to proceed with this contract within thirty days. The holdup has been our final payment on the mining property covered by the contract. We intend to make this payment within the next several days, thus leaving the property free and clear and thereby avoiding complications arising from the repayment schedule.

x I would appreciate it very much if you would advise me wheather the above is satisfactory.

Deadline
hlm 3/26

Yours very truly,

MANGANESE CORPORATION OF ARIZONA

Victor J. Morgan
President

VJM:rm

400

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

February 7, 1956

RECEIVED
FEB 13 1956

224 New Customhouse
Denver 2, Colorado

400

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA 3607 (Manganese), Proposed Contract Idm-2867, Manganese Corporation of Arizona, (Red Hill Extension Claims), Socorro County, New Mexico

Dear Mr. Morgan:

We have had no advice from you since your visit to the Washington DMEA office on November 22, 1955. Will you please write us concerning your present intentions of going ahead with the proposed exploration project.

In the event that you are no longer interested in the exploration project, please advise so that we may return the contract to the Washington office for cancellation.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:ab

cc: Chair. Op. Comm. (2)
Storms
Townsend
Docket 3607
Chron.

Copy retained 400
W S Martin

Copy

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

460

RECEIVED
NOV 21 1955

November 17, 1955

224 New Customhouse
Denver 2, Colorado

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

W&M

Re: DMEA Docket 3607 (Manganese), Proposed Contract Idm-3567, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. Morgan:

Your letter of October 10, 1955 enclosed an Assignment of Mining Lease with Option to Purchase from the partnership of Morgan and Mendenhall to the Manganese Corporation of Arizona. We are waiting for the other information requested in our letter to you dated September 8, 1955 which you indicated would be forwarded this office as soon as possible.

Will you please advise the date we may expect to receive this information?

In the event that you are no longer interested in the exploration project, please advise so that we may return the contract to the Washington office for cancellation.

Very truly yours,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

By J. W. Townsend

HMC:ab
cc: Sec. Op. Comm. (2)

400

NOV 29 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3607, Manganese
Manganese Corp. of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

This will acknowledge receipt of copies of your letter of November 17, 1955, to Mr. Victor J. Morgan, President, Manganese Corporation of Arizona, Socorro, New Mexico.

Mr. Morgan called on our Iron and Ferro-Alloys Division on November 22, and advised us that the proposed operator within approximately one month will have acquired title to the subject property. He plans to submit directly to us for our review a copy of the instrument transferring title and also an opinion of title. In that event, no Consent to Lien will be required.

For his information, we have lent to Mr. Morgan one of the extra copies of Exhibit "A" of the proposed contract, including Annex I and the two attached maps. For his convenience in current negotiations with Small Business Administration, which of course were not discussed with us, he was also lent the two maps submitted as exhibits with the application of December 7, 1954. The material on loan is to be returned to us within a reasonable time.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Approved:

P. F. Yopes

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File
T. Kiilsgaard, USGS
G. DeHuff, USBM
FT, Reg. 3

WSMartin/ls 11/28/55

400

NOV - 2 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3607, Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

This will acknowledge receipt of your letter of October 19, 1955, enclosing copy of Mr. Robert D. Klipsch's letter to you of October 10, and of the assignment of mining lease with option to purchase mentioned therein.

We note that Mr. Klipsch's letter provides only part of the data requested of him in your letter of September 8, and we would prefer to delay asking legal advice on the matter until you receive and transmit to us the other information promised you.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Approved:

/s/ Robert W. Geehan
Member, Bureau of Mines

W. P. Williams
Member, Geological Survey

cc: Docket
Adm. Read. File
Code 400
Oper. Committee
Thor Kiilsgaard, USGS
Gilbert DeHuff, USBM
FT, Reg. 3

ESMartin/ls
10/26/55

400

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

RECEIVED
OCT 21 1955

October 19, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Enclosed are two copies of a letter and the original and one copy of an Assignment Mining Lease with Option to Purchase received from the applicant.

This is only part of the data requested in our letter to the applicant dated September 8, 1955, and we doubt if the enclosed Assignment suffices. One of your requests in your letter of September 2, 1955 which we included in our letter of September 8, 1955 to the applicant was "An Assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona."

The Manganese Company of Arizona is not even mentioned in the enclosed Assignment, and we will appreciate receiving your legal advice on this matter.

W. M. Trever

Enclosures

Manganese Corporation of Arizona

PHOENIX, ARIZONA

P. O BOX 622
Socorro, New Mexico

SOCORRO, NEW MEXICO

October 10, 1955

RECEIVED
OCT 21 1955

Mr. W. M. Traver

Executive Officer, DMEA
Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: DMEA 3607 Manganese, Proposed Contract Idm-2867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico

Gentlemen:

We are sorry that we have been so long in replying to your letter of September 8, 1955. We are sending the assignment of mining lease with option to purchase from the partnership to the Manganese Corporation of Arizona which was signed by Victor J. Morgan.

As soon as it is possible I will mail the other instrument that you have asked for.

Yours very truly,

MANGANESE CORPORATION OF ARIZONA

Robert D. Klipsch

Robert D. Klipsch
Business Manager

RDK:rm
Encl.

RECEIVED
OCT 21 1955

ASSIGNMENT OF MINING LEASE WITH OPTION TO PURCHASE

On the date of August 6, 1954, the partnership of Morgan and Mendenhall sold, transferred and assigned all right, title and interest it might hold in that certain mining lease with option to purchase covering what is known as the Socorro Corporation Manganese Mines. The purchaser being the Manganese Corporation of Arizona and the price being ten ($10.00) dollars and other consideration. Morgan and Mendenhall warrant the price, including all consideration, is hereby paid and the transfer of their right, title and interest effective immediately.

MORGAN AND MENDENHALL

By /S/ Victor J. Morgan
Victor J. Morgan

THE STATE OF TEXAS

COUNTY OF EL PASO

BEFORE ME, the undersigned authority, in and for said county and state, on this day personally appeared Victor J. Morgan, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as his free act and deed for the purposes and consideration therein expressed.

GIVEN under my hand and seal of office, this 13th day of August, 1954.

By /S/ Virginia Mann
Virginia Mann, Notary Public,
El Paso Co., Texas., My
Comm. expires 6-1-55

SEAL
Notary Public, El Paso, Texas

COPY

400

Copy retained 400

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

RECEIVED
SEP 12 1955

September 8, 1955

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

Copy retained 400

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region III

Subject: DMEA 3607 (Manganese), Proposed Contract Idm-E867
Manganese Corporation of Arizona, (Red Hill
Extension claims), Socorro County, New Mexico

We have received copies of the subject Proposed Contract and are holding them in our files pending receipt of the material indicated by attached copy of a letter to the applicant.

Enclosed for your review and approval is the "Operator's Copy" of the Contract. Please return it promptly with your comments after review in order that we may have it available to send the Operator when he has satisfied the requirements and signed the other copies of the Contract.

W. M. Traver
W. M. Traver

Enclosure

WMT:ab
cc: Sec. Op. Comm. (2)
Conners
Storms
Correspondence File E867
Townsend
Chron.

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

RECEIVED
SEP 12 1955

September 8, 1955

224 New Customhouse
Denver 2, Colorado

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: DMEA 3607 (Manganese), Proposed Contract I4m-2867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. Morgan:

We have received from the Washington office, DMEA, Proposed Contract I4m-2867 prepared pursuant to your application.

Before we will be in a position to submit copies of the Contract to you for approval and execution, there are the following matters to be cleared up:

1. The Lease Agreement and Option, dated July 18, 1949, from the Reconstruction Finance Corporation to the Socorro Corporation has been paid off as of July 31, 1955, which places the Socorro Corporation as owners of the property, except for a possible interest of Morgan G. Huntington. In the aforesaid Lease and Option Agreement the last paragraph on page 5, reads as follows:

> "It is expressly understood and agreed that one of the conditions of this Agreement is that the Lessee obligates itself to obtain valid assignments in the name of Lessor from Morgan G. Huntington covering any Mining Location Claims (original or relocated); held by or in name of said Morgan G. Huntington."

No record of any such assignment could be found in the files of the Reconstruction Finance Corporation, hence, it will be necessary for the Socorro Corporation to clear up this matter.

2. The Lease and Option Agreement, dated June 26, 1954, from the Socorro Corporation is to Edward V. Mendenhall and Victor J. Morgan, dba under the firm name of Manganese Company of Arizona, but the application is made in the name of the Manganese Corporation of Arizona, hence, it will be necessary to obtain an assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona.

3. If Manganese Company of Arizona should withhold any claim against the land in the assignment to the applicant, a Subordination Agreement of the Manganese Company is required.

For fulfilling this requirement should it prove necessary, there are enclosed seven copies of Form NF-201 Subordination Agreement. These should be completed and returned or the blank forms returned with a statement that they are not necessary.

Also enclosed are seven copies of Consent to Lien Forms NF-203 to be properly executed by Socorro Corporation and returned.

As soon as the foregoing matters are clarified and the required forms received, copies of the Contract will be forwarded to you for signature.

Very truly yours,

W. M. Traver

W. M. Traver
Executive Officer, [redacted]
Field Team, Region III

Enclosures

WMT:ab
cc: Sec. Op. Comm. (2)
Conners
Storms
Correspondence File E867
Townsend
Chron.

SEP - 2 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House Building
Denver 2, Colorado

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro, New Mexico

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed contract for an exploration program by the above referenced applicant, signed by the Administrator for the Government, together with Exhibit "A" (2 pages), Annex I (1 page) and 2 maps.

If any part of the proposed contract does not meet with your approval, or that of the applicant, and cannot be altered within your delegated authority, the original and all copies are to be returned to this office, together with the proposed changes for consideration.

Enclosed also, are seven copies of Consent to Lien to be signed by the Socorro Corporation before execution of the contract.

It will be necessary to clear up several other matters before execution of the contract, which are as follows:

1. The Lease Agreement and Option, dated July 18, 1949, from the Reconstruction Finance Corporation to the Socorro Corporation has been paid off as of July 31, 1955, which places the Socorro Corporation as owners of the property, except for a possible interest of Morgan G. Huntington. In the aforesaid Lease and Option Agreement the last paragraph on page 5, reads as follows:

> "It is expressly understood and agreed that one of the conditions of this Agreement is that the Lessee obligates itself to obtain valid assignments in the name of Lessor from Morgan G. Huntington covering any Mining Location Claims (original or relocated); held by or in name of said Morgan G. Huntington."

No record of any such assignment could be found in the files of the Reconstruction Finance Corporation, hence, it will be necessary for the Socorro Corporation to clear up this matter.

2. The Lease and Option Agreement, dated June 26, 1954, from the Socorro Corporation is to Edward V. Mendenhall and Victor J. Morgan, dba under the firm name of Manganese Company of Arizona, but the application is made in the name of the Manganese Corporation of Arizona, hence, it will be necessary to obtain an assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona.

3. If Manganese Company of Arizona should withhold any claim against the land in the assignment to the applicant, a Subordination Agreement of the Manganese Company is required.

Under Article 3, the starting date has been left blank and is to be filled in when the contract is signed by the operator.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

TLChapman:foc
8-24-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
Messrs. DeHuff, USBM
Kiilsgaard, USGS

APPROVED:

P. F. Yopes
Member, Bureau of Mines

(s) N. E. Nelson
Member, Geological Survey

Government's copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this ..... day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and 2 maps.

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] lessee of [5] mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] lease and option, [7] recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: none.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: Consent to Lien of Socorro Corporation.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

16—70618-1

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese. The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work, except as otherwise provided in Exhibit "A."

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $~~56,100.00~~ 49,600.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $~~42,075.00~~ 37,200.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure -2- Geologic and Exploration Map . . .," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-foot intervals in zones of ~~most~~ more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
Churn Drilling 2,500 feet @ $~~7~~ 6.00/ft.	~~17,500.00~~ 15,000.00	
Lost casing, 500 feet 1/ @ $2.50/ft.	1,250.00	
Sampling, 2,500 feet @ $0.74/ft.	1,850.00	
Analyzing 200 samples for manganese @ $2.00/sample	400.00	
Estimated Total Cost of Stage I		~~$21,600.00~~ 19,100.00
Stage II		
Bulldozing 60 hours @ $15.00/hr.	900.00	
Churn Drilling 4,000 feet @ $~~7~~ 6.00/ft.	~~28,000.00~~ 24,000.00	
Lost casing, 800 feet 1/ @ $2.50/ft.	2,000.00	
Sampling, 4,000 feet @ $0.74/ft.	2,960.00	
Analyzing 320 samples for manganese @ $2.00/sample	640.00	
Estimated Total Cost of Stage II		~~$34,500.00~~ 30,500.00
Estimated Total Cost of Project		~~$56,100.00~~ 49,600.00
Government Participation @ 75 percent		~~$42,075.00~~ 37,200.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost ~~performed~~ by the Operator without contribution by the Government.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

402

AUG 22 1955

Memorandum

To: The Administrator, DMEA
Attention: Mr. T. L. Chapman

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3607, Manganese Corporation of Arizona

Pursuant to Mr. Chapman's memorandum of August 17 resubmitting the subject docket to us, we have prepared the attached contract.

In connection with our first review of the docket, submitted with Mr. Martin's memorandum of August 2, we outlined in a memorandum dated August 11 requirements concerning the interests in land as the applicant's interest then appeared to us. Mr. Chapman's memorandum of August 17 states that the R.F.C. is now out of the picture as owner of the land, and that the applicant's sublessor, Socorro Corporation, is now the owner of the land.

The requirements set forth in our memorandum of August 11 are revised accordingly, and prior to the execution of the contract the following are required:

1. Attachment of Consent to Lien of Socorro Corporation.

2. Clarification of Morgan G. Huntington's interest in the land.

3. Copy of Assignment to Manganese Corporation of Arizona of the lease interest held by the partnership, Manganese Company of Arizona.

4. If Manganese Company of Arizona withheld any claim against the land in the assignment to the applicant, the Subordination Agreement of the Manganese Company is required, and a recital pertaining thereto added to Article 2(c).

5. Attachment of the maps referred to in the contract.

HCRubin/emd
Copy to: DMEA Docket
Solicitor's Docket
Attachments

W.S.Martin
J.L.Hofflund
H.C.Rubin
chron.

J. L. Hofflund
J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

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

400

RECEIVED
AUG 29 1955

August 26, 1955

Copy retained 400

Memorandum

To: W. S. Martin, DMEA
From: G. L. DeHuff, Jr., Commodity Specialist, Bureau of Mines
Subject: DMEA 3607. Manganese Corporation of Arizona

This proposed exploration contract is in the total amount of $56,100 for a churndrilling program on applicant's Red Hill Extension property, located about 8 air-miles southwest of Socorro, in secs. 17 and 20, T 4 S, R. 1 W., Socorro County, N. Mex.

The program is in two stages, the first of which is limited to 2500 feet of drilling, and the second to 4000 feet.

Applicant has drilled five churn drill holes on the property, four of which obtained interesting manganese values. Applicant has been milling ore most of this year from pits on this and the nearby Red Hill property in its 3000 ton per day heavy media plant, producing a concentrate averaging 38 percent manganese which is shipped to GSA under the domestic manganese purchase program. The operating record is good. The proposed exploration program is for purposes of providing reserves for co tinued operation.

I concur with the recommendations as to the proposed contract as qualified by the Operating Committee Chairman's memorandum of transmittal to the Field Team.

G. L. DeHuff, Jr.

400

August 17, 1955

MEMORANDUM

To: Acting Assistant Solicitor, Defense Minerals

From: Iron and Ferro Alloys Division, DMEA

Subject: Preparation of proposed contract
Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Transmitted herewith is a rough draft of a proposed contract for your use in preparing the final draft.

On July 30, 1955, the Socorro Corporation completed payments of $130,205.00 on Lease and Option of July 18, 1949 (Option - $100,000.00, plus $30,205.00 interest), hence becoming owners of the property and equipment.

For expediency we request that you complete the contract without any questions concerning ownership, leases and assignments, and these will be transmitted to the Field Team with the contract.

Thos. L. Chapman, Acting Chief
Iron and Ferro-Alloys Division

Attachment

cc: Docket
Code 400

TLChapman/ls

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

400

AUG 11 1955

3607

Memorandum

To: The Administrator, DMEA
Attention: W. S. Martin

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3607, Manganese Corp. of Arizona

Mr. Martin's memorandum of August 2 requested that we draft a contract covering the above-described project. It is proposed that the subject of the contract will be six claims, Red Hill Extension Nos. 3 through 6, No. 8, and No. 10. These claims are owned by the RFC by virtue of foreclosure proceedings and, in an instrument dated July 18, 1949, were leased and optioned by RFC to the Socorro Corporation, a New Mexico corporation, for a period of two years. One condition of the lease is that the lessee obligates itself to obtain valid assignments in the name of lessor (RFC) from Morgan G. Huntington covering any mining locations held in his name and comprising all or any part of the claims which are the subject of the lease to Socorro. Assignment of the lease without the prior written consent of the RFC is prohibited.

In a lease and option agreement dated June 26, 1954, between Socorro Corporation and Edward Mendenhall and Victor J. Morgan, partners, d.b.a. Manganese Company of Arizona, it is recited that the basic lease from RFC was modified by letter and by a formal supplemental agreement, and that Socorro does not undertake to mention specially and attach a copy of each agreement with RFC, but states generally that each was for the benefit of Socorro. It does, however, recite that Exhibits B and C (to the lease and option agreement dated June 26, 1954) - a copy of supplemental agreement dated August 31, 1951, and a copy of a letter dated November 17, 1952, from the Denver office of the RFC - are attached and contain detailed recitals concerning the amendments made, and fairly bring the original lease and option of July 18, 1949, up to date. The supplemental agreement dated August 31, 1951, is not attached to our copy of

the lease-option agreement of July 18, 1949. In this regard, the docket discloses that Mr. Chapman visited RFC on July 27, 1955, and that although he was furnished with a copy of the basic lease, he was not furnished with a copy of any formal supplemental agreement. A copy of the letter dated November 17, 1952, from RFC's Denver office to Socorro, and a copy of a letter dated December 29, 1952, from RFC's Denver office to the Washington office were furnished to Mr. Chapman.

The letter dated November 17, 1952, from the RFC's Denver office to Socorro accepts Socorro's proposal that the basic lease be amended so as to extend its term to July 1, 1956, upon Socorro's payment of certain money and the compliance with certain other conditions. No evidence that this lease amendment was ever made is before us. The letter of December 29, 1952, states that the conditions in the November 17, 1952 letter had not then fully been complied with.

Accordingly, there is not before us any evidence of applicant's rights in the land for a fixed term of sufficient duration for the purposes of an exploration project contract. Even if the supplemental agreement referred to above was executed by the RFC it would extend the basic lease only to July 1, 1956.

In the event that a contract is approved we would also require the following:

1. Consent to Lien from Socorro.

2. Copy of the supplemental agreement to the basic lease extending the term.

3. Evidence of written consent by the RFC to Socorro's lease and option to Manganese Company of Arizona.

4. Clarification of Morgan G. Huntington's interest in the Red Extension claims.

5. In addition, as RFC is the lessor in this case, we would have to consider working out some arrangement concerning DMEA's royalty.

6. Copy of assignment by Manganese Company of Arizona, the partnership, to Manganese Corporation of Arizona and RFC's consent thereto.

In view of the unsettled nature of the applicant's interest in the land we have not prepared a draft of the contract as requested, and the docket is returned herewith.

J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

Attachment

HCRubin/gjb

Copy to: DMEA Docket
Solicitor's Docket
W. S. Martin (2)
J. L. Hofflund
H. C. Rubin
chron.

400

400

JUL 27 1955

Mr. M. W. Emerr, Secretary
Reconstruction Finance Corporation
Washington 25, D. C.

Re: Docket No. DMEA 3607 - Manganese
Manganese Corp. of Arizona
Big Basin and Red Hill Extension
Mining Claims
Socorro County, New Mexico

Dear Mr. Emerr:

In connection with the subject application it will be appreciated if you will make available to Mr. Thos. L. Chapman, Mining Engineer, Iron and Ferro-Alloys Division, Defense Minerals Exploration Administration, any pertinent data concerning transactions of the Reconstruction Finance Corporation with the United Mining and Milling Company and the Socorro Corporation.

Sincerely yours,

G. O. Mittendorf

Administrator

TLChapman/foc
7/27/55
cc to: Docket
Code 400
Adm. Read. File

August 2, 1955

MEMORANDUM

To: Acting Assistant Solicitor, Defense Minerals

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of proposed contract
Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Socorro, New Mexico

Transmitted herewith is a rough draft of a proposed contract for your use in preparing the final draft.

Please return draft for our file.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Attachment

TLChapman:foc
8/2/55
cc to: Docket
Code 400
Adm. Read. File

Interior Department
Defense Minerals Exploration
Administration
14X8401 (01) Revolving Fund, Defense
Production Act, Interior
(Allocated Working Fund to the Office
of the Secretary)

AUG 1955

Mr. R. V. Meadowhall
Manganese Corporation of Arizona
Socorro, New Mexico

Retel July 29, 1955, Docket DMEA 3607, Manganese Corporation of Arizona, Red Hill Extension Mine. We cannot make any commitment on proposed exploration in advance of execution of contract. Favorable consideration is being given on program agreed on by yourself and Field Team. We plan to submit proposed exploration program for your consideration next week.

C. O. Mittendorf

Administrator
Defense Minerals Exploration
Administration

TLChapman:foc 8/1/55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
Messrs. DeRuff, USBM
Kiilsgaard, USGS

STANDARD FORM No. 14
APPROVED BY THE PRESIDENT
MARCH 10, 1926

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

FROM

BUREAU

CHG. APPROPRIATION

U. S. GOVERNMENT PRINTING OFFICE 10—1723

C O P Y

L AYA7 93 NL PD SOCORRO N MEX 29

Mr. Mittendorf
Defense Minerals Exploration Dept. of Interior

Reference Document 3607 this Company please advise disposition this exploration application stop Drillers contracted for this work expect to take other job unless they can start our drilling in near future.

E. V. Mendenhall Manganese Corp.
of Arizona

IN REPLY REFER TO:

400

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

July 27, 1955

Re: DMEA 3607
Manganese Corp. of Arizona
Red Hill Extension Lens
Socorro Co., New Mexico
$53,150.00 - Manganese

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report

The revised work program, developed by the examiners and the applicant, promises better than well, considering the 1,000,000 to 1,500,000 tons of indicated and inferred ore that may result.

I concur with the recommendation of the Field Team.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-7/27/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
G. DeBuff, 3521

RECEIVED
JUL 28 1955

JUL 27 1955

Mr. M. W. Kneer, Secretary
Reconstruction Finance Corporation
Washington 25, D. C.

Re: Docket No. DMA 3607 - Manganese
Manganese Corp. of Arizona
Big Basin and Red Hill Extension
Mining Claims
Socorro County, New Mexico

Dear Mr. Kneer:

In connection with the subject application it will be appreciated if you will make available to Mr. Thos. L. Chapman, Mining Engineer, Iron and Ferro-Alloys Division, Defense Minerals Exploration Administration, any pertinent data concerning transactions of the Reconstruction Finance Corporation with the United Mining and Milling Company and the Socorro Corporation.

Sincerely yours,

C. C. Mitendorf

Administrator

TLChapman/fcc
7/27/55
cc to: Docket
Code 400
Adm. Read. File

400

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

RECEIVED
JUN 30 1955

224 New Customhouse
Denver 2, Colorado

June 22, 1955

Memorandum:

To: W. R. Storms
J. N. Faick

Copy retained 400

From: DMEA Field Team, Region III

Subject: Docket DMEA-3607 (Manganese), Manganese Corporation of America, Socorro County, New Mexico

Enclosed for your review and further consideration are the original and eight copies of the engineering and geologic reports on the subject docket.

The exploration program recommended in the engineering report is considerably different from that recommended in the geologic report. This appears to be an oversight rather than a difference of opinion, since no mention of disagreement is noted in either covering letter.

Please refer to Figure 2 in each report. You will note that the engineering report shows Sections A-A', B-B' and C-C' along which all drilling is recommended in the engineering report.

The geologic report shows Section A-A' only on Figure 2. On page 13 of this report under Stage II it is recommended that if the first hole in the second line (Section B-B' in the engineering report) fails to find ore, the line should be relocated 100 feet closer to Section A-A'. "If ore is not found in this hole other favorable places in the line, as determined by extensions from Section A-A', should be tested before the project is abandoned."

Please reconcile, if possible, this difference in the two reports and return the corrected copies.

The nine copies of Figure 2 as shown in the engineering report which were forwarded for possible use in the contract will be held in this office. Should there be any change in Figure 2, please forward nine copies showing these changes for use in the contract.

HMC:sr

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

cc Chairman Op. Comm. (2)
Connors
Subject
Chron

Enclosures

April 18, 1955

MEMORANDUM

To: Frank E. Johnson, Deputy Administrator, DMEA

From: Iron and Ferro-Alloys Division

Subject: Region III dockets

This Division has a total of four dockets that refer to applications from Region III. A summary of each follows:

DMEA 3701 - L. C. Harris

Formerly DMEA 1476 - denied July 1951, and denial reaffirmed October 29, 1951.
Formerly DMEA 3276 - denied April 15, 1954.

October 4, 1954	L. C. Harris called Division office to discuss denial.
November 1, 1954	Advised Field Team of L. C. Harris' conference and requested additional data.
November 8, 1954	Field Team will make exam.
February 28, 1955	Field Team report received. Contract recommended.
March 14, 1955	Rough draft of contract sent to Legal.
April 14, 1955	Contract sent to field for execution.

DMEA 3671 - Clements A. Botner and Paul P. Ortega

February 7, 1955	Application received in Washington.
March 3, 1955	Application referred to Field Team for field examination.

DMEA 3607 - Manganese Corporation of Arizona

December 17, 1955	Application received in Washington.
December 29, 1955	Application referred to Field Team for field examination.

DMEA 3546 - Mosch, Brown, and Mosch (Region IV docket)

December 16, 1954	Field Team requests permission to release western 300 feet of Steel Plate No. 1 claim, Contract No. Idm-E54, to referenced applicant.
January 5, 1955	We tell Field Team such a release is not in the best interest of the Government.
January 24, 1955	Field Team requests decision.

January 26, 1955	We ask for copy of Field Team report.
January 27, 1955	Field Team report received.
February 8, 1955	We ask Field Team if applicants would be interested in smaller project on Big Cameron claim only. Field Team is advised that any production made from adjoining Steel Plate No. 1 claim would be subject to royalty under Contract No. Idm-E54.
February 3, 1955	One of applicants asks that application for exploration assistance be cancelled.
February 7, 1955	Same applicants ask that above request be deleted.
February 10, 1955	Field Team tells applicants that docket will be kept in line for further processing.
February 11, 1955	Field Team asks applicants if they will be interested in project confined to Big Cameron claim.
March 25, 1955	Field Team advises Washington that it recommends application be held active for at least 30 days.
March 22, 1955	Alvin Mosch and Hans Mosch advise DMEA that they have accepted from Mac Brown all of his interest in the Big Cameron claim. They now propose to sink the Big Cameron shaft 100 feet and drive a drift from the bottom of shaft 300 feet in a southwesterly direction.
March 28, 1955	Field Team advises Washington that it will submit supplemental report.
April 4, 1955	We advise Field Team that application will be held in abeyance until its report is received.

Lgd

F. A. Rutledge, Acting Chief
Iron and Ferro-Alloys Division

cc: Mails & Files
Code 400
Adm. Read. File

FARutledge/ls
4/18/55

400

FEB 1 1955

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket No. DMEA 3607-Manganese
Red Hill Extension, Big Basin,
and West Niggerhead properties
Socorro County, New Mexico

Dear Mr. Morgan:

Reference is made to the subject application for exploration assistance and to the "Owner's Consent to Lien" forms requested in our letter of December 29, 1954.

In order to conform the above-mentioned forms to our latest requirement, it will be appreciated if you will make the following insertion under Article 4, "Changes and added provisions": In paragraph 2 the words "the period fixed in the contract or any amendment thereof has" are substituted for the words "ten years have."

Sincerely yours,

W. S. Martin, Chief
Iron and Ferro-Alloys Division

cc: Docket
FT, Reg.III-Denver
Adm. Read. File
Code 400
G. DeRuff, USBM
~~[illegible]~~
T. KIELSGAARD, USGS

PARutledge/WSMartin/ls
1-31-55

DEC 29 1954

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket No. DMEA 3607 - Manganese
Red Hill Extension, Big Basin, and
West Niggerhead properties
Socorro County, New Mexico

Dear Mr. Morgan:

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

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

In reviewing the subject application, it was noted that the data regarding the applicant's property rights are not complete. It will be appreciated, therefore, if you will furnish us with four copies of the following:

1. Original lease covering Red Hill Extension property.
2. Owner's Consent to Lien by owner of Red Hill Extension property.
3. All succeeding documents that transfer any interest in the Red Hill Extension property.
4. Original lease covering Big Basin property.
5. Owner's Consent to Lien by owner of Big Basin property.
6. All succeeding documents that transfer any interest in the Big Basin property.
7. Original lease covering West Niggerhead claim (Permit M-5219)
8. Owner's Consent to Lien covering West Niggerhead claim by Dallas D. Corum.

Sincerely yours,

C. O. Mittendorf

Administrator

FARUTIEDGE:fec
12-23-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
Mr. DeHuff, USBM
Mr. Killsgaard, USGS

DEC 29 1954

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension, Big Basin,
and West Riggerhead properties
Socorro 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.

Two copies of a relevant memorandum dated December 21, 1954, by E. L. Newcomb, Geological Survey, are enclosed for your information.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines

E. L. Newcomb
Member, Geological Survey

FARutledge:foc
12-23-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
Mr. DeHuff, USBM
Mr. Kiilsgaard, USGS

400

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 22 1954

December 21, 1954

Re: DMEA-3607
Manganese Corp. of Arizona
(Red Hill Extension, Etc.
Socorro Co., New Mexico
$86,790 - Manganese

Memorandum

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

From: E. L. Newcomb, U. S. Geological Survey

Subject: Recommendation for field referral

The applicant has proposed further exploration on the Red Hill Extension, Big Basin and West Biggerhead claims. The project would consist of churn drilling 52 holes to an average depth of 200 feet. A total of 42 holes would be drilled on the Red Hill Extension claims, which are reported to have the best chance of finding significant amounts of manganese ore.

Nine holes on the Red Hill Extension claims averaging 30-40 feet in depth are reported to have had an average grade of 12% manganese. Results of sampling a new 100-foot trench are reported to indicate manganese ore averaging about 7%. Mill tests on ore from this property have indicated an 80% recovery and a concentrate averaging 40% manganese.

No exploration has been done on the Big Basin claims, though manganese mineralization is reported to be present on the property.

The West Biggerhead has been previously explored by a limited program of trenching and underground work. Most of this work was done by the Bureau during World War II. Results of their work were published in R. I. 4084. Metallurgical tests by the Bureau in 1943 indicated the overall recovery of manganese was 52.3% of the total content. At that time they concluded that because of the low grade of the ore, low recovery, and the high zinc content of the concentrate, the advisability of concentrating the ore appeared to be doubtful.

The manganese deposits of Socorro County occur mainly in Tertiary rhyolite and rhyolite tuff. Many of the deposits in rhyolite and rhyolite tuff are in breccia and fracture zones which are cemented by manganese oxide. Psilomelane is the predominant ore mineral, and pyrolusite is very commonly present in the ore. In general, manganese is concentrated in greater amounts where the rhyolite is more finely crushed along shear and breccia zones. Probably all three of the claim groups have shear or breccia zones, but the width and persistence of these potential manganese-bearing zones on the various properties are not clearly described in the application. A field examination will be needed to determine the feasibility of the proposed exploration.

Inasmuch as the company has been successfully mining other similar manganese deposits in the immediate area, there probably is considerable merit in their proposed exploration project.

I recommend the application be referred to the Field Team for an examination and their recommendation.

E. L. Newcomb

ELNewcomb:edf

Copy to: Mr. G. DeHuff, 3523 Interior
DMEA (3)
Director's reading, 4212
Branch reading, 4212

400

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

RECEIVED
JUL 2 - 1956

CERTIFIED MAIL June 28, 1956

Box New Customhouse
Denver 2, Colorado

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA 3607 (Manganese), Proposed Contract Idm-3067, Red Hill Extension claims, Socorro County, New Mexico

Dear Mr. Morgan:

It is our opinion that a surety company performance bond would be the most practical solution to the problem of qualifying for a contract in view of the number of liens and the very large amounts they secure. In lieu of Owner's Consent to Lien on the captioned property, would you be willing and able to obtain a surety company performance bond?

Will you please advise how much drilling has been accomplished on the Red Hill Extension property subsequent to the DMEA Examination. Also, has the work which you have done caused you to desire any changes to the exploration program on the Red Hill Extension claims.

Will you please advise promptly regarding your ability and willingness to obtaining a performance bond and if you desire any changes based on results of your exploration work to date.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:ab

cc: Chair. Op. Comm. (2)
Docket 3607
Marshman
Storms
Townsend
Chron.

400

JUN 25 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA-3607, Manganese
Manganese Corp. of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

This will acknowledge receipt of your letter of June 15, 1956, referring to your earlier letter requesting an opinion of title and other information from the subject applicant.

Enclosed are two copies of "Opinion of Title" received here on June 11, 1956, on which the Office of the Solicitor comments as follows:

> "It is evident from the opinion that the six claims listed in the Annex I of the drafted contract, as well as the other lands discussed in the opinion, are subject to a mortgage, mechanic's liens, and a lien for taxes as listed in paragraphs numbered 1 through 5 on page 2 of the opinion. Accordingly, a subordination agreement from each lienor is required. It is unlikely, however, that the taxing authority would subordinate its lien, and if subordination agreements are obtainable from all the other lienors, you might consider waiving the subordination agreement of the taxing authority. In view of the number of liens and the very large amounts they secure, perhaps submission of a surety company performance bond by the applicant would be the most practical solution to the problem of qualifying for a contract."

Your letter of April 2, 1956, and Walter R. Storms' memorandum of September 12, 1955, mention that the applicant may possibly have drilled some of the holes listed. If so, it would be advisable for you to determine whether the applicant desires to change the program previously approved.

Please note on Figure 1 of the report of examination that the Red Hill Extension claims are numbered from north to south, 6, 5, 4, 3, 2 and 1, but should probably be 6, 5, 4, 3, 8 and 10.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee

Enclosures

APPROVED:

P. F. Yopes

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

cc: Docket
Code 400
Oper. Comm.
Adm. Reading File
T. Kiilsgaard, USGS
G. DeHuff, USBM
FT, Region 3

TLChapman/ls
6/20/56

P.S. - In view of the advice furnished by the Office of the Solicitor, it will be appreciated if you will ask the applicant to provide a surety company performance bond.

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

JUN 14 1956

Memorandum

To: Administrator, DMEA
Attention: Chief, Iron and Ferro-Alloys Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-3607 (Manganese)
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

Mr. Martin's memorandum dated June 12, 1956, requested that we review the "Opinion of Title" dated May 28, 1956, rendered by Charles H. Fowler, Esq., and submitted to DMEA by Manganese Corporation of Arizona to establish its interest in land for the purposes of an exploration contract.

1. It is evident from the opinion that the six claims listed in Annex I of the drafted contract, as well as all the other land discussed in the opinion, are subject to a mortgage, mechanic's liens, and a lien for taxes as listed in paragraphs numbered 1 through 5 on page 2 of the opinion. Accordingly, a subordination agreement from each lienor is required. It is unlikely, however, that the taxing authority would subordinate its lien, and if subordination agreements are obtainable from all the other lienors, you might consider waiving the subordination agreement of the taxing authority. In view of the number of liens and the very large amounts they secure, perhaps submission of a surety company performance bond by the applicant would be the most practical solution to the problem of qualifying for a contract.

2. When this contract was prepared, the maps referred to in it were not available to us. We noted, by chance, in reviewing the docket concerning item 1, that the reference in Annex I to the land being shown on a map, Figure 1, is inaccurate, as a review of both papers will disclose.

HCRubin/wog
June 14, 1956
Copy to: Solicitor's Docket (2)
DMEA Docket
W.S.Martin (2)
R.P.Dwyer
H.C.Rubin
Chron.

Robert P. Dwyer

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

402 RECEIVED JUN 18 1956

224 New Customhouse
Denver 2, Colorado

June 15, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese), Manganese Corporation of Arizona (Red Hill Extension Claims), Socorro County, New Mexico, Proposed Exploration Project Contract Idm-3067

Reference is made to our certified letter to the Applicant dated May 15, 1956 which was forwarded in compliance with your request by letter of May 11, 1956.

If the required material has not been received in the Washington Office by this date, we recommend that the Government files be closed.

W. M. Trever

W. M. Trever

Action on 6-11-56 letter
"Opinions of Titles" — we
still have to tell them how to
purchase, etc., in this case
legal memo rec'd 6/15

400

June 12, 1956

MEMORANDUM

To: Associate Solicitor
Division of Mineral Resources

From: Chief, Iron and Ferro-Alloys Division

Subject: Docket No. DMEA-3607, Manganese
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

Attached is opinion of title dated May 26, 1956, received from the subject applicant on June 11. If the ownership shown thereby is satisfactory, please revise the proposed contract of September 2, 1955, accordingly. If further clarification of ownership is required, please advise us so that we can notify the applicant promptly.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Attachments

WSMartin/ls

Copy to: Docket
Code 400

CHARLES H. FOWLER
ATTORNEY AT LAW
SOCORRO, NEW MEXICO

May 20, 1955

[illegible] OF TITLE

[illegible] Corporation of Arizona
[illegible] New Mexico

Gentlemen:

Heretofore, under date of March 7, 1955, after an exhaustive examination of title, I rendered opinion of record as to the certain unpatented lode mining claims and millsites upon which under contract of sale by Socorro Corporation, a New Mexico corporation, to Manganese Corporation of Arizona, an Arizona corporation authorized to do business in New Mexico, such properties are hereinafter described.

Now, by direction, I have made new and additional examination of the title as disclosed by the records as shown by abstract of title as to said mining claims and millsites and property hereinafter designated, for the time subsequent to the date of certification of the abstracts previously examined as to title to said properties and upon which my said former opinion was rendered.

I find that the defects in title by me pointed out in my former opinion have been remedied and cured.

The properties under search, and as to which this opinion of title is made, are the following designated millsites and mining claims, to-wit:

RED HILL MILLSITES Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 6-A, located and situate in Section 22, T. 4 S., R. 1 W., New Mexico Meridian, New Mexico, as [illegible] exept [illegible] 5 and 6, which are in Section 15 of said Township and Range.

RED BASIN Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, unpatented lode mining claims located and lying in Section 27, T. 4 S., R. 1 W., aforesaid.

RED HILL EXTENSION Nos. 1, 2, 3, 4, 5, 8 and 10, unpatented lode mining claims located and lying in Section 22, T. 4 S., R. 1 W., aforesaid.

RED HILL Nos. 9, 1, 2, 3, 4, 5, 6 and 7, lode mining claims, located and held under State Mining Leases from the State of New Mexico, on state lands in Sections 16, 17 and 20, T. 4 S., R. 1 W., aforesaid.

[illegible] (now also called Allegra) and FLOYD ([illegible] called Carolyn) unpatented lode mining claims located and lying in Section 21, T. 4 S., R. 1 W., aforesaid.

[illegible] PART No. 1 unpatented [illegible] mining claim [illegible]
[illegible] lying in Section [illegible] T. [illegible] S., R. 1 W. [illegible]

[illegible] said mining claims and millsites are in [illegible]
[illegible] Mining District, in Socorro County, New Mexico.

[illegible] my said examination of title and study [illegible]
[illegible] and find:

[illegible] on May 29, 1956, the date of the abstract [illegible]
[illegible] to me as aforesaid, the title to said unpatented [illegible]
[illegible] mining claims and millsites was vested in [illegible]
[illegible] OF ARIZONA, a corporation, by location and [illegible]
[illegible] right and title, subject, however, to the [illegible]
[illegible] title of the United States, and subject to the [illegible]
[illegible] encumbrances, objections and defects, [illegible]

[illegible] a mortgage dated November 20, 1955, recorded [illegible]
[illegible] 20, 1955, to Arthur R. Olson, for principal [illegible]
[illegible] 000.00, is unreleased of record and appears to [illegible]
[illegible] encumbrance against all said designated [illegible]
[illegible] sites, and said state lease property [illegible]

A mechanic's lien claim filed and recorded [illegible]
[illegible] Istell Construction Company, claimant, against [illegible]
[illegible] of Arizona et al., owners or reputed owners [illegible]
[illegible] amount of $123,357.00, is unreleased and appears [illegible]
[illegible] encumbrance against all said designated [illegible]
[illegible] sites, and the state lease claims so far as [illegible]
[illegible] group called Niggerhead Nos. 1, 2, [illegible]
[illegible]

A mechanic's lien claim filed and recorded [illegible]
[illegible] Illinois Power Manufacturing Company, [illegible]
[illegible] Corporation of Arizona et al., owners [illegible]
[illegible] 19,483.72, is unreleased and appears [illegible]
[illegible] against [illegible] property designated [illegible]

A mechanic's lien claim filed and recorded [illegible]
[illegible] W. H. Gilliard d/b/a W. H. Gilliard [illegible]
[illegible] Manganese Corporation of Arizona et al., owners etc., [illegible]
[illegible] amount of $[illegible], is unreleased and appears to [illegible]
[illegible] released in [illegible]

[illegible] in amount [illegible]
[illegible] property [illegible]

Note: The record title to the said properties does not disclose any title or estate therein of Victor J. Morgan or J. V. Morgan, although Victor J. Morgan was a party to the original option to purchase the property from Socorro Corporation in 1954. On July 19, 1955, there was filed in the office of the County Clerk of Socorro County, New Mexico, a federal tax lien against said two persons for $6387.63 and $5133.85, respectively. Upon the face of the record showing before me, this would not appear to affect the property in question or be a lien upon it

It is my opinion that Manganese Corporation of Arizona holds and can convey, subject to the paramount title of the United States and to the said liens and encumbrances, a good and merchantable possessory title to said millsites and mining claims.

Respectfully submitted.

CHARLES H. FOWLER

400

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

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

May 15, 1956

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

W-Jay

Re: Docket DMEA 3607
(Manganese)
Manganese Corporation of Arizona
(Red Hill Extension Claims)
Socorro County, New Mexico;
Proposed Exploration Project
Contract Idm-2867

Dear Mr. Morgan:

We have been advised by the Washington Office, DMEA, that on April 20, 1956, they received a telegram from you advising that an Opinion of Title and Assignments would be sent on April 27, 1956, or sooner.

Inasmuch as the aforementioned instruments have not been received by the Washington Office, they have instructed us to advise you that unless the required data is received by them prior to June 15, 1956, they will consider the application withdrawn and so route it to their files.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer
DMEA Field Team, Region III

JWT:prl
cc: Chairman, Oper. Comm. (2)
Harshman - w/copy of Chairman's letter of May 11
Storms - " " " " " " " "
Townsend
Docket file
Chron.

RECEIVED
MAY 17 1956

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

400

MAY 11 1956

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

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

Dear Mr. Trevor:

On April 20, 1956, we received the following telegram:

"SOCORRO N MEX 19 420PM
. O. HITTENDORF-ADMINISTRATOR DMEA DEPT OF INTERIOR WASH
DC
OPINION OF TITLE AND ASSIGNMENTS TO BE SENT APRIL 27 1956
OR SOONER.
MANGANESE CORP OF ARIZONA VICTOR J MORGAN"

We have not yet received the above-mentioned documents and would appreciate knowing whether you had any word from the applicant. As all copies of the contract were returned to us with your memorandum of April 2, 1956, please advise the applicant that unless the data are received by June 15, 1956, we shall consider the application withdrawn. Our action is taken without prejudice to the property. In the event the applicant at some future date desires exploration assistance for further work, it can submit a new application in quadruplicate, including any new information and referring to the subject docket.

Sincerely yours,

APPROVED:

P. F. Yopes
Member, Bureau of Mines

N. E. Nelson
Member, Geological Survey

George C. Selfridge
Chairman, Operating Committee

TLChapman/emf/Rec 5/11/56
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
Calbert DeHuff, BLM
T. H. Kilingsard, USGS

We have not yet received the above-mentioned documents and would appreciate hearing whether you ~~have~~ any word from the applicant. As all copies of the contract were returned to us with your memorandum of April 2, 1956, please advise the applicant that unless the data are received by June 15, 1956, we shall consider the application withdrawn. Our action is taken without prejudice to the property. In the event the applicant at some future date desires exploration assistance for further work, ~~he~~ can submit a new application in quadruplicate, including any new information and referring to the subject docket.

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

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

Re: Docket No. DMEA-3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

On April ~~19~~ 20, 1956, we received the following telegram:

"SOCORRO NMEX 19 420PMM-
C O MITTENDORF-ADMINISTRATOR DMEA DEPT OF INTERIOR WASH DC-
OPINION OF TITLE AND ASSIGNMENTS TO BE SENT APRIL 27 1956
OR SOONER-
MANGANESE CORP OF ARIZONA VICTOR J MORGAN"

We have not yet received the above-mentioned documents and would appreciate hearing whether you have had any word from the applicant. If not, you should advise the applicant that unless the data are received by June 15, 1956, we will close our books and records on the project.

Sincerely yours,

Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

400

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

April 2, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
APR 4 - 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese) Proposed Contract Idm-3367, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Mr. Victor J. Morgan, the subject applicant, called at this office today and advised us that he plans to submit directly to your office for your review a copy of the instrument transferring title and also an opinion of title. Regarding our letter to the applicant dated September 8, 1955 Mr. Morgan stated that Morgan G. Huntington can not be located, but the applicant's attorney claims Huntington has no more legal rights. The applicant also stated that the chain of title he will transmit to your office will show the assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona.

Because of the many changes which may be involved in the contract, returned herewith are the Operator's, Government's, Finance Office, Field Team, Docket, and Division copies of the Proposed Contract dated September 2, 1955.

For your information enclosed are two copies of a memorandum from Walter R. Storms to the Executive Officer dated September 12, 1955 concerning the order of drilling holes. Please note that the applicant may have completed some of the proposed work.

W. M. TRAVER

W. M. Traver

Enclosures

(4.)

DMEA
Date Rec'd.
SEP 14 1955
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Box 4097
Tucson 5, Arizona

September 12, 1955

Certify

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region III

From : Superintendent, Southwest Experiment Station

Subject : Docket DMEA-3607 (Manganese), Proposed Contract Idm-E867, Manganese Corp. of Arizona, Socorro County, N. Mex.

Enclosed is Operator's Copy of Proposed Contract Idm-E867, which you sent us on September 8 with the request that we review the proposed contract, then return it to you with our comments.

L. Bryner of the Geological Survey and I have read this contract and believe it is all right. Romslo is in the field and probably will not return to Tucson until late in the week, so I am returning the copy to you before he sees it. The only criticism that we might have is the order of drilling the holes as shown in pencil on Figure 2. We believe that Holes 1 - 5 and 15-17 should be drilled first, then Holes 6-11 and finally Holes 25, 24, 23, 22, 21, 20 and 19. The remainder of the holes then may be drilled, if necessary. In other words, the holes as shown on Section AA' should not be drilled as numbered in pencil.

The company was drilling when Romslo and Bryner examined the property in March so I imagine the proposed work already has been completed.

Walter R. Storms

Walter R. Storms

CC J. N. Faick
DMEA-3607-Contract
DF

400

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

RECEIVED JUL 15 1955

224 New Custom House
Denver 2, Colorado

July 14, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Report of Examination, DMEA Docket 3607 (Manganese), Manganese Corporation of Arizona, Socorro County, New Mexico

Enclosed are the original and three copies of the report pertaining to the above application.

We recommend the proposed 2-stage churn drilling program at an estimated total cost of $53,150.00 as outlined in the report.

Seven copies of Figure 1 and Figure 2 are attached for possible use in the contract.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

DMEA
Date Rec'd.

JUL 8 1955

BUREAU OF MINES
Denver, Colorado

DMEA
Date Rec'd.

JUN 15 1955

BUREAU OF MINES
Denver, Colorado

RANSMITTED
JUL 13 1955

June 13, 1955

[illegible]

[illegible] : W. M. Tepper, Executive Officer, DMEA Field Team, Region III.

[illegible] : Superintendent, Southwest Experiment Station

[illegible] : Field Exploration Report, DMEA-[illegible], Manganese Corporation of Arizona, Santa Cruz County, N. Mex.

Enclosed are original and 6 copies of the section on [illegible], Conclusions, and Recommendations, by T. H. Kemble of Bureau of Mines and Leonid Sayre of the Geological Survey, the section on Engineering by Kemble.

The consultants recommend about drilling on the Red Hill [illegible] deposits, but recommend denial of Government exploration [illegible] for the Big Basin and West Hagerman properties. [illegible]ing on the Red Hill extension would be in two stages for [illegible]al cost of $[illegible]. I concur with their recommendations.

Reviews is enclosed.

Walter R. Storms

Walter R. Storms

[illegible]. Tepper (2)
[illegible]. Fulch
[illegible]-3487

[illegible]/jlb

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION OF FIELD TEAM
SERIES XIX

DMEA-[illegible], Monument Corporation of Arizona

Red Hill Extension, Red Basin and Vera Mineralized

Monument Claims, Santa Fe County, New Mexico

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

Leonid Burmin, Geologist
U. S. Geological Survey

June 1956

TRANSMITTED

JUL 13 1955

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By T. H. Rosalie[1] and Leonid Bryner[2]

Examiners for the Defense Minerals Exploration Administration investigated the Red Hill Extension, Big Basin, and West Niggerhead properties in Socorro County, N. Mex. in connection with an application by the Manganese Corporation of Arizona for Governmental assistance to explore the claims under the Defense Production Act of 1950, as amended. The application, docketed as DMEA-0007, requested assistance on a proposed churn-drilling program that would cost an estimated total of $85,700.00. During the investigations, the program was revised to a 2-stage churn-drilling project that envolved the drilling of an estimated total of 6,900 feet in about 35 holes on the Red Hill Extension property. The estimated total cost of the project is $53,150.00, of which $19,275.00 and $33,875.00, respectively, are for Stages 1 and 2.

The first mining activity on the properties probably was during World War I when a small amount of exploratory work was done at Big Basin and Red Hill Extension, and about 100 tons of sorted ore was produced from the latter. In 1943, the National Zinc Corp. acquired the Red Hill and Niggerhead claims, and located the Red Hill Extension claims. The properties were explored and a 300-ton wet concentrator was constructed. Mining of ore from the Red Hill and Red Hill Extension by open pit, and milling of the ore started in December 1944. Production ceased before 1948, probably before fulfillment of a contract to deliver 3,000 tons of concentrates to the Metals Reserve Company. The properties then were idle to 1954 when the Manganese Corporation of Arizona

1/ Mining Engineer, Bureau of Mines

2/ Geologist, Geological Survey

replaced the old mill with a 500-ton heavy-media concentrator. From September 1954 to March 19, 1955, the corporation had mined about 60,000 tons of ore and milled about 50,000 tons of sorted ore. Production for the period was about 6,200 tons of 38 to 40 percent manganese concentrates. Of the 60,000 tons of mined ore, 45,000 tons came from the Red Hill deposit, 14,000 tons was produced from the Red Hill Extension, and the remaining 1,000 tons was mined at the Niggerhead deposit. On March 19, 1955, the 500-ton mill was shut down and milling was started in a new 3,000-ton heavy-media and tabling plant.

The ore occurs as incrustations of psilomelane in fractures or cavities in a rhyolite host rock. At the Red Hill Extension the ore is mainly in three parallel zones in a belt of manganiferous rock about 1,100 feet wide. The ore zones are 100 to 200 feet wide and up to 70 feet thick. Manganese mineralization is present between the three zones, but is of a considerably lower grade. In cross section, the manganiferous belt is bow-shaped so the central ore zone is about 80 feet below the surface, while at the two edges of the belt the other two zones reach the surface. Total reserves of all classes at the Red Hill Extension are estimated at one million long tons of 5 percent manganese.

The Big Basin and West Niggerhead deposits are similar geologically to the Red Hill Extension. However, the Big Basin is considerably lower in grade, and the West Niggerhead appears to offer possibilities of only low grade and a comparatively small tonnage. Therefore, exploration is recommended only at the Red Hill Extension, where as much as half a million long tons might

be discovered by the proposed drilling program.

The Red Hill Extension is the sole property of the three investigated where conditions are favorable for the finding of significant reserves of manganese ore. There, the grade of ore could be similar to that of the nearby Red Hill deposit of the applicant's present operation. The operation is sustained by the Government's price for manganese. Continuation of the operation under this price will shortly be dependent on ore from the deposit of the proposed exploration program.

The proposed exploratory project is confined to diamond drilling, a feasible and relatively low-cost method. Satisfactory supervision of the project can be expected.

Approval is recommended for the proposed 2-stage program that can be completed in 8 months at an estimated total cost of $53,150.00, of which stages 1 and 2 have been allocated $19,275.00 and $33,875.00, respectively.

DMLA-3607, MANGANESE CORPORATION OF ARIZONA, RED HILL CLAIMS,
RED BASIN AND WEST NIGGERHEAD MANGANESE CLAIMS, SOCORRO COUNTY,
N. MEX

Engineering Report

By: T.M. Romale

Mining Engineer

U. S. Bureau of Mines

June 1955

DRA-3507, MANGANESE CORPORATION OF ARIZONA, RED HILL EXTENSION, BIG BASIN AND WEST HIGHTHREAD MANGANESE CLAIMS, SOCORRO COUNTY, N. MEX.

CONTENTS

Engineering Report — Page

Introduction — 1
Location and accessibility — 2
Physical features and climate — 3
History and production — 3
Extent and ownership of properties — 6
Description of deposits — 7
Ore reserves — 9
Present status — 9
Proposed exploratory project — 16
Estimated cost of project — 17
Conclusions and recommendations — 20

ILLUSTRATIONS

Fig. — Following Page

1. Location and claim map. — 2
2. Geologic and exploratory map.- (in Geological Report)

INTRODUCTION

The Manganese Corporation of Arizona made application to the Defense Minerals Exploration Administration for Governmental aid on a proposed exploration project at each of 3 properties in Socorro County, N. Mex. The proposed work consisted of a small bulldozing operation and the churn drilling and sampling of 10,000 feet in 82 holes at an estimated total cost of $85,798.00. It was designed to indicate sufficient reserves of manganese ore for a 3,000-ton a day concentrator that recently replaced a 300-ton plant. The application was docketed as DMEA-2687, reviewed by the Operating Committee, and sent to the Field Team of Region III for a field investigation of the properties.

The field investigations were carried out from March 29 to 31, 1955, by Leonid Bryner, Geologist, U. S. Geological Survey and the writer. Investigations were largely confined to the corporation's concentration plants and the three areas of proposed explorations, the Red Hill Extension, the Big Baxin groups of claims, and the West Nigger head claim. Victor J. Morgan, President of the corporation, accompanied the examining team during an investigation of the West Nigger head claim, and during a brief visit to the Red Hill Extension claims after the team had examined those claims. Certain data, vital to this and the Geological Report, were not obtained from the applicant until May 12.

LOCATION AND ACCESSIBILITY

The Red Hill Extension and Big Basin groups of claims are about 8 air-miles southwest of the town of Socorro and are respectively situated in secs. 17 and 20, and 17 and 18 of T. 4 S., R. 1 W., Socorro County, N. Mex. (figure 1). They are accessible from Socorro by following U.S. Highway 85 south for 6.5 miles, thence 2.4 miles west on a graded dirt road to the applicant's new concentrating plant. Proceed on the dirt road 0.5 miles to the company office at the old concentrator, thence 1.3 miles to the active "State Lease" open pit. The area of present and proposed churn drilling on the Red Hill Extension claims is about 0.5 air-mile west of the open pit and is accessible from the pit via 1.2 miles of graded road.

The Big Basin group of claims, about 0.5 air-mile northwest of the Red Hill Extension claims, may be reached by traveling about 2 miles northwesterly on a graded road from the company office.

The West Higgerhead claim, about 8 air-miles northwest of the company's office, is situated in sec. 32, T. 3 S., R. 2 W., Socorro County. It may be reached from the office by traveling 5.0 miles northwesterly on a graded road to U.S. Highway 60. Proceed west on the highway for about 2.0 miles to a westerly-trending graded access road that follows a prominent dry wash, Six Mile Canyon. It is about 3.5 miles from the highway to an adit on the West Higgerhead claim that has its portal on the north face of the canyon. The last mile of road is in the bed of the canyon and is in extremely poor condition.

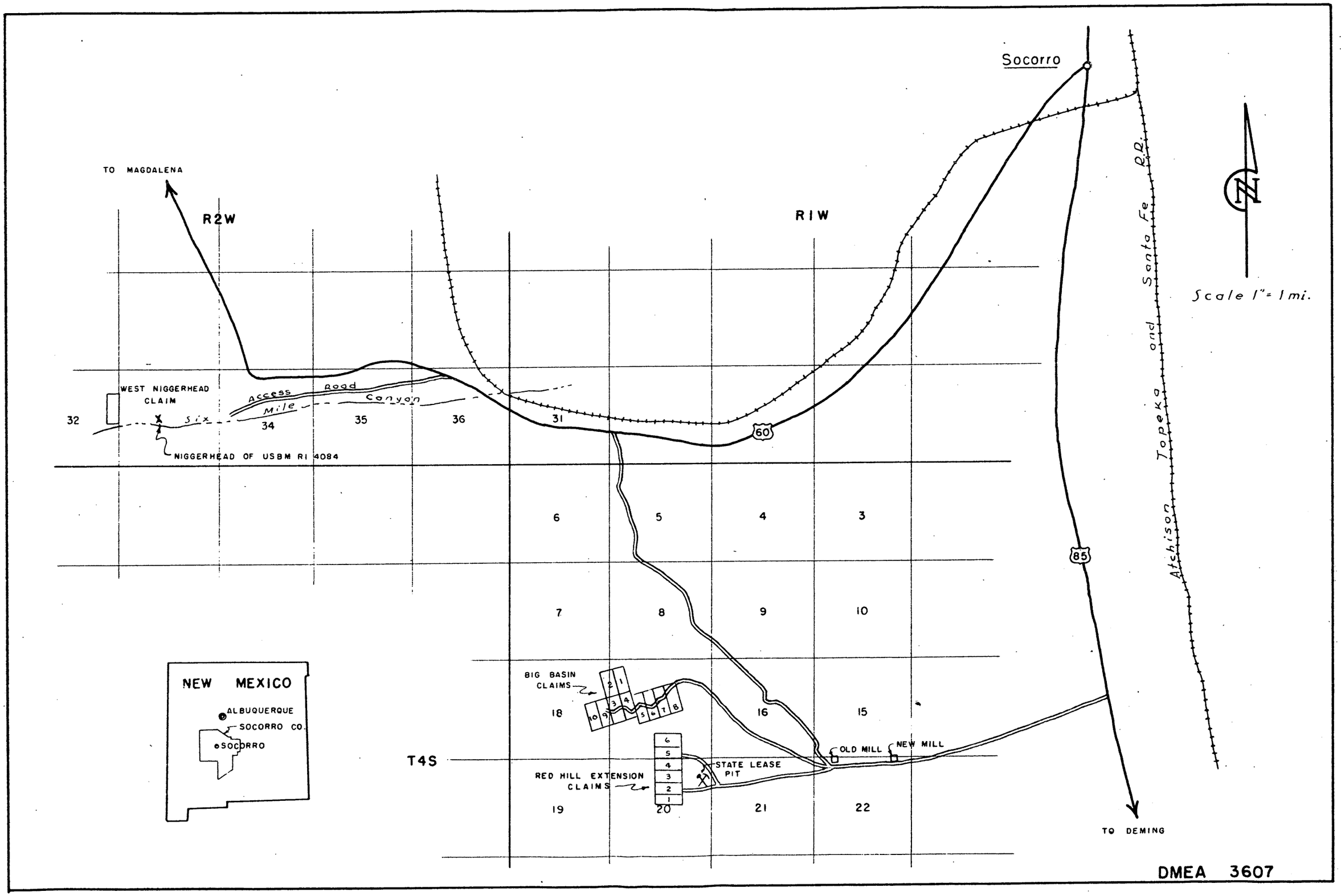

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

The nearest railroad shipping point to the applicant's concentrator is at the village of San Antonio, about 14 miles south of Socorro via U.S. Highway 85. Hardy, the site of one of the Government manganese ore purchasing depots, is 120 miles south of Socorro via U.S. Highway 85 and state highway 26.

PHYSICAL FEATURES AND CLIMATE

The Red Hill Prospect and Big Basin properties are situated in the west-central portion of the northerly trending Sierra Mountain range at average altitudes of about 5,500 and 5,000 feet, respectively. Their areas are moderately rugged. Maximum relief on each property is in the order of 200 feet. The properties are on either side of Sierra Tank Canyon that drains easterly to the Rio Grande Valley.

The Veta Blanca Road claim, at an average altitude of 6,000 feet, is in an area of rolling hills and gravel filled canyons. Drainage of the immediate area is easterly to the Rio Grande Valley, principally via Alex Canyon.

Vegetation comprises a sparse growth of forage grasses, the usual variety of desert plants, and a few scattered junipers and pinon pines.

Annual precipitation of about 16 inches occurs principally as heavy summer showers and light snowfall. Streams are mild and winters are not sufficiently severe to impede surface operations.

HISTORY AND PRODUCTION

Probably the first production of manganese ores from the districts adjoining the properties under consideration was during World War I. During this period a total of about 100 tons of sorted

ore of 36 percent grade was shipped mainly from a shaft on the Van Pelt claims, now a portion of the Red Hill Extension group. From then to April 1953, when the claims in the Red Hill area were examined by the United States Geological Survey,[1] numerous trenches, pits, and open cuts had been constructed on the Red Hill Group of claims, but little or no production had resulted. Probably during this same period, the Big Basin group was explored by several small workings. Field evidence indicates these workings yielded little or no manganese ore.

In 1943, the National Zinc Corp., later reorganized as the United Mining and Milling Corp., obtained the Red Hill and Biggerhead claims under a lease agreement and located the Red Hill Extension group of claims. The history of the corporation's activities through 1944 has been extracted from a Bureau memorandum report of January 2, 1945 by E.R. Stone, principal superintendent, Southwest Experiment Station, Region III. After spending some $30,000 in exploring the various deposits of the above claims, a 300-ton ore concentrator was constructed about 1 mile east of the Red Hill and mining and milling of the Red Hill ore was initiated. An adequate water supply was developed by a 500-foot well after about $40,000 was spent on well drilling and equipment. Ore zones were drilled with vapor drills and blasted ore was hauled to the mill in 5-ton trucks. Plans called for increasing mine production to 600 tons of 10.0 percent ore daily and treating 300 tons of 14.0 percent

[1] Blanchard, Thomas E., Junior Geologist, Observation Report on Four Manganese Claim Groups, Mesa Reserve, New Mexico,

ore after sorting out about 300 tons of waste at the mill. The operations, started early in December 1944, had not reached capacity at the end of the month and tonnage and grade records were insufficient to justify any prediction. Several cars of 44 percent concentrate were made. Records showed the mine could produce ore of the expected grade, and that the mill on occasion could make concentrate to meet specifications. Mill heads on [illegible] days [illegible] 16 percent and on these days the concentrate dropped below 44 percent. The corporation had a contract with the Metals Reserve Company for 5,000 tons delivered to railroad cars at $1.00 per unit for 46 percent ore with a 44 percent minimum grade, and a limit of 15 percent of fines through a 20-mesh screen. A deduction of $0.02 per unit was made for material under 46 percent and a sintering charge of $1.00 a ton was deducted from payments. In April 1945, when the property was again visited by Stone, the plant was closed. Production probably was less than the contracted 5,000 tons.

As far as known, operations of the Red Hill ("Waste Lease" Pit) and Red Hill Extension ("WPG" Pit) were not resumed until September 1954 when the applicant began milling ore from these deposits. To March 19, 1955, about 20,000 tons of ore had been mined and milled for a production of approximately 6,300 tons of concentrates averaging 32 percent manganese. A brief description of operations is given in this report under Present Status.

[illegible] AND OWNERSHIP OF PROPERTIES

The Red Hill Subdivision property comprises a group of 8 unpatented lode mining claims, Red Hill Extension Nos. 3, 4, 5, 6, 8 and 10. This property and the Big Basin group of 10 unpatented claims, specifically the Big Basin Nos. 1 to 10, are held by the applicant under a lease and option agreement with the Secure Corp., (Figure 1). Data submitted with the application indicates that the Secure Corp. holds the properties under a lease and option agreement with the Reconstruction Finance Corporation.

Terms of the agreement between the applicant and Secure Corp. call for an advance payment of $4,000.00. This is to be deducted from royalties of 15 percent of gross receipts from products of every kind that may be produced from the properties. Such royalties are to be paid until $75,000.00 has been received by the Secure Corp., and shall continue until the option to purchase is exercised. The purchase price of $[illegible] is to be paid off by an initial payment of $[illegible] and monthly payments thereafter of $4,000.00. One third of $75,000.00 of initial royalty payment is to be applied as a credit against the purchase price.

The applicant, the Manganese Corporation of Arizona, lists the following officers:

> Victor J. Hoopes, president, treasurer, R. Mem.
> H. V. Macdonald, vice president, Secretary, R. Mem.
> Beatrice H. Hoopes, [illegible]-treasurer,
> [illegible] V. Indian School Rd.,
> Phoenix, Ariz.

The West Higgenbotham claim is held by the applicant under a sub-lease agreement with Hallie B. Gurney, the 1st lessee of the

claim under Permit M-5219, issued by the Office of the Commissioner of Public Lands of the State of New Mexico.

During the field investigations, Mr. Morgan reported that the corporation had acquired the Riggerhead deposit that was explored by the U.S. Bureau of Mines and the National Zinc Corp. during 1943. The Bureau findings are reported in R.I. 4084. Plans for exploitation of the deposit by the National Zinc Corp. were abandoned, probably in 1947. Since then, activity at the deposit has been confined to assessment work that consisted mainly of starting an open cut at the portal of the adit driven by the Bureau. The applicant has recently made metallurgical tests on the open cut broken ore that presently blocks entry to the underground workings.

DESCRIPTION OF THE DEPOSITS

Red Hill Extension

The principal zone of manganese mineralization of the Red Hill Extension claims occurs at the head of a draw that drains northwesterly from an easterly trending ridge to Mineral Tank Canyon (figure 2). It has been mined by several large open-cuts within an area about 1,000 feet wide in an east-west direction and a maximum of 800 feet in a north-south direction. The maximum thickness of significant mineralization as revealed by mining and shallow drilling is about 100 feet. Portions of the mined area contain little or no ore minerals.

The rocks of the area are predominantly reddish rhyolite, that strike N. 15° to 30° W. and generally dip almost vertically. Fracturing of the rhyolite is rather intense in the mineralized

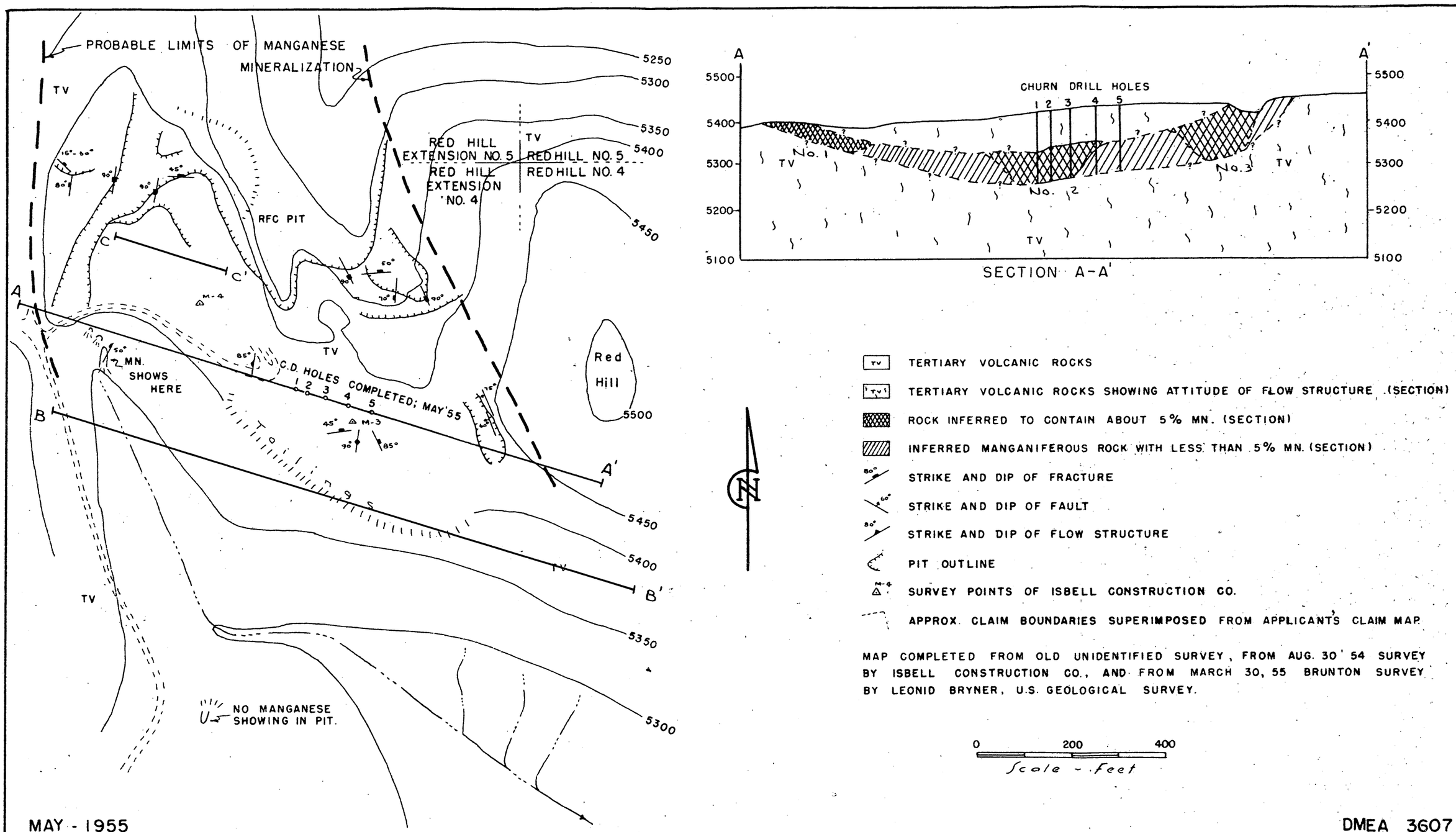

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

zones. The most persistent zones of fracturing and brecciation strike N. 15° E. to N. 35° W., and dip vertically to about 60° East.

The ore minerals, principally galena with minor amounts of pyrolusite and wad, occur as fillings of fractures and cavities of rhyolitic rocks. Galena, that generally occurs as intergrowths on galena, is the principal ganga mineral.

Big Basin

The area of proposed exploration of the Big Basin claims is approximately 200 feet by 200 feet in extent. Here, a few discontinuous fractures that carry manganese oxides have been explored by 4 or 5 small open cuts having a maximum depth of about 25 feet.

Last Chance

The Last Chance deposit is similar to the main Nigger-head deposit which has been described by U.S. Bureau of Mines R.I. 4004. It crops out on the north wall of a canyon that drains to the east and has been explored by an adit and 3 trenches. The adit, driven from about 25 feet above the canyon floor, is 120 feet long and trends about N. 45° W. The 3 trenches have been excavated at right angles to the adit for distances of 200 and 120 feet. The longer trench is on the adit level a few feet south of the portal. The other is about 50 feet to the north of the portal and approximately 50 feet vertically above the adit level.

The host rock is rhyolite porphyry that strikes about N.35°W. and dips approximately N. 55° E. The principal fractures strike

N. 85° W. and dip N. 70° W. There are subsidary fissures, but little or no brecciation.

Manganese occurs as pellicules on fracture fillings up to 1 inch thick. Some of the pellicules contains much iron oxide. According to Mr. Morgan, his corporation test-milled several hundred tons of similar appearing ore from the nearby Higgenbotd deposit. He said the test resulted in the recovery of about 40 percent of the manganese in a high-iron concentrate.

OIL RESERVES

The indicated and inferred ore reserves of the Red Hill Extension deposit have been estimated at 1,000,000 to 1,200,000 tons containing about 8 percent manganese.

At the Big Basin Group and the West Higgenbotd deposits the potential reserves are not significant.

MINING PLANS

Exploration

At present, exploratory work by the applicant is confined to shaft drilling on the Red Hill Extension property. Five holes have been drilled (figure 2).

Mining

The Isbell Construction Co., Reno, Nev., has a contract with the applicant for the mining of all ore and waste, delivery of ore to the company's nearby primary crusher, and delivery of crushed ore to the applicant's mill. Ore from the primary crusher passes over a picking belt where the applicant maintains a sorting

ores. Sorting out waste, estimated at 20 percent of run-of-mine ore, has been in practice since January 1956.

To March 19, 1956, the company had mined about 60,000 tons of ore and approximately 60,000 tons of waste. Of the 60,000 tons of ore, approximately 45,000 tons was from the presently operating State Lease Pit. The other idle pits, (the RFC and Riggenhand, respectively) yielded about 14,000 tons and 1,000 tons of ore.

According to Richard "Dick" Strand, superintendent for Isbell Construction Co., the current operations account for possible 95 percent of all ore removed from the State Lease pit. The present average dimensions of the pit are 450 feet by 80 feet by 40 feet deep. A probable 200-foot extension in the length has been indicated by an open cut recently started to the north of the pit.

Drilling for blast holes is done with wagon drills. Blasted ore from benches is loaded by Diesel-electric shovels and hauled to a primary crusher or to stockpiles by dump trucks. The height of mining benches is held to about 15 feet as the drilling of much deeper blast holes in the highly fractured ore zones is uneconomic. These holes are drilled for sampling, then used as blast-holes. Casing is required, but it cannot be recovered from holes much deeper than 15 feet. Ore is mined selectively, large boulders of waste are cast aside for loading into trucks at irregular intervals, and horses of waste are mined as encountered. There is no overburden. Waste, removed in the above mentioned manner, and ore occur in about equal amounts.

A total of 50 to 55 men are employed. Two shifts are worked daily for 7 days a week.

Contract prices, started at $2.00 per ton for ore and waste, have been lowered as production has increased. At present, contract prices are $0.80 per ton for ore and waste, and $0.35 per ton for primary crushing and haulage to the mill. All weights at both mine and mill are in long tons.

A list of equipment employed, with uses, follows:

<u>Shovels</u>

1 - 60B Northwest 2½ yd.

1 - 25B " 3/4 yd.

1 - 25B " Crane Boom (Secondary breaking and repair work)

<u>Trucks</u>

4 - "FP" Euclids - 15-ton Rear Dump)
2 - UD Euclids - 10-ton " " } Pits.
3 - F-8 Ford Dump (6 to 7 long ton))

7 - Rental Dump Trucks (Hauling from Crusher to Mill)

1 - F-1 Ford Pick-up (Supt)

1 - 1-ton Chev Pick-up (Foreman)

1 - 2-ton Chev Flatrack (Shop)

1 - 2-ton Chev Service Truck

2 - 4x4 Chev. Trucks (1-water truck - 1 powder truck)

<u>"Cats"</u>

1 - D-7 Cat w/dozer (Road work and pit clean-up)

1 - D-6 Cat w/"FP" Carryall, or "U" Dozer (same use as above)

1 - 112 Motor Patrol (Road work)

1 - Scoopmobile (small loading jobs)

Drilling

1 - 600 Cu. Ft. Ingersoll-Rand Gyro-flow Compressor -truck mounted

1 - 600 Cu. Ft. Joy compressor

1 - Gardner Denver 3½" wagon drill - tractor)
3 - Cleveland - D-14 - wagon drills) Blast hole drilling
2 - 29% - Bucyrus-Erie Churn Drill)

Crusher

1 - Model 173 Pioneer Primary Crushing Unit with 30x42-in. jaws.

Milling

Ore crushed to minus 5-inch at the primary crusher is delivered to an ore bin at the secondary crushing plant. Secondary crushing to a mill feed (minus half inch) is accomplished by an Austin-Western portable unit, comprising a jaw crusher, rolls, and delivery belt. The unit, powered by a Diesel-electric generator, has a rated capacity of 200 tons per hour. Crushed ore is delivered to a stockpile. A feeder, installed in a tunnel beneath the stockpile, delivers the ore to a belt conveyor that discharges into either of two 6-foot by 16-foot double-deck vibrating wet screens at the head of a No. 3H RMS Mobil Mill, designed by the Western Machinery Co., San Francisco, Calif. Minus 10-mesh material from the screen by-passes the heavy media plant to 36-inch spiral classifiers flows to a distributor that is in closed circuit with 8 Wilfley table.

The plus 10 mesh is treated by 2 identical units, each having a rated capacity of 30 tons per hour. It flows to 10-foot cone low-gravity separators that deliver float and sink products to 4-foot by 16-foot drain and wash screens. Float from the screen goes to waste. The sink product then is treated in 10-foot cone high-gravity separators. Both products from the high-gravity separators are washed and screened to deliver sink material as a finished concentrate and middlings that presently go to a stock pile for possible future treatment. Media from diverters at the screens is returned to the circuit either directly or after treatment by densifiers and magnetic separators. The media consists of ferrosilicon and magnetite.

Water for milling is pumped from a 520-foot well that is located about 600 feet east of the new mill. A second well is presently being drilled from a site within 80 feet of the mill.

Power for milling is by electricity furnished by the Socorro Co-op, Inc., Socorro, N. Mex. A Diesel-electric generator powers the well pump.

Concentrates are hauled to Deming by 5 Diamond-T trucks attached to Clements trailers of 20-ton capacity. This haulage equipment is of 1954 and 1955 manufacture. Other major equipment consists of the complete idle 300-ton gravity-table mill, a Model D4 Caterpillar dozer, a 5-ton Ford dump truck, 2 Dumpster trucks, 2 pick-up trucks, a churn drill, and 2 wagon drills.

Milling Statistics

An accurate estimate of milling results cannot be made because sampling of heads and tails was done only during the first month of operation of the old mill. At the new mill, sampling of these products was reportedly resumed about May 1 upon completion of an assay office on the property.

On the basis of incomplete data, it is estimated that the grade of ore treated averaged about 8.2 percent Manganese and that 56 percent was recovered. In these estimates, the average grade of tails for the known period was applied to the production of 7,296 tons of 38 per cent concentrates from 60,229 tons of ore.

Meagre data on a break-in operation of the new mill from March 19 to May 9, 1955 indicate recovery was similar to that of the old mill until finer grinding was put into effect on May 7. During the following 3 day period the grade of ore averaged 10.7 percent Manganese and tailings averaged 2.72 percent. Approximately 1,600 tons of concentrates, averaging about 36 percent Manganese, were produced for the total operating period. Of the 1,600 tons, 1,256 tons were produced during the last 9-day period. Ore treated during this period would be about 1,300 tons per day on the basis of the old mill's 8 to 1 ratio of recovery.

Economics of Operations

The following was taken from a statement of Earnings, for the period August 17, 1954 to February 28, 1955, that was prepared by Linder, Bunk and Stephenson, Certified Public Accountants, Albuquerque, N. Mex. The Statement contains the following foot

note, "This statement was prepared from the books and records of the Company without verification."

Sales of Manganese Concentrates		$ 473,745.32
Cost of Sales:		
Mining	$ 180,225.74	
Milling	107,475.36	
Handling & transportation costs	28,364.22	
Total	$ 315,065.32	
Less - Inventory of Manganese Concentrates, February 28, 1954	26,600.00	
Cost of sales	$ 288,465.32	
Administrative expenses	18,125.00	
Provision for Federal & State taxes	47,000.00	
Total costs, expenses and taxes		$ 351,590.32
NET EARNINGS		$ 122,155.20

During the pertinent period, 54,786 tons of ore was milled and an additional estimated 5,000 tons of ore was stockpiled. On this basis the recovered value per ton of ore was $9.10 and per ton costs averaged about $6.60. A break down of costs follows: mining, $3.30; milling, $1.96; transportation, $0.65; administration, $0.26; and taxes, $0.86.

The indicated average operating profit of $2.50 per ton is for sorted ore, of which about 75 percent came from the "State Lease" pit. As mining costs were gradually reduced during the operations it is reasonable to assume that the perton profit was more than $2.50 during the last few months of operation of the old mill. It also probably is reasonable to assume the treatment costs will be lowered and a higher recovery will be made at the new mill.

Plans call for transfer of operations to the RFC pit upon depletion of the "State Lease" deposit, providing favorable results

are obtained by the proposed explorations. No decrease in mining costs can be expected at the RFC pit because of the expectable high ratio of waste to ore. However, other costs could be lower and a higher mill recovery is anticipated. On this basis, economic operation of the RFC pit under the present Government price for manganese, would appear to be dependent on the discovery of ore reserves of an extent and grade similar to that of the "State Lease" deposit.

PROPOSED EXPLORATORY PROJECT

The proposed explorations are confined to a 2-stage churn-drilling project on the Red Hill Extension property. Under the first stage, provisions are made for the drilling of an estimated total of 2,500 feet in about 21 holes. Second stage drilling, if warranted, would consist of an estimated 4,400 feet in about 35 holes.

Explorations would be initiated by drilling holes along section A-A' of figure 2 to test for extensions of the 3 indicated ore zones. Testing of the ore zones should be by drilling holes in the following order at intervals of about 35 feet, until essentially barren ground is encountered and then increase intervals to 70 feet. Deposit no. 1, start near western border and proceed westerly; deposit no. 2, proceed westerly from existing hole no. 1; deposit no. 3, start near eastern border and proceed westerly. The order in which the deposits are tested is immaterial and

simultaneous testing of more than one deposit should be allowed.

Under the second stage, indicated extensions of the ore zones would be tested in a similar manner by drilling holes along sections B-B' and C-C', in the indicated order.

ESTIMATED COST OF PROJECT

On the basis of the following information, it is recommended that the drilling be carried out at a fixed price under an independent contract and that other allowable charges be placed on an incurred cost basis.

		STAGE I	STAGE II	Total
Drilling	- $7.00/ft.	2,500 ft.-$17,500.00	4,400 ft.-$30,800.00	$ 48,300.00
Casing	2.50/ft.	500 ft.- 1,250.00	880 ft.- 2,200.00	3,450.00
Assays	2.50/ea.	210 - 525.00	350 - 875.00	1,400.00
Totals		19,275.00	33,875.00	53,150.00

Drilling

Independent Contract - Bids were received by the applicant from 3 contractors, Freelove Well Drilling and Pump Sales of Phoenix, Ariz., the Roe Newberry Co., and the Boone Drilling Co. The latter two were drilling on the property during the field investigations. Each of the latter 2 contractors submitted identical bids of $6.00 a foot for drilling, commencing with a 12-inch hole and changing down to a 6-inch hole. Addition charges were $0.25 per foot for necessary casing, the casing to be provided by the contractor and the cost of lost casing to be borne by the Manganese Corporation of Arizona. The Freelove bid contained 2 proposals:

Proposal No. 1

a. Drilling approximately 3,000 ft. ——— $ 10.00/ft.
b. Underreaming or straight reaming ——— 12.00/hr.
c. Setting casing ——— 12.00/hr.
d. Pulling casing ——— 12.00/hr.
e. Contractor to furnish casing
f. Owner to pay for any casing lost

Proposal No. 2

a. Drilling, underreaming, straight reaming, setting casing, pulling casing, furnishing all casing, absorbing cost of all lost casing — $16.00/ft.

Cost of Drilling

The bids of the Newberry and Boone companies are acceptable not only because they are by far the lowest, but because each company has had experience in drilling the deposit under consideration. Experience has shown that the ground is very ravelly and must be cased in order to obtain satisfactory samples.

On the basis of casing an estimated 80 percent of each hole, per foot costs of drilling and casing are estimated at——— $ 6.20

Other allowable costs (based on daily advance of 40 feet by 2 rigs operating 2 shifts per day and 6 days a week)

Supervision - Applicant requested that no charge be included as company's mining staff will supervise project on part time basis ——— 0.00

Labor - 1 sampler for each shift at $1.50 per hr. $ 14.80/shift including overtime and taxes——— 0.74

Materials and supplies (other than casing) Applicant proposes to furnish at no cost——— 0.00

Equipment
Bulldozer for preparation of drill sites, 100 hrs. at $15.00/hr. for 6,900 ft. of drilling.——— 0.02

Pick-up truck for transportation of samplers, supervisors and samples - no charge desired as presently owned equipment will be used mainly on company operation ———————— 0.00

Miscellaneous, other than assaying bookkeeping - $50.00 per month ———————— 0.05

Total drilling costs per foot ———————— $ 7.01

Non-recoverable casing

Most of the drilling will be in very hard and highly fractured rock that ravels and makes recovery of casing extremely difficult or impossible. Under these conditions, a reasonable accurate estimate of the amount of casing loss cannot be expected. To provide for the cost of lost casing, a total of $3,450.00 is included. This amount, divided into $1,250.00 and $2,200.00 for stages 1 and 2, respectively, will cover average casing cost at $2.50 per foot for 20 percent of the proposed drilling footage. Charges for lost casing should be supported by certified invoices.

Assays

Samples should be obtained of each 5 foot section of hole containing significant amounts of manganese. The samples should be separately assayed only in event a radical difference in grade is noted in the material from 2 adjoining 5-foot intervals. Otherwise, assays should be made of composites of two 5-foot samples. The number of samples to be assayed is estimated at 10 per hole for a total of 560. At $2.50 per sample, the prevailing rate, estimated assay costs would total $1,400.00. Allocation of the $1,400.00 to stages 1 and 2 would be $525.00 and $875.00, respectively. Approval of assay charges should be based on certified invoices.

CONCLUSIONS AND RECOMMENDATIONS

The Red Hill extension property is the only one of the 3 investigated where conditions are favorable for finding significant reserves of manganese ore. The grade of ore could be similar to that of the nearby "State Lease" deposit where the applicant is presently open-pit mining, and milling in excess of 1,000 tons of sorted ore per day. Daily production of high-grade concentrates is now about 100 tons. Sustained operation of the mill is dependent upon the development of additional ore and the present Government price for manganese.

Exploration of the Red Hill extension property by churn drilling is a feasible method and can be expected to yield adequate data for ore reserve estimates at a relatively low cost. The applicant can be expected to carry out the proposed exploratory program in a satisfactory manner.

For the above reasons, approval is recommended for the proposed 2-stage churn drilling program that can be completed in 8 months at an estimated total cost of $53,150.00. Estimated costs of stage 1 and 2 are $19,275.00 and $33,875.00, respectively.

IN REPLY REFER TO:

DMEA
Date Rec'd

JUL 12 1955

BUREAU OF MINES
Denver, Colorado

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

July 11, 1955

RECEIVED

TRANSMITTED

JUL 13 1955

Memorandum

To: DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3607 (Manganese), Manganese Corporation of Arizona, Socorro County, New Mexico

Enclosed are the original and eight copies of a geologic report by Leonid Brynar, U. S. Geological Survey, covering his examination of the subject property.

The report describes the geology of the area and the known ore deposits. Certain recommendations regarding exploration with Government assistance are made.

The recommended exploration program outlined in detail in the engineering report appears justified.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (9)

ENHarshman:arh

DMEA
Date Rec'd.

JUL 12 1955

BUREAU OF MINES
Denver, Colorado

[redacted]

July 6, 1955

[redacted]

TRANSMITTED
JUL 13 1955

To: Mr. E. H. [redacted]

From: Leonid Bryner

Subject: [redacted] (Manganese) Manganese Corporation of Arizona, [redacted], New Mexico

Enclosed are the original and 8 copies of my report of examination of properties belonging to the above company. The discrepancy between the geologic and engineering reports was due, as you suggested in your letter of June 24, to an oversight. Before the report was submitted to you, the geologist and the engineer had already agreed on the exploration plan described in the engineering report. The geologic report, therefore, has been altered to fit its original intent, and is being resubmitted to you in its revised form.

Leonid Bryner
Leonid Bryner

Ldrm

cc. Mr. [redacted] (8)
Mr. [redacted]

DMEA
Date Rec'd.
JUL 12 1955
BUREAU OF MINES
Denver, Colorado

Box 4166 University Station
Tucson, Arizona

June 3, 1955

MEMORANDUM

To: Mr. E. H. Hardman

From: J. H. Faick

Subject: Docket MMA 3607, Manganese Corporation of America, Socorro County, New Mexico

TRANSMITTED
JUL 13 1955

Enclosed are the original and 8 copies of Leonid Bryner's report of examination of properties belonging to the above company. This report recommends Government participation in exploration of the Red Hill Extension property because of relatively large amounts of probably commercial grade ore. Government participation in exploration of the Big Basin and West Biggerhead deposits is not recommended.

This report has my approval.

J. H. Faick
John H. Faick

JHF:ms

cc: Hardman (8)
Sharon

U. S. DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REGION III

DMEA
Date Rec'd.

JUL 12 1955

BUREAU OF MINES
Denver, Colorado

GEOLOGY

EXAMINATION REPORT

DMEA 3607

MANGANESE CORPORATION OF ARIZONA
SOCORRO COUNTY, NEW MEXICO

(Manganese)

By
Leonid Bryner
Geologist
U. S. Geological Survey

June 5, 1955

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
FIELD TEAM III

EXAMINATION REPORT

DMEA 3607
MANGANESE CORPORATION OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
(Manganese)

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ILLUSTRATIONS

Fig. 1 Location and Claim Map	See Engineering Report
Fig. 2 Geologic and Exploration Map	Following page 4

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INTRODUCTION

In an application to the Defense Minerals Exploration Administration, dated December 7, 1954, Victor J. Morgan, president of the Manganese Corporation of Arizona, requested government participation in a program estimated to cost $86,790, to explore for manganese on the Red Hill Extension, Big Basin and West Higgerhead claims, Socorro County, New Mexico.

The Red Hill Extension and Big Basin groups are respectively south and north of Mierz Tank Canyon in Secs. 17, 18, and 20, T. 4 S., R. 1 W. They are about 12 miles by road from the town of Socorro. The workings and the roads leading to them are shown in the U. S. Geological Survey topographic map of the San Antonio Quadrangle. The West Higgerhead claim is in Sec. 32, T. 3 S., R. 2 W. It is about 10½ miles by road west of Socorro, in Six Mile Canyon. The location and extent of the above properties is shown in figure 1. The Red Hill Extension and the Big Basin claims are held by the applicant under a lease and option agreement with the Socorro Corporation which, in turn, holds the claims under a lease and option agreement with the Reconstruction Finance Corporation.

The examination was made during March 29 to 31, 1955 by F. M. Romalo of the U. S. Bureau of Mines and the writer. Most of the writer's time was spent at the Red Hill Extension deposit because this area offers the best possibility for finding a substantial tonnage. A program of churn-drilling is recommended for the Red Hill Extension area, but exploration is not recommended on the other properties.

The Red Hill Extension under the name "Van Pelt deposits", was examined for the War Production Board by S. K. Neuschel of the U. S. Geological Survey, and described by him in an unpublished Memorandum Report in 1943. It is also described by W. R. Storms, of the U. S. Bureau of Mines, in an unpublished Memorandum Report dated January 3, 1945. Both writers estimated considerably lower tonnages of ore than in the reserve estimates of the present report. But these lower estimates of reserves apparently are due to the higher grade cut-off used and also to the fact that recent pit operations have exposed ore that was not known to exist when the earlier examinations were made.

GEOLOGY

The manganese deposits occur in or near the Chupaderas Mountains, a low, northerly-trending range 6 to 8 miles west of the Rio Grande. Tertiary rhyolite, rhyolite tuff, and rhyolitic agglomerate underlie most of the range. These rhyolitic rocks are overlain in many places by poorly sorted, bouldery gravels that may be Tertiary or Quaternary in age. A well near the mill, located one and a half miles east of the deposits, penetrated 320 feet of gravels without reaching bedrock. North of the manganiferous area Quaternary basalt flows form a prominent capping on much of the gravel. The drainage is mainly easterly across the Chupaderas to the Rio Grande.

Red Hill Extension Deposit

The geologic setting of the mine area is best seen in the deep, easterly trending canyon immediately north of the deposit, called,

in this report, "Miers Wash Canyon". Here the rocks are predominantly reddish, porphyritic rhyolites. Much of this rhyolite is vesicular, and most of it contains fragments of foreign material. The fragmental character ranges from almost pure rhyolite to coarse rhyolitic agglomerate containing boulders over one foot in diameter. Most of this foreign material is volcanic but in some places boulders of granite and schist were recognized in the rhyolitic matrix. The rock referred to as "rhyolitic tuff" in other reports probably corresponds to this agglomerate. The vesicles in the rhyolitic rocks are almost invariably oval and oriented to give the rock a planar flow structure. This structure shows a quite persistent N15° to 30° W strike and a dip that is generally within a few degrees of vertical. Apparently the Tertiary flows have been tilted almost 90 degrees from their original attitude.

There appears to be a minor amount of shearing in zones that outcrop in the bottom of the canyon and trend parallel to the primary flow structures. The widest of these shears is about 10 feet across and did not show any gouge or much brecciation. It contains open fractures and cavities lined with minute quartz crystals, but no manganese minerals. Such zones apparently are not everywhere continuous from the floor to the brink of the canyon. The shear zones in the brink of the canyon contain manganese deposits but the lower zones contain little or no manganese.

The ore minerals occur as incrustations in fractures or cavities in the rhyolitic rocks. The manganese values are almost entirely in psilomelane with very minor amounts of pyrolusite or wad.

The surface of the psilomelane generally is botryoidal and sections across layers show a fine-banded, spherulitic structure.

Calcite is the predominant gangue mineral. It generally occurs as an incrustation on the psilomelane. A coarsely crystalline, radiating structure is usual. Incrustations of small quartz crystals also occur with the psilomelane but are much less abundant than calcite. It is not unusual to find angular fragments of psilomelane imbedded in a layer of calcite or quartz. Evidently the psilomelane was deposited prior to the calcite or quartz.

The deposit, marked by several large open cuts, is in the head of a draw that drains north to Miera Tank Canyon (fig. 2). This draw heads in an easterly trending ridge. Above the head of the draw this ridge has a rather flat profile. The most easterly pit is located where the ridge merges with Red Hill and the most westerly pit is located where the ridge ends in a northerly trending spur. These features are shown in figure 2. On the south flank of this same ridge erosion has not cut to nearly as great a depth as on the north flank, and there has been only enough mining to suggest that the deposit does extend through the ridge to the south flank, but not enough to show the size or shape of this southerly extension. The maximum known width of the deposit is about 1000 feet in an east-west direction and the maximum known length in a north-south direction is about 800 feet. The maximum thickness

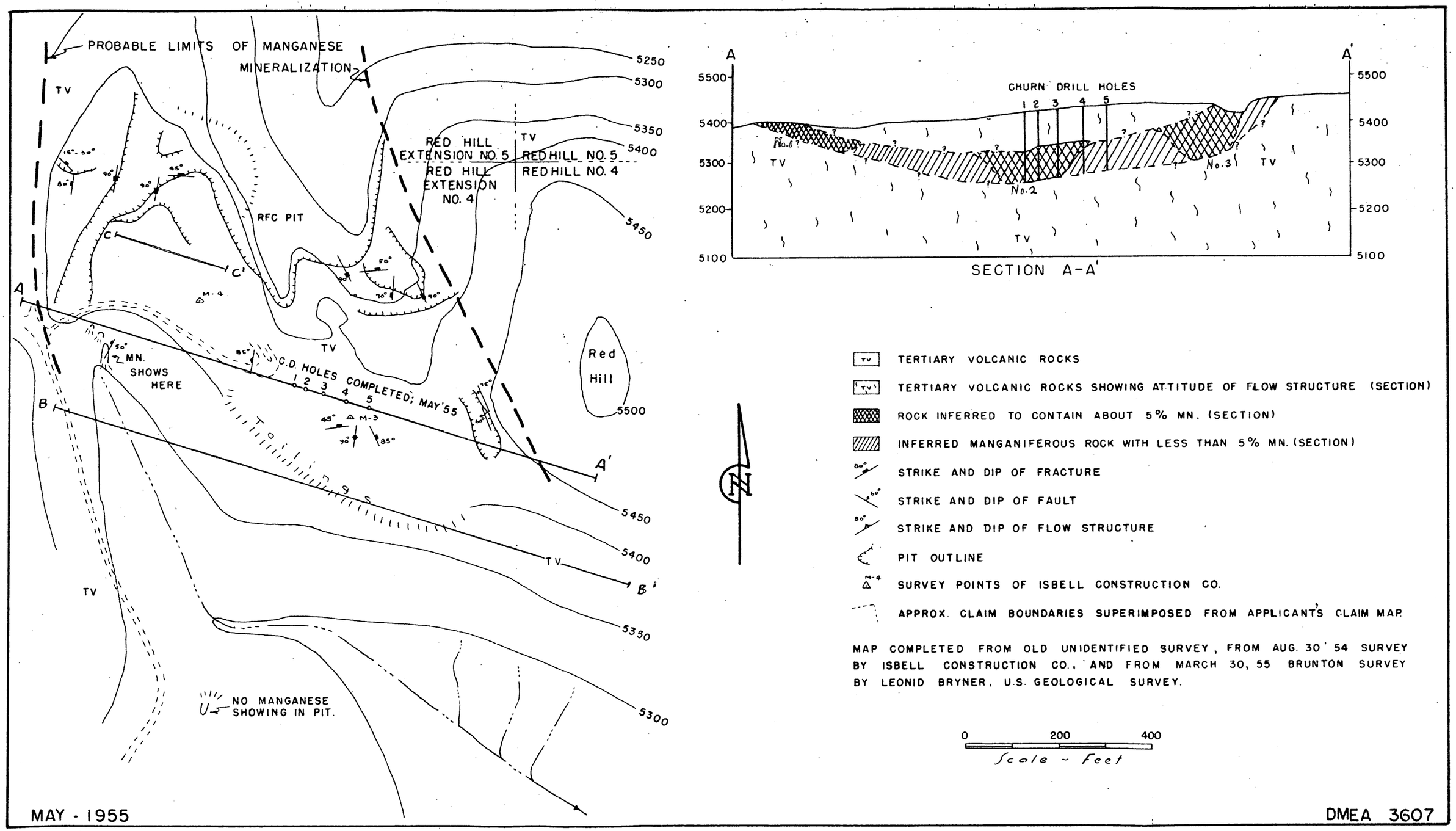


FIGURE - 2 - GEOLOGIC. AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

revealed by mining and churn drilling is about 70 feet. There undoubtedly are barren or very low grade zones within these boundaries as indicated in section A-A', figure 2. The two northward promontories of rock that separate the mine pits may correspond to "horses" of submarginal grade rock which very likely persist southward through the ridge. On the other hand, the extreme east and west pits are likely to represent higher grade zones that extend through the ridge. The deposit does not persist to the floor of Mierra Tank Canyon nor, except in places, to the crest of the ridge above the canyon. It is contained within a maximum vertical span of about 200 feet. The top of the deposit apparently is deeper at the center and comes to the surface at the east and at the west edges. Some of these features are shown in figure 2. The same figure also shows the direction and location of some of the more prominent fractures and fracture systems. Faults, the most persistent fractures, and shear zones of brecciated rhyolite strike from about north 15° east to about north 30° west and dip from vertically to about 50° west. Less prominent, but quite widespread, fracturing strikes at about right angles to the above strike directions and dips from 15° to 50° north. There is a third still less prominent direction of fracture. It also strikes at about right angles to the main system, but dips to the south.

The tenor of the ore shows a direct relationship to the degree and type of fracturing. The more persistent open fractures and the faults of the dominant northerly system contain the thickest

bands of psilomelane; thicknesses up to several inches were observed, and thicknesses up to one foot are reported from the area about a thousand feet to the east where present mining is in progress. The zones of brecciation, presumably shear zones related to the faulting, are the most highest grade and, because of their greater width, contain a greater tonnage of ore per foot of depth than do the main faults and fractures. In these breccias the psilomelane occurs in seams less than an inch thick as the cementing substance between blocks of rhyolite. In the areas outside of these more favorable zones the psilomelane occupies the numerous intersecting fractures that are characteristic of the entire manganese zone. The larger proportion of unfractured rock in these areas makes for lower grade material.

Two unusual types of manganese occurrences in this deposit are the cavernous fillings and the clastic dikes. The cavernous fillings occur in rock with openings as much as one foot in diameter. These caverns in places are lined with psilomelane and calcite, and pinch to a narrow seam. It appears as though the cavity originated by the sagging of the walls of a fracture, and that later the manganese was deposited on these walls. The clastic dikes have not been positively identified as such. They are generally regarded as shear zones in the rhyolite since they do parallel the shear zones. However, they otherwise differ strikingly from the usual shear zones in that they consist of a sandy to pondery unconsolidated matrix containing scattered chips of psilomelane evidently derived from a previously

deposited fracture coating of psilomelane. Though no gravels were recognized on the top of the ridge the limey cement characteristic of the older gravels fills cracks in the bedrock near the surface. Remnants of these same gravels also were recognized as a veneer on the walls of Miera Tank Canyon.

Big Basin Deposit

The Big Basin deposit occupies the crest of a ridge half a mile north of Miera Tank Canyon. The area proposed for exploration is about 300' by 300' in extent and contains four or five small cuts having a maximum depth of about 20 feet. The country rock is a rhyolitic agglomerate. The fractures that contain manganese have attitudes of N 20° E, 80° W; N 40° W, 75° W; due N, 80° W. The psilomelane occurs as coatings up to an inch thick in these fractures and as a widespread staining on the intervening rock. There is little or no brecciation so the fractures are the only receptacle for psilomelane. The rock as a whole appears to be much lower grade than that of the Red Hill Extension Deposit.

West Niggerhead Deposit

The West Niggerhead deposit is about a quarter of a mile upstream from the main Niggerhead deposit which has been described in U. S. Bureau of Mines R. I. 4084 and in unpublished reports to the War Production Board by Sherman Mauschel of the U. S. Geological Survey and M. G. Huntington of the National Zinc Corp. In its geologic setting the West Niggerhead deposit resembles the Niggerhead.

The workings occupy a recess in the north wall, about 25 feet above the floor of the canyon. A 100-foot adit, trending about N 40° W, penetrates the outcrop. At the adit level the outcrop has been trenched horizontally for about 200-feet, and about 120-feet vertically above this trench another trench almost 30 feet long has been dug. A short distance above this trench the canyon wall levels out in a flat area, underlain by Tertiary or Quaternary gravels.

The host rock is rhyolite porphyry in crude layers that strike about N 25° W and dip about 30° NE. The main fissure system strikes N 50° W and dips 70° W. There are subsidiary fissures that strike about NE and dip steeply to the north. On the whole there is little or no brecciation. But about 40 to 60 feet east of the adit and 15 feet lower there is a 20 feet wide brecciated zone that strikes north and dips vertically to 85° west. About 15' up the slope on this breccia zone the degree of brecciation declines to only a few thin breccia zones in the same 20-foot interval. The recessed canyon wall here, as at the main Biggerhead working, probably is a result of more effective erosion in places where the rock is more highly fractured. The total fracture zone is considerably narrower than at the Red Hill Extension and the expectable tonnage of this deposit correspondingly small.

The manganese occurs as pulldemlem fracture coatings up to an inch thick. Some of these coatings are quite rusty-looking, indicating admixed iron oxides. Huntington conducted a channel sampling program here that showed an average grade of 8 percent manganese. To both examiners the deposit has the appearance of being considerably lower grade than this.

Guides to Ore

One of the most striking things about the geology of these deposits is their relationship to topography. They are in the tops of easterly trending divides, generally where these divides have a rather flat profile. In such places the divides are capped with older gravels or show vestiges of the limey cement characteristic of these gravels. The flat parts of the divides generally lie in southerly-trending belts probably representing ancient drainage lines at right angles to the present drainage system. So the deposits show a correlation with topography as well as a correlation with the degree or extent of fracturing in the rhyolite. The vertical range of the deposits is short, probably not exceeding 200 feet.

The deposits appear to be of supergene origin. Possibly the manganese was carried by streams in an ancient southerly-trending drainage system, and deposition of the minerals was by downward percolation of the stream waters into underlying fractures.

PRODUCTION AND GRADE

Only the Red Hill extension area is considered in this section as the other two deposits are comparatively unattractive as large tonnage possibilities.

The early history of the Red Hill Extension deposit is incomplete. The extreme east part of it apparently corresponds to the Van Pelt deposit, described by Neuschel. There were some shipments from here during World War II. Neuschel estimated reserves of 2,000 tons of 15 percent manganese in this deposit.

During World War II a stripping operation revealed low grade manganese in an area approximately 200 by 100 feet, which probably corresponds to what is now called the "RFC" Pit (fig. 2). In the summer of 1954 the applicant began exploration by wagon drilling in the floor of the "RFC" Pit. The assay returns from some of these holes as given by the applicant are as follows:

TABLE I

Assays of Wagon Drill Holes in floor of "RFC" Pit

Hole No. 1		Hole No. 2		Hole No. 3		Hole No. 4		Hole No. 5		Hole No. 6	
Interval	% Mn.	Interval	% Mn.	Interval	% Mn.	Interval	% Mn.	Interval	% Mn.	Interval	% Mn.
8'	- 5.75	(0'	- 5.75)	(0'	- 3.87)	(0'	- 5.18)	(0'	-13.18)	(0'	- 11.02)
(8'	- 8.23)	8'	- 4.72	8'	- 8.62	8'	- 3.89	8'	- 7.82	8'	- 4.03
16'	- 2.70	16'	- 5.51			16'	- 5.90	16'	- 5.45		
24'	- 3.67	24'	-15.67					24'	- 3.51		
28'	- 4.30	(32'	-31.13)					32'	- 4.91		
		38'	- 1.19					36'	- 7.54		

Some intervals in this table are parenthesized because of the writer's doubt as to their significance. The location of these holes is not known beyond their having been drilled in the floor of the main pit. The applicant, under item 4 (a) of the docket, states that approximately 50 wagon drill holes were sunk in the floor of the pit. Many of the holes, therefore, are not included in the above table, but probably the results given above are fairly representative of this work.

In July 1954, the applicant began churn drill exploration on the ridge immediately south of the "RFC" pit. The location of the churn drill holes are shown in figure 2 and the results of this drilling as of May 1955 are shown in the table below.

TABLE II

Assays from churn drill holes - Red Hill Extension

Hole No.	Interval (feet)	Grade of Mn. (percent)	Remarks
1	83-155	5.72	-
2	78-149	5.87	-
3	81-152	5.45	-
4	76-92	4.8	-
5	-	-	Applicant reported one barren hole; it is presumed to be No. 5

The applicant reports that other drilling and stripping tests near the "RFC" Pit showed results that averaged 7 to 12 percent manganese. There undoubtedly is rock of this grade in that area, but the above churn drill results probably are more nearly representative of the average grade of such large tonnages as might be mined in an open pit operation.

In January and February 1955 the applicant mined about 14,000 long tons from the "RFC" Pit but no grade data on this ore is available. This ore, however, was treated together with the ore from the nearby State Lease Pit (fig. 1) and the average grade treated was about the same as that of the State Lease pit in later months after production from the "RFC" Pit had ceased, suggesting that the grade of both pits is about the same.

Present production is from the applicant's State Lease Pit, about 500 feet east of the Red Hill Extension deposit. As of March 19, 1955, this pit which is geologically very similar to the "RFC" Pit, produced about 45,000 long tons of a total of about 60,000

tons of material that averaged about 8 percent manganese. This grade applies to rock that was milled. About half the rock mined, however, was rejected as waste before milling, so that the average grade of material in the State Lease Pit probably is on the order of 4 percent manganese.

EXPLORATION

The exploration so far conducted on the Red Hill Extension group has been outlined above. In their RMEA application, the Manganese Corporation of Arizona proposed to explore this property with 48 churn drill holes each about 800 feet deep. His drilling plan called for spacing the holes 35 feet apart in parallel lines 100 feet apart. This "ladder" pattern would have a N-S orientation beginning at the present site of churn drilling (fig. 2) and extending due south about 600 feet. This pattern is based on an assumed narrow width and a N-S elongation in the deposit. The examiners, however, have the impression that the mineralized zone is much wider and much shorter than the applicant pictures it to be. Therefore a modified pattern of drilling in two stages, which meets the approval of the applicant, is presented below as more suitable for exploring this area.

<u>Stage 1</u>: About 2,500 feet of churn drilling to be conducted along section A-A' (fig. 2), by drilling at 35-foot to 70-foot centers from the 3 known mineralized zones (see A-A', fig. 2) toward the inferred edges of these zones. The cost of this work is estimated at $19,875.

Stage 2: If ore is found along section A-A' under Stage 1, then extensions of this ore will be sought along sections B-B' and C-C' (fig. 2). Exploration along sections B-B' and C-C' will be conducted in a manner similar to that along section A-A', that is, at 35- to 70-foot centers and from the more favorable to the less favorable ground. This stage is estimated at 4,400 feet, costing about $11,875.

RESERVES

The reserves below are calculated only for the Red Hill Extension deposit.

Total indicated and inferred reserves amount to about one million long tons of rock containing about 5 percent manganese. This estimate is based on northerly and southerly projections of 100 to 200 feet from the pit faces and from ore in shallow drill holes.

If exploration is successful in the second stage of drilling total reserves of all classes might be increased by about half a million tons.

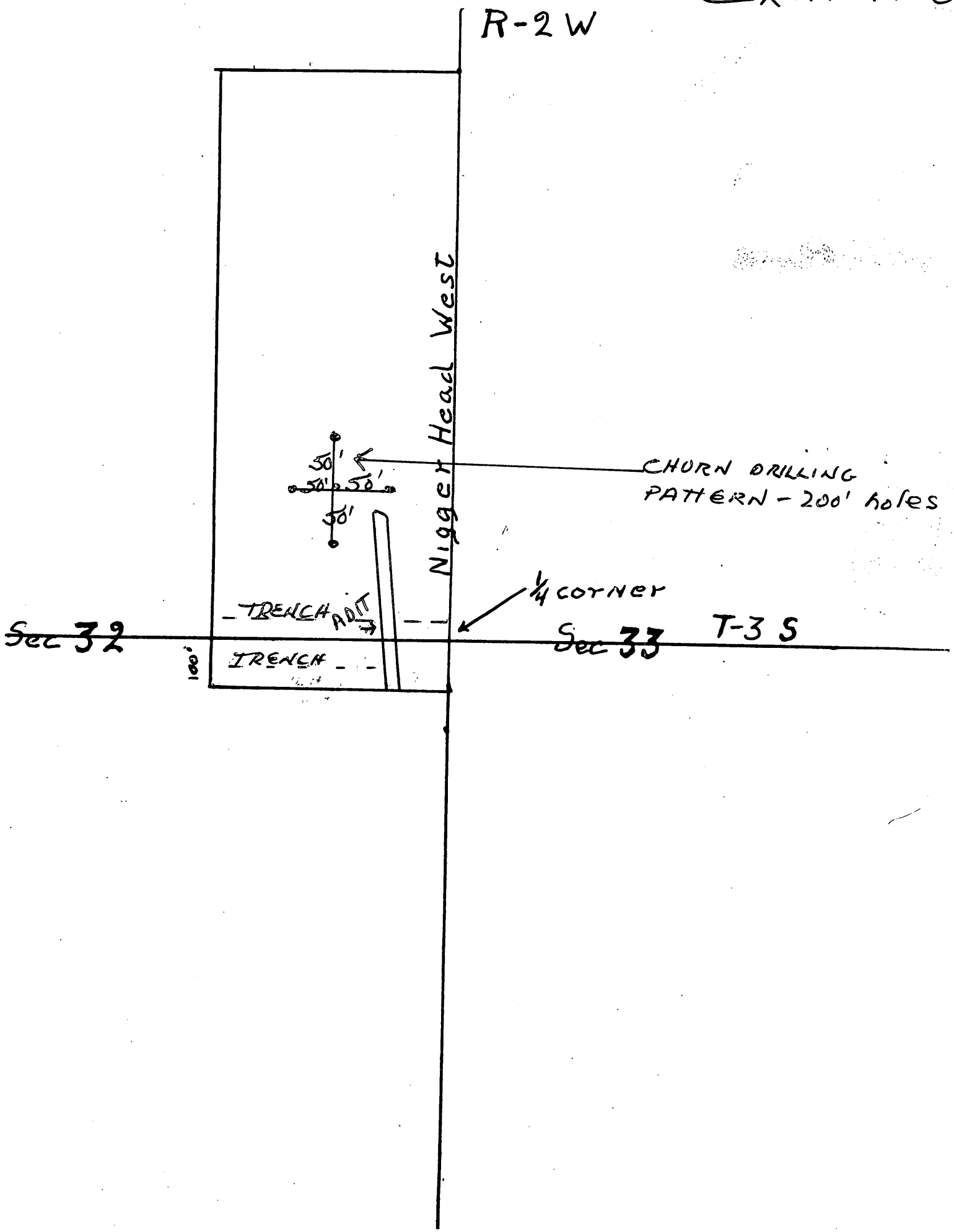
CONCLUSIONS AND RECOMMENDATIONS

The Red Hill Extension property shows promise of a significant tonnage of milling-grade manganese ore. This deposit can be fairly easily explored by shallow-drilling as outlined under "Exploration".

The applicant is agreeable to this exploration plan and seems competent to carry it out. Therefore government participation in this exploration is recommended.

Because of the low grade of the Big Basin Group and the small exportable tonnage of the West Riggerhead deposit, government exploration on these properties does not appear to be justified.

Exhibit "G"


R-2W
Nugget Head West
50'
50'
50'
50'
CHURN DRILLING
PATTERN - 200' holes
1/4 CORNER
TRENCH
ADIT
TRENCH
Sec 32
Sec 33
T-3 S
100'

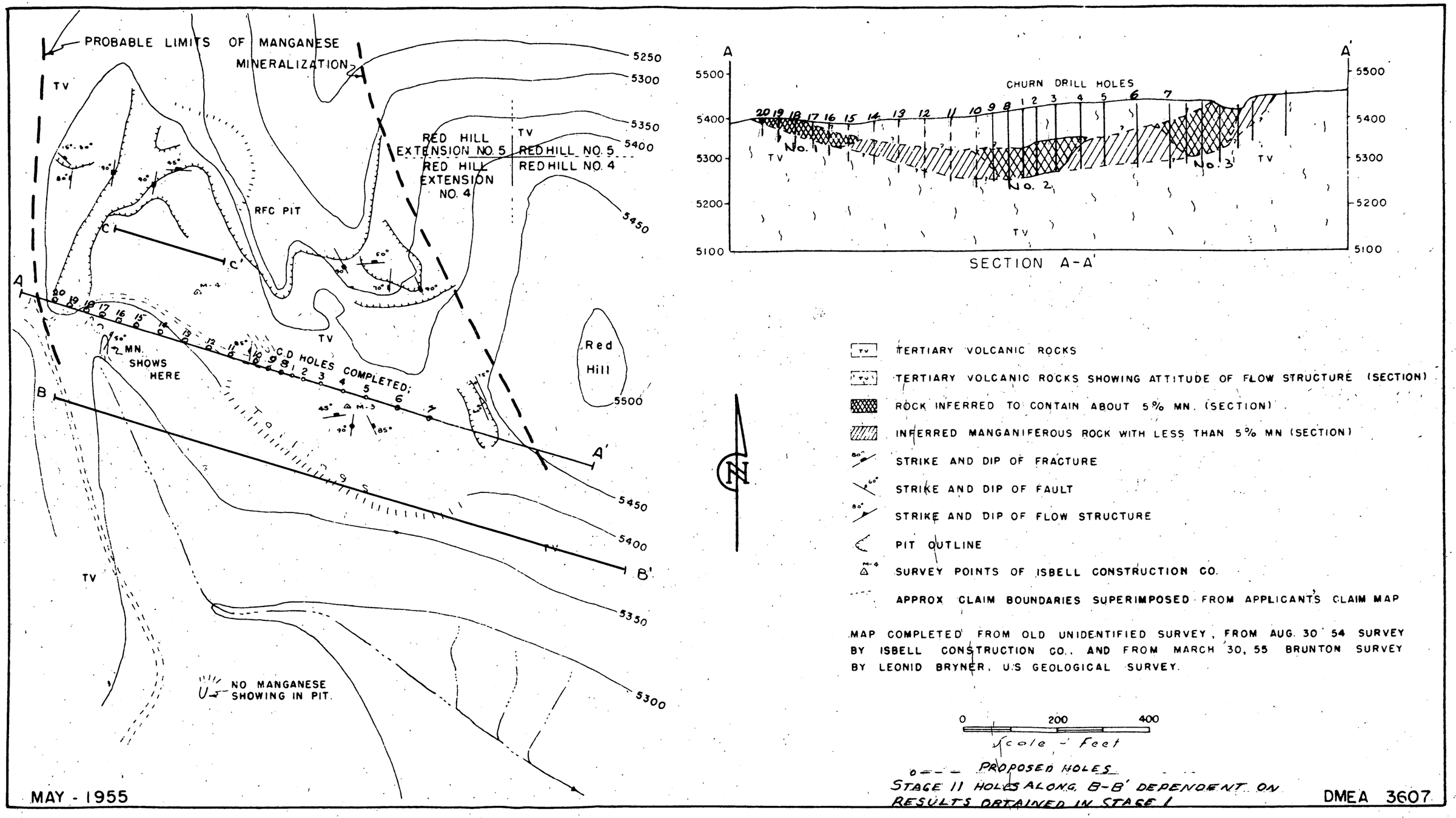
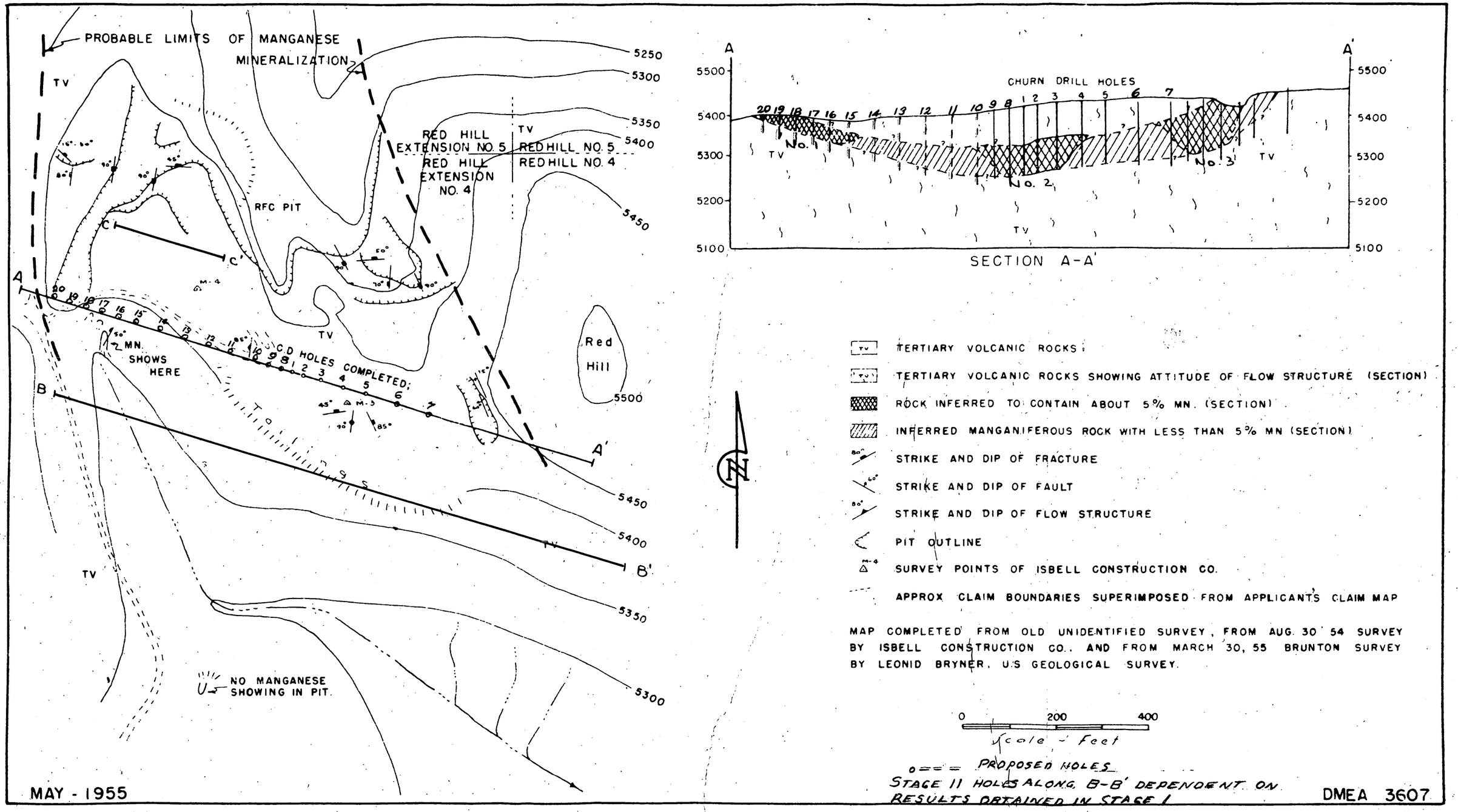


FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

Docket 3607
Manganese Corp. of Arizona
Maps for Amendment 4
Awaiting letter from
Operator -

T. 8 N.
R. 9 W.
G. & S. R. B. & M.



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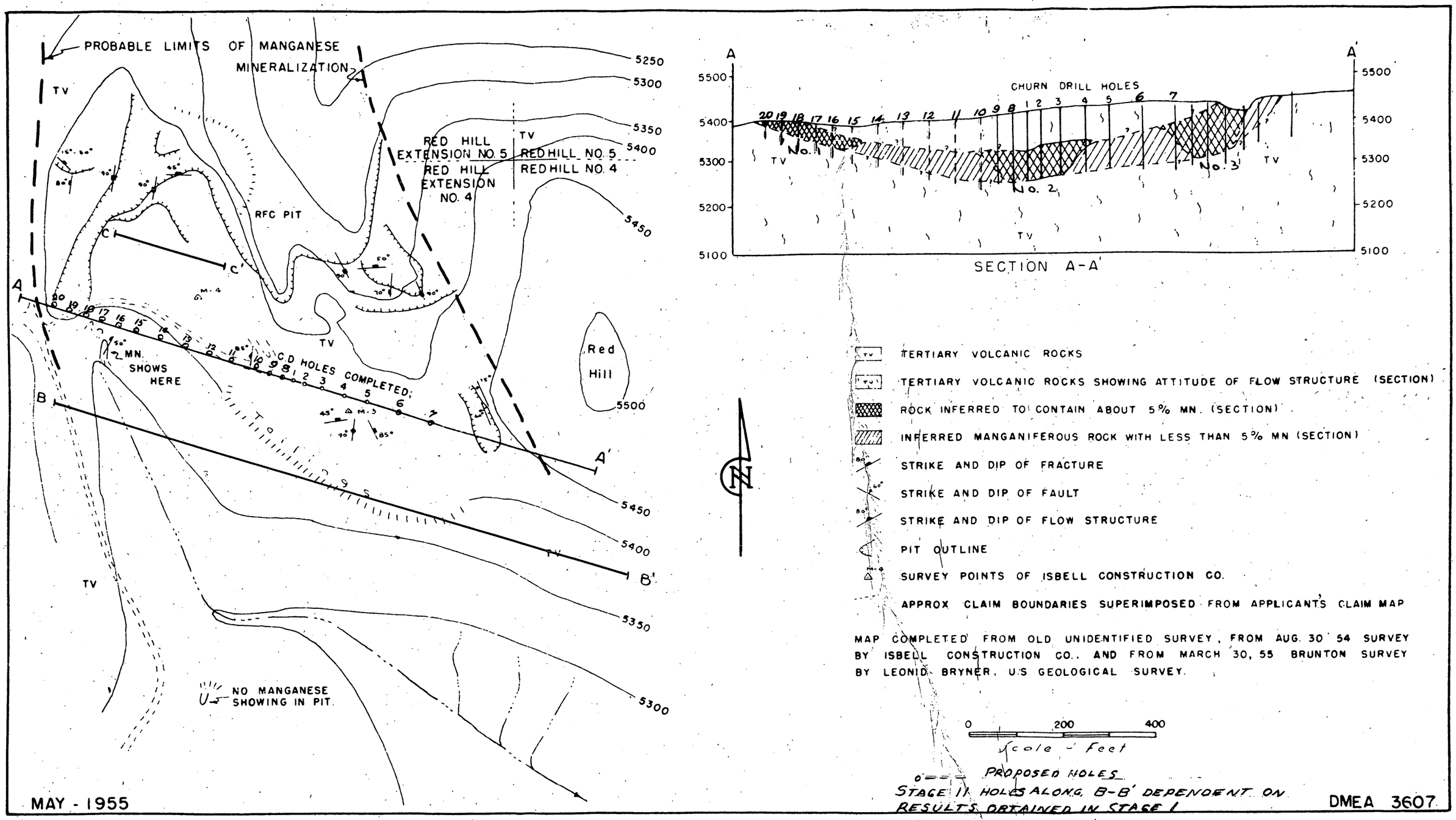
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO



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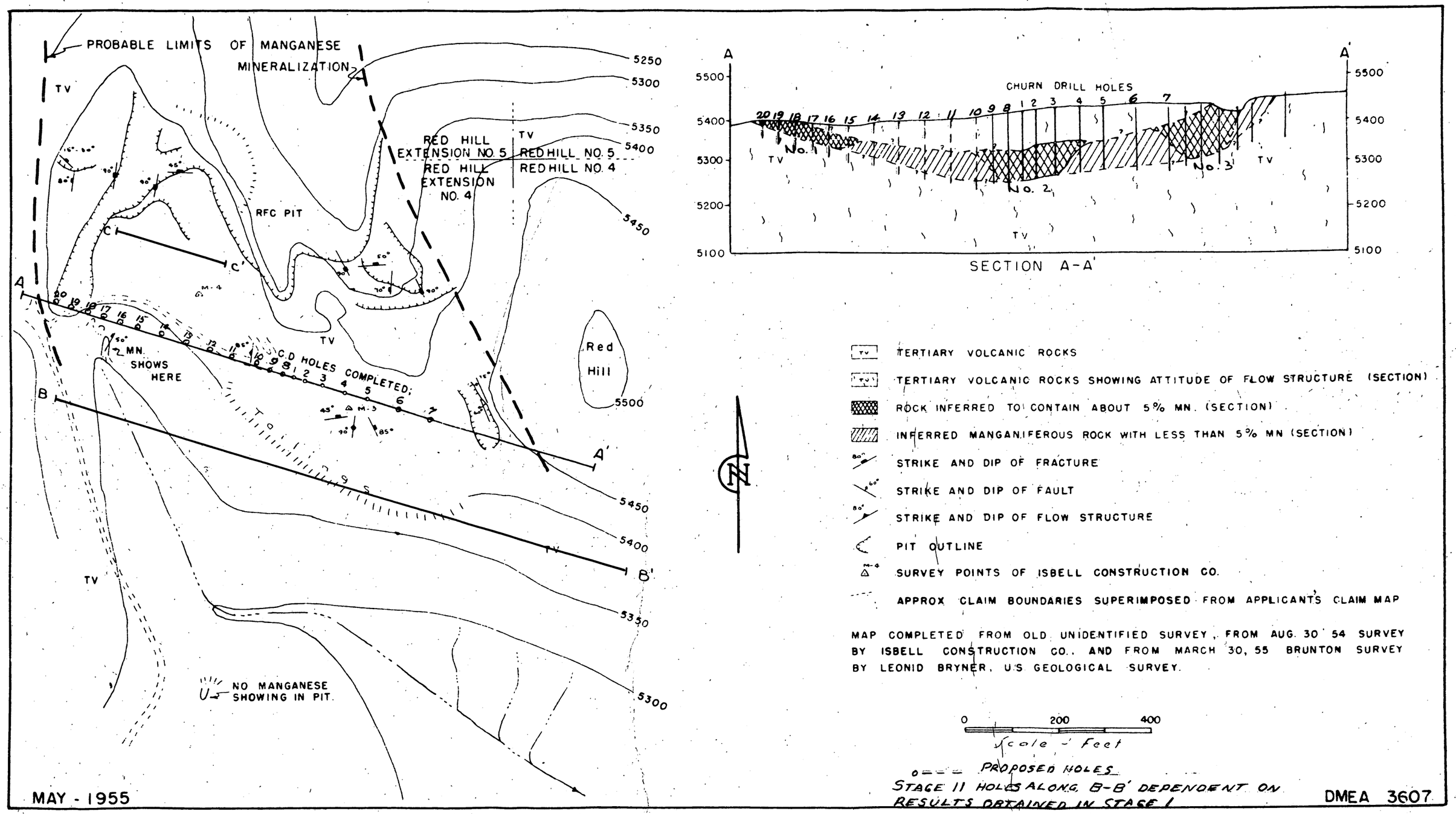

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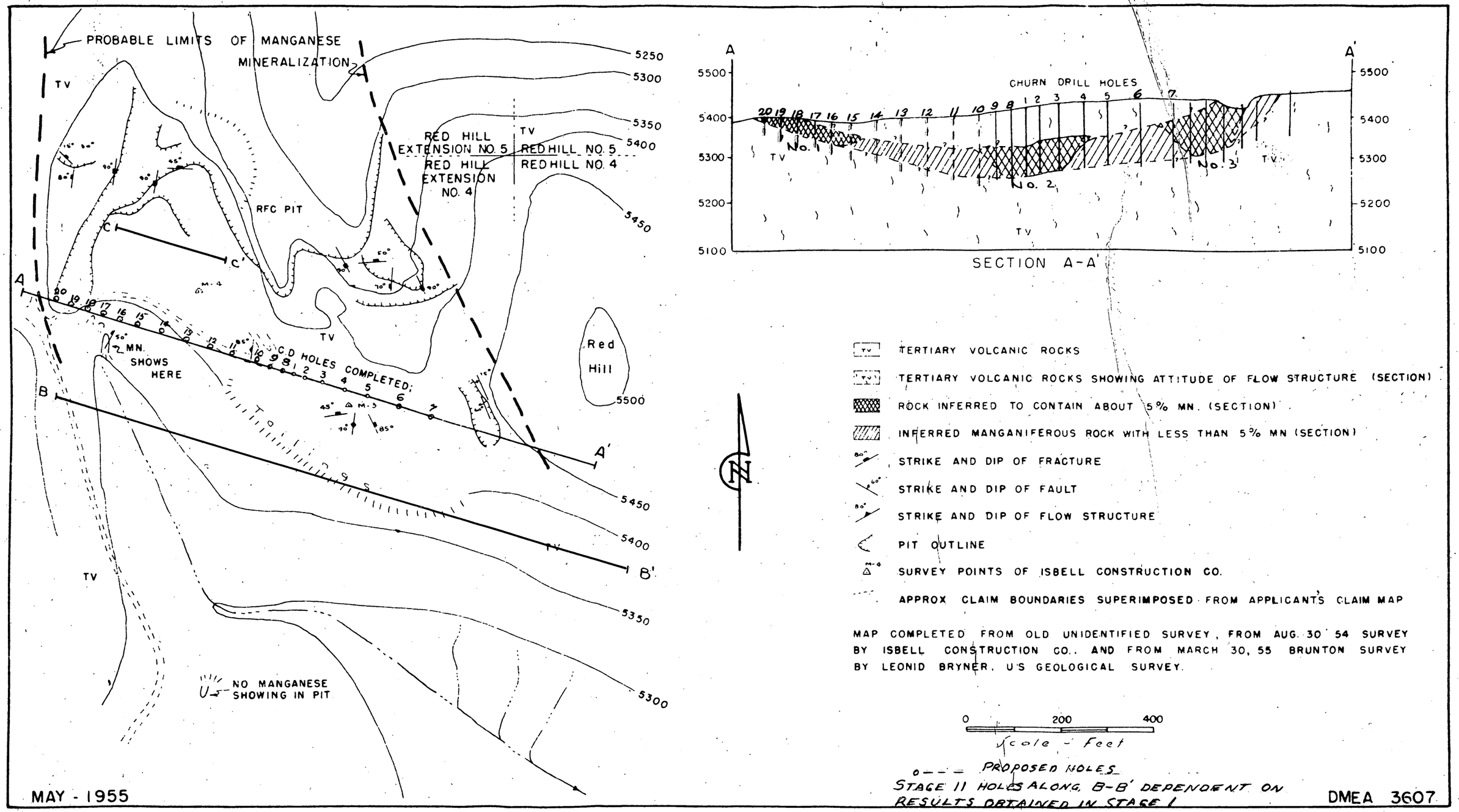

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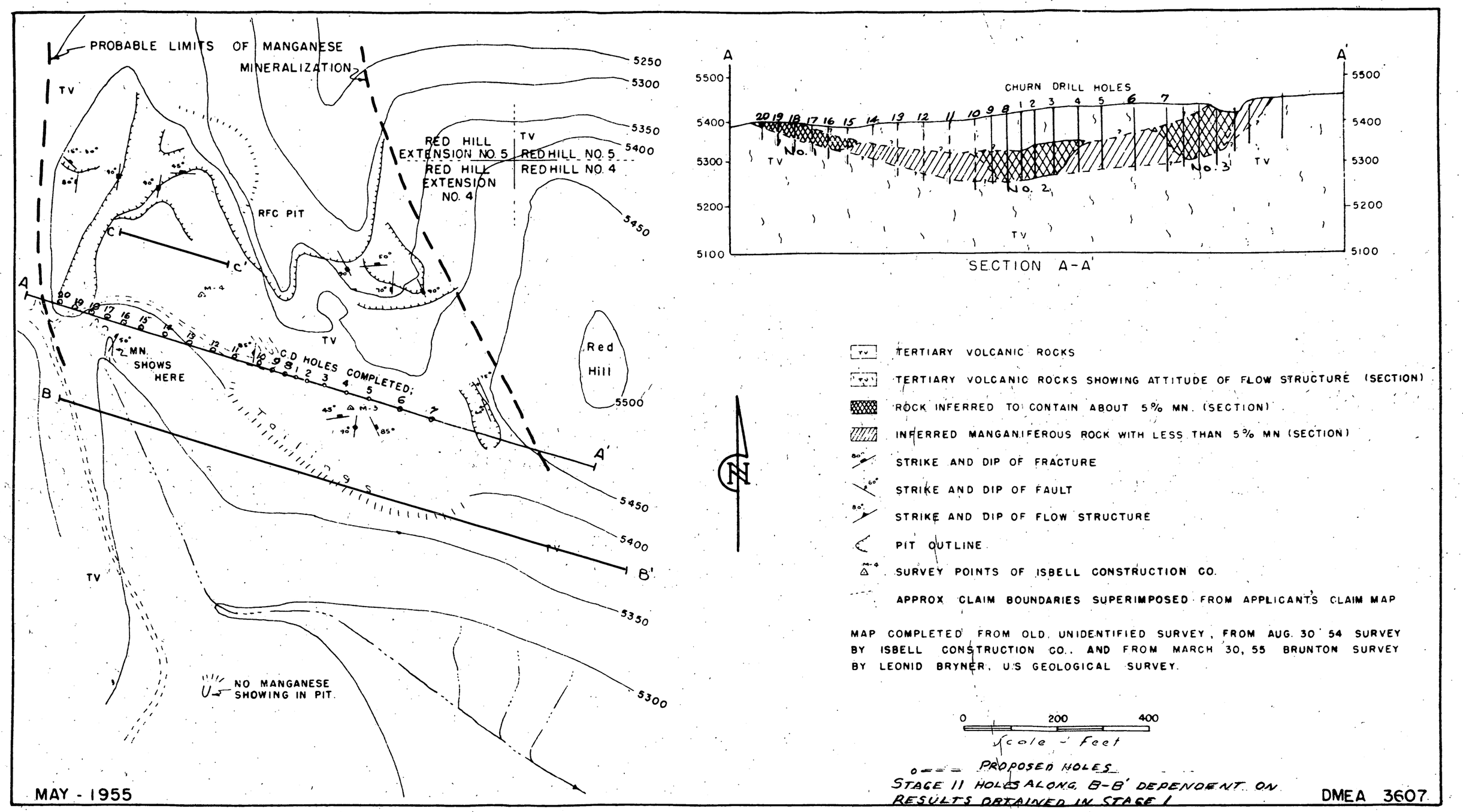

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MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

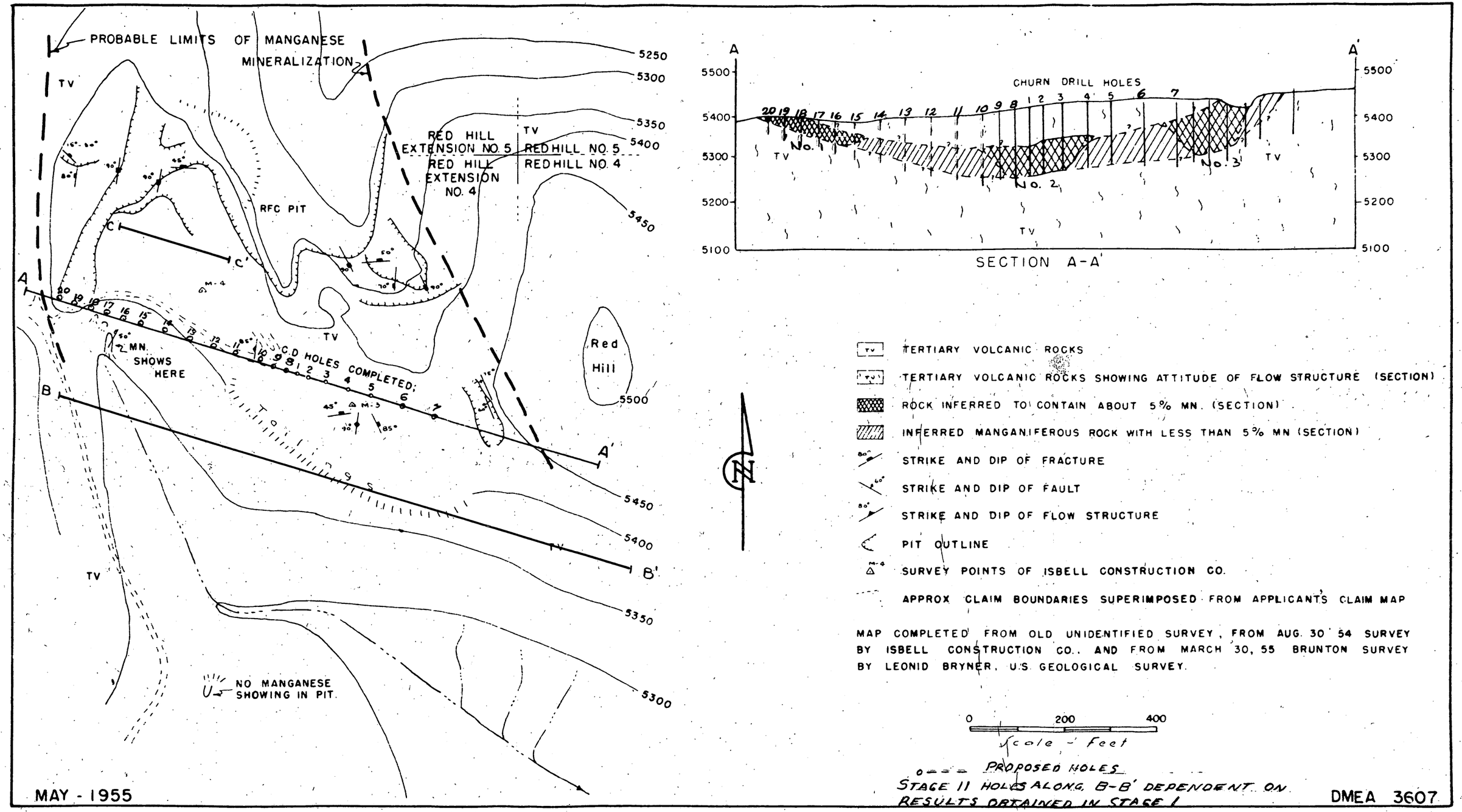

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

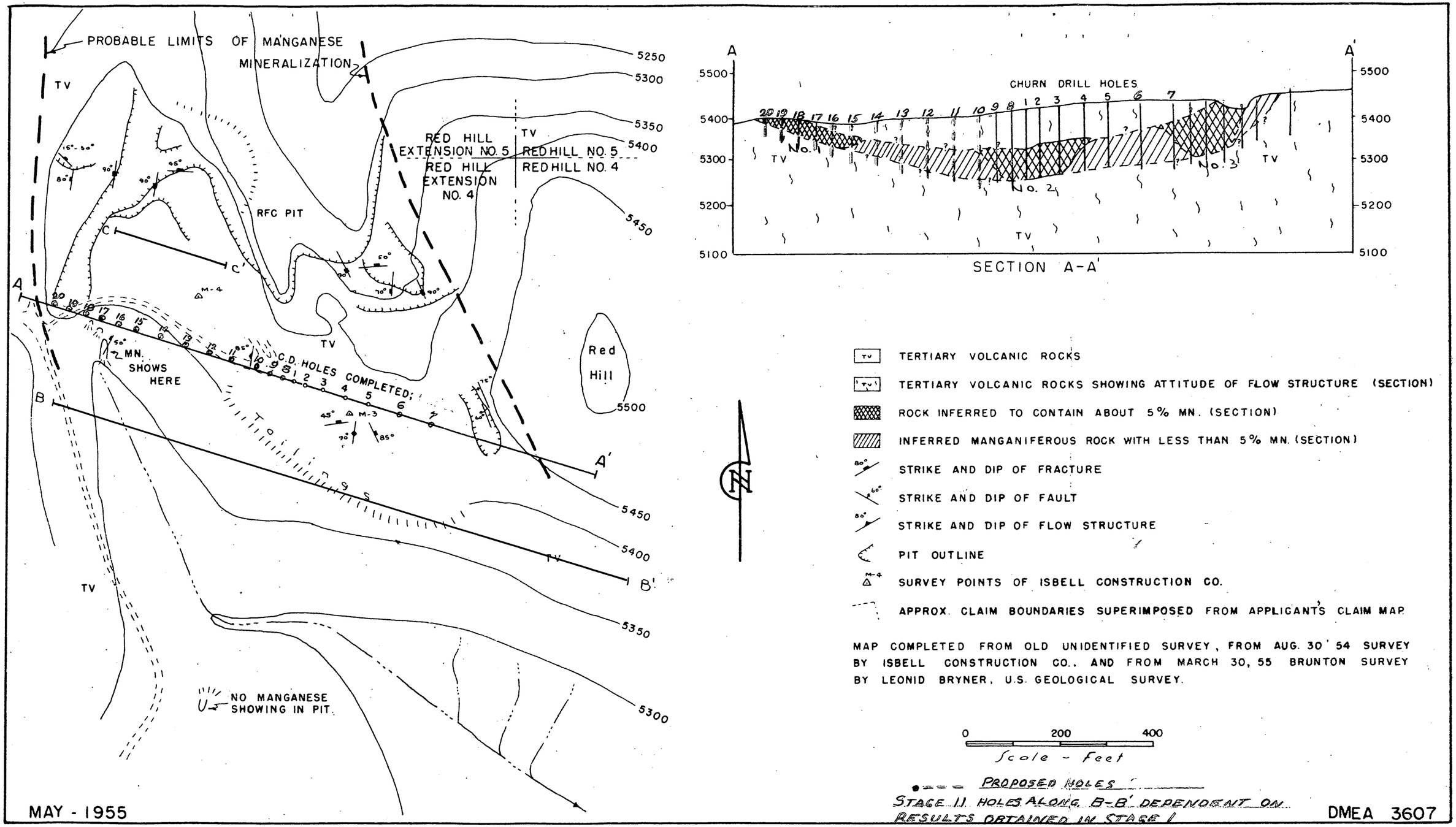

FIGURE - 2 - GEOLOGIC. AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

1/15/58

Mr. Mittendorf:

Mr. W. A. Buckman, Ajax Tungsten Corp., Portland, Oregon, wants to be called back.

His company is negotiating for purchase of property in Socorro, N.M.:

mailing address

Manganese Corp. of Arizona
(?) E. Z. Mendinhall E.V. Mendenhall
V. J. Morgan Victor J. Morgan
Arthur Olsen

Consists of 30 unpatented lodes and 12 millsites known as Big Basin, Red Hill, Niggarhead, and State Lease.

Located in Secs. ~~22~~ 32 of R2W, T3S and 17-18-20 of Township 4 South, R1W

Ajax Co. has signed options for purchase of this property. Trying to determine amount of indicated tonnage. Any other information that can be given them. (Company files contain little information.)

He understands that Manganese Corp. of A. "negotiated and obtained a DMEA loan, but never actually used the loan." (Also had an SBA loan., He talked with SBA also.) SBA application indicated there was a DMEA loan.)

Capital 8-5262
X575
Portland, Oregon

$250,000 S.B.A. loan

2400 ton - Pink floor - built

1

Wants farms - will get from Reno. —
Might put in 2 or 3 apples

Division Copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E 867

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this SEP 2 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.* (a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the[4] Lessee of[5] Mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a[6] lease and option, [7]..... recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of the holder of the legal title of the land (lessor, seller, optionor, etc.) Socorro Corporation, are attached, as follows: Consent to Lien of

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

16—70618-1

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work, except as otherwise provided in Exhibit "A".

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $49,600.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $37,200.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

MANGANESE CORPORATION OF ARIZONA

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By C. Mitchenor
Administrator, Defense Minerals Exploration Administration

Robert Hoffman
"Appd. Sol. Off."

Chapman
Selfridge
Fulton

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

.....

[CORPORATE SEAL]

Selfridge

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

ANNEX I

The land referred to in Article 2 of the contract form consists of six unpatented lode mining claims which are located in sections 17 and 20, T. 4 S., R. 1 W., Socorro County, New Mexico, as follows:

Red Hill Extension No. 3

Red Hill Extension No. 4

Red Hill Extension No. 5

Red Hill Extension No. 6

Red Hill Extension No. 8

Red Hill Extension No. 10

The claims are recorded in Book 138 at pages 236 through 259.

The land is shown on the map entitled "Figure 1 - Location and Claim Map - Manganese Corp. of Arizona ... May 1955," attached hereto and made a part hereof.

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure -2 Geologic and Exploration Map . . .," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-foot intervals in zones of more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
Churn Drilling 2,500 feet @ $6.00/ft.	15,000.00	
Lost casing, 500 feet[1/] @ $2.50/ft.	1,250.00	
Sampling, 2,500 feet @ $0.74/ft.	1,850.00	
Analyzing 200 samples for manganese @ $2.00/sample	400.00	
Estimated Total Cost of Stage I		$19,100.00
Stage II		
Bulldozing 60 hours @ $15.00/hr.	900.00	
Churn Drilling 4,000 feet @ $6.00/ft.	24,000.00	
Lost casing, 800[1/] @ $2.50/ft.	2,000.00	
Sampling, 4,000 feet @ $0.74/ft.	2,960.00	
Analyzing 320 samples for manganese @ $2.00/sample	640.00	
Estimated Total Cost of Stage II		30,500.00
Estimated Total Cost of Project		$49,600.00
Government Participation @ 75 percent		$37,200.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost by the Operator without contribution by the Government.

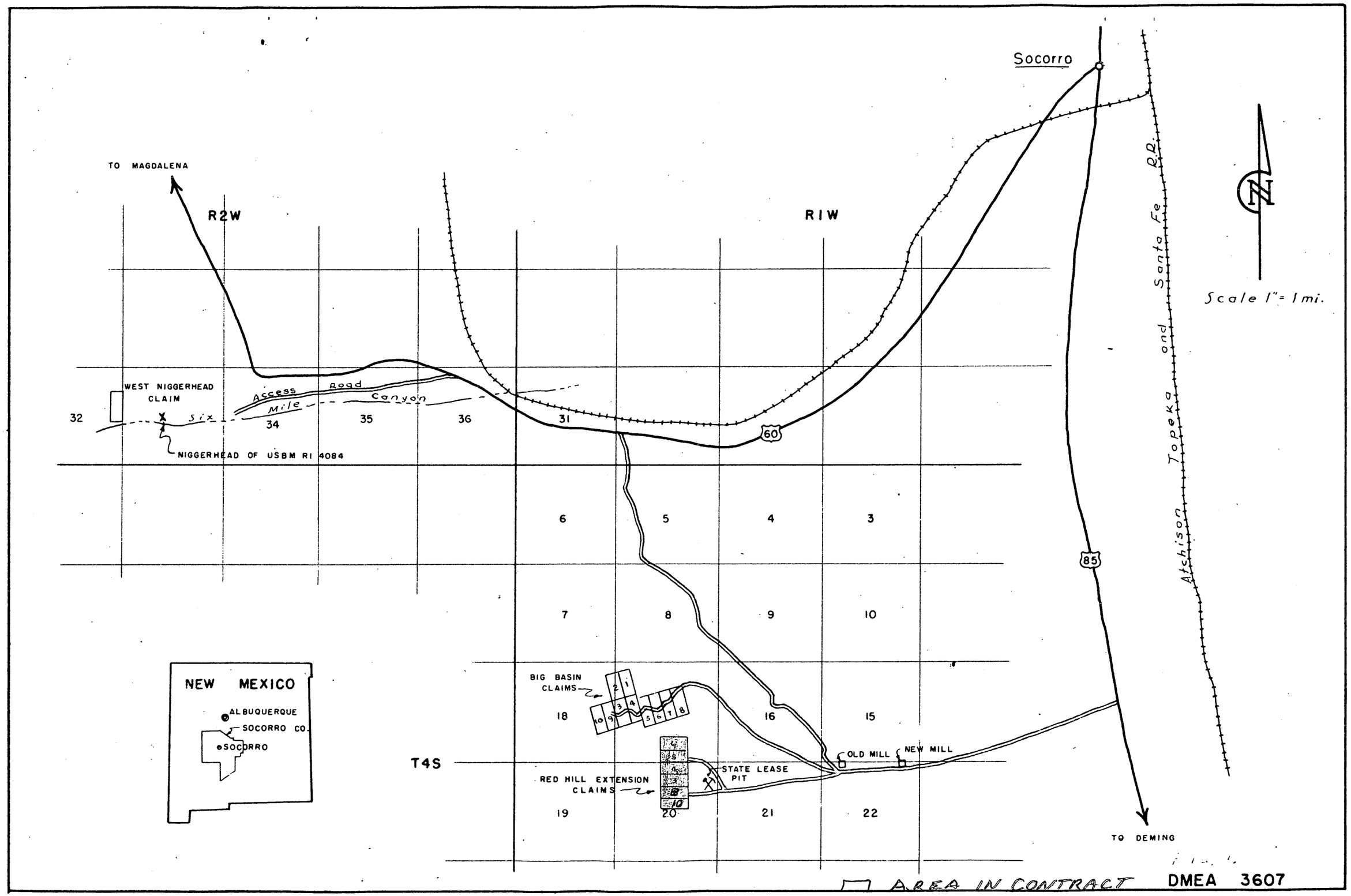

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

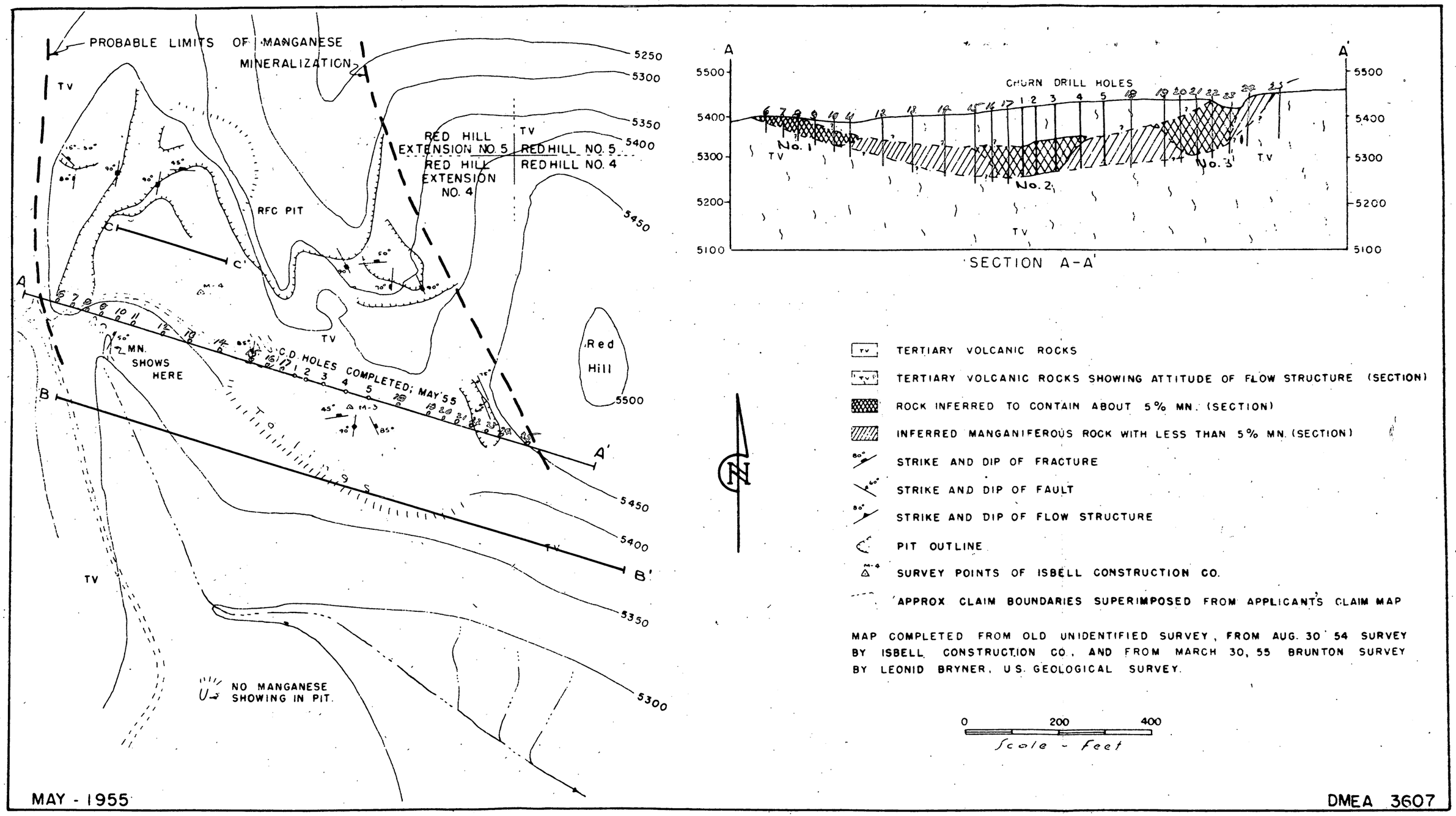

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

Docket Copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E 867

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this SEP 2 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.* (a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the[4] lessee of[5] Mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a[6] lease and option, [7] ..... recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of the holder of the legal title of the land (lessor, seller, optionor, etc.) Socorro Corporation, are attached, as follows: .....

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work, except as otherwise provided in Exhibit "A".

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $49,600.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $37,200.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

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ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

MANGANESE CORPORATION OF ARIZONA

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By .....
Administrator, Defense Minerals Exploration Administration

"Appd. Sol. Off."

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

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

ANNEX I

The land referred to in Article 2 of the contract form consists of six unpatented lode mining claims which are located in sections 17 and 20, T. 4 S., R. 1 W., Socorro County, New Mexico, as follows:

Red Hill Extension No. 3

Red Hill Extension No. 4

Red Hill Extension No. 5

Red Hill Extension No. 6

Red Hill Extension No. 8

Red Hill Extension No. 10

The claims are recorded in Book 138 at pages 236 through 259.

The land is shown on the map entitled "Figure 1 - Location and Claim Map - Manganese Corp. of Arizona ... May 1955," attached hereto and made a part hereof.

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure -2- Geologic and Exploration Map . . .," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-feet intervals in zones of more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
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Government Participation @ 75 percent		$37,200.00

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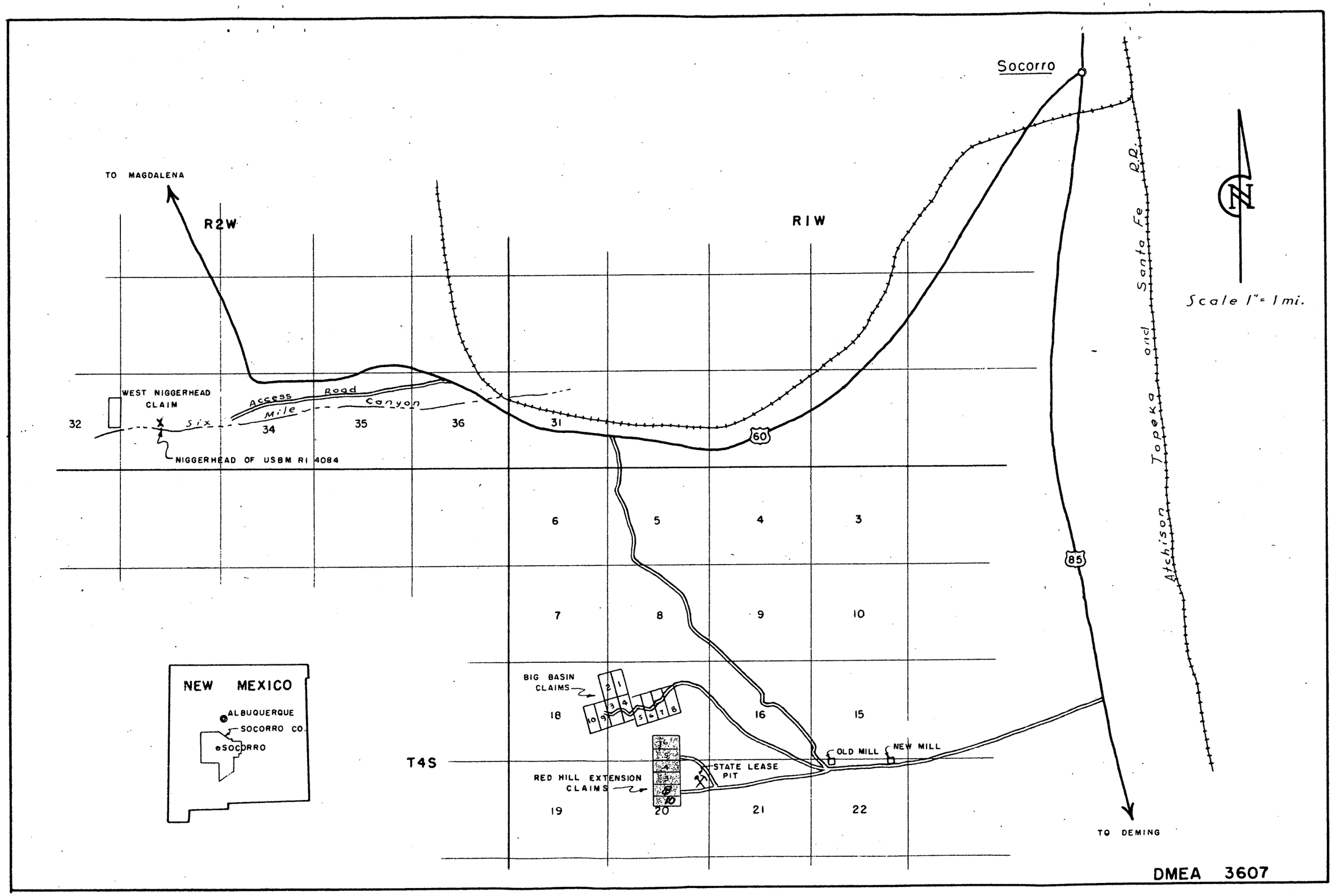

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

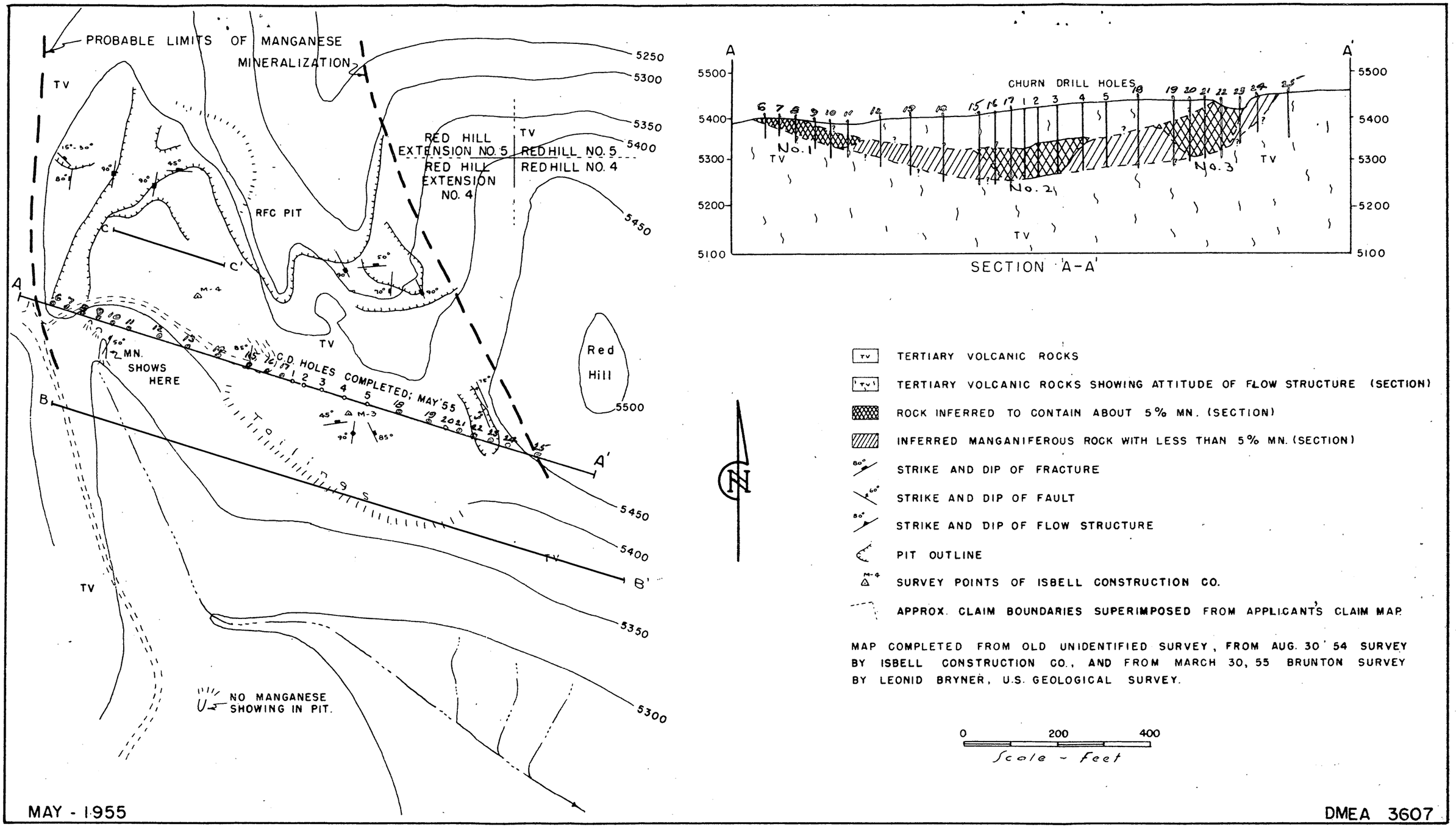

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

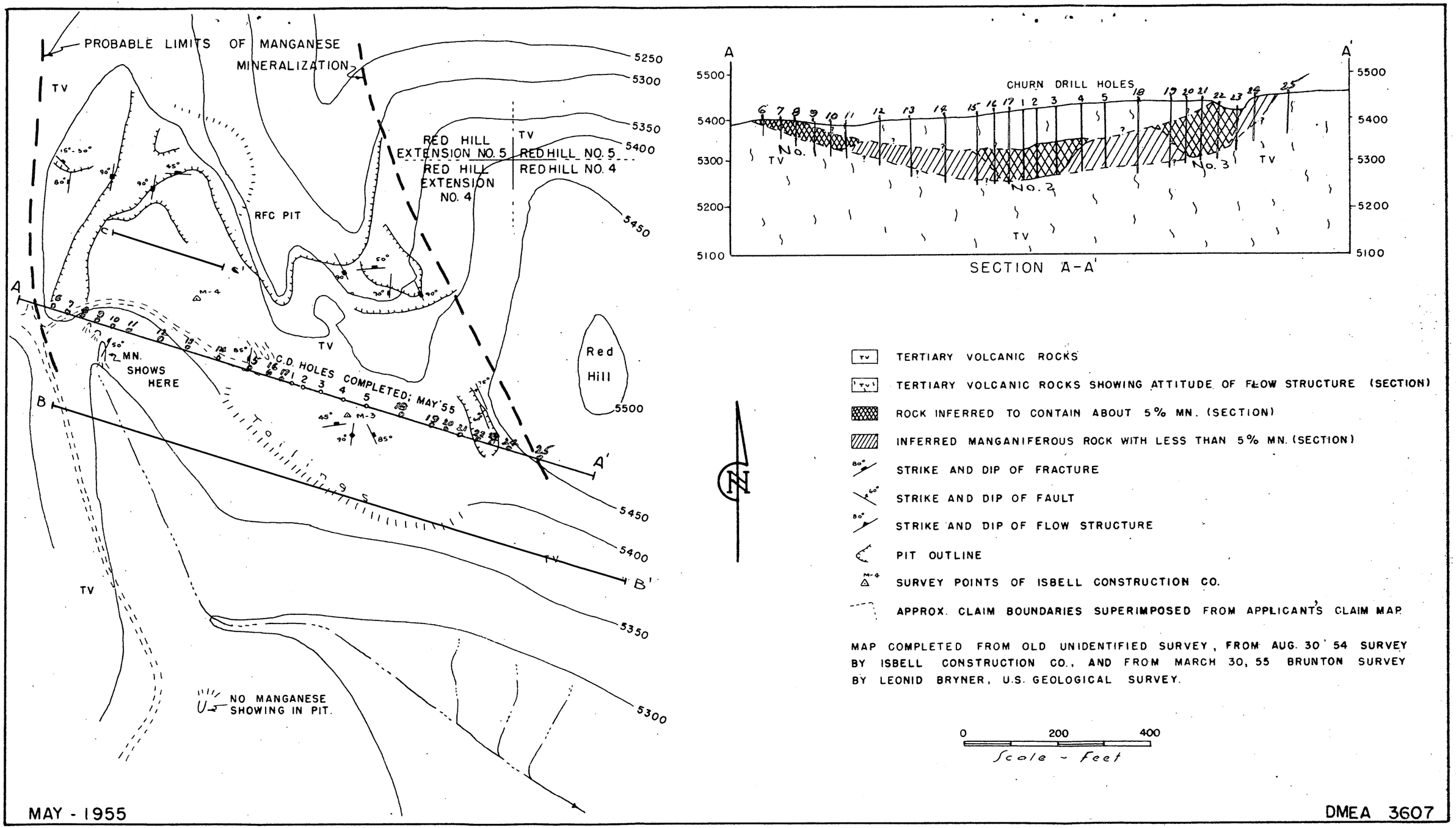

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

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Extra copies for Field Team

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

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The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

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1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-feet intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-foot intervals in zones of more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
Churn Drilling 2,500 feet @ $6.00/ft.	15,000.00	
Lost casing, 500 feet[1/] @ $2.50/ft.	1,250.00	
Sampling, 2,500 feet @ $0.74/ft.	1,850.00	
Analyzing 200 samples for manganese @ $2.00/sample	400.00	
Estimated Total Cost of Stage I		$19,100.00
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Bulldozing 60 hours @ $15.00/hr.	900.00	
Churn Drilling 4,000 feet @ $6.00/ft.	24,000.00	
Lost casing, 800[1/] @ $2.50/ft.	2,000.00	
Sampling, 4,000 feet @ $0.74/ft.	2,960.00	
Analyzing 320 samples for manganese @ $2.00/sample	640.00	
Estimated Total Cost of Stage II		30,500.00
Estimated Total Cost of Project		$49,600.00
Government Participation @ 75 percent		$37,200.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost by the Operator without contribution by the Government.

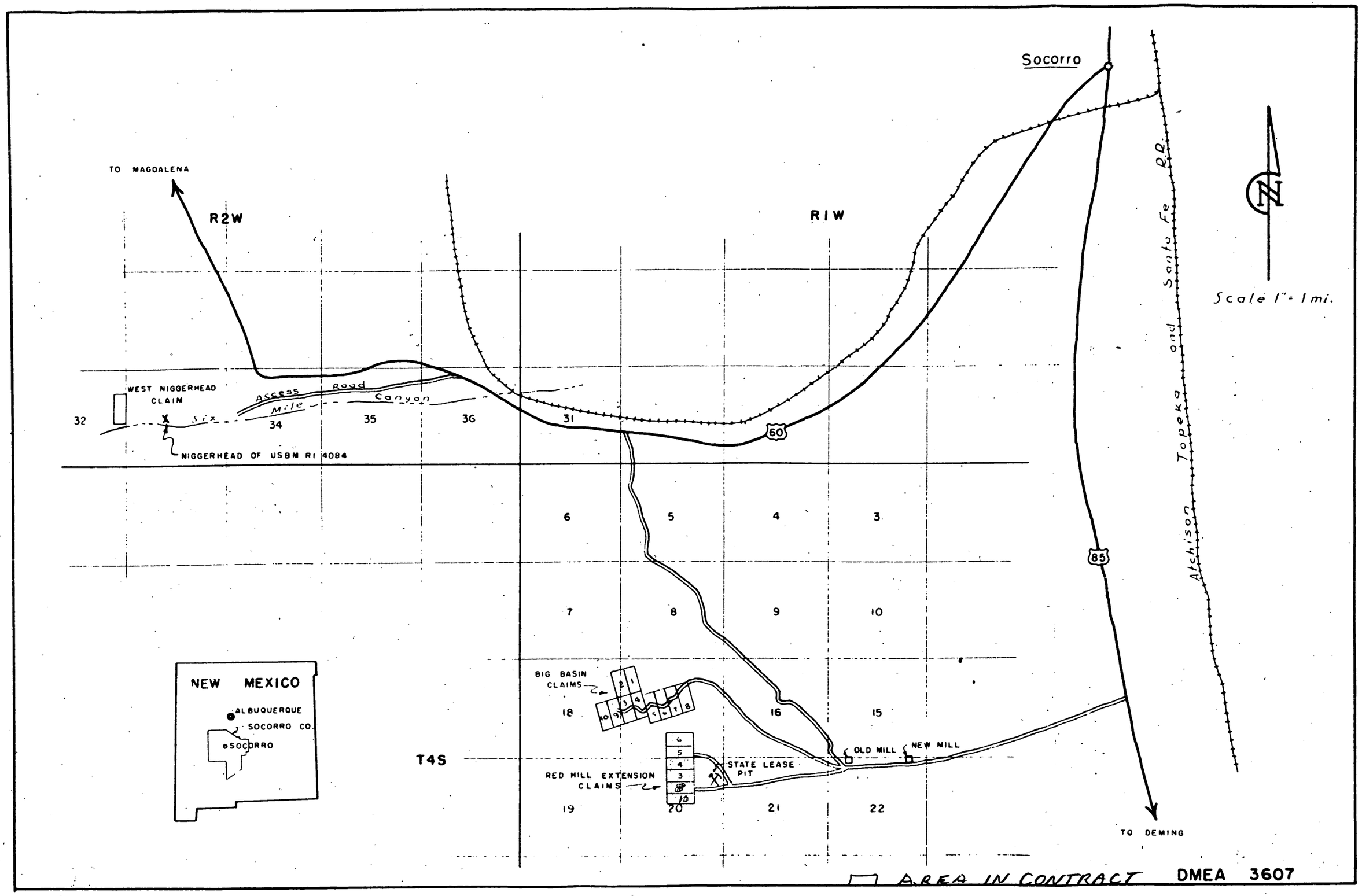

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

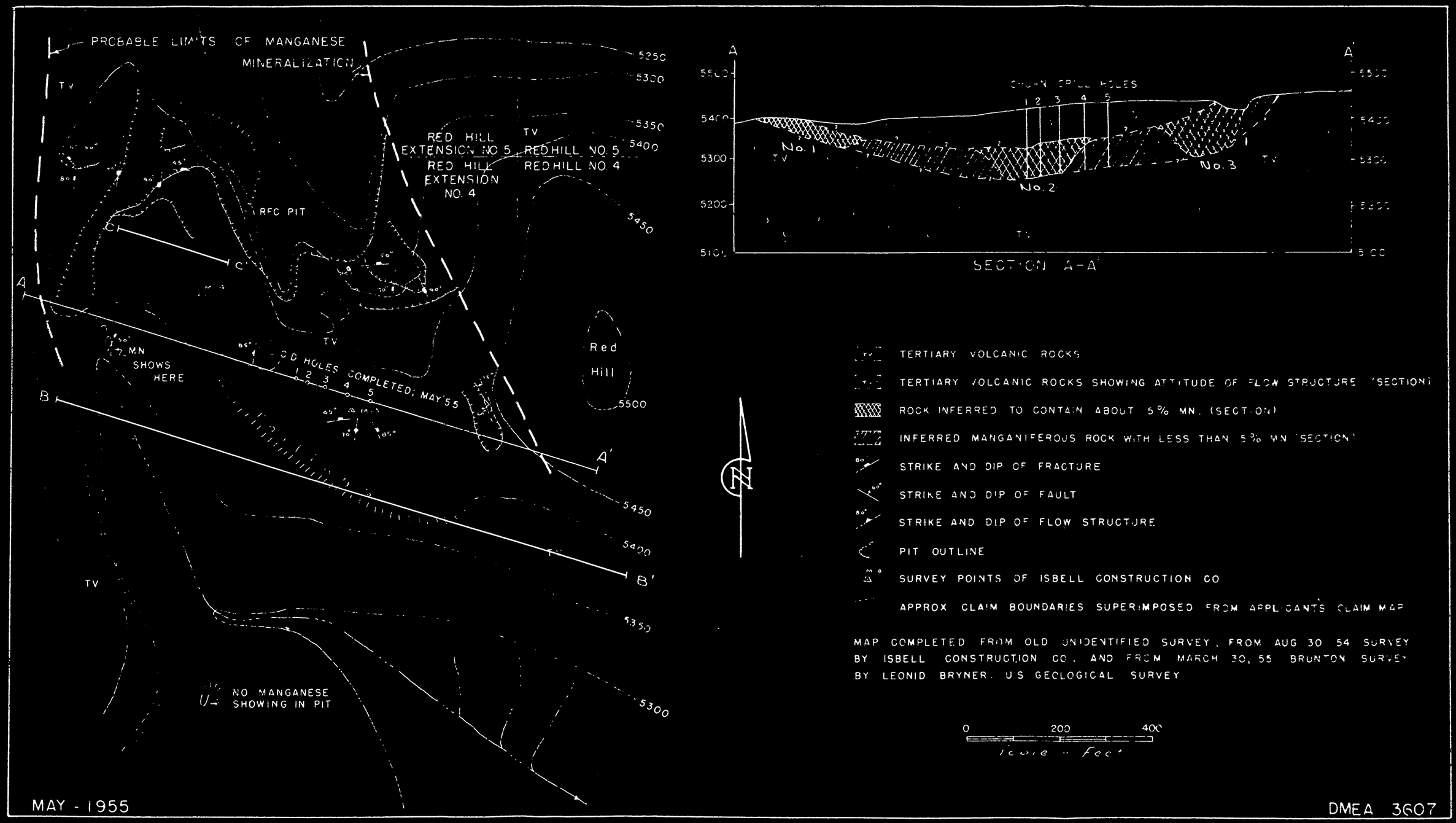

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

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

March 25, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 28 1957

DATE	INITIALS	CODE
3/28	C	220
3/28	WSM	400
		225

Memorandum

To: Chairman, Operating Committee, DMEA

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

Subject: Docket No. DMEA-3607 (Manganese), Manganese Corporation of Arizona, (Red Hill Extension Claims) Socorro County, New Mexico

Enclosed for your consideration and appropriate action is a letter dated March 19, 1957, from Victor J. Morgan, which requests our returning certain material included in the above subject docket.

We hesitate to comply with the Applicant's request, since at the time of submitting the application no request was made for the return of any material.

In general, we believe that material submitted in conjunction with an application, if not specifically requested for return by the applicant at the time of submittal, should be considered as part of the permanent records for our files.

E. N. Harshman

E. N. Harshman

Encl.

See our letter to Harshman, Apr 22, 1957

FOC

Pls see me

Look for map.

Maps not found. Not in 400 files or around office. S.P.H. 4.11.57

EXTRA COPY
DMEA
RECEIVED MAR 2
DATE | INITIALS | CODE

224 New Customhouse
Denver 2, Colorado

March 25, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

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Original signed by
E. N. HARSHMAN

E. N. Harshman

Encl.

MHM:bh

cc-Storms) w/copy of Applicant's
Emerick) letter dated
DMEA-3607) 3/19/57
Chron.

Docket DMEA-3667 Σ 867

Manganese Corporation of Arizona

PHOENIX, ARIZONA P. O. BOX 622 SOCORRO, NEW MEXICO

March 19, 1957

DMEA
DEPARTMENT OF THE INTERIOR
MAR 21 1957
REGION III
DENVER, COLORADO

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 28 1957

DATE	INITIALS	CODE
3/28	WSay	400

Defense Minerals Exploration Administration
New Customs House Building
Denver, Colorado

Attention: Mr. Conners

Dear Mr. Conners,

Would you please send our maps and mining exploration plans back to us as soon as it is convenient, as we have need for some of the base topographic maps, etc., that are still in your organizations possession.

Many thanks for your past efforts and cooperation in these matters.

Sincerely yours,

MANGANESE CORPORATION OF ARIZONA

Victor J. Morgan

Victor J. Morgan
President

VJM:jp

Extra Copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E 867

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this SEP 2 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and .....

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.* (a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the[4] lessee of[5] mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a[6] lease and option,[7] recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of the holder of the legal title of the land (lessor, seller, optionor, etc.) Socorro Corporation, are attached, as follows: .....

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

16—70618-1

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work except as otherwise provided in Exhibit "A".

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $49,600.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $37,200.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

A NONPROFIT CORPORATION OF ARIZONA
(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By E. O. Mittendorf
Administrator, Defense Minerals Exploration Administration

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

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

ANNEX I

The land referred to in Article 2 of the contract form consists of six unpatented lode mining claims which are located in sections 17 and 20, T. 4 S., R. 1 W., Socorro County, New Mexico, as follows:

Red Hill Extension No. 3

Red Hill Extension No. 4

Red Hill Extension No. 5

Red Hill Extension No. 6

Red Hill Extension No. 8

Red Hill Extension No. 10

The claims are recorded in Book 138 at pages 236 through 259.

The land is shown on the map entitled "Figure 1 - Location and Claim Map - Manganese Corp. of Arizona ... May 1955," attached hereto and made a part hereof.

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure -2 Geologic and Exploration Map . . .," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-foot intervals in zones of more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
Churn Drilling 2,500 feet @ $6.00/ft.	15,000.00	
Lost casing, 500 feet[1/] @ $2.50/ft.	1,250.00	
Sampling, 2,500 feet @ $0.74/ft.	1,850.00	
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Estimated Total Cost of Stage I		$19,100.00
Stage II		
Bulldozing 60 hours @ $15.00/hr.	900.00	
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Estimated Total Cost of Stage II		30,500.00
Estimated Total Cost of Project		$49,600.00
Government Participation @ 75 percent		$37,200.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost by the Operator without contribution by the Government.

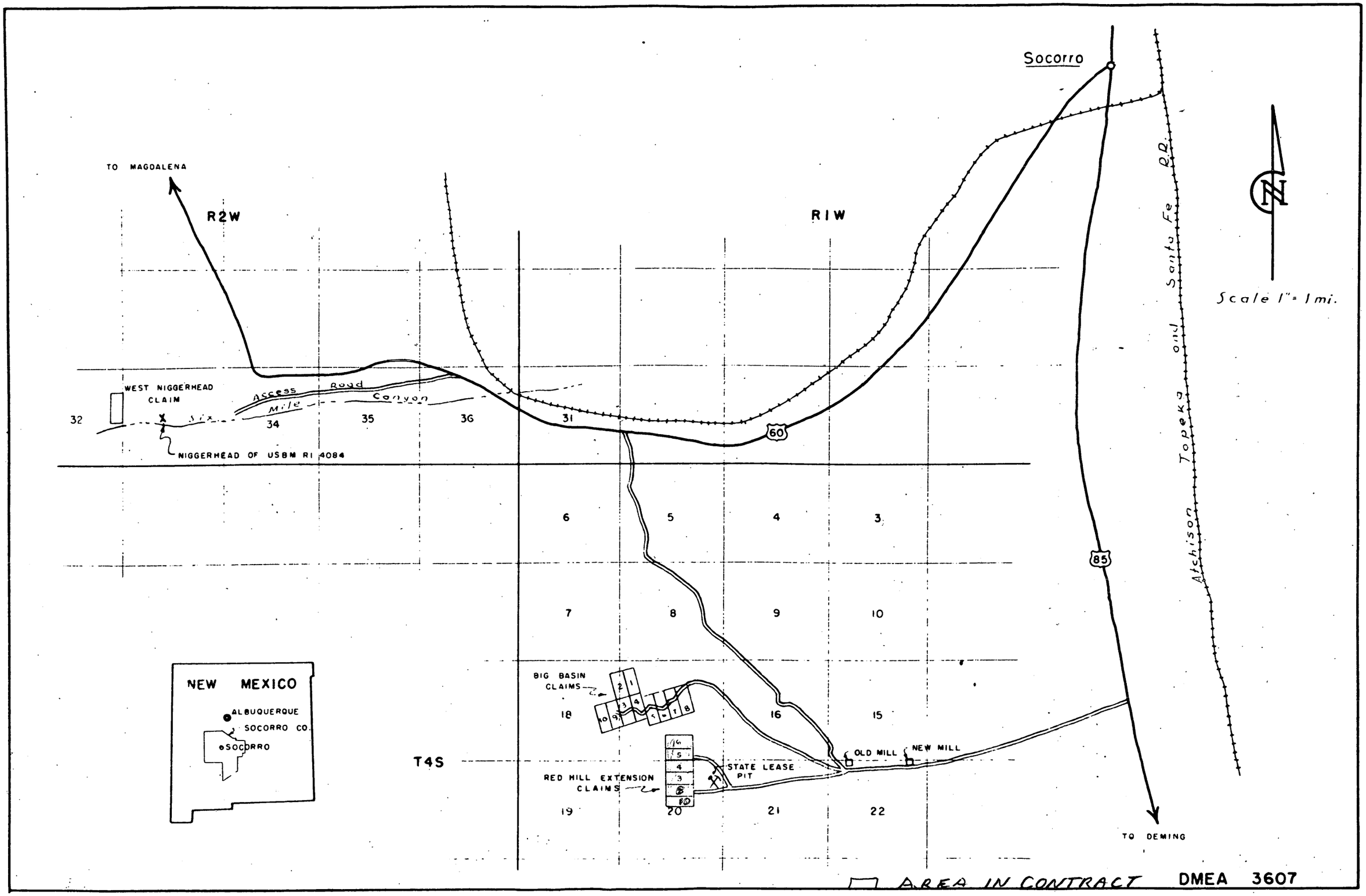

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY -, 1955

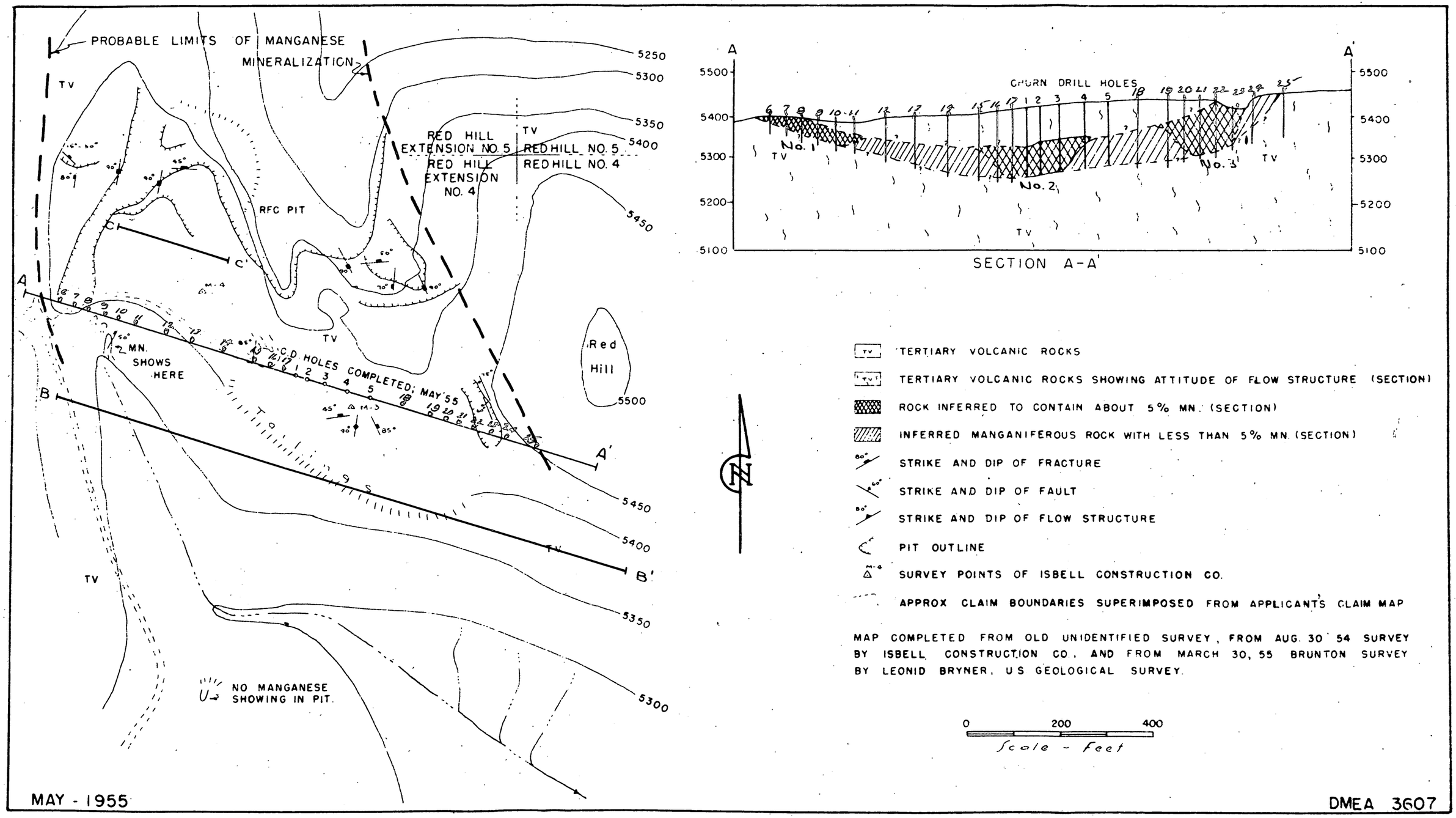

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

DMEA
Date Rec'd.

SEP 6 1955

BUREAU OF MINES
Denver, Colorado

Field Team Copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E 867

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this SEP 2 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and 2 maps.

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] lessee of [5] Mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] lease and option, [7] ....recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: none.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: Consent to Lien of Socorro Corporation.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work, except as otherwise provided in Exhibit "A".

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $49,600.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $37,200.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

MANGANESE CORPORATION OF ARIZONA

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By Administrator, Defense Minerals Exploration Administration

---

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

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

ANNEX I

The land referred to in Article 2 of the contract form consists of six unpatented lode mining claims which are located in sections 17 and 20, T. 4 S., R. 1 W., Socorro County, New Mexico, as follows:

Red Hill Extension No. 3

Red Hill Extension No. 4

Red Hill Extension No. 5

Red Hill Extension No. 6

Red Hill Extension No. 8

Red Hill Extension No. 10

The claims are recorded in Book 138 at pages 236 through 259.

The land is shown on the map entitled "Figure 1 - Location and Claim Map - Manganese Corp. of Arizona ... May 1955," attached hereto and made a part hereof.

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure -2- Geologic and Exploration Map . . .," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-foot intervals in zones of more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
Churn Drilling 2,500 feet @ $6.00/ft.	15,000.00	
Lost casing, 500 feet[1/] @ $2.50/ft.	1,250.00	
Sampling, 2,500 feet @ $0.74/ft.	1,850.00	
Analyzing 200 samples for manganese @ $2.00/sample	400.00	
Estimated Total Cost of Stage I		$19,100.00
Stage II		
Bulldozing 60 hours @ $15.00/hr.	900.00	
Churn Drilling 4,000 feet @ $6.00/ft.	24,000.00	
Lost casing, 800[1/] @ $2.50/ft.	2,000.00	
Sampling, 4,000 feet @ $0.74/ft.	2,960.00	
Analyzing 320 samples for manganese @ $2.00/sample	640.00	
Estimated Total Cost of Stage II		30,500.00
Estimated Total Cost of Project		$49,600.00
Government Participation @ 75 percent		$37,200.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost by the Operator without contribution by the Government.

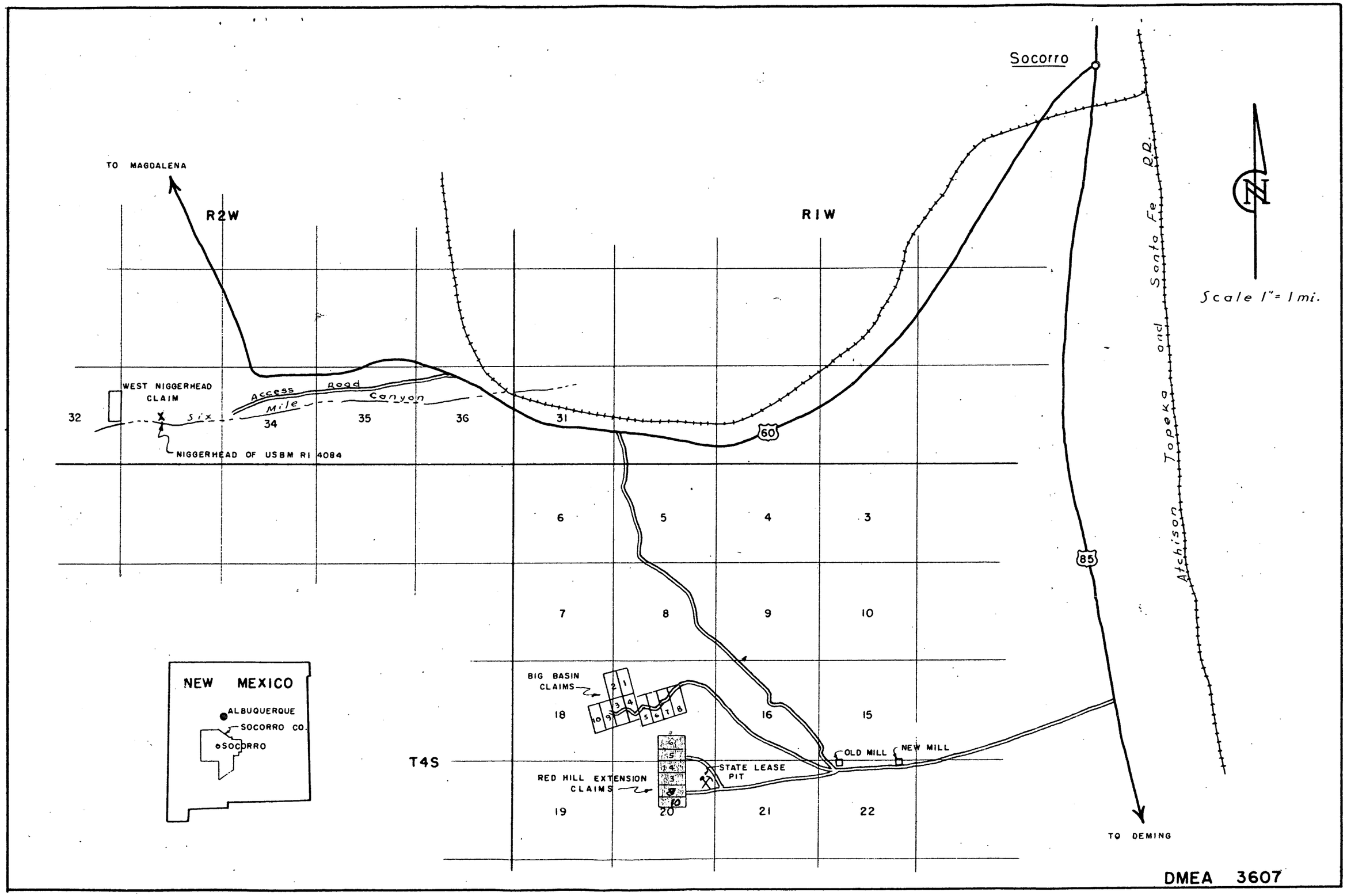

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

RECEIVED
JUL 18 1955

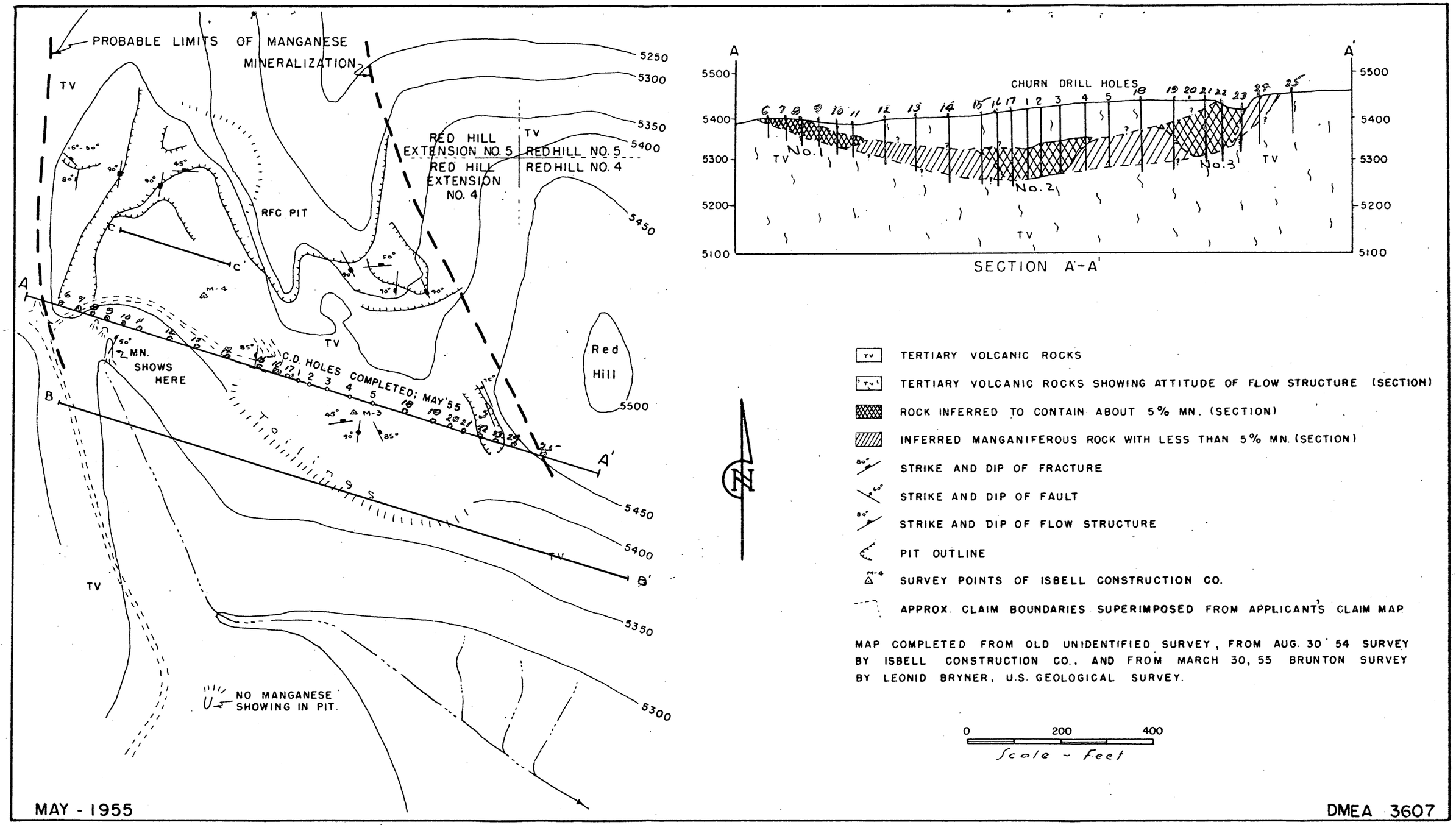

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

RECEIVED
JUL 18 1955

Government's Copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E 867

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this SEP 2 1955 day of ....., 195..., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and 2 maps.

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] lessee of [5] Mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] lease and option, [7] ..... recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: none.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: Consent to Lien of Socorro Corporation.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work, except as otherwise provided in Exhibit "A".

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $49,600.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $37,200.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

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(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

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(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

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(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

MANGANESE CORPORATION OF ARIZONA
(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By C. P. Mittendorf
Administrator, Defense Minerals
Exploration Administration

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

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

ANNEX I

The land referred to in Article 2 of the contract form consists of six unpatented lode mining claims which are located in sections 17 and 20, T. 4 S., R. 1 W., Socorro County, New Mexico, as follows:

Red Hill Extension No. 3

Red Hill Extension No. 4

Red Hill Extension No. 5

Red Hill Extension No. 6

Red Hill Extension No. 8

Red Hill Extension No. 10

The claims are recorded in Book 138 at pages 236 through 259.

The land is shown on the map entitled "Figure 1 - Location and Claim Map - Manganese Corp. of Arizona ... May 1955," attached hereto and made a part hereof.

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure -2- Geologic and Exploration Map . . . ," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-foot intervals in zones of more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
Churn Drilling 2,500 feet @ $6.00/ft.	15,000.00	
Lost casing, 500 feet[1] @ $2.50/ft.	1,250.00	
Sampling, 2,500 feet @ $0.74/ft.	1,850.00	
Analyzing 200 samples for manganese @ $2.00/sample	400.00	
Estimated Total Cost of Stage I		$19,100.00
Stage II		
Bulldozing 60 hours @ $15.00/hr.	900.00	
Churn Drilling 4,000 feet @ $6.00/ft.	24,000.00	
Lost casing, 800[1] @ $2.50/ft.	2,000.00	
Sampling, 4,000 feet @ $0.74/ft.	2,960.00	
Analyzing 320 samples for manganese @ $2.00/sample	640.00	
Estimated Total Cost of Stage II		30,500.00
Estimated Total Cost of Project		$49,600.00
Government Participation @ 75 percent		$37,200.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost by the Operator without contribution by the Government.

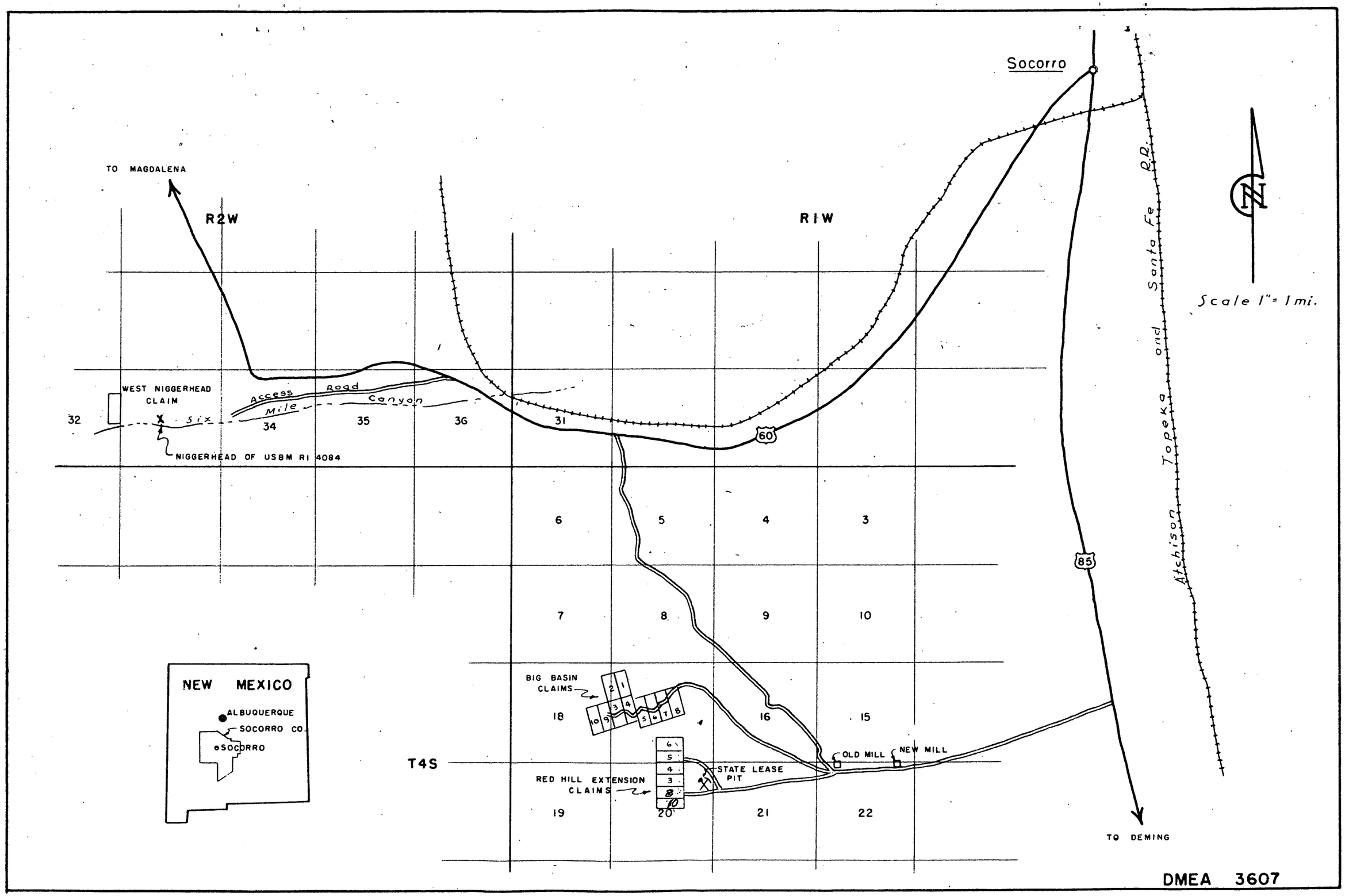

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

RECEIVED
JUL 18 1955

10961/3601

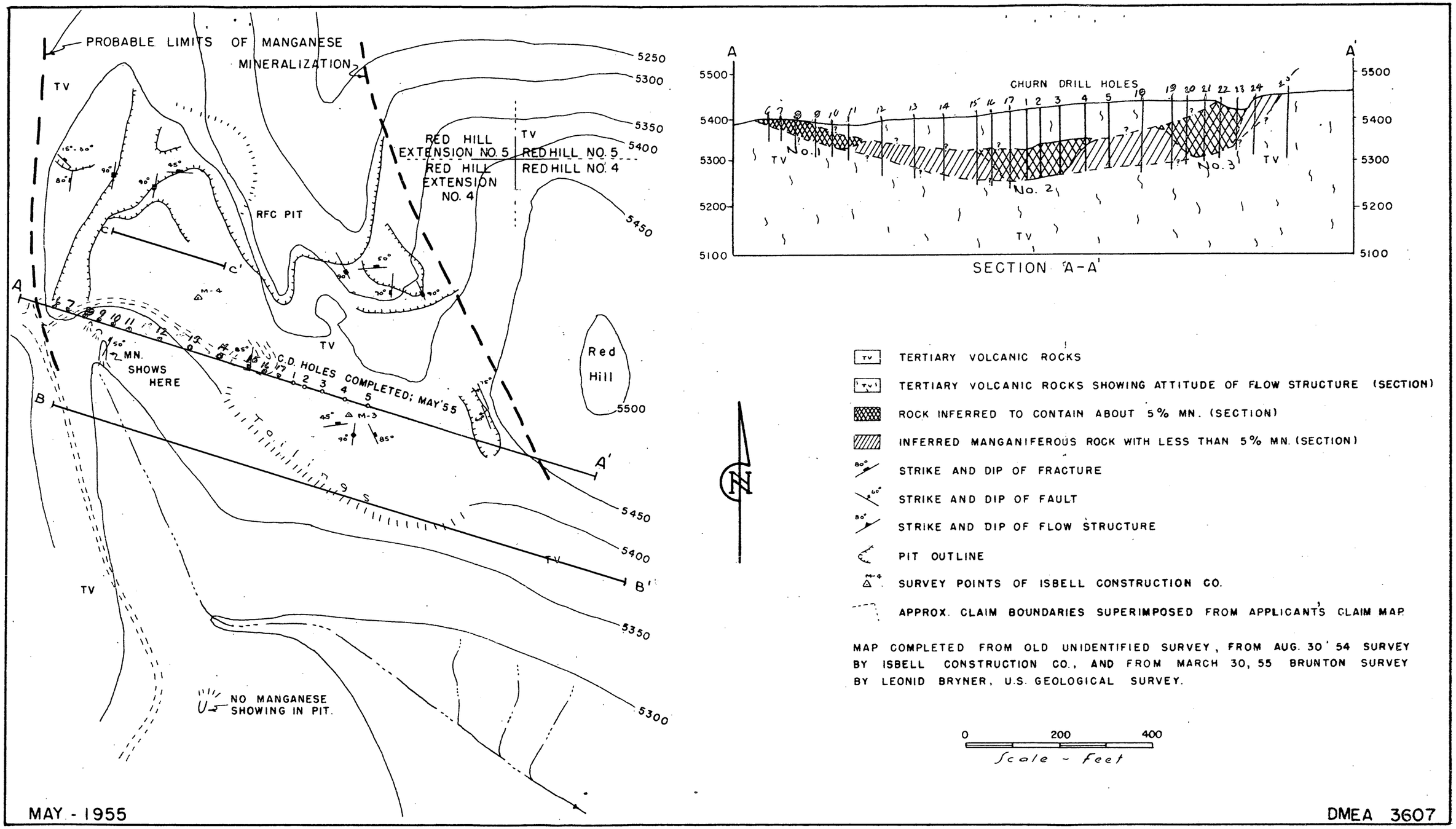

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

RECEIVED
JUL 18 1955

Operator's Copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E 867

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this SEP 2 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and 2 maps.

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] lessee of [5] Mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] lease and option, [7] ....recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: none.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: Consent to Lien of Socorro Corporation.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

16—70818-1

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work, except as otherwise provided in Exhibit "A".

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $~~49,600.00~~ 30,500.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $~~37,200.00~~ 22,875.00 *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

MANGANESE CORPORATION OF ARIZONA

(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By C. O. Mittendorf

Administrator, Defense Minerals Exploration Administration

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

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

ANNEX I

The land referred to in Article 2 of the contract form consists of six unpatented lode mining claims which are located in sections 17 and 20, T. 4 S., R. 1 W., Socorro County, New Mexico, as follows:

Red Hill Extension No. 3

Red Hill Extension No. 4

Red Hill Extension No. 5

Red Hill Extension No. 6

Red Hill Extension No. 8

Red Hill Extension No. 10

The claims are recorded in Book 138 at pages 236 through 259.

The land is shown on the map entitled "Figure 1 - Location and Claim Map - Manganese Corp. of Arizona ... May 1955," attached hereto and made a part hereof.

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure 2- Geologic and Exploration Map . . . ," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at about 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals about in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' ~~and C-C'~~, indicated on Figure 2.

5. Approximately along Sections B-B' ~~and C-C'~~ indicated on Figure 2, drill not to exceed ~~4,000~~ 2,500 feet in approximately ~~20~~ 20 churn drill holes, at points

authorized by the Government. These holes shall be at about 40 ~~35~~-foot intervals in zones of more favorable mineralization and at about ~~70~~-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing ~~40~~ 25 hours @ $15.00/hr.	$ ~~600.00~~	$ 375.00
Churn Drilling ~~6~~ 1,500 feet @ $6.00/ft.	~~15,000.00~~	9,000.00
Lost casing, ~~500~~ 300 feet 1/ @ $2.50/ft.	~~1,250.00~~	750.00
Sampling, ~~6~~ 1,500 feet @ $0.74/ft.	1,850.00	1,110.00
Analyzing ~~200~~ 120 samples for manganese @ $2.00/sample	~~400.00~~	240.00
		11,475.00
Estimated Total Cost of Stage I		~~$19,100~~.00
Stage II		
Bulldozing ~~60~~ 35 hours @ $15.00/hr.	~~900.00~~	$ 525.00
Churn Drilling ~~4,000~~ 2,500 feet @ $6.00/ft.	~~24,000.00~~	15,000.00
Lost casing, ~~800~~ 500 1/ @ $2.50/ft.	~~2,000.00~~	1,250.00
Sampling, ~~4,000~~ 2,500 feet @ $0.74/ft.	~~2,960.00~~	1,850.00
Analyzing ~~320~~ 200 samples for manganese @ $2.00/sample	~~640.00~~	400.00
		19,025.00
Estimated Total Cost of Stage II		~~30,500~~.00
Estimated Total Cost of Project	30,500	~~$49,600~~.00
Government Participation @ 75 percent	$ 22,875	~~$37,200~~.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost by the Operator without contribution by the Government.

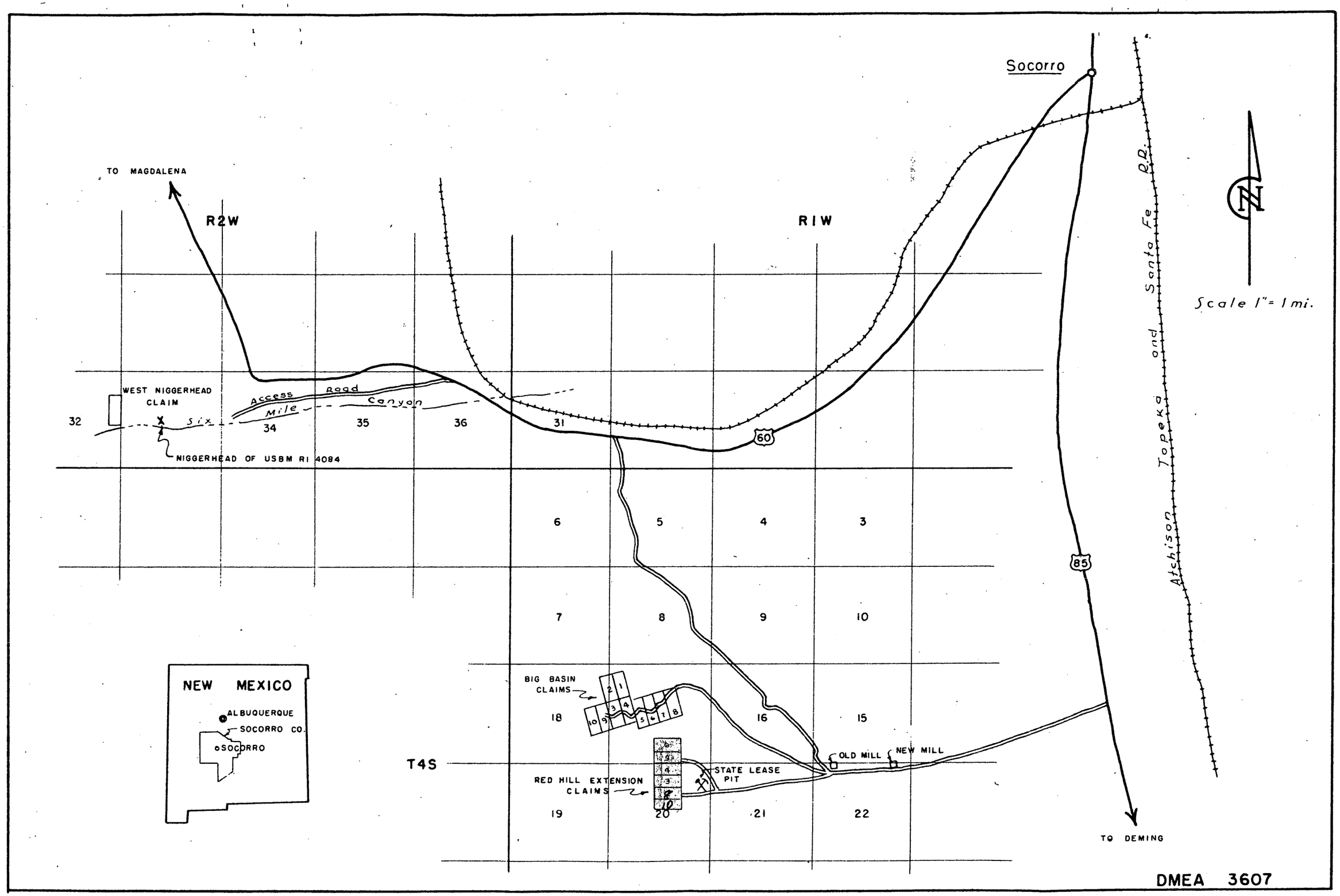

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

RECEIVED
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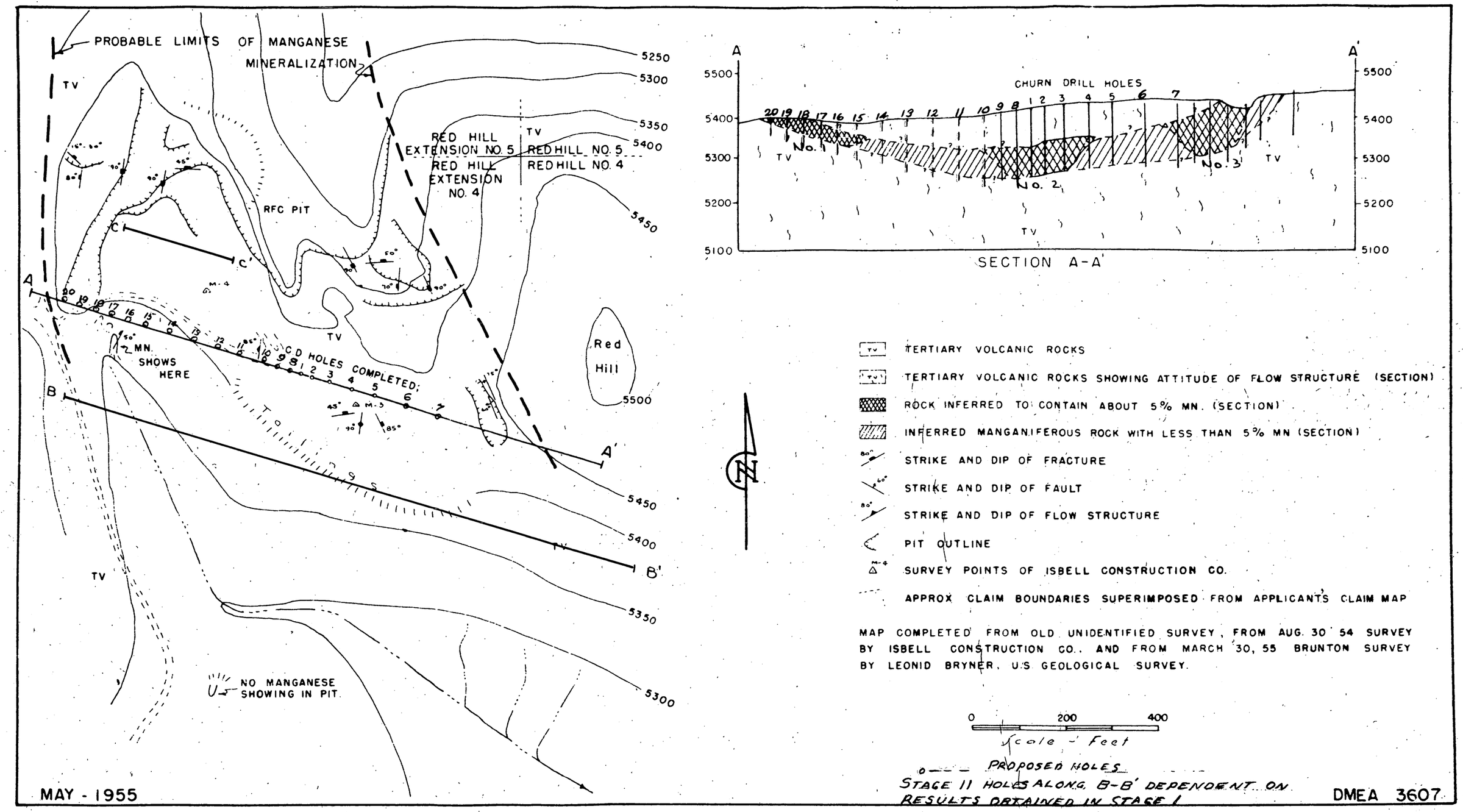


FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

Finance Office
Copy

MF-200A
(Revised June 1954)

Docket No. DMEA - 3607

Commodity Manganese

Contract No. Idm-E867

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this SEP 2 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Manganese Corporation of Arizona, an Arizona corporation, whose mailing address is Socorro, New Mexico, hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and 2 maps.

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of New Mexico, County of Socorro, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the[4] lessee of[5] Mineral rights in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a[6] lease and option,[7] ....recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: none.

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: Consent to Lien of Socorro Corporation.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

16—70618-1

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Manganese The work to be performed is described in Exhibit "A." The Operator on or before ..... shall commence the work, and on or before June 30, 1956 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work, except as otherwise provided in Exhibit "A".

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $49,600.00 The Government will contribute 75 percent of the fixed unit costs as work is performed, in a total sum not in excess of $37,200.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

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

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

MANGANESE CORPORATION OF ARIZONA
(Operator)

By .....

.....

THE UNITED STATES OF AMERICA

By C. O. Mittendorf
Administrator, Defense Minerals
Exploration Administration

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

.....

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMEA-3607

ANNEX I

The land referred to in Article 2 of the contract form consists of six unpatented lode mining claims which are located in sections 17 and 20, T. 4 S., R. 1 W., Socorro County, New Mexico, as follows:

Red Hill Extension No. 3

Red Hill Extension No. 4

Red Hill Extension No. 5

Red Hill Extension No. 6

Red Hill Extension No. 8

Red Hill Extension No. 10

The claims are recorded in Book 138 at pages 236 through 259.

The land is shown on the map entitled "Figure 1 - Location and Claim Map - Manganese Corp. of Arizona ... May 1955," attached hereto and made a part hereof.

EXPLORATION PROJECT CONTRACT
MANGANESE CORPORATION OF ARIZONA
DOCKET NO. DMRA-3607

EXHIBIT "A"

Description of the Work

The work shall be performed in successive stages, as indicated below, Stage I to be completed before Stage II is begun. The Operator shall perform Stage I, and shall perform so much of Stage II as the Government approves in writing in advance, based upon the results of Stage I.

The work is outlined in part on the map entitled "Figure -2- Geologic and Exploration Map . . .," attached hereto and made a part hereof.

Stage I

1. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Section A-A' indicated on Figure 2.

2. Approximately at the points along Section A-A' indicated on Figure 2, drill not to exceed 2,500 feet in approximately 20 churn drill holes. The holes shall be located at 35-foot intervals in zones of most favorable mineralization and shall be located at 70-foot intervals in zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

3. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Stage II

4. Bulldoze, with D-8 Caterpillar tractor-dozer or equivalent unit, access roads and drill sites approximately along Sections B-B' and C-C', indicated on Figure 2.

5. Approximately along Sections B-B' and C-C' indicated on Figure 2, drill not to exceed 4,000 feet in approximately 32 churn drill holes, at points

authorized by the Government. These holes shall be at 35-foot intervals in zones of more favorable mineralization and at 70-foot intervals in the zones of less favorable mineralization. The holes shall be not more than 12 inches and not less than 6 inches in diameter.

6. Except in barren zones, all holes shall be sampled at 5-foot intervals and the samples analyzed for manganese.

Fixed Unit Costs

Stage I		
Bulldozing 40 hours @ $15.00/hr.	$ 600.00	
Churn Drilling 2,500 feet @ $6.00/ft.	15,000.00	
Lost casing, 500 feet[1/] @ $2.50/ft.	1,250.00	
Sampling, 2,500 feet @ $0.74/ft.	1,850.00	
Analyzing 200 samples for manganese @ $2.00/sample	400.00	
Estimated Total Cost of Stage I		$19,100.00
Stage II		
Bulldozing 60 hours @ $15.00/hr.	900.00	
Churn Drilling 4,000 feet @ $6.00/ft.	24,000.00	
Lost casing, 800[1/] @ $2.50/ft.	2,000.00	
Sampling, 4,000 feet @ $0.74/ft.	2,960.00	
Analyzing 320 samples for manganese @ $2.00/sample	640.00	
Estimated Total Cost of Stage II		30,500.00
Estimated Total Cost of Project		$49,600.00
Government Participation @ 75 percent		$37,200.00

1/ Any excess over this estimated requirement necessary in connection with the completion of the drilling shall be at sole cost by the Operator without contribution by the Government.

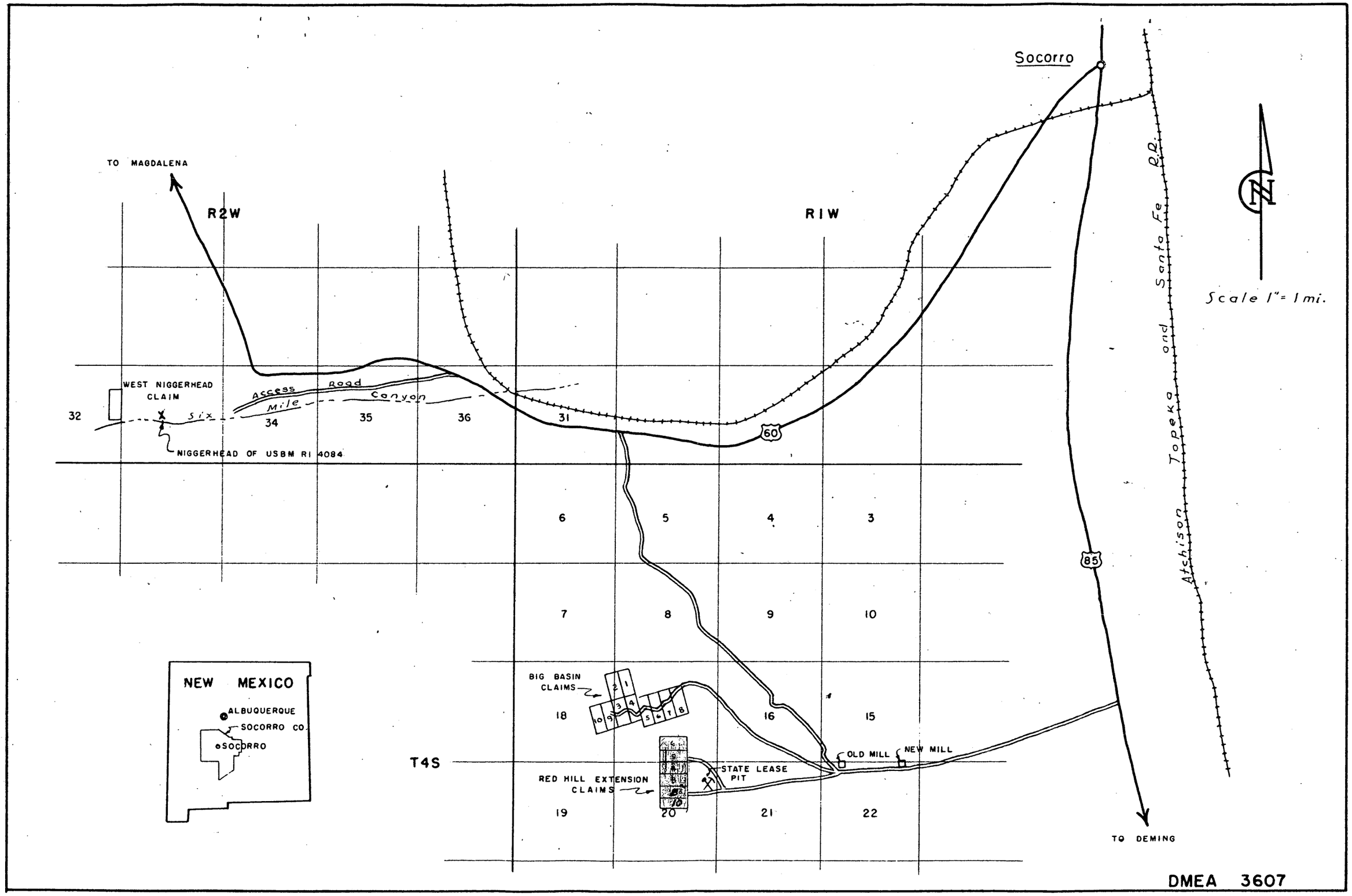


FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

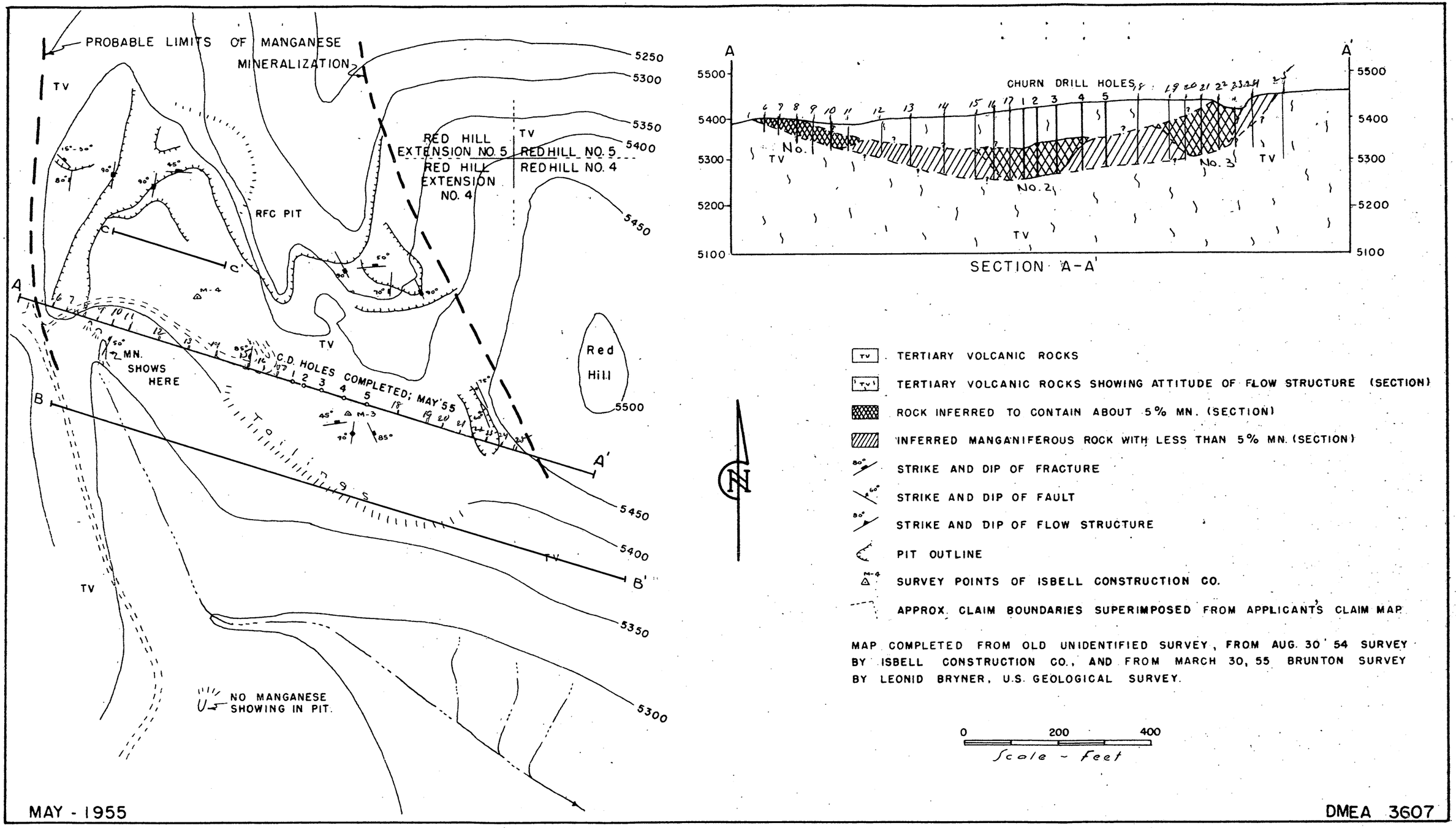


FIGURE - 2 - GEOLOGIC. AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

OFFICIAL FILE COPY
DMEA
RECEIVED APR 29 1957

DATE	INITIALS	CODE
4/29	C	220
		225

224 New Customhouse
Denver 2, Colorado

April 26, 1957

Mr. Victor J. Morgan, President
Manganese Corporation of America
P. O. Box 622
Sorocco, New Mexico

Re: Docket DMEA 3607 (Manganese),
Manganese Corporation of America
(Red Hill Extension Claims),
Sorocco County, New Mexico

Dear Mr. Morgan:

Enclosed are the following maps which were requested to be returned, by your letter of March 19, 1957, to this office:

Exhibit E & F - Claim Map
Exhibit G - Drill Pattern, Nigger Head west
Exhibit H - Master Map

We trust that we have satisfactorily complied with your request.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

MHM/vj

cc: Storms
Emerick
Chair. Opr. Comm. (2)
Docket
Chron.

224 New Customhouse
Denver 2, Colorado

April 26, 1957

EXTRA COPY
DMEA
RECEIVED APR 29 1957

DATE	INITIALS	CODE

Mr. Victor J. Morgan, President
Manganese Corporation of America
P. O. Box 622
Sorocco, New Mexico

Re: Docket DMEA 3-07 (Manganese),
Manganese Corporation of America
(Red Hill Extension Claims),
Sorocco County, New Mexico

Dear Mr. Morgan:

Enclosed are the following maps which were requested to be returned, by your letter of March 19, 1957, to this office:

Exhibit E & F - Claim Map
Exhibit G - Drill Pattern, Nigger Head West
Exhibit H - Master Map

We trust that we have satisfactorily complied with your request.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

MHM/vj

cc: Storms
Emerick
Chair. Opr. Comm. (2)
Docket
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4-18	Holt	400
4-18	Martin	400
4/19	Selfridge	130
"	Johnson	110
"	Hutchinson	100
		220

APR 22 1957

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

Dear Mr. Harshman:

Enclosed are two photostat copies each of the following maps, which accompanied the above docketed application, and which Mr. Victor J. Morgan, by letter of March 19, 1957, requested that you return to him:

Exhibits E and F - Claim Map

Exhibit G - Drill Pattern, Nigger Head West

Exhibit H - Master Map

You may, if you prefer, give Mr. Morgan the negative copies, and keep the positive prints with your office copy of the application.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

APPROVED:

Frank D. Lamb (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

SPHolt:am 4-18-57
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT REG III
Messrs. G. DeHuff, USBM
T. Kiilsgaard, USGS

Enclosure

8623

DOCKET
SURNAME
Chapman
Martin-
Selfridge

400

NOV 1 1956

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket No. DMEA 3607 - Manganese
Red Hill Extension Claims
Socorro County, New Mexico

Dear Mr. Morgan:

By letter of August 28, 1956, W. M. Trever, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse, Denver 2, Colorado, advised you as follows:

"If you wish DMEA to continue processing your application and will confirm your ability to obtain the required Performance Bond, we will notify the Washington office to prepare a contract.

It is not in accordance with DMEA policy to hold contracts in a pending state indefinitely. The original contract prepared on this docket was received in this office on September 6, 1955. Unless we receive your reply to this letter by September 17, 1956, we will consider that you are no longer interested in a loan and will recommend to Washington that the application be considered as withdrawn."

Accordingly, as no reply has been received to the above letter we infer that you are no longer interested in obtaining Government assistance in an exploration program at the captioned property. The subject docket, therefore, is being transferred to the inactive files and the application is considered as withdrawn.

Sincerely yours,

Frank E. Johnson
(e.f.)
Administrator

TLCHAPMAN:foc 11/8/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. Gilbert DeHuff, USBM
T. H. Kiilsgaard, USGS

R.C.S.

DOCKET
SURNAME
Chapman
Martin

400

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

Dekan
11/7

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

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, Arizona

Dear Mr. Trever:

Reference is made to your memorandum of October 29, 1956, inquiring as to the disposition of the above noted proposed contract.

Concurring with your recommendation of September 18, 1956, we advised A. S. Dekan, Operations Control and Statistics Division, on September 25, that the application was considered as withdrawn, and returned the docket to be placed in the inactive file.

Sincerely yours,

Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

TLChapman:fec 11/5/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. III
Messrs. Gilbert DeHuff, USBM
T. H. Kiilsgaard, USGS

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

RECEIVED
OCT 31 1956

224 New Customhouse
Denver 2, Colorado

October 29, 1956

Memorandum

To: Chairman, Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese) Proposed Contract Idm-E867 Manganese Corporation of Arizona (Red Hill Extension Claims) Socorro County, New Mexico

In our memorandum to you, dated September 18, 1956, we recommended that the subject application be considered as withdrawn.

Will you please advise what disposition has been made on this docket.

W. M. Traver

W. M. Traver

400

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

September 25, 1956

MEMORANDUM

To: A. S. Dakan, Chief, Operations Control & Statistics Div.

From: W. S. Martin, Chief, Iron & Ferro-Alloys Division

Subject: Withdrawal of application
Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Estension claims
Socorro County, New Meixco

By letter of August 28, 1956, the Field Team notified the applicant that unless they received a reply by September 17, 1956, they would consider that he was no longer interested in a DMEA loan and would recommend that their application be considered withdrawn.

Since the applicant did not answer the Field Team's letter, it is recommended that we consider the application as having been withdrawn without prejudice.

The docket is sent you herewith to be placed in the inactive files.

W S Martin
W. S. Martin, Chief
Iron & Ferro-Alloys Division

DOCKET
SURNAME
Martin

400

September 25, 1956

MEMORANDUM

To: A. S. Dakan, Chief, Operations Control & Statistics Div.

From: W. S. Martin, Chief, Iron & Ferro-Alloys Division

Subject: Withdrawal of application
Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

By letter of August 28, 1956, the Field Team notified the applicant that unless they received a reply by September 17, 1956, they would consider that he was no longer interested in a DMEA loan and would recommend that their application be considered withdrawn.

Since the applicant did not answer the Field Team's letter, it is recommended that we consider the application as having been withdrawn without prejudice.

The docket is sent you herewith to be placed in the inactive files.

W. S. Martin

W. S. Martin, Chief
Iron & Ferro-Alloys Division

FO'C 9/25/56
cc to: Docket
Code 400
Adm. Read. File

Docket

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

RECEIVED
SEP 21 1956

224 New Customhouse
Denver 2, Colorado

September 18, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

WSM

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Reference is made to our letter to the Applicant, dated August 28, 1956, wherein we advised that unless we received a reply by September 17, 1956, we would consider that he is no longer interested in a loan and will recommend to the Washington Office, DMEA, that the application be considered as withdrawn.

We have received no reply from the Applicant and we recomment that the application be considered as withdrawn.

W. M. Traver

W. M. Traver

Copy retained 400

Docket

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

224 New Customhouse
Denver 2, Colorado

August 20, 1956

Copy retained 400
W. B. [redacted]

WSM

Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA-3607 (Manganese) Proposed Contract Ida-3607, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. Morgan:

According to information from our examining engineer, who revisited the property concerned with the referenced loan application on July 17, you are desirous of continuing the processing to contract.

We have submitted to the Washington office revised recommendations for a contract based on this most recent examination and taking into consideration work performed at the property since the date of the original investigation. As a result they have prepared a draft of a contract which will require a Performance Bond on Standard Form 25 in the amount of $22,875.00. This Bond is in lieu of Consent to Lien forms to protect the Government's interest. We have advised Mr. Bright McClure of the McClure-Ringer Insurance Service, Phoenix, Arizona of this amount as requested by his letter of July 6, 1956.

If you wish DMEA to continue processing your application and will confirm your ability to obtain the required Performance Bond, we will notify the Washington office to prepare a contract.

It is not in accordance with DMEA policy to hold contracts in a pending state indefinitely. The original contract prepared on this docket was received in this office on September 6, 1955. Unless we receive your reply to this letter by September 17, 1956, we will consider that you are no longer interested in a loan and will recommend to Washington that the application be considered as withdrawn.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

WMT/pw
cc: Chair.Op.Comm. (2)
Marshman
Storms
Emerick
Townsend
Harold M. Smithells, S.B.A.
Docket 3607 Chron

Docket

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

224 New Customhouse
Denver 2, Colorado

August 28, 1956

Mr. Dwight McClure
McClure-Wingar Insurance Service
420 Luhrs Building
Phoenix, Arizona

Copy retained 400

Re: Docket DMEA 3607 (Manganese) Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. McClure:

This is in further reference to our letter to Mr. Morgan of June 28, 1956, your letter of July 6 to me and my reply of July 9, all concerned with the captioned loan application.

We have been advised by the DMEA Washington office that according to the latest revised draft of a contract prepared in conformance with new information from the applicant and field examination, a Standard Performance Bond in the amount of $22,875.00 will be required.

Mr. Morgan has failed so far to reply to our letter of June 28 but has stated to field representatives of this office that he desires to continue with processing of the loan.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Copy to Victor J. Morgan
WMT/pw
cc: Chairman, Op. Comm. (2)
Docket 3607
Harshman
Storms
Emerick
Townsend Chron

DOCKET
SURNAME

400 Martin
Selfridge
Johnson
McKinney

AUG 2 1956

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

Re: Docket No. DMEA 3607 - Manganese
Manganese Corp. of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Trover:

Reference is made to your letter of July 30, 1956, and the enclosure listed therein regarding the subject application.

In regard to your suggestion that we review your letter of July 9, 1956, to Mr. Dwight McClure, we note that you needed to know the amount of the Government's contribution to the proposed contract in order to reply to Mr. McClure's letter to you of July 6. According to our latest draft this amount would be $22,8[illegible]5.00.

With reference to the last paragraph on page 2 of T. M. Romalo's memorandum of July 26 to Walter R. Storms, it is our understanding that the Small Business Administration's office here has referred the proposed loan application you mentioned to their Denver office. We are naturally anxious to complete action on this application promptly by writing a contract; otherwise Small Business Administration will be waiting to see what action DMEA takes while we are waiting for action by Small Business Administration.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Approved:

FRANK D. LAMB (JHB)
Member, Bureau of Mines

W. P. Williams (JHB)
Member, Geological Survey

WSMartin/foc 8/20/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG . III
Gilbert DeHuff, USBM
T. H. Kilsgaard, USGS

IN REPLY REFER TO:

Docket

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

RECEIVED
AUG 13 1956

August 10, 1956

Copy returned 400

Re: DMEA 3607
Manganese Corp. of Arizona
Red Hill Extension Zone
Socorro Co., New Mexico
$53,150.00 - Manganese

WSM

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of supplementary data.

The information concerning work by the applicant and the decision to reinstate the application has been reviewed.

The expectations of the examiners appear to have been met. Therefore concurrence with their recommendation of a revised work program is in order and I concur.

N. E. Nelson

N. E. Nelson

Docket

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

RECEIVED
AUG - 8 1956

August 7, 1956

Memorandum

Copy retained 609

To: W. S. Martin, DMEA

WSM

From: Horace T. Reno, Assistant Chief, Branch of Ferrous Metals and Ferroalloys

Subject: DMEA 3607. Manganese Corporation of Arizona Socorro County, New Mexico

Information in the memorandum from T. M. Romslo, Mining Engineer, Tucson, Arizona, to Walter R. Storms, Superintendent, Southwest Experiment Station, Region III, of July 26, 1956, concerning the above subject, does not materially affect the request for exploration aid. Accordingly, G. L. DeHuff, Jr.'s memorandum of recommendation, August 26, 1955, is still valid.

Horace T. Reno

Horace T. Reno

Paid on contract

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

RECEIVED
AUG - 3 1956

July 30, 1956

224 New Customhouse
Denver 2, Colorado

Copy retained 460

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 3607 (Manganese) Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims) Socorro County, New Mexico

Enclosed are four copies each of the following:

1. Memorandum from Walter R. Storms to the Executive Officer dated July 26, 1956

2. Memorandum from T. M. Romslo to W. R. Storms dated July 26, 1956

3. Memorandum from J. N. Faick to the Executive Officer, DMEA Field Team, Region III, dated July 13, 1956.

We have had no reply to our letter to the Applicant dated June 28, 1956, and we were unable to furnish the necessary details of a Performance Bond to the McClure-Wingar Insurance Service. Please see copy of our letter to Mr. Dwight McClure dated July 9, 1956.

A revised two-stage program is recommended by the field examiners. If the Applicant has definitely made up his mind to explore the property with DMEA aid in this revised project and can provide a Performance Bond, the Field Team concurs in the recommendation of the field examiners.

Your reference to Figure 1 of the Report of Examination in your letter dated June 25, 1956 is correct. The claims from north to south should be numbered 6, 5, 4, 3, 8, and 10.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

MINERAL DEPOSITS
DMEA
RECEIVED
JUL 16 1956

RECEIVED
AUG - 3 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Box 4126 University Station
Tucson, Arizona

DMEA
Date Rec'd.
JUL 16 1956
BUREAU OF MINES
Denver, Colorado

July 13, 1956

MEMORANDUM

To: Executive Officer, DMEA Field Team, Region III

From: J. N. Faick

Through: W. L. Emerick
E. N. Harshman

Subject: Docket DMEA 3607 (Manganese), Proposed Contract Idm-2867, Manganese Corp. of Arizona, Socorro County, N. Mex.

On the afternoon of July 10, W. L. Emerick and the writer visited the Socorro County property of the Manganese Corp. of Arizona, for the purpose of becoming familiar with this project. We briefly visited the open pit mine and the mill, and discussed the project with Victor J. Morgan, president, and other members of the staff. Mr. Morgan advised us that his company was no longer interested in obtaining Government aid in exploration, and would reject the proposed contract. The principal reasons for this decision are: (1) part of the proposed exploration was completed by the company and greatly increased the ore reserves; (2) conditions had changed during the long time interval between submitting the application and receiving the contract.

Mr. Morgan indicated he would notify the Government of this decision. He advised us that he was pleased with Romslo's and Bryner's predictions, which subsequently were proven by the company's drilling. Morgan stated that he believes the minable reserves are now about 2,000,000 tons, which is sufficient to sustain the operation for several years.

J. N. Faick

John N. Faick

JNF:MS
cc: Harshman (8)
Sparks
Emerick

RECEIVED
AUG - 3 1956

DMEA
Date Rec'd.
JUL 30 1956

BUREAU OF MINES
Denver, Colorado

Memorandum

July 25, 1956

To : [illegible] Irwer, Executive Officer, DMEA Field Team

From : Superintendent, Southwest Experiment Station

Subject : Docket DMEA-3607 (Manganese), Manganese Corp. of Arizona, Socorro County, N. Mex.

As requested in your recent teletype and memorandum, we are enclosing a memorandum from [illegible] Smale of the Bureau of Mines, regarding work at the property of the Manganese Corp. of Arizona at its mine southwest of Socorro, N. Mex.

In a recent memorandum from Messrs. Emrick and Fairs of the Geological Survey, they stated that this company probably would ask that its application be cancelled. However, when Mr. Smale visited the property, the company's official reversed his stand and now wishes to continue with the project, provided that a bond can be arranged in lieu of "Owner's Consent to Lien".

Signed by Walter R. Storms

Walter R. Storms

cc: [illegible] Irwer (6)
W. L. Emerick
DMEA-3607
WS

W.Stormsmfr

RECEIVED

AUG - 3 1956

July 26, 1956

Memorandum

To : Walter R. Storms, Superintendent, Southwest Experiment Station, Region III

From : T. [illegible] Monsalo, Mining Engineer, Tucson, Arizona

Subject : Docket DMEA-3607 (Manganese) Manganese Corporation of Arizona, Socorro County, N. Mex.

Reference is made to W. R. Irwer's telstype and letter to you of July 3, and 12, 1956, respectively.

On July 17, 1956, I visited the mines and mill of subject corporation while in the vicinity on other DMEA duties. Although I had made arrangements to meet W. J. Morgan, president of the corporation, I could not contact him until after I had inspected the workings of the [illegible] pit and noted work accomplished since the DMEA examination report of May 1955.

Information obtained from Mr. Morgan follows:

He had reconsidered the advisability of exploring the property with Government aid after talking Messrs. Emerick and Faick that he wanted to withdraw the corporation's application. (See Faick's memorandum of July 13). The corporation now wishes to go ahead with a revised program and is attempting to secure the necessary Performance Bond.

The originally proposed project provides for the first stage drilling of 2,500 feet in 21 churn drill holes along section A-A' of Figure 2. The second stage, if found warranted, provides for 4,400 feet of drilling in 35 churn drill holes along sections [illegible] and [illegible]. After the project was designed, 5 additional holes were drilled at locations shown on the attached revised figure 2. Since the corporation does not have its own maps of mine workings and the 5 holes were not identified, I have numbered them 6 to 10. Reported findings in holes were as follows:

Holes 6 and 7 - no ore.
Holes 8 and 9 - Overburden 0 to 70 feet, and 5 percent manganese from 70 to 160 feet.
Hole 10 - Overburden 0 to 80 feet, ore to 95 feet, where hole was lost in sloughing ground.

CC W. R. Irwer (Dri. & 8)
W. L. Emerick
DMEA-3607
BF

T. Monsalo:fr

The revised project that follows has been designed in close accordance with Morgan's requested provisions. It has my approval.

Stage I

1. Eliminate proposed drilling east of hole 5 of section A-A' because unfavorable findings of holes 6 and 7 indicated additional drilling in this area is not justified.

2. Provide for the drilling of 1,300 feet in 11 holes west of hole 9 of section A-A'.

Stage II

Drilling along section B-B' could be justified under stage 1 because of favorable findings of holes 1, 2, 3, 8, 9 and 10. However, I believe a more complete picture of conditions along A-A' should be available before the drilling of section B-B' is started.

1. Provide for 2,400 feet of diamond drilling in 20 holes along section B-B'. Fifteen of the originally proposed 35 holes have been eliminated because: (a) A-A' drilling indicates the east portion of the section is unfavorable ground; and (b) drilling along C-C' is not warranted because this area presently is about to be stripped for mining.

The correct numbering of the Red Hill Extension claims from north to south reportedly is 6, 5, 4, 3, 8 and 10, as shown in Option of Title.

To arrive at estimated costs of the project I suggest that drilling be left at $7.00 per foot and that allowable total costs of assaying and assays be reduced by about 40 percent for stage I and by about 50 percent for stage II. The suggested costs reductions are in line with the decrease in drilling footages.

Following are a few items of interest regarding present operations.

Mr. Morgan said that the corporation had applied for a $250,000.00 loan from the Small Business Administration. This federal agency had completed an examination of the corporation's accounts and operations and was about to grant the loan. The funds are to be used to pay off liens, mainly on equipment.

The corporation presently is milling 35,000 to 40,000 tons of ore per month for a daily production of 55 to 60 tons of concentrates, containing a little over 40 percent manganese. Much of the ore comes from the NWC pit.

I have discussed the revised project with W. L. Emerick. It has his approval.

T. M. Romslo

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

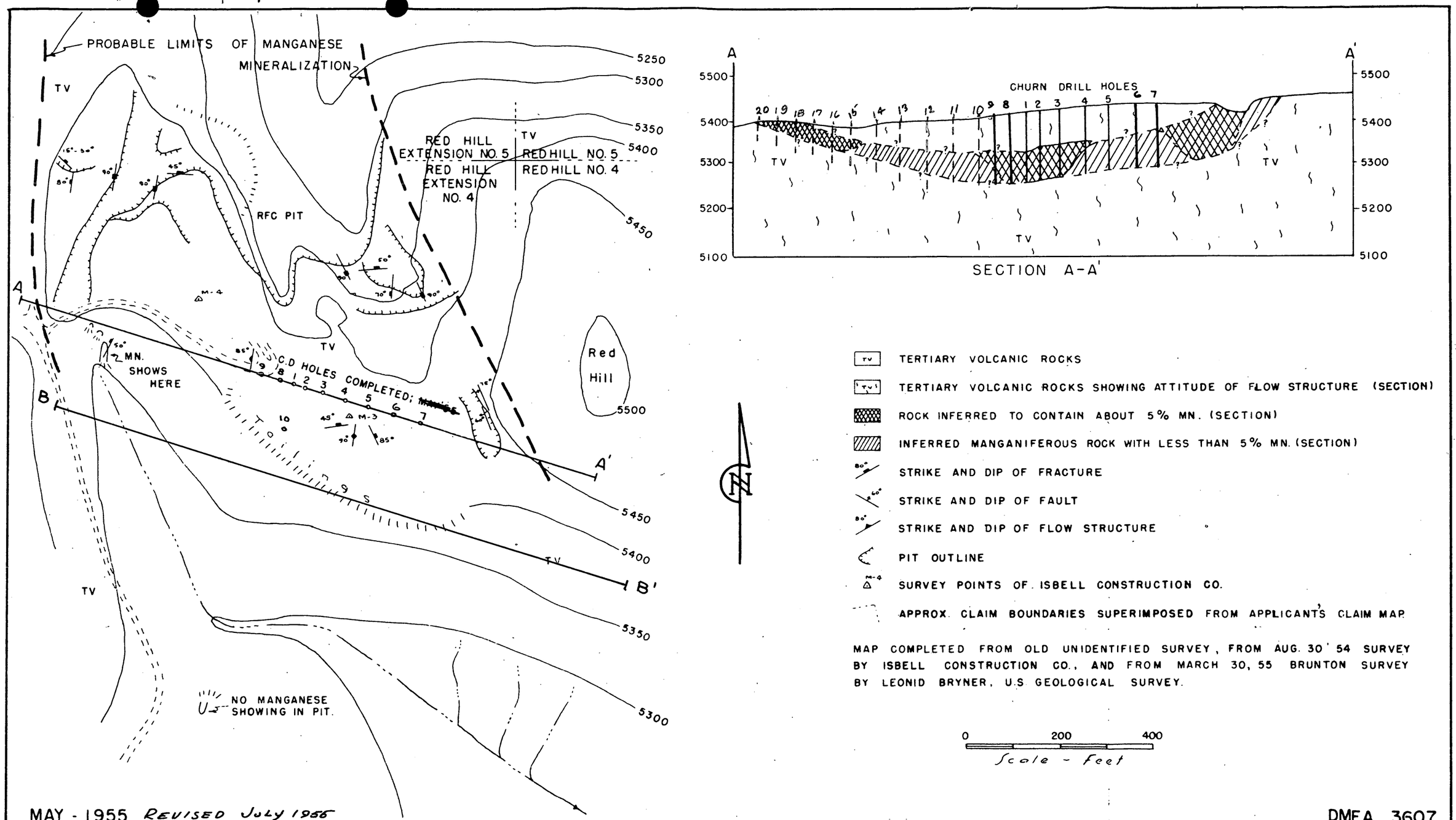


FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

Docket

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

July 9, 1956

[illegible] New Customhouse
Denver 2, Colorado

Copy retained 400

July 9 letter

Mr. Dwight McClure
McClure-Hinger Insurance Service
400 Luhrs Building
Phoenix, Arizona

Re: Docket DMEA 3607 (Manganese) Proposed Contract [illegible], Manganese Corporation of Arizona (Red Hill Mountain claims) Socorro County, New Mexico

Dear Mr. McClure:

This will acknowledge receipt of your letter dated July 6, 1956 requesting information on a Performance Bond on the captioned proposed exploration contract.

The Performance Bond required is Standard Form 25, but we can not advise you the amount of the bond at this time. The amount of the bond required is the amount of the Government participation in the proposed exploration project. We will not know the amount of Government participation until we have knowledge of the amount of drilling which has been accomplished on the Red Hill Mountain property subsequent to the DMEA examination of that property. Also, without work done on these claims by the Manganese Corporation of Arizona may have caused them to desire some changes in the proposed exploration program.

When Mr. Victor J. Morgan replies to our letter of June 28, 1956, we may be able to determine at that time the amount of the Performance Bond.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region XIX

RECEIVED
JUL 1 0 1956

cc: Victor J. Morgan
Chair. Op. Comm. (2)
Harshman
Storms
Townsend
Docket 3607
Chron.

McCLURE-WINGAR INSURANCE SERVICE
Successor to Simis Insurance Service Agency
420 LUHRS BUILDING • TELEPHONE ALPINE 8-8941 • PHOENIX, ARIZONA

DMER
Date Rec'd.
JUL 9 1956
BUREAU OF MINES
Denver, Colorado

July 6, 1956

AIR MAIL

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

Re: Do Not DMEA 2607 (Manganese), Proposed Contract IGM-2027, Hot Hill Extension claims, Socorro County, New Mexico

Dear Mr. Traver:

Mr. Morgan of Manganese Corporation of Arizona, Socorro, New Mexico, forwarded your letter of June 28 to me.

Will you please advise us the details of the Performance Bond which you desire MCA to furnish. This agency has contacted a Surety Company, and pending receipt of your letter outlining such details they have stated that they will possibly be in a position to furnish the bond as required.

Thank you for an immediate reply.

Very truly yours,

McCLURE-WINGAR INSURANCE SERVICE

BY: Dwight McClure
Dwight McClure

DM:fd

Docket
Holt
Chapman
Selfridge
Johnson
Mittendorf

JUL 3 - 1956

Interior Department
Defense Minerals
Exploration Administration
14X4401(01) Revolving Fund
Defense Production Act,
Interior (Allocated Working Fund
to the Office of the Secretary

TELETYPE

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Reurtel June 29, Docket DMEA-3607, Manganese Corporation of Arizona. Continue with usual progress inspections and make a check examination of above-noted property as soon as an engineer is available.

George C. Selfridge

Chairman, Operating Committee (246)

cc: Docket
Code 400
Oper. Committee
Adm. Read. File
T. Kiilsgaard, USGS
G. DeHuff, USBM
FT, Region 3

TLChapman/ls
7/2/56

R.C.S.

Mr. G. Selfridge

RECEIVED
JUN 29 1956

DN 235 BUR IMINES 6-29-56 9-27

CHAIRMAN, OPERATING COMMITTEE, DMEA

RE DOCKET DMEA-3607 MANGANESE CORP OF ARIZONA YOUR LETTER JUNE 25.

NO ENGINEER OR GEOLOGIST FAMILIAR WITH PROJECT AVAILABLE UNTIL JULY 16 TO DETERMINE IF ADDITIONAL WORK HAS BEEN ACCOMPLISHED SINCE ORIGINAL EXAMINATION UNLESS PROGRESS INSPECTIONS ARE DEFERRED. PLEASE TELETYPE IMMEDIZTELY WHICH WE SHOULD GIVE PRIORITY.

W M TRAVER

LAST LINE WE

Denver, Colo

JUN 29 1 42 PM '56

BUREAU OF MINES
MAIL ROOM
WASHINGTON D. C.

Docket

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

RECEIVED
JUL 2 - 1956

CERTIFIED MAIL

June 28, 1956

224 New Customhouse
Denver 2, Colorado

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA 3607 (Manganese), Proposed Contract I4m-3607, Red Hill Extension claims, Socorro County, New Mexico

Dear Mr. Morgan:

It is our opinion that a surety company performance bond would be the most practical solution to the problem of qualifying for a contract in view of the number of liens and the very large amounts they secure. In lieu of Owner's Consent to Lien on the captioned property, would you be willing and able to obtain a surety company performance bond?

Will you please advise how much drilling has been accomplished on the Red Hill Extension property subsequent to the DMEA Examination. Also, has the work which you have done caused you to desire any changes to the exploration program on the Red Hill Extension claims.

Will you please advise promptly regarding your ability and willingness to obtaining a performance bond and if you desire any changes based on results of your exploration work to date.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

EMC:ab

cc: Chair. Opr Comm. (2)
Docket 3607
Harshman
Storms
Townsend
Chron.

DOCKET
Surname:
Chapman
Martin
Johnson
Mittendorf

400

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

JUN 25 1956

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA-3607, Manganese
Manganese Corp. of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

This will acknowledge receipt of your letter of June 15, 1956, referring to your earlier letter requesting an opinion of title and other information from the subject applicant.

Enclosed are two copies of "Opinion of Title" received here on June 11, 1956, on which the Office of the Solicitor comments as follows:

> "It is evident from the opinion that the six claims listed in the Annex I of the drafted contract, as well as the other lands discussed in the opinion, are subject to a mortgage, mechanic's liens, and a lien for taxes as listed in paragraphs numbered 1 through 5 on page 2 of the opinion. Accordingly, a subordination agreement from each lienor is required. It is unlikely, however, that the taxing authority would subordinate its lien, and if subordination agreements are obtainable from all the other lienors, you might consider waiving the subordination agreement of the taxing authority. In view of the number of liens and the very large amounts they secure, perhaps submission of a surety company performance bond by the applicant would be the most practical solution to the problem of qualifying for a contract."

Your letter of April 2, 1956, and Walter R. Storms' memorandum of September 12, 1955, mention that the applicant may possibly have drilled some of the holes listed. If so, it would be advisable for you to determine whether the applicant desires to change the program previously approved.

R.C.S.

Please note on Figure 1 of the report of examination that the Red Hill Extension claims are numbered from north to south, 6, 5, 4, 3, 2 and 1, but should probably be 6, 5, 4, 3, 8 and 10.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee (JHB)

Enclosures

APPROVED:

P. F. Yopes

Member, Bureau of Mines (JHB)

Thor H. Kiilsgaard

Member, Geological Survey (JHB)

cc: Docket
Code 400
Oper. Comm.
Adm. Reading File
T. Kiilsgaard, USGS
G. DeRuff, USBM
FT, Region 3

TLChapman/ls
6/20/56

P.S. - In view of the advice furnished by the Office of the Solicitor, it will be appreciated if you will ask the applicant to provide a surety company performance bond.

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

224 New Customhouse
Denver 2, Colorado

June 15, 1956

RECEIVED
JUN 18 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese), Manganese Corporation of Arizona (Red Hill Extension Claims), Socorro County, New Mexico, Proposed Exploration Project Contract Idm-E867

Reference is made to our certified letter to the Applicant dated May 15, 1956 which was forwarded in compliance with your request by letter of May 11, 1956.

If the required material has not been received in the Washington Office by this date, we recommend that the Government files be closed.

W. M. Traver

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

JUN 14 1956

Memorandum

To: Administrator, DMEA
Attention: Chief, Iron and Ferro-Alloys Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-3607 (Manganese)
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

WSM

Mr. Martin's memorandum dated June 12, 1956, requested that we review the "Opinion of Title" dated May 28, 1956, rendered by Charles H. Fowler, Esq., and submitted to DMEA by Manganese Corporation of Arizona to establish its interest in land for the purposes of an exploration contract.

1. It is evident from the opinion that the six claims listed in Annex I of the drafted contract, as well as all the other land discussed in the opinion, are subject to a mortgage, mechanic's liens, and a lien for taxes as listed in paragraphs numbered 1 through 5 on page 2 of the opinion. Accordingly, a subordination agreement from each lienor is required. It is unlikely, however, that the taxing authority would subordinate its lien, and if subordination agreements are obtainable from all the other lienors, you might consider waiving the subordination agreement of the taxing authority. In view of the number of liens and the very large amounts they secure, perhaps submission of a surety company performance bond by the applicant would be the most practical solution to the problem of qualifying for a contract.

2. When this contract was prepared, the maps referred to in it were not available to us. We noted, by chance, in reviewing the docket concerning item 1, that the reference in Annex I to the land being shown on a map, Figure 1, is inaccurate, as a review of both papers will disclose.

Robert P. Dwyer

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

JUN 14 1956

Memorandum

To: Administrator, DMEA
Attention: Chief, Iron and Ferro-Alloys Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-3607 (Manganese)
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

Mr. Martin's memorandum dated June 12, 1956, requested that we review the "Opinion of Title" dated May 28, 1956, rendered by Charles H. Fowler, Esq., and submitted to DMEA by Manganese Corporation of Arizona to establish its interest in land for the purposes of an exploration contract.

1. It is evident from the opinion that the six claims listed in Annex I of the drafted contract, as well as all the other land discussed in the opinion, are subject to a mortgage, mechanic's liens, and a lien for taxes as listed in paragraphs numbered 1 through 5 on page 2 of the opinion. Accordingly, a subordination agreement from each lienor is required. It is unlikely, however, that the taxing authority would subordinate its lien, and if subordination agreements are obtainable from all the other lienors, you might consider waiving the subordination agreement of the taxing authority. In view of the number of liens and the very large amounts they secure, perhaps submission of a surety company performance bond by the applicant would be the most practical solution to the problem of qualifying for a contract.

2. When this contract was prepared, the maps referred to in it were not available to us. We noted, by chance, in reviewing the docket concerning item 1, that the reference in Annex I to the land being shown on a map, Figure 1, is inaccurate, as a review of both papers will disclose.

Robert P. Dwyer

HCRubin/wog
June 14, 1956
Copy to: Solicitor's Docket (2)
DMEA Docket
W.S.Martin (2)
R.P.Dwyer
H.C.Rubin
Chron.

Docket
Martin

June 12, 1956

MEMORANDUM

To: Associate Solicitor
Division of Mineral Resources

From: Chief, Iron and Ferro-Alloys Division

Subject: Docket No. DMEA-3607, Manganese
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

Attached is opinion of title dated May 28, 1956, received from the subject applicant on June 11. If the ownership shown thereby is satisfactory, please revise the proposed contract of September 2, 1955, accordingly. If further clarification of ownership is required, please advise us so that we can notify the applicant promptly.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Attachments

WSMartin/ls

Copy to: Docket
Code 400

Memo

THE SHERATON-PARK HOTEL
WASHINGTON 8, D. C.

3607

REFERENCE IS MADE TO MANGANESE CORPORATION OF ARIZONA APPLICATION FOR DMEA EXPLORATION CONTRACT. ENCLOSED OPINION OF WBM TITLE IS TO MADE A PART OF THAT APPLICATION AS REQUESTED IN VERBAL CONVERSATION WITH MR. C.O. MITTENDORF AND MR. WILLIAM MARTIN.

E. S. Mendenhall
EXEC VICE PRES.
MANGANESE CORP OF
ARIZONA.

CHARLES H. FOWLER
ATTORNEY AT LAW
SOCORRO, NEW MEXICO

P. O. BOX U
TELEPHONE 90

May 28, 1956

OPINION OF TITLE

Manganese Corporation of Arizona
Socorro, New Mexico

Gentlemen:

Heretofore, under date of March 7, 1955, after an exhaustive examination of title, I rendered opinion of title as to the certain unpatented lode mining claims and millsites then under contract of sale by Socorro Corporation, a New Mexico corporation, to Manganese Corporation of Arizona, an Arizona corporation authorized to do business in New Mexico, which properties are hereinafter described.

Now, by direction, I have made new and additional examination of the title as disclosed by the records as shown by abstract of title as to said mining claims and millsites and property hereinafter designated, for the time subsequent to the date of certification of the abstracts previously examined as to title to said properties and upon which my said former opinion was rendered.

I find that the defects in title by me pointed out in said former opinion have been remedied and cured.

The properties under search, and as to which this Opinion of Title is made, are the following designated millsites and mining claims, to-wit:

RED HILL MILLSITES Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 6-A, located and situate in Section 22, T. 4 S., R. 1 W., New Mexico Meridian, New Mexico, as to all said Millsites except Nos. 4 and 6, which are in Section 15 of said Township and Range.

BIG BASIN Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, unpatented lode mining claims located and lying in Sections 17 and 18, T. 4 S., R. 1 W., aforesaid.

RED HILL EXTENSION Nos. 6, 5, 4, 3, 8 and 10, unpatented lode mining claims located and lying in Section 20, T. 4 S., R. 1 W., aforesaid.

RED HILL Nos. 9, 6, 5, 4, 3, 8 and 7, lode mining claims, located and held under State Mining Lease from the State of New Mexico, on state lands in Sections 16, 17 and 20, T. 4 S., R. 1 W., aforesaid.

TEDDY (now also called Alberta) and FLOPSY (nor also called Carolyn) unpatented lode mining claims located and lying in Section 21, T. 4 S., R. 1 W., aforesaid.

VAN PELT No. 1, unpatented lode mining claim, located and lying in Section 20, T. 4 S., R. 1 W., aforesaid.

All said mining claims and millsites are in Silver Mountain Mining District, in Socorro County, New Mexico.

From my said examination of title and study, I am of the opinion and find:

That on May 25, 1956, the date of the abstract last furnished to me as aforesaid, the title to said unpatented lode mining claims and millsites was vested in MANGANESE CORPORATION OF ARIZONA, a corporation, by location and possessory right and title, subject, however, to the paramount title of the United States, and subject to the following encumbrances, objections and defects, to-wit:

1. A mortgage dated November 20, 1955, recorded November 30, 1955, to Arthur R. Olson, for principal amount of $100,000.00, is unreleased of record and appears as a lien and encumbrance against all said designated mining claims and millsites, and said state lease property so far as allowable.

2. A mechanic's lien claim filed and recorded December 29, 1955, by Isbell Construction Company, claimant, against Manganese Corporation of Arizona et al., owners or reputed owners, for claimed amount of $123,357.00, is unreleased and appears as a lien and encumbrance against all said designated mining claims and millsites, and the state lease claims so far as allowable, and another group called Niggerhead Nos. 1, 2, 3, unpatented mining claims.

3. A mechanic's lien claim filed and recorded February 10, 1956, by Illinois Powder Manufacturing Company, claimant, against Manganese Corporation of Arizona et al., owners etc., for claimed amount of $19,483.79, is unreleased and appears as a lien and encumbrance against all the property indicated in item 2 above.

4. A mechanic's lien claim filed and recorded March 21, 1956, by W. H. Gilliard d/b/a W. H. Gilliard Company, claimant, against Manganese Corporation of Arizona et al., owners etc., for claimed amount of $87,468.79, is unreleased and appears as a lien and encumbrance against all the property indicated in item 2 above.

5. Taxes under an additional assessment as "omitted property," for 1955, made April 13, 1956, in amount $5,027.34, is unpaid and appears a lien against the property.

Note: The record title to the said properties does not disclose any title or estate therein of Victor J. Morgan or J. V. Morgan, although Victor J. Morgan was a party to the original option to purchase the property from Socorro Corporation in 1954. On July 19, 1955, there was filed in the office of the County Clerk of Socorro County, New Mexico, a federal tax lien against said two persons for $6387.63 and $5133.85, respectively. Upon the face of the record showing before me, this would not appear to affect the property in question or be a lien upon it.

It is my opinion that Manganese Corporation of Arizona holds and can convey, subject to the paramount title of the United States and to the said liens and encumbrances, a good and merchantable possessory title to said millsites and mining claims.

Respectfully submitted,

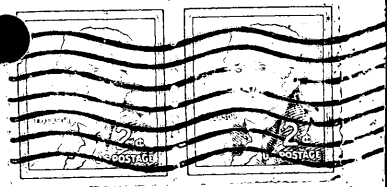
Charles H. Fowler

CHARLES H. FOWLER

~~THE SHERATON-PARK HOTEL~~

~~WASHINGTON 8, D.C.~~

WASHINGTON 27
JUN 10
930PM
1956
D.C.



MR. C.O. MITTENDORF

4460

DEPT OF INTERIOR

WASHINGTON 25, D.C.

GUEST'S RETURN ADDRESS

MCA

Box 622

Socorro, New Mexico

Dmea 3607

Saturday, June 9, 1956

Mr. Mendenhall, Vice President, phoned Mr. Martin saying he was sending in an opinion of title. Mr. Martin promised DMEA would send a wire to the company telling when we mail contract out to Field Team, or if Legal does not like the opinion of title when same is received we will tell company what is not liked about the title.

Docket

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

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

May 15, 1956

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA 3607
(Manganese)
Manganese Corporation of Arizona
(Red Hill Extension Claims)
Socorro County, New Mexico;
Proposed Exploration Project
Contract Idm-2867

Dear Mr. Morgan:

We have been advised by the Washington Office, DMEA, that on April 20, 1956, they received a telegram from you advising that an Opinion of Title and Assignments would be sent on April 27, 1956, or sooner.

Inasmuch as the aforementioned instruments have not been received by the Washington Office, they have instructed us to advise you that unless the required data is received by them prior to June 15, 1956, they will consider the application withdrawn and so route it to their files.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer
DMEA Field Team, Region III

JWT:prl
cc: Chairman, Oper. Comm. (2)
Harshman - w/copy of Chairman's letter of May 11
Storms - " " " " " " " "
Townsend
Docket file
Chron.

RECEIVED
MAY 17 1956

DOCKET
SURNAME

400 Chapman
Newton
Selfridge
Hermon
Mittendorf

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

MAY 11 1956

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

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro County, New Mexico

Dear Mr. Traver:

On April 20, 1956, we received the following telegram:

"SOCORRO N MEX 19 420PML
G. O. MITTENDORF-ADMINISTRATOR DMEA DEPT OF INTERIOR WASH DC
OPINION OF TITLE AND ASSIGNMENTS TO BE SENT APRIL 27 1956 OR SOONER-
MANGANESE CORP OF ARIZONA VICTOR J MORGAN"

We have not yet received the above-mentioned documents and would appreciate hearing whether you had any word from the applicant. As all copies of the contract were returned to us with your memorandum of April 2, 1956, please advise the applicant that unless the data are received by June 15, 1956, we shall consider the application withdrawn. Our action is taken without prejudice to the property. In the event the applicant at some future date desires exploration assistance for further work, it can submit a new application in quadruplicate, including any new information and referring to the subject docket.

Sincerely yours,

APPROVED:

P. F. Yopes
Member, Bureau of Mines (GCS)

George C. Selfridge
Chairman, Operating Committee (GCS)

N. E. Nelson
Member, Geological Survey (GCS)

TLChapman/esf/foc 5/11/56
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. III
Gilbert DeHuff, USBM
T. H. Kiilsgaard, USGS

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS

DL = Day Letter

NL = Night Letter

LT = International Letter Telegram

The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

:OA393 LE344 (47).

L AYA672 PD=SOCORRO NMEX 19 420PMM= 1956 APR 19 PM 7 37

C O MITTENDORF=

:ADMINISTRATOR DMEA DEPT OF INTERIOR WASHDC=

OPINION OF TITLE AND ASSIGNMENTS TO BE SENT APRIL 27 1956

OR SOONER=

:MANGANESE CORP OF ARIZONA VICTOR J MORGAN=

Copy retained 400

RECEIVED

APR 20 1956

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

APR 19 PM 8 14

1956 APR 19 PM 8 07

FAX

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

Docket

RECEIVED
APR 4 - 1956

April 2, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese) Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Mr. Victor J. Morgan, the subject applicant, called at this office today and advised us that he plans to submit directly to your office for your review a copy of the instrument transferring title and also an opinion of title. Regarding our letter to the applicant dated September 8, 1955 Mr. Morgan stated that Morgan G. Huntington can not be located, but the applicant's attorney claims Huntington has no more legal rights. The applicant also stated that the chain of title he will transmit to your office will show the assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona.

Because of the many changes which may be involved in the contract, returned herewith are the Operator's, Government's, Finance Office, Field Team, Docket, and Division copies of the Proposed Contract dated September 2, 1955.

For your information enclosed are two copies of a memorandum from Walter R. Storms to the Executive Officer dated September 12, 1955 concerning the order of drilling holes. Please note that the applicant may have completed some of the proposed work.

W. M. Traver

W. M. Traver

Enclosures

(4)

DMEA
Date Rec'd.
SEP 14 1955
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Box 4097
Tucson 5, Arizona

September 12, 1955

Certify

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region III

From : Superintendent, Southwest Experiment Station

Subject : Docket DMEA-3607 (Manganese), Proposed Contract Idm-E867, Manganese Corp. of Arizona, Socorro County, N. Mex.

Enclosed is Operator's Copy of Proposed Contract Idm-E867, which you sent us on September 8 with the request that we review the proposed contract, then return it to you with our comments.

L. Bryner of the Geological Survey and I have read this contract and believe it is all right. Romslo is in the field and probably will not return to Tucson until late in the week, so I am returning the copy to you before he sees it. The only criticism that we might have is the order of drilling the holes as shown in pencil on Figure 2. We believe that Holes 1 - 5 and 15-17 should be drilled first, then Holes 6-11 and finally Holes 25, 24, 23, 22, 21, 20 and 19. The remainder of the holes then may be drilled, if necessary. In other words, the holes as shown on Section AA' should not be drilled as numbered in pencil.

The company was drilling when Romslo and Bryner examined the property in March so I imagine the proposed work already has been completed.

Walter R. Storms

Walter R. Storms

CC J. N. Faick
DMEA-3607-Contract
DF

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

RECEIVED
MAR - 1 1956

224 New Customhouse
Denver 2, Colorado

February 28, 1956

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA 3607 (Manganese),
Proposed Contract Idm-2867,
Manganese Corporation of Arizona,
Red Hill Extension Claims,
Socorro County, New Mexico

Dear Mr. Morgan:

Thank you for your letter of February 25, 1956, advising us on the status of your efforts to clear the property involved with proposed Exploration Project Contract Idm-2867.

We will defer action to rescind the Contract, giving you until March 26, 1956, to resolve all matters which are prerequisite to execution of the contract.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

JWT:prl
cc: Chairman, Oper.Comm. (3) } w/copy of Operator's letter
Storms
Townsend
Docket file
Chron.

Manganese Corporation of Arizona

PHOENIX, ARIZONA

P. O. BOX 622 SOCORRO, NEW MEXICO

February 25, 1956
Socorro, New Mexico

MAR - 1 1956

DMEA
Docs Rec'd
FEB 27 1956

BUREAU OF MINES
Denver, Colorado

United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attn: W. M. Traver

Dear Mr. Traver:

Concerning DMEA Docket 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico, please be advised that we intend to proceed with this contract within thirty days. The holdup has been our final payment on the mining property covered by the contract. We intend to make this payment within the next several days, thus leaving the property free and clear and thereby avoiding complications arising from the repayment schedule.

x I would appreciate it very much if you would advise me wheather the above is satisfactory.

Deadline
hlm 3/26

Yours very truly,

MANGANESE CORPORATION OF ARIZONA

Victor J. Morgan

Victor J. Morgan
President

VJM:rm

Docket

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

RECEIVED
FEB 13 1956

February 7, 1956

224 New Customhouse
Denver 2, Colorado

Copy retained 201
W. S. Martin

WSM

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket DMEA 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona, (Red Hill Extension Claims), Socorro County, New Mexico

Dear Mr. Morgan:

We have had no advice from you since your visit to the Washington DMEA office on November 22, 1955. Will you please write us concerning your present intentions of going ahead with the proposed exploration project.

In the event that you are no longer interested in the exploration project, please advise so that we may return the contract to the Washington office for cancellation.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:ab

cc: Chair. Op. Comm. (2)
Storms
Townsend
Docket 3607
Chron.

Copy to

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

400

FEB - 1 1956

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

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

Reference is made to our letter of November 29, 1955, advising that Mr. Morgan, president of the above noted corporation, called in our office on November 22, 1955, and at that time expected to acquire the property within a month. To date, however, we have heard nothing further to indicate any possibility that the contract would be executed.

Therefore, unless you have already heard from the applicant, it will be appreciated if you will write to him and determine his intentions concerning the proposed project.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

TLChapman/foc
1-30-56
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG/ III
Messrs. DeHuff, USBM
Kiilsgaard, USGS

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

400

Chapman
Martin
Selfridge
Hefman
Mottendorf

FEB - 1 1956

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

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

Reference is made to our letter of November 29, 1955, advising that Mr. Morgan, president of the above noted corporation, called in our office on November 22, 1955, and at that time expected to acquire the property within a month. To date, however, we have heard nothing further to indicate any possibility that the contract would be executed.

Therefore, unless you have already heard from the applicant, it will be appreciated if you will write to him and determine his intentions concerning the proposed project.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GHB)

APPROVED:

/s/ Robert W. Geehan (GHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (GHB)
Member, Geological Survey

TLChapman/foc
1-30-56
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG/ III
Messrs. DeHuff, USBM
Kiilsgaard, USGS

R.G.S.

400

DOCKET
Surname:
Martin
Selfridge
Johnson

NOV 29 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3607, Manganese
Manganese Corp. of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

This will acknowledge receipt of copies of your letter of November 17, 1955, to Mr. Victor J. Morgan, President, Manganese Corporation of Arizona, Socorro, New Mexico.

Mr. Morgan called on our Iron and Ferro-Alloys Division on November 22, and advised us that the proposed operator within approximately one month will have acquired title to the subject property. He plans to submit directly to us for our review a copy of the instrument transferring title and also an opinion of title. In that event, no Consent to Lien will be required.

For his information, we have lent to Mr. Morgan one of the extra copies of Exhibit "A" of the proposed contract, including Annex I and the two attached maps. For his convenience in current negotiations with Small Business Administration, which of course were not discussed with us, he was also lent the two maps submitted as exhibits with the application of December 7, 1954. The material on loan is to be returned to us within a reasonable time.

Sincerely yours,

George C. Selfridge
By ESF

Chairman, Operating Committee

Approved:

P. F. Yopes By ESF
Member, Bureau of Mines

Thor H. Kiilsgaard
By ESF
Member, Geological Survey

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File
T. Kiilsgaard, USGS
G. DeHuff, USBM
FT, Reg. 3

WSMartin/ls 11/28/55

Docket

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

RECEIVED NOV 21 1955

November 17, 1955

224 New Customhouse
Denver 2, Colorado

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: DMEA Docket 3607 (Manganese), Proposed Contract Idm-8867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. Morgan:

Your letter of October 10, 1955 enclosed an Assignment of Mining Lease with Option to Purchase from the partnership of Morgan and Mendenhall to the Manganese Corporation of Arizona. We are waiting for the other information requested in our letter to you dated September 8, 1955 which you indicated would be forwarded this office as soon as possible.

Will you please advise the date we may expect to receive this information?

In the event that you are no longer interested in the exploration project, please advise so that we may return the contract to the Washington office for cancellation.

Very truly yours,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Copy retained 400

By J. W. Townsend

HMC:ab
cc: Sec. Op. Comm. (2)

400

DOCKET
Surname:
Martin
Austin
Dwyer
Selfridge
Fleming

NOV - 2 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3607, Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

This will acknowledge receipt of your letter of October 19, 1955, enclosing copy of Mr. Robert D. Klipsch's letter to you of October 10, and of the assignment of mining lease with option to purchase mentioned therein.

We note that Mr. Klipsch's letter provides only part of the data requested of him in your letter of September 8, and we would prefer to delay seeking legal advice on the matter until you receive and transmit to us the other information promised you.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GCS)

Approved:

/s/ Robert W. Geehan (GCS)
Member, Bureau of Mines

W. P. Williams (GCS)
Member, Geological Survey

cc: Docket
Adm. Read. File
Code 400
Oper. Committee
Thor Kiilsgaard, USGS
Gilbert DeHuff, USBM
FT, Reg. 3

ESMartin/ls
10/26/55

R.C.L.

Docket

RECEIVED
OCT 21 1955

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

October 19, 1955

224 New Customhouse
Denver 2, Colorado

WSM

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona (Red Hill Extension claims), Socorro County, New Mexico

Enclosed are two copies of a letter and the original and one copy of an Assignment Mining Lease with Option to Purchase received from the applicant.

This is only part of the data requested in our letter to the applicant dated September 8, 1955, and we doubt if the enclosed Assignment suffices. One of your requests in your letter of September 2, 1955, which we included in our letter of September 8, 1955, to the applicant was "An Assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona."

The Manganese Company of Arizona is not even mentioned in the enclosed Assignment, and we will appreciate receiving your legal advice on this matter.

W. M. Traver

W. M. Traver

Enclosures

Copy retained 400

Manganese Corporation of Arizona

PHOENIX, ARIZONA

P. O. BOX 622
Socorro, New Mexico

SOCORRO, NEW MEXICO

RECEIVED
OCT 21 1955

October 10, 1955

Mr. W. M. Traver

Executive Officer, DMEA
Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: DMEA 3607 Manganese, Proposed Contract Idm-2867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico

Gentlemen:

We are sorry that we have been so long in replying to your letter of September 8, 1955. We are sending the assignment of mining lease with option to purchase from the partnership to the Manganese Corporation of Arizona which was signed by Victor J. Morgan.

As soon as it is possible I will mail the other instrument that you have asked for.

Yours very truly,

MANGANESE CORPORATION OF ARIZONA

Robert D. Klipsch

Robert D. Klipsch
Business Manager

RDK:rm
Encl.

ASSIGNMENT OF MINING LEASE WITH OPTION
TO PURCHASE

On the date of August 6, 1954, the partnership of Morgan and Mendenhall sold, transferred and assigned all right, title and interest it might hold in that certain mining lease with option to purchase covering what is known as the Socorro Corporation Manganese Mines. The purchaser being the Manganese Corporation of Arizona and the price being ten ($10.00) dollars and other consideration. Morgan and Mendenhall warrant the price, including all consideration, is hereby paid and the transfer of their right, title and interest effective immediately.

MORGAN AND MENDENHALL

By Victor J. Morgan
Victor J. Morgan

THE STATE OF TEXAS

COUNTY OF EL PASO

BEFORE ME, the undersigned authority, in and for said county and state, on this day personally appeared Victor J. Morgan, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as his free act and deed for the purposes and consideration therein expressed.

GIVEN under my hand and seal of office, this 13th day of August, 1954.

Virginia Mann

VIRGINIA MANN, Notary Public, El Paso Co., Tex., My Comm. Exp. 6-1-56

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

224 New Customhouse
Denver 2, Colorado

September 29, 1955

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: DMEA 3607 (Manganese) Proposed Contract No. Idm-E867, Manganese Corporation of Arizona (Red Hill Extension Claims) Socorro County, New Mexico

Dear Mr. Morgan:

Will you please advise the date we may expect to receive the information we requested in our letter to you dated September 8, 1955.

In the event that you are no longer interested in the exploration project, please advise so that we may return the contract to the Washington office for cancellation.

Very truly yours,

W. M. Traver

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:bh
cc-Sec. Op. Comm. (2)
Storms
Corres. File E-867
Townsend
Chron.

Docket

RECEIVED
SEP 12 1955

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

September 8, 1955

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

WSM

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region III

Subject: DMEA 3607 (Manganese), Proposed Contract Idm-E867
Manganese Corporation of Arizona, (Red Hill
Extension claims), Socorro County, New Mexico

We have received copies of the subject Proposed Contract and are holding them in our files pending receipt of the material indicated by attached copy of a letter to the applicant.

Enclosed for your review and approval is the "Operator's Copy" of the Contract. Please return it promptly with your comments after review in order that we may have it available to send the Operator when he has satisfied the requirements and signed the other copies of the Contract.

W. M. Traver
W. M. Traver

Enclosure

WMT:ab
cc: Sec. Op. Comm. (2)
Conners
Storms
Correspondence File E867
Townsend
Chron.

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

RECEIVED
SEP 12 1955

September 8, 1955

224 New Customhouse
Denver 2, Colorado

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: DMEA 3607 (Manganese), Proposed Contract Idm-E867, Manganese Corporation of Arizona, (Red Hill Extension claims), Socorro County, New Mexico

Dear Mr. Morgan:

We have received from the Washington office, DMEA, Proposed Contract Idm-E867 prepared pursuant to your application.

Before we will be in a position to submit copies of the Contract to you for approval and execution, there are the following matters to be cleared up:

1. The Lease Agreement and Option, dated July 18, 1949, from the Reconstruction Finance Corporation to the Socorro Corporation has been paid off as of July 31, 1955, which places the Socorro Corporation as owners of the property, except for a possible interest of Morgan G. Huntington. In the aforesaid Lease and Option Agreement the last paragraph on page 5, reads as follows:

> "It is expressly understood and agreed that one of the conditions of this Agreement is that the Lessee obligates itself to obtain valid assignments in the name of Lessor from Morgan G. Huntington covering any Mining Location Claims (original or relocated); held by or in name of said Morgan G. Huntington."

No record of any such assignment could be found in the files of the Reconstruction Finance Corporation, hence, it will be necessary for the Socorro Corporation to clear up this matter.

2. The Lease and Option Agreement, dated June 26, 1954, from the Socorro Corporation is to Edward V. Mendenhall and Victor J. Morgan, dba under the firm name of Manganese Company of Arizona, but the application is made in the name of the Manganese Corporation of Arizona, hence, it will be necessary to obtain an assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona.

3. If Manganese Company of Arizona should withhold any claim against the land in the assignment to the applicant, a Subordination Agreement of the Manganese Company is required.

For fulfilling this requirement should it prove necessary, there are enclosed seven copies of Form NF-201 Subordination Agreement. These should be completed and returned or the blank forms returned with a statement that they are not necessary.

Also enclosed are seven copies of Consent to Lien Forms NF-203 to be properly executed by Socorro Corporation and returned.

As soon as the foregoing matters are clarified and the required forms received, copies of the Contract will be forwarded to you for signature.

Very truly yours,

W. M. Traver

W. M. Traver
Executive Officer, ERDA
Field Team, Region III

Enclosures

WMT:ab
cc: Sec. Op. Comm. (2)
Conners
Storms
Correspondence File E867
Townsend
Chron.

Docket

RECEIVED

AUG 29 1955

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

August 26, 1955

Memorandum

Copy retained 300

To: W. S. Martin, DMEA
From: G. L. DeHuff, Jr., Commodity Specialist, Bureau of Mines
Subject: DMEA 3607. Manganese Corporation of Arizona

This proposed exploration contract is in the total amount of $56,100 for a churndrilling program on applicant's Red Hill Extension property, located about 8 air-miles southwest of Socorro, in secs. 17 and 20, T 4 S, R. 1 W., Socorro County, N. Mex.

The program is in two stages, the first of which is limited to 2500 feet of drilling, and the second to 4000 feet.

Applicant has drilled five churn drill holes on the property, four of which obtained interesting manganese values. Applicant has been milling ore most of this year from pits on this and the nearby Red Hill property in its 3000 ton per day heavy media plant, producing a concentrate averaging 38 percent manganese which is shipped to GSA under the domestic manganese purchase program. The operating record is good. The proposed exploration program is for purposes of providing reserves for continued operation.

I concur with the recommendations as to the proposed contract as qualified by the Operating Committee Chairman's memorandum of transmittal to the Field Team.

G. L. DeHuff, Jr.

G. L. DeHuff, Jr.

400

DOCKET
SURNAME
Chapman
Davis
Dethloff
Talbot
Nelson
Selfridge

SEP 2 1955

Contract to F T

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
224 New Custom House Building
Denver 2, Colorado

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension Claims
Socorro, New Mexico

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed contract for an exploration program by the above referenced applicant, signed by the Administrator for the Government, together with Exhibit "A" (2 pages), Annex I (1 page) and 2 maps.

If any part of the proposed contract does not meet with your approval, or that of the applicant, and cannot be altered within your delegated authority, the original and all copies are to be returned to this office, together with the proposed changes for consideration.

Enclosed also, are seven copies of Consent to Lien to be signed by the Socorro Corporation before execution of the contract.

It will be necessary to clear up several other matters before execution of the contract, which are as follows:

1. The Lease Agreement and Option, dated July 18, 1949, from the Reconstruction Finance Corporation to the Socorro Corporation has been paid off as of July 31, 1955, which places the Socorro Corporation as owners of the property, except for a possible interest of Morgan G. Huntington. In the aforesaid Lease and Option Agreement the last paragraph on page 5, reads as follows:

> "It is expressly understood and agreed that one of the conditions of this Agreement is that the Lessee obligates itself to obtain valid assignments in the name of Lessor from Morgan G. Huntington covering any Mining Location Claims (original or relocated); held by or in name of said Morgan G. Huntington."

R.C.G.

No record of any such assignment could be found in the files of the Reconstruction Finance Corporation, hence, it will be necessary for the Socorro Corporation to clear up this matter.

2. The Lease and Option Agreement, dated June 26, 1954, from the Socorro Corporation is to Edward V. Mandenhall and Victor J. Morgan, dba under the firm name of Manganese Company of Arizona, but the application is made in the name of the Manganese Corporation of Arizona, hence, it will be necessary to obtain an assignment from the Manganese Company of Arizona to the Manganese Corporation of Arizona.

3. If Manganese Company of Arizona should withhold any claim against the land in the assignment to the applicant, a Subordination Agreement of the Manganese Company is required.

Under Article 3, the starting date has been left blank and is to be filled in when the contract is signed by the operator.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (HB)

Enclosures

TLChapman:foc
8-24-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
Messrs. DeHuff, USBM
Kiilsgaard, USGS

APPROVED:

P. F. Yopes (HB)
Member, Bureau of Mines

/s/ N. E. Nelson (HB)
Member, Geological Survey

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

AUG 22 1955

Memorandum

To: The Administrator, DMEA
Attention: Mr. T. L. Chapman

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3607, Manganese Corporation of Arizona

Pursuant to Mr. Chapman's memorandum of August 17 resubmitting the subject docket to us, we have prepared the attached contract.

In connection with our first review of the docket, submitted with Mr. Martin's memorandum of August 2, we outlined in a memorandum dated August 11 requirements concerning the interests in land as the applicant's interest then appeared to us. Mr. Chapman's memorandum of August 17 states that the R.F.C. is now out of the picture as owner of the land, and that the applicant's sublessor, Socorro Corporation, is now the owner of the land.

The requirements set forth in our memorandum of August 11 are revised accordingly, and prior to the execution of the contract the following are required:

1. Attachment of Consent to Lien of Socorro Corporation.

2. Clarification of Morgan G. Huntington's interest in the land.

3. Copy of Assignment to Manganese Corporation of Arizona of the lease interest held by the partnership, Manganese Company of Arizona.

4. If Manganese Company of Arizona withheld any claim against the land in the assignment to the applicant, the Subordination Agreement of the Manganese Company is required, and a recital pertaining thereto added to Article 2(c).

5. Attachment of the maps referred to in contract.

J. L. Hoffmund
J. L. Hoffmund
Acting Assistant Solicitor
Defense Minerals

Attachments

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

Phtin

AUG 22 1956

Memorandum

To: The Administrator, DMEA
Attention: Mr. T. L. Chapman

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3607, Manganese Corporation of Arizona

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5. Attachment of the maps referred to in the contract.

HCRubin/emd
Copy to: DMEA Docket
Solicitor's Docket
Attachments

W.S.Martin
J.L.Hofflund
H.C.Rubin
chron.

J. L. Hofflund
J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

August 17, 1955

MEMORANDUM

To: Acting Assistant Solicitor, Defense Minerals

From: Iron and Ferro Alloys Division, DMEA

Subject: Preparation of proposed contract
Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Transmitted herewith is a rough draft of a proposed contract for your use in preparing the final draft.

On July 30, 1955, the Socorro Corporation completed payments of $130,205.00 on Lease and Option of July 18, 1949 (Option - $100,000.00, plus $30,205.00 interest), hence becoming owners of the property and equipment.

For expediency we request that you complete the contract without any questions concerning ownership, leases and assignments, and these will be transmitted to the Field Team with the contract.

Sgd TLC

Thos. L. Chapman, Acting Chief
Iron and Ferro-Alloys Division

Attachment

cc: Docket
Code 400

TLChapman/ls

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

AUG 11 1955

Memorandum

To: The Administrator, DMEA
Attention: W. S. Martin

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3607, Manganese Corp. of Arizona

Mr. Martin's memorandum of August 2 requested that we draft a contract covering the above-described project. It is proposed that the subject of the contract will be six claims, Red Hill Extension Nos. 3 through 6, No. 8, and No. 10. These claims are owned by the RFC by virtue of foreclosure proceedings and, in an instrument dated July 18, 1949, were leased and optioned by RFC to the Socorro Corporation, a New Mexico corporation, for a period of two years. One condition of the lease is that the lessee obligates itself to obtain valid assignments in the name of lessor (RFC) from Morgan G. Huntington covering any mining locations held in his name and comprising all or any part of the claims which are the subject of the lease to Socorro. Assignment of the lease without the prior written consent of the RFC is prohibited.

In a lease and option agreement dated June 26, 1954, between Socorro Corporation and Edward Mangenhall and Victor J. Morgan, partners, d.b.a. Manganese Company of Arizona, it is recited that the basic lease from RFC was modified by letter and by a formal supplemental agreement, and that Socorro does not undertake to mention specially and attach a copy of each agreement with RFC, but states generally that each was for the benefit of Socorro. It does, however, recite that Exhibits B and C (to the lease and option agreement dated June 26, 1954) - a copy of supplemental agreement dated August 31, 1951, and a copy of a letter dated November 17, 1952, from the Denver office of the RFC - are attached and contain detailed recitals concerning the amendments made, and fairly bring the original lease and option of July 18, 1949, up to date. The supplemental agreement dated August 31, 1951, is not attached to our copy of

the lease-option agreement of July 18, 1949. In this regard, the docket discloses that Mr. Chapman visited RFC on July 27, 1955, and that although he was furnished with a copy of the basic lease, he was not furnished with a copy of any formal supplemental agreement. A copy of the letter dated November 17, 1952, from RFC's Denver office to Socorro, and a copy of a letter dated December 29, 1952, from RFC's Denver office to the Washington office were furnished to Mr. Chapman.

The letter dated November 17, 1952, from the RFC's Denver office to Socorro accepts Socorro's proposal that the basic lease be amended so as to extend its term to July 1, 1956, upon Socorro's payment of certain money and the compliance with certain other conditions. No evidence that this lease amendment was ever made is before us. The letter of December 29, 1952, states that the conditions in the November 17, 1952 letter had not then fully been complied with.

Accordingly, there is not before us any evidence of applicant's rights in the land for a fixed term of sufficient duration for the purposes of an exploration project contract. Even if the supplemental agreement referred to above was executed by the RFC it would extend the basic lease only to July 1, 1956.

In the event that a contract is approved we would also require the following:

1. Consent to Lien from Socorro.

2. Copy of the supplemental agreement to the basic lease extending the term.

3. Evidence of written consent by the RFC to Socorro's lease and option to Manganese Company of Arizona.

4. Clarification of Morgan G. Huntington's interest in the Red Extension claims.

5. In addition, as RFC is the lessor in this case, we would have to consider working out some arrangement concerning DMEA's royalty.

6. Copy of assignment by Manganese Company of Arizona, the partnership, to Manganese Corporation of Arizona and RFC's consent thereto.

In view of the unsettled nature of the applicant's interest in the land we have not prepared a draft of the contract as requested, and the docket is returned herewith.

J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

Attachment

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

AUG 11 1955

Memorandum

To: The Administrator, DMEA
Attention: W. S. Martin

WSM

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3607, Manganese Corp. of Arizona

Mr. Martin's memorandum of August 2 requested that we draft a contract covering the above-described project. It is proposed that the subject of the contract will be six claims, Red Hill Extension Nos. 3 through 6, No. 8, and No. 10. These claims are owned by the RFC by virtue of foreclosure proceedings and, in an instrument dated July 18, 1949, were leased and optioned by RFC to the Socorro Corporation, a New Mexico corporation, for a period of two years. One condition of the lease is that the lessee obligates itself to obtain valid assignments in the name of lessor (RFC) from Morgan G. Huntington covering any mining locations held in his name and comprising all or any part of the claims which are the subject of the lease to Socorro. Assignment of the lease without the prior written consent of the RFC is prohibited.

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4. Clarification of Morgan G. Huntington's interest in the Red Extension claims.

5. In addition, as RFC is the lessor in this case, we would have to consider working out some arrangement concerning DMEA's royalty.

6. Copy of assignment by Manganese Company of Arizona, the partnership, to Manganese Corporation of Arizona and RFC's consent thereto.

In view of the unsettled nature of the applicant's interest in the land we have not prepared a draft of the contract as requested, and the docket is returned herewith.

J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

Attachment

Putin

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

AUG 11 1955

Memorandum

To: The Administrator, DMEA
Attention: W. S. Martin

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-3607, Manganese Corp. of Arizona

Mr. Martin's memorandum of August 2 requested that we draft a contract covering the above-described project. It is proposed that the subject of the contract will be six claims, Red Hill Extension Nos. 3 through 6, No. 8, and No. 10. These claims are owned by the RFC by virtue of foreclosure proceedings and, in an instrument dated July 18, 1949, were leased and optioned by RFC to the Socorro Corporation, a New Mexico corporation, for a period of two years. One condition of the lease is that the lessee obligates itself to obtain valid assignments in the name of lessor (RFC) from Morgan G. Huntington covering any mining locations held in his name and comprising all or any part of the claims which are the subject of the lease to Socorro. Assignment of the lease without the prior written consent of the RFC is prohibited.

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2. Copy of the supplemental agreement to the basic lease extending the term.

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4. Clarification of Morgan G. Huntington's interest in the Red Extension claims.

5. In addition, as RFC is the lessor in this case, we would have to consider working out some arrangement concerning DMEA's royalty.

6. Copy of assignment by Manganese Company of Arizona, the partnership, to Manganese Corporation of Arizona and RFC's consent thereto.

In view of the unsettled nature of the applicant's interest in the land we have not prepared a draft of the contract as requested, and the docket is returned herewith.

J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

Attachment

HCRubin/gjb

Copy to: DMEA Docket
Solicitor's Docket
W. S. Martin (2)
J. L. Hofflund
H. C. Rubin
chron.

400
Chapman
Martin

August 2, 1955

MEMORANDUM

To: Acting Assistant Solicitor, Defense Minerals

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of proposed contract
Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Socorro, New Mexico

Transmitted herewith is a rough draft of a proposed contract for your use in preparing the final draft.

Please return draft for our file.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Attachment

TLChapman:foc
8/2/55
cc to: Docket
Code 400
Adm. Read. File

Draft returned by Legal with 8/11/55 memo.

Interior Department
Defense Minerals Exploration
Administration
14X4401 (01) Revolving Fund, Defense
Production Act, Interior
(Allocated Working Fund to the Office
of the Secretary)

DOCKET
SURNAME
Chapman
Martin

Mr. E. V. Mandenhall
Manganese Corporation of Arizona
Socorro, New Mexico

Ratel July 29, 1955, Docket DMEA 3607, Manganese Corporation of Arizona, Red Hill Extension Mine. We cannot make any commitment on proposed exploration in advance of execution of contract. Favorable consideration is being given on program agreed on by yourself and Field Team. We plan to submit proposed exploration program for your consideration next week.

C. O. Mittendorf

Administrator
Defense Minerals Exploration
Administration

TLChapman:foc 8/1/55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
Messrs. DeHaff, USBM
Kiilsgaard, USGS

foc

R.G.S.

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

OB417 LC648

RECEIVED

1955 JUL 29 PM 11 04

L AYA793 NL PD=SOCORRO NMEX 29= 1955

MR MITTENDORF=

DEFENSE MINERALS EXPLORATION AGENCY DEPT OF INTERIOR ~~PHONE REPUBLIC 71820 EXT 5371~~ WASHDC= W3M

REFERENCE DOCUMENT 3607 THIS COMPANY PLEASE ADVISE DISPOSITION THIS EXPLORATION APPLICATION STOP DRILLERS CONTRACTED FOR THIS WORK EXPECT TO TAKE OTHER JOB UNLESS THEY CAN START OUR DRILLING IN NEAR FUTURE=

E V MENDENHALL MANGANESE CORP OF ARIZONA=••

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

RECONSTRUCTION FINANCE CORPORATION

WASHINGTON 25, D. C.

July 28, 1955

Mr. C. O. Mittendorf
Administrator
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Docket No. DMEA 3607 - Manganese
Manganese Corp. of Arizona
Big Basin and Red Hill Extension
Mining Claims
Socorro County, New Mexico

United Mining and Milling Corporation
Loan No. 240,919

Dear Mr. Mittendorf:

Complying with the request of Mr. Thomas L. Chapman, the bearer of your letter of July 27, 1955, we send herewith copies of the following:

Letter dated December 29, 1952, addressed to Mr. H. R. Rutland, Chief, Liquidation Division, Office of Loans, Reconstruction Finance Corporation, Washington 25, D. C., from China R. Clarke, Manager, Denver Loan Agency;

Letter dated November 17, 1952, addressed to The Socorro Corporation, Albuquerque, New Mexico, from China R. Clarke, Manager, Denver Loan Agency;

Lease Agreement and Option dated July 18, 1949.

Very truly yours,

M. W. Knarr

M. W. Knarr
Secretary

[illegible]
[illegible]
RECONSTRUCTION FINANCE CORPORATION
[illegible]
[illegible]

[illegible] 28, 1955

Mr. E. R. Ruland
Chief, Liquidation Division
Office of Loans
Reconstruction Finance Corporation
Washington 25, D. C.

Re: United Mining and Milling Corporation
(Secure Corporation)
Secure, New Mexico
(Collateral Purchased)
LIE-[illegible] (United Mining and Milling Corporation, [illegible])
Status of Loan (Collateral purchased and leased with an option to purchase to Secure Corporation for the sum of $[illegible])
[illegible]

Dear Mr. Ruland:

This will acknowledge receipt of your letter dated November [illegible], 1955, in which you asked to be advised of the status of subject case, in response to which we are forwarding copies of the following:

1. A. M. No. 795 dated November 17, 1952, in which, in effect, it is agreed that RFC, conditional upon the Secure Corporation complying with certain requirements, shall extend the lease and option to July 1, 1954.

2. Letter dated November 17, 1955, advising Secure Corporation, lessee, of the acceptance of the offer and the conditions of the acceptance.

The Lease Agreement with Secure Corporation is already in effect and has been executed previously, and it is my understanding that the Washington Office approved the original lease. During the [illegible] the undersigned, on [illegible], noted while the [illegible] was present in long [illegible].

The Secure Corporation has complied with conditions 1, [illegible] of A. M. 795, and accordingly the [illegible] advance rental payment has been deposited in the Reconstruction Finance Account, making a total now held in rental payment of $[illegible].

The conditions under Item 3.(a) on pg. [illegible] have not been satisfied, however, this delay is considered an condition (d) may waive and then be complete.

As soon as the lessee has complied with all the conditions and the amended Lease Agreement executed, your offer will be [illegible] Accept.

Very truly yours,

[illegible]
Manager

November 17, 1952

The Socorro Corporation
715 First National Bank Building
Albuquerque, New Mexico

Attention: Mr. John J. Emmons, President

Re: 240,512

Gentlemen:

We wish to advise that this Corporation has this date accepted your proposal dated November 1, 1952 whereby the Socorro Corporation will perform the following:

(a) Pay all taxes now levied and assessed against the RFC property near Socorro, New Mexico.

(b) Pay the insurance premiums now due in the approximate sum of $678.00.

(c) Pay rental to the State of New Mexico on Lease Agreement #17-167% which is now due.

(d) Start immediately and continue assessment work on the claims until at least $100 worth of work has been done on each unpatented mining claim.

(e) Bring the Abstract of Title to date on the unpatented mining claims and forward such Abstract to this Agency.

(f) Pay to this Corporation within 30 days from the date of this letter the sum of $5,000 which will constitute rental on Lease and Option from January 1, 1953 to July 1, 1953.

See letter 12/29/52

When the Socorro Corporation has complied with the above, (a) thru (f), and furnished receipts for the taxes, insurance and rentals and the check for $6,000 is received, this Corporation will extend the Lease and Option to July 1, 1956, as amended, by a third Supplemental Agreement. This Agreement will contain a paragraph reading as follows:

> That the Socorro Corporation will pay to the RFC on all net mill and smelter return or other sales of manganese ore, chips or other products, as follows:
>
> 5% - up to and including $15.00 per ton;
> 7½% - from $15.01 per ton up to and including $20.00 per ton;
> 10% - from $20.01 per ton up to and including $25.00 per ton;
> 12½% - from $25.01 per ton and above.
>
> Such sums from royalty to be applied against the past due payments and after July 1, 1953 the Socorro Corporation will pay to the RFC not less than $1,000 a month and royalty payments will be applied towards this payment. If royalty payments do not equal $1,000 a month, lessee will make up such deficiencies from other sources. When royalty payments exceed the $1,000 per month, such payments will first be applied to the $1,000 monthly payment and the remainder credited on the purchase price in line with the Lease and Option Agreement dated July 19, 1949. All other terms of the Lease and Agreement dated July 19, 1949 as twice amended, shall be in full force and effect except as amended above, and this means that all taxes, rental payments and insurance must be kept current during the life of the lease.

Your offer to purchase the property for the sum of $30,000 is considered withdrawn, and we are herewith returning your check in the amount of $2,500 which was submitted with your original proposal to purchase the property.

We believe that the terms and conditions are in line with your proposal and our discussions with you and Mr. Idem on October 31 and your subsequent telephone discussion with Mr. Bismant in reference to the royalty payments.

If you will send us a check in the amount of $6,000 and complete the conditions as set forth (a) thru (e), we will proceed at once to draw up the Supplemental Agreement for your signature.

Very truly yours,

/s/ Chas. R. Clarke
Manager

[illegible]

[illegible] and existing under the laws of [illegible] hereinafter referred to as [illegible]

[illegible] organized and existing under the laws of [illegible] hereinafter referred to as [illegible]

[illegible] party, WITNESSETH:

WHEREAS, United Mining and Milling Corporation [illegible] developed and operated certain mining properties in [illegible] including but not limited to [illegible] Red Hill Mining Claims [illegible] located principally in [illegible] County [illegible] and [illegible] by the parties hereto and particularly [illegible] reference to such properties is [illegible] and

WHEREAS, the [illegible] foreclosure [illegible]

[illegible]

judgment and decree of foreclosure having been [illegible] April 20th, 1949, by the presiding Judge of said [illegible] United Mining and Milling Corporation has [illegible] ed unto the Lessee herein the following [illegible] covering in general all the [illegible] Holding location [illegible] equipment, machinery, [illegible]

and other personal property used or held in connection with the aforesaid mining operations; and

WHEREAS, the Lessee herein desires to develop and operate said mining properties, real and personal, for a period of two (2) years, and possibly purchase the same within said period, and the Lessor is willing to lease the same unto the Lessee and grant an option to purchase the same by the Lessee within said two-year period solely upon the terms and conditions hereinafter specified;

NOW, THEREFORE, IT IS UNDERSTOOD AND AGREED that the Lessor does hereby grant, give and lease unto the Lessee all aforesaid property and the right of entering in and upon the Mining Claims and Millsites above referred to, for the purpose of working, operating, mining, developing, processing, removing and selling all manganese ore and other mineral products which may be produced from said Claims, to such an extent as it may deem advisable, for a period of two years from the date hereof.

In consideration of said lease and this Agreement, the Lessee specifically covenants and agrees that it will perform and do all necessary assessment work upon the aforesaid Mining Claims and Locations, in order to keep the same in full force and effect during the term hereof; to keep all tools, equipment, machinery, buildings, pumps, pipelines, transmission lines and other equipment and appliances in a good state of repair during the term of this lease, ordinary wear and tear excepted; to protect all of said property against attachment and all liens of every nature, and shall post and maintain such lien notices upon the property as all times as may be requested by the Lessor; to assume and pay all expenses for the care and preservation of the property during the life of this lease, and shall either pay, compromise, liquidate or otherwise dispose of Lessor hereunto from any and all claims for labor, materials, or service or purchases growing out of or in any way connected with the past operations of said mining properties, by way of wherever

effectively discharge all taxes of whatsoever nature now against said mining properties; to do and perform all work and operations upon said premises in a good and workmanlike manner in accordance with practices followed by other prudent operators engaged in similar mining work.

The Lessee shall keep a true and correct account of all minerals mined, including rock and chips, the products and to whom sold, the price and the amounts received from such sales, which accounts shall be open to the inspection of the Lessor at all times. It shall pay to the Lessor, at its office in Dallas, Texas, or at such other place as Lessor may in writing designate, within ten (10) days after the expiration of each ninety-day period from the date hereof, 50% (one-half) of the net returns from sales of all manganese, ore, rock, chips, or other products from said mining properties; provided that in the event the remittances from such sales shall not equal $5,000.00 during each ninety-day period as above specified during the term hereof, the Lessee shall nevertheless pay to the Lessor a sum of not less than $5,000.00 during each such period, and failure to do so shall, at the option of the Lessor, terminate this Agreement and all rights of Lessee herein and hereunder shall automatically cease and expire. In arriving at the "net returns," the amounts paid upon or in settlement of delinquent taxes or other governmental assessments shall not be taken into consideration as operating expense items.

IT IS UNDERSTOOD AND AGREED that the Lessee is hereby given and granted the option to purchase all of the aforesaid mining properties at any time before the termination of this Agreement by payment in cash of $100,000.00, plus interest thereon at the rate of four (4%) per cent per annum from the date hereof until fully paid; that the funds received by the Lessor under the preceding paragraph shall be held in a suspended credit account by the Lessor during the life of this Agreement without accrual of interest

thereon, and upon exercise of the option to purchase hereby granted, the amount in said account shall be accepted and applied as part payment upon the purchase price above stated.

IT IS FURTHER AGREED that in the event the Lessee desires to dispose of any surplus machinery, equipment or other property, it shall advise the Lessor in writing and shall describe such property, the proposed sales price and the name of the proposed purchaser, and upon obtaining consent of the Lessor, such surplus property may be sold and the proceeds from such sale shall be deposited in the aforesaid suspended credit account and applied upon the purchase price in the event Lessee exercises the option to purchase above granted. Such sales proceeds shall not be considered in computing "net returns" as used on the preceding page hereof, nor shall such proceeds be considered as any part of the rental payments hereinbefore reserved. In the event the Lessee does not exercise said option to purchase prior to the termination of this Agreement, all funds held by the Lessor in said suspended credit account shall be the property of said Lessor and considered as compensation for the use of said properties by the Lessee, and upon such termination, said Lessee shall surrender up and deliver peaceable possession of all property immediately.

IT IS FURTHER UNDERSTOOD AND AGREED that Lessee shall, upon the execution of this Agreement, pay to the Lessor the pro rata premiums for unexpired insurance now carried upon said property and shall forthwith effectuate Workmen's Compensation insurance covering its employees, and keep satisfactory insurance policies in full force and effect during the period of this Agreement at its own expense. The insurance policies upon the physical properties shall contain an appropriate rider or provision with loss payable clause in favor of the Lessor as its interest appears. Insurance proceeds paid to Lessor representing loss or damage to the property shall be used as it may determine in repairing or

-4-

replacing damaged property, or shall be deposited in said suspended credit account and treated as a sale of the specific property so damaged or destroyed.

IT IS UNDERSTOOD AND AGREED that the salaries of all officers of the Lessee during the period of this Agreement shall be satisfactory to and approved by the Agency Manager of the Lessor, and that in no event shall the salary of any officer, agent or employee of the Lessee exceed the sum of $5,000.00 per annum during the period of this Agreement without first being specifically approved in writing by the Agency Manager of the Lessor; that Earl C. Idem, of Albuquerque, New Mexico, shall have general supervision over all disbursements, purchases, sales, accounting and other activities of the Company during the term of this agreement, and it is agreed that such managerial supervision is a part and condition of this Agreement. In the event said Idem should fail or refuse to serve in such capacity, his successor must be satisfactory to and approved by the Lessor.

IT IS FURTHER UNDERSTOOD AND AGREED that Lessee has made independent investigation with respect to the title and ownership of Lessor in and to said mining properties, and that no representations as to ownership have been made by Lessor or its agents; that Lessee specifically waives any and all claims for damages or otherwise by reason of any failure or defect of title in said Lessor; that Lessee enters upon and takes possession of said properties hereunder without any warranty on the part of the Lessor, and in event of the exercise of the option above granted, it will not be necessary for Lessor to furnish Abstracts of Title or perfect its title to either real or personal property covered herein.

It is expressly understood and agreed that one of the conditions of this Agreement is that the Lessee obligates itself to obtain valid assignments in the name of Lessor from Morgan G. Huntington covering any Mining Location Claims (original or

relocated) held by or in the name of said Morgan G. Huntington comprising all or any part of the above-mentioned Mining Location Claims or Millsites formerly held by or in the name, or for the use of United Mining and Milling Corporation.

It is further agreed the Lessor shall during the life of this Agreement have the right to enter upon any and all of the property to see that the requirements of this lease are being complied with, and failure to comply with and perform the requirements and conditions hereof in good faith by the Lessee shall end and determine this Agreement and Lessor may enter upon, take and hold such demised premises as if this Agreement had not been executed.

The Lessee may erect such structures or buildings and may make installations and repairs to such machinery or equipment upon the premises during the term of this lease as it may deem advisable with the express understanding that in the absence of prior written agreement to the contrary, all such improvements or installations shall become the property of the Lessor upon the termination of this agreement and the failure to exercise the option to purchase as above provided.

Lessee shall furnish Lessor a copy of each monthly or other statement which it compiles or makes of its operations in addition to the ninety-day periodical reports which are to be furnished at such rental payment dates as above contemplated.

A Certified Public Accountant shall certify semi-annual audit reports of Lessee and of its entire operations in connection with said properties.

The Lessee shall not assign this lease and Agreement, nor sublet the premises or any part thereof without first obtaining written consent of Lessor.

It is agreed the manganese are now in stockpile on Mt. Rose,

No member of Congress, or resident commissioner, shall be admitted to any share or part of this lease, or to any benefit to arise therefrom. Nothing, however, herein contained shall be construed to extend to any incorporated company, if the lease be for the general benefit of such corporation or company.

Texas is not included in this agreement, but is the property solely of Lessor.

In event Lessor believes Lessee to be in default in any particular, except as to payment of rental above specified, it shall give written notice to Lessee setting forth the particular or particulars in which it believes Lessee to be in default, and Lessee shall have thirty (30) days after receipt of such notice in which to correct such default if the same does exist. Such notice shall be deemed to be properly served if mailed to Lessee at 717 First National Bank Building, Albuquerque, New Mexico.

[redacted]

ATTEST: PRESIDENT

SECRETARY

RECONSTRUCTION FINANCE CORPORATION

BY _____

Attorney in Fact

STATE OF NEW MEXICO
COUNTY OF BERNALILLO.....SS

On this day of July, 1949, before me personally appeared MORGAN G. HUNTINGTON, to me personally known, who being by me duly sworn, did say that he is President of Socorro Corporation, a corporation organized under the laws of the State of New Mexico, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation, by authority of its board of directors and said Morgan G. Huntington acknowledged said instrument to be the free act and deed of said corporation.

WITNESS my hand and seal the day and year last above written.

My commission expires: NOTARY PUBLIC

THE STATE OF TEXAS

COUNTY OF DALLAS

BEFORE ME, the undersigned authority, on this day personally appeared L. B. Gilden, known to me to be the person whose name is subscribed to the foregoing instrument as Attorney in Fact of Reconstruction Finance Corporation, a party thereto, and acknowledged to me that he executed the same as Attorney in Fact for the said Reconstruction Finance Corporation, and as the act and deed of Reconstruction Finance Corporation, a corporation, by authority of its Board of Directors, and for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN under my hand and seal of office this ____ day of July, 1949.

Notary Public, Dallas County, Texas.

IN REPLY REFER TO:

Docket

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

July 27, 1955

Re: DMEA 3607
Manganese Corp. of Arizona
Red Hill Extension Zone
Socorro Co., New Mexico
$53,150.00 - Manganese

Memorandum

WSM

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report

The revised work program, developed by the examiners and the applicant, promises better than well, considering the 1,000,000 to 1,500,000 tons of indicated and inferred ore that may result.

I concur with the recommendation of the Field Team.

N. E. Nelson

N. E. Nelson

RECEIVED
JUL 28 1955

Copy retained 400

400

DOCKET
SURNAME
Chapman
Martin

JUL 2 7 1955

Mr. M. W. Emerr, Secretary
Reconstruction Finance Corporation
Washington 25, D. C.

Re: Docket No. DMEA 3607 - Manganese
Manganese Corp. of Arizona
Big Basin and Red Hill Extension
Mining Claims
Socorro County, New Mexico

Dear Mr. Emerr:

In connection with the subject application it will be appreciated if you will make available to Mr. Thos. L. Chapman, Mining Engineer, Iron and Ferro-Alloys Division, Defense Minerals Exploration Administration, any pertinent data concerning transactions of the Reconstruction Finance Corporation with the United Mining and Milling Company and the Socorro Corporation.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

TLChapman/fec
7/27/55
cc to: Docket
Code 400
Adm. Read. File

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

RECEIVED
JUL 1 1955

224 New Customhouse
Denver 2, Colorado

July 14, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

WGM

Subject: Report of Examination, DMEA Docket 3607 (Manganese), Manganese Corporation of Arizona, Socorro County, New Mexico

Enclosed are the original and three copies of the report pertaining to the above application.

We recommend the proposed 2-stage churn drilling program at an estimated total cost of $53,150.00 as outlined in the report.

Seven copies of Figure 1 and Figure 2 are attached for possible use in the contract.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

DMEA
Date Rec'd.
JUN 15 1955
BUREAU OF MINES
Denver, Colorado

DMEA
Date Rec'd.
JUL 8 1955
BUREAU OF MINES
Denver, Colorado

TRANSMITTED
JUL 13 1955

June 13, 1955

Memorandum

To : W. M. Trayer, Executive Officer, DMEA Field Team, Region III.

From : Superintendent, Southwest Experiment Station

Subject : Field Examination Report, DMEA-3607, Manganese Corporation of Arizona, Socorro County, N. Mex.

Enclosed are original and 6 copies of the section on Summary, Conclusions, and Recommendations, by T. M. Rusale of the Bureau of Mines and Leonid Bryner of the Geological Survey, and the section on Engineering by Rusale.

The engineers recommend churn drilling on the Red Hill Extension deposit, but recommend denial of Government exploration assistance for the Big Basin and West Biggerhead properties. Drilling on the Red Hill Extension would be in two stages for a total cost of $43,150.00. I concur with their recommendation.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W.M. Trayer (6)
J.H. Faick
DMEA-3607
WF

WRStorms/jlb

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS MCKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION OF FIELD TEAM
REGION III

DMEA-3607, Manganese Corporation of Arizona

Red Hill Extension, Big Basin and West Niggerhead

Manganese Claims, Socorro County, New Mexico

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

Leonid Bryner, Geologist
U. S. Geological Survey

June 1955

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

TRANSMITTED

JUL 13 1955

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By T. M. Romslo[1/] and Leonid Bryner[2/]

Examiners for the Defense Minerals Exploration Administration investigated the Red Hill Extension, Big Basin, and West Niggerhead properties in Socorro County, N. Mex. in connection with an application by the Manganese Corporation of Arizona for Governmental assistance to explore the claims under the Defense Production Act of 1950, as amended. The application, docketed as DMEA-3607, requested assistance on a proposed churn-drilling program that would cost an estimated total of $86,790.00. During the investigations, the program was revised to a 2-stage churn-drilling project that envolved the drilling of an estimated total of 6,900 feet in about 56 holes on the Red Hill Extension property. The estimated total cost of the project is $53,150.00, of which $19,275.00 and $33,875.00, respectively, are for Stages 1 and 2.

The first mining activity on the properties probably was during World War I when a small amount of exploratory work was done at Big Basin and Red Hill Extension, and about 100 tons of sorted ore was produced from the latter. In 1943, the National Zinc Corp. acquired the Red Hill and Niggerhead claims, and located the Red Hill Extension claims. The properties were explored and a 300-ton wet concentrator was constructed. Mining of ore from the Red Hill and Red Hill Extension by open pit, and milling of the ore started in December 1944. Production ceased before 1948, probably before fulfillment of a contract to deliver 5,000 tons of concentrates to the Metals Reserve Company. The properties then were idle to 1954 when the Manganese Corporation of Arizona

1/ Mining Engineer, Bureau of Mines

2/ Geologist, Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

replaced the old mill with a 500-ton heavy-media concentrator. From September 1954 to March 19, 1955, the corporation had mined about 60,000 tons of ore and milled about 50,000 tons of sorted ore. Production for the period was about 6,200 tons of 38 to 40 percent manganese concentrates. Of the 60,000 tons of mined ore, 45,000 tons came from the Red Hill deposit, 14,000 tons was produced from the Red Hill Extension, and the remaining 1,000 tons was mined at the Niggerhead deposit. On March 19, 1955, the 500-ton mill was shut down and milling was started in a new 3,000-ton heavy-media and tabling plant.

3 The ore occurs as incrustations of psilomelane in fractures or cavities in a rhyolite host rock. At the Red Hill Extension the ore is mainly in three parallel zones in a belt of manganiferous rock about 1,100 feet wide. The ore zones are 100 to 200 feet wide and up to 70 feet thick. Manganese mineralization is present between the three zones, but is of a considerably lower grade. In cross section, the manganiferous belt is bow-shaped so the central ore zone is about 80 feet below the surface, while at the two edges of the belt the other two zones reach the surface. Total reserves of all classes at the Red Hill Extension are estimated at one million long tons of 5 percent manganese.

The Big Basin and West Niggerhead deposits are similar geologically to the Red Hill Extension. However, the Big Basin is considerably lower in grade, and the West Niggerhead appears to offer possibilities of only low grade and a comparatively small tonnage. Therefore, exploration is recommended only at the Red Hill Extension, where as much as half a million long tons might

be discovered by the proposed drilling program.

The Red Hill Extension is the sole property of the three investigated where conditions are favorable for the finding of significant reserves of manganese ore. There, the grade of ore could be similar to that of the nearby Red Hill deposit of the applicant's present operation. The operation is sustained by the Government's price for manganese. Continuation of the operation under this price will shortly be dependent on ore from the deposit of the proposed exploration program.

The proposed exploratory project is confined to churn drilling, a feasible and relatively low-cost method. Satisfactory supervision of the project can be expected.

Approval is recommended for the proposed 2-stage program that can be completed in 8 months at an estimated total cost of $53,150.00, of which stages 1 and 2 have been allocated $19,275.00 and $33,875.00, respectively.

DMEA-3607, MANGANESE CORPORATION OF ARIZONA, RED HILL EXTENSION, BIG BASIN AND WEST NIGGERHEAD MANGANESE CLAIMS, SOCORRO COUNTY, N. MEX

Engineering Report

By: T.M. Romslo

Mining Engineer

U. S. Bureau of Mines

June 1955

Reviewed by
DMEA OPERATING COMMITTEE

7-22-55
(date)

DMEA-3607, MANGANESE CORPORATION OF ARIZONA, RED HILL EXTENSION, BIG BASIN AND WEST NIGGERHEAD MANGANESE CLAIMS, SOCORRO COUNTY, N. MEX.

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Engineering Report — Page

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Proposed exploratory ppojectt ---------- 16
Estimated cost of project ---------- 17
Conclusions and recommendations ---------- 20

ILLUSTRATIONS

Fig. — Following Page

1. Location and claim map. ---------- 2
2. Geologic and exploratory map. --(in Geological Report)

INTRODUCTION

The Manganese Corporation of Arizona made application to the Defense Minerals Exploration Administration for Governmental aid on a proposed exploration project at each of 3 properties in Socorro County, N. Mex. The proposed work consisted of a small bulldozing operation and the churn drilling and sampling of 10,400 feet in 52 holes at an estimated total cost of $86,790.00. It was designed to indicate sufficient reserves of manganese ore for a 3,000-ton a day concentrator that recently replaced a 500-ton plant. The application was docketed as DMEA-3607, reviewed by the Operating Committee, and sent to the Field Team of Region III for a field investigation of the properties.

The field investigations were carried out from March 29 to 31, 1955, by Leonid Bryner, Geologist, U. S. Geological Survey and the writer. Investigations were largely confined to the corporation's concentration plants and the three areas of proposed explorations, the Red Hill Extension, the Big Basin groups of claims, and the West Niggerhead claim. Victor J. Morgan, President of the corporation, accompanied the examining team during an investigation of the West Niggerhead claim, and during a brief visit to the Red Hill Extension claims after the team had examined these claims. Certain data, vital to this and the Geological Report, were not obtained from the applicant until May 12.

LOCATION AND ACCESSIBILITY

The Red Hill Extension and Big Basin groups of claims are about 8 air-miles southwest of the town of Socorro and are respectively situated in secs. 17 and 20, and 17 and 18 of T. 4 S., R. 1 W., Socorro County, N. Mex. (figure 1). They are accessible from Socorro by following U.S. Highway 85 south for 6.5 miles, thence 2.4 miles west on a graded dirt road to the applicant's new concentrating plant. Proceed on the dirt road 0.5 miles to the company office at the old concentrator, thence 1.3 miles to the active "State Lease" open pit. The area of present and proposed churn drilling on the Red Hill Extension claims is about 0.5 air-mile west of the open pit and is accessible from the pit via 1.2 miles of graded road.

The Big Basin group of claims, about 0.5 air-mile northwest of the Red Hill Extension claims, may be reached by traveling about 2 miles northwesterly on a graded road from the company office.

The West Niggerhead claim, about 8 air-miles northwest of the company's office, is situated in sec. 32, T. 3 S., R. 2 W., Socorro County. It may be reached from the office by traveling 5.0 miles northwesterly on a graded road to U.S. Highway 60. Proceed west on the highway for about 2.0 miles to a westerly-trending graded access road that follows a prominent dry wash, Six Mile Canyon. It is about 3.5 miles from the highway to an adit on the West Niggerhead claim that has its portal on the north face of the canyon. The last mile of road is in the bed of the canyon and is in extremely poor condition.

The nearest railroad shipping point to the applicant's concentrator is at the village of San Antonio, about 11 miles south of Socorro vis U.S. Highway 84. Deming, the site of one of the Government manganese ore purchasing depots, is 150 miles south of Socorro via U.S. Highway 85 and state highway 26.

PHYSICAL FEATURES AND CLIMATE

The Red Hill Extension and Big Basin properties are situated in the west-central portion of the northerly trending Chupadera Mountain range at average altitudes of about 5,500 and 5,800 feet, respectively. Their areas are moderately rugged. Maximum relief on each property is in the order of 300 feet. The properties are on either side of Miera Tank Canyon that drains easterly to the Rio Grande Valley.

The West Niggerhead claim, at an average altitude of 5,000 feet, is in an area of rolling hills and gravel filled arroyos. Drainage of the immediate area is easterly to the Rio Grande Valley, principally via Six Canyon.

Vegetation comprises a sparse growth of forage grasses, the usual variety of desert plants, and a few scattered junipers and pinon pines.

Annual precipitation of about 10 inches occurs principally as heavy summer showers and light snowfalls. Summers are mild and winters are not sufficiently severe to impede surface operations.

HISTORY AND PRODUCTION

Probably the first production of manganese ores from the district comprising the properties under consideration was during World War I. During this period a total of about 100 tons of sorted

ore of 35 percent grade was shipped mainly from a shaft on the Van Pelt claims, now a portion of the Red Hill Extension group. From then to April 1943, when the claims in the Red Hill area were examined by the United States Geological Survey,[1] numerous trenches, pits, and open cuts had been excavated on the Red Hill Group of claims, but little or no production had resulted. Probably during this same period, the Big Basin group was explored by several small workings. Field evidence indicates these workings yielded little or no manganese ore.

In 1943, the National Zinc Corp., later reorganized as the United Mining and Milling Corp., obtained the Red Hill and Niggerhead claims under a lease agreement and located the Red Hill Extension group of claims. The history of the corporation's activities through 1944 has been extracted from a Bureau memorandum report of January 3, 1945 by W.R. Storms, presently Superintendent, Southwest Experiment Station, Region III. After spending some $35,000 in exploring the various deposits of the above claims, a 300-ton wet concentrator was constructed about 1 mile east of the Red Hill and mining and milling of the Red Hill ore was initiated. An adequate water supply was developed by a 520-foot well after about $40,000 was spent on well drilling and equipment. Ore zones were drilled with wagon drills and blasted ore was hauled to the mill in 5-ton trucks. Plans called for increasing mine production to 800 tons of 10.0 percent ore daily and treating 560 tons of 14.0 percent

1/ Nauschel, Sherman K., Junior Geologist, Memorandum Report on Four Manganese Claim Groups, Near Socorro, New Mexico.

ore after sorting out about 240 tons of waste at the mill. The operations, started early in December 1944, had not reached capacity at the end of the month and tonnage and grade records were insufficient to justify any prediction. Several cars of 44 percent concentrate were made. Records showed the mine could produce ore of the expected grade, and that the mill on occasion could make concentrate to meet specifications. Mill heads on some days fell below 10 percent and on those days the concentrate dropped below 44 percent. The corporation had a contract with the Metals Reserve Company for 5,000 tons delivered to railroad cars at $1.00 per unit for 48 percent ore with a 44 percent minimum grade, and a limit of 25 percent of fines through a 20-mesh screen. A deduction of $0.01 per unit was made for material under 48 percent and a sintering charge of $3.00 a ton was deducted from payments. In April 1948, when the property was again visited by Storms, the plant was closed. Production probably was less than the contracted 5,000 tons.

As far as known, operations of the Red Hill ("State Lease" Pit) and Red Hill Extension ("RFC" Pit) were not renewed until September 1954 when the applicant began milling ore from these deposits. To March 19, 1955, about 50,000 tons of ore had been mined and milled for a production of approximately 6,200 tons of concentrates averaging 38 percent manganese. A brief description of operations is given in this report under Present Status.

EXTENT AND OWNERSHIP OF PROPERTIES

The Red Hill Extension property comprises a group of 16 unpatented lode mining claims, Red Hill Extension Nos. 3, 4, 5, 6, 8 and 10. This property and the Big Basin group of 10 unpatented claims, specifically the Big Basin Nos. 1 to 10, are held by the applicant under a lease and option agreement with the Socorro Corp., (figure 1). Data submitted with the application indicates that the Socorro Corp. holds the properties under a lease and option agreement with the Reconstruction Finance Corporation.

Terms of the agreement between the applicant and Socorro Corp. call for an advance payment of $5,000.00. This is to be deducted from royalties of 15 percent of gross receipts from products of every kind that may be produced from the properties. Such royalties are to be paid until $75,000.00 has been received by the Socorro Corp., and shall continue until the option to purchase is exercised. The purchase price of $215,000 is to be paid off by an initial payment of $100,000.00 and monthly payments thereafter of $5,000,00. One third of $75,000.00 of initial royalty payment is to be applied as a credit against the purchase price.

The applicant, the Manganese Corporation of Arizona, lists the following officers:

Victor J. Morgan, president, Socorro, N. Mex.
E. V. Mendenhall, vice president, Socorro, N. Mex.
Beatrice B. Morgan, secretary-treasurer,
1001 W. Indian School Rd.,
Phoenix, Ariz.

The West Niggerhead claim is held by the applicant under a sub-lease agreement with Dallas B. Corum, who is lessee of the

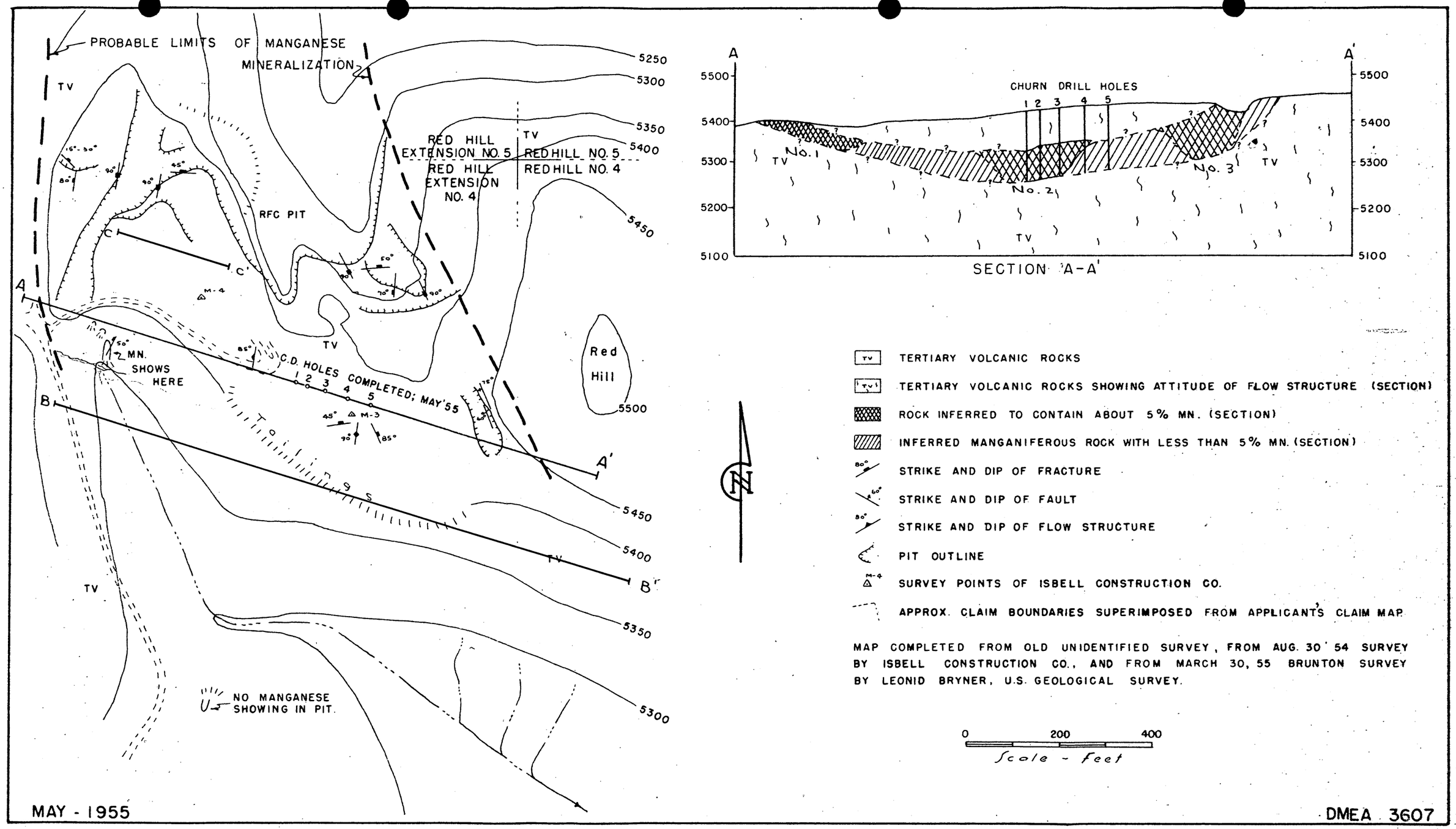

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

claim under Permit M-5219, issued by the Office of the Commissioner of Public Lands of the State of New Mexico.

During the field investigations, Mr. Morgan reported that the corporation had acquired the Niggerhead deposit that was explored by the U.S. Bureau of Mines and the National Zinc Corp. during 1943. The Bureau findings are reported in R.I. 4084. Plans for exploitation of the deposit by the National Zinc Corp. were abandoned, probably in 1947. Since then, activity at the deposit has been confined to assessment work that consisted mainly of starting an open cut at the portal of the adit driven by the Bureau. The applicant has recently made metallurgical tests on the open cut broken ore that presently blocks entry to the underground workings.

DESCRIPTION OF THE DEPOSITS

Red Hill Extension

The principal zone of manganese mineralization of the Red Hill Extension claims occurs at the head of a draw that drains northerly from an easterly trending ridge to Miera Tank Canyon (figure 2). It has been worked by several large open-cuts within an area about 1,000 feet wide in an east-west direction and a maximum of 800 feet in a north-south direction. The maximum thickness of significant mineralization as revealed by mining and churn drilling is about 100 feet. Portions of the mined zone contain little or no ore minerals.

The rocks of the area are predominantly reddish rhyolite. They strike N. 15° to 20° W. and generally dip almost vertically. Fracturing of the rhyolite is rather intense in the mineralized

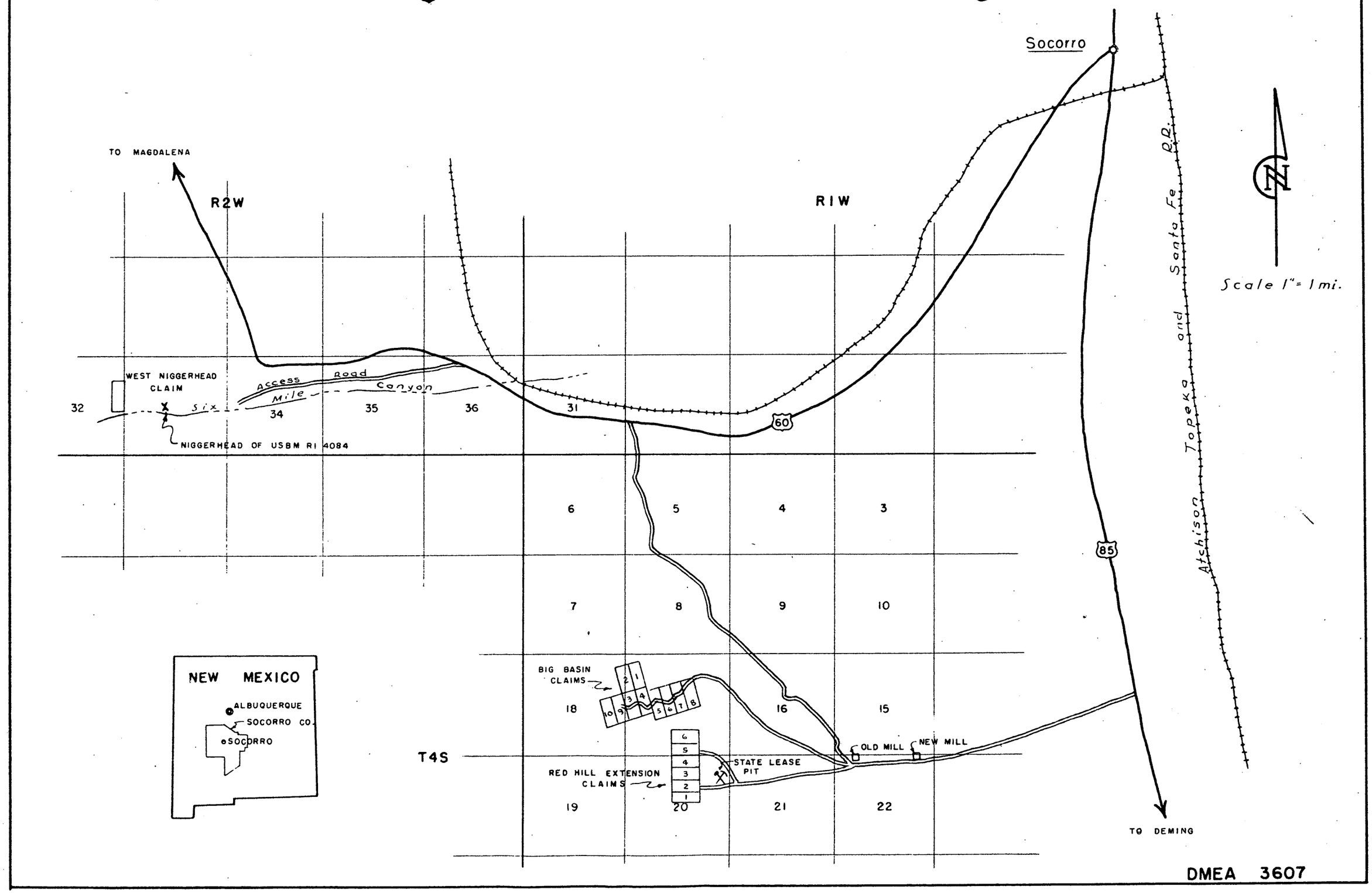

FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

zones. The most persistent zones of faulting and brecciation strike N. 15° E. to N. 30° W., and dip vertically to about 50° West.

The ore minerals, principally psilomelane with minor amounts of pyrolusite and wad, occur as fillings of fractures and cavities of rhyolitic rocks. Calcite, that generally occurs as incrustations on psilomelane, is the principal gangue mineral.

Big Basin

The area of proposed exploration of the Big Basin claims is approximately 300 feet by 300 feet in extent. Here, a few discontinuous fractures that carry manganese oxides have been explored by 4 or 5 small open cuts having a maximum depth of about 25 feet.

West Niggerhead

The West Niggerhead deposit is similar to the main Niggerhead deposit which has been described by U.S. Bureau of Mines R.I. 4084. It crops out on the north wall of a canyon that drains to the east and has been explored by an adit and 2 trenches. The adit, driven from about 25 feet above the canyon floor, is 100 feet long and trends about N. 40° W. The 2 trenches have been excavated at rightangles to the adit for distances of 200 and 120 feet. The longer trench is on the adit level a few feet south of the portal. The other is about 80 feet to the north of the portal and approximately 50 feet vertically above the adit level.

The host rock is rhyolite porphry that strikes about N.25°W. and dips approximately N. 30° E. The principal fractures strike

N. 50° W. and dip S. 70° W. There are subsidary fractures, but little or no brecciation.

Manganese occurs as psilomelane as fracture fillings up to 1 inch thick. Some of the psilomelane contains much iron oxide. According to Mr. Morgan, his corporation test-milled several hundred tons of similar appearing ore from the nearby Niggerhead deposit. He said the test resulted in the recovery of about 40 percent of the manganese in a high-iron concentrate.

ORE RESERVES

The indicated and inferred ore reserves of the Red Hill Extension deposit have been estimated at 1,000,000 to 1,500,000 tons containing about 5 percent manganese.

At the Big Basin Group and the West Niggerhead deposits the potential reserves are not significant.

PRESENT STATUS

Exploration

At present, exploratory work by the applicant is confined to churn drilling on the Red Hill Expension property. Five holes have been drilled (figure 2).

Mining

The Isbell Construction Co., Reno, Nev., has a contract with the applicant for the mining of all ore and waste, delivery of ore to the company's nearby primary crusher, and delivery of crushed ore to the applicant's mill. Ore from the primary crusher passes over a picking belt where the applicant maintains a sorting

crew. Sorting out waste, estimated at 20 percent of run-of-mine ore, has been in practice since January 1955.

To March 19, 1955, the company had mined about 60,000 tons of ore and approximately 60,000 tons of waste. Of the 60,000 tons of ore, approximately 45,000 tons was from the presently operating State Lease Pit. The other idle pits, (the RFC and Niggerhead, respectively) yielded about 14,000 tons and 1,000 tons of ore.

According to Richard "Dick" Strand, superintendent for Isbell Construction Co., the current operations account for possible 95 percent of all ore removed from the State Lease pit. The present average dimensions of the pit are 450 feet by 80 feet by 40 feet deep. A probable 200-foot extension in the length has been indicated by an open cut recently started to the north of the pit.

Drilling for blast holes is done with wagon drills. Blasted ore from benches is loaded by Diesel-electric shovels and hauled to a primary crusher or to stockpiles by dump trucks. The height of mining benches is held to about 15 feet as the drilling of much deeper blast holes in the highly fractured ore zones is uneconomic. These holes are drilled for sampling, then used as blast-holes. Casing is required, but it cannot be recovered from holes much deeper than 15 feet. Ore is mined selectively, large boulders of waste are cast aside for loading into trucks at irregular intervals, and horses of waste are mined as encountered. There is no overburden. Waste, removed in the above mentioned manner, and ore occur in about equal amounts.

A total of 50 to 55 men are employed. Two shifts are worked daily for 7 days a week.

Contract prices, started at $2.00 per ton for ore and waste, have been lowered as production has increased. At present, contract prices are $0.80 per ton for ore and waste, and $0.35 per ton for primary crushing and haulage to the mill. All weights at both mine and mill are in long tons.

A list of equipment employed, with uses, follows:

Shovels

1 - 80D Northwest 2½ yd.

1 - 25D " 3/4 yd.

1 - 25D " Crane Boom (Secondary breaking and repair work)

Trucks

4 - "FD" Euclids - 15-ton Rear Dump)
2 - UD Euclids - 10-ton " ") Pits.
3 - F-8 Ford Dump (6 to 7 long ton))

7 - Rental Dump Trucks (Hauling from Crusher to Mill)

1 - F-1 Ford Pick-up (Supt)

1 - 1-ton Chev Pick-up (Foreman)

1 - 2-ton Chev Flatrack (Shop)

1 - 2-ton Chev Service Truck

2 - 4x4 Chev. Trucks (1-water truck - 1 powder truck)

"Cats"

1 - D-7 Cat w/dozer (Road work and pit clean-up)

1 - D-8 Cat w/"EPU" Carryall, or "U" Dozer (same use as above)

1 - 112 Motor Patrol (Road work)

1 - Scoopmobile (small loading jobs)

Drilling

1 - 600 Cu. Ft. Ingersoll-Rand Gyro-flow Compressor -truck mounted

1 - 600 Cu. Ft. Joy compressor

1 - Gardner Denver $3\frac{1}{2}$" wagon drill - tractor	Blast hole drilling
3 - Cleveland - D-14 - wagon drills	
2 - 29T - Bucyrus-Erie Churn Drill	

Crusher

1 - Model 173 Pioneer Primary Crushing Unit with 30x42-in. jaws.

Milling

Ore crushed to minus 5-inch at the primary crusher is delivered to an ore bin at the secondary crushing plant. Secondary crushing to a mill feed (minus half inch) is accomplished by an Austin-Western portable unit, comprising a jaw crusher, rolls, and delivery belt. The unit, powered by a Diesel-electric generator, has a rated capacity of 200 tons per hour. Crushed ore is delivered to a stockpile. A feeder, installed in a tunnel beneath the stockpile, delivers the ore to a belt conveyor that discharges into either of two 6-foot by 16-foot double-deck vibrating wet screens at the head of a No. 3M HMS Mobil Mill, designed by the Western Machinery Co., San Francisco, Calif. Minus 10-mesh material from the screen by-passes the heavy media plant to 36-inch spiral classifiers flows to a distributor that is in closed circuit with 8 Wilfley table.

The plus 10 mesh is treated by 2 identical units, each having a rated capacity of 50 tons per hour. It flows to 10-foot cone low-gravity separators that deliver float and sink products to 4-foot by 16-foot drain and wash screens. Float from the screen goes to waste. The sink product then is treated in 10-foot cone high-gravity separators. Both products from the high-gravity separators are washed and screened to deliver sink material as a finished concentrate and middlings that presently go to a stock pile for possible future treatment. Media from diverters at the screens is returned to the circuit either directly or after treatment by densifiers and magnetic separators. The media consists of ferrosilicon and magnetite.

Water for milling is pumped from a 520-foot well that is located about 600 feet east of the new mill. A second well is presently being drilled from a site within 50 feet of the mill.

Power for milling is by electricity furnished by the Socorro Co-op, Inc., Socorro, N. Mex. A Diesel-electric generator powers the well pump.

Concentrates are hauled to Deming by 5 Diamond-T trucks attached to Clements trailers of 20-ton capacity. This haulage equipment is of 1954 and 1955 manufacture. Other major equipment consists of the complete idle 500-ton gravity-table mill, a Model D4 Caterpillar dozer, a 5-ton Ford dump truck, 2 Dumpster trucks, 2 pick-up trucks, a churn drill, and 2 wagon drills.

Milling Statistics

An accurate estimate of milling results cannot be made because sampling of heads and tails was done only during the first month of operation of the old mill. At the new mill, sampling of these products was reportedly renewed about May 1 upon completion of an assay office on the property.

On the basis of incomplete data, it is estimated that the grade of ore treated averaged about 8.2 percent Manganese and that 56 percent was recovered. In these estimates, the average grade of tails for the known period was applied to the production of 7,286 tons of 38 per cent concentrates from 60,229 tons of ore.

Meagre data on a break-in operation of the new mill from March 19 to May 9, 1955, indicate recovery was similar to that of the old mill until finer grinding was put into effect on May 7. During the following 3 day period the grade of ore averaged 10.7 percent Manganese and tailiongs averaged 2.72 percent. Approximately 1,600 tons of concentrates, averaging about 36 percent Manganese, were produced for the total operating period. Of the 1,600 tons, 1,265 tons were produced during the last 9-day period. Ore treated during this period would be about 1, 300 tons per day on the basis of the old mill's 8 to 1 ratio of recovery.

Economics of Operations

The following was taken from a statement of Earnings, for the period August 17, 1954 to February 28, 1955, that was prepared by Linder, Burk and Stephenson, Certified Public Accountants, Albuquerque, N. Mex. The Statement contains the following foot

note, "This statement was prepared from the books and records of the Company without verification."

Sales of Manganese Concentrates		$ 473,745.52
Cost of Sales:		
Mining	$ 180,225.74	
Milling	107,475.36	
Hauling & transportation costs	28,264.22	
Total	$ 315,965.32	
Less - Inventory of Manganese Concentrates, February 28, 1955	26,500.00	
Cost of sales	$ 289,465.32	
Administrative expenses	15,125.00	
Provision for Federal & State taxes	47,000.00	
Total costs, expenses and taxes		$ 351,590.32
RETAINED EARNINGS		$ 122,155.20

During the pertinent period, 54,786 tons of ore was milled and an additional estimated 5,000 tons of ore was stockpiled. On this basis the recovered value per ton of ore was $9.10 and per ton costs averaged about $6.60. A break down of costs follows: mining, $3.00; milling, $1.96; transportation, $0.68; administration, $0.28; and taxes, $0.86.

The indicated average operating profit of $2.50 per ton is for sorted ore, of which about 75 percent came from the "State Lease" pit. As mining costs were gradually reduced during the operations it is reasonable to assume that the per ton profit was more than $2.50 during the last few months of operation of the old mill. It also probably is reasonable to assume the treatment costs will be lowered and a higher recovery will be made at the new mill.

Plans call for transfer of operations to the RFC pit upon depletion of the "State Lease" deposit, providing favorable results

are obtained by the proposed explorations. No decrease in mining costs can be expected at the RFC pit because of the expectable high ratio of waste to ore. However, other costs could be lower and a higher mill recovery is anticipated. On this basis, economic operation of the RFC pit under the present Government price for manganese, would appear to be dependent on the discovery of ore reserves of an extent and grade similar to that of the "State Lease" deposit.

PORPOSED EXPLORATORY PROJECT

The proposed explorations are confined to a 2-stage churn-drilling project on the Red Hill Extension property. Under the first stage, provisions are made for the drilling of an estimated total of 2,500 feet in about 21 holes. Second stage drilling, if warranted, would consist of an estimated 4,400 feet in about 35 holes.

Explorations would be initiated by drilling holes along section A-A' of figure 2 to test for extensions of the 3 indicated ore zones. Testing of the ore zones should be by drilling holes in the following order at intervals of about 35 feet, until essentially barren ground is encountered and then increase intervals to 70 feet. Deposit no. 1, start near western border and proceed westerly; deposit no. 2, proceed westerly from existing hole no. 1; deposit no. 3, start near eastern border and proceed westerly. The order in which the deposits are tested is immaterial and

simultaneous testing of more than one deposit should be allowed.

Under the second stage, indicated extensions of the ore zones would be tested in a similar manner by drilling holes along sections B-B' and C-C', in the indicated order.

ESTIMATED COST OF PROJECT

On the basis of the following information, it is recommended that the drilling be carried out at a fixed price under an independent contract and that other allowable charges be placed on an incurred cost basis.

		STAGE I	STAGE II	Total
Drilling -	$7.00/ft.	2,500 ft.-$17,500.00	4,400 ft.-$30,800.00	$ 48,300.00
Casing	2.50/ft.	500 ft.- 1,250.00	880 ft.- 2,200.00	3,450.00
Assays	2.50/ea.	210 - 525.00	350 - 875.00	1,400.00
Totals		19,275.00	33,875.00	53,150.00

Drilling

Independent Contract - Bids were received by the applicant from 3 contractors, Freelove Well Drilling and Pump Sales of Phoenix, Ariz., the Roe Newberry Co., and the Boone Drilling Co., The latter two were drilling on the property during the field investigations. Each of the latter 2 contractors submitted identical bids of $6.00 a foot for drilling, commencing with a 12-inch hole and changing down to a 6-inch hole. Addition charges were $0.25 per foot for necessary casing; the casing to be provided by the contractor and the cost of lost casing to be borne by the Manganese Corporation of Arizona. The Freelove bid contained 2 proposals:

Proposal No.,1

a. Drilling approzimately 3,000 ft. ------- $ 10.00/ft.
b. Underreaming or straight reaming ------- 12.00/hr.
c. Setting casing ---------- 12.00/hr.
d. Pulling casing ---------- 12.00/hr.
e. Contractor to furnish casing
f. Owner to pay for any casing lost

Proposal No. 2

a. Drilling, underreaming, straight reaming, setting casing, pulling casing, furnishing all casing, absorbing cost of all lost casing -- $16.00/ft.

Cost of Drilling

The bids of the Newberry and Boone companies are acceptable not only because they are by far the lowest, but because each company has had experience in drilling the deposit under consideration. Experience has shown that the ground is very ravely and must be cased in order to obtain satisfactory samples.

On the basis of casing an estimated 80 percent of each hole, per foot costs of drilling and casing are estimated at---- $ 6.20

Other allowable costs (based on daily advance of 40 feet by 2 rigs operating 2 shifts per day and 6 days a week)

Supervision - Applicant requested that no charge be included as company's mining staff will supervise project on part time basis ---------- 0.00

Labor - 1 sampler for each shift at $1.50 per hr.
$ 14.80/shift including overtime and taxes---- 0.74

Materials and supplies (other than casing)
Applicant proposes to furnish at no cost------ 0.00

Equipment
Bulldozer for preparation of drill sites, 100 hrs. at $15.00/hr. for 6,900 ft. of drilling.---------- 0.02

Pick-up truck for transportation of samplers, supervisors and samples - no charge desired as presently owned equipment will be used mainly on company operation ---------- 0.00

Miscellaneous, other than assaying
Bookkeeping - $50.00 per month ---------- 0.05

Total drilling costs per foot ----------$ 7.01

Non-recoverable casing

Most of the drilling will be in very hard and highly fractured rock that ravels and makes recovery of casing extremely difficult or impossible. Under these conditions, a reasonable accurate estimate of the amount of casing loss cannot be expected. To provide for the cost of lost casing, a total of $3,450.00 is included. This amount, divided into $1,250.00 and $2,200.00 for stages 1 and 2, respectively, will cover average casing cost at $2.50 per foot for 20 percent of the proposed drilling footage. Charges for lost casing should be supported by certified invoices.

Assays

Samples should be obtained of each 5 foot section of hole containing significant amounts of manganese. The samples should be separately assayed only in event a radical difference in grade is noted in the material from 2 adjoining 5-foot intervals. Otherwise, assays should be made of composites of two 5-foot samples. The number of samples to be assayed is estimated at 10 per hole for a total of 560. At $2.50 per sample, the prevailing rate, estimated assay costs would total $1,400.00. Allocation of the $1,400.00 to stages 1 and 2 would be $525.00 and $875.00, respectively. Approval of assay charges should be based on certified invoices.

CONCLUSIONS AND RECOMMENDATIONS

The Red Hill Extension property is the only one of the 3 investigated where conditions are favorable for finding significant reserves of manganese ore. The grade of ore could be similar to that of the nearby "State Lease" deposit where the applicant is presently open-pit mining, and milling in excess of 1,000 tons of sorted ore per day. Daily production of high-grade concentrates is now about 100 tons. Sustained operation of the mill is dependent upon the development of additional ore and the present Government price for manganese.

Exploration of the Red Hill Extension property by churn drilling is a feasible method and can be expected to yield adequate data for ore reserve estimates at a relatively low cost. The applicant can be expected to carry out the proposed exploratory program in a satisfactory manner.

For the above reasons, approval is recommended for the proposed 2-stage churn drilling program that can be completed in 8 months at an estimated total cost of $53,150.00. Estimated costs of stage 1 and 2 are $19,275.00 and $33,875.00, respectively.

IN REPLY REFER TO:

DMEA
Date Rec'd.

JUL 13 1955

BUREAU OF MINES
Denver, Colorado

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

July 11, 1955

TRANSMITTED

JUL 13 1955

Memorandum

To: DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3607 (Manganese), Manganese Corporation of Arizona, Socorro County, New Mexico

Enclosed are the original and eight copies of a geologic report by Leonid Bryner, U. S. Geological Survey, covering his examination of the subject property.

The report describes the geology of the area and the known ore deposits. Certain recommendations regarding exploration with Government assistance are made.

The recommended exploration program outlined in detail in the engineering report appears justified.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (9)

ENHarshman:arh

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

DMEA
Date Rec'd.
JUL 12 1955
BUREAU OF MINES
Denver, Colorado

Box 4126 University Station
Tucson, Arizona

July 6, 1955

TRANSMITTED
JUL 13 1955

MEMORANDUM

To: Mr. E. H. Harshman

From: Leonid Bryner

Subject: Docket DMEA 3607 (Manganese) Manganese Corporation of Arizona, Socorro County, New Mexico

Enclosed are the original and 8 copies of my report of examination of properties belonging to the above company. The discrepancy between the geologic and engineering reports was due, as you suggested in your letter of June 20, to an oversight. Before the report was submitted to you, the geologist and the engineer had already agreed on the exploration plan described in the engineering report. The geologic report, therefore, has been altered to fit its original intent, and is being resubmitted to you in its revised form.

Leonid Bryner

LB:mm

cc. Mr. Harshman (8)
Mr. Storms

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

DMEA
Date Rec'd.

JUL 12 1955

BUREAU OF MINES
Denver, Colorado

Box 4126 University Station
Tucson, Arizona

June 3, 1955

MEMORANDUM

To: Mr. E. N. Harshman

TRANSMITTED
JUL 13 1955

From: J. N. Faick

Subject: Docket DMEA 3607, Manganese Corporation of America, Socorro County, New Mexico

Enclosed are the original and 8 copies of Leonid Bryner's report of examination of properties belonging to the above company. This report recommends Government participation in exploration of the Red Hill Extension property because of relatively large amounts of probably commercial grade ore. Government participation in exploration of the Big Basin and West Higgerhead deposits is not recommended.

This report has my approval.

J. N. Faick
John N. Faick

JNF:ms

cc: Harshman (8)
Sharma

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

MINERAL DEPOSITS
DMEA
RECEIVED
JUN 7 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

DMEA
Date Rec'd.
JUL 12 1955
BUREAU OF MINES
Denver, Colorado

U. S. DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REGION III

GEOLOGY

EXAMINATION REPORT

DMEA 3607

MANGANESE CORPORATION OF ARIZONA
SOCORRO COUNTY, NEW MEXICO

(Manganese)

By
Leonid Bryner
Geologist
U. S. Geological Survey

June 5, 1955

Reviewed by
DMEA OPERATING COMMITTEE
7-22-55
(date)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
FIELD TEAM III

EXAMINATION REPORT

DMEA 3607
MANGANESE CORPORATION OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
(Manganese)

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Fig. 2 Geologic and Exploration Map	Following page 4

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INTRODUCTION

In an application to the Defense Minerals Exploration Administration, dated December 7, 1954, Victor J. Morgan, president of the Manganese Corporation of Arizona, requested government participation in a program estimated to cost $86,790, to explore for manganese on the Red Hill Extension, Big Basin and West Niggerhead claims, Socorro County, New Mexico.

The Red Hill Extension and Big Basin groups are respectively south and north of Miera Tank Canyon in Secs. 17, 18, and 20, T. 4 S., R. 1 W. They are about 12 miles by road from the town of Socorro. The workings and the roads leading to them are shown in the U. S. Geological Survey topographic map of the San Antonio Quadrangle. The West Niggerhead claim is in Sec. 32, T. 3 S., R. 2 W. It is about 10½ miles by road west of Socorro, in Six Mile Canyon. The location and extent of the above properties is shown in figure 1. The Red Hill Extension and the Big Basin claims are held by the applicant under a lease and option agreement with the Socorro Corporation which, in turn, holds the claims under a lease and option agreement with the Reconstruction Finance Corporation.

The examination was made during March 29 to 31, 1955 by T. M. Romslo of the U. S. Bureau of Mines and the writer. Most of the writer's time was spent at the Red Hill Extension deposit because this area offers the best possibility for finding a substantial tonnage. A program of churn-drilling is recommended for the Red Hill Extension area, but exploration is not recommended on the other properties.

The Red Hill Extension under the name "Van Pelt deposits", was examined for the War Production Board by S. K. Neuschel of the U. S. Geological Survey, and described by him in an unpublished Memorandum Report in 1943. It is also described by W. R. Storms, of the U. S. Bureau of Mines, in an unpublished Memorandum Report dated January 3, 1945. Both writers estimated considerably lower tonnages of ore than in the reserve estimates of the present report. But these lower estimates of reserves apparently are due to the higher grade cut-off used and also to the fact that recent pit operations have exposed ore that was not known to exist when the earlier examinations were made.

GEOLOGY

The manganese deposits occur in or near the Chupadera Mountains, a low, northerly-trending range 6 to 8 miles west of the Rio Grande. Tertiary rhyolite, rhyolite tuff, and rhyolitic agglomerate underlie most of the range. These rhyolitic rocks are overlain in many places by poorly sorted, bouldery gravels that may be Tertiary or Quaternary in age. A well near the mill, located one and a half miles east of the deposits, penetrated 520 feet of gravels without reaching bedrock. North of the manganiferous area Quaternary basalt flows form a prominent capping on much of the gravel. The drainage is mainly easterly across the Chupaderas to the Rio Grande.

Red Hill Extension Deposit

The geologic setting of the mine area is best seen in the deep, easterly trending canyon immediately north of the deposit, called,

in this report, "Miera Tank Canyon". Here the rocks are predominantly reddish, porphyritic rhyolites. Much of this rhyolite is vesicular, and most of it contains fragments of foreign material. The fragmental character ranges from almost pure rhyolite to coarse rhyolitic agglomerate containing boulders over one foot in diameter. Most of this foreign material is volcanic but in some places boulders of granite and schist were recognized in the rhyolitic matrix. The rock referred to as "rhyolitic tuff" in other reports probably corresponds to this agglomerate. The vesicles in the rhyolitic rocks are almost invariably oval and oriented to give the rock a planar flow structure. This structure shows a quite persistent N15° to 20° W strike and a dip that is generally within a few degrees of vertical. Apparently the Tertiary flows have been tilted almost 90 degrees from their original attitude.

There appears to be a minor amount of shearing in zones that outcrop in the bottom of the canyon and trend parallel to the primary flow structures. The widest of these shears is about 10 feet across and did not show any gouge or much brecciation. It contains open fractures and cavities lined with minute quartz crystals, but no manganese minerals. Such zones apparently are not everywhere continuous from the floor to the brink of the canyon. The shear zones in the brink of the canyon contain manganese deposits but the lower zones contain little or no manganese.

The ore minerals occur as incrustations in fractures or cavities on the rhyolitic rocks. The manganese values are almost entirely in psilomelane with very minor amounts of pyrolusite or wad.

The surface of the psilomelane generally is botryoidal and sections across layers show a fine-banded, spherulitic structure.

Calcite is the predominant gangue mineral. It generally occurs as an incrustation on the psilomelane. A coarsely crystalline, radiating structure is usual. Incrustations of small quartz crystals also occur with the psilomelane but are much less abundant than calcite. It is not unusual to find angular fragments of psilomelane imbedded in a layer of calcite or quartz. Evidently the psilomelane was deposited prior to the calcite or quartz.

The deposit, marked by several large open cuts, is in the head of a draw that drains north to Miera Tank Canyon (fig. 2). This draw heads in an easterly trending ridge. Above the head of the draw this ridge has a rather flat profile. The most easterly pit is located where the ridge merges with Red Hill and the most westerly pit is located where the ridge ends in a northerly trending spur. These features are shown in figure 2. On the south flank of this same ridge erosion has not cut to nearly as great a depth as on the north flank, and there has been only enough mining to suggest that the deposit does extend through the ridge to the south flank, but not enough to show the size or shape of this southerly extension. The maximum known width of the deposit is about 1000 feet in an east-west direction and the maximum known length in a north south direction is about 800 feet. The maximum thickness

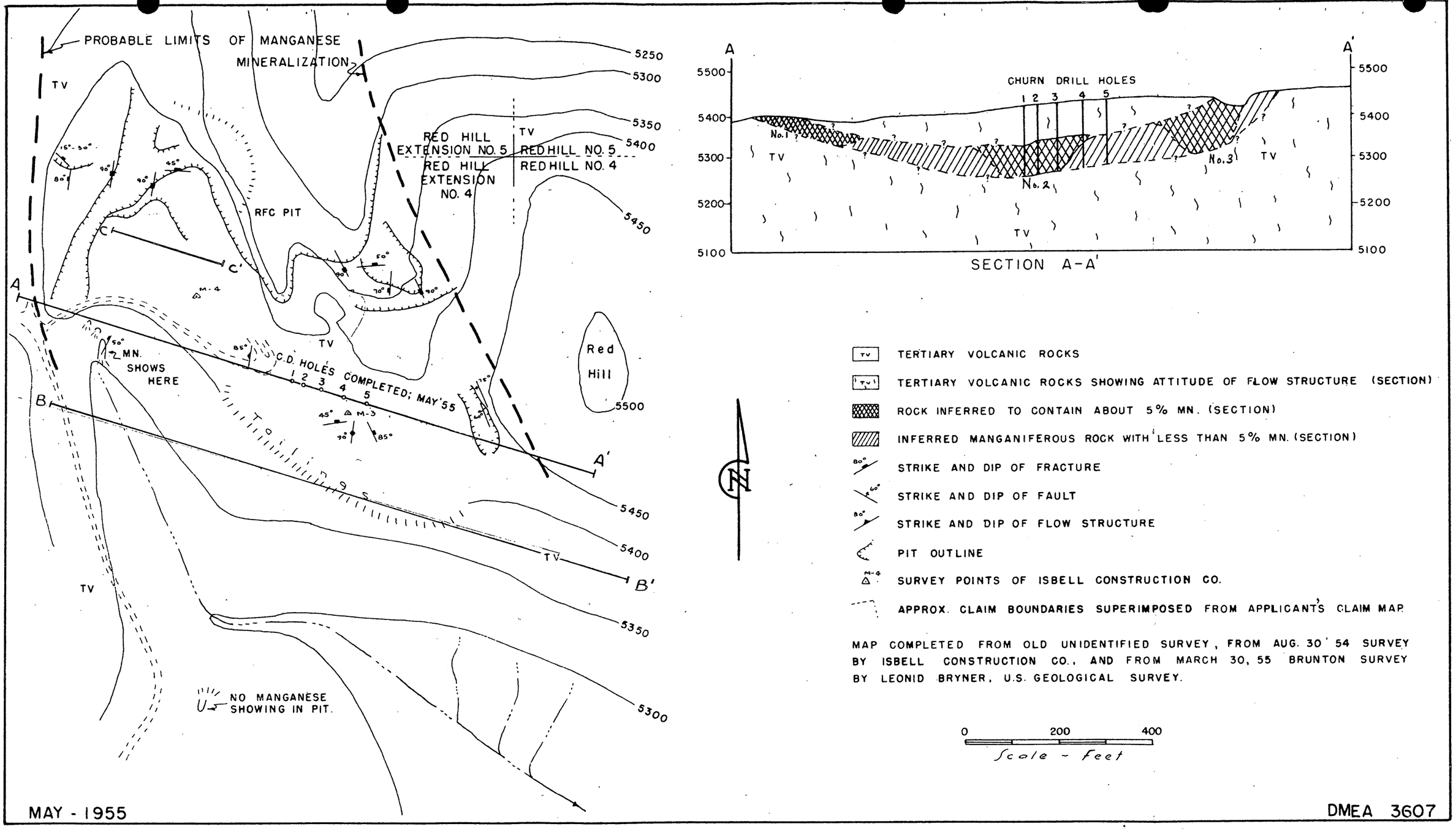

FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

revealed by mining and churn drilling is about 70 feet. There undoubtedly are barren or very low grade zones within these boundaries as indicated in section A-A', figure 2. The two northward promontories of rock that separate the mine pits may correspond to "horses" of submarginal grade rock which very likely persist southward through the ridge. On the other hand, the extreme east and west pits are likely to represent higher grade zones that extend through the ridge. The deposit does not persist to the floor of Miera Tank Canyon nor, except in places, to the crest of the ridge above the canyon. It is contained within a maximum vertical span of about 200 feet. The top of the deposit apparently is deeper at the center and comes to the surface at the east and at the west edges. Some of these features are shown in figure 2. The same figure also shows the direction and location of some of the more prominent fractures and fracture systems. Faults, the most persistent fractures, and shear zones of brecciated rhyolite strike from about north 15° east to about north 30° west and dip from vertically to about 50° west. Less prominent, but quite widespread, fracturing strikes at about right angles to the above strike directions and dips from 15° to 50° north. There is a third still less prominent direction of fracture. It also strikes at about right angles to the main system, but dips to the south.

The tenor of the ore shows a direct relationship to the degree and type of fracturing. The more persistent open fractures and the faults of the dominant northerly system contain the thickest

bands of psilomelane; thicknesses up to several inches were observed, and thicknesses up to one foot are reported from the area about a thousand feet to the east where present mining is in progress. The zones of brecciation, presumably shear zones related to the faulting, are the next highest grade and, because of their greater width, contain a greater tonnage of ore per foot of depth than do the main faults and fractures. In these breccias the psilomelane occurs in seams less than an inch thick as the cementing substance between blocks of rhyolite. In the areas outside of these more favorable zones the psilomelane occupies the numerous intersecting fractures that are characteristic of the entire manganese zone. The larger proportion of unfractured rock in these areas makes for lower grade material.

Two unusual types of manganese occurrences in this deposit are the cavernous fillings and the clastic dikes. The cavernous fillings occur in rock with openings as much as one foot in diameter. These caverns in places are lined with psilomelane and calcite, and pinch to a narrow seam. It appears as though the cavity originated by the sapping of the walls of a fracture, and that later the manganese was deposited on these walls. The clastic dikes have not been positively identified as such. They are generally regarded as shear zones in the rhyolite since they do parallel the shear zones. However, they otherwise differ strikingly from the usual shear zones in that they consist of a sandy to powdery unconsolidated matrix containing scattered chips of psilomelane evidently derived from a previously

deposited fracture coating of psilomelane. Though no gravels were recognized on the top of the ridge the limey cement characteristic of the older gravels fills cracks in the bedrock near the surface. Remnants of these same gravels also were recognized as a veneer on the walls of Miera Tank Canyon.

Big Basin Deposit

The Big Basin deposit occupies the crest of a ridge half a mile north of Miera Tank Canyon. The area proposed for exploration is about 300' by 300' in extent and contains four or five small cuts having a maximum depth of about 20 feet. The country rock is a rhyolitic agglomerate. The fractures that contain manganese have attitudes of N 20° E, 80° W; N 40° W, 75° W; due N, 80° W. The psilomelane occurs as coatings up to an inch thick in these fractures and as a widespread staining on the intervening rock. There is little or no brecciation so the fractures are the only receptacle for psilomelane. The rock as a whole appears to be much lower grade than that of the Red Hill Extension Deposit.

West Niggerhead Deposit

The West Niggerhead deposit is about a quarter of a mile upstream from the main Niggerhead deposit which has been described in U. S. Bureau of Mines R. I. 4084 and in unpublished reports to the War Production Board by Sherman Neuschel of the U. S. Geological Survey and M. G. Huntington of the National Zinc Corp. In its geologic setting the West Niggerhead deposit resembles the Niggerhead.

The workings occupy a recess in the north wall, about 25 feet above the floor of the canyon. A 100-foot adit, trending about N 40° W, penetrates the outcrop. At the adit level the outcrop has been trenched horizontally for about 200-feet, and about 120-feet vertically above this trench another trench almost 50 feet long has been dug. A short distance above this trench the canyon wall levels out in a flat area, underlain by Tertiary or Quaternary gravels.

The host rock is rhyolite porphyry in crude layers that strike about N 25° W and dip about 30° NE. The main fissure system strikes N 50° W and dips 70° W. There are subsidiary fissures that strike about NE and dip steeply to the north. On the whole there is little or no brecciation. But about 40 to 60 feet east of the adit and 15 feet lower there is a 20 foot wide brecciated zone that strikes north and dips vertically to 85° west. About 15' up the slope on this breccia zone the degree of brecciation declines to only a few thin breccia seams in the same 20-foot interval. The recessed canyon wall here, as at the main Niggerhead working, probably is a result of more effective erosion in places where the rock is more highly fractured. The total fracture zone is considerably narrower than at the Red Hill Extension and the expectable tonnage of this deposit correspondingly small.

The manganese occurs as psilomelane fracture coatings up to an inch thick. Some of these coatings are quite rusty-looking, indicating admixed iron oxides. Huntington conducted a channel sampling program here that showed an average grade of 8 percent manganese. To both examiners the deposit has the appearance of being considerably lower grade than this.

Guides to Ore

One of the most striking things about the geology of these deposits is their relationship to topography. They are in the tops of easterly trending divides, generally where these divides have a rather flat profile. In such places the divides are capped with older gravels or show vestiges of the limey cement characteristic of these gravels. The flat parts of the divides generally lie in southerly-trending belts probably representing ancient drainage lines at right angles to the present drainage system. So the deposits show a correlation with topography as well as a correlation with the degree or extent of fracturing in the rhyolite. The vertical range of the deposits is short, probably not exceeding 200 feet.

The deposits appear to be of supergene origin. Possibly the manganese was carried by streams in an ancient southerly-trending drainage system, and deposition of the minerals was by downward percolation of the stream waters into underlying fractures.

PRODUCTION AND GRADE

Only the Red Hill extension area is considered in this section as the other two deposits are comparatively unattractive as large tonnage possibilities.

The early history of the Red Hill Extension deposit is incomplete. The extreme east part of it apparently corresponds to the Van Pelt deposit, described by Neuschel. There were some shipments from here during World War II. Neuschel estimated reserves of 2,000 tons of 15 percent manganese in this deposit.

During World War II a stripping operation revealed low grade manganese in an area approximately 200 by 100 feet, which probably corresponds to what is now called the "RFC" Pit (fig. 2). In the summer of 1954 the applicant began exploration by wagon drilling in the floor of the "RFC" Pit. The assay returns from some of these holes as given by the applicant are as follows:

TABLE I

Assays of Wagon Drill Holes in floor of "RFC" Pit

Hole No. 1		Hole No. 2		Hole No. 3		Hole No. 4		Hole No. 5		Hole No. 6	
Interval	% Mn.	Interval	% Mn.	Interval	% Mn.	Interval	% Mn.	Interval	% Mn.	Interval	% Mn.
8'	5.75	(0'	5.75)	(0'	3.87)	(0'	5.18)	(0'	13.18)	(0'	11.02)
(8'	8.23)	8'	4.72	8'	6.62	8'	3.89	8'	7.82	8'	4.03
16'	2.70	16'	5.51			16'	5.90	16'	5.45		
24'	3.67	24'	15.67					24'	3.51		
28'	4.30	(32'	31.13)					32'	4.91		
		38'	1.19					36'	7.54		

Some intervals in this table are parenthesized because of the writer's doubt as to their significance. The location of these holes is not known beyond their having been drilled in the floor of the main pit. The applicant, under item 4 (a) of the docket, states that approximately 50 wagon drill holes were sunk in the floor of the pit. Many of the holes, therefore, are not included in the above table, but probably the results given above are fairly representative of this work.

In July 1954, the applicant began churn drill exploration on the ridge immediately south of the "RFC" pit. The location of the churn drill holes are shown in figure 2 and the results of this drilling as of May 1955 are shown in the table below.

TABLE II

Assays from churn drill holes - Red Hill Extension

Hole No.	Interval (feet)	Grade of Mn. (percent)	Remarks
1	83-155	5.72	-
2	78-149	5.87	-
3	81-152	5.45	-
4	76-92	4.8	-
5	-	-	Applicant reported one barren hole; it is presumed to be No. 5

The applicant reports that other drilling and stripping tests near the "RFC" Pit showed results that averaged 7 to 12 percent manganese. There undoubtedly is rock of this grade in that area, but the above churn drill results probably are more nearly representative of the average grade of such large tonnages as might be mined in an open pit operation.

In January and February 1955 the applicant mined about 14,000 long tons from the "RFC" Pit but no grade data on this ore is available. This ore, however, was treated together with the ore from the nearby State Lease Pit (fig. 1) and the average grade treated was about the same as that of the State Lease pit in later months after production from the "RFC" Pit had ceased, suggesting that the grade of both pits is about the same.

Present production is from the applicant's State Lease Pit, about 500 feet east of the Red Hill Extension deposit. As of March 19, 1955, this pit which is geologically very similar to the "RFC" Pit, produced about 45,000 long tons of a total of about 60,000

tons of material that averaged about 8 percent manganese. This grade applies to rock that was milled. About half the rock mined, however, was rejected as waste before milling, so that the average grade of material in the State Lease Pit probably is on the order of 4 percent manganese.

EXPLORATION

The exploration so far conducted on the Red Hill Extension group has been outlined above. In their DMEA application, the Manganese Corporation of Arizona proposed to explore this property with 42 churn drill holes each about 200 feet deep. His drilling plan called for spacing the holes 35 feet apart in parallel lines 100 feet apart. This "ladder" pattern would have a N-S orientation beginning at the present site of churn drilling (fig. 2) and extending due south about 600 feet. This pattern is based on an assumed narrow width and a N-S elongation in the deposit. The examiners, however, have the impression that the mineralized zone is much wider and much shorter than the applicant pictures it to be. Therefore a modified pattern of drilling in two stages, which meets the approval of the applicant, is presented below as more suitable for exploring this area.

Stage 1: About 2,500 feet of churn drilling to be conducted along section A-A' (fig. 2), by drilling at 35-foot to 70-foot centers from the 3 known mineralized zones (see A-A', fig. 2) toward the inferred edges of these zones. The cost of this work is estimated at $19,275.

Stage 2: If ore is found along section A-A' under Stage 1, then extensions of this ore will be sought along sections B-B' and C-C' (fig. 2). Exploration along sections B-B' and C-C' will be conducted in a manner similar to that along section A-A', that is, at 35- to 70-foot centers and from the more favorable to the less favorable ground. This stage is estimated at 4,400 feet, costing about $33,875.

RESERVES

The reserves below are calculated only for the Red Hill Extension deposit.

Total indicated and inferred reserves amount to about one million long tons of rock containing about 5 percent manganese. This estimate is based on northerly and southerly projections of 100 to 200 feet from the pit faces and from ore in churn drill holes.

If exploration is successful in the second stage of drilling total reserves of all classes might be increased by about half a million tons.

CONCLUSIONS AND RECOMMENDATIONS

The Red Hill Extension property shows promise of a significant tonnage of milling-grade manganese ore. This deposit can be fairly easily explored by churn-drilling as outlined under "Exploration".

The applicant is agreeable to this exploration plan and seems competent to carry it out. Therefore government participation in this exploration is recommended.

Because of the low grade of the Big Basin Group and the small expectable tonnage of the West Niggerhead deposit, government exploration on these properties does not appear to be justified.

Docket

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

RECEIVED
JUN 30 1955

224 New Customhouse
Denver 2, Colorado

June 22, 1955

Memorandum:

To: W. R. Storms
J. N. Falck

From: DMEA Field Team, Region III

Subject: Docket DMEA-3607 (Manganese), Manganese Corporation of America, Socorro County, New Mexico

Enclosed for your review and further consideration are the original and eight copies of the engineering and geologic reports on the subject docket.

The exploration program recommended in the engineering report is considerably different from that recommended in the geologic report. This appears to be an oversight rather than a difference of opinion, since no mention of disagreement is noted in either covering letter.

Please refer to Figure 2 in each report. You will note that the engineering report shows Sections A-A', B-B' and C-C' along which all drilling is recommended in the engineering report.

The geologic report shows Section A-A' only on Figure 2. On page 13 of this report under Stage II it is recommended that if the first hole in the second line (Section B-B' in the engineering report) fails to find ore, the line should be relocated 100 feet closer to Section A-A'. "If ore is not found in this hole other favorable places in the line, as determined by extensions from Section A-A', should be tested before the project is abandoned."

Please reconcile, if possible, this difference in the two reports and return the corrected copies.

The nine copies of Figure 2 as shown in the engineering report which were forwarded for possible use in the contract will be held in this office. Should there be any change in Figure 2, please forward nine copies showing these changes for use in the contract.

HMC:sr

DMEA Field Team, Region III

W. M. Traver

E. N. Harshman

cc Chairman Op. Comm. (2)
Connors
Subject
Chron

Enclosures

400

DO
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Rutledge
Martin
Mittendorf

FEB 1 1955

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket No. DMEA 3607-Manganese
Red Hill Extension, Big Basin,
~~and Mary~~ Niggerhead properties
Socorro County, New Mexico

Dear Mr. Morgan:

Reference is made to the subject application for exploration assistance and to the "Owner's Consent to Lien" forms requested in our letter of December 29, 1954.

In order to conform the above-mentioned forms to our latest requirement, it will be appreciated if you will make the following insertion under Article 4, "Changes and added provisions": In paragraph 2 the words "the period fixed in the contract or any amendment thereof has" are substituted for the words "ten years have."

Sincerely yours,

SIGNED

W. S. Martin, Chief
Iron and Ferro-Alloys Division

cc: Docket
FT, Reg.III-Denver
Adm. Read. File
Code 400
G. DeHuff, USBM
~~[illegible]~~
T. KIILSGAARD, USGS

FARutledge/WSMartin/ls
1-31-55

R.C.B.

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DOCKET
SURNAME

400 Rutledge
Martin
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Newcomb
Guhon
Johnson

DEC 29 1954

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Re: Docket No. DMEA 3607 - Manganese
Red Hill Extension, Big Basin, and
West Niggerhead properties
Socorro County, New Mexico

Dear Mr. Morgan:

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

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

In reviewing the subject application, it was noted that the data regarding the applicant's property rights are not complete. It will be appreciated, therefore, if you will furnish us with four copies of the following:

1. Original lease covering Red Hill Extension property.
2. Owner's Consent to Lien by owner of Red Hill Extension property.
3. All succeeding documents that transfer any interest in the Red Hill Extension property.
4. Original lease covering Big Basin property.
5. Owner's Consent to Lien by owner of Big Basin property.
6. All succeeding documents that transfer any interest in the Big Basin property.
7. Original lease covering West Niggerhead claim (Permit M-5219)
8. Owner's Consent to Lien covering West Niggerhead claim by Dallas D. Corum.

Sincerely yours,

C. O. Mittendorf

Administrator

FARUTLEDGE:foo
12-23-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
Mr. DeHuff, USBM
Mr. Kiilsgaard, USGS

R.C.F.

DOCKET
SURNAME

400 Rutledge
Martin
Nulsen
Geehan
Johnson

DEC 29 1954

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Custom House
Denver 2, Colorado

Re: Docket No. DMEA 3607 - Manganese
Manganese Corporation of Arizona
Red Hill Extension, Big Basin,
and West Niggerhead properties
Socorro 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.

Two copies of a relevant memorandum dated December 21, 1954, by E. L. Newcomb, Geological Survey, are enclosed for your information.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (SHB)

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines (SHB)

E. L. Newcomb
Member, Geological Survey (SHB)

FARutledge:foc
12-23-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
Mr. DeHuff, USBM
Mr. Kiilsgaard, USGS

R.C.G.

Docket

IN REPLY REFER TO:

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

Defense Minerals Administration
RECEIVED
DEC 22 1954

December 21, 1954

Re: DMEA-3607
Manganese Corp. of Arizona
(Red Hill Extension, Etc.
Socorro Co., New Mexico
$86,790 - Manganese

WSM

Memorandum

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

From: E. L. Newcomb, U. S. Geological Survey

Subject: Recommendation for field referral

The applicant has proposed further exploration on the Red Hill Extension, Big Basin and West Niggerhead claims. The project would consist of churn drilling 52 holes to an average depth of 200 feet. A total of 42 holes would be drilled on the Red Hill Extension claims, which are reported to have the best chance of finding significant amounts of manganese ore.

Nine holes on the Red Hill Extension claims averaging 30-40 feet in depth are reported to have had an average grade of 12% manganese. Results of sampling a new 100-foot trench are reported to indicate manganese ore averaging about 7%. Mill tests on ore from this property have indicated an 80% recovery and a concentrate averaging 40% manganese.

No exploration has been done on the Big Basin claims, though manganese mineralization is reported to be present on the property.

The West Niggerhead has been previously explored by a limited program of trenching and underground work. Most of this work was done by the Bureau during World War II. Results of their work were published in R. I. 4084. Metallurgical tests by the Bureau in 1943 indicated the overall recovery of manganese was 52.3% of the total content. At that time they concluded that because of the low grade of the ore, low recovery, and the high zinc content of the concentrate, the advisability of concentrating the ore appeared to be doubtful.

The manganese deposits of Socorro County occur mainly in Tertiary rhyolite and rhyolite tuff. Many of the deposits in rhyolite and rhyolite tuff are in breccia and fracture zones which are cemented by manganese oxide. Psilomelane is the predominant ore mineral, and pyrolusite is very commonly present in the ore. In general, manganese is concentrated in greater amounts where the rhyolite is more finely crushed along shear and breccia zones. Probably all three of the claim groups have shear or breccia zones, but the width and persistence of these potential manganese-bearing zones on the various properties are not clearly described in the application. A field examination will be needed to determine the feasibility of the proposed exploration.

Inasmuch as the company has been successfully mining other similar manganese deposits in the immediate area, there probably is considerable merit in their proposed exploration project.

I recommend the application be referred to the Field Team for an examination and their recommendation.

E. L. Newcomb

E. L. Newcomb

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

December 17, 1954
Subject: DMEA-3607
Re: Exploration Assistance
Red Hill Extension Prop., et al.

Manganese Corp. of Arizona

Socorro, New Mexico

Gentlemen:

The receipt of your application dated December 7, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3607 and referred to the Iron and Ferro-Alloys Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

60932

December 17, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region IV.

DMEA - 3607 Manganese Corp. of Arizona

Robert E. Adams,
Chief, Operation's Control
and Statistics Division

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

224 New Customhouse
Denver 2, Colorado

December 13, 1954

Memorandum

To: Secretary to the Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: (Manganese) Application of Manganese Corporation of Arizona, Socorro County, New Mexico

Enclosed are three copies of the application for exploration aid in the amount of $87,790.00. The application consists of three copies each of the following:

1. Form MF-103 and accompanying answer sheets.
2. Exhibit A - Option Agreement
3. Exhibit B - Sublease
4. Exhibits E and F - Claim Map
5. Exhibit G - Drill Pattern, Nigger Head West
6. Exhibit H - Master Map

Only one copy of Exhibit D was sent by the applicant. It is the Bureau of Mines R. I. 4084, and is being retained in this office together with one copy of the application.

W. H. King

Enclosures

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

224 New Customhouse
Denver 2, Colorado

December 13, 1954

Memorandum

To: Secretary to the Operating Committee
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: (Manganese) Application of Manganese Corporation of Arizona, Socorro County, New Mexico

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W. H. KING

W. H. King

Enclosures

HMC:ld

sub
chron

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

DEPARTMENT OF THE INTERIOR
Mines Branch
DEC 17 1954

224 New Customhouse
Denver 2, Colorado

December 13, 1954

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

Dear Mr. Morgan:

This will acknowledge receipt of your letter dated December 7, 1954, and your application for DMEA assistance on the Red Hill, Big Basin, and West Nigger Head properties.

Your application is being placed in line for processing.

Yours very truly,

W. H. King

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

HMC:LJ

Copy to: Sec. to Opr. Comm.
W. R. Storms
A. H. Koschmann

sub
chron

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 1 7 1954

224 New Customhouse
Denver 2, Colorado

December 13, 1954

Mr. Victor J. Morgan, President
Manganese Corporation of Arizona
Socorro, New Mexico

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Your application is being placed in line for processing.

Yours very truly,

W. H. KING

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

HMC:ld

Copy to: Sec. to Opr. Comm.
W. R. Storms
A. H. Koschmann

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MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
DEC 17 1954

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

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

Not to be filled in by applicant

Docket No. 3607
Metal or Mineral MANGANESE
Date Received
Estimated Cost $86,790
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: .....

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract .....

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it .....

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

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

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

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

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

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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore MANGANESE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Explain in detail on acompanying paper. SEE ATTACHED BRIEF FOR ANSWERS TO ALL FOREGOING QUESTIONS. THE BRIEF IS HEREBY MADE A PART OF THISAPPLICATION.

CERTIFICATION

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

Dated DECEMBER 7, 1954, 195...

MANGANESE CORPORATION OF ARIZONA

Victor J. Morgan (Signature)

By VICTOR J. MORGAN, PRESIDENT

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

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

MANGANESE CORPORATION OF ARIZONA
Socorro, New Mexico

Reference: U. S. Department of Interior
Defence Mineral Exploration Administration
MF-103

1. Name of Applicant - Manganese Corporation of Arizona, Socorro, New Mexico, a corporation incorporated under the laws of Arizona.

   Officers: Victor J. Morgan, President
   Socorro, New Mexico

   E. V. Mendenhall, Vice President
   Socorro, New Mexico

   Beatrice B. Morgan, Secretary-Treasurer
   1001 W. Indian School Rd., Phoenix, Arizona

2. Applicant is familiar with all applicable DMEA Order 1.

3. Applicant's property right -

   a). Following is the legal description of the land which the Manganese Corporation of Arizona desires to explore and is now held by said corporation under lease and option to purchase agreement:

   Township 4 south, range 1 west, Section 17 and 20, Socorro County, New Mexico. Specifically, in south half of Section 17 mining claims known as Red Hill Extension No. 6, Red Hill Extension No. 5, and in the north half of Section 20 Red Hill Extension Nos. 4, 3, 8 and 10.

   The second exploration area is located in Township 4 south, range 1 west, Sections 18 and 17, Socorro County, New Mexico, the group of claims known as the Big Basin group, specifically Big Basin 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.

   The third exploration area is known as the West Niggerhead claim lying in Section 32 Township 3 south, range 2 west, Socorro County, New Mexico.

   b). The mine names of the three exploration areas are as follows: Red Hill Extension Property, Big Basin Property and the West Niggerhead Property.

c). The Manganese Corporation of Arizona is the lessee with option to purchase under contract as shown by exhibits (a) and (b) attached.

d). Exhibit (a) is the master contract and lease covering the lease with option to purchase on the Red Hill Extension group of claims and the Big Basin group.

Exhibit (b) covers the lease with option to purchase on the West Niggerhead claim.

e). Not applicable or fully explainted under (d) above.

f). The land which Manganese Corporation of Arizona desires to explore consists of unpatented mining claims recorded in Book 138 - pages 236, 237, thru 259.

4. Physical Description -

a). In the first group known as the Red Hill Extension claims, on Red Hill Extension No. 5 during World War II, and later, a stripping operation revealed the existence of low grade manganiferous formation. The area stripped is approximately 200 feet wide and the Manganese Corporation of Arizona, in the summer of 1954, instituted exploration operations on the stripped area, using 4" wagon drills with sectional steels. This preliminary exploration revealed the possibility of large tonnage of manganese ores. However, the exploration program of wagon drilling was cut short at approximately the 40 foot level by the raveling of the formation. The exploration crew was unable in many cases to penetrate below 10 feet of depth. However, sampling was done at 5 foot intervals and revealed a gradual up-grading in depth. Approximately 50 test holes were collared in and approximately 20% of them reached the 30 foot level. The deposit across its entire 200 feet width showed the presence of manganese and the average assay of all samples showed the deposit to be of possible commercial value. The area wagon drilled is relatively small as compared with the total possible size of the deposit. The stripped area is approximately 100 feet deep in a north-south direction and 200 feet wide in an east-west direction. Immediately south of the stripped area, what is known as Red Hill rises to a height of approximately 82 feet above the floor of the stripped area mentioned above. The Manganese Corporation of Arizona, in July 1954, instituted churn drilling operations on the crest of this hill. The manganiferous zone was penetrated

by the first exploration hole located approximately 300 feet due south of the stripped area and approximately in the center of the zone. The hole was lost at 140 feet and the assays ranged from a low of 5% to a final sample of 11%. The 11% sample was the last 10 feet run in the bottom of the hole. In September of 1954, Isbell Construction Company, which is the mining contractor for the Manganese Corporation of Arizona, conducted rotary drilling exploration operations on Red Hill Extension claim No. 5. A total of nine rotary drill holes were spaced on this claim. These exploration holes went to depths ranging between 30 and 40 feet, the average assay of all samples being approximately 12%. Again in September 1954, Manganese Corporation of Arizona drove an open cut into the stripped area for sampling purposes. The cut was approximately 20 feet deep, 20 feet wide and 100 feet long. This ore was sampled and averaged approximately 7%. Manganese Corporation of Arizona geological reports on the Red Hill Extension claims have all been favorable as to the deposition of a large tonnage of manganese ores. The New Mexico Institute of Mining and Technology, located at Socorro, New Mexico, have made repeated examinations of these claims, and reports of possible tonnage as high as 3 million long tons. The rotary drill holes and the one deep exploratory churn drill hole, plus the wagon drilling operation, have revealed two common characteristics; an improvement in depth and the possibility of large tonnage. The ore has been tested extensively for its metallurgical characteristics as follows:

1. A series of crushing, screening tests were made in the laboratory of the New Mexico Institute of Mining and Technology. The minus 10 mesh factor was tabled and the plus 10 mesh treated with heavy liquid. These tests showed the ore amenable to gravity separation with excellent recoveries and grade in excess of 40% manganese.

Further, one large sample from the strip zone was tested in the Manganese Corporation of Arizona's Sink Float Mill located approximately one mile from the Red Hill Extension group. At a one inch crush approximately an 80% recovery and a 40% grade were effected on the ore. It proved to be amenable to an excellent degree using a heavy-media treatment.

On the south side of Red Hill, which fundamentally is covered by the Red Hill Extension claims enumerated above, an open cut was driven at a point approximately 80 feet below the crest of Red Hill. This open cut revealed the existence of manganese ores assaying approximately 11%. The open cut is important in that it tends to correlate what would be the south slope of Red Hill with the drilling operation conducted on the north side. The elevation above sea level tends to show that the manganiferous zone does not conform to the surface topography of Red Hill, but rather is flat, striking north and south, and in all exploration holes to date has shown the same dip and strike regardless of what point computed on Red Hill.

Manganese Corporation of Arizona's interest is that it holds all claims under lease (reference is made to Exhibit a) and has option to purchase with all minimum royalties applicable on the purchase price.

Across the ridge to the west this company is conducting mining operations on two manganese veins which it proved itself using stripping and churn drilling operations. This application does not include these claims as the exploration cost has already been paid by the Manganese Corporation of Arizona and approximated $50,000 in stripping and churn drilling programs. This private program proved approximately 100,000 tons of 14% psilomelane ore. In this operation approximately 25 churn drill holes were drilled on the east slope of Red Hill to depths approximating 100 feet. The holes were, of course, cased to prevent any contamination, and 5 foot sample runs were made from the collar to the bottom of the hole. The area was mapped and profiled as relating to elevation, depth of overburden, metallic content of the ore body, etc. A sampler was on duty at all times, using a Jones splitter, and two Bucyrus-Erie churn drills were employed on contract. The success of the private exploration work by the Manganese Corporation of Arizona is born out by the official General Services Administration records at the Denver Federal Center, Denver, Colorado. These records will show that the Manganese Corporation of Arizona is among the largest shippers of manganese concentrates in the Southwest. All the ores produced to date came from ore bodies discovered by the churn drilling

and stripping exploration conducted by this company. At the present time, production is approximately 1500 tons per calendar month of 40% concentrates produced in the Sink Float Mill. At the present time a new Sink Float Mill, with a 3000 ton per day capacity, is being constructed by the Manganese Corporation of Arizona approximately one mile east of the Red Hill extension group of claims. It is imperative that large scale exploration operations be instituted in the immediate future as the proven ore reserves of the company are not sufficient to meet the annual requirements of this new 3000 ton per day Sink Float Plant.

The accessibility of this first exploration group known as the Red Hill Extension claims enumerated above, is excellent. The Town of Socorro, New Mexico lies nine miles northeast of the claims. Visiting the claims you follow U. S. Highway 85 south from Socorro, New Mexico, six miles, turn west on a graded road, maintained daily by the Manganese Corporation of Arizona, three miles west. This graded road terminates on the Red Hill Extension group of claims. No access roads are necessary. For exploration purposes or mining, the claims are admirably situated. A Bureau of Mines examiner could drive to any point of this group in a passenger car or truck.

The second exploration group under this exploration project is known as the Big Basin Group. The exploration operations on this property in the past consisted of three shallow trenches and one large open cut. Low grade manganese is evident in all openings. Scattered over the hilltop are a number of ant hills, disclosing a quantity of high grade psilomelane mineral in the grains of the ant hill. The Big Basin group of claims overlie what is known locally as the Pinnacle, a hill of rather low relief which is similar in appearance to the rhyolite zone mentioned in the first exploration group. The mineralization evident in the open cut, which measures approximately 50 feet wide, shows the manganese oxide in a brecciated zone. The mineralization is present as fracture fillings and also as coatings on breccia fragments. The ore mineral is psilomelane with minor amounts of pyrolusite. Where the rhyolite has been fractured to a great extent, mineralization reaches its highest. The possible zone of mineralization

strikes north and south and appears to have a shallow overburden not exceeding 30 feet. An excellent road runs into the property from the mining area of the Manganese Corporation of Arizona. The Big Basin exploration group lies approximately one mile north of the Red Hill Extension exploration area.

In the third exploration area, known as the West Niggerhead claim, exploration operations to a very limited degree were conducted on the property by the U. S. Bureau of Mines. Following is a rundown on the West Niggerhead. Two trenches, approximately 80 feet long, were dug across the face of the zone. An adit has been driven about 100 feet north into the zone. Reference is made to Exhibit D, which is RI-4084, U. S. Bureau of Mines. This contains some information on the West Niggerhead ore body. It is accessible to U. S. Highway 60 by a graded road and can be readily visited by passenger car. The manganese mineral is present as psilomelane in the West Niggerhead, and here again occurs as fillings in the shear zone fractures and coatings on breccia fragments. From Socorro, the property is reached by following U. S. Highway 60 west for 10-1/2 miles. Thence, a graded road 3-1/2 miles west and southwest to Six Mile Canyon, where the West Niggerhead workings are situated.

b). The past production of the Manganese Corporation of Arizona has come from a group of state leases lying on the ridge known as Red Hill. The company has extracted approximately 30,000 tons of ore from these leases. Its current production is 500 long tons per day, which is treated at its Sink Float Mill approximately one mile east of the state leases. These state leases are supplying all of the production for the mill. The exploration group of claims known as the Red Hill Extension Group, discussed above, is approximately 1/2 mile to the west of the producing state leases. The only ore produced by the Manganese Corporation of Arizona from the Red Hill Extension Group has been the large test sample from the open cut outlined above. Past production records of the strip area are unknown. There is no current production from this area.

In the secon exploration area known as Big Basin Group, there has been no past or current production and no ore reserves are proven.

In the third exploration group known as the West Niggerhead area, there has been no past nor is there any current production, and there are no known ore reserves.

c). The geological features of this Red Hill Extension Group are best described as a shear zone striking north and south through a rhyolite formation. Immediately adjacent to the zone is a deep canyon running east-west and probably the result of extensive faulting. The Red Hill group of claims cover this rhyolite formation and preliminary exploration drilling has revealed that the entire zone is covered by fully or partially decomposed rhyolite which the meteoric waters have broken down into a white substance similar to volcanic tuff. This overburden extends to the top of the prospective ore body, and it is our geological opinion that the deposit has been formed by replacement and enrichment processes. This appearance of the overburden is further substantiated by the evidence of a zone of secondary enrichment, which in every drilled hole was revealed as beginning approximately 30 feet after the zone of mineralization was topped. An examination of the mineralized zone in the open cut, outlined above, shows the mineralization to occur as a filling of the interstices by a psilomelane mineral. The interstices vary from 1/4" to as wide as 6", and cavities throughout the formation are prevalent. The shear zone appears to comprise the entire Red Hill, and evidence of mineralization is shown at every point the zone has been exposed. The ore is free milling in that its crushing characteristics are such that the hard psilomelane mineral is liberated at a 1" crush. The shear zone strikes due north and south with 90° dip and 0° plunge. On the west side of the shear zone, a massive wall is exposed and the striations tend to confirm the strike and plunge outlined above. The richest outcroppings are evident along this wall. The formation is undoubtedly due to the process of surface waters leaching the rhyolite and constantly enriching the manganese body in depth. Not only the appearance of the overburden, which is in a state of partial disintegration, but the rapid rise of values in the manganiferous zone tend to substantiate this theory.

To the south extremity of Red Hill from the stripped zone is approximately 1500 feet. At this south extremity, a gully tends to reveal the existence of another fault, and probably cuts the manganiferous zone off at this

point. The existence of an ore zone approximately 1500 feet long, 200 feet wide, with an average depth of 150 feet, is possible. A churn drilling program could discover very substantial ore reserves.

In the second exploration area known as the Big Basin group, the geological characteristics appear similar to those in the first exploration group. Namely, a shear zone striking north and south in rhyolite. This shear zone appears to be approximately 100 feet wide and several hundred feet long. The mineralization occurs as psilomelane mineral in vein fillings, and is coating on rock fragments. The mineral itself is extremely high grade, assaying well over 50% Mn. The reason this area is promising is based on its geological location between two proven manganese mines. Namely, the high grade state lease mines lie on approximately the same strike line as the Big Basin exploration area. The appearance of the gangue rock is similar to the Niggerhead Mine a few miles north. The Niggerhead Mine was discovered by the Bureau of Mines in the late 1930s, and the appearance of the face of the Niggerhead Mine is identical with the appearance of the large open cut that has been made on the side of the hill known as the Pinnacle, which lies in the approximate center of the Big Basin group.

The West Niggerhead prospect is a highly fractured zone, sheared in a rhyolite dike that is conducive in this area, as a host rock, for manganese minerals. An examination of the walls of the adit reveals a peculiar geological characteristic. Namely, this fractured zone strikes in a northeasterly direction and if the strike line were projected several hundred feet, it would intersect the north strike of the USBM-proven Niggerhead mine. This possibility of intersection of the two fractured zones would, of course, prove interesting geologically. The Niggerhead Mine is a proven ore body containing an excellent grade of mill ore. If the West Niggerhead fracture zone intersects the Niggerhead proper zone, it is almost certain large tonnages of high grade manganese ore would be discovered. Reference is made again to the Exhibit (d), which covers not only the West Niggerhead but also the Niggerhead Mine, which is important geologically in this exploration project.

d). Access of the Project - Access roads are excellent. For examination purposes, the examiner may drive by passenger car or vehicle on an excellent grated road to any point of the Red Hill Extension group of claims. This group

of claims is reached by driving six miles on U. S. Highway 85 and thence three miles due west on the Manganese Corporation of Arizona's graded road. The distance to Sante Fe Railroad loading ramp from the Red Hill Extension group of claims in 4-1/2 miles. A siding is available at this point. The mine haulage road is in perfect condition and maintained daily by the Manganese Corporation of Arizona. The supply and residential point is Socorro, New Mexico, a town of approximately 5,000 persons, elevation 4600 feet. The Manganese Corporation of Arizona and its contractors have had no difficulty in housing their employees in this area. Labor, both skilled and unskilled, is available in large quantities and an unemployment problem is existing to a limited degree in the area. This is due to the depression of prices on the lead-zinc market during past years. This price depression has resulted in the closing of most of the lead-zinc mines in the vicinity of Magdalena, New Mexico, which is located in the same county as Socorro, New Mexico.

Accessibility of the Big Basin Group is excellent. An excellent road has been built to the heart of the Big Basin exploration area. A passenger vehicle or truck would have access to all points of this area with no difficulty. It is approximately the same distance to shipping, supplies and residential points as the first exploration group, lying only one mile north of the first exploration group.

In the third exploration agea - the West Niggerhead claim, as regarding accessibility of the project, distances to shipping, supply and residential points, see above.

e). Availability of Manpower - See above.

Materials, supplies and equipment are readily available by truck or rail from supply houses in Albuquerque, New Mexico or El Paso, Texas. Albuquerque is 77 miles north of Socorro and is connected by U. S. Highway 85 and the Sante Fe Railroad. El Paso lies 200 miles south of Socorro on the same routes. The Manganese Corporation of Arizona has an excellent water supply from a 500 foot well located at its Sink Float Mill, approximately one mile from the mining area. This well has been in use for a number of years and repeated tests have shown it capable of producing in excess of 1,000 gallons per minute. At the present time, this water supply is operating the Manganese Corporation of Arizona's Sink Float Mill.

Power is readily available from the Rural Electrification Administration main line, which passes within two miles of the mine. The Socorro manager of the REA, a Mr. Gallagher, informs us that 5,000 KW are available for mining operations. The Sink Float Mill of the Manganese Corporation of Arizona is operated from its own Diesel electric plant, which generates approximately 300 KW and is in excellent condition, being less than six months old.

5. a). Manganese is the mineral for which this company wishes to explore.

b). The proposed exploration plan for the Red Hill extension group is divided into four parts, as follows:

1. Preparation of drill sites - level strips, approximately 30 feet wide, and 250 feet long are necessary as preparation for the move-in of the churn drills. These strips would run east-west, which the examining geologist believes would be perpendicular to the strike of the manganiferous shear zone. These strips could be built by allowing approximately 8 hours of D-8 tractor time per strip. Seven strips are necessary at 100 foot intervals along the north-south axis of the shear zone. (See Exhibit "E"). The completed exploration drilling program would then give seven profiles of the formation. The cost would be fixed at $120.00 per strip, or a grand total of $840.00 for the levelling necessary preparatory to the churn drilling. No blasting is necessary in this phase.

2. The second phase of the exploratory operation would be the churn drilling of the formation. After the levelled strips are in, the location of the exploration holes would be on an east-west line on 35 foot centers perpendicular to the strike of the manganiferous shear zone. Thus, six cased holes would be necessary on each of the levelled strips. Because of the raveling of the formation, it would be absolutely essential that casing be carried at all times within 20 feet of the churn drill bit. The experiment on the state leases, approximately 1/2 mile from the exploration area, has demonstrated that considerable false upgrading is probable if the exploration holes are not cased. Incidentally, the raveling of the formation has proven that neither long holing by wagon drills nor diamond drilling is

feasible. The deposit is filled with cavities and fractures and prevents core recovery, and in some cases stops the drilling completely. Churn drilling is the only method by which this deposit can be penetrated at reasonable cost. Therefore, this application is for a total on the Red Hill Extension claims of 42 cased churn drill holes, to a depth of 200 feet each. The depth of 20 feet has been arrived at by correlating the upper churn drill hole with the lower rotary drill hole, and it is necessary to go that depth throughout the formation if valuable ore reserves are not to lie undiscovered. The rhyolite shear zone, which contains the manganese minerals, is approximately 200 feet wide by 1500 feet long. Its depth is unknown at this time, but the Manganese Corporation of Arizona feels this exploration drilling will discover sufficient ore reserves of commercial grade. If an ore body is discovered as a result of the 42-hole drilling pattern, the corporation would then proceed at its own expense to complete the exploration of the formation. It should be stressed at this time that the proposed drilling area is unknown as to the possibility of its containing a manganiferous ore body. However, seven profiles with mapping should be adequate to pick up any deposit of commercial grade and size. From past experience of churn drilling on the Manganese Corporation of Arizona's properties, it would be folly to attempt churn drilling unless casing was driven along with the hole. Reference is made to the Exhibit "E" attached, which shows in detail the seven proposed strips, with the location of the exploration holes thereon. The seven profiles, as revealed by the results of the seven churn drilling strings, should cross cut the rhyolite shear zone, and the 200 feet of depth would be adequate to disclose the presence of any sizeable manganese ore body.

3. This phase would be the sampling and assaying of the churn drill sludge at the drill sites. A trained sampler would be on duty at all times, and a Jones splitter would be used. Five foot intervals would be established for the sampling procedure. All sludge would be removed and split, and a complete log kept on every hole. Approximately 40 assays for manganese would be necessary on each of the churn drilled holes, or a total of 1680 manganese assays for this exploration area.

4. This phase would cover the mapping of the churn drill pattern following the completion of the exploration program. The elevation and location of each hole should be shown on the company maps and each profile located on same.

In the second exploration group, known as the Big Basin area, the proposed exploration plan would be a checkerboard of five 200 foot, cased, churn drill holes, spaced on 50 foot centers along the strike of what is known as the Pinnacle shear zone. The location of the holes are shown on the accompanying plan. (See Exhibit "F").

An exploration plan of the West Niggerhead fracture zone would here again be based on churn drilling. A checkerboard pattern of five drill holes, as shown on the accompanying map, Exhibit "G", should accomplish the objective. These holes should be to the 200 foot depth, but it would not be necessary to case them, as the rhyolite is live and little or no caving would be expected. Taking the fracture zone face as it appears on the north wall of Six Mile Canyon, an estimate of the fracture zone's width would be approximately 100 feet. Therefore, a cross pattern should give the best results as shown on the accompanying map, Exhibit "G". It is possible that five 200 foot churn drill holes would be sufficient exploration to justify development of this prospect with a view toward seeking the possible inter section of this mineralized fracture zone with the Niggerhead Mine's northerly strike.

c). The exploration program on the Red Hill Extension claims would start within 24 hours after the approval of the Defense Minerals Exporation Administration, and would be completed within six months from the date of the exploration project contract.

The work on the second exploration area, known as the Big Basin group, would be started within two weeks after the approval of this application, and completed within six months.

In the third exploration area, known as the West Niggerhead claim, work would start within 30 days and be completed within six months from the date of the project contract.

d). The operating experience and background of the Manganese Corporation of Arizona in the manganese mining and milling

field follows: The company has just completed a successful churn drilling program approximately 1/2 mile east of the Red Hill Extension group. This churn drilling program discovered large ore reserves which were completely unknown prior to the Manganese Corporation of Arizona's exploration project. Their churn drilling experience covers approximately 2 years in the manganese field. In the state lease churn drilling program, the exploration holes disclosed the presence of two relatively high grade manganese ore bodies, which subsequent mining and development disclosed reserves in excess of 100,000 long tons of 14% manganese ore. From these two ore bodies alone, the Manganese Corporation of Arizona has shipped during October and November approximately 3,000 long tons of manganese concentrate averaging 40.2 Mn. Prior to the operations in Socorro County, New Mexico, the company carried out successful churn drilling and wagon drilling exploration in Yuma County, Arizona. As a result of those exploration activities, several thousand tons of concentrates were shipped to the U. S. Government manganese depot at Wenden, Arizona. The company, as a result of its exploration projects, has been a leading shipper of manganese concentrates in the southwest.

Approximately one mile from the exploration area, the Manganese Corporation of Arizona has a 300 ton per day Sink Float mill. This mill, operating on state lease ores discovered by the Manganese Corporation of Arizona, is the No. 1 shipper in the State of New Mexico. At the present time, the company has under construction a new sink float mill to be completed before March 15, 1955, and will be capable of handling 3000 long tons per 24 hour day. This mill will be the largest sink float mill operating exclusively on manganese in the United States. The churn drill drilling would be contracted by E. H. Boone Drilling Company of Deming, New Mexico, and would be under the direct supervision of Victor J. Morgan. The E. H. Boone Drilling Company has a wide experience in churn drilling large low-grade copper deposits, having for many years the exploration drilling contract from Kennecott Copper and other well known mining companies. Their work has been satisfactory in all respects.

Morgan, who would supervise the exploration project, has had a wide experience in the manganese field, and has had personal charge of all the company's mining operations in California, Arizona and New Mexico. Under its exploration policies, the company, in two years, has risen from a small operation, mining 25 tons per day to its present

position of handling a daily tonnage of 400 to 500 tons per day. The Manganese Corporation of Arizona's assets are, at the present time, sixteen times their original invested capital. During this interval, all manganese exploration operations were personally supervised by Morgan. The company at the present time is the largest shipper of manganese concentrates in New Mexico.

6. Estimate of Costs -

a). Independent contracts - The E. H. Boone Drilling Company of Deming, New Mexico, has agreed to a fixed price of $7.00 per foot for the 42 hole contract. Casing would be run for 25 cents per foot. Hole diameters would start at 12-inch and change down as casing strings were run.

Here is the breakdown of the contracted cost for the exploration of the Red Hill Extension group:

42 holes @ 200 feet	8400 drilled feet	
8400 feet at $7.00	$ 58,800.00	
DRILLING COST	$ 58,800.00	
8400 feet of casing @ 25 cents	2,100.00	
DRILLING AND CASING COST		$ 60,900.00

In the second exploration area, known as the Big Basin group, there would be five 200 foot churn drill holes, totaling 1,000 feet of drilling.

1000 feet @ $7.00	$ 7,000.00	
1000 feet of casing @ 25 cents per foot	250.00	
DRILLING AND CASING COST		$ 7,250.00

In the third exploration group, known as the West Niggerhead claim, it is requested that five churn drill holes - 200 feet deep - be granted and cost of drilling would amount to

1000 feet @ $7.00 per foot	$ 7,000.00
DRILLING COST	$ 7,000.00

b) Supervision:

Two samplers at $1.50 per hour, 40 hours per week.

12 weeks at $120.00 per week	$1,440.00
SUPERVISION	$1,440.00

c). Operating Materials

Casing recovery would be 80% based on Manganese Corporation of Arizona churn drilling experience. Therefore, the following casing would be needed:

400 feet 12" casing at $5.00 per foot
400 feet 10" casing at $3.50 per foot
400 feet 8" casing at $2.50 per foot
400 feet 6" casing at $2.00 per foot

CASING COST	$5,200.00

Any casing remaining after the exploration project could be sold and the money returned pro rata to the Government and the Manganese Corporation of Arizona.

d). Operating Equipment

For the levelling operation, one D-8 Caterpillar tractor with bulldozer

56 hours @ $15.00 per hour	$ 840.00
OPERATING EQUIPMENT COST	$ 840.00

e). Rehabilitation and repairs - none

f). New building, improvements, installation - none

g). Miscellaneous

42 holes, with 40 samples to the hole assay	1,680 samples
Cost of $2.00 per sample, including haul to laboratory	$2.00 per sample
ASSAY COST	$ 3,360.00

In the second exploration area, known as the Big Basin group, there would be a total of 40 assays per hole, 5 holes would need 200 assays.

ASSAY COST	$ 400.00

In the third exploration area, known as the West Niggerhead claim, 5 churn drill holes would require 40 assays to the hole or a total of 200 assays.

200 assays at $2.00	$ 400.00
ASSAY COST	$ 400.00

h). Contingencies - none

TOTAL COST OF PROJECT	$ 86,790.00

7. a). Manganese Corporation of Arizona is prepared to furnish its 25% share of the cost of the proposed project, in accordance with the regulation on government participation.

b). The Manganese Corporation of Arizona will furnish its share of the costs in money. It prefers to have government participation on the unit cost plan set forth specifically above. The government would not be obligated for any other costs other than those outlined above.

Exhibit "A"

LEASE AND OPTION AGREEMENT

AGREEMENT, Made this 26th day of June, 1954 by and between SOCORRO CORPORATION, a corporation organized, existing and doing business under the laws of the State of New Mexico (hereinafter called "SOCORRO"), party of the first part, and Edward V. Mendenhall and Victor J. Morgan, both of Phoenix, Arizona, a co-partnership doing business under the firm name and style of MANGANESE COMPANY OF ARIZONA (hereinafter called "SECOND PARTIES"), parties of the second part.

RECITALS:

Socorro Corporation was incorporated for the purpose of taking a Lease Agreement and Option from the Reconstruction Finance Corporation on the properties formerly known as United Mining and Milling Corporation manganese properties about nine miles south and west of Socorro, New Mexico.

On July 18, 1949 a Lease Agreement and Option was entered into between Reconstruction Finance Corporation and Socorro Corporation, a copy of which is hereto attached, marked Exhibit "A" for identification and made a part hereof.

Thereafter said Lease Agreement and Option was modified at the request of Socorro Corporation in more or less minor particulars in order to give relief to Socorro Corporation from the obligations and burdens imposed originally, mostly in the way of extending the time for making required payments or reducing such payments. Some of such modifications were by letter and some by a more formal supplemental agreement. Socorro Corporation will not undertake at this time to mention specially and attach hereto a copy of each but states that each was for its benefit. There is, however, attached for information as Exhibits "B" and "C" copies of supplemental agreement dated August 31, 1951 which recites in some detail in the recitals the amendments theretofore made, and letter dated November 17, 1952 from the Reconstruction Finance Corporation (Denver office) which will fairly bring the original lease and option of July 18, 1949 up to date.

Socorro Corporation represents that said Lease Agreement and Option, as so amended, is now in good standing according to the terms and provisions thereof and of said amendments. It is understood, however, that the so-called "Nigger-head" claims are not owned by the RFC or SOCORRO CORPORATION.

Exhibit "A"

Attached hereto as Exhibit "D" is a map of the unpatented mining claims owned by the Reconstruction Finance Corporation and under the Lease and Option (Exhibit "A") to Socorro Corporation.

Second Parties represent that they are the owners of a mill and mining equipment now located in the State of Arizona consisting of shovels, trucks, machinery, tools and equipment and all necessary appurtenances suitable and sufficient for a complete mining and milling operation which can be moved and erected at a suitable place near Socorro, New Mexico, for the purpose of milling ores from the mining claims and other properties from which ores can be taken belonging to Socorro Corporation or to Reconstruction Finance Corporation and under lease and option to Socorro Corporation. Second Parties represent and warrant that said mill and all mill and mining equipment going to make up the complete operating mining and milling unit is free and clear of liens and encumbrances of any nature.

Socorro Corporation is also the owner of a State Lease No. M-3550 dated September 10, 1951, which has been assigned by it to Reconstruction Finance Corporation but as to which Socorro Corporation has the mining rights all as shown by copy of said lease and assignment which is hereto attached, marked Exhibit "E" for identification and made a part hereof.

A claimed conflict existed as between certain claims belonging to Reconstruction Finance Corporation and claim of Juan Miera and others known as the Van Pelt claim. Socorro Corporation entered into a contract of sale with the owners thereof, Juan N. Miera and wife, Jim Romero and wife, and Lucas Baca, dated November 12, 1953, a true and correct copy of which is hereto attached, marked Exhibit "F" for identification and made a part of this agreement.

On March 6, 1954 Socorro Corporation entered into an agreement with James B. Harris, R. J. Coker and William D. Price, all of Albuquerque, New Mexico, being a partnership doing business under the name of HCP Mining & Milling Co., with reference to the use of certain materials belonging to Reconstruction Finance Corporation and under Lease Agreement and option to Socorro Corporation for the purpose of constructing a mill near San Antonio, New Mexico, for the purpose of milling manganese ores furnished and supplied to it by Socorro Corporation. This agreement was modified by First Supplemental Agreement between the same parties dated April 18, 1954. Copies of the original agreement of March 6, 1954 and said supplement being hereto attached, marked Exhibit "G" for identification and made a part hereof.

Second Parties are desirous of acquiring from Socorro Corporation and Socorro Corporation is willing to give and grant

to Second Parties under the terms and provisions hereinafter set forth, a Lease and Option to purchase said unpatented mining claims belonging to Reconstruction Finance Corporation and under lease and option as aforesaid, the State Lease hereinabove mentioned, and Socorro Corporation's interest in and to the said Van Pelt Claim as heretofore stated and as shown by Exhibit "F".

AGREEMENT:

Now, therefore, for and in consideration of the advance royalty payment of $5,000 under the Option Agreement and of the payments to be made as hereinafter specified and of the mutual covenants of the parties hereto to be faithfully performed and kept by each, IT IS AGREED:

1. Socorro Corporation shall and hereby does agree to transfer, assign and convey to Second Parties all rights which which it has to prospect for, develop, mine, remove and sell ores, minerals, and other products from the said Reconstruction Finance Corporation unpatented mining claims, from the said State Lease and from the said Van Pelt Claim, and that it will make and execute such further instruments of conveyance, if any may be necessary or desirable as to fully convey such rights to Second Parties, also all of its right, title and interest under the said HCP Mining & Milling Co. agreements. It is the intention that this Lease and Agreement shall and does include any and all leases or claims contiguous to above described properties.

2. In consideration whereof, Second Parties agree:

(a) To pay to Socorro Corporation, or its nominee, on or before the 10th day of the succeeding month a royalty of fifteen per cent (15%) of all gross receipts from products of every kind, particularly manganese concentrates and manganese ores, and from all their operations hereunder on said properties for the prior month.

(b) Such 15% royalty shall continue to be paid until $75,000 has been received by Socorro Corporation and shall continue thereafter unless and until Second Parties exercise their option to purchase as hereinafter set forth.

(c) Socorro Corporation may from time to time if it so desires take its 15% of all products and income in kind instead of taking the 15% royalty as herein set out. The value of such 15% of products and income shall be equal in value to the said 15% royalty.

3. After the payment of such royalties to Socorro Corporation in the amount of $75,000., Second Parties have and are hereby given the option to purchase said properties. In event of the

exercise of such option to purchase, one-third of such royalties and no more thereafter paid shall apply as a credit against the $215,000 royalty as referred to in paragraph 4 following.

4. The purchase price shall be $100,000., payable in cash at the time Second Parties exercise their option to purchase. Thereafter royalties totaling $215,000 shall be paid at the time, at the rate, and in the manner set out in paragraph 2 above.

5. The royalty so paid to Socorro Corporation shall be not less than $5,000. for each and every month beginning October 1, 1954, provided, however, that the advance royalty payment shall be deducted from any earned royalty.

6. The mill to be erected and the mining equipment used by Second Parties shall when completed be reasonably of a value of not less than $100,000. and shall include all machinery, tools, and equipment of any kind and nature used in Second Parties' mining and milling operation. It is understood that Second Parties may wish to substitute a new or different mill or one of larger capacity for the one which may be first erected and they shall have the right to do so so long as the substituted mill and their equity therein is of as much value as the old. In this event Socorro Corporation's lien on the old mill shall be released and the new mill pledged in like manner as the old for the protection of Socorro Corporation up to the amount of $100,000.00.

7. It is understood that Second Parties in carrying on their mining and milling operations will be required to purchase from time to time new or additional machinery, tools, equipment, parts and appliances and substitute the same for worn or undesirable parts. That in making any such changes, additions or betterments, the same shall be and become a part of the mill and mining unit so that the same shall at all times be a complete and properly operating milling and mining unit and operation.

8. In event Second Parties are, in the opinion of Socorro Corporation, in default in any manner under the terms of this agreement, Socorro Corporation shall give written notice to Second Parties of the respect or respects in which such default is claimed and Second Parties shall have 30 days thereafter within which to remedy such default, but as to payment of moneys a period of only 10 days.

9. In event Second Parties are in default hereunder and such default is not corrected within the time provided above, this agreement and all rights of Second Parties may at the election of Socorro Corporation be terminated and the amounts theretofore paid together with the said mill and mining equipment consisting

of the complete operating unit as aforesaid, shall be and become and remain the property of Socorro Corporation.

10. Until payment by Second Parties to Socorro Corporation of the amount of $75,000. in royalties, the cash payment of $100,000 as payment on the purchase price, plus an additional $100,000 in royalty, making a total payment of $275,000., all of the said properties consisting of the mine and mill equipment and including any lands or leases on which located if off of said claims and lease of Socorro Corporation shall constitute a pledge and guarantee to Socorro Corporation for the payments of royalties and any other payments which may be due to Socorro Corporation and the performance of this agreement, and the recording of this instrument in the records of Socorro County, New Mexico, shall constitute a first and prior lien upon such properties.

11. Upon payment by Second Parties to Socorro Corporation of the said sum of $275,000., Second Parties not then being in default, Socorro will make, execute and deliver to Second Parties such release or relinquishment as will release such lien against said properties.

12. Second Parties shall in due season make the necessary returns for taxes which shall include sales, severance and all other taxes of any nature upon and against the said properties and their said operations and in due season pay the same.

13. Second Parties shall furnish to Socorro Corporation copies of all invoices showing sales and statements from time to time, and Socorro Corporation shall have access at all reasonable time to the books and records of the Second Parties.

14. If any land or lease is acquired for the purpose of the mill or the mining operation, the same shall become a part of the entire unit.

15. Second Parties will comply with all of the applicable laws, rules and regulations governing their operation, and shall at all times operate and perform in such manner as not to conflict with the Lease Agreement and Option from the Reconstruction Finance Corporation, as amended, or any other of the agreements attached hereto.

16. Socorro Corporation may post notices against liens as provided by statute.

17. Second Parties shall keep said mill and all equipment covered by fire insurance in an amount satisfactory to Socorro Corporation for their own protection as well as that of Socorro Corporation.

18. Second Parties shall at all times conduct their mining and milling operations in a good, workmanlike and minerlike fashion and do the necessary assessment work and all other things which may be necessary in order to keep and maintain said unpatented mining claims and State Lease in good standing, filing proof of labor, etc. as required by law.

19. Should the characteristics of the ore change to such an extent that Second Parties with such mill, with good businesslike, minerlike and milllike operations are unable to recover as much as 75% of the manganese content of said ores, on a beneficiated product of 25% or should the characteristics of the ores so change as to cause the ores to be unacceptable to the General Services Administration due to impureties which would prevent Second Parties from operating properly, Second Parties may terminate this agreement and surrender the same by giving written notice of their desire to do so. In event of such termination Socorro Corporation shall retain as its own all amounts theretofore paid and Second Parties amy move and remove all of their mill and mining equipment provided such removal is completed within sixty (60) days. Upon such termination Socorro Corporation shall make, execute and deliver to Second Parties such releases or other desirable instruments as will completely release Second Parties and Second Parties' mill and mining equipment from any lien or obligation not theretofore approved under the terms of this agreement. In event the parties cannot agree as to such 75% recovery of a 25% product, the question may be by either party submitted to a board of arbitration consisting of three persons, one to be selected by each of the parties and the third by the two so chosen, and the decision of such board shall be final, or at the request of either party, the controversy shall be submitted to Wemco Engineering Company, the designers of Second Parties' mill, whose decision shall likewise be final. In event of such arbitration, both parties shall have the right to investigate and present such evidence as they may desire. Provided, however, there shall be no default declared when caused by Acts of God or by other causes beyond the control of Second Parties.

20. Upon full completion of this purchase by Second Parties Socorro will make, execute and deliver to Second Parties such instruments of transfer and conveyance as may be necessary and desirable to convey to them all of Socorro's right, title and interest in and to all said properties herein sold.

21. Socorro warrants that it has made no contracts or conveyances affecting the properties herein described, except such as herein set out, which would give to any person any rights therein.

22. Second Parties may go upon the premises and inspect and examine any and all tools, machinery and equipment, including buildings, which belong to the Reconstruction Finance Corporation,

in order to determine whether any thereof can be rehabilitated, repaired and used. If Second Parties decide to use certain thereof they shall designate in writing the specific items within sixty (60) days after date hereof and such items shall then become part of the properties included in this agreement.

23. Time is of the essence of this agreement.

24. Second Parties may not assign this contract or any right, title or interest therein without the written consent of Socorro Corporation first obtained in each instance. However, Second Parties may assign to a corporation in which they have and own more than 50% of the stock of such corporation and continue to own and hold such majority stock.

25. This agreement shall be binding upon and shall inure to the benefit of the heirs, personal representatives, successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this instrument the day and year first above written.

SOCORRO CORPORATION

E. C. Allen V. P.

By John Bannerman

ITS President

ATTEST:

PARTY OF THE FIRST PART

its: vice president

Anyamere Co. of Arizona

by Victor J. Morgan

PARTIES OF THE SECOND PART

Exhibit "B"

SUB-LEASE OF MINING CLAIM

THIS INDENTURE, made this 4th day of December, 1954, between DALLAS D. CORUM the Lessor, hereinafter called the Party of the First Part, and MANGANESE CORPORATION OF ARIZONA, an Arizona Corporation, sub-lessee, hereinafter called the Party of the Second Part,

WITNESSETH:

Whereas the Party of the First Part is Lessee from the State of New Mexico, under Permit M-5219 issued by the office of the Commissioner of Public Lands of the State of New Mexico, of that certain Mining Claim named the WEST NIGGER HEAD Mining Claim, situate in Socorro County, New Mexico, described as follows:

> Commencing at the quarter corner on the E boundary line of Section 32, T-3S, R-2W, N.M.P.M. Thence S along the E boundary line of said Section 32 a distance of 100 feet to the SW corner of this claim and the true place of beginning. Thence W 600 feet to the SW corner, thence N 1500 feet to the NW corner, thence E 600 feet to the NE corner, thence S along the E boundary line of said Section 32 1500 feet to the SE corner of this claim and the true place of beginning.
>
> Containing 20.66 acres and comprising one standard mining claim lying in the E½NE¼, NE¼SE¼, Section 32, T-3S, R-2W, N.M.P.M.

and,

Whereas, said Mining Claim is further described in the Notice of Location thereof on file and of record in the office of the County Clerk of Socorro County, New Mexico, in Book 169 of Mining Records, at pages 300-301 thereof.

Now therefor, in consideration of the covenants and agreements to be faithfully kept and performed by the Party of the Second Part, the Party of the First Part does by these presents sub-lease ans sub-demise for a period of Five (5) Years from the date hereof, said above named and described Mining Claim.

ROYALTY

As rental of said Mining Claim the Party of the Second Part covenants and agrees to pay unto the Party of the First Part a Royalty of Ten Per Cent (10%) of the Net Sales Returns on all ore or concentrates which shall have been produced and mined from said mining claim.

MINIMUM ROYALTY

~~The Party of the Second Part covenants and agrees to pay unto the Party of the First Part, beginning January 5, 1955, a minimum Royalty of One Hundred Dollars ($100.00) per month in cash or on Returns of ore sold.~~ DDL. RTW

TIME ESSENCE OF AGREEMENT

That time is the essence of this agreement, and if the Party of the Second Part shall be or become delinquent or in default of the payment of the payment of the Royalties due and payable the Party of the First Part for a period of Thirty (30) Days that then, and in that event, the Party of the First Part shall have the right at his option, upon Ten (10) days written Notice duly given by United States Registered Mail to the Party of the Second Part, to declare this Sub-lease and agreement null and void and shall then have the right to re-possess said Mining Claim without resort to legal proceedings or action at law.

AGREEMENT TO COMPLY WITH REQUIREMENTS OF
STATE OF NEW MEXICO.

The Party of the Second Part accepts this Sub-lease subject to all of the payments becoming due the State of New Mexico as Original Lessor of said Mining Claim, and to comply with each and every provision of said Lease granted the Party of the First Part by the State of New Mexico and to comply with every rule, requirement and regulation appertaining to said Lease as made and provided by the State of New Mexico and the Commissioner of Public Lands of the State of New Mexico, and to pay unto the State of New Mexico any and all Royalties and payments becoming and payable to the State of New Mexico as original Lessor of said lands and Mining Claim and premises.

RIGHT TO MINE

That during the term of this Sub-lease the Party of the Second Part shall have the exclusive right to operate said Mining Claim and mine and remove all ore therefrom, subject to the payments of the Royalties to the Party of the First Part as herein provided.

PARTY OF THE FIRST PART TO SECURE
APPROVAL OF SUB-LEASE

The Party of the First Part covenants and agrees to, at his own proper cost and expense, do all things necessary and requisite and proper to secure the approval, if the same be necessary, of this sub-lease by the Commissioner of Public Lands of the State of New Mexico.

TERMINATION OF LEASE

That upon the termination of this Sub-lease, the Party of the Second Part covenants and agrees to surrender up said Mining Claim unto the Party of the First Part.

IN WITNESS WHEREOF, the Party of the First Part and the Party of the Second Part have hereunto set their hands and seals this 4th day of December, 1954.

Dallas D Carum
Party of the First Part

Manganese Corp. of Arizona
Manganese Corporation of Arizona
Party of the Second Part

By Victor J. Morgan
President

Docket 3607

Manganese Corp. of Arizona

Maps, Exhibits E and F, G, and H, missing from this copy of application.

Geological Survey has complete copy of application including these exhibits, filed in their files under "Manganese, Socorro County New Mexico."

S.O.H.
4/11/57

Photostats made for this file - placed in envelope →

S.O.H.
4/17/57

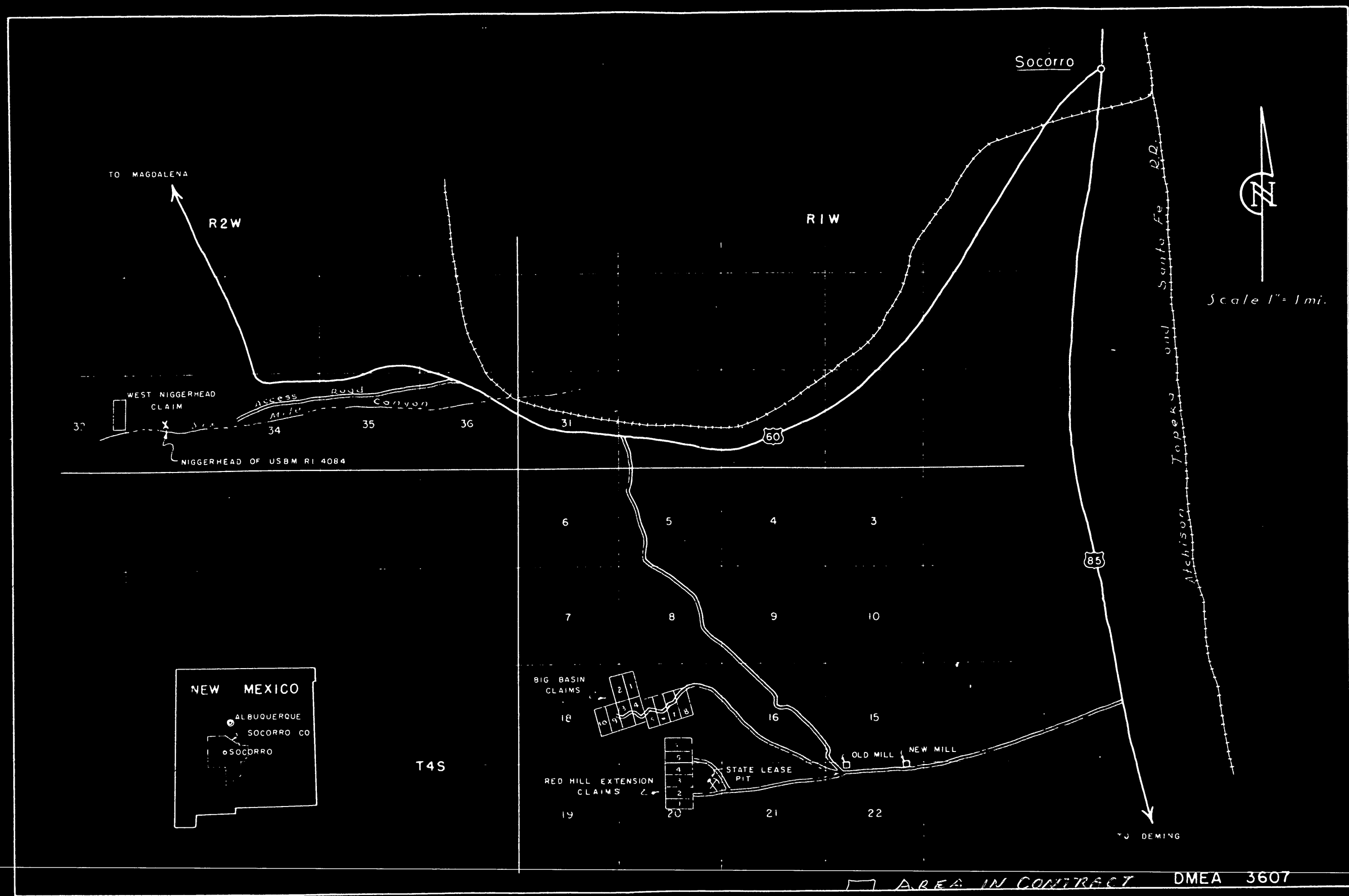
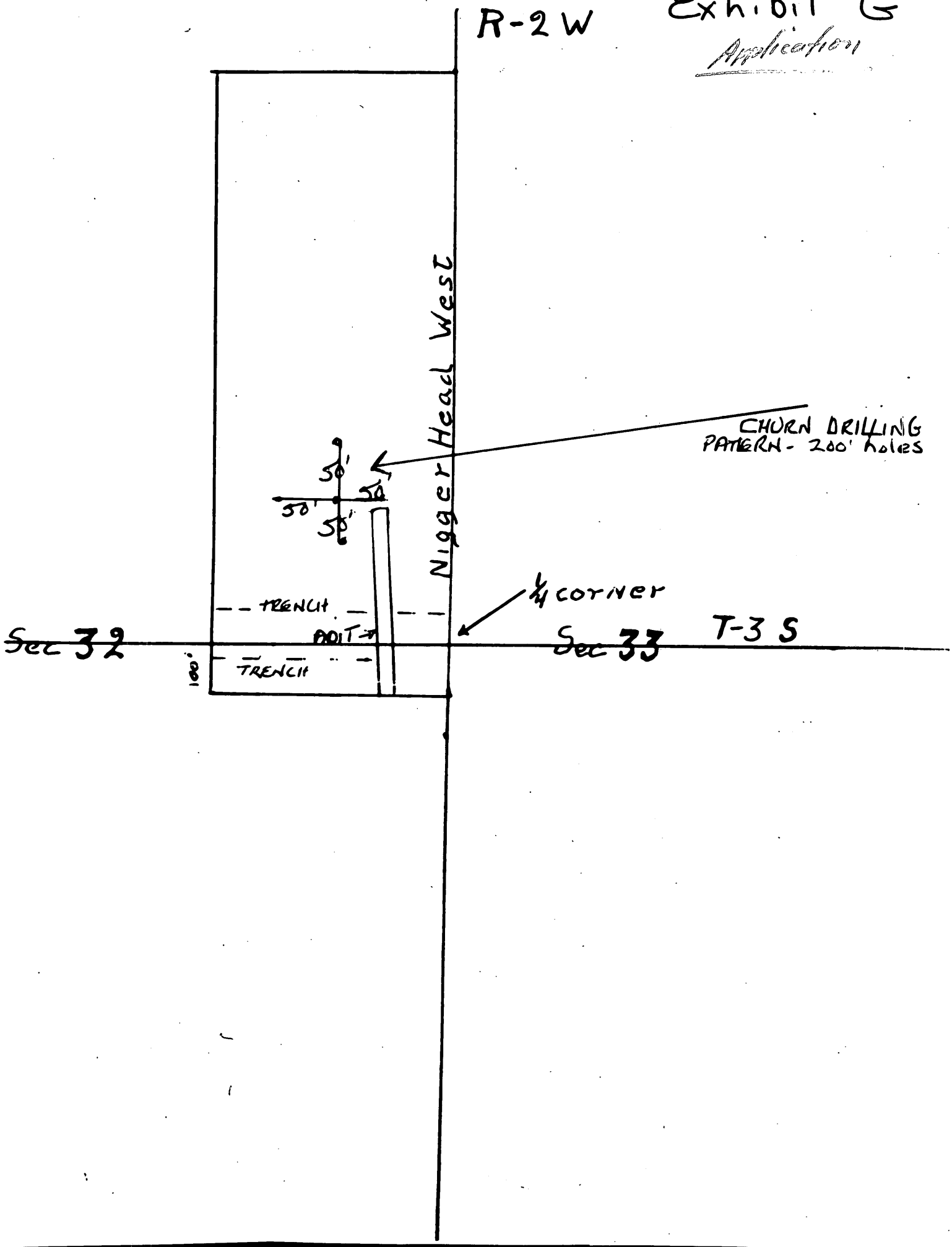


FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

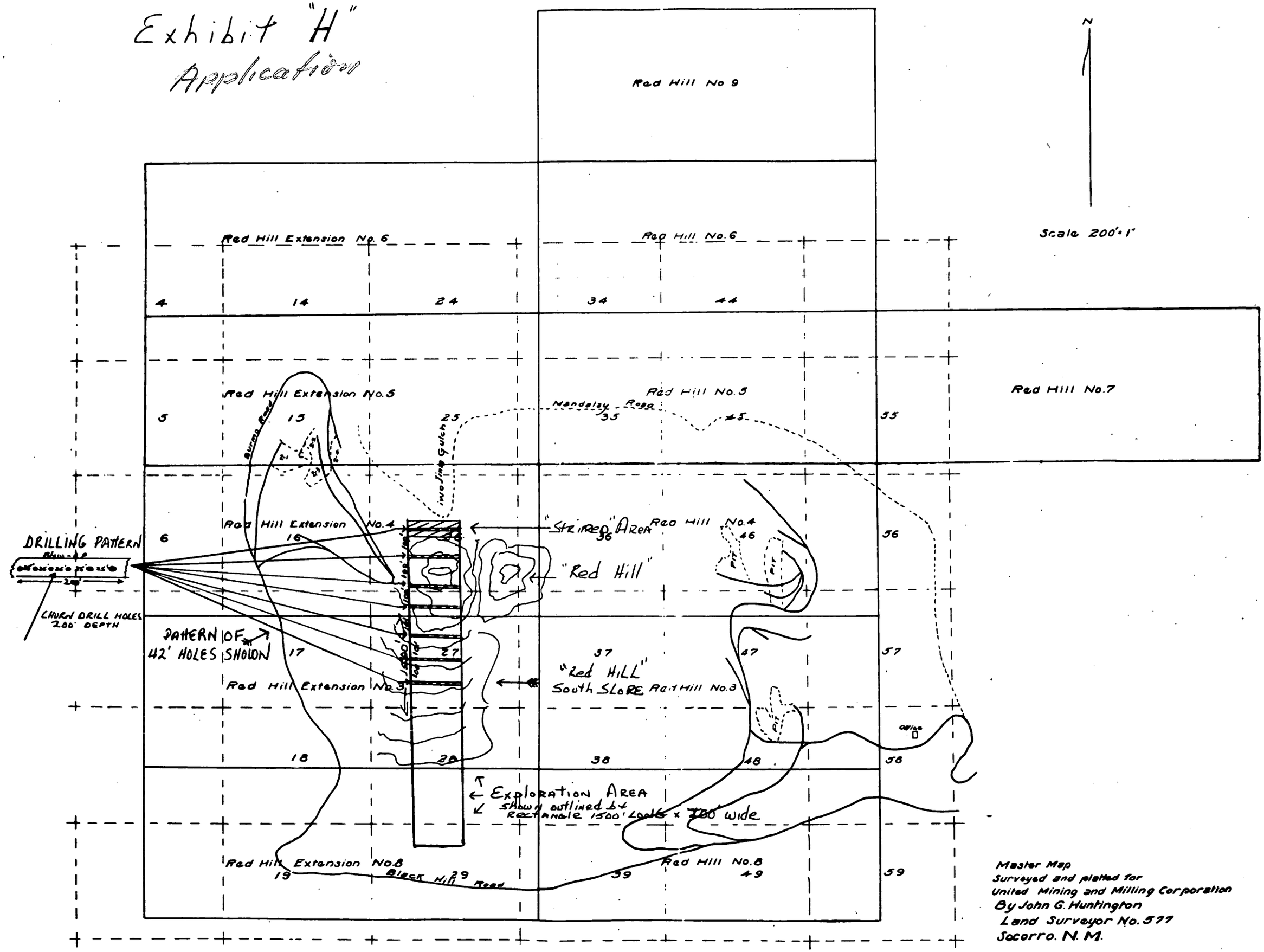
Docket of 3607

Exhibit "G"

Application



Docket 3607
Exhibit "H"
Application



Master Map
Surveyed and platted for
United Mining and Milling Corporation
By John G. Huntington
Land Surveyor No. 577
Socorro. N. M.

Exhibit H

SPOKANE 2, WASHINGTON

OFFICIAL BUSINESS

SPOKANE DEC 14 6 PM 1954 WASH.

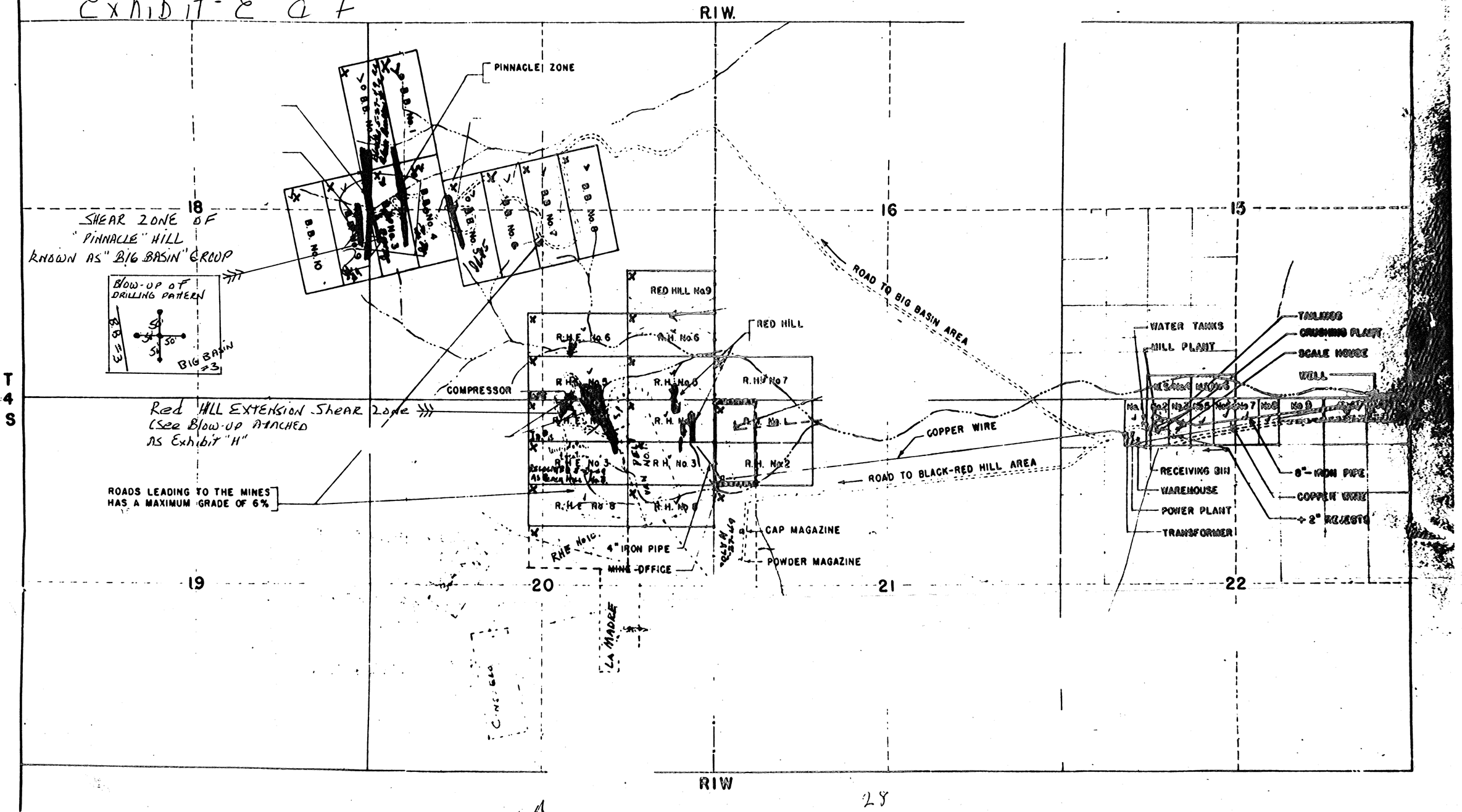
5 CENTS 5 1 CENT 1

2 1954 WASH.

Mr. George C. Selfridge, Chairman
DMEA Operating Committee
Department of the Interior
Washington 25, D. C.

Docket 3607
Application

Exhibit "E" & "F"



2A

2B