Administrator, DMEA

February 11, 1953

Iron and Ferro-Alloy Division, DMEA

Denial of application by Field Team
Docket No. DMEA 2799 - Manganese
Charles O. Reidhead
Rattlesnake Manganese Claims
Gila County, Arizona

2799

The applicant requested exploration assistance in the amount of $12,219.00 to drive a tunnel that would cut a cemented breccia zone, containing manganese, 50 to 60 feet below the bottom of a 40-foot discovery shaft. This shaft was the only working of any significance on the property.

Manganese at the Rattlesnake claims occurs as a secondary deposit in a cemented quartzite breccia zone. The brecciated zone is extensive, reportedly 3/4 mile long, and is over 200 feet wide at the discovery shaft. Small amounts of high-grade manganese have been deposited in the openings of the breccia, but the manganese is not uniformly distributed.

The shaft was started on a 3-inch vertical vein of high-grade ore, and according to the applicant, this ore persisted for 40 feet to the present bottom of the shaft. It was from this small vein, and other scattered pods and lenses, that approximately 5 tons of high-grade ore was obtained by hand sorting. This hand-sorted ore was produced from an estimated 100 tons of waste rock. The average value of the breccia is about 4 percent manganese. Since there is no reason to assume that more work in the brecciated zone would disclose more and larger lenses or pockets of high-grade ore than were encountered in the shaft, the examining Field Team recommended denial of the application.

The application was denied by the Field Team, and Mr. Reidhead was advised of this action by letter of January 28, 1953. We concur in the denial.

Sgd.

W. S. Martin, Acting Chief
Iron and Ferro-Alloy Division

cc: Docket
Code 400
Admn. Read. File
N. B. Melcher, USBM
M. D. Crittenden, USGS

FARutledge/hhb
2/11/53

IN REFER TO:

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

400

February 5, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 11 1953

Memorandum

To: [illegible] Martin

From: [illegible] Crittenden

Subject: DMEA-2799, Manganese
Rattlesnake Manganese Claims

Rejection sustained.

[illegible] Crittenden

FILE COPY
SURNAME:

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

Administrator, DMEA

February 11, 1953

Rutledge
Martin

Iron and Ferro-Alloy Division, DMEA

Denial of application by Field Team
Docket No. DMEA 2799 - Manganese
Charles O. Reidhead
Rattlesnake Manganese Claims
Gila County, Arizona

Y.C. 2/16/53

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The shaft was started on a 3-inch vertical vein of high-grade ore, and according to the applicant, this ore persisted for 40 feet to the present bottom of the shaft. It was from this small vein, and other scattered pods and lenses, that approximately 5 tons of high-grade ore was obtained by hand sorting. This hand-sorted ore was produced from an estimated 100 tons of waste rock. The average value of the breccia is about 4 percent manganese. Since there is no reason to assume that more work in the brecciated zone would disclose more and larger lenses or pockets of high-grade ore than were encountered in the shaft, the examining Field Team recommended denial of the application.

The application was denied by the Field Team, and Mr. Reidhead was advised of this action by letter of January 28, 1953. We concur in the denial.

W. S. Martin, Acting Chief
Iron and Ferro-Alloy Division

cc: Docket
Code 400
Admn. Read. File
N. B. Melcher, USBM
M. D. Crittenden, USGS

FARutledge/hhb
2/11/53

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Administrator, DMEA

DATE: February 11, 1953

FROM : Iron and Ferro-Alloy Division, DMEA

Noted
CMW

SUBJECT: Denial of application by Field Team
Docket No. DMEA 2799 - Manganese
Charles O. Reidhead
Rattlesnake Manganese Claims
Gila County, Arizona

GW.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 1 - 1953

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The application was denied by the Field Team, and Mr. Reidhead was advised of this action by letter of January 28, 1953. We concur in the denial.

W S Martin

W. S. Martin, Acting Chief
Iron and Ferro-Alloy Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

February 9, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 16 1953

Mr. George Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-2355 (Fluorspar)
Fluorspar Corporation
Pungo Creek Claims
Valley County, Idaho
Contract No. Idm-E375

Dear Mr. Selfridge:

This will acknowledge your letter of February 5th stating that you are enclosing a letter signed by the Administrator for forwarding to Mr. McKaig if I agree with the action taken in this letter. This is to advise you that copies of the Administrator's letter were attached to your letter, but the originals for forwarding were not attached. The Field Team is in agreement with the action taken in this matter, however. We, therefore, suggest that you check to see whether the original letters were actually forwarded to Mr. McKaig or are somewhere else.

Sincerely yours

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cc: USBM (2)

DOCKET COPY

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED

FEB 10 1953

xxxxxxxxxxxxxxxxxx
College Park, Maryland

February 9, 1953

Mr. Allan James, General Superintendent
Warren Foundry and Pipe Corporation
P. O. Box 392
Dover, New Jersey

Subject: Docket No. DMEA-2376
Contract No. Idm-2348

Dear Mr. James:

This confirms our telephone conversation of February 4 and acknowledges Mr. Hagerman's letter of the same date pertaining to the vein intersection in DDH-3.

It is noted that DDH-2 intersected the vein at approximately 150 feet below sea level and DDH-3 intersected the vein at approximately 450 feet below sea level and that the vein intersection of DDH-2 is 17 feet thick while the vein intersection of DDH-3, approximately 300 feet below DDH-2, is 5.5 feet thick. In consideration of the cost invested in DDH-3 and the necessity to prove continuity of the vein and to indicate sufficient ore reserves to justify the cost of the proposed development, it is considered advisable to make another intersection of the vein, at least 30 feet above the present vein intersection of DDH-3 to determine the average thickness of the vein.

It is agreeable with the DMEA Field Team to place a wedge in DDH-3, 400 feet above the vein intersection and deflect the drill to cut the vein at least 30 feet above the present intersection. The extra footage is to be considered as part of the contingent footage permissible under this contract.

This authorization is not to be construed as authorizing any increase in the total footage permitted to be drilled under this contract nor is it to be construed as increasing the total cost of the project or the amount of the Government's participation in the project.

Very truly yours,

W. T. Millar, Acting Executive Officer
Bureau-Survey Field Team
Defense Minerals Exploration
Administration, Region VIII

Copy retained 400

WTM:rwa

cc DMEA Files 2
GeoCSelfridge

DOCKET

IN REPLY REFER TO:

G-MD-CF

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

February 5, 1953

Memorandum

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 11 1953

To: W. S. Martin

From: M. D. Crittenden

Subject: DMEA-2799, Manganese
Rattlesnake Manganese Claims

Rejection sustained.

M. D. Crittenden Jr

M. D. Crittenden

Copy retained 400

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

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

Mail: New Customhouse
Denver 2, Colorado

January 28, 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2799, Rattlesnake Manganese Claims, Roosevelt Mining District, Gila County, Arizona

Enclosed are four copies of the final report, two copies of Form 3b and a copy of the letter of denial to the applicant.

W. H. King
W. H. King

A. N. Koehmann
A. N. Koehmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
2-6-53
(date)

COPY

224 New Customhouse
Denver 2, Colorado

January 28, 1953

Mr. Charles O. Reidhead
Box 204
McNary, Arizona

Re: DMEA Docket 2799

Dear Mr. Reidhead:

Reference is made to your application for Government aid on the Rattlesnake Manganese Claims.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

/s/ W. H. King
Field Team, Region IV

/s/ A. H. Koschmann
Field Team, Region IV

EJB:oc
cc: Administrator (DMEA)
WRStorms
Subject
Chron.
Koschmann (2)

Reviewed by
DMEA OPERATING COMMITTEE
2-6-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

Mining Division
Region IV

January 28, 1953

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2799, Rattlesnake Manganese Claims, Roosevelt Mining District, Gila County, Arizona

Enclosed are the original and eight copies of the final engineering report covering the subject docket.

Small concentrations of high grade manganese oxides occur along fractures in a brecciated zone in quartzite. The amount that could be hand sorted to acceptable grade is roughly in the ratio of 20:1. The overall manganese content of the breccia zone is below 5 percent.

The Examining Engineer recommends denial for the reason that deposits of this nature cannot be exploited economically. We concur in this recommendation.

W. H. King

W. H. King

Enclosures

Received by
DMEA Office
2-6-53
(Date)

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

New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

January 28, 1953

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Box 204
McNary, Arizona

Re: DMEA Docket 2799

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Very truly yours,

W. H. King
W. H. King
Field Team, Region IV

A. N. Koschmann
A. N. Koschmann
Field Team, Region IV

EJB:oc
cc: Administrator (DMEA)
WRStorms
Subject
Chron.
Koschmann (2)

2-6-53

400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
FEB 3 1953

Mining Division
Region IV

January 28, 1953

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

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The Examining Engineer recommends denial for the reason that deposits of this nature cannot be exploited economically. We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
2-6-53
(date)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

[illegible]

January 26, 1953

Memorandum

To : [illegible], Chief, Mining Division, Region 1

From : Chief, Mining Methods Branch, Mining Div., Region 1

Subject : Final Report on Project [illegible]-1799, Pittsburgh [illegible] Claims, Roosevelt Mining District, Ouray County, Ariz.

Enclosed are original and [illegible] copies of the section on history, conclusions and recommendations by [illegible] of the Bureau of Mines, and [illegible] of the Geological Survey, and the section on [illegible] prepared for the above report.

As only a small amount of low-grade manganese ore seems to occur on the property and as the chance of discovering substantial amounts of additional ore seems unfavorable, the examiners recommend denial of an exploration loan. I concur with their recommendations.

Procedure is enclosed.

Walter R. Storms

Walter R. Storms

Cc: [illegible] (3)
[illegible] Bride
[illegible]-1799)
[illegible]

WRStorms:als

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

January 26, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2799, Rattlesnake Claims, C. O. Reidhead, Gila County, Arizona. Manganese.

Enclosed are the original and 8 copies of the geologic report by J. N. Falck of the U. S. Geological Survey covering the above docket.

It has been recommended that the loan be denied.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

January 23, 1953

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, DMEA #799, Rattlesnake Claims, C. O. Reidhead, Gila County, Arizona (Manganese)

Enclosed are the original and 8 copies of the above report by J. H. Feick of the Geological Survey.

This report and the recommendation that an exploration loan be denied have my approval. The loan should be denied because the very small, high grade masses of manganese that may exist are widely scattered and could not be discovered by any reasonable method of exploration. If found, the cumulative total tonnage of such ores would not constitute a significant reserve.

A. F. Shride
Acting District Supervisor
Arizona-New Mexico

Enclosures 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

BUREAU OF MINES MARLING, ACTING DIRECTOR

BUREAU OF LAND MANAGEMENT
REGION IV

BMA-2799, Rattlesnake Manganese Claims

Roosevelt Mining District

Gila County, Arizona

Geo. A. Burke, Mining Engineer
U. S. Bureau of Mines

John A. Reich, Geologist
U. S. Geological Survey

January 1953

GERMAN, GILA COUNTY, ARIZONA

By Chas. A. Burke[1/] and John H. Feick[2/]

It was requested in November 1952 by the Operating Committee, Defense Minerals Exploration Administration, that the Field Team, Region IV, examine the Rattlesnake group of manganese lode claims in Gila County, Ariz. Applicant Charles C. Reidhead of Mollary, Ariz. was asking for assistance under the Defense Production Act of 1950, as amended, in exploring his property, a manganese prospect, 42 road miles north-northwest of Globe, Ariz. Reidhead proposed to drive a tunnel across a brecciated zone in which manganese was found. The tunnel was to be located about 100 feet below the collar of a 40-foot discovery shaft.

On January 6, 1953, Chas. A. Burke and John H. Feick visited the property. They were met in Globe, Ariz. by Charles C. Reidhead, the applicant, who acted as guide for the trip.

The Rattlesnake group consists of four unpatented lode claims. The claims are contiguous and cover the cemented brecciated zone in which manganese is found. A 40-foot shaft comprises the only work done on the claims. Because the collar set and shaft timbers appeared unsafe, the examining engineers did not go down the shaft. Surface exposures were examined and three samples were taken.

The shaft was sunk on a vertical, narrow, high-grade streak of manganese only a few inches wide. This high-grade ore, containing 45.3 percent manganese, was hand sorted and amounted to 5 tons for

---

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

the entire 40 feet of shaft work. The reject material from the shaft work assayed 11.5 percent manganese. A sample taken of the cemented breccia beyond the shaft walls, assayed 4.2 percent manganese.

About 20 tons of material were mined for every ton of sorted high-grade ore obtained. There is no reason to assume that additional exploration work will disclose more or larger pockets of high-grade ore than were disclosed by the shaft work. The yield of this class of ore would be insignificant and costly. The remaining cemented breccia contains some manganese, but the amount probably would be less than 5 percent.

The shaft constitutes the only significant work done on the property. It is to be regretted that the applicant failed to ascertain whether or not the necessary repairs had been completed in order to permit a safe entry.

Government participation does not seem advisable at this time and it is recommended that the application be denied.

RATTLESNAKE MANGANESE CLAIMS
CHARLES O. REINHEAD, APPLICANT
GILA COUNTY, ARIZONA

DMEA 2799

Geology

By
John H. Faick
Geologist, U. S. Geological Survey

RATTLESNAKE MANGANESE CLAIMS
CHARLES O. REINHEAD, APPLICANT
GILA COUNTY, ARIZONA

BMEA #799

CONTENTS

	Page
Introduction	1
Description of the Deposits	2
Summary and Conclusions	4
Recommendations	4

INTRODUCTION

An application has been received by the Defense Minerals Exploration Administration for financial assistance in exploring the Rattlesnake manganese prospect in Gila County, Arizona. The application was made by Charles O. Reidhead, whose address is in care of B. K. Swartout, Box 194, McNary, Arizona. The property consists of 4 unpatented contiguous claims situated on the southwestern slopes of the Sierra Anche Mountains, and is about 4 or 5 miles north of the Roosevelt Reservoir. The claims are 42 miles by road from Globe, Arizona and are accessible by passenger cars except for the last couple miles which are accessible by jeeps or light trucks. The claims are controlled by Reidhead and Swartout, a partnership, and are controlled by a ten year lease with option to purchase from the owners: J. C. Rapier, Otto Malone, and John Corn.

The application is docketed as DMEA 2799. The proposed exploration for which assistance is requested is estimated by the applicant to cost $12,219, of which the Government's share would be 75 percent. The proposed exploration consists of driving an adit about 100 feet below the outcrop of a manganiferous breccia zone to determine if manganese is present in greater quantities at this depth than at the surface.

DESCRIPTION OF THE DEPOSITS

The Rattlesnake manganese deposit consists of irregular mineralized zones in a very large breccia mass that was formed by intense shattering of a massive, fine-grained, pink arkosic quartzite. This quartzite host rock, where exposed beyond the breccia, is massive in character and is remarkably uniform throughout a thickness of a few hundred feet. The formation is thought to be pre-Cambrian Dripping Spring quartzite, although this identification is tentative. The formation strikes easterly and dips about 10 degrees southerly.

An outcrop of diabase is exposed in a westward trending arroyo heading near the base of the exposed breccia mass. The nature of this diabase is unknown, but it is thought to be part of a sill intruded near the base of the Dripping Spring quartzite.

The breccia zone ranges from about 50 feet to 300 feet wide and is reported by the applicant to be about three-quarters of a mile long. It strikes northwesterly and probably dips steeply to the west; this dip is suggested by the attitude of many small, scattered shear planes within the breccia mass. The location and attitude of the breccia zone suggests that it may correspond in position to a very large fault shown on the geologic map of Arizona, in T. 5 N., R. 12 E.

The attention of the examiners was confined to a part of the breccia a few hundred feet long, which, according to Mr. Reidhead, contains more manganese than other parts of the mass. This is the zone for which exploration is proposed. It has previously been explored by a 40-foot shaft which yielded by hand sorting about 5 tons of ore, of which an average sample yielded 45.8 percent manganese. A sample of the fine material in the waste dump contained 11.5 percent manganese, and a chip sample across several feet of breccia outside of the mineralized zone explored by the shaft contained 4.2 percent manganese.

The breccia contains nearly equidimensional angular and subangular fragments ranging in size from about ½ inch to about 6 inches across. Many large blocks measuring 2 or 3 feet across were observed and in a few places masses of unbroken quartzite as large as several feet in maximum dimension are present. The breccia contains many vugs and cavities, and the ratio of openings to solids is relatively high.

Manganese oxides, psilomelane and pyrolusite form films and coatings on the breccia fragments, line the vugs and cavities but seldom

fill them. The manganese films are generally so thin that they do little more than stain the breccia fragments; however, in a few places the coatings have a thickness as great as $\frac{1}{4}$ to $\frac{1}{2}$ inch and cement the breccia into a compact mass. In a few places the cavities become completely filled with manganese oxides, thus forming small amounts of high grade ore.

Some of this high grade ore was previously explored by a 40-foot shaft which was sunk on a nearly vertical fracture zone within the breccia mass. About 5 tons of massive psilomelane, some of which is coated with a thin film of pyrolusite, was produced from this shaft by hand sorting it from an estimated 100 tons of waste rock. The ore occurred as coatings on the breccia fragments and also as vein-like masses coating the walls of the fractures. The largest mass observed by this writer was about 3 inches thick and is thought to have come from a vein about 3 or 4 feet long and of about the same vertical depth extension. This piece had formed as a coating on the wall of the fracture and had one well-developed mamillary surface, indicating that the fracture had not been completely filled with manganese oxide. Other large masses were mined from the same fracture zone. Throughout the deposit there appears to be sufficient manganese to fill the voids only where they are relatively small.

Associated with the manganese oxides is enough limonite to give a brownish color to the freshly broken mineralized rock except where manganese is abundant. Most of the breccia mass is black on the weathered surface and brown where freshly broken. The outcrops suggest that manganese is widely distributed throughout large parts of the breccia mass; however, only a very small part of it is rich enough to constitute ore.

SUMMARY AND CONCLUSIONS

The manganese in the Rattlesnake deposit consists of thin films coating the breccia, and small masses and layers cementing the breccia fragments together or partly filling the interstices. Larger masses forming vein-like deposits a few feet long and extending a few feet deep are present on some of the more prominent shear or fracture zones. The massive ore contains 45 percent manganese, but an average sample of some of the breccia contained only about 4 percent manganese. This is probably about the average grade of the mineralized breccia. Stains and thin films of manganese are distributed uniformly over very large zones but the massive higher-grade ore is erratically distributed in scattered small masses. The ore masses are too few in number and too scattered to justify efforts to exploit the deposit under present conditions.

RECOMMENDATIONS

Thin films or seams of manganese oxides cementing the breccia fragments in the Rattlesnake prospect occur in very small amounts over a relatively large area. These oxide minerals are not present in sufficient quantity to justify attempts at mining, and casual examinations indicates that the thin films or seams may not be amenable to concentration.

The applicant's proposal is to explore and mine only the high grade masses of ore which will yield an excellent product by hand sorting. These masses are very small, and widely scattered and search for them by underground methods would be difficult and expensive, and not likely to yield important amounts of ore, therefore this application should be denied.

DMA-2799, MISCELLANEOUS NONMETALLIC CLAYS
HOLMES MINE DISTRICT
GILA COUNTY, ARIZONA

Engineering Report

By Chas. A. Kunke
Mining Engineer
U. S. Bureau of Mines

January 1953

WPA-2799, RATTLESNAKE MANGANESE CLAIMS
ROOSEVELT MINING DISTRICT
GILA COUNTY, ARIZONA

CONTENTS

Engineering Report	Page
Introduction	1
Acknowledgments	2
Location and accessibility	2
Physical features and climate	2
History and production	3
Ownership and extent	3
Description of deposit	4
Ore reserves	5
Proposed exploration and development	5
Conclusions	6
Recommendations	7

ILLUSTRATIONS

Figure		Following page
1	Location map	2

INTRODUCTION

Under date of Nov. 24, 1952, the operating committee, Defense Minerals Exploration Administration, requested that the Field Team of Region IV, make an examination of the Rattlesnake manganese group, Gila County, Ariz. The applicant, Charles G. Reidhead, was requesting assistance from the Government under the Defense Production Act of 1950, as amended, to do exploratory work estimated to cost $12,219.00. He proposed to drive a tunnel so that it would cut the cemented breccia zone in which the manganese occurred, 50 to 60 feet below the bottom of the 40-foot discovery shaft. This shaft comprised the only workings of any significance on the property.

On January 6, 1953, Chas. A. Kunke 1/ and John W. Polck 2/ visited the property. They were met in Globe by the applicant, Charles G. Reidhead, who acted as a guide for the trip to the claims.

The Rattlesnake Group consists of 4 full sized lode claims, not patented and unsurveyed. The claims are contiguous and lie end to end along the strike of the deposit. There is a discovery shaft 40 feet deep. The old ladders, and the frail collar-set, loose and with rotted ends, were considered unsafe to attempt a trip to the shaft bottom. The applicant had done nothing to make the shaft safe, so the examining engineers did not go down. There has been no other work performed on the claims. The surface was examined along the strike and 3 samples were taken.

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

ACKNOWLEDGMENT

Acknowledgment is made to Charles C. Reidhead, applicant, who acted as guide. He was very cooperative.

LOCATION AND ACCESSIBILITY

The Rattlesnake group of claims is situated 42 road miles north-northwest of Globe, Ariz. in the Roosevelt mining district of Gila County. The immediate surroundings are unsurveyed (figure 1). Globe is the nearest town or city.

The following directions will take one to the claims: Drive 4 miles west on U. S. Highway 60-70 to Apache Trail Junction; thence turn right on state highway 88 for 19.7 miles to Pleasant Valley Junction. Turn right there and go 4.6 miles to Salt River Bridge. Cross the bridge and go 2.7 miles to the junction with the Cherry Creek road. Stay on the main road for another 6 miles to Tonto Basin Junction. There, turn left and go 5 miles to a sign reading "Armer and Tanner". Turn right and go 4.5 miles on a dim road, passing through 3 barbed wire gates. From there it is less than 300 yards to the mine shaft.

There are no excessive grades, and except for the last 4.5 miles, the road is maintained by standard road equipment.

PHYSICAL FEATURES AND CLIMATE

Like most of the southwest, this region has a semi-arid climate. The elevation is about 3,000 feet above sea level. To the northward, the immediate terrain turns abruptly steeper to form the south slope of the Sierra Anche mountains. Temperatures range from 100° F. to freezing weather with occasional light snow. The annual rain fall is about 10 inches.

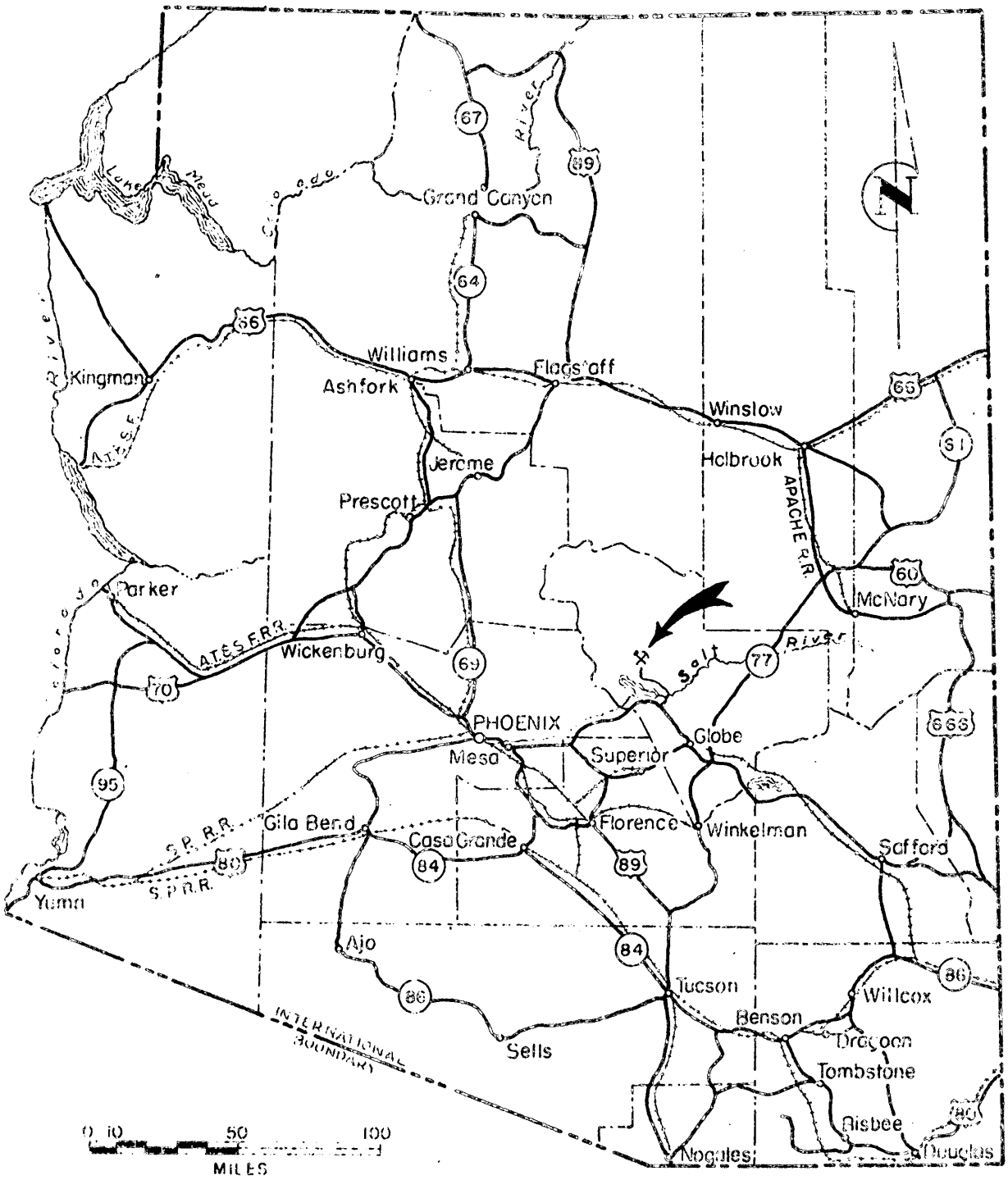

FIGURE 1. - LOCATION MAP

RATTLESNAKE GROUP MANGANESE

GILA COUNTY, ARIZONA

HISTORY AND PROSPECT

In order to learn when these claims first were located, it probably would be necessary to talk to some of the old timers among the cattlemen in this area. Reidhead, the applicant, although known as an old-timer in the Globe, Showlow, and Mesary districts, has only recently become interested in this area and could give the examining engineers no help with the history of the deposit. However, it is very evident from the poor condition of the timbers around the collar of the 40-foot shaft that this shaft work was done many years ago, probably early in World War II, or even earlier.

The 40-foot prospect shaft comprises the only work done on the claims. It was started on a 3-inch streak of high-grade manganese ore, and this streak, according to the applicant, persisted all the way to the bottom, reaching a width of nearly 18 inches in one place. A small ore pile, containing about 5 tons of high-grade manganese, was pointed out as being the total amount of sorted ore that had been taken from this shaft. No shipments were made.

OWNERSHIP AND LEASE

The group of four Rattlesnake claims was located in 1951 by J. C. Kepler. The ownership now is held as follows:

J. C. Kepler, an undivided 60 percent;
Otto Malone, an undivided 20 percent;
John Corn, an undivided 20 percent.

These men are now the lessors. Charles C. Reidhead, the applicant, is the lessee.

The term of the lease is for 10 years, commencing November 10, 1952.

The four claims are not patented and are unsurveyed. They are recorded in the office of the Recorder of Gila County, Ariz. as follows:

	Book	Page
Rattlesnake No. 1 (amended)	49	369
Rattlesnake No. 2	49	354
Rattlesnake No. 3	49	354
Rattlesnake No. 4	49	354

A copy of the lease and Option to Purchase is attached to Docket MMA-2799.

DESCRIPTION OF DEPOSIT

The manganese ore in this deposit occurs as black, massive psilomelane. It is a secondary deposit in a cemented quartzite breccia. This brecciated zone is extensive. It strikes north-northwest, and measures over 200 feet in width at the discovery shaft. There is a heavy black coating over the exposed breccia that gives the appearance of an extensive manganese deposit. However, the manganese is not uniformly distributed throughout the breccia mass. Small amounts of high-grade manganese occur in the narrow cracks.

The shaft was started on a 3-inch vertical vein of high-grade ore, and according to the applicant, this ore persisted for 40 feet to the present bottom of the shaft. It was from this small vein that approximately 9 tons of high-grade ore were obtained by hand sorting. The adjacent breccia, however, contains but small amounts of manganese. Upon breaking, this rock is pink in color due to the presence of pink feldspar in the quartzite.

A sample was taken of the sorted high-grade, a second sample was taken of the shaft dump after the high-grade had been sorted out, and

a third sample was taken of the brecciated material that constitutes the walls of this small high-grade vein.

The assay results follow:

Sample No.	Description	Percent Mn
14661	Chipped pieces off high-grade boulders.	45.3
14662	Grab of waste dump at shaft	11.5
14663	Chipped pieces from wall rock	4.2

ORE RESERVES

There has not been sufficient work done on the deposit to permit an estimate of ore reserves.

PROPOSED EXPLORATION AND DEVELOPMENT

Applicant, Reidhead proposed to go down the rather steep hillside to a point 100 feet below the collar of the present shaft and drive a tunnel that would cross the entire brecciated zone. It would pass directly under the shaft. He further suggested that two more similar tunnels be driven at 100-foot intervals.

The following cost estimates were submitted:

Exploratory road, 80 hrs. @ $14.00	$ 1,120.00
1 Sup't., 3 mo. @ $450.00 per mo.	1,350.00
1 Foreman, 3 mo. @ $375.00 per mo.	1,125.00
1 Jackhammer-man, 624 hrs. @ $1.50 per hr.	936.00
2 Miners (laborers), 624 hrs. @ $1.25 per hr. ...	1,500.00
Engineering and geological consultation	500.00
Drill steel and bits	150.00
Lumber, ties, and timbers	325.00
Powder and caps	280.00
Tools	75.00
Pipe, hose, and fittings	250.00
Fuel	300.00
Water	50.00
Rail and fittings	450.00
Compressor rental, 3 mo. @ $160.00 per mo.	480.00
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Rehabilitation to equipment	160.00

1 Cabin	$ 600.00
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Workmen's Compensation, insurance, payroll taxes.	497.00
Total	$11,108.00
Plus Contingencies, 10%...	1,111.00
Grand total	$12,219.00

The above Grand Total estimate of $12,219.00 is not out of line for a 300-foot tunnel. With a foreman on the job, the superintendent expense ($1,350.00) could be eliminated as could also the $500 item for engineering and geological consultation. On the other hand, the estimates for material are low and equipment estimates also would need raising. The estimates would be entirely inadequate if they were intended to cover the driving of two additional tunnels.

CONCLUSIONS

It is evident that the black coating over the brecciated zone has led the applicant to believe that solid manganese would be found if this breccia were explored. The following statement is found in applicant's description of property: "As if by chance, the vertical shaft was seemingly sunk just north of an evident large vein of pure manganese". Actually the shaft was sunk on the only narrow high-grade vein or streak of any significance. The large vein of pure manganese referred to is the black coated wall rock. When broken into, the quartzite is exposed.

The applicant had done no work on these claims. He had not attempted to make the shaft safe for examination purposes, nor had he been down the shaft.

Judging from the size of the shaft opening, about 100 tons of material were mined to produce 5 tons of hand-sorted high-grade ore. It is of interest that the sample of dump material assayed only 11.5 percent manganese. The sample chipped from the wall rock material assayed only 4.2 percent manganese. This would indicate that the shaft work was done in an ore pocket that contained a high-grade streak in lower-grade rock. The shaft being unsafe no attempt was made to verify the claim that the high-grade streak had widened to 18 inches near the bottom. Much more than 5 tons of sorted ore would have resulted if the vein had attained that width. Only if the entire brecciated zone contained enough manganese to be considered an economic deposit, would the deposit be of interest for Government participation in its exploration.

There is no reason to assume that more work in the brecciated zone would disclose more and larger lenses or pockets of high-grade ore per foot of work than was encountered in the shaft work. It took 20 tons of material to yield 1 ton of high-grade ore from the shaft work. Government participation is not considered advisable at this time.

RECOMMENDATIONS

It is recommended that the application be denied.

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

224 New Customhouse
Denver 2, Colorado

January 28, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2799, Rattlesnake Manganese Claims, Roosevelt Mining District, Gila County, Arizona

Enclosed are four copies of the final report, two copies of Form 3b and a copy of the letter of denial to the applicant.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
2-6-53
(date)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

MINING DIVISION
REGION IV

January 16, 1953

Memorandum

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

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

Subject : Final Report on Docket DMA-2799, Rattlesnake Manganese Claims, Roosevelt Mining District, Gila County, Ariz.

Enclosed are original and 3 copies of the section on Summary, Conclusions and Recommendations by C. A. Kunke of the Bureau of Mines, and J. L. Falck of the Geological Survey, and the section on Engineering by Kunke for the above report.

As only a small amount of low-grade manganese ore seems to occur on the property and as the chance of discovering substantial amounts of additional ore seems unfavorable, the examiners recommend denial of an exploration loan. I concur with their recommendations.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC: W. H. King (8)
A. F. Shride
DMA-2799
MP

WRStorms:als

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

January 26, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2799, Rattlesnake Claims, C. O. Reidhead, Gila County, Arizona. Manganese.

Enclosed are the original and 8 copies of the geologic report by J. N. Falck of the U. S. Geological Survey covering the above docket.

It has been recommended that the loan be denied.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

DEPARTMENT OF THE INTERIOR
Bureau Mines Administration
RECEIVED
FEB 2 1953

January 23, 1953

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, DMEA 2799, Rattlesnake Claims, C. O. Reidhead, Gila County, Arizona (Manganese)

Enclosed are the original and 8 copies of the above report by J. N. Faick of the Geological Survey.

This report and the recommendation that an exploration loan be denied have my approval. The loan should be denied because the very small, high grade masses of manganese that may exist are widely scattered and could not be discovered by any reasonable method of exploration. If found, the cumulative total tonnage of such ores would not constitute a significant reserve.

A. F. Shride
Acting District Supervisor
Arizona-New Mexico

Enclosures 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-2799, Rattlesnake Manganese Claims

Roosevelt Mining District

Gila County, Arizona

Chas. A. Kumke, Mining Engineer
U. S. Bureau of Mines

John N. Faick, Geologist
U. S. Geological Survey

January 1953

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Chas. A. Kumke[1/] and John N. Faick[2/]

It was requested in November 1952 by the Operating Committee, Defense Minerals Exploration Administration, that the Field Team, Region IV, examine the Rattlesnake group of manganese lode claims in Gila County, Ariz. Applicant Charles O. Reidhead of McNary, Ariz. was asking for assistance under the Defense Production Act of 1950, as amended, in exploring his property, a manganese prospect, 42 road miles north-northwest of Globe, Ariz. Reidhead proposed to drive a tunnel across a brecciated zone in which manganese was found. The tunnel was to be located about 100 feet below the collar of a 40-foot discovery shaft.

On January 6, 1953, Chas. A. Kumke and John N. Faick visited the property. They were met in Globe, Ariz. by Charles O. Reidhead, the applicant, who acted as guide for the trip.

The Rattlesnake group consists of four unpatented lode claims. The claims are contiguous and cover the cemented brecciated zone in which manganese is found. A 40-foot shaft comprises the only work done on the claims. Because the collar set and shaft timbers appeared unsafe, the examining engineers did not go down the shaft. Surface exposures were examined and three samples were taken.

The shaft was sunk on a vertical, narrow, high-grade streak of manganese only a few inches wide. This high-grade ore, containing 45.8 percent manganese, was hand sorted and amounted to 5 tons for

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1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

the entire 40 feet of shaft work. The reject material from the shaft work assayed 11.5 percent manganese. A sample taken of the cemented breccia beyond the shaft walls, assayed 4.2 percent manganese.

About 20 tons of material were mined for every ton of sorted high-grade ore obtained. There is no reason to assume that additional exploration work will disclose more or larger pockets of high-grade ore than were disclosed by the shaft work. The yield of this class of ore would be insignificant and costly. The remaining cemented breccia contains some manganese, but the amount probably would be less than 5 percent.

The shaft constitutes the only significant work done on the property. It is to be regretted that the applicant failed to ascertain whether or not the necessary repairs had been completed in order to permit a safe entry.

Government participation does not seem advisable at this time and it is recommended that the application be denied.

RATTLESNAKE MANGANESE CLAIMS
CHARLES O. REIDHEAD, APPLICANT
GILA COUNTY, ARIZONA

DMEA 2799

Geology

By
John N. Faick
Geologist, U. S. Geological Survey

RATTLESNAKE MANGANESE CLAIMS
CHARLES O. REIDHEAD, APPLICANT
GILA COUNTY, ARIZONA

DMEA 2799

CONTENTS

	Page
Introduction	1
Description of the Deposits	2
Summary and Conclusions	4
Recommendations	4

INTRODUCTION

An application has been received by the Defense Minerals Exploration Administration for financial assistance in exploring the Rattlesnake manganese prospect in Gila County, Arizona. The application was made by Charles O. Reidhead, whose address is in care of B. E. Swartout, Box 204, McNary, Arizona. The property consists of 4 unpatented contiguous claims situated on the southwestern slopes of the Sierra Ancha Mountains, and is about 4 or 5 miles north of the Roosevelt Reservoir. The claims are 42 miles by road from Globe, Arizona and are accessible by passenger cars except for the last couple miles which are accessible by jeeps or light trucks. The claims are controlled by Reidhead and Swartout, a partnership, and are controlled by a ten year lease with option to purchase from the owners: J. C. Rapier, Otto Malone, and John Corn.

The application is docketed as DMEA 2799. The proposed exploration for which assistance is requested is estimated by the applicant to cost $12,219, of which the Government's share would be 75 percent. The proposed exploration consists of driving an adit about 100 feet below the outcrop of a manganiferous breccia zone to determine if manganese is present in greater quantities at this depth than at the surface.

DESCRIPTION OF THE DEPOSITS

The Rattlesnake manganese deposit consists of irregular mineralized zones in a very large breccia mass that was formed by intense shattering of a massive, fine-grained, pink arkosic quartzite. This quartzite host rock, where exposed beyond the breccia, is massive in character and is remarkably uniform throughout a thickness of a few hundred feet. The formation is thought to be pre-Cambrian Dripping Spring quartzite, although this identification is tentative. The formation strikes easterly and dips about 10 degrees southerly.

An outcrop of diabase is exposed in a westward trending arroyo heading near the base of the exposed breccia mass. The nature of this diabase is unknown, but it is thought to be part of a sill intruded near the base of the Dripping Spring quartzite.

The breccia zone ranges from about 50 feet to 300 feet wide and is reported by the applicant to be about three-quarters of a mile long. It strikes northwesterly and probably dips steeply to the west; this dip is suggested by the attitude of many small, scattered shear planes within the breccia mass. The location and attitude of the breccia zone suggests that it may correspond in position to a very large fault shown on the geologic map of Arizona, in T. 5 N., R. 12 E.

The attention of the examiners was confined to a part of the breccia a few hundred feet long, which, according to Mr. Reidhead, contains more manganese than other parts of the mass. This is the zone for which exploration is proposed. It has previously been explored by a 40-foot shaft which yielded by hand sorting about 5 tons of ore, of which an average sample yielded 45.8 percent manganese. A sample of the fine material in the waste dump contained 11.5 percent manganese, and a chip sample across several feet of breccia outside of the mineralized zone explored by the shaft contained 4.2 percent manganese.

The breccia contains nearly equidimensional angular and sub-angular fragments ranging in size from about ½ inch to about 6 inches across. Many large blocks measuring 2 or 3 feet across were observed and in a few places masses of unbroken quartzite as large as several feet in maximum dimension are present. The breccia contains many vugs and cavities, and the ratio of openings to solids is relatively high.

Manganese oxides, psilomelane and pyrolusite form films and coatings on the breccia fragments, line the vugs and cavities but seldom

fill them. The manganese films are generally so thin that they do little more than stain the breccia fragments; however, in a few places the coatings have a thickness as great as $\frac{1}{4}$ to $\frac{1}{2}$ inch and cement the breccia into a compact mass. In a few places the cavities become completely filled with manganese oxides, thus forming small amounts of high grade ore.

Some of this high grade ore was previously explored by a 40-foot shaft which was sunk on a nearly vertical fracture zone within the breccia mass. About 5 tons of massive psilomelane, some of which is coated with a thin film of pyrolusite, was produced from this shaft by hand sorting it from an estimated 100 tons of waste rock. The ore occurred as coatings on the breccia fragments and also as vein-like masses coating the walls of the fractures. The largest mass observed by this writer was about 3 inches thick and is thought to have come from a vein about 3 or 4 feet long and of about the same vertical depth extension. This piece had formed as a coating on the wall of the fracture and had one well-developed mamillary surface, indicating that the fracture had not been completely filled with manganese oxide. Other large masses were mined from the same fracture zone. Throughout the deposit there appears to be sufficient manganese to fill the voids only where they are relatively small.

Associated with the manganese oxides is enough limonite to give a brownish color to the freshly broken mineralized rock except where manganese is abundant. Most of the breccia mass is black on the weathered surface and brown where freshly broken. The outcrops suggest that manganese is widely distributed throughout large parts of the breccia mass; however, only a very small part of it is rich enough to constitute ore.

SUMMARY AND CONCLUSIONS

The manganese in the Rattlesnake deposit consists of thin films coating the breccia, and small masses and layers cementing the breccia fragments together or partly filling the interstices. Larger masses forming vein-like deposits a few feet long and extending a few feet deep are present on some of the more prominent shear or fracture zones. The massive ore contains 45 percent manganese, but an average sample of some of the breccia contained only about 4 percent manganese. This is probably about the average grade of the mineralized breccia. Stains and thin films of manganese are distributed uniformly over very large zones but the massive higher-grade ore is erratically distributed in scattered small masses. The ore masses are too few in number and too scattered to justify efforts to exploit the deposit under present conditions.

RECOMMENDATIONS

Thin films or seams of manganese oxides cementing the breccia fragments in the Rattlesnake prospect occur in very small amounts over a relatively large area. These oxide minerals are not present in sufficient quantity to justify attempts at mining, and casual examinations indicates that the thin films or seams may not be amenable to concentration.

The applicant's proposal is to explore and mine only the high grade masses of ore which will yield an excellent product by hand sorting. These masses are very small, and widely scattered and search for them by underground methods would be difficult and expensive, and not likely to yield important amounts of ore, therefore this application should be denied.

DMEA-2799, RATTLESNAKE MANGANESE CLAIMS
ROOSEVELT MINING DISTRICT
GILA COUNTY, ARIZONA

Engineering Report

By Chas. A. Kumke
Mining Engineer
U. S. Bureau of Mines

January 1953

DMEA-2799, RATTLESNAKE MANGANESE CLAIMS
ROOSEVELT MINING DISTRICT
GILA COUNTY, ARIZONA

CONTENTS

Engineering Report	Page
Introduction	1
Acknowledgments	2
Location and accessibility	2
Physical features and climate	2
History and production	3
Ownership and extent	3
Description of deposit	4
Ore reserves	5
Proposed exploration and development	5
Conclusions	6
Recommendations	7

ILLUSTRATIONS

Figure		Following page
1	Location map	2

INTRODUCTION

Under date of Nov. 24, 1952, the operating committee, Defense Minerals Exploration Administration, requested that the Field Team of Region IV, make an examination of the Rattlesnake manganese group, Gila County, Ariz. The applicant, Charles O. Reidhead, was requesting assistance from the Government under the Defense Production Act of 1950, as amended, to do exploratory work estimated to cost $12,219.00. He proposed to drive a tunnel so that it would cut the cemented breccia zone in which the manganese occurred, 50 to 60 feet below the bottom of the 40-foot discovery shaft. This shaft comprised the only workings of any significance on the property.

On January 6, 1953, Chas. A. Kumke[1/] and John N. Faick[2/] visited the property. They were met in Globe by the applicant, Charles O. Reidhead, who acted as a guide for the trip to the claims.

The Rattlesnake Group consists of 4 full sized lode claims, not patented and unsurveyed. The claims are contiguous and lie end to end along the strike of the deposit. There is a discovery shaft 40 feet deep. The old ladders, and the frail collar-set, loose and with rotted ends, were considered unsafe to attempt a trip to the shaft bottom. The applicant had done nothing to make the shaft safe, so the examining engineers did not go down. There has been no other work performed on the claims. The surface was examined along the strike and 3 samples were taken.

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

ACKNOWLEDGMENT

Acknowledgment is made to Charles O. Reidhead, applicant, who acted as guide. He was very cooperative.

LOCATION AND ACCESSIBILITY

The Rattlesnake group of claims is situated 42 road miles north-northwest of Globe, Ariz. in the Roosevelt mining district of Gila County. The immediate surroundings are unsurveyed (figure 1). Globe is the nearest town or city.

The following directions will take one to the claims: Drive 4 miles west on U. S. Highway 60-70 to Apache Trail Junction; thence turn right on state highway 88 for 15.7 miles to Pleasant Valley Junction. Turn right there and go 4.6 miles to Salt River Bridge. Cross the bridge and go 2.7 miles to the junction with the Cherry Creek road. Stay on the main road for another 6 miles to Tonto Basin Junction. There, turn left and go 5 miles to a sign reading "Arner and Tanner". Turn right and go 4.5 miles on a dim road, passing through 3 barbed wire gates. From there it is less than 300 yards to the mine shaft.

There are no excessive grades, and except for the last 4.5 miles, the road is maintained by standard road equipment.

PHYSICAL FEATURES AND CLIMATE

Like most of the southwest, this region has a semi-arid climate. The elevation is about 3,000 feet above sea level. To the northward, the immediate terrain turns abruptly steeper to form the south slope of the Sierra Ancha mountains. Temperatures range from 100° F. to freezing weather with occasional light snow. The annual rain fall is about 10 inches.

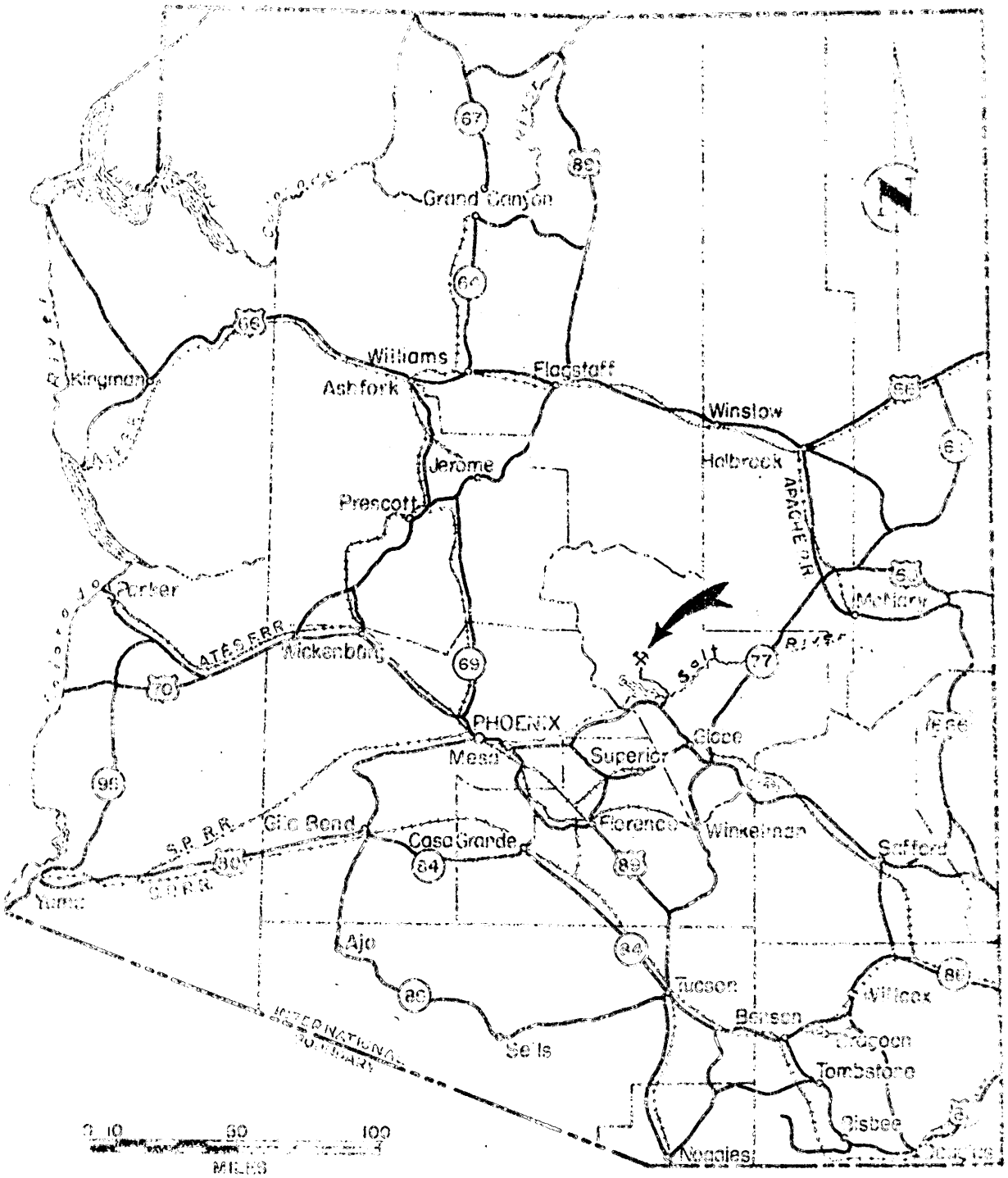

FIGURE 1. - LOCATION MAP

RATTLESNAKE GROUP MANGANESE

GILA COUNTY, ARIZONA

HISTORY AND PRODUCTION

In order to learn when these claims first were located, it probably would be necessary to talk to some of the old timers among the cattlemen in this area. Reidhead, the applicant, although known as an old-timer in the Globe, Showlow, and McNary districts, has only recently become interested in this area and could give the examining engineers no help with the history of the deposit. However, it is very evident from the poor condition of the timbers around the collar of the 40-foot shaft that this shaft work was done many years ago, probably early in World War II, or even earlier.

The 40-foot prospect shaft comprises the only work done on the claims. It was started on a 3-inch streak of high-grade manganese ore, and this streak, according to the applicant, persisted all the way to the bottom, reaching a width of nearly 18 inches in one place. A small ore pile, containing about 5 tons of high-grade manganese, was pointed out as being the total amount of sorted ore that had been taken from this shaft. No shipments were made.

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The group of four Rattlesnake claims was located in 1951 by J. C. Rapier. The ownership now is held as follows:

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These men are now the lessors. Charles O. Reidhead, the applicant, is the lessee.

The term of the lease is for 10 years, commencing November 18, 1952.

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A copy of the lease and Option to Purchase is attached to Docket DMEA-2799.

DESCRIPTION OF DEPOSIT

The manganese ore in this deposit occurs as black, massive psilomelane. It is a secondary deposit in a cemented quartzite breccia. This brecciated zone is extensive. It strikes north-northwest, and measures over 200 feet in width at the discovery shaft. There is a heavy black coating over the exposed breccia that gives the appearance of an extensive manganese deposit. However, the manganese is not uniformly distributed throughout the breccia mass. Small amounts of high-grade manganese occur in the narrow cracks.

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A sample was taken of the sorted highgrade, a second sample was taken of the shaft dump after the high-grade had been sorted out, and

a third sample was taken of the brecciated material that constitutes the walls of this small high-grade vein.

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ORE RESERVES

There has not been sufficient work done on the deposit to permit an estimate of ore reserves.

PROPOSED EXPLORATION AND DEVELOPMENT

Applicant Reidhead proposed to go down the rather steep hillside to a point 100 feet below the collar of the present shaft and drive a tunnel that would cross the entire brecciated zone. It would pass directly under the shaft. He further suggested that two more similar tunnels be driven at 100-foot intervals.

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Pipe, hose, and fittings	250.00
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Grand total	$12,219.00

The above Grand Total estimate of $12,219.00 is not out of line for a 300-foot tunnel. With a foreman on the job, the superintendent expense ($1,350.00) could be eliminated as could also the $500 item for engineering and geological consultation. On the other hand, the estimates for material are low and equipment estimates also would need raising. The estimates would be entirely inadequate if they were intended to cover the driving of two additional tunnels.

CONCLUSIONS

It is evident that the black coating over the brecciated zone has led the applicant to believe that solid manganese would be found if this breccia were explored. The following statement is found in applicant's description of property: "As if by chance, the vertical shaft was seemingly sunk just north of an evident large vein of pure manganese". Actually the shaft was sunk on the only narrow high-grade vein or streak of any significance. The large vein of pure manganese referred to is the black coated wall rock. When broken into, the quartzite is exposed.

The applicant had done no work on these claims. He had not attempted to make the shaft safe for examination purposes, nor had he been down the shaft.

Judging from the size of the shaft opening, about 100 tons of material were mined to produce 5 tons of hand-sorted high-grade ore. It is of interest that the sample of dump material assayed only 11.5 percent manganese. The sample chipped from the wall rock material assayed only 4.2 percent manganese. This would indicate that the shaft work was done in an ore pocket that contained a high-grade streak in lower-grade rock. The shaft being unsafe no attempt was made to verify the claim that the high-grade streak had widened to 18 inches near the bottom. Much more than 5 tons of sorted ore would have resulted if the vein had attained that width. Only if the entire brecciated zone contained enough manganese to be considered an economic deposit, would the deposit be of interest for Government participation in its exploration.

There is no reason to assume that more work in the brecciated zone would disclose more and larger lenses or pockets of high-grade ore per foot of work than was encountered in the shaft work. It took 20 tons of material to yield 1 ton of high-grade ore from the shaft work. Government participation is not considered advisable at this time.

RECOMMENDATIONS

It is recommended that the application be denied.

MF-103
(Revised April 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 3 1952

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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

Not to be filled in by applicant

Docket No. DMEA-2799
Metal or Mineral
Date Received 12/3/52
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:

Charles O. Reidhead, Box 204, McNary, Arizona
c/o B. E. SWARTOUT

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

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

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

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

Rattlesnake 1 (Amended), Rattlesnake 2, Rattlesnake 3 and Rattlesnake 4. Lode Claims, Gila County, Arizona

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

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

Lessee with 10-year option to purchase.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

No encumbrances

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

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

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

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

5. *The exploration project.*—(*a*) [redacted] the mineral or minerals for which you wis[redacted] explore Manganese

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections [redacted] 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 30 days and be completed within 1½ 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?

[X] Money [X] 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 November 20, 1952

Charles O Reidhead

Charles O. Reidhead

(Applicant)

By Same

Box 204, % B.E. Swartout

M'Nary Arizona

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

EXPLORATION OF RATTLESNAKE CLAIMS
BY CHARLES O. REIDHEAD
c/o B.E. SWARTOUT
Box 204, McNary, Ariz

3 (a) Legal description of property follows:

Those certain unpatented lode mining claims situate inthe Roosevelt Mining District, Gila County, Arizona, of whichthe names, together with the numbers of books and pages of Records of Mines where their location notices are recorded in the office of the County Recorder of Gila County, Arizona, are as follows:

Name	Book	Page
Rattlesnake No. 1 (Amended)	49	369
Rattlesnake No. 2	49	354
Rattlesnake No. 3	49	354
Rattlesnake No. 4	49	354

(b) Rattlesnake Mine, Roosevelt Mining District
(c) Lessee
(d) Document Attached
(f) See Above

4 (a & B) A six foot shaft 40 feet deep has been sunk on the property. A three inch vertical vein of high grade manganese was followed downward the entire distance. It widened out as it went down gradually to 18 inches in width at the bottom of the 40 ft shaft. About 6 ton of solid high grade manganese in excess of 40 pct Mn was extracted from this shaft and this ore can be examined. A road has been constructed to within 200 yards of the mine and while it is 30 miles north of Globe, Arizona, there is no snow on the ground in winter and property can be readily inspected.

(c) As one approaches the claim a black area in the reddish rock mountain can be noted from several miles away. After arriving at the claims, the layman can note that all surface rock seems to have been coated with less than an inch of molten manganese, as if it had come out of the ground in liquid form under extreme pressure and sprayed everything in the vicinity. A vertical shaft about 6 ft. in diameter has been excavated downward to a depth of approximately 40 feet. The sample of ore sent for analysis by U. S. Steel and pronounced high grade manganese was taken from material just below ground surface, which, however, seems to be principally low grade manganese with intermittent pockets of high grade which would require milling. This portion of the deposit is also interspersed with rock. There seems to be no uniformity and a great portion of the area is of this general description. However, at a point about seventeen feet below ground surface there is a most intriguing sight. As if by chance, the vertical shaft was seemingly sunk just north of an evident large vein of pure manganese. The southerly edge of this vein forms the north wall of the shaft and absolutely no excavation was performed in the vein. It is visible from the ladder now hanging on the south side of the shaft and the vein seems to run east and west (at this point it has been exposed horizontally for about 20 feet in an effort to determine its uniformity and direction.) This vein seems to be solid manganese of the quality U. S. Steel claimed for 40 percent Mn and it averages about six foot thick. No effort has been made to drill northward into this six foot vein to determine its breadth. This entire vein has practically no rock or waste material in it and the southerly surface of the vein seems to be made up of little bubbles or blisters of manganese. There has been no geology or engineering performed to my knowledge and no other test pits or diamond drilling; although there are surface exposures across the 60 acres.

6.(a)

Independent contracts:

	Exploratory road work, 80 hrs. @$14.00	$1 120
(b)	1 Supt., 3 mo. @$450 per mo.	1 350
	1 Forman, " " @$375 " "	1 125
	1 Jackhammer man 624 hrs. @$1.50 per hr.	936
	2 Miners (laborers) 624 hrs. @$1.25 per hr.	1 560
	Engineering and geological consultation	500
(c)	Drill steel and bits	150
	Lumber, ties and timbers	325
	Powder and caps	280
	Tools	75
	Pipe, hose and fittings	250
	Fuel	300
	Water	50
	Rail and fittings	450
(d)	Compressor rental 3 mo. @$160 per mo.	480
	Mine car and Jack hammer	375
(e)	Rehabilitation to equipment	160
(f)	1 cabin @$600	600
	1 shed for tools	250
(g)	Repairs to equipment and tools	125
	Accounting	150
	Workmen's compensation, insurance and payroll taxes	497
	Total	$11 103
	Contingencies 10%	1 111
		$12 219

C. O. Reidhead
c/o B E Swartout
Box 204
McNary Arizona

(d) The claims are about 35 miles north of Globe; 15 miles are blacktop paving and 15 miles well-maintained gravel road - balance is an exploratory road. The ore would be hauled 35 miles by truck to Globe, thence via rail to Wenden or Deming stockpiles. Supplies would be purchased in Globe but miners can obtain board and room at farm houses 5 and 6 miles away.

(e) There is adequate labor in vicinity and an abundance of Apache Indian labor on nearby Reservation. There is plenty of materials and supplies at Globe. Several pieces of equipment available at nearby farms and mines; satisfactory water can be had 400 yards from mines; power would have to be diesel until REA extends its lines. Roosevelt Dam power within three miles.

5 (b) According to Consulting Mining engineer there are evidences of other veins of high grade manganese ore running east-west across this property each side of vein followed vertically downward by the 40 ft. shaft above mentioned. It is proposed to run three exploratory shafts or adits at the toe of the south slope northward into the mountain about 50 feet below the bottom of the existing 40 ft. shaft. In this way, intersect all east-west veins low enough so they should be wider than the 18 inch vein already determined. These exploratory horizontal adits will permitx an accurate appraisal of both the thickness of these veins and the length of same. Furthermore, it could be decided whether to later sink vertical shafts into the veins from the floor of the three adits. An accurate estimate could likewise be determined as to prospective tonnage to be had from cross-cutting each vein as it is intersected.

(d) I have spent most of my life, 50 years in this area, and have been engaged in prospecting and mining for myself about 20 years of that time. Am a doctor of Osoopathy, but more interested in mining. I worked the Loey and Lena asbestos mine on the Indian Reservation for many years and am sole leaseholder of 277 acres of asbestos claims in SaltRiver Canyon, known asCyax Claims 1, 2, 3, 4, 5, 6, 7, & 8. I feel fully qualified to actively supervise the mining of these manganese claims, and personally believe a substantial tonnage could be located by concluding the exploratory work intended. In the interest of future rail tonnages and to assist in development of the area, Mr. Bruce Swartout, General Manager of The Apache Railway Company will assist as an advisor in the management of this property and promises financial help, if needed, after exploratory contract is concluded. Between us, am positive a productive property can be had by completing the exploratory work needed.

6 (a) through (h) next attached.

7 (a) Yes am prepared to furnish my share of the cost of this proposed project. Part of the participation will be furnished in the form of equipment and balance in cash. I have a compressor worth $1250.00; balance will be cash to make up the 25 percent required.

C. O. Reidhead
c/o B. E. SWARTOUT
Box 204
M'NARY, Ariz

DMEC-2799

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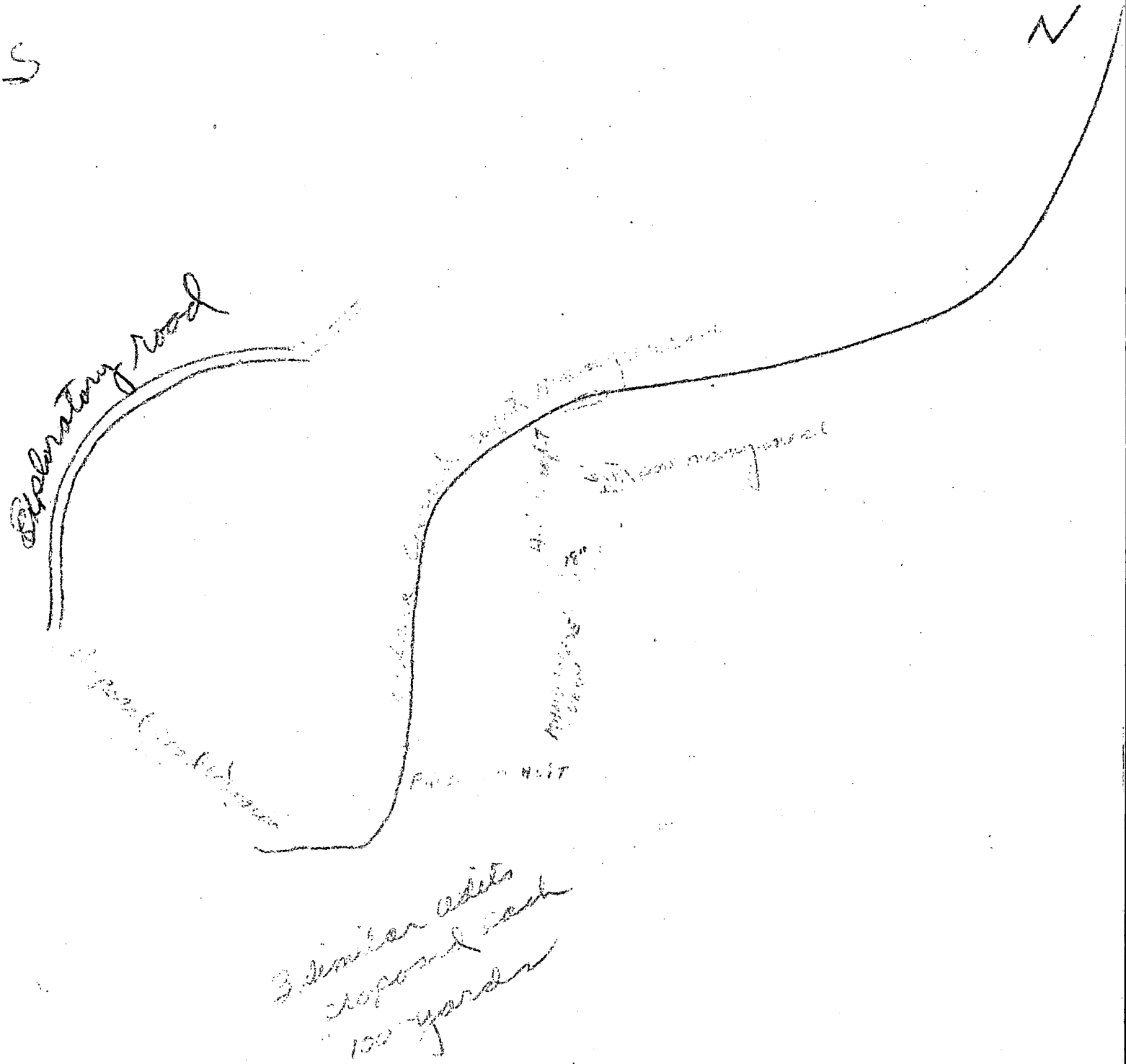

C. O. REIDHEAD
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McNary Ariz

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DEPARTMENT OF THE INTERIOR
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SPOKANE 2, WASHINGTON
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Chairman, Operating Committee
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Washington 25, D. C.