Docket No. DMEA 2563 - Manganese Oct. 14, 1952

Iron and Ferro-Alloy Division, DMEA

Denial of Application by Field Team, Region IV
Docket No. DMEA 2563 - Manganese
Emery-Hill Mining Company
Emery Claims
Mohave County, Arizona

The applicant requested exploration assistance in the amount of $26,289.90 to core drill, trench, and sample manganese mineralization in two veins in the granitic rocks of the southern foothills of the Hualapi Mountains, northwestern Arizona.

The field team examined the property September 4, 1952, and recommended denial for the following reasons:

1. Mineralized zones were composed of about equal amounts of quartz and manganese-stained calcite with occasional small nodules of manganese and thin seams of wad. A very small quantity of manganese is present. The three representative samples taken contained 0.75, 1.15 and 1.85 percent manganese, respectively.

2. No secondary concentration of manganese is found in any given horizon.

This Division concurs with the field team's denial of the subject application.

The application was denied by the field team, and Mrs. Estella Converse Hill, President, Emery-Hill Mining Company, advised of this action September 30, 1952.

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

FARutledge'lm
10/14/52

cc: Admn. Reading File
Docket
G. C. Selfridge
F. A. Rutledge

FILE COPY 400
SURNAME:

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

Docket No. DMEA 2563 - Manganese Oct. 14, 1952

Rutledge
Selfridge

Iron and Ferro-Alloy Division, DMEA

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George C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

FARutledge'lm
10/14/52

cc: Admn. Reading File
Docket
G. C. Selfridge
F. A. Rutledge

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Docket No. DMEA 2563 - Manganese DATE: Oct. 14, 1952

FROM : Iron and Ferro-Alloy Division, DMEA

Noted
Con

SUBJECT: Denial of Application by Field Team, Region IV
Docket No. DMEA 2563 - Manganese
Emery-Hill Mining Company
Emery Claims
Mohave County, Arizona

The applicant requested exploration assistance in the amount of $26,289.90 to core drill, trench, and sample manganese mineralization in two veins in the granitic rocks of the southern foothills of the Hualapi Mountains, northwestern Arizona.

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2. No secondary concentration of manganese is found in any given horizon.

This Division concurs with the field team's denial of the subject application.

The application was denied by the field team, and Mrs. Estella Converse Hill, President, Emery-Hill Mining Company, advised of this action September 30, 1952.

G. C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

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

224 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 6 52

September 30, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2563, Emery-Hill Mining Co., Mohave County, Arizona

Enclosed are the original and three copies of the final report on DMEA-2563, the original and one copy of Form 3b, and a copy of the letter of denial to the applicant.

John F. Shaw
John F. Shaw for
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

COPY

224 New Customhouse
Denver 2, Colorado

September 30, 1952

Mrs. Estella Converse Hill, President
Emery-Hill Mining Co.
49 W. Moreland St.
P. O. Box 2284
Phoenix, Arizona

Re: DMEA Docket 2563

Dear Mrs. Hill:

Reference is made to your application for Government aid on your manganese prospect in Mohave County.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade, and 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 you that your application for exploration aid is denied.

Very truly yours,

(signed)
John F. Shaw for
W. H. King
Field Team, Region IV

(signed)
A. H. Koschmann
Field Team, Region IV

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

Emery-Hill Mining Co.

Applied early in June.

Examination Sept. 4

Storms to King Sept 17

Shride to Koschmann Sept 23

14 days { Koschmann to Field Team Sept 25

King to Field Team Sept 30

Field Team to Administrator Sept 30

Letter of Denial from Field Team Sept 30

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 6 '52

September 30, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 8563, Bunny-Hill Mining Co., Mohave County, Arizona

Enclosed are nine copies of the final report on DMEA-8563 by L. L. Fanham of the Bureau of Mines.

The applicant requested $86,289.90 but the field examiner recommends that the loan be denied because no evidence was found to indicate that further exploration was justified.

We recommend that the loan be denied.

for John F. Shea
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-10-52
(date)

MINING DIVISION
REGION IV

September 17, 1952

Memorandum

To : W. H. Ring, Denver, Colorado

From : Chief, Arizona-New Mexico Branch, Mining Div., Region IV

Subject : Final Report, DMEA Docket 2563, Emery-Hill Mining Co's. Manganese Prospect, Mohave County, Ariz.

Enclosed are original and 3 copies of the section on Summary, Conclusions and Recommendations by L. L. Farnham of the Bureau of Mines and G. S. Bromfield of the Geological Survey, and the section on Engineering by Farnham for the above report. A separate section on Geology will be submitted by the Geological Survey.

The deposit contains a small amount of manganese oxides derived from manganiferous calcite, but the small amount of manganese makes the prospect very unpromising.

This report has my approval.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC: W. H. Ring (8)
A. F. Shride
DMEA-2563
LF

WRStorms:als

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

200 New Customhouse
Denver 2, Colorado

September 25, 1952

Memorandum

To: DMEA Field Team, Region II

From: A. H. Koschmann

Subject: DMEA Docket 2565, Emery-Hill Mining Company, Mohave County, Arizona, Manganese.

Enclosed are the original and 8 copies of the geologic report by C. S. Bromfield 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 4125, University Station
Tucson, Arizona

September 23, 1952

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, IMZA 2563, Emery-Hill Mining Company, Mohave County, Arizona (Manganese)

Enclosed are the original and 3 copies of the above report by C. S. Bromfield of the Geological Survey.

Denial of an exploration loan is recommended because the only geologic expectancy is for very low-grade manganiferous material, which does not warrant exploration. The report and recommendation have my approval.

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-2563, Emery-Hill Mining Co.,

Manganese Prospect, Mohave County, Ariz.

L. L. Farnham, Mining Engineer
U. S. Bureau of Mines

C. S. Bromfield, Geologist
U. S. Geological Survey

September 1952

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By L. L. Farnham[1/] and G. S. Bromfield[2/]

Early in June 1952, the Emery-Hill Mining Co. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $26,290. The application was docketed as DMEA-2563. The funds requested were to be used for core drilling and otherwise exploring a low-grade manganese prospect located in southeastern Mohave County, Ariz. The property was visited by the examining team on September 4, 1952.

Following the recent renewed demand for manganese, the applicant company became interested late in 1951 in an occurrence of that metal on a group of mining claims formerly abandoned as gold-silver-lead prospects. The manganese mineralization on the property was found in 2 rather extensive, steeply dipping fracture zones that cut granitic rocks. Both of the mineralized zones were composed of about equal amounts of quartz and manganese-stained calcite with occasional small nodules and thin seams of wad. Samples of the mineralized exposures taken by the examiners showed lack of sufficient manganese to constitute ore. Analyses submitted by the applicant showing as much as 21 percent Mn, were judged to have been taken of the selected ore minerals only, and hence did not represent a minable width of the exposed mineralization. The small quanity of the ore minerals (wad) that were present occurred erratically and were not concentrated in any given horizon

---

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

within the deposit in such a manner as to permit of their being mined selectively. No evidence was found to indicate that further exploration of the deposits would result in the discovery of a worth while quantity of minable manganese ore.

Therefore it is recommended that the application for an exploration loan be denied.

BERRY HILL MINING COMPANY
MOHAVE COUNTY, ARIZONA
IMEA 2563

MANDARIN

Geology

By
Calvin S. Bromfield
Geologist, U. S. Geological Survey

EMERY HILL MINING COMPANY
MOHAVE COUNTY, ARIZONA
DMRA 2563

MANGANESE

CONTENTS

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Introduction	1
Geology and Mineral Deposits	1
Ore Reserves	3
Geologic Conclusions	3

ILLUSTRATIONS

Fig. 1 - Location Map — See Engineering Report

Fig. 2 - Claim Map

INTRODUCTION

The Emery-Hill manganese claims are on the eastern side of the southern foothills of the Hualapi Mountains in northwestern Arizona. They are in Sec. 22, T. 15 N. and R. 13 W., about 7 miles south of the small settlement of Wickiup, and 2 miles west of the southerly trending Big Sandy River (Fig. 1).

The Emery-Hill Mining Company has applied for an exploration loan to core drill, trench, and sample the deposits. The total cost of the project was estimated at $26,239.90.

Relief in the area, which is near the edge of low foothills, is probably not more than a few hundred feet.

GEOLOGY AND MINERAL DEPOSITS

The southern end of the Hualapi Mountains is composed principally of granitic rocks, presumably of pre-Cambrian age. No detailed geologic study of the general area has been made. The claims are near the base of the low granitic foothills, and alluvial gravels of the southerly draining Big Sandy Valley overlap the granitic rocks along the eastern margin of the area.

Several poorly mineralized but strong veins cross the area of the Emery-Hill claims. Two veins carrying very small amounts of manganese are present on these claims and are the subject of the applicant's proposed exploration program.

At one location on the Emery-Hill No. 3 claim, a 30 to 40 feet wide vein striking N. 30°-40° W. has been exposed by a bulldozer cut and it can be traced by outcrops for 250 to 300 feet along the strike. The vein appears to dip steeply to the northeast. The mineralogy of the vein is simple; its main components are quartz, calcite, and manganese oxides. The latter are found as incrustations, veinlets, and small

nodules in the vein material. Nodules or masses more than a few inches in diameter are rare. Calcite cleavage faces are stained with oxides, and manganese oxides are erratically disseminated through the calcite. The quartz is milky white showing comb and vug structure, and it has been brecciated and the breccia cemented with calcite.

A grab-sample of the best looking material assayed only 1.15 percent manganese.

The quartz-carbonate vein at its southeast end is lost under the overlapping alluvial valley gravel; several hundred feet northwest it merges with a brecciated and silicified zone striking N. 50° E. and dipping 50° southeast. This brecciated vein is from 10 to 20 feet wide and is made up largely of brecciated rock, quartz, and calcite. Minor amounts of galena can be found in the vein. Evidence indicates repeated brecciation of the vein material.

The second manganiferous vein, on the Emery-Hill No. 7 claim, is about 1800 feet south of the previously described area. This quartz-carbonate vein zone is 100-150 feet wide and strikes N. 60° to 80° E. The vein can be traced a few hundred feet along the strike. The composition of the vein material is similar to that in the first manganiferous vein described. The vein material is composed of milky white quartz showing comb and vug structure which is brecciated and filled with calcite. The calcite is stained with manganese oxides, which are disseminated through the calcite and along fracture planes. Only meagre amounts of wad or soft pyrolusite-type manganese oxides were observed. A selected sample of the better looking material assayed 0.75 percent manganese. A channel sample in a pit averaged 1.85 percent manganese over 4.5 feet.

ORE RESERVES

There are no ore reserves, either measured, indicated, or inferred.

GEOLOGIC CONCLUSIONS

The Emery-Hill veins, though of good width and continuity, are of very low-grade. An appreciable part of the manganese oxides are finely disseminated in calcite. It cannot be expected that the manganese oxides will increase with depth, rather they can be expected to decrease. There are no measured, indicated, or inferred reserves; and in addition, there is no reason to believe that an exploration program would change this condition. It is recommended that the application of the Emery-Hill Mining Company be denied.

DMEA-2563, EMERY-HILL MINING CO.,
MANGANESE PROSPECT, MOHAVE COUNTY, ARIZ.

Engineering Report

By L. L. Farnham,
Mining Engineer
U. S. Bureau of Mines

September 1952

DMEA-2563, EMERY-HILL MINING CO.,
MANGANESE PROSPECT, MOHAVE COUNTY, ARIZ.

CONTENTS

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Location and physical features	1
History and production	2
Ownership and extent	2
Description of the deposits	2
Sampling	3
Ore reserves	4
Present status	4
Proposed exploration	4
Conclusions and recommendations	4

ILLUSTRATIONS

Figure		Following page
1	Location map	1
2	Claim map	2

INTRODUCTION

In June 1952, The Emery-Hill Mining Co. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $26,289.90. The application was docketed as DMEA-2563. The amount requested was to be used for the further exploration of a manganese prospect near Signal, Mohave County, Ariz. The property was visited by the examiners on September 4, 1952.

ACKNOWLEDGMENTS

Thanks are extended to Emery Blevins, a director of the applicant company, for his assistance during the examination of the property.

LOCATION AND PHYSICAL FEATURES

The subject property is situated in the eastern foothills near the southern end of the Hualpai mountains of southeastern Mohave County, Ariz. The claims cover a portion of Sec. 22, T. 15 N., R. 13 W. The nearest rail shipping points are Congress and Kingman. The former is some 62 miles to the southeast, and Kingman is about 65 miles northwest of the property (figure 1). The claims are accessible over 4 miles of a winding dirt road that branches westerly from State Highway 93 at a point about 6.1 miles south of the village of Wickieup. To reach the property the Big Sandy river must be forded a short distance west of the highway. Following heavy rains this is hazardous and often impossible for days at a time.

The property is in an area of moderate relief and lies at an altitude of about 2,500 feet above sea level.

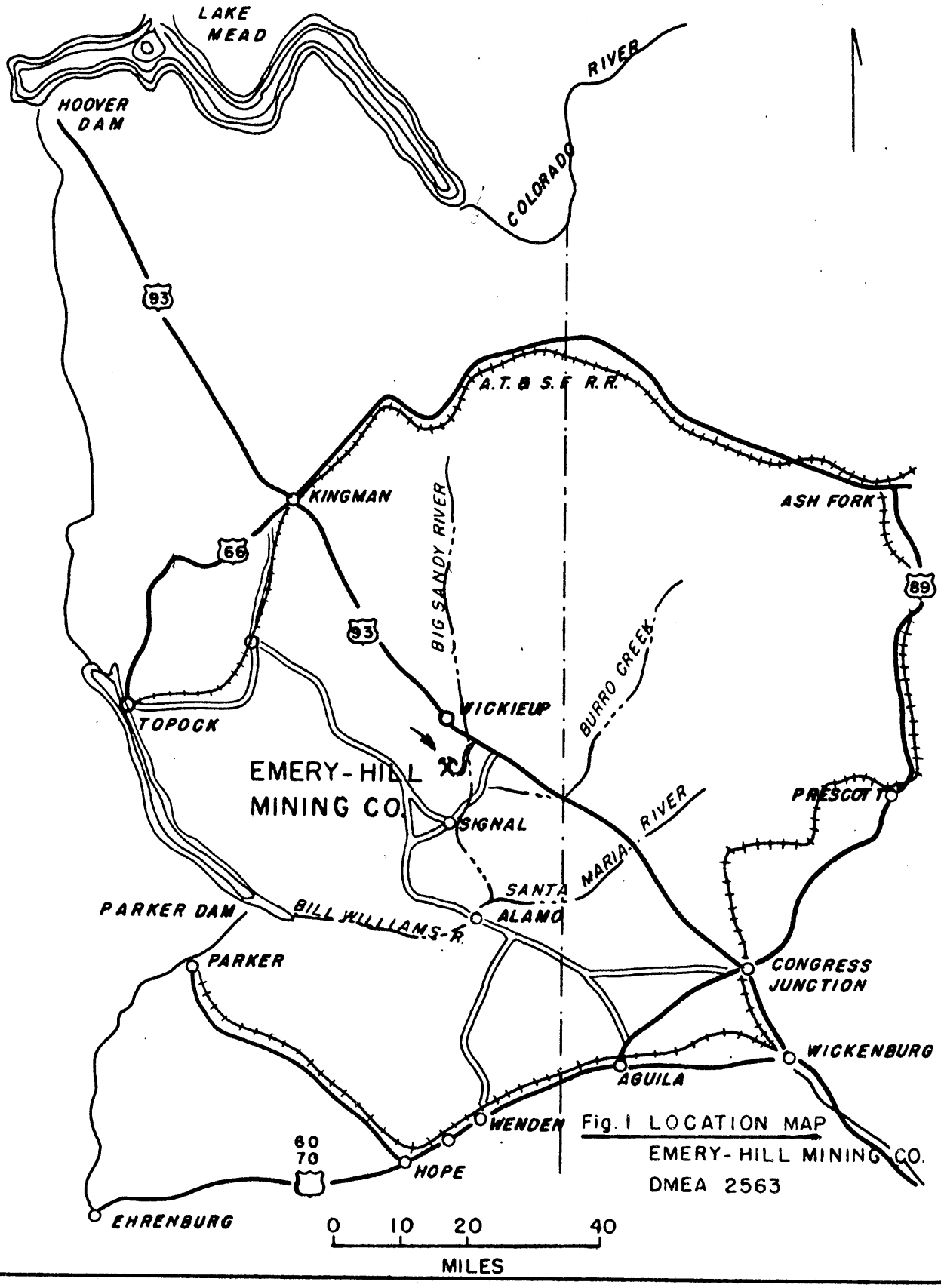

Fig. 1 LOCATION MAP
EMERY-HILL MINING CO.
DMEA 2563

HISTORY AND PRODUCTION

The claims in question probably were originally located several decades ago as gold, silver and lead prospects, for minor amounts of those metals were found in certain veins on the property. Since the original location, they have undoubtedly been abandoned and relocated several times. Following the recent renewed interest in manganese, Emery Blevins located the present group in the hope that further exploration might disclose a commercial deposit of manganese.

So far as known there has been no metal production of any sort from the area or from the applicant's property.

OWNERSHIP AND EXTENT

The applicant company owns 8 contiguous unpatented mining claims which were recorded under the names of the Emery No. 1 to No. 8, inclusive (figure 2).

DESCRIPTION OF THE DEPOSITS

The manganese mineralization on the property occurred in two separated fracture zones that cut granitic rocks. Both fissures had an easterly trend and appeared to dip steeply to the south. The most northerly zone showed more or less manganese mineralization over widths of as much as 40 feet, and which was exposed at intervals for several hundred feet along the strike. The other similarily mineralized exposure, about 1,800 feet to the south, attained a width of some 200 feet, and judged by infrequent outcrops, had a strike length of at least 250 feet.

Both fracture zones were composed essentially of about equal amounts of quartz and manganese-stained calcite. This latter mineral,

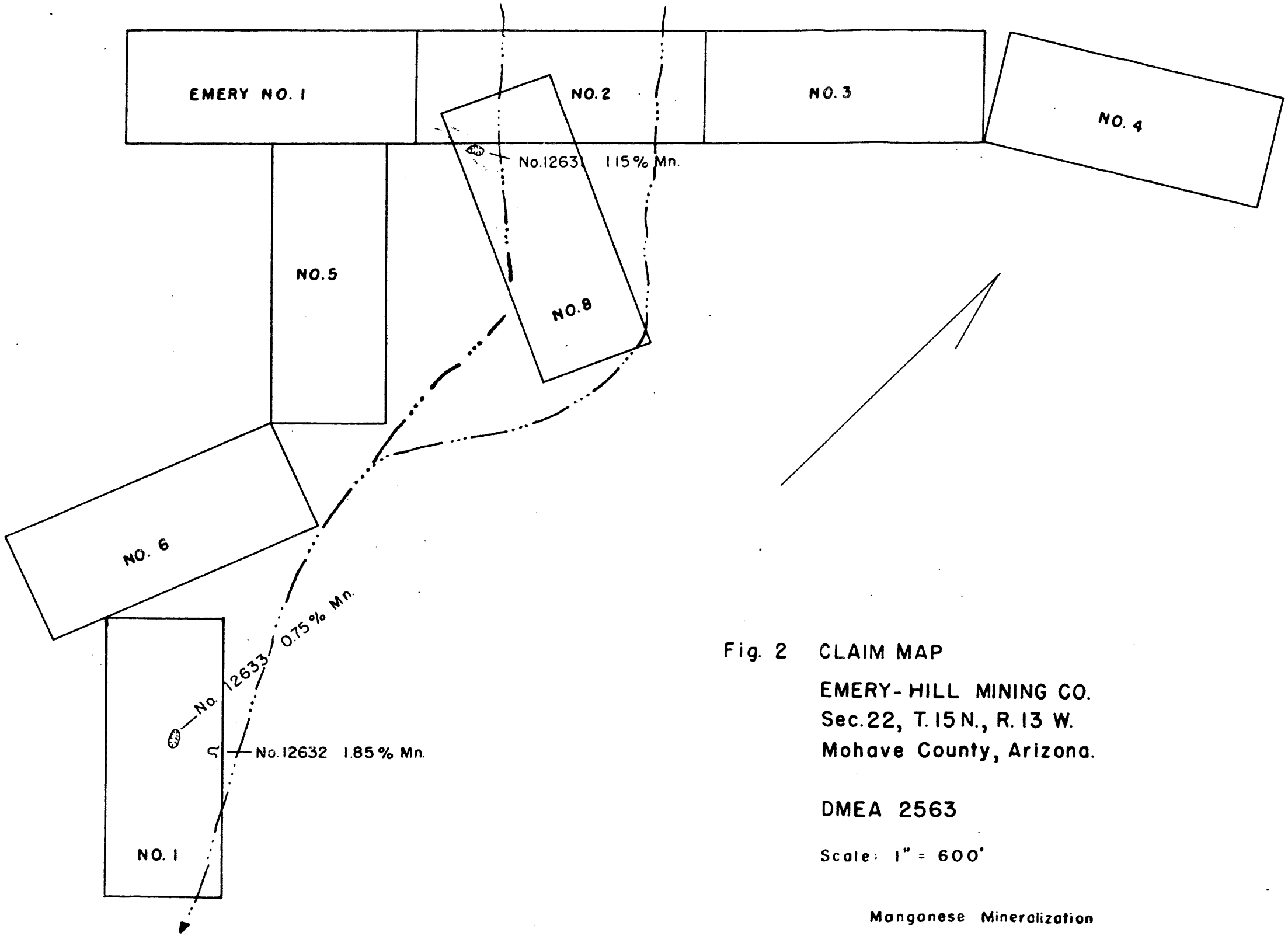

Fig. 2 CLAIM MAP

EMERY-HILL MINING CO.
Sec.22, T.15N., R.13 W.
Mohave County, Arizona.

DMEA 2563

Scale: 1" = 600'

Manganese Mineralization

for the most part, was so thoroughly permeated with thin films of black manganese minerals that it appeared to contain a great deal more manganese that was actually present. Small nodules and thin seams of manganese oxide minerals (wad) were occasionally found associated with the stained calcite. These ore minerals, possibly derived from the weathering of the black calcite, ranged in size from small blebs to masses that were seldom larger than a few inches in their greatest dimension. The wad minerals constituted a very small fraction of the mineralization and were so erratically distributed in the deposit, that they could not be mined selectively.

SAMPLING

The applicant submitted with the loan application, assay certificates covering the results of 5 samples which ranged from a low of 11.5 percent to a high of 21.7 percent manganese. The location, width or manner of taking these samples was not shown.

Three samples of what appeared to be fairly representative of the better mineralized exposures were taken by the examiners. The location of these samples are shown on figure 2 and the results are as follows:

Number	Width	Location	Percent Manganese
12631	Grab.	Nut-size pieces of broken ore, North deposit	1.15
12632	4.5 ft.	Chip sample, face of lower-cut, South deposit	1.85
12633	Grab.	Nut-size broken ore, South deposit	0.75

Judged by the above results the applicant's samples must have been taken from highly selected material that apparently did not represent a minable width of the exposed mineralization.

ORE RESERVES

There was no minable manganese ore exposed on the applicant's property.

PRESENT STATUS

Exploration of the manganese mineralization was limited to a few shallow pits and cuts such as are required for the discovery work following the location of mining claims. A bull-dozer also had been used to strip the surface overburden from small areas on both of the mineralized zones.

PROPOSED EXPLORATION

The applicant proposed to explore the deposits by core drilling 12 holes, each to a depth of 250 feet. This portion of the proposal was estimated to cost $15,000. An additional $11,289.90 was requested to cover the cost of several open-cuts, supervision, sampling, and contingencies. In general, the better manganese ore when found in deposits such as the applicant's, is usually confined to a zone that rarely extends more than a few score of feet below the surface. Hence, even if the deposits in this case were promising enough to warrant further exploration, it does not appear that core drilling to a depth of 250 feet would be feasible.

CONCLUSIONS AND RECOMMENDATIONS

There was insufficient manganese on the subject property to indicate that the deposits might become a source of that metal. A large

portion of the manganese that was present occurred as an unrecoverable stain that permeated calcite. Though some free and recoverable oxide manganese minerals were present, they were found in such small and scattered amounts as to have no value. There was no evidence tending to indicate that further exploration of the deposits would be likely to disclose a minable body of manganese ore.

Therefore, it is recommended that the application for an exploration loan be denied.

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

224 New Customhouse
Denver 2, Colorado

September 30, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2563, Emery-Hill Mining Co., Mohave County, Arizona

Enclosed are the original and three copies of the final report on DMEA-2563, the original and one copy of Form 3b, and a copy of the letter of denial to the applicant. — Removed in R. K.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 6 1952

John F. Shaw
John F. Shaw for
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

Department of Interior
Defense Minerals
RECEIVED
OCT 6 '52

September 30, 1952

Mrs. Estella Converse Hill, President
Emery-Hill Mining Co.
49 W. Moreland St
P. O. Box 2284
Phoenix, Arizona

Re: DMEA Docket 2563

Dear Mrs. Hill:

Reference is made to your application for Government aid on your manganese prospect in Mohave County.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade, and 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 you that your application for exploration aid is denied.

Very truly yours,

John F. Shaw

John F. Shaw for
W. H. King
Field Team, Region IV

A. H. Koschmann

A. H. Koschmann
Field Team, Region IV

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

OCT 8 '52

September 30, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2563, Emery-Hill Mining Co., Mohave County, Arizona

Enclosed are nine copies of the final report on DMEA-2563 by L. L. Farnham of the Bureau of Mines.

The applicant requested $26,289.90 but the field examiner recommends that the loan be denied because no evidence was found to indicate that further exploration was justified.

We recommend that the loan be denied.

for John L. Kaw
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-10-52
(date)

MINING DIVISION
REGION IV

September 17, 1952

Memorandum

To : W. H. King, Denver, Colorado

From : Chief, Arizona-New Mexico Branch, Mining Div., Region IV

Subject : Final Report, DMEA Docket 2563, Emery-Hill Mining Co's. Manganese Prospect, Mohave County, Ariz.

Enclosed are original and 8 copies of the section on Summary, Conclusions and Recommendations by L. L. Farnham of the Bureau of Mines and C. S. Bromfield of the Geological Survey, and the section on Engineering by Farnham for the above report. A separate section on Geology will be submitted by the Geological Survey.

The deposit contains a small amount of manganese oxides derived from manganiferous calcite, but the small amount of manganese makes the prospect very unpromising.

This report has my approval.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC: W. H. King (8)
A. F. Shride
DMEA-2563
DF

WRStorms:als

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

200 New Customhouse
Denver 2, Colorado

September 25, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2563, Emery-Hill Mining Company, Mohave County, Arizona. Manganese.

Enclosed are the original and 8 copies of the geologic report by C. S. Bromfield 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, Arizona

September 23, 1952

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, DMEA 2563, Emery-Hill Mining Company, Mohave County, Arizona (Manganese)

Enclosed are the original and 8 copies of the above report by C. S. Bromfield of the Geological Survey.

Denial of an exploration loan is recommended because the only geologic expectancy is for very low-grade manganiferous material, which does not warrant exploration. The report and recommendation have my approval.

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-2563, Emery-Hill Mining Co.,

Manganese Prospect, Mohave County, Ariz.

L. L. Farnham, Mining Engineer
U. S. Bureau of Mines

C. S. Bromfield, Geologist
U. S. Geological Survey

September 1952

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By L. L. Farnham[1] and C. S. Bromfield[2]

Early in June 1952, the Emery-Hill Mining Co. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $26,290. The application was docketed as DMEA-2563. The funds requested were to be used for core drilling and otherwise exploring a low-grade manganese prospect located in southeastern Mohave County, Ariz. The property was visited by the examining team on September 4, 1952.

Following the recent renewed demand for manganese, the applicant company became interested late in 1951 in an occurrence of that metal on a group of mining claims formerly abandoned as gold-silver-lead prospects. The manganese mineralization on the property was found in 2 rather extensive, steeply dipping fracture zones that cut granitic rocks. Both of the mineralized zones were composed of about equal amounts of quartz and manganese-stained calcite with occasional small nodules and thin seams of wad. Samples of the mineralized exposures taken by the examiners showed lack of sufficient manganese to constitute ore. Analyses submitted by the applicant showing as much as 21 percent Mn, were judged to have been taken of the selected ore minerals only, and hence did not represent a minable width of the exposed mineralization. The small quanity of the ore minerals (wad) that were present occurred erratically and were not concentrated in any given horizon

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

within the deposit in such a manner as to permit of their being mined selectively. No evidence was found to indicate that further exploration of the deposits would result in the discovery of a worth while quantity of minable manganese ore.

Therefore it is recommended that the application for an exploration loan be denied.

EMERY HILL MINING COMPANY
MOHAVE COUNTY, ARIZONA
DMEA 2563

MANGANESE

Geology

By
Calvin S. Bromfield
Geologist, U. S. Geological Survey

EMERY HILL MINING COMPANY
MOHAVE COUNTY, ARIZONA
DMEA 2563

MANGANESE

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ILLUSTRATIONS

Fig. 1 - Location Map	See Engineering Report
Fig. 2 - Claim Map	" " "

INTRODUCTION

The Emery-Hill manganese claims are on the eastern side of the southern foothills of the Hualapi Mountains in northwestern Arizona. They are in Sec. 22, T. 15 N. and R. 13 W., about 7 miles south of the small settlement of Wickieup, and 2 miles west of the southerly trending Big Sandy River (Fig. 1).

The Emery-Hill Mining Company has applied for an exploration loan to core drill, trench, and sample the deposits. The total cost of the project was estimated at $26,289.90.

Relief in the area, which is near the edge of low foothills, is probably not more than a few hundred feet.

GEOLOGY AND MINERAL DEPOSITS

The southern end of the Hualapi Mountains is composed principally of granitic rocks, presumably of pre-Cambrian age. No detailed geologic study of the general area has been made. The claims are near the base of the low granitic foothills, and alluvial gravels of the southerly draining Big Sandy Valley overlap the granitic rocks along the eastern margin of the area.

Several poorly mineralized but strong veins cross the area of the Emery-Hill claims. Two veins carrying very small amounts of manganese are present on these claims and are the subject of the applicant's proposed exploration program.

At one location on the Emery-Hill No. 8 claim, a 30 to 40 foot wide vein striking N. 30°-40° W. has been exposed by a bulldozer cut and it can be traced by outcrops for 250 to 300 feet along the strike. The vein appears to dip steeply to the northeast. The mineralogy of the vein is simple; its main components are quartz, calcite, and manganese oxides. The latter are found as incrustations, veinlets, and small

nodules in the vein material. Nodules or masses more than a few inches in diameter are rare. Calcite cleavage faces are stained with oxides, and manganese oxides are erratically disseminated through the calcite. The quartz is milky white showing comb and vug structure, and it has been brecciated and the breccia cemented with calcite.

A grab-sample of the best looking material assayed only 1.15 percent manganese.

The quartz-carbonate vein at its southeast end is lost under the overlapping alluvial valley gravel; several hundred feet northwest it merges with a brecciated and silicified zone striking N. 60° E. and dipping 80° southeast. This brecciated vein is from 10 to 20 feet wide and is made up largely of brecciated rock, quartz, and calcite. Minor amounts of galena can be found in the vein. Evidence indicates repeated brecciation of the vein material.

The second manganiferous vein, on the Emery-Hill No. 7 claim, is about 1800 feet south of the previously described area. This quartz-carbonate vein zone is 100-150 feet wide and strikes N. 60° to 80° E. The vein can be traced a few hundred feet along the strike. The composition of the vein material is similar to that in the first manganiferous vein described. The vein material is composed of milky white quartz showing comb and vug structure which is brecciated and filled with calcite. The calcite is stained with manganese oxides, which are disseminated through the calcite and along fracture planes. Only meagre amounts of wad or soft pyrolusite-type manganese oxides were observed. A selected sample of the better looking material assayed 0.75 percent manganese. A channel sample in a pit averaged 1.85 percent manganese over 4.5 feet.

ORE RESERVES

There are no ore reserves, either measured, indicated, or inferred.

GEOLOGIC CONCLUSIONS

The Emery-Hill veins, though of good width and continuity, are of very low-grade. An appreciable part of the manganese oxides are finely disseminated in calcite. It cannot be expected that the manganese oxides will increase with depth, rather they can be expected to decrease. There are no measured, indicated, or inferred reserves; and in addition, there is no reason to believe that an exploration program would change this condition. It is recommended that the application of the Emery-Hill Mining Company be denied.

DMEA-2563, EMERY-HILL MINING CO., MANGANESE PROSPECT, MOHAVE COUNTY, ARIZ.

Engineering Report

By L. L. Farnham,
Mining Engineer
U. S. Bureau of Mines

September 1952

DMEA-2563, EMERY-HILL MINING CO.,
MANGANESE PROSPECT, MOHAVE COUNTY, ARIZ.

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ILLUSTRATIONS

Figure — Following page

1 Location map 1
2 Claim map 2

INTRODUCTION

In June 1952, The Emery-Hill Mining Co. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $26,289.90. The application was docketed as DMEA-2563. The amount requested was to be used for the further exploration of a manganese prospect near Signal, Mohave County, Ariz. The property was visited by the examiners on September 4, 1952.

ACKNOWLEDGMENTS

Thanks are extended to Emery Blevins, a director of the applicant company, for his assistance during the examination of the property.

LOCATION AND PHYSICAL FEATURES

The subject property is situated in the eastern foothills near the southern end of the Hualpai mountains of southeastern Mohave County, Ariz. The claims cover a portion of Sec. 22, T. 15 N., R. 13 W. The nearest rail shipping points are Congress and Kingman. The former is some 62 miles to the southeast, and Kingman is about 65 miles northwest of the property (figure 1). The claims are accessible over 4 miles of a winding dirt road that branches westerly from State Highway 93 at a point about 6.1 miles south of the village of Wickieup. To reach the property the Big Sandy river must be forded a short distance west of the highway. Following heavy rains this is hazardous and often impossible for days at a time.

The property is in an area of moderate relief and lies at an altitude of about 2,500 feet above sea level.

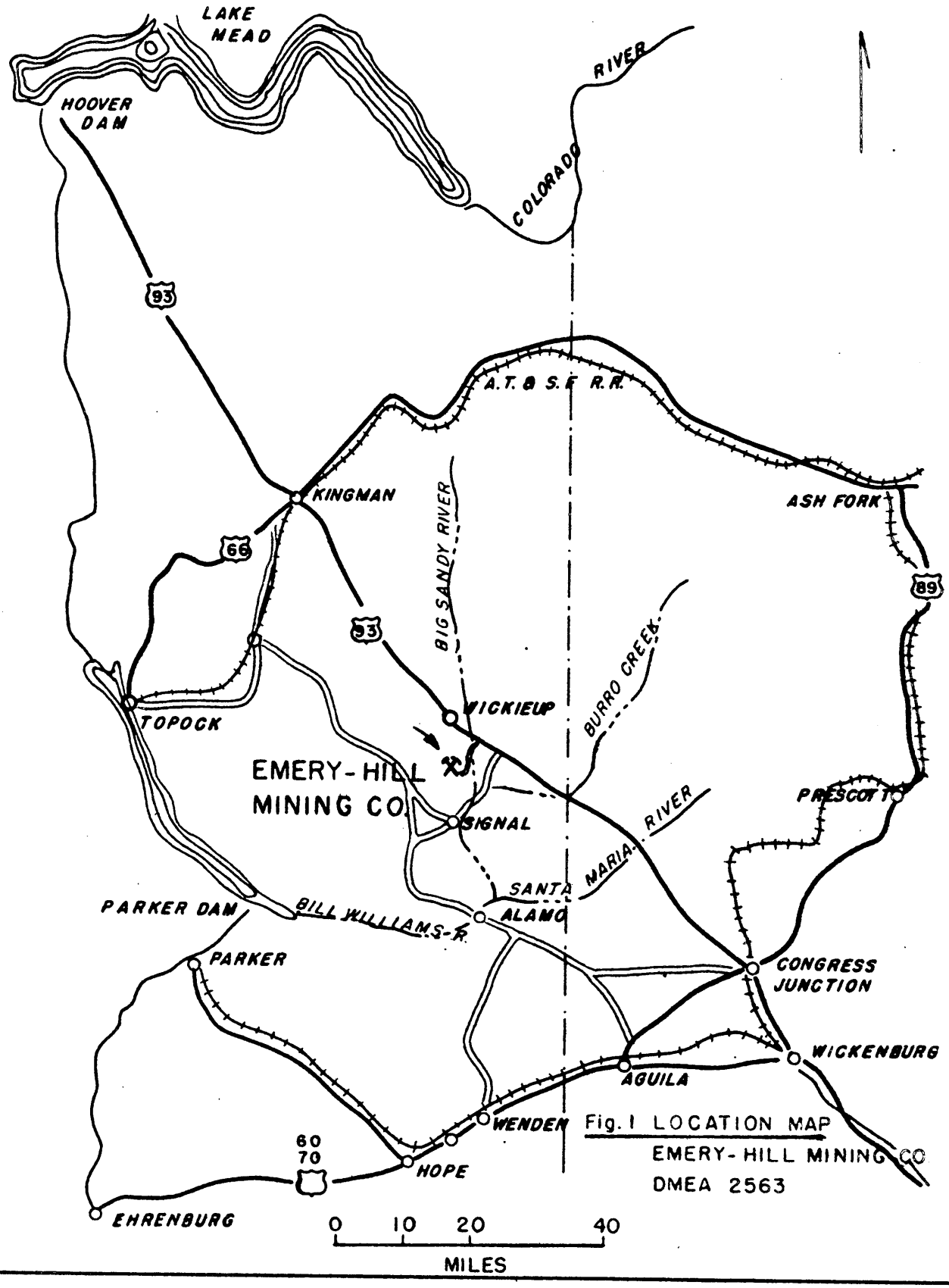


Fig. 1 LOCATION MAP
EMERY-HILL MINING CO
DMEA 2563

HISTORY AND PRODUCTION

The claims in question probably were originally located several decades ago as gold, silver and lead prospects, for minor amounts of those metals were found in certain veins on the property. Since the original location, they have undoubtedly been abandoned and relocated several times. Following the recent renewed interest in manganese, Emery Blevins located the present group in the hope that further exploration might disclose a commercial deposit of manganese.

So far as known there has been no metal production of any sort from the area or from the applicant's property.

OWNERSHIP AND EXTENT

The applicant company owns 8 contiguous unpatented mining claims which were recorded under the names of the Emery No. 1 to No. 8, inclusive (figure 2).

DESCRIPTION OF THE DEPOSITS

The manganese mineralization on the property occurred in two separated fracture zones that cut granitic rocks. Both fissures had an easterly trend and appeared to dip steeply to the south. The most northerly zone showed more or less manganese mineralization over widths of as much as 40 feet, and which was exposed at intervals for several hundred feet along the strike. The other similarily mineralized exposure, about 1,800 feet to the south, attained a width of some 200 feet, and judged by infrequent outcrops, had a strike length of at least 250 feet.

Both fracture zones were composed essentially of about equal amounts of quartz and manganese-stained calcite. This latter mineral,

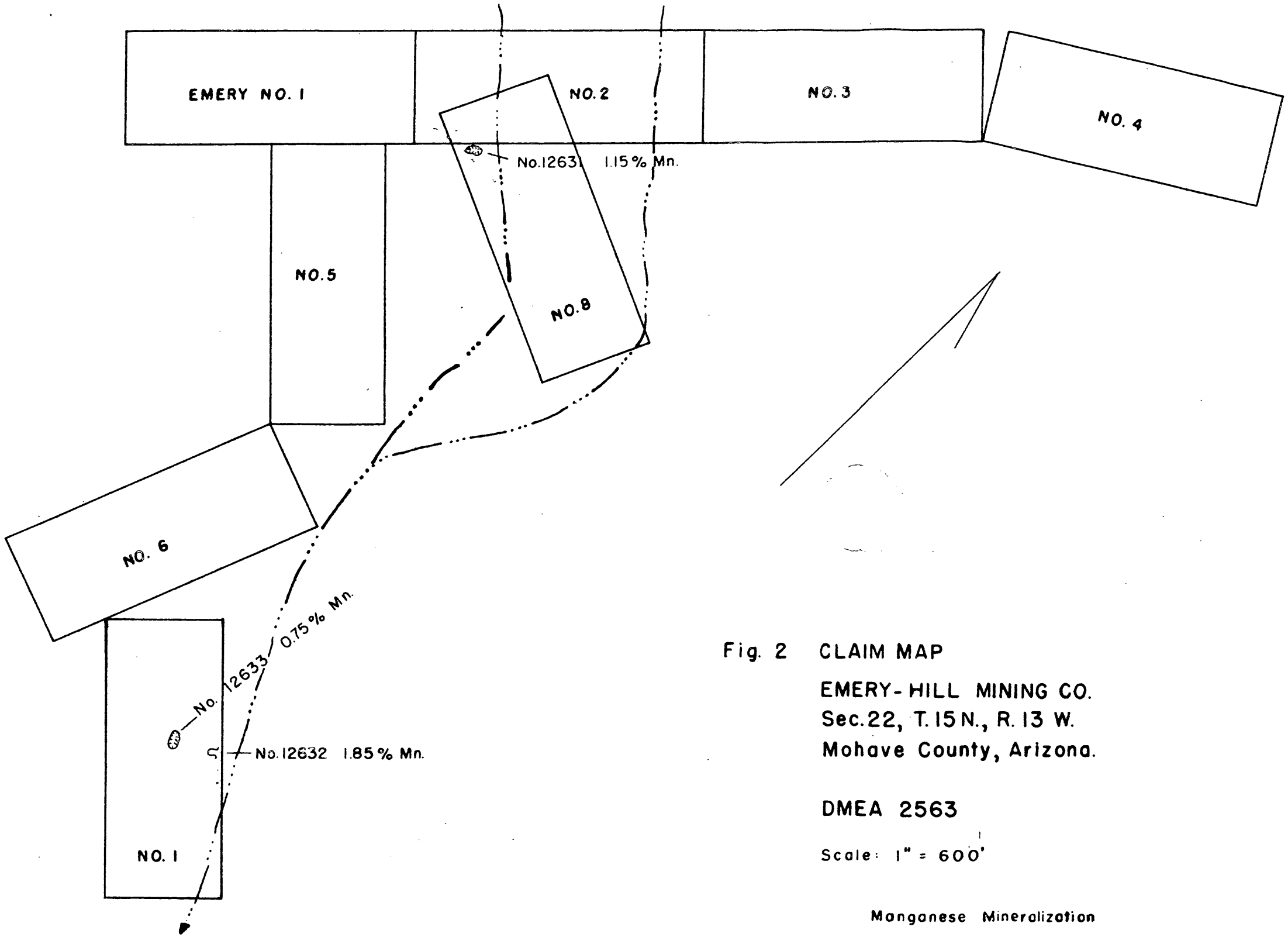


Fig. 2 CLAIM MAP

EMERY-HILL MINING CO.
Sec.22, T.15N., R.13 W.
Mohave County, Arizona.

DMEA 2563

Scale: 1" = 600'

Manganese Mineralization

for the most part, was so thoroughly permeated with thin films of black manganese minerals that it appeared to contain a great deal more manganese that was actually present. Small nodules and thin seams of manganese oxide minerals (wad) were occasionally found associated with the stained calcite. These ore minerals, possibly derived from the weathering of the black calcite, ranged in size from small blebs to masses that were seldom larger than a few inches in their greatest dimension. The wad minerals constituted a very small fraction of the mineralization and were so erratically distributed in the deposit, that they could not be mined selectively.

SAMPLING

The applicant submitted with the loan application, assay certificates covering the results of 5 samples which ranged from a low of 11.5 percent to a high of 21.7 percent manganese. The location, width or manner of taking these samples was not shown.

Three samples of what appeared to be fairly representative of the better mineralized exposures were taken by the examiners. The location of these samples are shown on figure 2 and the results are as follows:

Number	Width	Location	Percent Manganese
12631	Grab.	Nut-size pieces of broken ore, North deposit	1.15
12632	4.5 ft.	Chip sample, face of lower-cut, South deposit	1.85
12633	Grab.	Nut-size broken ore, South deposit	0.75

Judged by the above results the applicant's samples must have been taken from highly selected material that apparently did not represent a minable width of the exposed mineralization.

ORE RESERVES

There was no minable manganese ore exposed on the applicant's property.

PRESENT STATUS

Exploration of the manganese mineralization was limited to a few shallow pits and cuts such as are required for the discovery work following the location of mining claims. A bull-dozer also had been used to strip the surface overburden from small areas on both of the mineralized zones.

PROPOSED EXPLORATION

The applicant proposed to explore the deposits by core drilling 12 holes, each to a depth of 250 feet. This portion of the proposal was estimated to cost $15,000. An additional $11,289.90 was requested to cover the cost of several open-cuts, supervision, sampling, and contingencies. In general, the better manganese ore when found in deposits such as the applicant's, is usually confined to a zone that rarely extends more than a few score of feet below the surface. Hence, even if the deposits in this case were promising enough to warrant further exploration, it does not appear that core drilling to a depth of 250 feet would be feasible.

CONCLUSIONS AND RECOMMENDATIONS

There was insufficient manganese on the subject property to indicate that the deposits might become a source of that metal. A large

portion of the manganese that was present occurred as an unrecoverable stain that permeated calcite. Though some free and recoverable oxide manganese minerals were present, they were found in such small and scattered amounts as to have no value. There was no evidence tending to indicate that further exploration of the deposits would be likely to disclose a minable body of manganese ore.

Therefore, it is recommended that the application for an exploration loan be denied.

DMEA-2563

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

224 New Customhouse
Denver 2, Colorado

May 29, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Executive Officer, Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate are DMA Forms 3a and Forms MF-103 and MF-100 and supporting data pertaining to the following application for Government assistance in exploration work.

Emery-Hill Mining Co.
Box 2284
49 W. Moreland St.
Phoenix, Arizona

- DMEA-2563

W. H. King
W. H. King

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 2 1952

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

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

Not To Be Filled in by Applicant

Docket No. DMEA-2563
Metal or Mineral
Date Received 6-2-52
Amount $
Participation (Government %)

Emery-Hill Mining Company
49 W. Moreland Street
Box 2204
Phoenix, Arizona

Name and address of applicant

Date May 15, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 2 1952

If you have already filed MF-100, give date filed May 15, 1952, type of assistance requested Priorities and aid for exploration,

DMA Docket Number (if available)

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

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

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

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

CERTIFICATION

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

Emery-Hill Mining Co., By Estella Converse Hill
(Name of company) (Signature of authorized official)

5-20-52 President
(Date) (Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

EMERY-HILL MINING COMPANY
Box 2284
Phoenix, Arizona

B-1

May 12, 1952

Mr. J. East
Defense Minerals Administration
224 New Customhouse Building
Denver 2, Colorado

Dear Mr. East:

This letter is prepared to accompany form MF-103, Application for Aid for Exploration Projects Pursuant to Mineral Order 5, under Defense Production Act of 1950, dated April 30, 1951. The answers to all questions contained in attached form MF-103 are given below.

1. (a) The group of mining claims involved in this application are owned by the corporation and are recorded in Mohave County Court Records, Kingman, Arizona. (See attached Detail Location Map.)

   (b) Not applicable.

   (c) See detail maps.
   Note: (1) Overlapping of claims of separate deposits shown on detail map.

   (2) Applicant is owner and there are no liens or encumbrances.

2. (a) Manganese.

   (b) Preliminary work done by the corporation; i.e., drilling, bulldozer work (cutting of veins) and moving large quantities of earth show the deposits outlined in an attached sketch.

   See - R.I. 4275, dated May 1948, titled, REPORT OF INVESTIGATIONS ARTILLERY PEAK MANGANESE DEPOSITS, MOHAVE COUNTY, ARIZONA, by Robert S. Sanford and Lincoln A. Stewart, U. S. Department of Interior, Bureau of Mines. The artillery peak deposits are approximately 10 miles south of the corporation's deposits.

Certified copies of assays taken jointly with Mr. H. F. Mills of the Shattuck-Denn Corporation, are attached to this application and located on the sketch. A composite analysis of each deposit is shown as Vein #1 and #2. Preliminary laboratory tests have been made by Mr. Edward T. Schenk, U. S. Bureau of Mines, Station Boulder City, Nevada. Further benefication tests have been arranged through Mr. Rex Storms, Chief, U. S. Bureau of Mines, University Station, and Mr. George Rosevere of the Arizona Bureau of Mines, Tucson, Arizona.

3. (a) The corporation's program, as outlined below, is related to the Manganese Deposits only, and are designated as property "A". (See attached sketch.)

1. Core Drilling:

Based upon the work already done, in an attempt to determine the extent of the two deposits, it is recommended that 12 - 250' deep cores be drilled in the two deposits as indicated by (X) on the sketch attached to this application. Basing the cost of drilling "AX" size holes at $5.00 per foot, and assuming 40' of drilling can be done in an 8 hour day, we would then have:

12 x 250' (per hole) = 3,000 ft. x $5.00 per foot - - - - - - - - - - - - - - - - - - $ 15,000.00

Core Drilling - - - - - - - - - - - - TOTAL $ 15,000.00

Using the basis of 40' per day divided by 3,000 feet, 75 working days will be required to complete the drilling program.

Contract prices per foot have been requested from Joy Manufacturing Company and Thatcher Brothers, Humbolt, Arizona.

2. Excavation:

Additional over-burden will have to be removed in preparation for core drilling and further sampling of the deposits, it is estimated that a D-8 bulldozer, with operator and fuel furnished, will be needed at $12.50 per hour. (See receipted invoice attached for this work already done on property.)

20 days at $12.50 x 8 = $100.00 = $ 2,000.00

Excavation - - - - - - - - TOTAL $ 2,000.00

3. Drilling and Blasting:

Additional work will be done to open cuts already started in the deposits; one 105 foot portable compressor with accessories listed in Rental Purchase Agreement with N. R. Dunton attached to this application;

$150.00 per month x 2½ mos. = (rental based on 30 day month)	$ 375.00
Labor:	
Drillers (2) @ $15.00 per day x 75 da	$ 2,250.00
Common Labor (2) @ $12.00 per da x 20 da	$ 480.00
(The above item is for contingencies that may arise during the program, higher than union rates have been used due to isolation of location from large communities.)	
Drilling and Blasting - - TOTAL	$ 3,105.00

4. Materials and Supplies:

Dynamite, caps, fuse, drill steel, hose, bits, petroleum products, hand tools, etc.

Estimated - - - - - - - - TOTAL $ 1,000.00

5. Supervision, Engineering, Surveys and Mapping, Accounting and Reports:

It is contemplated by the corporation to have Mr. Gammache do both the supervision and engineering of the project, spending 100% of his time on the project until it is completed. Mr. Joseph Nally, the corporation's accountant, will keep all necessary records and submit all required reports.

Supervision at $400.00 per month 2-2/3 mos. = $ 933.00

Engineering surveys & mapping, 2-2/3 mos. @ $150.00 per mo. = $ 400.00

Accounting & reports 2-2/3 mos. @ $ 50.00 per mo. = $ 150.00

$1,483.00

6. Miscellaneous:

As indicated on the map, the deposits are located approximately 1 mile from the "Big Sandy River"; this will require hauling water for drilling purposes.

Rental 1 water truck, including driver and truck maintenance, 75 da @ $20.00 da. = $1,500.00

Rental 1-1000 gal. water storage tank, 2½ mos. @ $30.00 mo. = $ 75.00

Assaying costs 150 samples @ $2.50 each = $ 375.00

Miscellaneous - - - - - - - - - - - - TOTAL $1,950.00

7. Compensation and Payroll Taxes:

Core drilling, excavation and water haulage will all be on contract; therefore, it is estimated that 1 supervisor, 2 drillers and 2 laborers will have to be covered.

Estimate $5,000.00 payroll @ 10% - - - - = $ 500.00
(Period of 75 days)

Sub. 3. (a) SUMMARY OF TOTAL COST OF PROJECT

1.	Core Drilling - - - - - - - - - - - - - -	$15,000.00
2.	Excavation - - - - - - - - - - - - - - -	2,000.00
3.	Drilling and blasting - - - - - - - - - -	3,105.00
4.	Materials and Supplies - - - - - - - - -	1,000.00
5.	Supervision, Engineering, Accounting -	1,483.00
6.	Miscellaneous - - - - - - - - - - - - - -	1,950.00
7.	Compensation - Payroll Taxes - - - - -	500.00
	TOTAL - - - - - - - - - - - - - - - - -	$25,038.00
	Contingencies plus 5% - - - - - - - - -	1,251.90
	TOTAL - - - - - - - - - - - - - - - - -	$26,289.90

(b) It is estimated that the project can be started immediately upon receipt of the approval of this application, and can be completed in 4 months (120 days) from that date.

4. See maps and sketches.

5. Not applicable.

6. Not applicable.

7. (a) Rented equipment:

1-105 Portable Compressor with Accessories listed.
2 - 1 - 1,000 gal. water tank

(b) Dynamite, caps, fuses, drill steel, bits, hose, hand tools and petroleum products.

(c) None except the corporation will furnish all necessary transportation for employees without cost to the government.

8. Included in 3 (a).

9. Included in 3 (a).

10. (a) 25% of the total cost as defined in Defense Production Act of 1950.

(b) Yes.

11. It is the desire of the corporation to point out to the reviewing authorities of this application that all preliminary expense, access roads, certain facilities and preliminary work has been done by the corporation to the extent of $7,028.05. The result of this work has been to open the heretofore dormant deposits of ore to the assured commercial value of the deposits. This is borne out by personal inspection by competent mining engineers, and assays, copies of which are made a part of this application.

Respectfully submitted,

EMERY-HILL MINING COMPANY

Estella Converse Hill

Estella Converse Hill,
President

8.

* Estella C. Hill) * Benjamin C. Hill)	Reference Valley National Bank, Phoenix and Citizens State Bank of Santa Paula, California
*** Emery Blevins	Valley National Bank - Kingman, Arizona
*** Frank J. Gammache) Mary C. Gammache)	Western National Bank York, Pennsylvania
Lydia G. Long	Law offices, Shimmel - Hill and Hill Title & Trust Building Phoenix, Arizona

Form MF-100
(May 1951)

U.S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA FOR USE UNDER THE DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMEA-2563

Date received 6-2-52

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 2 1952

Emery-Hill Mining Company
49 W. Moreland Street
Box 2284
Phoenix, Arizona

Name and address of applicant

Date May 15, 1952

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).
   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   ☐ Owner.
   ☐ Lessee.
   ☐ Contractor.
5. Number of years in production _____
   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
Estella C. Hill 49 W. Moreland St., Phoenix	Pres. (D)	--	*	34	--	--	--
Frank J. Gammache 19 E. Virginia, Phoenix, Ariz	V. Pres. (D)	--	**	17	--	--	--
Emery Blevins Camp Verde, Arizona	(D)	--	***	34	--	--	--
Benjamin Hill 49 W. Moreland St., Phoenix	(D)	--	*	3	--	--	--
Mary C. Gammache 19 E. Virginia Ave., "	(D)		**	17			
Lydia G. Long Phoenix, Arizona	Sec.-Treas.	--	--	--	--	--	--
	Total	--	x x x x x	105	--	x x x x x	x x x x x

If more lines are needed continue on separate sheet. (See attached sheet)

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$ 300,000	$ 10,500	$ 100.00	105	None
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)		NONE			
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

EMERY-HILL MINING COMPANY
Box 2284
Phoenix, Arizona

1-A

May 12, 1952

Mr. J. East
Defense Minerals Administration
224 New Customhouse Building
Denver 2, Colorado

Dear Mr. East:

This letter is prepared to accompany form MF-100, General Technical Data, for use under the Defense Production Act of 1950.

Application is hereby made for:

1. Priorities and allocation of mining equipment, and maintenance, repair and operating supplies.

2. Aid for Exploration projects outlined and defined in accompanying letter and form MF-103.

GENERAL TECHNICAL DATA

1. Materials produced:
   (a) Manganese, lead and zinc.
   (b) Molybdenum, gold and silver.

2. Preliminary work of opening deposits started January, 1952 and being carried on at this date.

3. Not applicable.

4. (a) Not in operation on commercial scale.
   (b) Corporation owns all claims.

5. None

6. Experience of operators:
   (a) The corporation is chartered under the state laws of Arizona and is in the active development of various mining claims owned by the corporation.

   (b) The project will be under the direct supervision of Frank J. Gammache, a Professional Engineer, registered in the State of Pennsylvania, #15425. A former employee of the Bureau of Mines, Mr. Gammache's accomplishments

in the engineering field are well known. For a fuller reference on Mr. Gammache, see Army records regarding his supervision of Ruhr, Saar and Bavarian Mining Districts (Army Publication issued by Garmisch Recreation Center 1947, Military Port, Garmisch, Germany.) Also most recently the approval of his application for the American Asbestos Cement Corporation $123,000.00 exploration loan in Gila County, Arizona by the D.M.A. Mr. Gammache is an officer and Director of the Corporation.

Mr. and Mrs. Benjamin Hill are actively engaged in the citrus, cattle and petroleum industries on their ranch at Santa Paula, California.

Mrs. B. Hill is the president of the corporation.

Mr. Benjamin Hill is a director and advisor to the corporation.

Mr. Emery Blevins, a director in the corporation, has spent many years in the mining industry in Mohave County, Arizona.

Valuable assistance has been and will be made to the corporation by Mr. H. F. Mills, General Manager and Engineer of the Iron King Mine of the Shattuck-Denn Corporation. Mr. Mills has spent several days inspecting and analysing the ore deposits that are to be further exploited, if this loan application is approved.

7. HISTORY:

(a) Prospecting was done to a small extent 30 or more years ago, further development was impossible due to the isolation of the deposits at that time.

(b) No known history, except by oral records of natives.

(c) Not known if any exist.

11. Beginning of production will depend on results of findings developed by program outlined in this application.

13. <u>Access Roads:</u>

The deposit is located 2 miles west of the newly constructed U. S. Highway #93, completed from Congress Junction to Wikeup and 56 miles northwest from the A.T.&S. Fe R.R. at Congress Junction; also 64 miles southeast from Kingman, this part of

U. S. Route #93 is in good condition but will be re-built during the coming year to eliminate many curves and excess grades.

Access roads to the deposits have been built from the new U. S. #93 route at a point approximately 4 miles southeast of the Post Office of Wikeup at the corporation's own expense.

14. Water Supply:

The deposits are 1½ miles west of the "Big Sandy River" an ample supply of water has always been available for the irrigation of 2 ranches at this location. For further details, Arizona Highway Department can furnish information of the volume of water encountered during construction of the bridge across the "Big Sandy" 3 miles northeast from the deposit. Ample supply of water can be assured for all seasons of the year. (See location map.)

15. Power:

The R.E.A. has constructed a line 1/2 mile from the deposit but passes over the location of the Mill site.

Ample power is available as the above mill site is also approximately 3 miles from the Parker Dam-Bagdad line that feeds the R.E.A. line. (See detail location map.)

16. Labor:

Answer not applicable at this time.

17. Equipment and Facilities:

The corporation has made arrangements to secure all necessary equipment, labor and housing facilities to carry out the project outlined in MF-103.

18. Not known of at this time.

Respectfully submitted,

EMERY-HILL MINING COMPANY

Estella Converse Hill

Estella Converse Hill,
President

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)	--	--	--	--	--
Indicated (probable)	--	--	--	--	--

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

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

Emery-Hill Mining Company
(Name of company)

By Estella Converse Hill
(Signature of authorized official)

(Date)

President
(Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—63792-1

PHONES: BLACK 23
BLUE 70

STATEMENT

P. O. Box 1109

COVINGTON & WELCH

CONTRACTORS

KINGMAN, ARIZONA

April 12 1952

TO Emery - Hill Mining Co.

Box 2284

Phoenix, Arizona

Mar. 25	Dozer	4	@ 12.50	50.00
26	"	8	"	100.00
27	"	8	"	100.00
28	"	8	"	100.00
31	"	8	"	100.00
Apr. 1	"	4	"	50.00
2	"	8	"	100.00
3	"	8	"	100.00
4	"	8	"	100.00
7	"	6	"	175.00
8	"	8	"	100.00
9	"	2	"	25.00
10	"	8	"	100.00
11	"	8	"	100.00
14	"	2	"	25.00
				1225.00
	Hauling to and from job (Osterman Construction)			201.00
			AMOUNT DUE:	1426.00

RENTAL PURCHASE AGREEMENT

N. R. DUNTON
TELEPHONE BLUE 491
BOX 1283
KINGMAN, ARIZONA

This agreement made and entered into this 24 day of March 1952 between N.R. Dunton, hereinafter known as the seller and rentor and Emery Hill Mining Co., hereinafter known as the rentee or purchaser.

To wit:

That N.R. Dunton does agree to rent to Emery Hill Mng. Co. one 105 cu. ft. gas driven Le Roi Compressor, model 105 G2 E, serial no. 208 X 572, engine no. 25 X 2425. One model 38 Thor Sinker. One 50 ft. Air Hose. One Oiler & Hose. Two 2' Timken Drill Rods, two 4' Rods, one 6' Rod. One gal. Rock Drill Oil. Twenty Five Timken Bits, all for the rental price of One Hundred Fifty Dollars ($150.00) per month, such rentals to be paid every thirty days in advance.

Purchase Option:

It is further understood and agreed by both parties hereto that the seller agrees to sell the above described equipment to the said purchaser for the sum of Twenty Five Hundred Dollars ($2500.00) plus Fifty Dollars ($50.00) Sales Tax, and that all rental fees paid by the purchaser shall be applied by the seller as part of the purchase price.

It is further understood and agreed by both parties hereto that the rentals charged shall be continuous and at one period, otherwise periodical rentals or lapses of rentals will cause this option to become null and void.

It is also agreed by the purchaser or rentee to keep the said equipment in good repair at all times at his own costs, and the equipment to be returned to the seller with rents paid to the date of return providing the purchase option is not exercised.

The seller or rentor reserves the right to repossess the said equipment at any time that the purchaser or rentee shall fail to pay the rents as they become due or shall fail to make the payment or any balance due on the purchase price when due and payable.

In witness whereof the parties have hereunto set their hands and seals this_____ day of _____ 1952.

_____

_____

_____
Witness.

Shop No. 522
File No. 445 EM

VALUES
Latest Quotation

1 oz. Gold.....
1 oz. Silver.....
1 lb. Copper.....
1 lb. Lead.....
1 lb. Zinc.....

CHAS. A. DIEHL — Phone 3-4001 — Phoenix, Arizona

Arizona Assay Office

MAY 7, 1952

P. O. Box 1148

815 North First Street

EMERY HILL MINING CO.

Short Ton - - - - - 2000 Lbs.
Short Ton Unit - - - - 20 Lbs.
Long Ton - - - - - 2240 Lbs.
Long Ton Unit - - - 22.4 Lbs.

THIS CERTIFIES
samples submitted for assay contain as follows:

MARKS	SILVER PER TON Ozs.	SILVER PER TON Tenths	VALUE		GOLD PER TON Ozs.	GOLD PER TON 100ths	VALUE		TOTAL VALUE PER TON of Gold & Silver		% PERCENTAGE MANGANESE				REMARKS
VEIN NO 1											21.69				
VEIN NO 2											15.05				
MILLS No.3											11.51				

Charges $ 7.50

Assayer ARIZONA ASSAY OFFICE

ARIZONA TESTING LABORATORIES

PHONE 3-6272 817 WEST MADISON P. O. BOX 1888 · PHOENIX

Chemists . . . Engineers

For Emery Hill Mining Company Date May 9, 1952

Sample of Ore Received:

Submitted by: Same

ASSAY CERTIFICATE

Gold figured at $35.00 per ounce. Silver figured at $ 0.90 per ounce.

Lab. No.	Identification	Gold		Silver		Percentages	
		Oz. per Ton	Value	Oz. per Ton	Value	Manganese (Mn)	
88799	Vein #1					20.62	
88800	Vein #2					10.15	

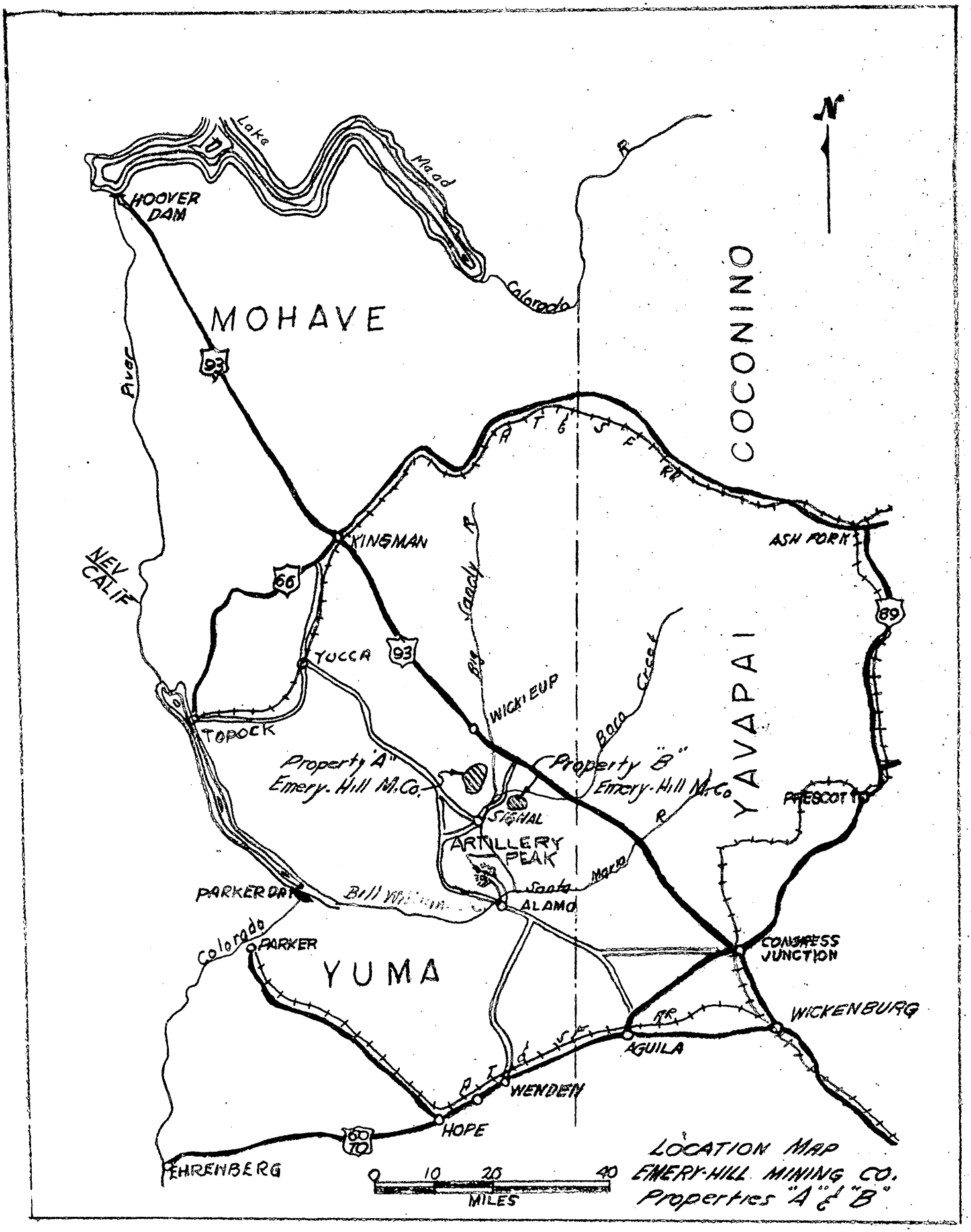
52

20th
1932
1952
anniversary

Respectfully submitted,
ARIZONA TESTING LABORATORIES

Charges: $ 4.50

Claude L. McLean



LOCATION MAP
EMERY-HILL MINING CO.
Properties "A" & "B"

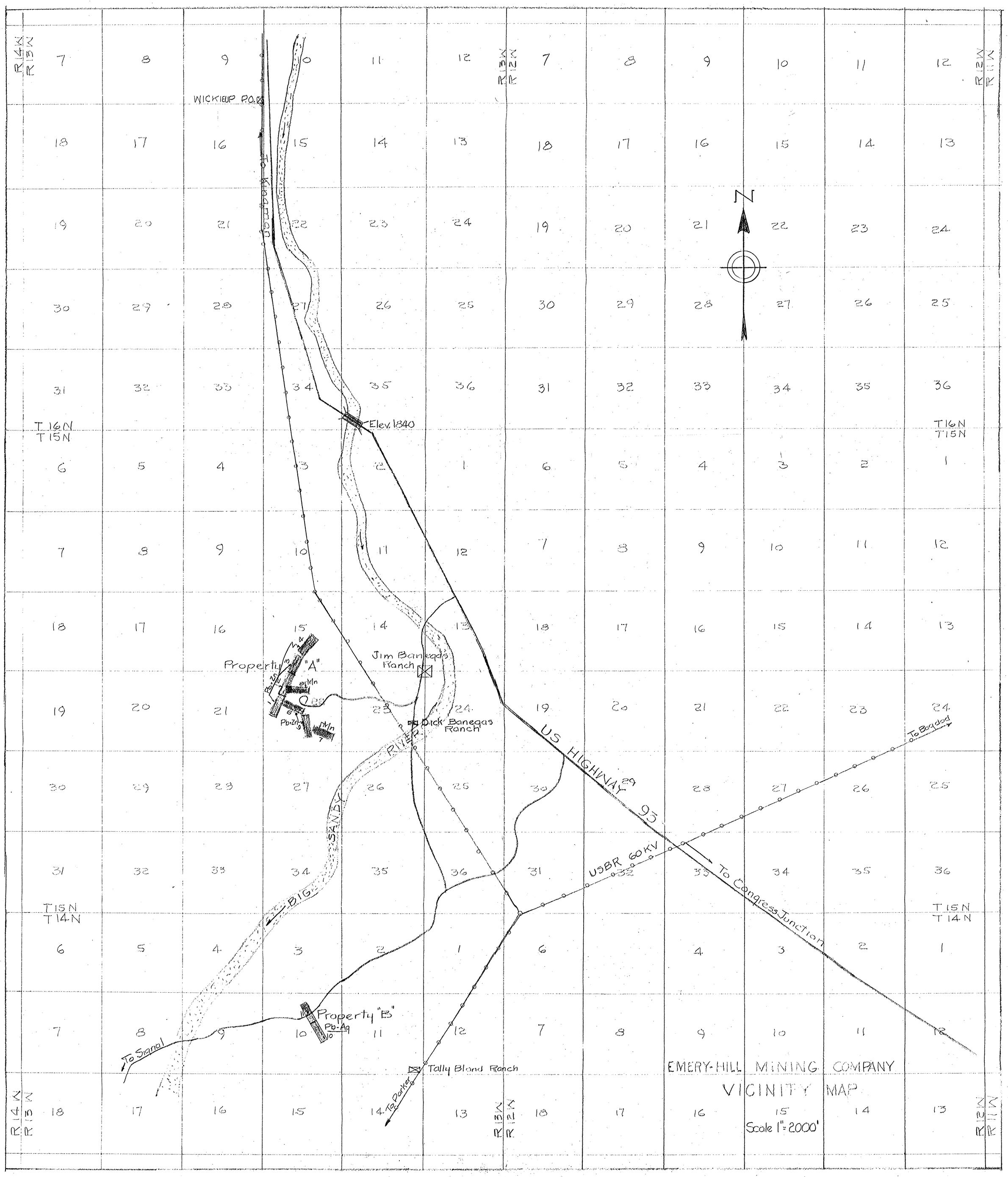
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
224 New Customhouse
Denver 2, Colorado

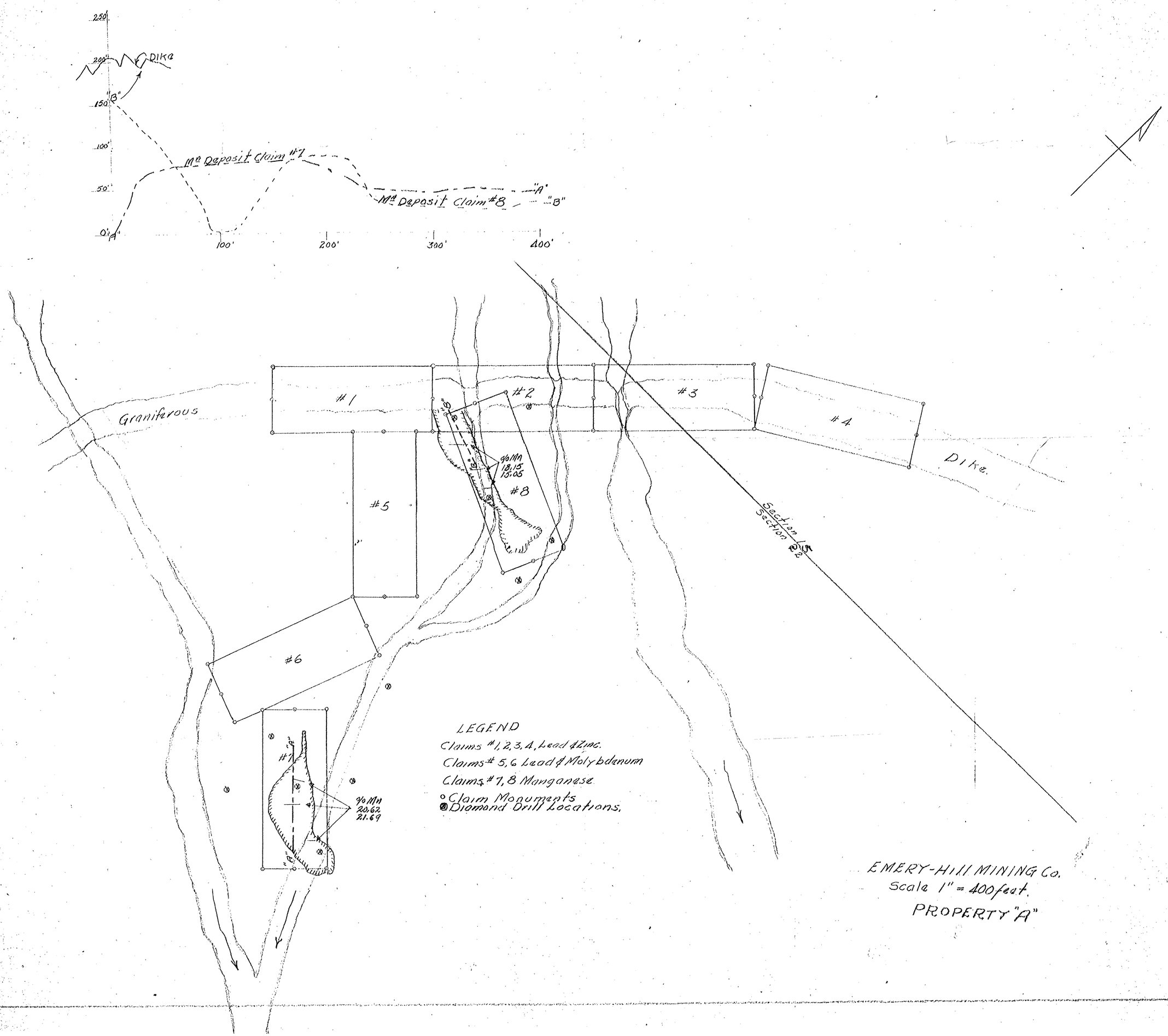
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE $300
(PMGC)

ACTING ADMINISTRATOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ATTENTION: CODE 210
Interior Building

Washington 25, D. C.


R14W
R13W
T16N
T15N
T15N
T14N
WICKIEUP P.O.
To Kingman
Elev. 1840
N
Property "A"
Pb-Zn
Mn
Jim Banegas Ranch
Dick Banegas Ranch
RIVER
BIG SANDY
US HIGHWAY 95
USBR 60 KV
To Congress Junction
To Baghdad
Property "B"
Pb-Ag
To Signal
Tally Bland Ranch
To Parker
EMERY-HILL MINING COMPANY
VICINITY MAP
Scale 1" = 2000'


250
200'
150'
100'
50'
0'
Dike
"B"
"A"
Mn Deposit Claim #7
Mn Deposit Claim #8
"A"
"B"
100'
200'
300'
400'
Graniferous
#1
#2
#3
#4
#5
#6
#7
#8
Dike.
Section
Section
% Mn
18.15
15.05
% Mn
20.62
21.69
LEGEND
Claims #1, 2, 3, 4, Lead & Zinc.
Claims # 5, 6 Lead & Molybdenum
Claims # 7, 8 Manganese.
Claim Monuments
Diamond Drill Locations.
EMERY-HILL MINING Co.
Scale 1" = 400 feet.
PROPERTY "A"