52

July 19, 1954

MEMORANDUM

To: Administrator

From: Iron and Ferro-Alloys Division

Subject: Denial of Application by Field Team, Region IV
Docket No. DMEA 3119 - Manganese
H. E. McCray's Black Eagle Manganese Mine
Red Rock Mining District
Grant County, New Mexico

The denial of the subject application by the Field Team, Region IV, is based on the following information:

The applicant requested $20,422.65 to explore the Black Eagle mine for manganese by extending an incline shaft for 95 feet to the 85 foot level and drifting in both directions on the vein for 198 feet. This work was to be followed by driving three raises, a total distance of 127 feet.

The Black Eagle Manganese deposit occurs in a wide brecciated fault zone between coarse granite on the northeast and volcanic rocks on the southwest. The fault zone is a regional feature and extends for at least ½ mile southeast beyond the mine area.

At places along the fault it is mineralized with manganiferous black calcite and white calcite. Manganese oxides, which are the ore minerals, are probably a product of weathering of the manganiferous calcite.

The vein has been explored over a strike length of 160 feet on the surface and to a maximum depth of about 50 feet. The mine workings consist of an incline shaft, a drift 35 feet below the surface and 3 short raises. Two raises 60 feet apart extend from the 35 foot level to the floor of the longitudinal trench dug along the outcrop of the vein. About 2/3 of the vein zone bounded by the two raises and the 35 foot level has been stoped. The stoped area is from 6-10 feet thick, but not all the ore mined was of commercial grade.

Production sold by the present Operator to the General Services Administration at Deming, New Mexico, has been 280.20 tons that returned $4,795.42 or $17.11 per long dry ton.

The ore has been tested by the U. S. Bureau of Mines and the American Smelting and Refining Company and evidently is amenable to concentration by jig or flotation methods.

A few tons of manganese ore could be produced from the existing workings, but no reserves can be inferred beyond the present headings.

As geological conditions indicate that mineable ore is probably restricted to the zone of oxidation, and as outcrops do not indicate the presence of additional ore shoots, it is believed that the ore reserves are too small to be significant.

The Field Team, Region IV, concluded that the small size of the deposit and the relatively small amount of recoverable manganese did not warrant the risks involved in exploration, and therefore recommended that the application be denied.

We concur in the denial.

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

JHOPKINS:foc
7-19-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.

400

Docket
Surname

Hopkins
Rutledge

July 19, 1954

MEMORANDUM

To: Administrator

From: Iron and Ferro-Alloys Division

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The vein has been explored over a strike length of 160 feet on the surface and to a maximum depth of about 50 feet. The mine workings consist of an incline shaft, a drift 35 feet below the surface and 3 short raises. Two raises 60 feet apart extend from the 35 foot level to the floor of the longitudinal trench dug along the outcrop of the vein. About 2/3 of the vein zone bounded by the two raises and the 35 foot level has been stoped. The stoped area is from 6-10 feet thick, but not all the ore mined was of commercial grade.

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We concur in the denial.

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

JHOPKINS:foc
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Adm. Reading File
Operating Comm.

R

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

Com

July 19, 1954

MEMORANDUM

To: Administrator

From: Iron and Ferro-Alloys Division

Subject: Denial of Application by Field Team, Region IV
Docket No. DMEA 3319 - Manganese
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Red Rock Mining District
Grant County, New Mexico

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At places along the fault it is mineralized with manganiferous black calcite and white calcite. Manganese oxides, which are the ore minerals, are probably a product of weathering of the manganiferous calcite.

The vein has been explored over a strike length of 160 feet on the surface and to a maximum depth of about 50 feet. The mine workings consist of an incline shaft, a drift 35 feet below the surface and 3 short raises. Two raises 60 feet apart extend from the 35 foot level to the floor of the longitudinal trench dug along the outcrop of the vein. About 2/3 of the vein zone bounded by the two raises and the 35 foot level has been stoped. The stoped area is from 6-10 feet thick, but not all the ore mined was of commercial grade.

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The ore has been tested by the U. S. Bureau of Mines and the American Smelting and Refining Company and evidently is amenable to concentration by jig or flotation methods.

A few tons of manganese ore could be produced from the existing workings, but no reserves can be inferred beyond the present headings.

As geological conditions indicate that mineable ore is probably restricted to the zone of oxidation, and as outcrops do not indicate the presence of additional ore shoots, it is believed that the ore reserves are too small to be significant.

The Field Team, Region IV, concluded that the small size of the deposit and the relatively small amount of recoverable manganese did not warrant the risks involved in exploration, and therefore recommended that the application be denied.

We concur in the denial.

J. A. Rutledge for

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

June 22, 1954.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination - RFCA Docket 3319 (Manganese), H. E. McCray's Black Eagle Manganese Mine, Red Rock Mining District, Grant County, New Mexico.

Enclosed are the original and eight copies of the Engineering Report of Examination on the subject docket.

The applicant requested $20,422.65 to explore the Black Eagle and Black Eagle No. 1 claims for manganese by means of 470 feet of combined inclined shaft, drifts, and raises.

The examining team does not believe that the property has enough merit to justify Government participation in an exploration project and recommends denial of the application.

We concur in this recommendation.

W H King
W. H. King

Enclosures

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

June 15, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3319, Black Eagle and Black Eagle No. 1 Manganese Claims, Grant County, New Mexico

Enclosed are 9 copies of a geologic report by W. R. Jones of the U. S. Geological Survey covering the above docket.

It has been recommended that the application be denied because geologic conditions do not indicate that significant amounts of ore will be discovered by additional exploration.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Box 4126 University Station

Tucson, Arizona

June 10, 1954

Memorandum

To: A. H. Koschmann

From: J. N. Faick

Subject: DMEA 3319, Black Eagle and Black Eagle No. 1 Manganese Claims, Grant County, New Mexico

Enclosed are the original and 8 copies of a report on the field examination of the above property by W. R. Jones. The report recommends denial of the application because geological conditions indicate that significant amounts of ore will not be discovered by additional exploration.

The report has my approval.

John N. Faick
Geologist

JNF:ms

cc. Koschmann (8)
Storms

June 9, 1954

Memorandum

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

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

Subject : Report on Docket DMEA-3319, H. E. McCray's Black Eagle Manganese Mine, Red Rock Mining District, Grant County, N. Mex.

Enclosed are original and 8 copies of the section on Summary, Conclusions and Recommendations by Walter R. Storms of the Bureau of Mines and William R. Jones of the Geological Survey, and the section on Engineering by Storms for the above report. A separate section on Geology will be submitted by the Geological Survey.

As it seemed very doubtful that the proposed exploratory project would discover any significant amount of ore, the examiners have recommended denial of the loan.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W. H. King (8)
J. N. Faick
DMEA-3319
DF

WRStorms:frj

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-3319, H. E. McCray's Black Eagle Manganese Mine

Red Rock Mining District

Grant County, New Mexico

Walter R. Storms, Supervising Mining Engineer
U. S. Bureau of Mines

William R. Jones, Geologist
U. S. Geological Survey

June 1954

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By Walter R. Storms[1] and Wm. R. Jones[2]

On April 9, 1954, H. E. McCray of 908 South Platinum Street, Deming, N. Mex. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for Governmental assistance to explore the Black Eagle manganese deposit in the Red Rock area of Grant County, N. Mex. by 470 feet of inclined shaft, drifts, and raises. The total proposed costs for this work were to be $20,422.65, the Government furnishing 75 percent of the funds, and the applicant the remaining 25 percent. This application was docketed as DMEA-3319, then was sent to the field for an examination.

On May 25, 1954, Walter R. Storms of the Bureau of Mines, and William R. Jones and Samuel L. Moore of the Geological Survey visited the property, accompanied by H. E. McCray, the applicant.

The Black Eagle manganese deposit (formerly called the Black Jack, and later the Toro Pinto) is situated about 5 miles by air line or approximately 8 miles by road almost due north of Red Rock, N. Mex. Manganese oxides (psilomelane and pyrolusite) occur in a large brecciated fault zone, which strikes N. 25° W. and dips from 65 to 70 degrees to the west-southwest. Pre-Cambrian granite lies on the footwall of the normal fault, while Cretaceous-Tertiary rhyolites occur on the hanging wall side.

1/ Supervising mining engineer, Bureau of Mines
2/ Geologist, Geological Survey

The deposit first was developed by a deep trench along the outcrop. Later a 30-degree incline was sunk beneath the trenched area and considerable manganese ore produced in a stope above the incline and below the original open cut. At the present time the surface cut is about 180 feet long with a maximum depth of approximately 40 feet. Slightly over 300 tons of manganese ore averaging 20 percent manganese have been produced from the property.

The vein can be traced for at least 400 feet north-northwest of Tank Draw, but to the south-southeast the vein and fault pass beneath the gulch and cannot be traced. Evidently the main fault zone continues to the south because what seems to be this same fault was noted about one-half mile to the south where a shallow shaft had been sunk on a narrow fluorspar vein. At the main deposit the mineralized zone ranges up to 10 feet in width. It seems fairly wide near Tank Draw on the south, but narrows to about 2 feet at the northern end of the workings. The open stope ranges up to 6 feet in width.

A few hundred feet north-northwest of the main mine workings, a large lens of black calcite is exposed along the fault on the surface. This lens is approximately 100 feet in length and up to 10 feet in width. No exploratory work has been done on it, but

it seems doubtful if manganese ore occurs beneath this lens. However, at the main workings black manganiferous calcite occurs at the surface, as well as throughout the underground workings.

The main oreshoot may continue for some distance beneath the present stope, but because of the excessive amount of black calcite present and because white calcite also is present at the end of the incline and below the stope floor, it seems doubtful that the ore persists at depth. It also seems doubtful that enough ore could be discovered to repay the Government's share of the proposed $20,422.65 loan.

Therefore, it is recommended that the application be denied.

BLACK EAGLE AND BLACK EAGLE No. 1
GRANT COUNTY, NEW MEXICO
(MANGANESE)

DMEA 3319

Geology

By
W. R. Jones
Geologist, U.S.Geological Survey

BLACK EAGLE AND BLACK EAGLE No. 1
GRANT COUNTY, NEW MEXICO
(MANGANESE)

DMEA 3319

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Figure 2	Longitudinal Section	See Engineering Report

TABLES

Table 1	Shipments from Black Eagle Mine	On page 2

INTRODUCTION

The Black Eagle manganese deposit, formerly called the Black Jack and also the Toro Pinto, which is located in western Grant County, N. Mex. was examined by W. R. Storms [1/] and W. R. Jones [2/] in company with H. E. McCray, lessee and applicant, on May 25, 1954.

LOCATION AND ACCESSIBILITY

The deposit is 4 or 5 airline miles northwest of Redrock, N. Mex., a village on the Gila River. To reach the mine (see Fig. 1), follow the road leading northeast from the Redrock General Store a distance of 1.2 miles, turn left and cross bridge over Gila river, proceed for .2 mile at which point bear right, proceed for 1.1 mile then take left fork and follow ridge road for 5.4 miles to Black Eagle mine. The distance from Redrock is 8 miles, and the distance from the nearest railroad shipping point at Lordsburg, New Mexico is 33 miles.

PRODUCTION AND CHARACTER OF ORE

No records are available on the amount or grade of ore produced during initial trenching of the outcrop, done prior to the lease held by H. E. McCray. From the size of the old workings it is estimated that the original operators produced not more than 100 tons of ore.

Production by McCray is summarized in the following table:

1/ Engineer U.S.Bureau of Mines, Tucson, Arizona

2/ Geologist U.S.Geological Survey, Silver City, New Mexico

Table 1

Shipments by McCray to Deming Depot

Black Eagle mine, New Mexico

Date	Certificate	Long Dry Tons	Percent Manganese	Gross Value	Value per ton
9/15/52	8 M-487	45.66	17.55	$ 486.28	$10.65
9/24/52	"	17.39	22.6	327.80	18.85
11/ 3/52	"	25.75	23.55	643.49	24.99
11/20/52	"	11.87	21.6	249.98	21.06
11/10/53	8 M-585	55.33	22.1	1,165.25	21.06
3/17/53	"	124.20	18.6	1,922.62	15.48
	Totals	280.20	tons	$4,795.42	$17.11

The ore has been tested by the U.S. Bureau of Mines and by the American Smelting and Refining Company and evidently is amenable to concentration by jig or flotation methods. The ore shipped has not been penalized for deleterious material.

MINE WORKINGS

As may be seen in Fig. 2, a longitudinal section, the vein has been explored over a strike length of 160 feet at the surface and to a maximum depth of about 50 feet. The deposit was explored by an incline, a drift about 35 feet below the surface and by 3 short raises. About 10 feet back from the face of the incline a short raise connects with the 35-foot level. Two raises 60 feet apart extend from the 35-foot level to the floor of the longitudinal trench dug by the original operators along the outcrop of the vein. About two-thirds of

the vein zone bounded by the two raises and the 35-foot level has been stoped. The ore was dropped through the short raise to the incline and pulled up the incline with a slusher. The stoped area is from 6-10 feet thick, but not all the ore mined was ore of commercial grade. The footwall of the deposit is well defined by a fault surface dipping about 70 degrees southwest, but the hanging wall of the deposit is not clearly defined and appears to be determined more by assay than by a definite structure comparable to that which delineates the footwall.

GEOLOGY

The Black Eagle Manganese deposit occurs in a wide brecciated fault zone between coarse granite on the northeast and volcanic rocks on the southwest. The fault strikes about N. 25° W., dips about 65 degrees southwest, and is normal. The fault zone is a regional feature and extends for at least 1/2 mile southeast, and to the northwest extends beyond the mine area. About 1/2 mile southeast of the mine the fault zone is exposed in a shallow prospect pit. At this pit Gila sediments, which are Pliocene or Pleistocene, are faulted down against the granitic country rock; the age of the fault is therefore post-Gila. The fault breccia exposed in the pit contains fluorite but no manganese. At other places along the fault it is mineralized with manganiferous black calcite and white calcite, both of which are younger than the fault. Manganese oxides, which are the ore minerals, are probably a product of weathering of the manganiferous calcite.

A few hundred feet northwest of the Black Eagle mine is a particularly significant exposure of the fault zone; here it has been impregnated thoroughly by black calcite. This body of calcite is about

100 feet long and as much as 10 feet wide. In detail, its boundaries are most irregular; reniform veinlets extend into the footwall granite and into the hanging wall volcanic rocks, which, here and at the mine, are highly altered rhyolitic and latitic tuffs, which possibly are welded tuffs, and flows. As this exposure of manganiferous calcite is largely in the bed of a gully along which there is intermittent flow, little of the manganese oxide produced by weathering is allowed to accumulate, and no mining has been attempted here.

The Black Eagle deposit resembles this exposure of black calcite in size and form and was, before oxidation, a lenticular mass of manganiferous calcite. Manganese oxides fill joints, and form small replacement pods between limonitic gouge-lined slips within the mass of calcite; and similar material extends into the altered and brecciated volcanic rocks of the hanging wall.

ORE RESERVES

A few tons of manganese ore could be produced from the existing workings, but it would be foolhardy to infer additional ore beyond the present headings, especially the deepest workings. Experience with manganese deposits of this type reveals that the secondarily enriched ore, which may be of commercial grade, usually forms near the surface and is confined to relatively shallow depths. As geological conditions indicate that mineable ore is probably restricted to the zone of oxidation, and as outcrops do not indicate the presence of additional ore shoots, it is believed that the ore reserves are too small to be significant. Possibly a few tens of tons of indicated ore, and a similar amount of inferred ore may be present in the deposit.

PROPOSED EXPLORATION

In his application for aid in an exploration project, Mr. McCray outlines the proposed work as follows: continue the incline about 95 feet and drift both directions along the vein for a total strike length of 198 feet. This level would be 50 feet vertically below the 35-foot level as shown on the longitudinal section, fig.2. From the new level two or three raises would connect to the 35 level, thus blocking out the ore and providing ventilation. Unless the incline was driven outside the ore body, it would appear that considerable vein material would have to be left in pillars above and below the incline, which McCray intends to be the main haulageway.

SUMMARY AND CONCLUSIONS

The Black Eagle manganese mine contains small pod-like bodies and veinlets of manganese oxides in a lenticular mass of coarse black and white calcite. The deposit lies in the brecciated hanging wall of a geologically young northwesterly-trending normal fault of regional extent and which has considerable throw. The manganese ore zone is about 160 feet long, 10 feet wide and has been explored to a depth of about 50 feet. The relatively small volume of manganiferous calcite, from which the commercial grade manganese ore was derived by weathering, and the incompleteness of its decomposition, even close to the surface, argues against the existence of significant tonnages of recoverable manganese in this deposit. The small size of the deposit, and the relatively small amount of recoverable manganese, does not warrant the risks involved in exploration.

RECOMMENDATIONS

It is recommended that the application for aid in exploring the Black Eagle mine be denied because geological conditions do not indicate that exploration of the deposit will result in discovery of significant amounts of manganese ore.

DMEA-3319, H. E. McCRAY'S BLACK EAGLE MANGANESE MINE
RED ROCK MINING DISTRICT
GRANT COUNTY, NEW MEXICO

Engineering Report

By Walter R. Storms
Supervising Mining Engineer
U. S. Bureau of Mines

June 1954

DMEA-3319, H. E. McCRAY'S BLACK EAGLE MANGANESE MINE
RED ROCK MINING DISTRICT
GRANT COUNTY, NEW MEXICO

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Conclusions	8
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INTRODUCTION

In April 1954, H. E. McCray applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for Governmental assistance to explore his leased Black Eagle manganese deposit about 5 miles north of Red Rock, Grant County, N. Mex. The application, which was for a total sum of $20,422.65, was docketed as DMEA-3319.

On March 25, 1954, Walter R. Storms of the Bureau of Mines, and William R. Jones and Samuel L. Moore of the Geological Survey visited the property with the applicant.

LOCATION, TOPOGRAPHY AND CLIMATE

The Black Eagle manganese deposit is situated about 5 air miles north of Red Rock in southwestern Grant County, N. Mex., in sec. 6 or 7, T. 18 S., R. 18 W. (figure 1). It may be reached by automobile by traveling northwestward from Lordsburg on paved U. S. Highway 70 for about 4 miles to State Highway 188, thence northward on this graded road to the village of Red Rock. From the Red Rock general store, the road goes northeasterly, then north for 1.2 miles to the bridge across the Gila River, thence 0.2 mile northerly to a road fork, thence 1.1 miles northeasterly on the main road past the Martin ranch, thence 5.4 miles to the north on a narrow truck trail that follows the ridges between Red Rock Creek on the west and Ash Creek on the

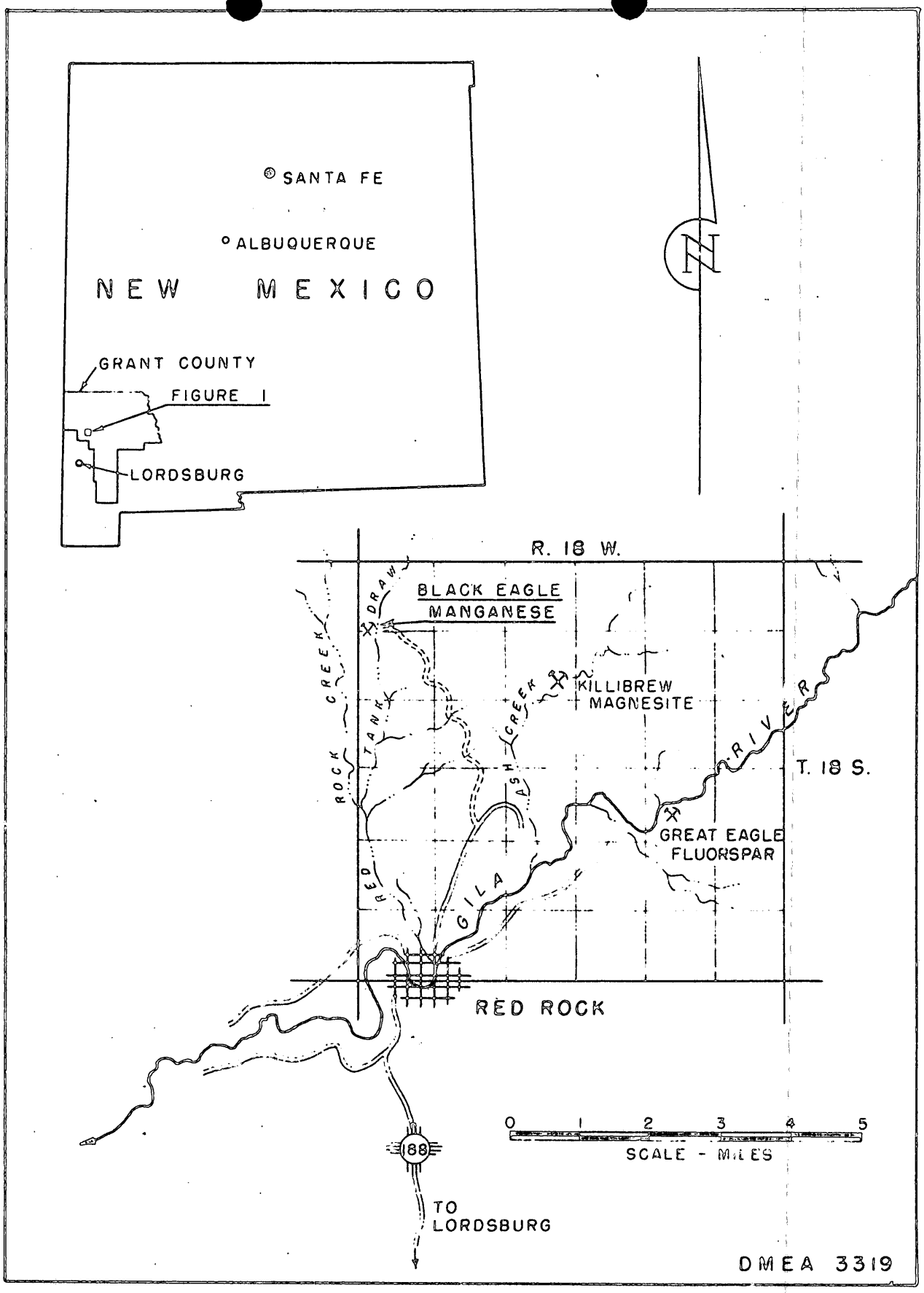


FIGURE 1. — LOCATION MAP
BLACK EAGLE MANGANESE MINE GRANT COUNTY, NEW MEXICO

east. The deposit lies immediately north of Tank Draw, a dry tributary of Red Rock Creek, and about three-quarters of a mile N. 58° E. from Red Rock, the landmark where the village obtained its name.

The locality in the vicinity of the mine is hilly although not rugged. The road from the Gila River is crooked and has many steep grades although it may be traveled easily by truck or passenger car. The usual desert vegetation of southern New Mexico occurs with a few scattered trees along the dry water courses.

The altitude of the property probably is about 4,600 feet. No permanent stream is nearer than the Gila River, some 5 miles to the south. The climate is typical of southern New Mexico arid regions with hot summers and mild winters. Annual precipitation averages about 9 inches, with heavy rains during late July and August, and some snow during the winter months.

HISTORY AND PRODUCTION

The manganese deposit originally was located in 1942 by J. M. Harper and Sherman Harper of Lordsburg, N. Mex.[1] Two lode claims were located along the vein, the Black Jack Nos. 1 and 2. In the spring of 1942, the Harpers leased the claims to Reiland and Blevins of Las Cruces, N. Mex. These men worked the deposit about a month and shipped one car of ore (36 tons), averaging 24.9 percent manganese.

1/ Neuschel, Sherman K., A Memorandum Report on the Black Jack Manganese Group, Grant County, N. Mex., U. S. Geological Survey, April 1943.

The ore was trucked to Lordsburg, a distance of about 30 miles, then shipped via Southern Pacific Railroad to the Government stockpile at Deming, N. Mex. Neuschel reported that no one was working the property when he visited it in April 1943.

In August 1949, J. H. Soule' [2/] of the Bureau of Mines visited the deposit. At that time it was called the Toro Pinto and was owned by Glenn Hood of Tyrone, N. Mex., and Pat Osmer and R. J. McCoun of Silver City, N. Mex. Evidently the Harpers had let their claim locations lapse and the property had been relocated. No known production took place during that period.

On April 1, 1953, H. E. McCray of Deming, Roy Henry of Silver City, N. Mex. and John Wright leased the property from Sherman Harper and Olga Harper. Evidently Sherman Harper had relocated the claims sometime after 1949, having relocated two claims, the Black Eagle and Black Eagle No. 1. H. E. McCray applied to the Defense Minerals Exploration Administration on April 9, 1954 for Governmental assistance to explore the deposit.

Total known production is as follows:

2/ Soule', John H., Toro Pinto, Summary Report of Minerals Examination - Soule' No. 45, Bureau of Mines, 1949.

Date	Long Dry Tons	Manganese percent	Gross value
1942	36	24.9	$358.56
9-15-52	45.66	17.55	486.28
9-24-52	17.39	22.6	327.80
11-3-52	25.75	23.55	643.49
11-20-52	11.87	21.6	249.98
11-10-53	55.33	22.1	1,165.25
3-17-54	124.20	18.6	1,922.62
Total	316.20	20.51	$5,153.98

On May 25, 1954, when the DMEA examiners visited the property no work was being done.

PROPERTY AND OWNERSHIP

At the present time, two unpatented lode claims, the Black Eagle and the Black Eagle No. 1, cover the manganese deposit. These claims are owned by Sherman Harper and Olga Harper of Lordsburg, N. Mex. On April 1, 1953, the Harpers leased the property to H. E. McCray of Deming, N. Mex., Roy Henry of Silver City, N. Mex. and John Wright. Evidently Henry and Wright later assigned their part of the lease to McCray.

DESCRIPTION OF DEPOSIT

Neuschel 3/ visited the deposit in 1942 and described it as follows:

"The ore occurs in a well defined vein striking N. 25° W. and dipping 70° SW. The vein appears to be in granite but lies very close to the contact between Pre-Cambrian granites on the east and

3/ Previously cited in footnote 1.

Cretaceous-Tertiary rhyolites on the west. The vein can be traced on the surface by conspicuous calcite outcrop for 400 feet to the north of the trench. The average width along this distance is 4 feet. To the south of the workings there are no exposures of the vein either in the stream bed of Tank Draw or to the east of the stream. The vein material is predominately massive crystalline black calcite with some vug fillings of white calcite. Psilomelane and pyrolusite occur as irregular narrow shoots and small bunches scattered through the calcite. Manganese oxide is found in a one-foot wide band along the hanging wall in the open pit. The average sorting ratio of black calcite to ore exposed in all the workings is judged to be 5 to 1. Even the cleanest sorted ore is very high in $CaCO_3$. A grab sample taken by the writer from a small pile of clean sorted ore assayed 29.9% manganese."

At the present time the deposit has been more fully developed, but the above description still seems appropriate. Much black calcite still is found in all parts of the workings and some white calcite also occurs, especially at the bottom of the incline (figure 2).

Three channel samples were taken by the DMEA examiners. These locations are shown on figure 2. Most of the stope floor was covered with loose muck so it could not be sampled thoroughly.

These three samples were as follows (see figure 2):

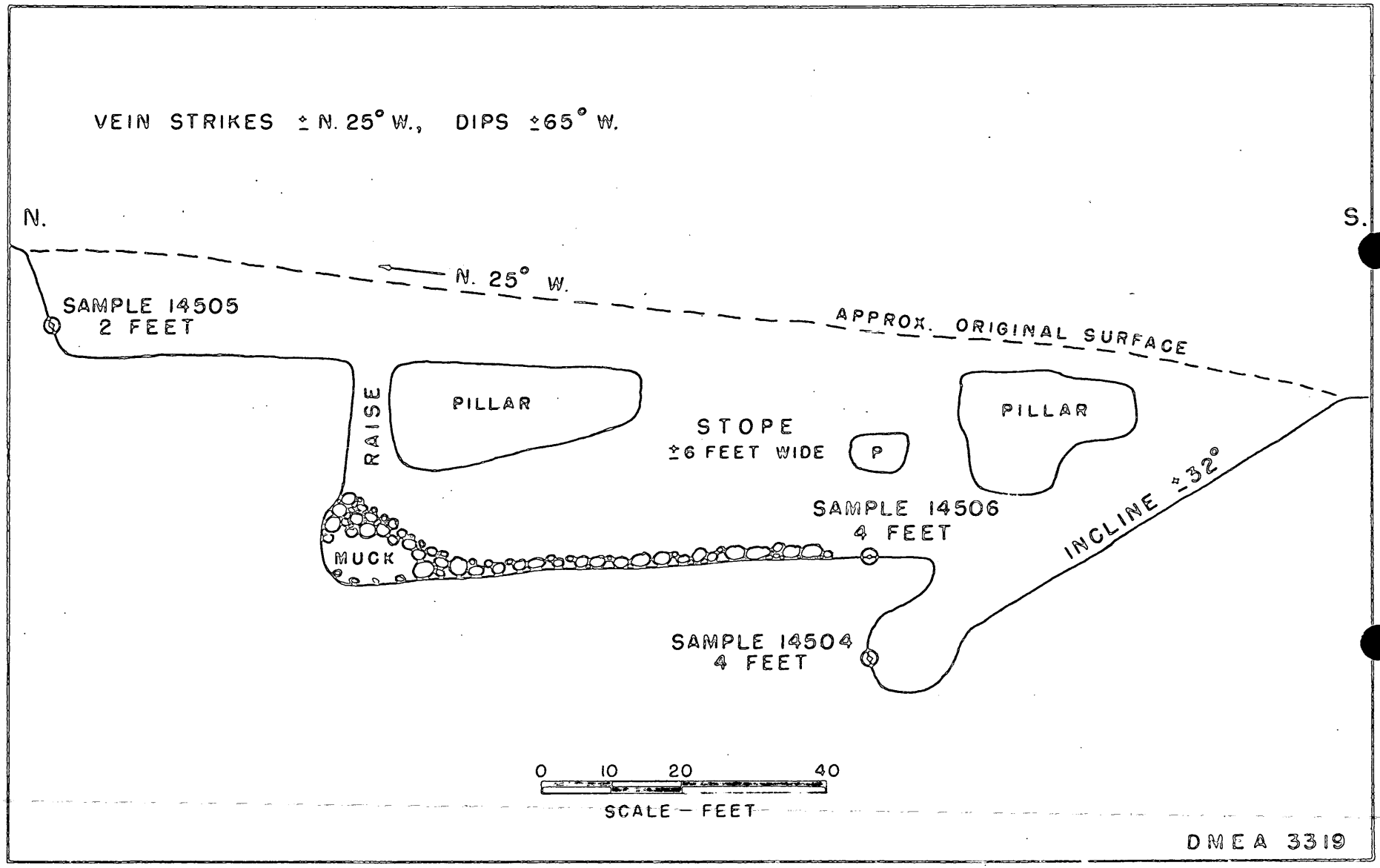


FIGURE 2. — LONGITUDINAL SECTION ON VEIN

BLACK EAGLE MANGANESE MINE GRANT COUNTY, NEW MEXICO

Sample No.	Description	Manganese, percent
14504	4-ft. cut across bottom of incline	8.14
14505	2-ft. cut at north end of open cut near surface	7.24
14506	4-ft. cut across stope floor.	5.93

ORE RESERVES

No measured ore can be estimated in the Black Eagle mine. A few tens of tons of ore might be indicated and a similar amount inferred.

PRESENT STATUS

On May 25, 1954, the mine was closed and probably had been closed for several months. A Caterpillar 35 tractor with a front end loader, a 1½-ton truck containing a water tank (McCray had hauled water 4.5 miles for mine use while he operated the property), a 110-cfm. Worthington compressor powered by a 137-hp. General Motors Diesel engine, and a small slusher or scraper were the only equipment at the mine. Three tent houses, which had been used to house mine employees, still were standing.

As shown on figure 2, the principal oreshoot had been developed originally by an open cut along the fault zone into the hillside for some 180 feet. Later, a small amount of ore had been mined by an underhand stope below the open cut level. McCray started an incline as shown on figure 2 from near Tank Draw at the southern end of the deposit and drove it some 76 feet at a 32 degree inclination down the ore body. When he encountered low-grade vein material with a large amount of white calcite, he stopped the incline and stoped ore above it and to the northwest. A raise was driven up to the

open cut, as shown on figure 2, near the northern end of the cut. Ore from the stope was dropped into the incline and scraped up this incline to the surface. McCray hand-sorted all material and shipped 280.2 long dry tons of ore to the Deming depot of the General Services Administration that averaged 19.95 percent manganese. Gross receipts from these shipments were $4,795.42, or $17.11 per ton.

PROPOSED EXPLORATION

The applicant's proposed exploration program is as follows: "Propose to sink the incline, as shown in red on attached map, level off and drift both north and south. The raises as shown is for air, it has been our experience that the workings are very hot for some reason and ventelation is necessary, this condition will also delay operation considerably which makes it difficult to determin deffnently the time element. The workings would be on the strike of the vein and would be the quickest method for developing possible ore. All proposed work is shown in red on the map."

Total costs as given by the applicant are:

Labor, etc.	$10,050.00
Operating materials and supplies	2,575.90
Operating equipment (rentals)	4,000.00
Miscellaneous (repairs, taxes, assaying, and accounting)	2,849.24
Contingencies, 10%	1,947.51
Total	$20,422.65 4/

4/ Applicant made an error in addition as the sum of these 5 items is $21,422.65, not $20,422.65.

For this total amount, the applicant proposed to drive 470 feet of incline, drifts and raises for $43.45 per foot. Total time to complete the project was estimated at 125 work days or 5 months.

Applicant's costs seem reasonable although the inclined shaft probably would cost over $43.45 per foot, while the drifts and raises should cost less. The inclined shaft and drifts probably would come under the heading of "exploration", but it seems doubtful if all of the raises could be so classified. Actually, the applicant proposed to sink the incline 100 feet, drift 198 feet from the bottom and 45 feet on the 35 level, then drive 127 feet in three raises (50, 35 and 42 feet) from the bottom level to the 35 level.

CONCLUSIONS

Although approximately 300 tons of manganese ore have been produced from the Black Eagle mine, because of the large amount of black manganiferous calcite on the surface and scattered throughout the ore body, and the white calcite at the lower end of the incline, it seems very doubtful if any significant quantity of manganese ore would be discovered by the proposed exploratory work. The present oreshoot might extend for another 50 feet at depth, but this seems doubtful; and if it did extend to the 85-foot level, it seems doubtful if enough ore could be developed to repay the Government's share of the loan, or $15,316.99.

RECOMMENDATIONS

It is recommended that Governmental exploration assistance for the total amount of $20,422.65 be denied the applicant.

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

224 New Customhouse
Denver 2, Colorado

June 18, 1954

Mr. H. E. McCray
908 South Platinum Street
Deming, New Mexico

Re: DMEA Docket 3319 (Manganese)
H. E. McCray's Black Eagle
Manganese Mine, Red Rock
Mining District, Grant County,
New Mexico

Dear Mr. McCray:

Reference is made to your application for Government assistance to explore your Black Eagle mine for manganese.

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 of manganese 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,

W H King
W. H. King
DMEA Field Team, Reg. IV

per E. H. Koschmann
A. H. Koschmann
DMEA Field Team, Reg. IV

RDB:es
cc: DMEA Docket 3319
Administrator, DMEA
Storms
Koschmann (2)
Chron.
AFShride

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

224 New Customhouse
Denver 2, Colorado

June 18, 1954

Memorandum

To: C. O. Mittendorf, Administrator, DMEA
Attention: Code 200

From: DMEA Field Team, Region IV

Subject: Report of Examination - DMEA Docket 3319 (Manganese)
H. E. McCray's Black Eagle Manganese mine, Red Rock
Mining District, Grant County, New Mexico

Enclosed are four copies of the Engineering and Geologic examination on the subject property, a copy of the letter of denial to the applicant, and two copies of Form 3b.

W H King
W. H. King

Enclosures

for E. N. Hauschmann
A. H. Koschmann

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

224 New Customhouse
Denver 2, Colorado

April 16, 1954.

Memorandum

To: Administrator, Defense Minerals Exploration Administration, Attention: 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMEA Form 3a and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work:

H. E. McCray
Box 590
Deming, New Mexico (Manganese)

L. D. Poor
265 North Pine Street
Globe, Arizona (Asbestos)

John F. Shaw
For W. H. King

Enclosures

H. E. McCRAY
ENGINEER OF MINES
908 S. PLATINUM
DEMING, NEW MEXICO

April,9,1954 Phone 240

Mr. H.H.King,
Executive Officer,
D.M.E.A. Field Team,
Region 4
224 New Customhouse,
Denver,2 , Colorado.

Dear Mr. King;

Attatched please findapplication for development loan on the Black Eagle Manganese mine. DMEA Order 1, "Government Defense Exploration Projects".

Hope there is sufficient data and properly presented contained.

I am sending this direct to you at the suggestion of Mr. Stones at Tucson.

Your very truly,

H. E. McCray

MF-103
(Revised April 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. 3319
Metal or Mineral Manganese
Date Received
Estimated Cost $20,423
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: [illegible], Las Cruces, New Mexico.

(*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. Accordingly in blank

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 [illegible] contract attached. See mining claims, (c.3, Page 17 [illegible] 17 [illegible] (This [illegible] not checked by no corner available much other case information.)

(*b*) State any mine name by which the property is known. Black Eagle and Black Eagle 1

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

(*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. Contract as atched

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

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

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. Sheet 1

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. Sheet 2

(*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. Sheet 3

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. Good road, 22 mile to Lordsburg [illegible] Camp established at mine.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. Materials and supplies available, water and power [illegible] Lordsburg [illegible] Located four or half miles, close to a power line within four miles, heavy equipment and [illegible] to used.

16—66551-1

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper. .....

CERTIFICATION

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

Dated April 9, 195[illegible]

(Applicant)

By .....

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

Recapitulation, estimated costs.

6	(b)	Labor, to total cost	$10,000.00
6	(c)	Operating in-details on supplies	2,575.00
6	(d)	Operating Equipment total rental	4,000.00
6	(g)	Miscellaneous	1,600.00
			$ 19,175.11
6	(h)	Contingencies 15% of total	1,247.51
		Total estimated cost	$20,422.62

470 feet of hoisting, drift and raises would cost $43.41 per foot.

ITEM 12.

7 (a)

Unless unforeseen conditions arise the applicant is in position to carry his end out. Has interest in mile of mining property and also interested in other companies operation. Has expended some six thousand on the Black Hole, and has the initial work of building suitable road, installing the equipment etc. all done and paid for. Whether or not the ore will come back as it should at the start, can be indicated at bottom of hoisting has to be proven.

Complete equipment and tools are on the job. The actual replacement as second hand would add up to amount fourteen thousand dollars, besides the cost of transportation to mine. Operation can be started immediately. Insurance for the equipment should not be out of line. As some of the equipment is new mine have to take care of it, as well as my own.

Have other people that wish to join me and this I may do, between now and the time of examination. Also should the development mine that I believe it will some salvage from the work should be possible, with possibilities of relieving the financial outlay, for all concerned.

SHEET #1

4 (a) The deposit was opened by trenching along the outcrop and some product was made from open trenching along the vein. As there was some twenty feet of outcrop showing are a considerable portion trenched through and had been taken. Started an incline shaft on the strike of the vein and encountered a fault at 45 feet vertical depth. About ten feet thru the fault and stoped out the area to the bottom of the open cut. It appeared that the ore was not consistent enough to mine as high grade, and could not sustain sufficient tonnage to continue the development work which the formation seems to warrant. I have done all the work shown on the attached map. Also spent some considerable dollars on making a good truck road to the mine. All openings open.

SHEET #2

4 (b) The following shipments made to the Reading smelter.

Date.	Certificate	L.B.S.	% Zn.	Gross Value.
Sept., 15, 1950	8-3-407	45.66	17.59	450.28
" 24 "	"	17.19	22.6	327.80
Nov. 3 "	"	25.75	23.59	603.49
" 23 "	"	11.67	21.6	249.93
" 10, 1953	8-4-365	55.33	22.1	1,163.25
Mar. 17 "	8-1-505	124.20	18.6	1,922.62

Totaling, last test made on this lot indicates over 48 plus concentrate without penalty materials payin $2.30 per unit. Returns not received. There are no ore reserves developed, unless one had a jig plant.

Jig test show the following-

	Grams	% Total	Zn.	Recovery
Feeds	1000	100	16.4	
1 Concentrates	399	39.87	27.19	
2 " "	162	16.20	15.28	
Combined	561	56.07	23.23	72.96
Table	412	37.77	7.75	
Slimes	112	10.32	14.62	
Combined	524	48.27	9.22	27.04

By stoping slimes and combining with concentrates jig saving would be increased and concentrates be above 23% Zn.

The reason I chose to buy the property was twofold, first there is a very considerable mineralized contact vein and second there was no penalty minerals in the ore. Test made by the Bureau of mines indicated good results by flotation I also had this checked by A.M.M. Co. It looked as tho there was enough ore in sight to do the developing work but it did not turn out that way.

SHEET #3

4 (c) There is a contact vein which can be traced for over 100 feet in places ten feet wide. The vein contains black calcite and manganese minerals the ore being six feet wide in places. The foot wall is a red granite porphyry and very extensive. The hangingwall is very highly altered with veins of calcite. I believe the ore continues downward and will warrant exploring.

#5 (b) Propose to sink the incline,as shown in red on attached map,level off and drift both north and south.The raises as shown is for air,it has been our experience that the workings are very hot for some reason and ventelation is necessary,this condition will also delay operation considerably which makes it difficult to determin accurately the time element. The workings would be on the strike of the vein and would be the quickest method for developing possible ore. All proposed work is shown in red on the map.

#5 (c) It will take ten days to install hoist and track down the incline,then build dumping ramp. Probably most economical operation,due to conditions ,will be one shift operation,to get the work done will take about five months time.

#5 (d) The applicant has been mining since 1908.Hold the degrees of Engineer of Mines and B.S. from the Michigan College of Mines and Tech. Houghton Mich.Have mined in Nevada,Arizona,Colorado and New Mexico. Extensive experience in mining,milling and smelting. While have held jobs as manager and Supt. the greater part of the time have operated for myself. Since leaving the General Chemical Co. at Deming in 1943 have produced on my own some $ 1,300,000.00 in fluorspar and lead zinc. Have been connected with some branches of mining,milling or smelting for the past forty six years including time spent in school. Will employ only well qualified personal as operating foreman and other as needed. Member A.I.M.E. - N.S.P.E. Licensed Professional Engineer.

SHEET #6 Thru #8

#6 (b)

1-Working Foreman		@400.00 per mo.	All 125 work days.	@2000.00
1- Machineman	@12.80 per day	320.00 " "		1600.00
2- Muckers	11.80 " "	590.00 " "		2950.00
Supervision,Engineering		700.00 " "		3500.00
				@10050.00

#6 (c)-

Diesel fuel	1500 gal @14.3	$ 214.50
Gasoline	1000 " 25.0	250.00
Oil	1 bbl.	43.90
Powder	3000 # @23.50	705.00
Fuse	5-3000' @42.00 per coil	210.00
Caps	5000 @ $25.00 Hundred	125.00
Steel 7/8 Hex. replacement	12 pcs.	90.00
Bits	200 @ .22¢	44.00
Picks	6- @ 2.25	13.50
Shovels	6-@ 2.50	15.00
Handles Hammer,pick etc.		20.00
Tools replacements estimated		50.00
Hoses replacements		85.00
Spads,valves ,misl.		75.00
Pipe	250' @.40¢	100.00
Rails	2000 #	175.00
3000 B.M .timber @ $100.00 M		300.00
		@3575.90

#6

SHEET #9

#6 (d) List of equipment at Mine.

3- Tents- cook stove.
1- 110 Cu.ft Worthington air Compressor -G.M.C. Deisel Engin.
1- Dodge truck with 1100 gal water tank.
1- Gasoline driven Hoist, to be moved on property.
1- 1950 Dodge pickup truck.
1- Cat.front end loader used for moving waste and loading in place if bins.
2- I.R. tugger hoists.
1- Thor 200 Stoper.
1- Thor 35 Jackhammer.
1- I.R. Jackhammer.
1- Sullivan Jackhammer.
1- Thor jackleg.
1- Column and X arm.
1- D.G. sump pump.
1- Welding torch complete.
40 pcs drill steel to 10' length.
1- Set socket wrenches.
1- 1"to 2" pipe dies.
1- 3/4 to 1/8 pipe dies.
4- Cressent wrenches.
5- Pipe wrenches.
4-Picks
4- Hammers.
2- Pipe cutters.
100' water hose with fittings.
100' Air hose with fittings.
4- 2" valves.
1- Lot of pipe fittings.
1- Lot of machine parts.
200' 1" pipe.
1- Pipe vice.
1- Bench vice.
1- 5 H.P. gasoline air cooled motor for ventelator.
1- 6" Buffalo blower.
1- First aid kit.
1- procure tank.
1- Water heater.
1- Shower room.
1- Mine car.
Miscl. cable etc.
Replacement value in excess of $10,000.00
Monthly rental should be [illegible] or 800.00 per month. 5Mos . $4000.00

SHEET #10

#6 (f) The dumping ramp has to be built,hoist set and track laid down inclie.This has been covered in costs set up.

Sheet #11

#6 (g) Machine parts and possible engin repair Est. 750.00

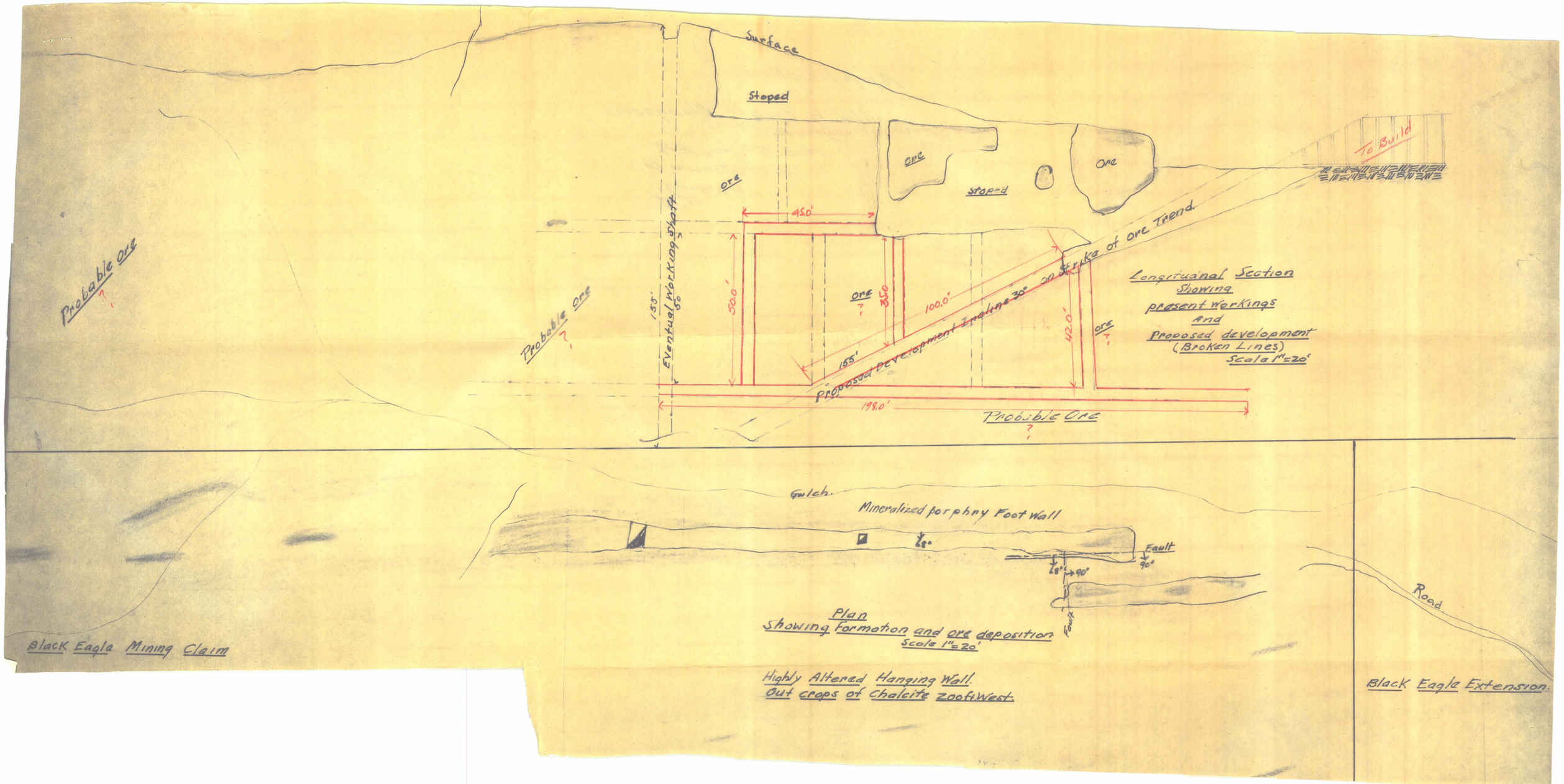
Sales Tax	2%	52.08
Payroll Tax	1.5%	150.75
Workmans Comp. and Liability Ins	8.417%	845.91
" " "	Deposit	350.00
Security Commission	3.%	301.50
Aanlytical expense		100.00
Accounting		300.00

$2849.24

OFFICIAL BUSINESS

SPOKANE, WASH.
OC 30 8 PM
1953

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


Surface
Stoped
Ore
Ore
Stoped
Ore
To Build
Probable Ore
Probable Ore
155'
Eventual Working Shaft
50
45.0'
50.0'
Ore
35.0
100.0'
155'
Proposed Development Incline 30° on Strike of Ore Trend
12.0'
Ore
198.0'
Probable Ore
Longitudinal Section
Showing
present Workings
And
Proposed development
(Broken Lines)
Scale 1"=20'
Gulch.
Mineralized porphny Foot Wall
Fault
90°
Fault
Plan
Showing Formation and ore deposition
Scale 1"=20'
Highly Altered Hanging Wall.
Out crops of Chalcite 200ft West.
Road.
Black Eagle Mining Claim
Black Eagle Extension.