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

March 25, 1957

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.

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.

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

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
President

VJM:jp

4284
14

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

DMEA
DEPARTMENT OF THE INTERIOR
APR 24 1957
REGION III
DENVER, COLORADO

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

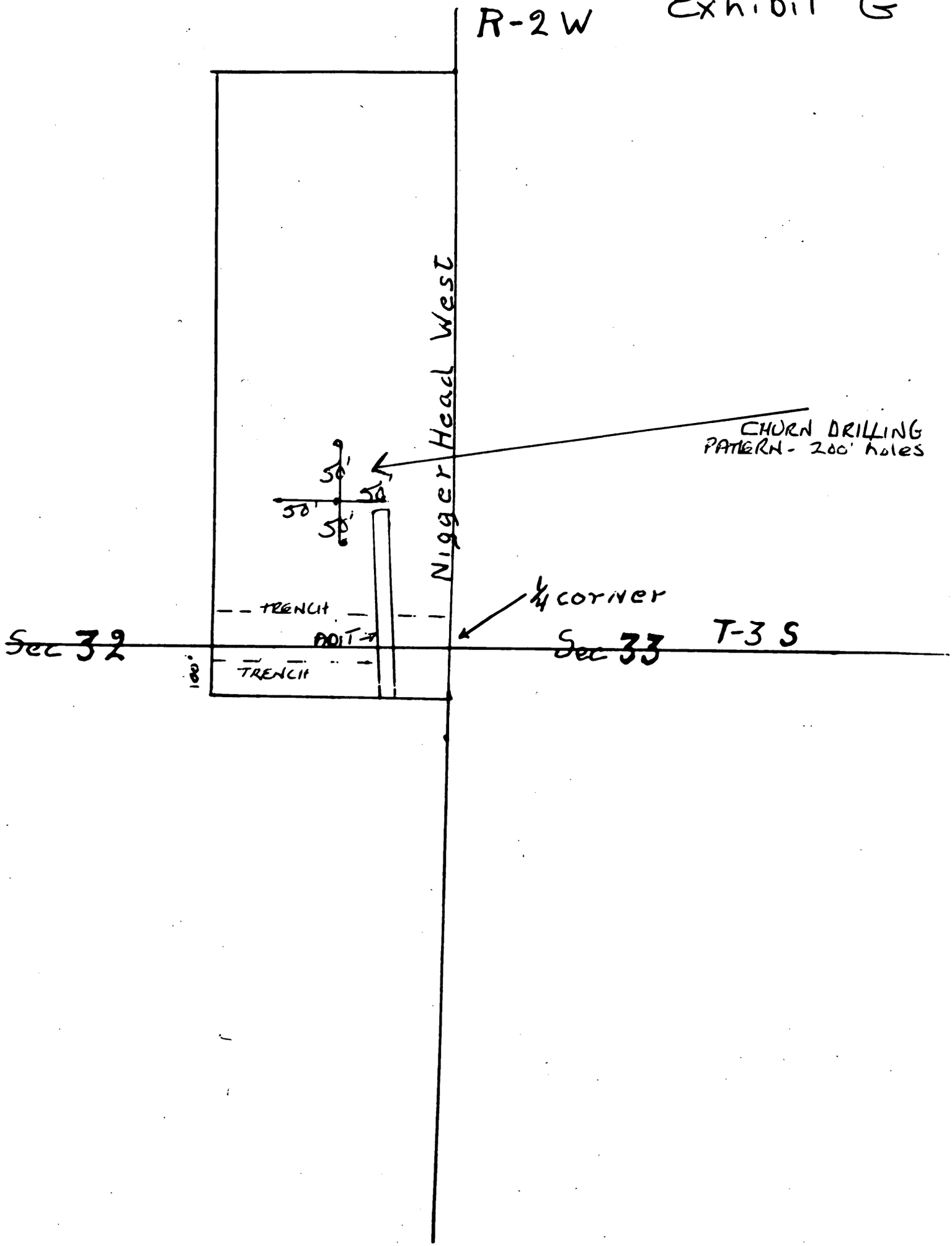
APPROVED:

Frank D Lamb
Member, Bureau of Mines

Thos H Kilsgaard
Member, Geological Survey

Enclosure

Exhibit "G"


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

(3)

Hmc
Copies to field

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

400

RECEIVED
DEPARTMENT OF THE INTERIOR
NOV 13 1956
REGION III
DENVER, COLORADO

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. M. Trover, Executive Officer, DMEA Field Team, Region III, 25 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 on 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:fec 11/8/56
cc to: Docket
Code 400
Adm. Read. File
Oper. Comm.
FT. REG. III
Messrs. Gilbert DeMuff, USBM
T. H. Killegaard, USGS

Copies sent to
Hardman
Storme
Emerick
Townsend
HMC 11-13-56

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 Biggerhead 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. E. King, Executive Officer, DMEA Field Team, Region IV, 22d 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 Biggerhead claim (Permit M-5219)
8. Owner's Consent to Lien covering West Biggerhead claim by Nellie D. Corum.

Sincerely yours,

E. O. Ritland

Administrator

FARUTLEDGE:fed
12-23-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
Mr. DeRuff, USBM
Mr. Killingsard, USGS

DEC 29 1954

Mr. R. 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 Ringerhead 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

Enclosure

IN REPLY REFER TO:

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

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: N. 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 Niggarhead 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 Niggarhead 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 53.3% 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
EMEA (3)
Director's reading, 4212
Branch reading, 4212

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-8867 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

HMC:ytl
Chairman Op. Comm. (2)
Harshman
Storms
Emerick
Townsend
Docket
Chron.

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-8867, 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

HMC:prl

cc: Harshman
Storms
Emerick
Townsend
Harold M. Smithells, S.B.A.
Docket 3607
Chron.

224 New Customhouse
Denver 2, Colorado

August 28, 1956

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

Re: Docket DMEA 3607 (Manganese) Proposed Contract Idm-2267, 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

Sent Certified Mail

[illegible] New Customhouse
Denver 2, Colorado

August 26, 1956

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

Re: Docket NMMA-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 proceeding 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-Winger Insurance Service, Phoenix, Arizona of this amount as requested by his letter of July 6, 1956.

If you wish RMMA 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 RMMA 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

WMT/yr
cc: Chair.Op.Comm. (2)
Hartman
Shaver
Harrick
Townsend
Harold M. Smithelle, S.E.A.
Docket 3607 Chron

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

Horace Nash of SBA.

400

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

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

AUG 23 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 Corp. of Arizona
Red Hill Extension claims
Socorro County, New Mexico

Dear Mr. Traver:

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. Romslo'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

Approved:

Frank D. Lamb
Member, Bureau of Mines

W. P. Williams
Member, Geological Survey

Copy for
Storms
Emonde
Townsend

July 30, 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 I4s-2867, 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-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.

Enclosures
HMC:ab
cc: Harshman
Storms
Emerick
Docket 3607
Chron.
TOWNSEND

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
BOX 4097
TUCSON 5, ARIZONA

DMEA
Date Rec'd.
JUL 30 1956
BUREAU OF MINES
Denver, Colorado

July 26, 1956

Memorandum

To : W. M. Traver, 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 T. M. Romslo 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. Emerick and Faick of the Geological Survey, they stated that this company probably would ask that its application be cancelled. However, when Mr. Romslo 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".

Walter R. Storms

Walter R. Storms

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

WRStorms:frj

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
BOX 4097
TUCSON 5, ARIZONA

July 26, 1956

Memorandum

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

From : T. M. Romslo, 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 R.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 telling 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 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 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

TMRomslo: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 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 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 RFC 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

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Box 4126 University Station
Tucson, Arizona

MINERAL DEPOSITS
IN REPLY REFER TO:
DMEA
RECEIVED
JUL 16 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
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-E867, Mânganese 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)
Storms
Emerick

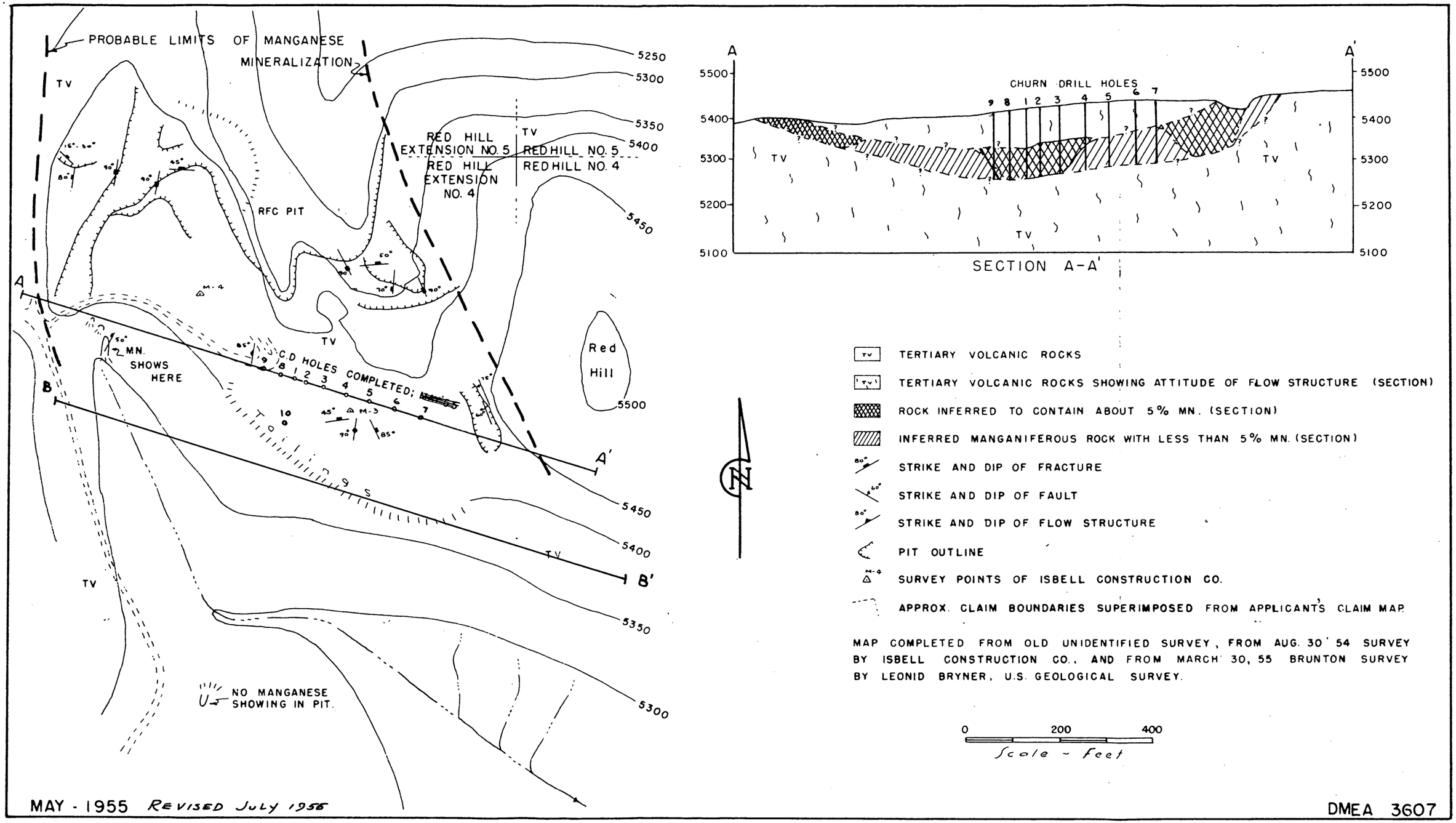


FIGURE - 2 - GEOLOGIC. AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

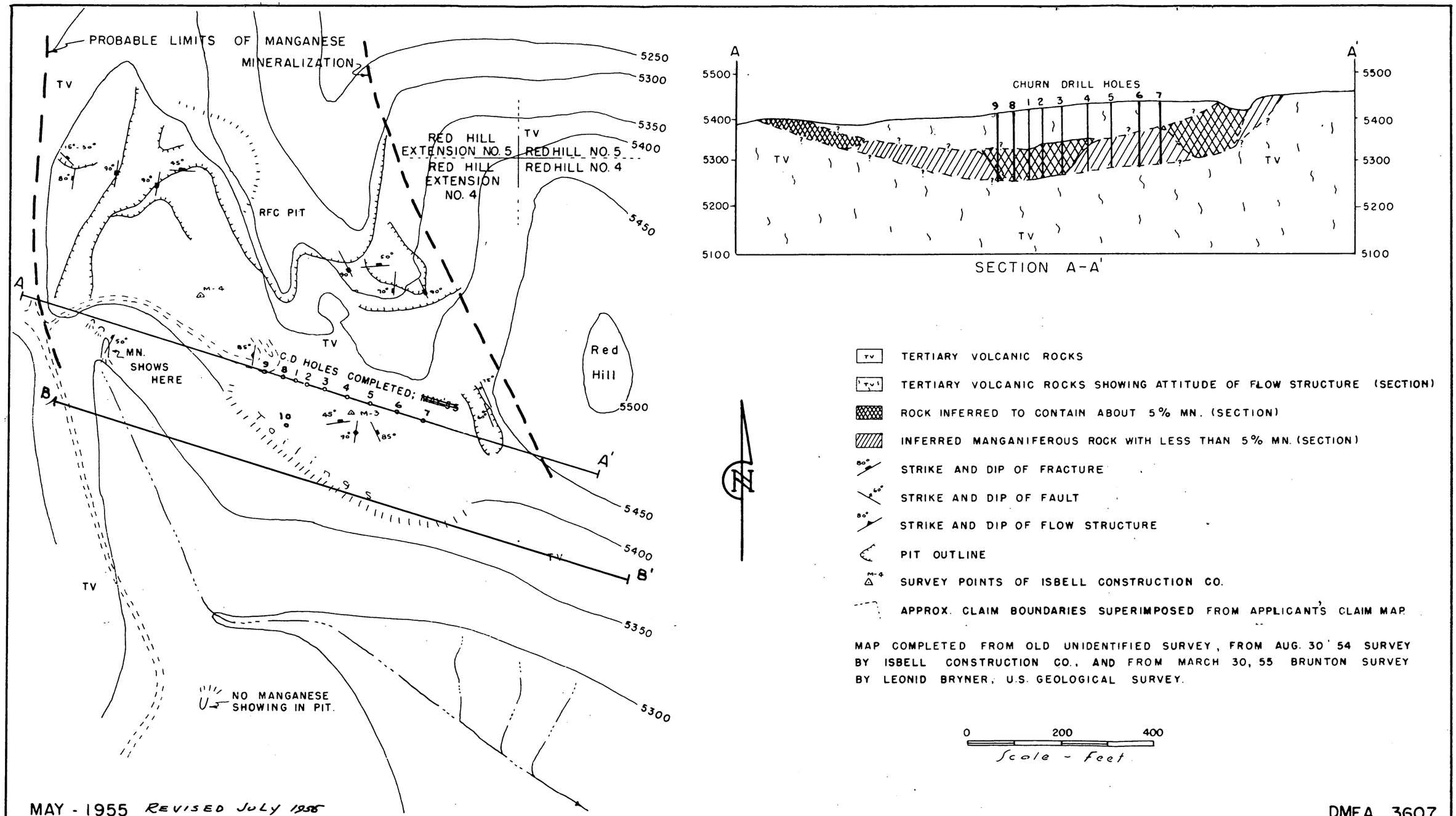


FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

Jim

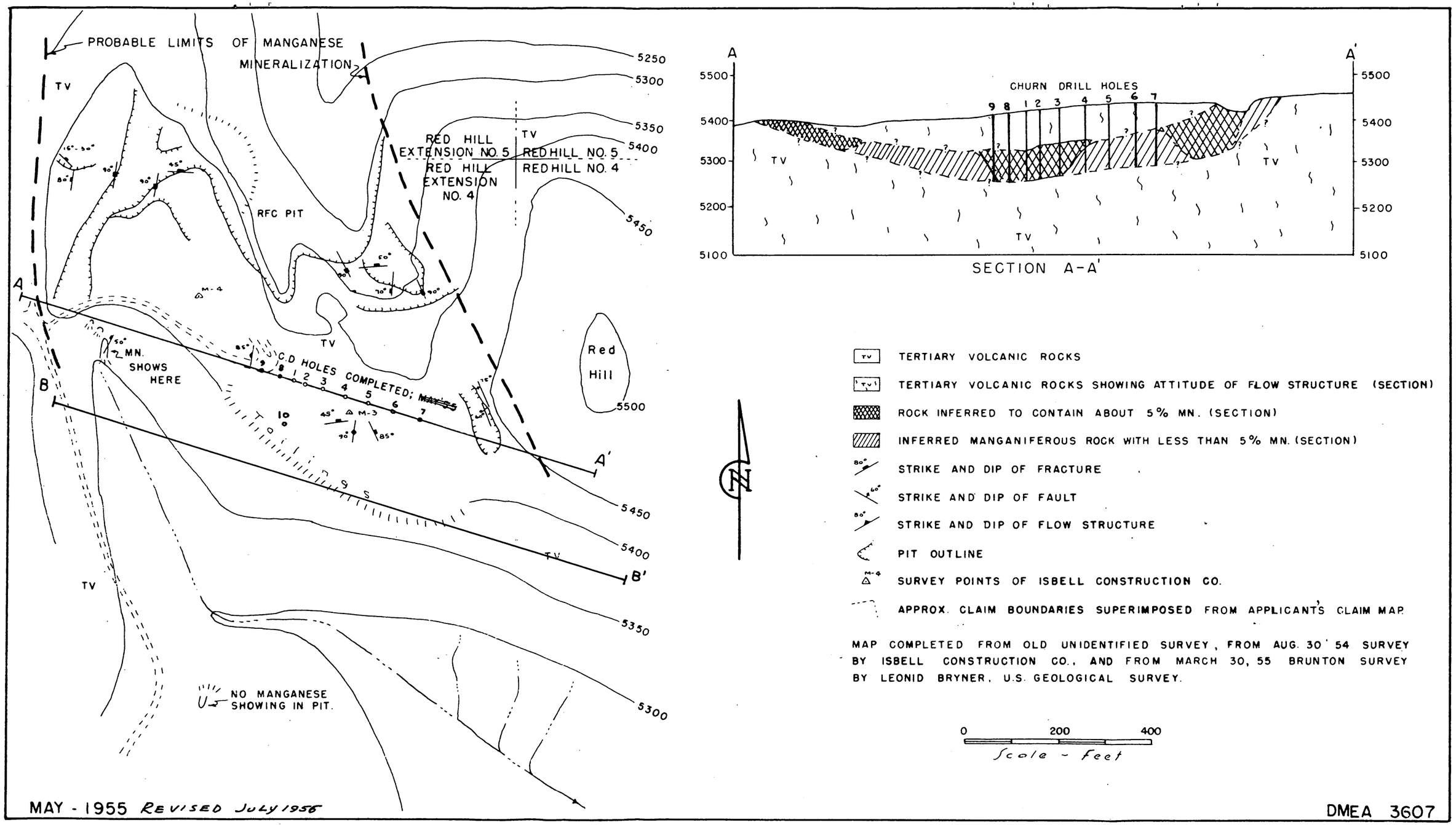


FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

July 12, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: W. R. Storms

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

Reference is made to our teletype to you dated June 28, 1956 which is as yet unanswered.

Figure 1, Report of Examination, shows Red Hill Extension claims numbered from north to south 6, 5, 4, 3, 2, and 1. Should they be 6, 5, 4, 3, 8, and 10 as indicated in Opinion of Title? Please give this your immediate attention.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

WMT:ab

cc: Docket 3607
Chron.

T
C Amc

DMEA
Date Rec'd.
JUL 11 1956

BUREAU OF MINES
Denver, Colorado July 9, 1956

Re: Docket DMEA-3607

Mr. Victor J. Morgan
Manganese Corp. of Arizona
Socorro, N. Mex.

My dear Mr. Morgan:

In regard to your application to the Defense Minerals Exploration Administration for exploration assistance at your manganese property southwest of Socorro, we have been asked to visit your mine and check certain facts concerning the proposed DMEA contract. We are short of DMEA personnel and will be unable to send anyone before July 17. However, our Mr. T. M. Romalo plans to visit your property on July 17, arriving in Socorro on the 16th.

If the above date is not convenient for you, please let me know before July 13. Incidentally, I believe Messrs. Faick and Emerick of the U. S. Geological Survey plan to visit your mine briefly this week while enroute to examine another DMEA application in Socorro County.

Sincerely yours,

Signed by Walter R. Storms

Walter R. Storms
Superintendent
Southwest Experiment Station

CC W. M. Traver
DMEA-3607
DF

WRStorms:frj

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

DMEA
Date Rec'd.
JUL 5 1956
BUREAU OF MINES
Denver, Colorado

Interior Department
Defense Minerals
Exploration Administration
14x4401(01) Revolving Fund
Defense Production Act,
Interior (Allocated Working Fund
to the Office of the Secretary

JUL 3 - 1956

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

July 9, 1956

204 New Customhouse
Denver 2, Colorado

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

Re: Docket DMEA 3607 (Manganese) Proposed
Contract Ida-3607, 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, recent 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.

(5)

McCLURE-WINGAR INSURANCE SERVICE

Successor to Simis Insurance Service Agency

420 LUHRS BUILDING • TELEPHONE ALPINE 8-8941 • PHOENIX, ARIZONA

July 6, 1956

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

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-E867, 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

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 IAm-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 mentioned 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. Tracey

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

WMC:ab

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

(2)

400

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

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

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:

Member, Bureau of Mines

Member, Geological Survey

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.

CHARLES H. FOWLER
ATTORNEY AT LAW
SOCORRO, NEW MEXICO

P. O. BOX U
TELEPHONE 90

May 28, 19[illegible]

OPINION OF TITLE

Manganese Corporation of Arizona
Socorro, New Mexico

Gentlemen:

Heretofore, under date of March 7, 19[illegible], after an exhaustive examination of title, I rendered opinion of title as to the certain unpatented lode mining claims and mill sites 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 and by abstract of title as to said mining claims and millsites and property hereinafter designated, for the time [illegible] to the date of certification of the abstracts presented, examined as to title to said properties and [illegible] which the 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, [illegible] 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 [illegible] 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 (now also called Carolyn) unpatented lode mining claims located and lying in Section 21, T. 4 S., R. 1 W., aforesaid.

VAN FELT 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

V

OPR TS 3421 PLS OK VEP TS OK V
V
TS 3421- G MOK
TS 3421 GA PLS

BUR MINES DN 235 6-28-56 3-20 PM

W R STORMS, BUREAU OF MINES, 117 ENGINEERING BLDG., UNIV. OF ARIZ.

RE DOCKET DMEA 3607, MANGANESE CORPORATION OF ARIZONA.
RE YOUR MEMORANDUM SEPTEMBER 12,1955. PLEASE ASCERTAIN AMOUNT OF PROPOSED WORK COMPLETED AND ADVISE. FIGURE 1, REPORT OF EXAMINATION, SHOWS RED HILL EXTENSION LXXX CLAIMS NUMBERED FROM NORTH TO SOUTH 6,5,4,3,2, AND 1. SHOULD THEY BE 6,5,4,3,8, AND 10 AS INDICATED IN OPINION OF TITLE /Q/

W M TRAVER

3-22 PM END PLS ACK FTM
RECD 1 MSG TS 3421 BEA 321P

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

June 29, 1955

To: [redacted], [redacted], Tucson, Arizona

Permit 0/2) IMA-3607 Hungaroo Corporation of Arizona. Defer supplemental consultation until we receive instructions from Washington office and advise you.

W. M. TRAVER

[redacted]

[redacted]
WMT/pw
cc: [redacted]
[redacted]
[redacted]
[redacted]
IMA-3607

P.B.A. TELETYPE CENTER
JUN 29 8 25 AM '56
DENVER, COLO.

MDN TS 3 I-BOM

TUCSON ARIZ 6-29-56 805A

W M TRAVER

US BOM 224 NEW CUSTOM HOUSE DN

RETEL JUNE 28TH DOCKET DMEA-3607 MANGANESE CORPORATION OF ARIZONA, TO OBTAIN REQUESTED INFORMAT ON ENGINEER MUST VISIT PROPERTY. AS ROMSLO ONLY ENGINEER AVAILABLE HE WILL BE UNABLE TO VISIT THE SOCORRO COUNTY BEFORE JULY 16 UNLESS URGENT, AS HE MUST CHECK CONTRACT PROGRESS DURING NEXT TWO WEEKS. PLEASE ADVISE.

WALTER R STORMS

28TH DMEA-3607 16

RH 812AMST

P.B.A. TELETYPE CENTER
JUN 29
DENVER, COLO.

WY123-

WV106-DN WAF 24 I-BOM 29

WASHINGTON 7-3-56 1242P

W M TRAVER, EXECUTIVE OFFICER

DMEA FIELD TEAM DN

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

EF QWREP

P. B. A. TELETYPE CENTER
JUL 3 11 18 AM '56
DENVER, COLO.

OPR TS 3421 PLS OK EP TS VVTSB TS
3421- G OK ZAIM
TS 3421 GA PLS

BUR IMINES DN 235 7-3-56 1-41 PM

W R STORMS, BUREAUOF MINES, 117 ENGINEERING BLDG., UNIV. OF ARIZ.

REURTT 6-29, DMEA 3607, MANGANESE CORPORATION OF ARIZONA
WE QUOTE WASHINGTON CHAIRMAN.
"CONTINUE WITH USUAL PROGRESS INSPECTIONS AND MAKE A CHECK OF EXAMINATION OF ABOVE-NOTED PROPERTY AS SOON AS ENGINEER IS AVAILABLE."

IF YOU FIND ADDITIONAL WORK HAS BEEN DONE ON RED HILL EXTENSION PROPERTY SINCE ORIGINAL EXAMINATION DISCUSS WITH HIMPOSSIBLE REVISED PROGRAM. SEE OUR LETTER TO HIM OF JUNE 28.

W M TRAVER

1-43 PM END PLS ACK FTM
RECD 1 MSG TS 3421 143P BEA

Lmp

MO

OPR TS 3421 OK V EP TS OK VM
TS 3421- G OK TS 3421 GA PLS

DN 235 BUR MINES 6-29-56 3-15

W R STORMS, BUR OF MINES, U OR ARIZONA, 117 ENG BLDG

REURTT 6/29 DMEA -3607 MANGANESE CORP OF ARIZONA. DEFER SUPPLEMENTAL EXAMINATION UNTIL WE RECEIVE INSTRUCTIONS FROM WASHINGTON OFFICE AND ADVISE YOU.

W M TRAVER

END PLS ACK VT 3-16 RECD 1 MSG TS 3421 MY

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

TELEGRAM

OFFICIAL BUSINESS—GOVERNMENT RATES

FROM Walter R. Storms

BUREAU of Mines

CHG. APPROPRIATION GSA teletype

Tucson, Arizona, June 29, 1956

U. S. GOVERNMENT PRINTING OFFICE 10—1723

phoned at 8.01 a.m. frj

DMEA
Date Rec'd
JUL 2 1956
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver
U. S. Bureau of Mines
224 New Customhouse
Denver, Colorado

Retel June 28 Docket DMEA-3607 Manganese Corp. of Arizona, to obtain requested information engineer must visit property. As Romslo only engineer available he will be unable to visit Socorro County before July 16 unless urgent as he must check contract progress during next two weeks. Please advise.

Walter R. Storms

WRS

CC Confirmation
DMEA-3607
T. M. Romslo
DF

WRStorms:frj

VM
OPR ZA 310 OK UT
ZA OK ZA 310-G OPR I WANT WA 310.
EXCUSE RING LA VVV
WA 310-G MOK

WASH ECD BU MINES 310 BA PLS

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 ZE SHOULD GIVE PRIORITY.

W M TRAVER

LAST LINE WE

ANOTHER

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-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

W. M. Traver

JWT:prl

cc: Harshman
Storms
Townsend
Docket file
Chron.

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-E867

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.

Bank

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

400

DMEA
Date Rec'd.

MAY 14 1956

BUREAU OF MINES
Denver, Colorado

MAY 11 1956 AIR MAIL

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 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 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,

George C. Selfridge
Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

V

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-8867, 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
HMC:ab

cc: Storms
Townsend
Docket 3607
Chron.

(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

(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

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

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

LA457

L AYB077 NL PD=SOCORRO NMEX 28= 1956 MAR 28 PM 11 48

DEFENCE MINERAL EXPLORATION ADMN=

NEW CUSTOM HOUSE BLDG DVR=

WILL ARRIVE YOUR OFFICE MONDAY MORNING APRIL 2 TO PROCEED WITH EXECUTION OF NECESSARY AGREEMENTS CONCERNING EXPLORATION PRODUCTS AT SOCORRO NMEX. ALL MINES ARE NOW CLEAR AND WE ARE THE OWNERS IN FULL=

MANGANESE CORP OF ARIZ VICTOR J MORGAN PRES.

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

1956 MAR 28 PM 11 55

DY DENVER COLO.

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

DMEA
Date Rec'd
SEP 6 1955
BUREAU OF MINES
Denver, Colorado

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

Correspondence 286

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:

Copy for 1.

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

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

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.

Amc
Deck

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

Victor J. Morgan
President

VJM:rm

February 7, 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 Idm-8867, 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

HMC:ab

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

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

400

DMEA
Date Rec'd.

FEB 6 1956

BUREAU OF MINES
Denver, Colorado

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:

Robert W. Gehan
Member, Bureau of Mines

Thor H. Kalsgaard
Member, Geological Survey

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

DMEA Rec'd NOV 2 1955 BUREAU OF MINES Denver, Colorado

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:

Member, Bureau of Mines

Member, Geological Survey

cc-Retained

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-E867, 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
J. W. Townsend

Bert

Ans

HMC:ab
cc: Sec. Op. Comm. (2)
Storms
Corresp. E867
Townsend
Chron.

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

NOV - 2 1955

NOV 7 1
BUREAU OF MINES
Denver, Colorado

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:

Robert W. Gechon
Member, Bureau of Mines

W. P. Williams
Member, Geological Survey

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. Traver

Enclosures

HMC:ab
cc: Storms
Corresp. E867
Townsend
Chron.

Manganese Corporation of Arizona

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

Socorro, New Mexico
October 10, 1955

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

Mr. W. M. Traver

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

Re: DMEA 3607 Manganese, Proposed Contract Idm-#867, 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 /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

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.

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 Ida-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 Ida-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, EMRA
Field Team, Region III

Enclosures

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

September 8, 1955

22d New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

Memorandum

To: W. R. Storms

From: Executive Officer, BMEA Field Team, Region XII

Subject: BMEA 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.

September 8, 1955

224 New Customhouse
Denver 2, Colorado

CERTIFIED MAIL

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region III

Subject: DMEA 3607 (Manganese), Proposed Contract Km-2367
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 2367
Townsend
Curon.

September 8, 1955

[illegible] New Gastenhouse
Denver 2, Colorado

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

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

Dear Mr. Morgan:

We have received from the Washington office IMBA Proposed Contract Ida-3607 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 25, 1954, from the Socorro Corporation to 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, NMEA
Field Team, Region III

Enclosures

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

Interior Department
Defense Minerals Exploration
Administration
[illegible] (OI) Revolving Fund, Defense
Production Act, Interior
(Allocated Working Fund to the Office
of the Secretary)

AUG - 1 1955

DMEA
Date Rec'd
AUG 4 1955
BUREAU OF MINES
Colorado

From
C
B Burk.
D and D

Mr. E. V. Hendenhall
Manganese Corporation of Arizona
Tucumcari, New Mexico

Dated July 19, 1955, Docket DMEA 3607, Manganese Corporation of Arizona, Red Hill Patagonia 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. Mittenauer

Administrator
Defense Minerals Exploration
Administration

TLthapmmifoo
cc to: Docket 8/2/55
Code 640
Adm. Read. File
Operating Comm.
FT. REA. III
Messrs. DeHaff, USBM
Killingsord, USGS

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

HHC:lk

Copy to: Sec. to Opr. Comm.
W. H. Storms
A. H. Rosenhauer

mab
Sheron

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Mining Division
Date Rec'd
DEC 13 1954
BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant

Docket No. DMEA 3607
Metal or Mineral
Date Received
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: MANGANESE CORP. OF ARIZONA, SOCORRO, N.M.

(*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. SEE ATTACHED BRIEF

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

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

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 SEE ATTACHED BRIEF

(*b*) State any mine name by which the property is known. SEE ATTACHED BRIEF

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise SEE ATTACHED BRIEF

(*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. SEE EXHIBITS A & B

(*e*) If you own the land, describe any liens or encumbrances on it SEE EXHIBITS A & B

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. SEE ATTACHED BRIEF

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. SEE ATTACHED BRIEF AND EXHIBITS X E, F, G & H

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

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

SEE ATTACHED BRIEF

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated ....., 195...

.....
(Applicant)

By Victor J. Morga

.....

.....

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 238, 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 devolopment 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 Nigger-head 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

$7,250

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 $9.00 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 1,680 samples
assay
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 Nigger-head 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 "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-38, 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 each or on Returns of ore sold.~~

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

NEW MEXICO BUREAU OF MINES
AND MINERAL RESOURCES
SOCORRO, NEW MEXICO

R. I. 4084

JUNE 1947

Exhibit "D"

UNITED STATES
DEPARTMENT OF THE INTERIOR
J. A. KRUG, SECRETARY

BUREAU OF MINES
R. R. SAYERS, DIRECTOR

Sink Float on Socorro Properties

REPORT OF INVESTIGATIONS

NIGGERHEAD MANGANESE DEPOSIT

SOCORRO COUNTY, N. MEX.

BY

PAUL L. RUSSELL AND WILLIS A. CALHOUN

R.I. 4084,
June 1947.

REPORT OF INVESTIGATIONS

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

NIGGERHEAD MANGANESE DEPOSIT, SOCORRO COUNTY, N. MEX.[1]

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INTRODUCTION

Preliminary examinations of the Niggerhead property by Bureau of Mines engineers indicated the existence of a relatively large deposit of low-grade manganese ore. In April 1943, exploratory work consisting of trenching, test pitting, drifting, and crosscutting was started by the Bureau of Mines,[4] the purpose of which was to determine the extent of the deposit, the grade of the material, and the possibility of concentration. The Federal Geological Survey mapped the area and cooperated with the Bureau in the interpretation of geological information obtained in the exploratory work.

After the Bureau of Mines exploratory project was completed, the National Zinc Corporation, lessee of the property, continued the work by trenching and churn-drilling. This company later was reorganized as the United Mining & Milling Corp.

1/ The Bureau of Mines will welcome reprinting of this paper provided the following footnote acknowledgment is made: "Reprinted from Bureau of Mines Report of Investigations 4084."

2/ Mining engineer, Bureau of Mines. (Most of this report originally was written in September 1943.)

3/ Metallurgical engineer, Bureau of Mines, Rolla, Mo.

4/ Russell, P. L., mining engineer in charge of exploratory work.

ACKNOWLEDGMENTS

In its program of investigation of mineral deposits, the Bureau of Mines has as its primary objective the more effective utilization of our mineral resources to the end that they make the greatest possible contribution to national security and economy. It is the policy of the Bureau to publish the facts developed by each project as soon as practicable after its conclusion. The Mining Branch, Lowell B. Moon, chief, conducts preliminary examinations, performs the actual investigative work, and prepares the final report. The Metallurgical Branch, O. C. Ralston, chief, analyzes samples and performs beneficiation tests.

With respect to this report, special acknowledgment is due to C. H. Johnson, who was district engineer for New Mexico at the time of this project, and to E. D. Gardner, who was regional engineer for the Central Region of the Bureau of Mines; also to C. Travis Anderson of the Rolla, Mo., laboratory of the Bureau, who had charge of the metallurgical tests. Acknowledgment also is due to Sherman K. Neuschel, geologist of the Federal Geological Survey, who mapped the property and cooperated with the Bureau in the interpretation of geological information obtained in the exploratory work.

LOCATION AND ACCESSIBILITY

The Niggerhead property is in sec. 33, T. 3 S., R. 2 W., and in sec. 4, T. 4 S., R. 2 W., in the Socorro Peak district of Socorro County, N. Mex.

From Socorro, the property is reached by following U. S. Highway 60 west 10.5 miles, thence an unimproved dirt road[5] 3 miles west and southwest to Six-Mile Canyon. At this point the eastward course of Six-Mile Canyon is intersected at right angles by the north-south trend of the Niggerhead deposit.

The nearest railhead is at Socorro, which is served by the Atchison, Topeka & Santa Fe Railroad. The nearest Metals Reserve stock pile in 1943 was at Deming, N. Mex., 170 rail miles distant from Socorro. No railroad tariff had been established at that time on manganese concentrates from Socorro to Deming. Trucking costs from the mine to Socorro would range from 8 to 10 cents per ton mile on a large tonnage contract. Mine supplies and equipment were obtainable in Albuquerque, 80 miles north, or in El Paso, about 200 miles south.

PHYSICAL FEATURES AND CLIMATE

Topography in the vicinity of the deposit consists of barren rolling hills and gravel-filled arroyos. Drainage is from the Magdalena Mountains, 10 miles west, to the Rio Grande, 12 miles east.

Vegetation consists of the usual varieties of desert plants found in arid regions and a few scattered pinon pines and junipers. Annual precipitation is about 10 inches. Altitude is 5,500 feet. Water has been developed locally in wells 200 to 300 feet deep. Winter temperatures and snowfall are not sufficiently severe to impede surface operations.

5/ A better road to this property has been constructed since the date of the Bureau's work, under the mine access road program (DA-RM-94, completed February 1945).

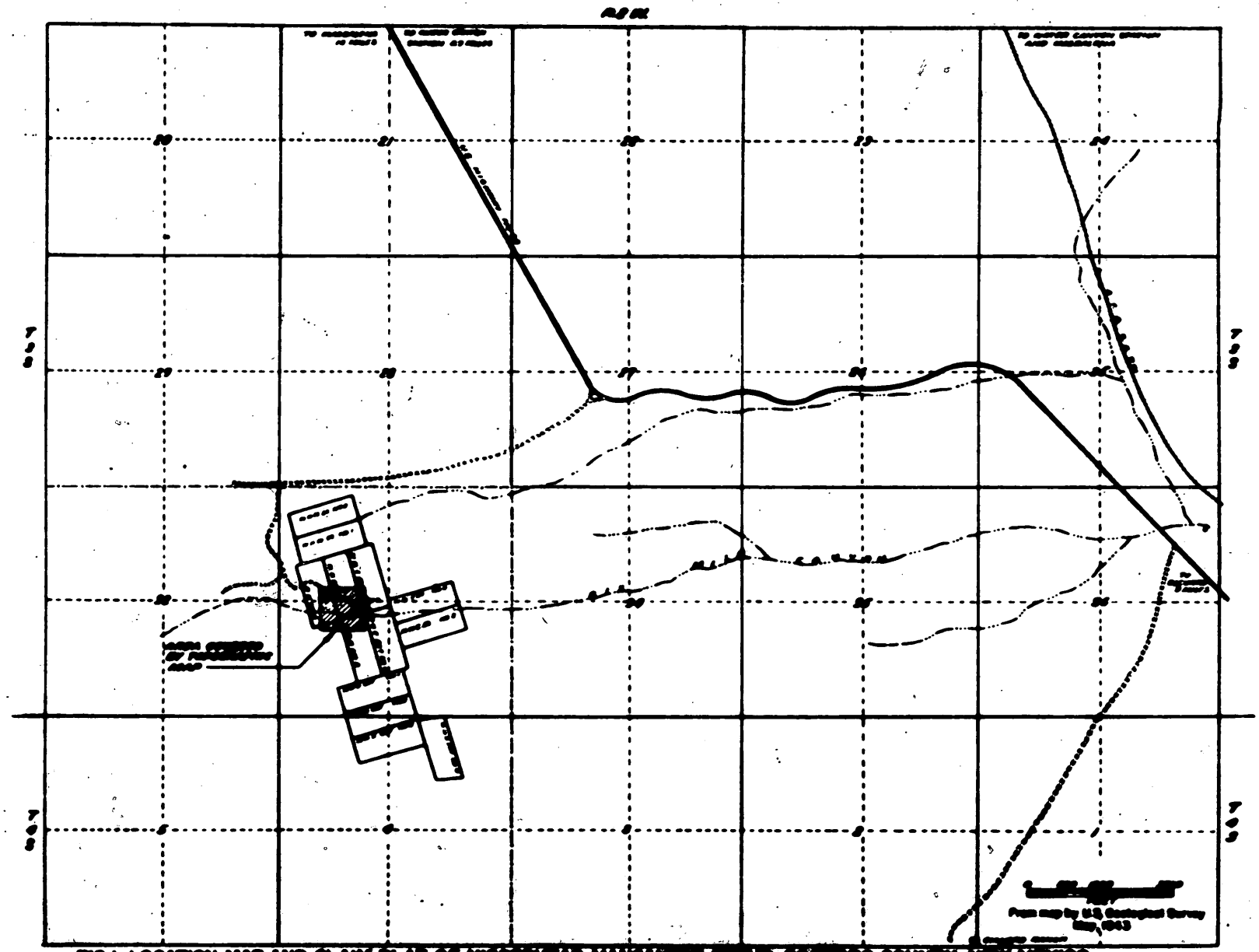


FIG. I - LOCATION MAP AND CLAIM PLAT OF HIGGENHEAD MANGANESE GROUP, SOCORRO COUNTY, NEW MEXICO

LABOR AND LIVING CONDITIONS

Enough unskilled labor could be obtained locally at $5 to $6 a day (spring of 1943). Some skilled mine and mill men were obtainable from the Magdalena and Kelly districts, 20 miles west.

Housing facilities for exploration or operating personnel were available in Socorro at reasonable rates. There were no improvements on the property.

HISTORY AND PRODUCTION

The Socorro Peak district was established in 1862, when silver ores were discovered.6/ The district has been inactive since 1900. Total production is estimated at $760,000 to $1,000,000. The occurrence of manganese did not attract attention until 1937, when the three original Niggerhead claims were located. No production had taken place and but little development work had been performed on the claims prior to the Bureau of Mines examination.

The three original Niggerhead claims were located in 1937, but only enough work was performed to keep the locations valid. The deposit had no production record.

PROPERTY AND OWNERSHIP

Niggerhead Nos. 1, 2, and 3 claims were located in 1937 by W. J. Johnson and F. L. Hammond of Magdalena, N. Mex. In March 1943, the claims were leased to the National Zinc Corporation, A. B. Chafetz, Lordsburg, N. Mex., manager (later this company was reorganized into the United Mining & Milling Corp., Morgan G. Huntington, manager Socorro). Later, the National Zinc Corp. made 10 additional locations around the original Niggerhead claims, as shown on figure 1.

ORE DEPOSITS

Manganese occurs as psilomelane in a zone of brecciated rhyolite outcropping on the north and south sides of Six-Mile Canyon. The ore body dips 90° and trends N. 11° W., crossing the canyon at nearly a right angle. Where the deposit crosses, the canyon is about 120 feet deep and 300 to 400 feet wide. Detrital cover is 22 to 27 feet deep on the north rim of the canyon and probably about the same on the south rim. Gravel fill in the bottom of the canyon is of unknown depth.

Mineralization in the brecciated zone consists of manganese oxides as fracture fillings and also as coatings on breccia fragments. Psilomelane is the predominant ore mineral, although pyrolusite was found in various amounts during exploratory work. Mineralization is greatest when the rhyolite is finely crushed. Larger fragments of rhyolite are coated with a thin film of manganese. Some fragments of psilomelane weighing up to 20 pounds occurred in places.

6/ Lasky, S. G., and Wooten, T. P., The Metal Resources of New Mexico and Their Economic Features: Bull. 7, New Mexico School of Mines, State Bureau of Mines and Mineral Resources, 1933, p. 118.

EXPLORATORY WORK BY BUREAU OF MINES

Exploratory work by the Bureau of Mines was carried on in April and May 1943 and consisted of two trenches, four test pits, an adit, and a crosscut.

Trench No. 1, 100 feet long, on the north side and about 10 feet above the gravel fill in the canyon, showed manganese oxides for 70 feet above the trend of the ore zone. An average of 13 samples taken at 5- to 6-foot intervals was 7.5 percent manganese. An interval 26 feet long averaged 12.7 percent.

Trench No. 2, 100 feet long, crosscut the formation for its full width. This trench was about 40 feet above Trench No. 1 on the north side of the canyon. An average of 29 samples at 4- to 5-foot intervals showed 7.06 percent manganese. A section of the trench 45 feet long averaged 14.3 percent.

An adit, starting near the middle of trench 1, was driven 100 feet north within and along the strike of the ore zone. An average of 26 samples taken at 4- to 5-foot intervals showed 10.2 percent manganese.

Crosscuts were driven east and west from the breast of the adit for about 84 feet. They were sampled at 3- to 5-foot intervals, 20 samples averaging 7.56 percent manganese. Eight samples across a 31-foot section averaged 10.67 percent manganese.

Test pits 1, 2, and 3 were sunk on the north canyon rim about 50 feet north of the crosscut. The three pits were in line across the strike of the ore body at 25-foot intervals. Alluvial gravel ranging in depth from 22 to 26 feet lay above bedrock; each pit was sunk a few feet into bedrock. The ore in the pits ran 3.8 to 10 percent manganese and averaged 7.2 percent.

Test 4, 50 feet farther north, showed 26 feet of overburden. The ore assayed 5.7 percent manganese.

An open cut near the bottom of canyon, on the south side, is situated 350 feet south of trench 1. The cut exposes the width of the ore zone for about 25 feet. An average of seven samples taken at 5-foot intervals gave 11.6 percent manganese. The west-end sample showed 19.2 percent manganese, and the east-end sample ran 11.0 percent, indicating that the total width of the better ore had not been exposed at that point.

These sampling data indicate a portion of the mineralized zone 26 to 45 feet in width and averaging 12.3 percent manganese over a strike length of 450 feet. It is flanked on each side by 15 to 50 feet of material averaging 2 to 5 percent managnese.

After the Bureau of Mines completed its project, exploratory work was continued by the National Zinc Corp. and later by the United Mining & Milling Corp. This additional work consisted of trenching across the ore zone and churn-drilling along its strike.

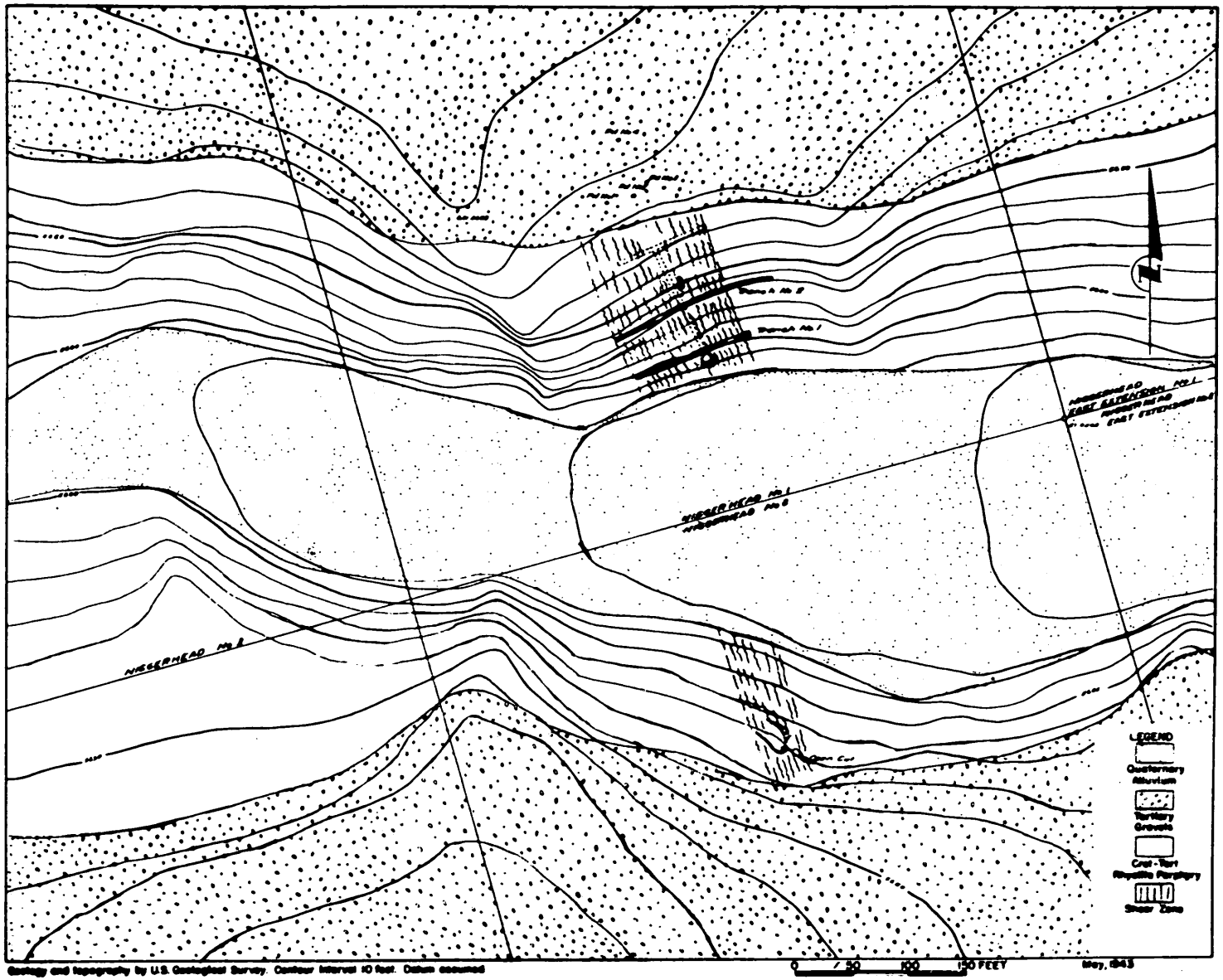
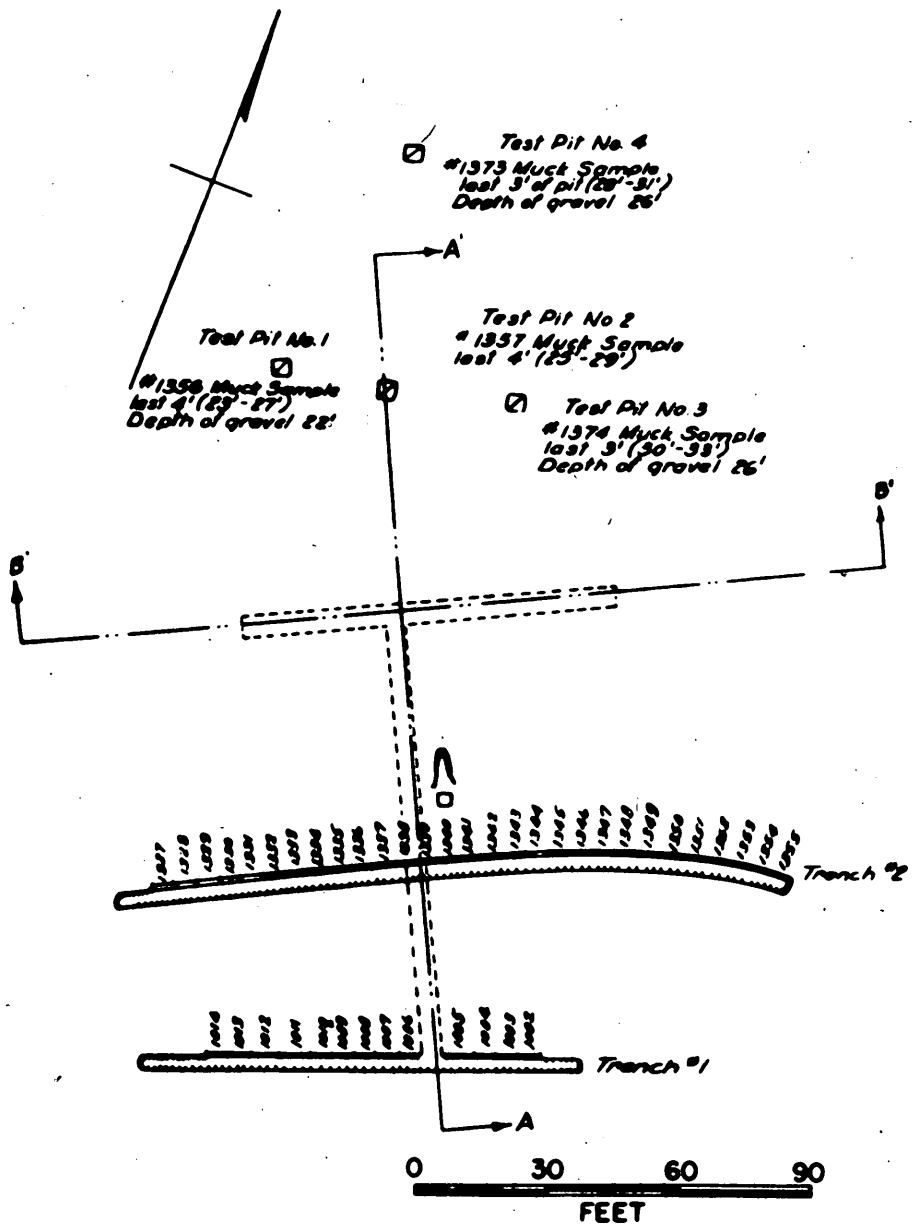
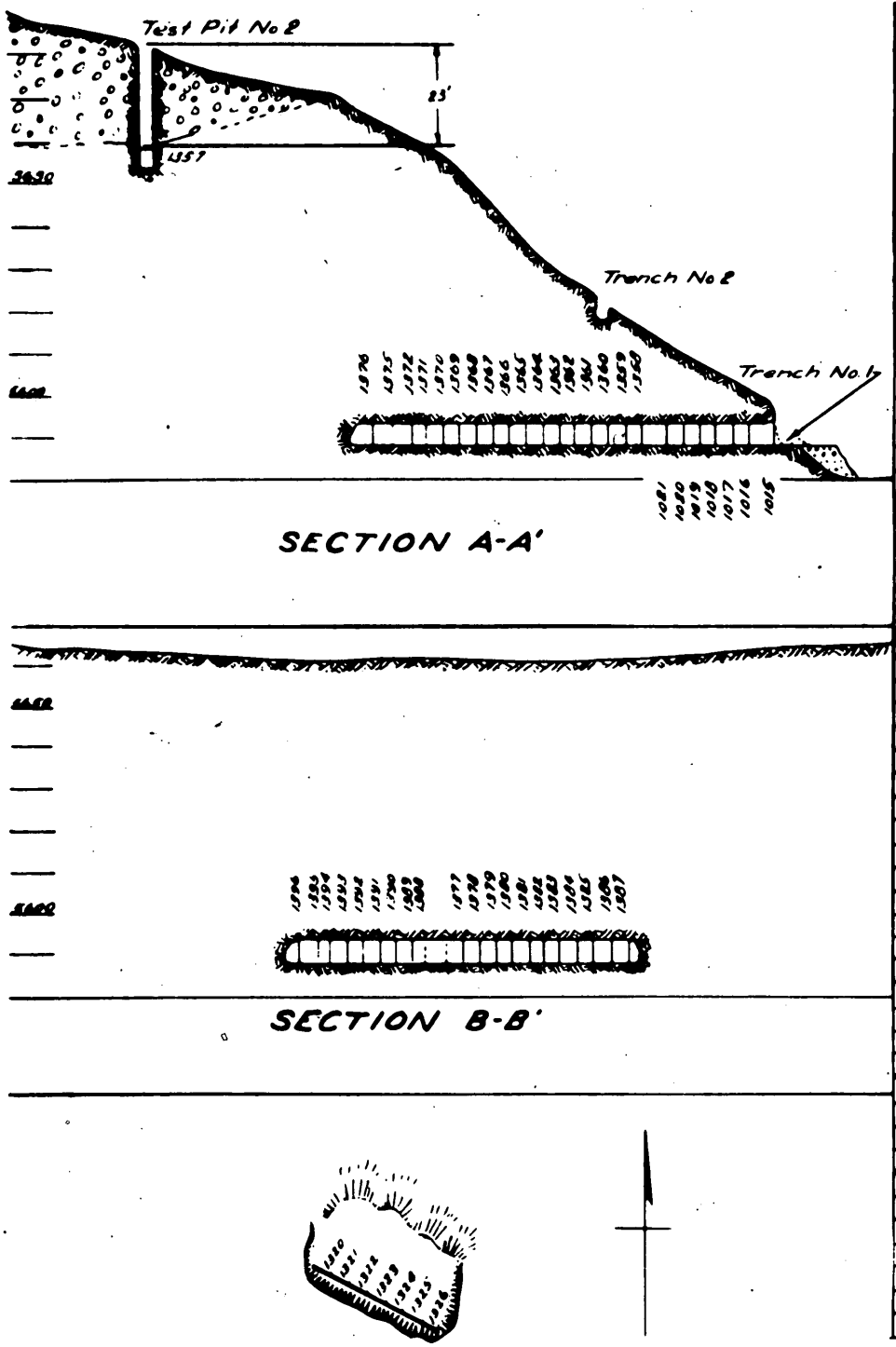


FIG. 2 A-GEOLOGIC AND DEVELOPMENT MAP OF NIGGERHEAD MANGANESE GROUP, PROJECT 350, SOCORRO COUNTY, NEW MEXICO



Sample	Length Feet	Mn %
1002	5	4.6
1003	5	4.5
1004	5	5.4
1005	6	12.2
1006	5	22.7
1007	5	15.2
1008	5	6.0
1009	5	6.6
1010	5	4.7
1011	7	2.2
1012	6	1.3
1013	5	5.5
1014	5	4.3
1327	5	3.0
1328	5	3.1
1329	5	3.7
1330	5	3.6
1331	5	3.1
1332	5	16.1
1333	5	22.2
1334	5	3.3
1335	5	19.7
1336	5	22.4
1337	5	3.3
1338	5	18.1
1339	5	14.2
1340	4	6.7
1341	5	4.5
1342	5	5.2
1343	4	3.1
1344	5	6.4
1345	5	3.3
1346	5	3.9
1347	5	3.3
1348	5	4.5
1349	5	6.7
1350	5	3.8
1351	5	3.4
1352	5	3.3
1353	5	4.2
1354	5	3.2
1355	5	2.4

FIG. 2B-WORKINGS NORTH OF CANYON, NIGGERHEAD MANGANESE GROUP, SOCORRO CO., N.M.



Sample	Length Feet	Mn.%
1015	6	6.8
1016	4	10.0
1017	4	14.8
1018	4	13.6
1019	4	3.6
1020	4	3.2
1021	6	4.0
1320	5	19.2
1321	5	17.5
1322	5	13.7
1323	5	4.5
1324	5	7.0
1325	5	8.3
1326	5	11.0
1356	4	10.0
1357	4	7.8
1358	4	7.0
1359	4	6.1
1360	4	6.7
1361	4	14.6
1362	4	13.5
1363	4	18.9
1364	4	18.3
1365	4	15.3
1366	4	10.8
1367	4	9.4
1368	4	4.9
1369	4	9.8
1370	4	12.7
1371	4	12.3
1372	4	14.5
1373	3	5.7
1374	3	3.8
1375	5	14.9
1376	5	4.4
1377	4	12.0
1378	4	9.4
1379	4	8.1
1380	4	3.6
1381	4	6.1
1382	4	5.3
1383	4	8.4
1384	4	11.8
1385	4	8.4
1386	4	6.0
1387	5	3.1
1388	3	14.2
1389	4	9.8
1390	4	13.2
1391	4	10.5
1392	4	8.2
1393	4	3.3
1394	3	4.5
1395	4	3.1
1396	4	3.2

0 30 60
FEET

FIG. 2C - SAMPLE PLATS, NIGGERHEAD MANGANESE GROUP, SOCORRO CO., N. M.

METALLURGICAL TESTS

Early in April 1943, a metallurgical sample was taken, representative of the material exposed in three open cuts and an old shaft, and shipped to the Rolla, Mo., laboratory of the Bureau of Mines for beneficiation tests. In August 1943, samples of lower-grade material also were sent to Rolla. Results of beneficiation tests on the various lots of ore are given in the following reports.

April 1943 Sample

The sample contained 13.0 percent manganese, 47.1 percent silica, 2.6 percent iron, and 0.05 percent phosphorus. Microscopic examination showed that the manganese was sufficiently freed at 10-mesh for tabling. The ore, ground to minus 10-mesh was tabled and gave a concentrate containing 48.7 percent manganese, representing 61.5 percent of the total manganese in the ore. Flotation of the table middling and slime gave an additional recovery of 16.9 percent manganese. The table and flotation concentrates, when combined and sintered, gave a recovery of 78.5 percent containing 48.9 percent manganese, 3.9 percent iron, 5.5 percent silica, and 0.07 percent phosphorus. This product conformed to the specifications for "high-grade" ferromanganese ore.

In another series of tests, the ore was ground to minus 100-mesh and floated, after conditioning with sodium silicate, with oleic acid and du Pont reagent B-23. The flotation concentrate, after sintering, gave a product that represented a recovery of 82.0 percent of the manganese in a concentrate containing 42.0 percent manganese, 4.7 percent iron, 12.9 percent silica, and 0.09 percent phosphorus. This product was somewhat under the specifications for "low-grade A" ferromanganese ore and must be classified as "low-grade B" material.

As the ore in the above tests was thought to be higher in grade than the average of the deposit, three more samples were sent to Rolla in August 1943 for beneficiation. These samples were dump material from the Bureau of Mines adit, a trench sample from the newly discovered West ore body, and churn-drill sludge that should be representative of ore several hundred feet back from the outcrop and 75 to 100 feet below the surface. Results of these tests are shown in the following reports.

Tests on Bureau of Mines Adit Dump Material

The manganese in the sample was present as psilomelane with minor amounts of pyrolusite. The gangue was altered rhyolite with some limonitic clay. The manganese was present as coatings on fragments and as fillings in cavities in such a manner that only about half of it was freed after grinding to minus 10-mesh. Grinding through 3/8-inch, however, liberated considerable manganese sufficiently pure to be marketable. Some of this manganese undoubtedly could be recovered by jigging, but a higher recovery would be obtained by sink-float concentration. The chemical analysis of the sample was as follows: 12.1 percent manganese, 2.5 percent iron, 13.5 percent alumina, 42.5 percent silica, 0.06 percent phosphorus, 3.11 percent barium, and 0.05 percent sulfur.

Treatment procedure was divided into three parts: (1) Pilot-plant sink-float concentration of minus 3/8-inch, plus 10-mesh ore with table concentration of the minus 10-mesh part of the ore and sintering of the sink-float and table concentrate; (2) table concentration of the ore, with flotation of the table middling and slime, then sintering of all concentrates; and (3) flotation of the ore with sintering of the resultant concentrate.

In the first test, the ore was crushed to minus 3/8-inch and screened wet on 10-mesh. The 3/8-inch to 10-mesh ore was treated in the sink-float pilot plant with a parting medium of 2.93 specific gravity. Recovery of the manganese in the feed was 75.8 percent. This concentrate contained 45.5 percent manganese, 1.3 percent iron, 2.9 percent alumina, 9.6 percent silica, and 0.02 percent phosphorus. The minus 10-mesh part of the ore, containing 11.4 percent manganese, 2.3 percent iron, 15.3 percent alumina, 41.0 percent silica, and 0.04 percent phosphorus, was hydraulically classified into four sand products and a slime; then the sand products were tabled separately, and the middling from each tabling operation was crushed, classified, and retabled with the next finer product. Recovery of the manganese in the feed treated was 63.9 percent. The table concentrate contained 45.9 percent manganese, 3.1 percent iron, 2.2 percent alumina, 2.6 percent silica, and 0.04 percent phosphorus. The over-all recovery in this first test by sink-float and tabling was 70.3 percent manganese, and the combined concentrate contained 45.7 percent manganese, 2.0 percent iron, 2.6 percent alumina, 6.7 percent silica, and 0.03 percent phosphorus. After sintering, the combined concentrate contained 48.8 percent manganese, 2.8 percent iron, 3.1 percent alumina, 9.6 percent silica, 0.03 percent phosphorus, 10.6 percent barium and less than 0.05 percent sulfur.

In the second test, a part of the crude ore was crushed to minus 10-mesh, then classified as before into four sand products and a slime. The sand products were tabled separately, and the middlings from each tabling operation were crushed, classified, and retabled with the next finer size classified product. Recovery of manganese in the ore was 59.6 percent. The concentrate contained 46.9 percent manganese, 3.1 percent iron, 2.0 percent alumina, 3.7 percent silica, and 0.04 percent phosphorus. The table middlings and slime, containing 13.0 percent manganese, 3.0 percent iron, 15.7 percent alumina, 42.5 percent silica, and 0.06 percent phosphorus, were stage-ground to minus 100-mesh, then floated, using 2.0 pounds of "N" sodium silicate, 2.32 pounds of oleic acid, and 0.13 pound of du Pont frother "B" 23 to the ton of feed. Recovery from flotation was 16.2 percent, the concentrate containing 34.6 percent manganese, 2.1 percent iron, 5.9 percent alumina, 1.8 percent silica, and 0.59 percent phosphorus. The combined recovery of manganese in the ore from tabling and flotation was 65.9 percent. The combined concentrate contained 45.6 percent manganese, 3.0 percent iron, 2.4 percent alumina, 3.5 percent silica, and 0.10 percent phosphorus. The sintered concentrate from the above contained 50.5 percent manganese, 3.7 percent iron, 2.9 percent alumina, 6.0 percent silica, 0.09 percent phosphorus, 10.7 percent barium, and less than 0.05 percent sulfur.

In the third test, the ore was crushed to minus 10-mesh, wet stage-ground to minus 100-mesh, and floated. Reagents were 2.0 pounds of "N" sodium silicate, 2.82 pounds of oleic acid, and 0.13 pound of du Pont frother "B" 23 a ton of ore. Recovery was 62.0 percent manganese, the concentrate containing 44.4

percent manganese, 3.1 percent iron, 3.7 percent alumina, 3.1 percent silica, and 0.22 percent phosphorus. After sintering, the flotation concentrate contained 48.5 percent manganese, 4.9 percent iron, 4.5 percent alumina, 6.7 percent silica, 0.17 percent phosphorus, 10.7 percent barium, and less than 0.05 percent sulfur.

Tests on West Ore Body Trench Material

This sample was similar to the previous one, except that it was much lower in grade. The chemical analysis was as follows: 6.2 percent manganese, 5.0 percent iron, 13.0 percent alumina, 51.0 percent silica, 0.04 percent phosphorus, 2.29 percent barium, and less than 0.05 percent sulfur. The sample was treated by table concentration, with flotation of the table middlings and slime, then sintering the total combined concentrates.

The maximum size of ore for primary tabling was minus 10-mesh, and the middlings were ultimately crushed to minus 35-mesh before retabling. The final table middlings and slime then were treated by flotation.

The combined recovery of manganese from these two operations was 67.7 percent. This combined concentrate, when sintered, contained 39.3 percent manganese, 14.2 percent iron, 5.9 percent alumina, 7.8 percent silica, 0.09 percent phosphorus, 9.9 percent barium, and less than 0.05 percent sulfur.

Tests on Churn Drill Sludge

This sample was obtained from churn-drill sludge several hundred feet back from the manganese outcrop and 75 to 100 feet below the surface. The sample was a loosely consolidated mass of manganese oxide minerals, quartz, feldspar, altered feldspar, and mica. The gangue rock was an altered rhyolite. The bonding material was a claylike mass of the gangue minerals stained with manganese and iron oxides. The sample contained 3.6 percent manganes, 3.0 percent iron, 15.3 percent alumina, 55.8 percent silica, 0.09 percent phosphorus, 1.7 percent barium, 0.27 percent zinc, less than 0.05 percent lead, less than 0.05 percent copper, and 0.07 percent sulfur. The sample was treated by tabling, with flotation of the table middlings and slime and sintering of the combined concentrates.

The over-all recovery of manganese was only 52.3 percent of the total in the ore. The sintered concentrate contained 38.9 percent manganese, 11.3 percent iron, 7.3 percent alumina, 8.2 percent silica, 0.14 percent phosphorus, 8.7 percent barium, 0.47 percent sulfur, less than 0.05 percent lead, less than 0.05 percent copper, and 1.26 percent zinc. Because of the low grade of the ore, the low recovery, and the high zinc content of the concentrate, the advisability of concentrating this ore appears to be doubtful.

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 impurities 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 J. Cammony

ITS President

ATTEST:

PARTY OF THE FIRST PART

its: vice president

Sunamere Co. of Arizona

by Victor J. Morgan

PARTIES OF THE SECOND PART

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

DMEA
DEPARTMENT OF THE INTERIOR
APR 24 1957
REGION III
DENVER, COLORADO

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

APPROVED:

Frank D. Lamb

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

Enclosure

Exhibit "G"

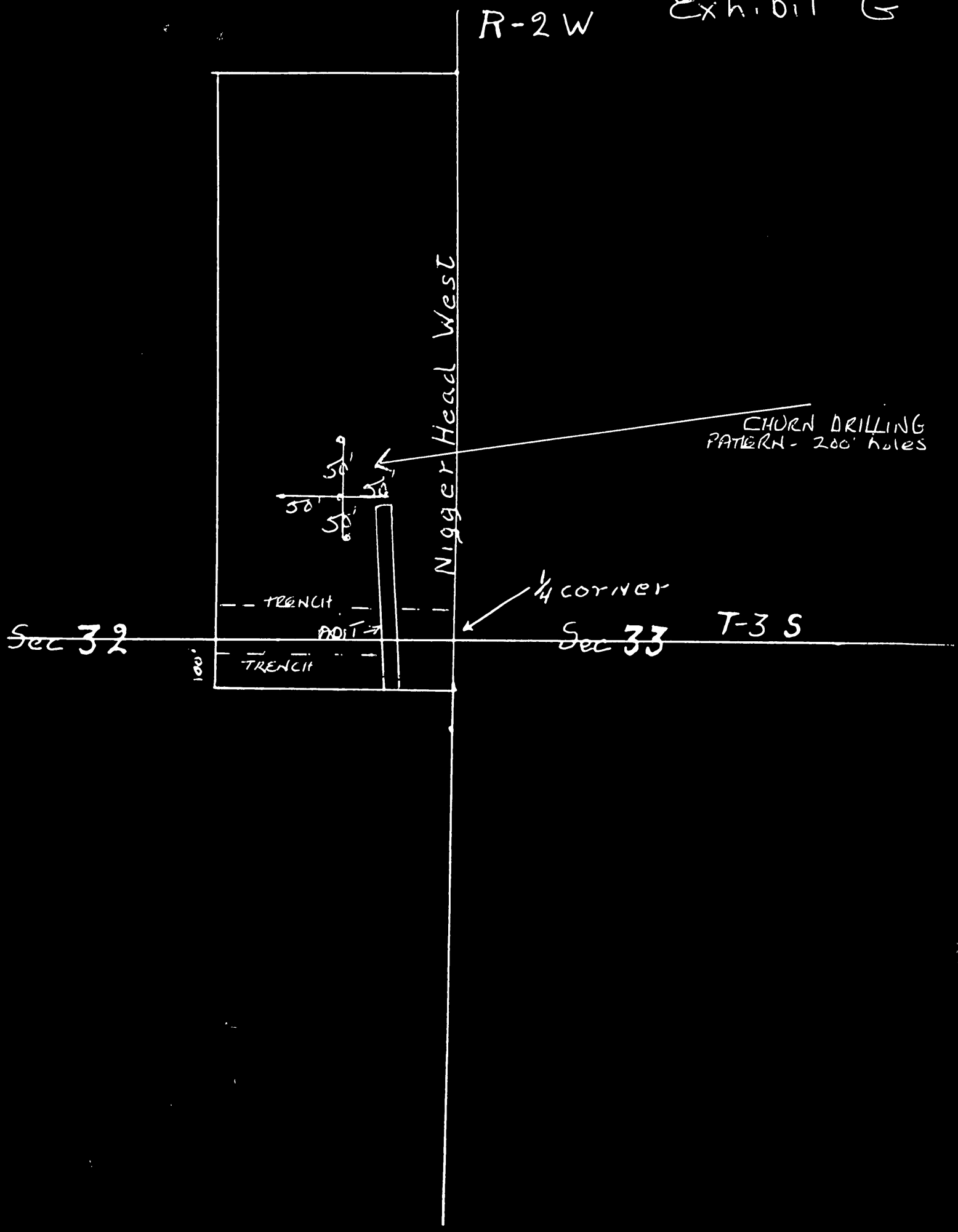
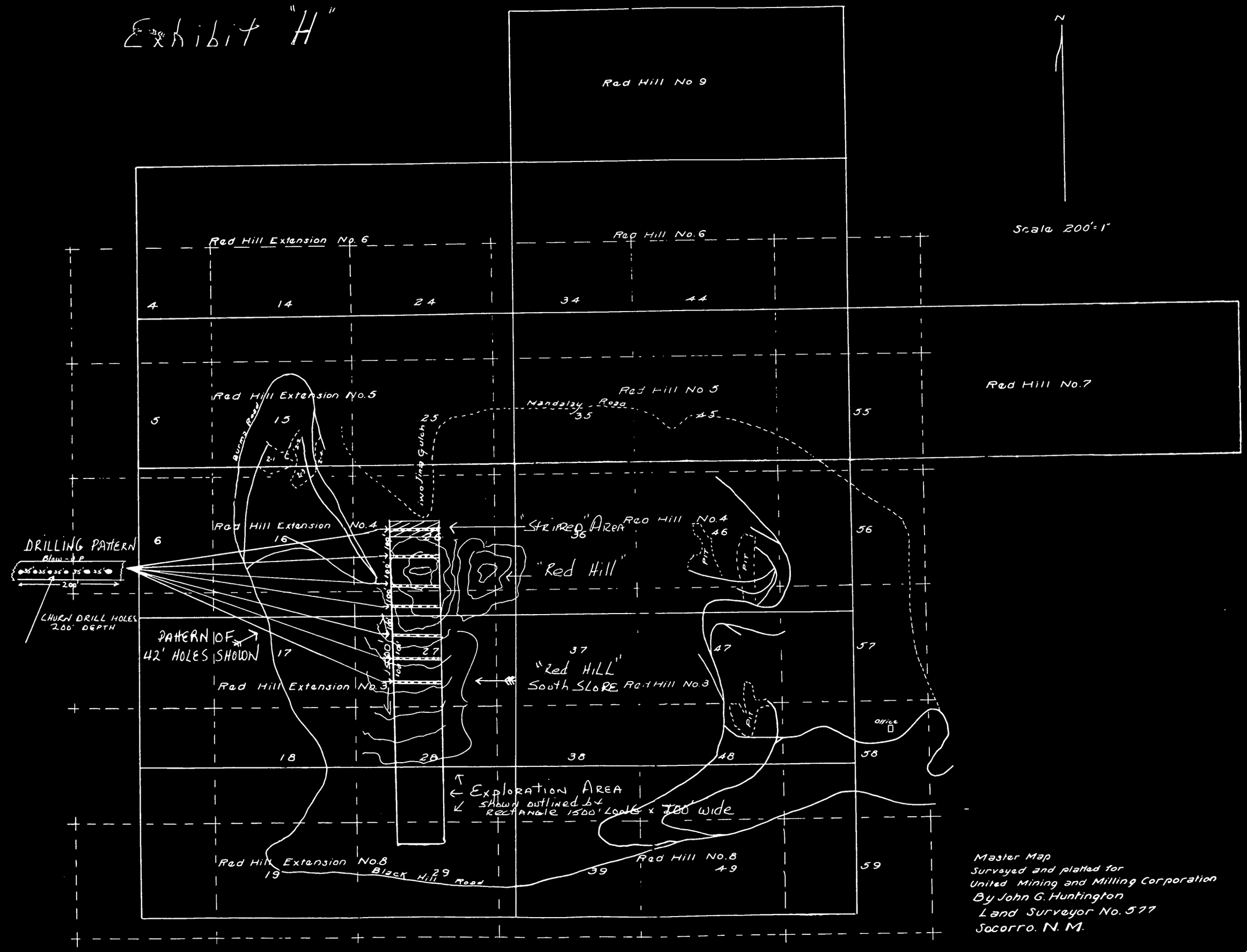

R-2 W
Nigger Head West
CHURN DRILLING
PATERN - 200' holes
50'
50'
50'
50'
1/4 corner
TRENCH
POIT
TRENCH
100'
Sec 32
Sec 33
T-3 S

Exhibit "H"



Master Map
Surveyed and platted for
United Mining and Milling Corporation
By John G. Huntington
Land Surveyor No. 577
Socorro. N. M.

H

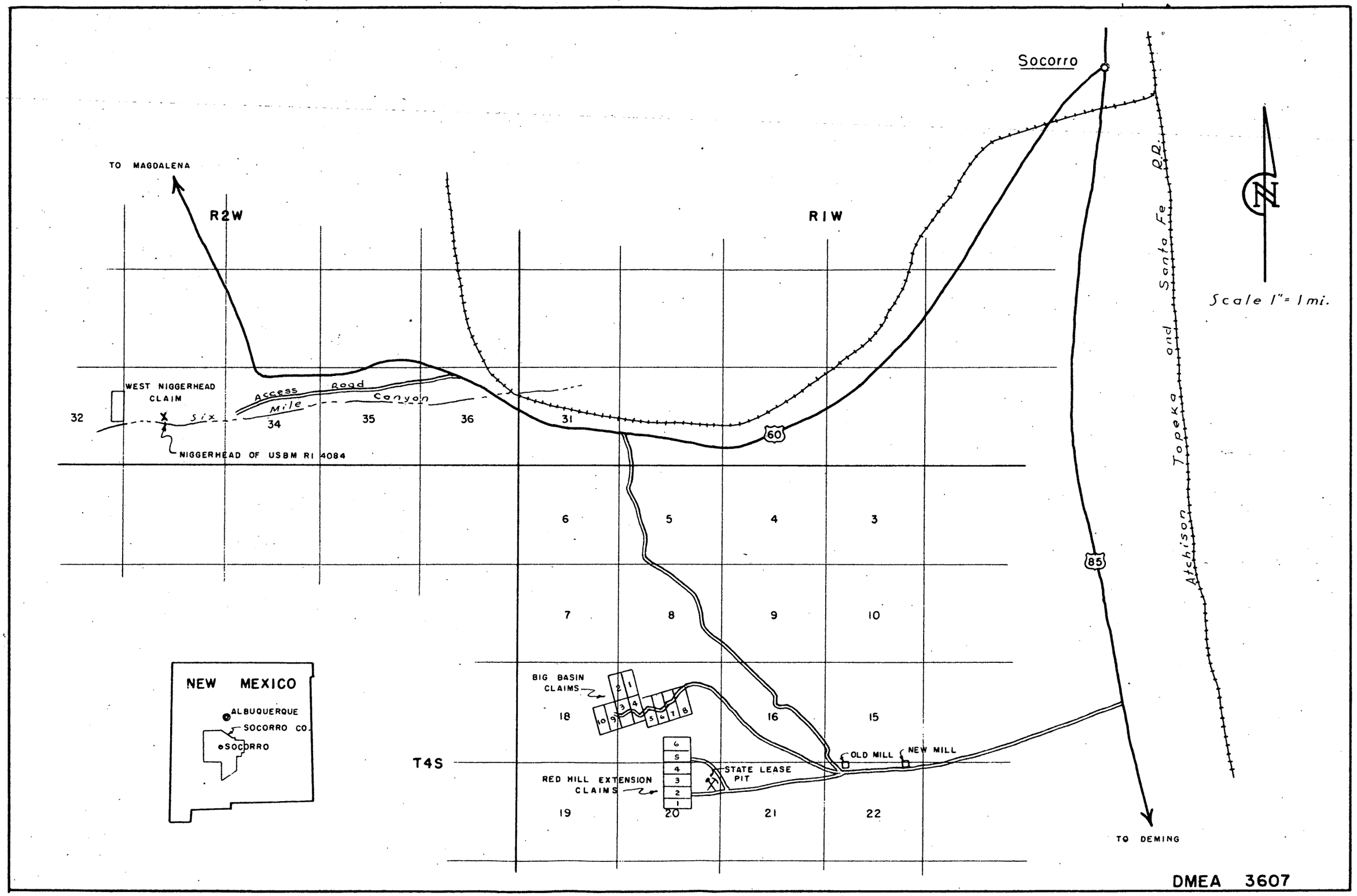


FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

For Contract

Extra Copies Fig 1 + 2
W.O. made O.C.L.

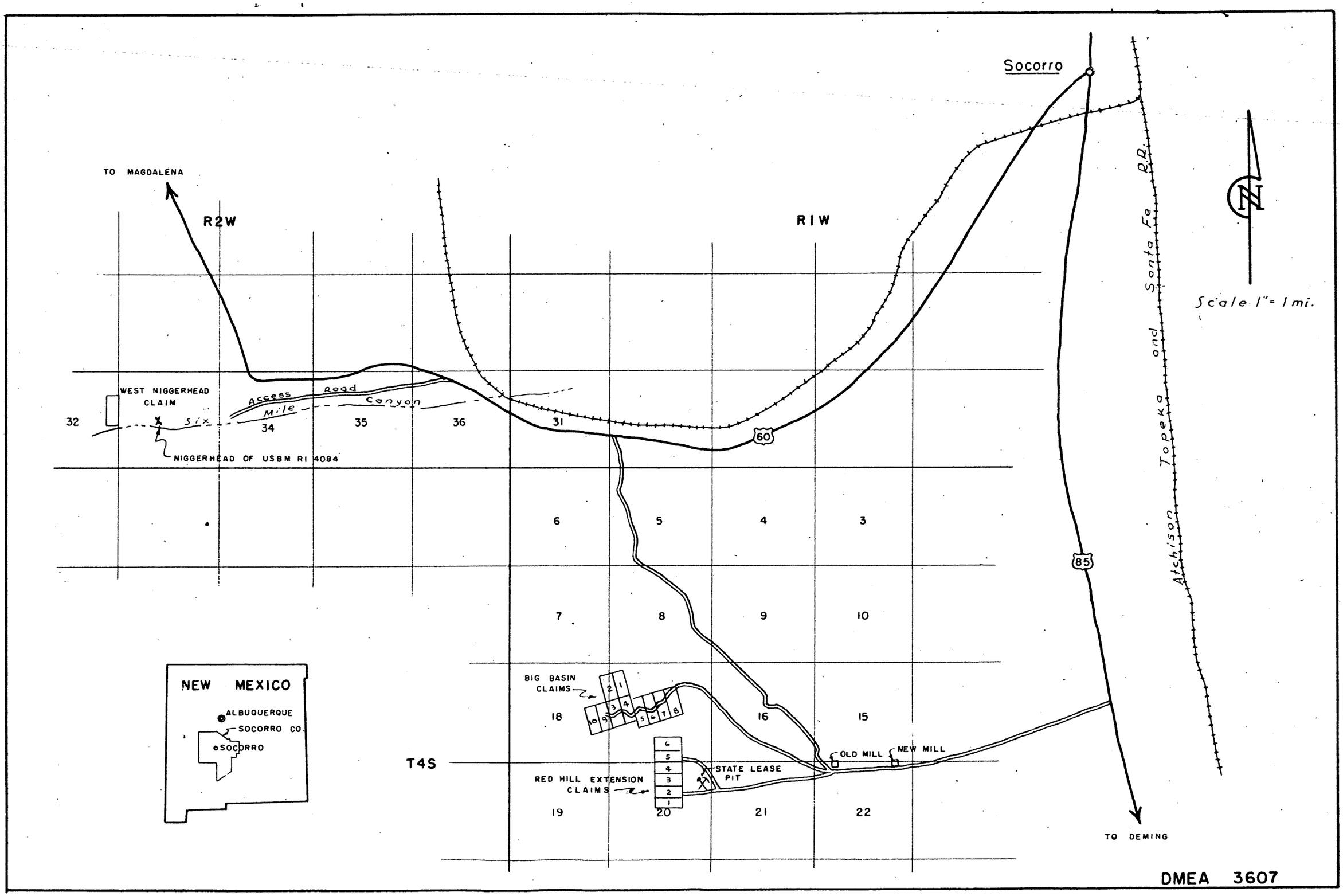


FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

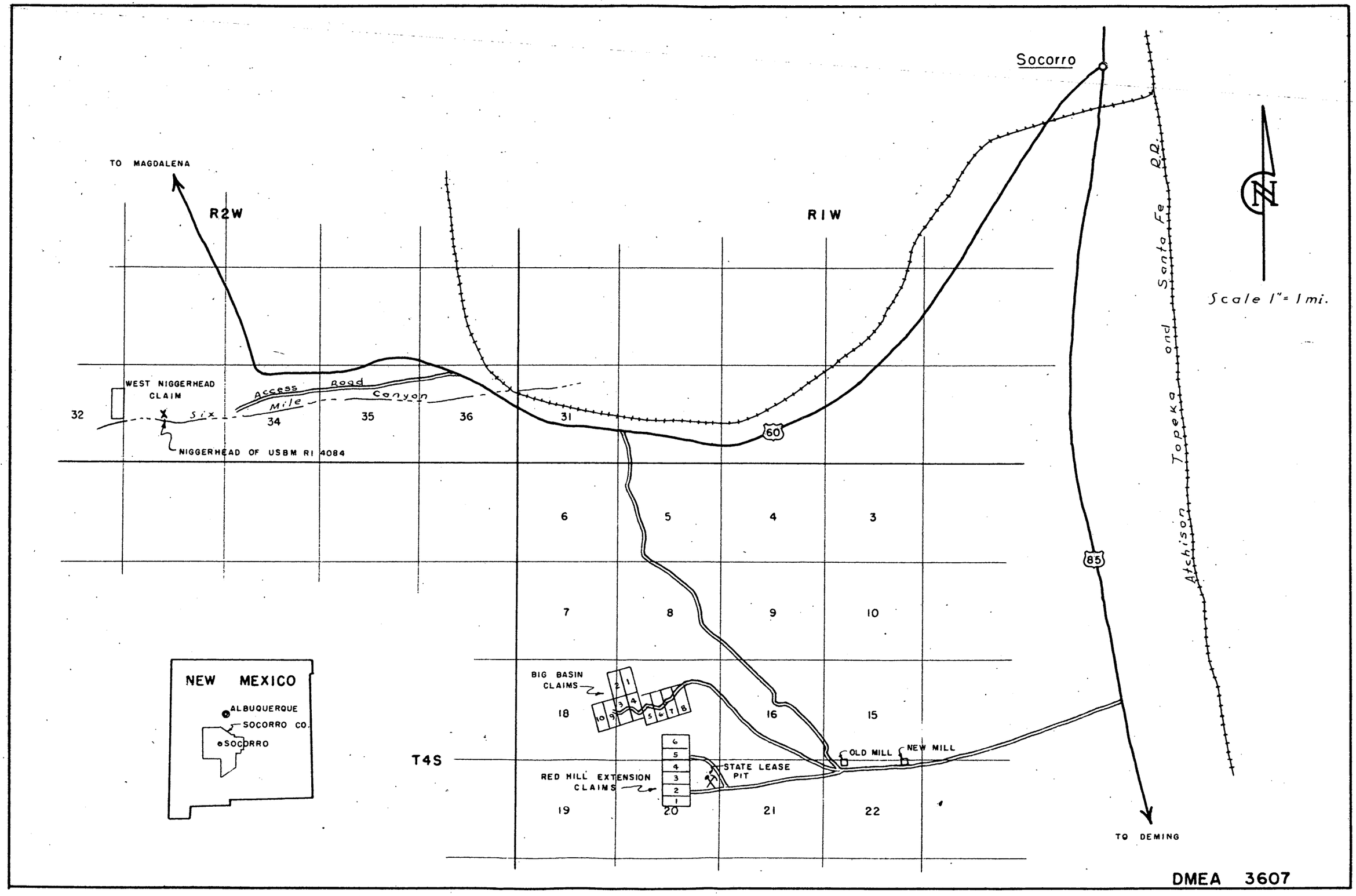


FIGURE-1- LOCATION AND CLAIM MAP - MANGANESE CORP OF ARIZONA
SOCORRO COUNTY, NEW MEXICO
MAY - 1955

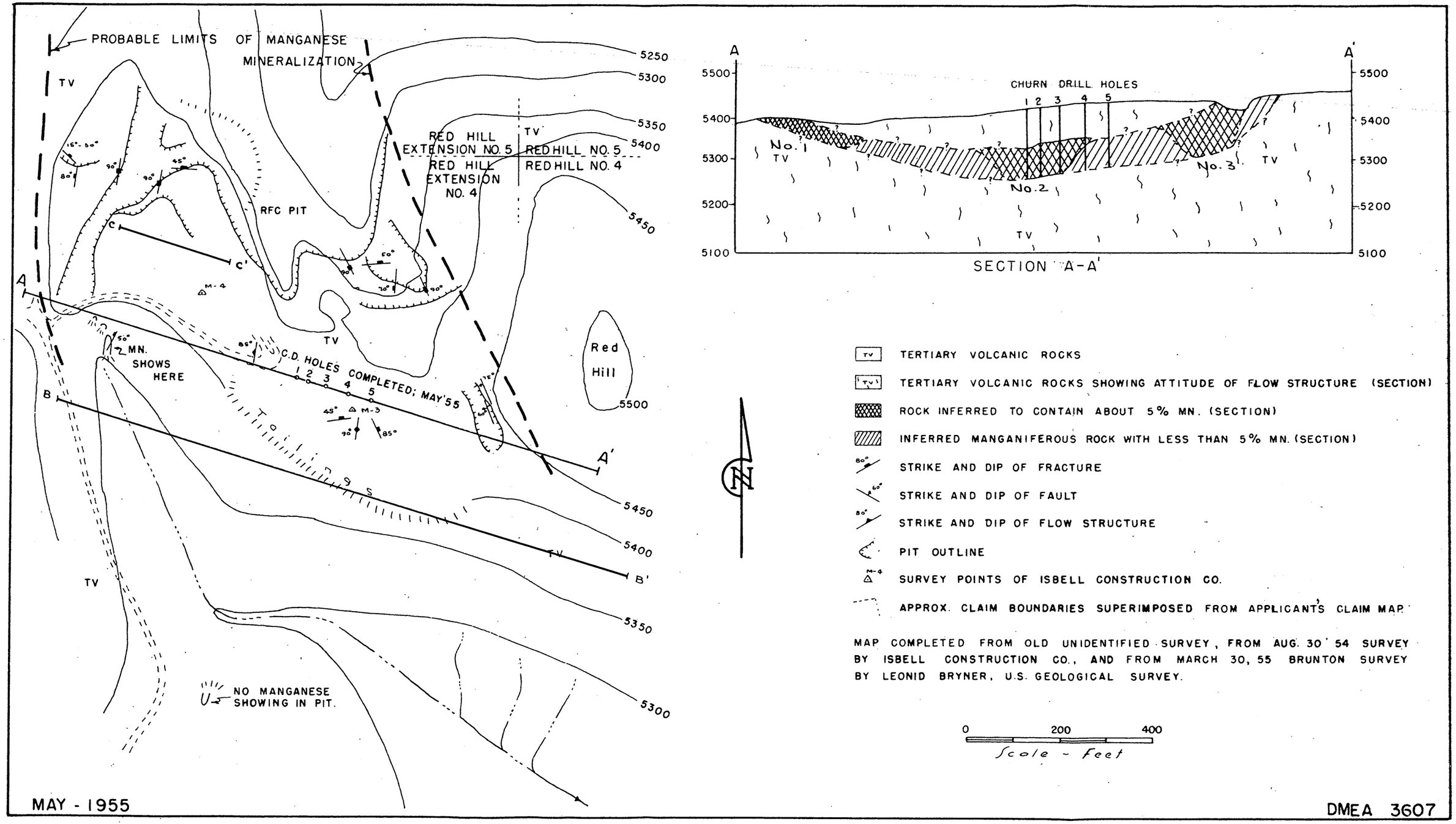


FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

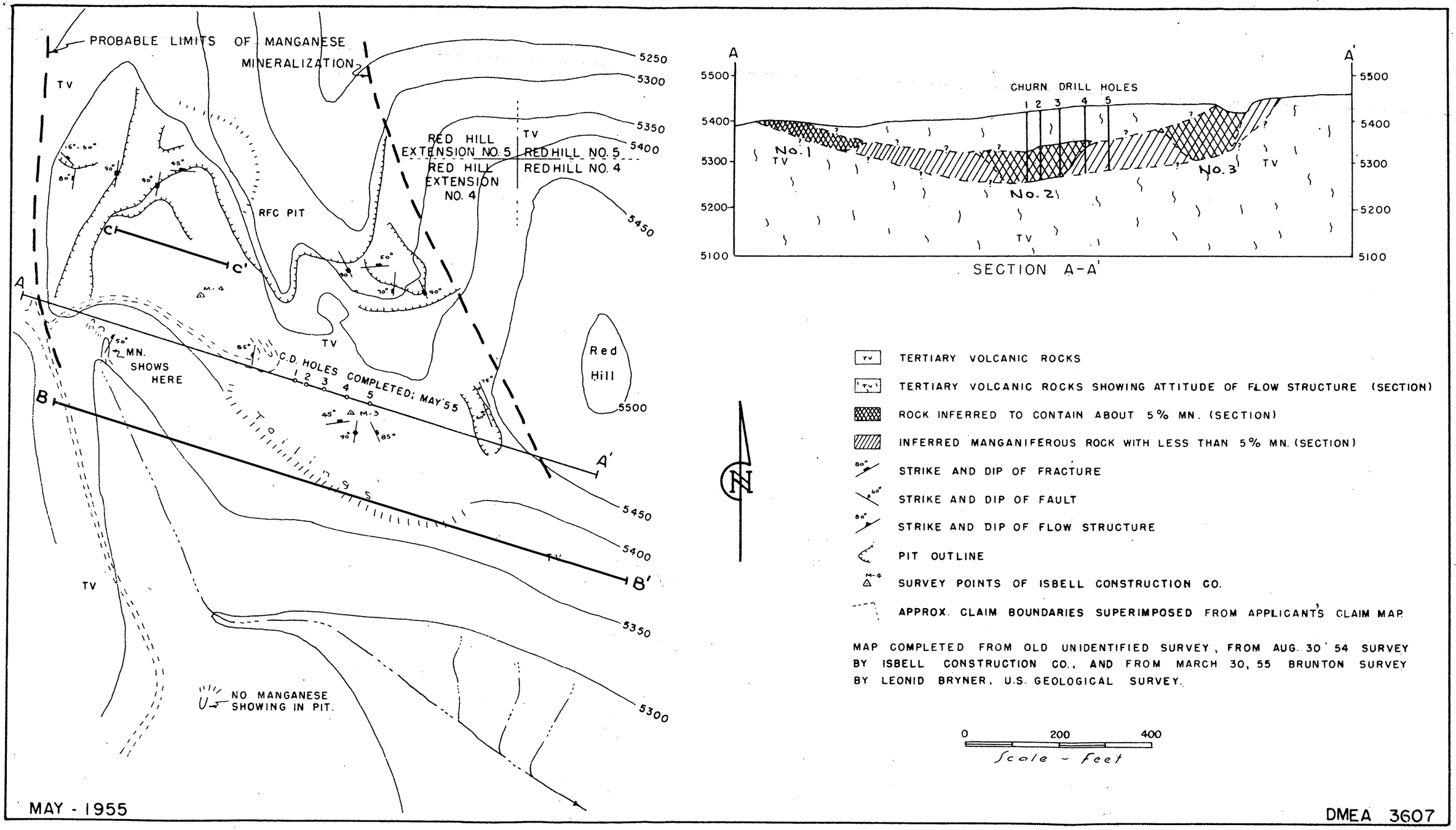


FIGURE - 2 - GEOLOGIC AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

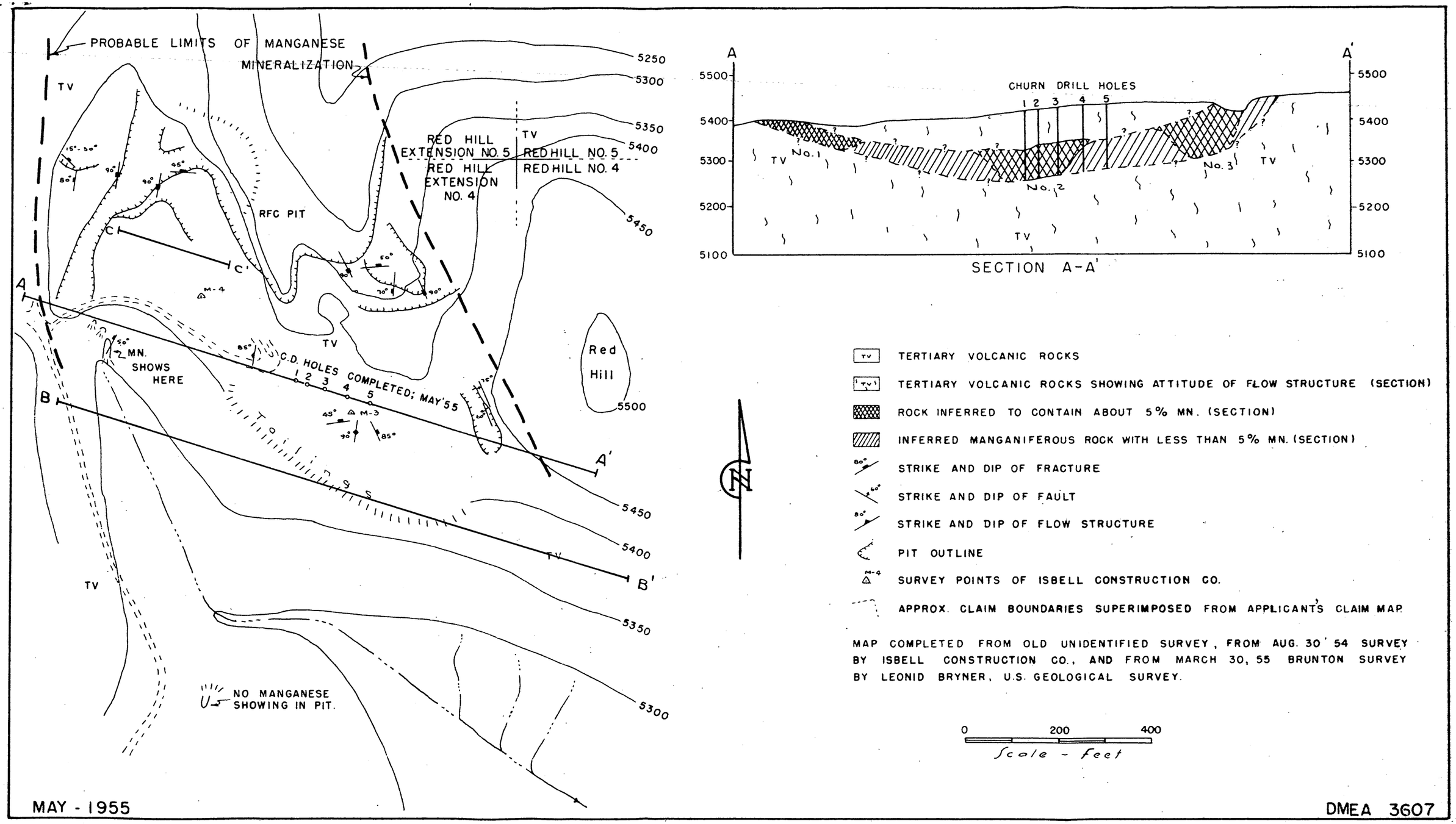


FIGURE - 2 - GEOLOGIC. AND EXPLORATION MAP, RED HILL EXTENSION MANGANESE ZONE
MANGANESE CORP. OF ARIZONA, SOCORRO COUNTY, NEW MEXICO

224 New Customhouse
Denver 2, Colorado

June 22, 1955

Memorandum:

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

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

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

Enclosures

DMEA Field Team, Region III

W. H. Traver

W. H. Traver

E. N. Harshman

E. N. Harshman

DMEA
Date Rec'd.
APR 27 1955

BUREAU OF MINES
Denver, Colorado

April 25, 1955

Re: Docket DMEA-3607,
Manganese,
Socorro County, N. Mex.

Mr. Victor J. Morgan, Pres.
Manganese Corp. of Ariz.
Socorro, Ariz.

My dear Mr. Morgan:

In regard to your application to the Defense Minerals Exploration Administration for Government assistance in exploring your manganese-bearing deposits near Socorro, our Mr. T. M. Romslo tells me that you were going to send some additional data to him so he could complete his report. If you have not already done so, will you please send us that information so our report can be finished and submitted to the DMEA Executive Officer in Denver?

Sincerely yours,

Walter R. Storms

Walter R. Storms
Superintendent
Southwest Experiment Station

CC W. M Traver
J. N. Faick
DMEA-3607
DF

WRStorms:frj

MAR 2
BUREAU OF
Denver, Colorado

1 Sent
C
B

March 22, 1955

Re: Docket DMEA-3607

Mr. Victor J. Morgan, Pres.
Manganese Corp. of Arizona
Socorro, N. Mex.

My dear Mr. Morgan:

In regard to your application (Docket DMEA-3607) to the Defense Minerals Exploration Administration for Government assistance to explore your manganese-bearing deposits near Socorro, the Bureau of Mines and the Geological Survey have been asked to examine your property. Therefore, Messrs. T. M. Romalo of the Bureau of Mines and L. Bryner of the Geological Survey plan to arrive in Socorro next Monday afternoon, March 28. They will try to contact you in Socorro, but if they cannot they will go to your mill southwest of that city.

I hope the above will be agreeable to you.

Sincerely yours,

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

CC W. M. Travers
J. N. Faick
DMEA-3607
DF

WRSTorms:frj

DMEA
FEB 4 1955

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,

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

224 New Customhouse
Denver 2, Colorado

January 6, 1955

Memorandum

To: W. R. Storms (w/brochure)
J. N. Feick

From: DMEA Field Team, Region IV

Subject: Docket DMEA 3007 (Manganese), Manganese Corporation of Arizona, Socorro County, New Mexico

Enclosed is the subject application in the amount of $86,790.00. The brochure consists of:

1. Form MF-103 and accompanying answer sheets.
2. Exhibit A - Lease and Option Agreement.
3. Signed copy of Sub-Lease.
4. Exhibit D - R. I. 4084.
5. Exhibits E & F - Claim Map.
6. Exhibit G - Map of Nigger Head West.
7. Exhibit H - Master Map.
8. Copy of letter from the Chairman, Operating Committee.
9. Copies of memoranda from Newcomb and Martin.
10. Copy of letter from the Administrator to the Applicant requesting additional data.

A field examination and suitable report is required.

W. H. King
W. H. King

E. N. Harshman
E. N. Harshman

DMEA Field Team, Region IV

Enclosures
EMC:ld
~~Sub~~
shron

Copy to: Harshman

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

Mining Division
Date Rec'd.
DEC 22 1954
BUREAU OF MINES
Denver, Colorado

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

400

Date Rec'd.

JAN 3 - 1955

BUREAU OF MINES
Denver, Colorado

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 Biggerhead 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. E. 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 Biggerhead claim (Permit M-5219)
8. Owner's Consent to Lien covering West Biggerhead claim by Dallas H. Corum.

Sincerely yours,

C. O. Mittendorf

Administrator

FARUTLEDGE:fos
12-23-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. IV
Mr. DeRuff, USBM
Mr. Killingsord, USGS

Reg 4

Manganese Corporation of Arizona

[redacted] Arizona [redacted] Socorro, New Mexico

Mining Division
Date Rec'd.
DEC 10 1954
BUREAU OF MINES
Denver, Colorado

December 7, 1954

Defense Minerals Expl. Administration
Room 224
New Custom House Bldg.
Denver, Colorado
Attention: Mr. H.M. Connors

Dear Mr. Connors:

Pursuant to our recent conversation regarding the possibility of my company obtaining assistance in an exploration project for manganese, I am forwarding to you under separate cover the Manganese Corporation of Arizona's formal application in quadruplicate, for same.

I have gathered together all the information and maps that are available, and I have sent them along with the application.

As you will notice in reading our brief, our company has under construction a large new mill for processing manganese ores. Our known reserves are not sufficient to operate this mill for more than a limited period. This exploration project is therefore of prime importance to us. Ours is a mining company, and the ownership is held closely within my family. There is no promotion or stock sales in connection with the Manganese Corp. of Arizona.

Anything I can do to assist in the expediting of a decision on this application, I stand ready to do if you will let me know should the need arise.

Thank you for your very clear explanation of the program when I saw you in Denver.

Very truly yours,

Victor J. Morgan

Victor J. Morgan, Pres.

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

Date Rec'd.
JAN 3 - 1955
BUREAU OF MINES
Denver, Colorado

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

APPROVED:

Robert W. Gechon
Member, Bureau of Mines

E. L. Newcomb
Member, Geological Survey

Enclosure

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 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

ELNewcomb:edf

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

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

W. H. King

Enclosures

WHK:ld

sub
chron

Exhibit "E" & "F"

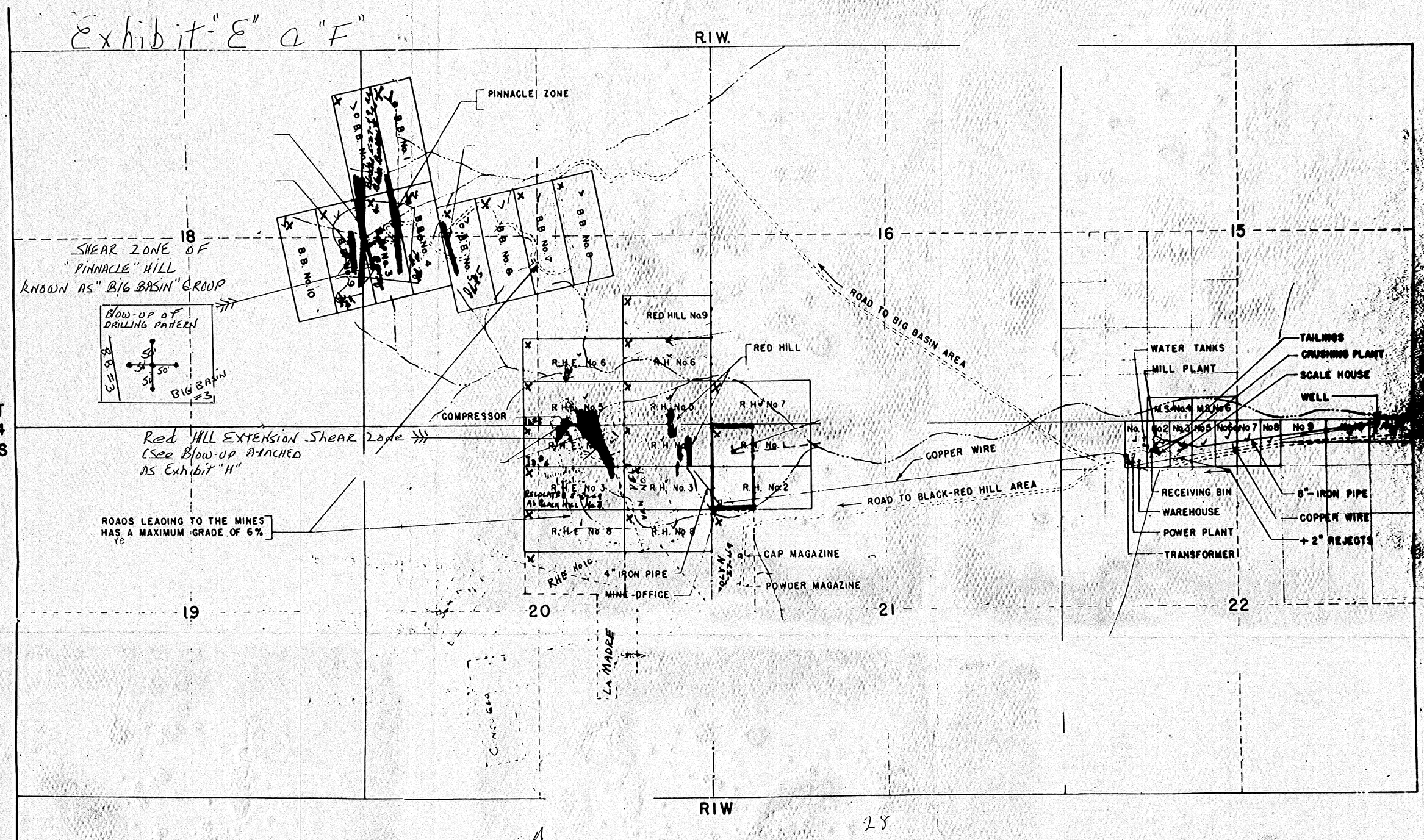


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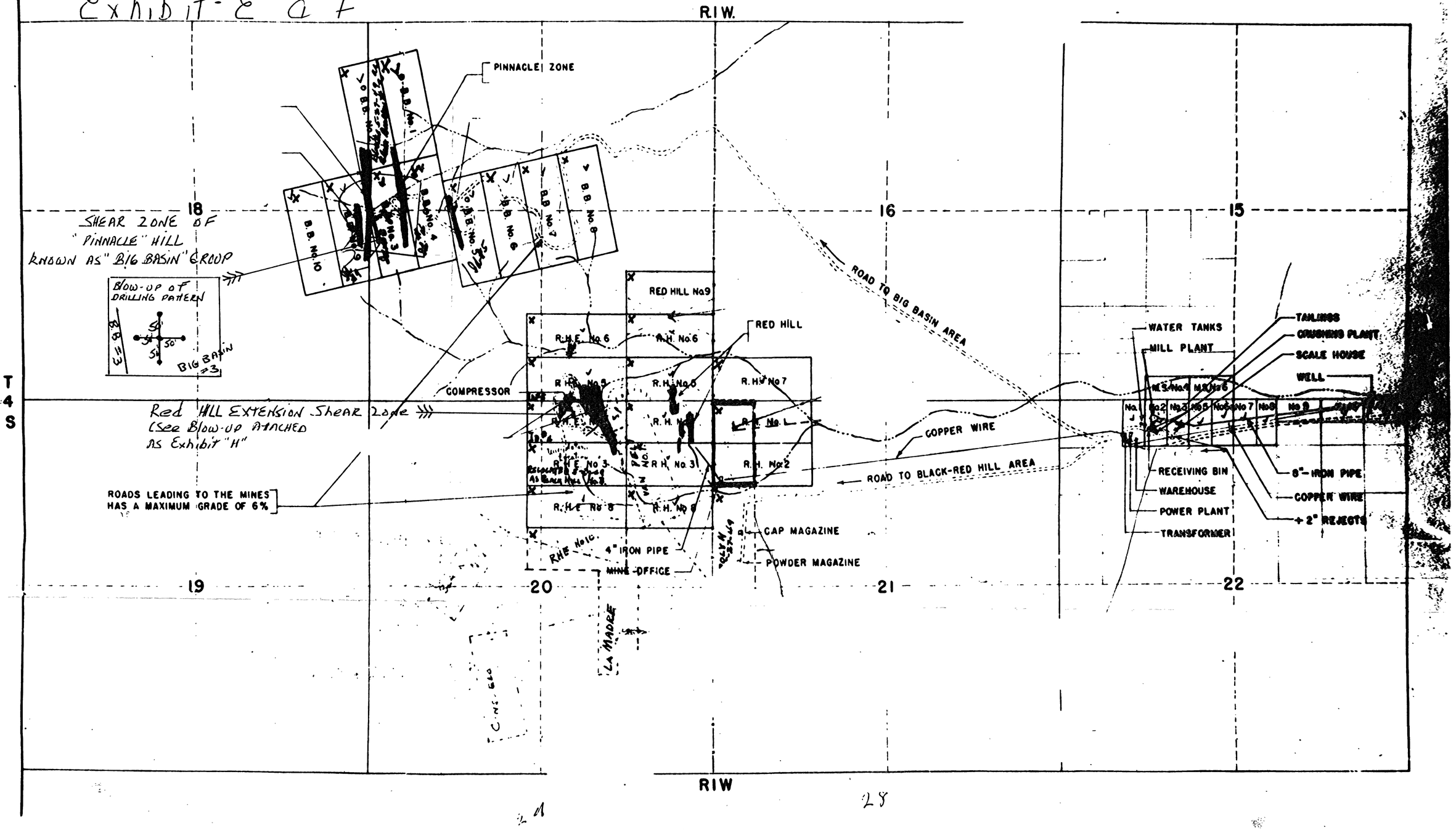
Exhibit "E" & "F"



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28