OUT

No. or Name	Taken By	Date Taken	No. or Name	Taken By	Date Taken	No. or Name	Taken By	Date Taken
~~2825~~	~~E. Dames~~	~~12-7~~						
~~3720~~	~~P.E. Foot~~	~~5/4~~						
~~3720~~	~~A Dillon~~	~~5/23~~						
1368	400	10/8	Bay 11					

OUT

No. or Name	Taken By	Date Taken	No. or Name	Taken By	Date Taken	No. or Name	Taken By	Date Taken
~~Y O'Donnell~~	~~HC 91~~	~~11-13~~						

Docket No. DMA 1368X - Manganese Sept. 4, 1952

Iron and Ferro-Alloy Division, DMEA

Denial of exploration assistance
Docket No. DMA 1368X - Manganese
Norway Lode Manganese Company
Max Dercum, Partner
Summit County, Colorado

The applicant requested an exploration loan of $1,500.00 to construct two miles of access bulldozer-trail and to bulldozer trench an outcrop containing manganese and iron. Since no information was available in Washington on this deposit, it was referred to the field for an examination.

The field team agreed with Dercum that his estimate for determining the surface extent was correct. However, it recommended that a combination of trenching and diamond drilling or underground exploration would be required to determine the size of the deposit and its character.

The zinc content of the mineralized zone with traces of lead and copper indicated the exposures were gossan over probable small zinc deposits. The manganese ore is of low grade and contains Zn, Pb, and Cu in excess of that allowed. An average of four analyses follows:

Mn	Fe	SiO_2	Al_2O_3	S	Zn	Pb	Cu
24.2	23.7	8.9	1.3	0.07	2.29	0.1	0.05

A final report on the subject docket was received August 28, 1952, in which the application was denied. A letter of denial to the applicant was dated August 20.

The Iron and Ferro-Alloy Division, Defense Minerals Exploration Administration, after review of the docket, concurs with the action of the field team.

The subject docket, therefore, is being removed from the active files.

Signed
F. A. Rutledge

FARutledge:lm
9/4/52

cc: Admn. Reading File
Docket
W. B. Melcher, USBM
M. D. Crittenden, USGS
T. S. Martin
F. A. Rutledge

C
O
P
Y

224 New Customhouse
Denver 2, Colorado

August 20, 1952

Norway Lode Manganese Company
e/o Mr. Max Dercum
Dillon, Colorado

Dear Mr. Dercum:

Reference is made to your application for Government aid in exploration work on the Norway Lode Manganese Claims.

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 Government aid is denied.

Very truly yours,

/s/ John F. Shaw
for A. H. King
Field Team, Region IV

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

HMC:jp
cc Actg. Administrator DMEA
AMTraver
Subject
Chron
AHKoschmann (2)

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

224 New Customhouse
Denver 2, Colorado

August 20, 1952

Memorandum

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

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 1368X, Norway Lode Manganese Company, Summit County, Colorado

Enclosed are the original and three copies of the final report on DMEA 1368X, the original and one copy of Form 3b, and a copy of the letter of denial to the applicant.

for Robert F. Shaw
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

AUG 2 2 1952

Mining Division
Region IV

August 20, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 1368X, Norway Lode Manganese Company, Summit County, Colorado

Enclosed are eight copies of the final report on DMEA 1368X by C.M. Harrer of the Bureau of Mines.

The examining engineer concludes that the manganese outcrops probably represent a gossan cap over a small underlying sulfide deposit and recommends that the exploration assistance be denied.

We concur in this recommendation.

per John F. Shaw
W. H. King

Enclosures

LIBRARY OF THE INTERIOR
Defense Minerals Administration
AUG 28 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado

August 6, 1952

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Colorado Branch, Mining Division, Region IV

Subject: DMEA 1368X (Manganese), Norway Lode Manganese Company, Summit County, Colorado

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations", by C. M. Harrer and D. R. MacLaren, and of Harrer's engineering report on the above docket.

Harrer, in his unnecessarily exhaustive engineering report, concludes from exposure and structural relationships which are not encouraging that the manganese outcrops probably represent a gossan capping over a small underlying sulfide deposit. Reserves are too small and low grade to be of economic importance and the loan requested is insufficient to explore the ore body properly. He recommends denial and I concur.

W. M. Traver, Jr.

W. M. Traver, Jr.

Enclosures

WMT/bam

cc: 8
DMEA 1368X
DMEA Chron.

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

200 New Customhouse
Denver 2, Colorado

August 19, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 1368X, The Norway Lode Manganese Claims, Summit County, Dillon, Colorado.

Attached are 8 copies of the geologic report by D. R. MacLaren covering DMEA Docket 1368X, The Norway Lode Manganese Claims, Summit County, Colorado.

The applicant has applied for a loan of $1500.00 to explore a vein of manganese and iron oxides by bulldozer trenching, and to build about 2 miles of access road suitable for the passage of a bulldozer and jeep.

Exploration work has been done at only 2 places on the subject property. At both places veins of manganese and iron oxide are exposed in shallow shafts. The vein material is vuggy. It carries small amounts of zinc and lead, and based on these features, MacLaren concludes that the exposures represent the shallow leached outcrop of a sulfide vein rather than a possible source of manganese ore. Although the proposed trenching may indicate the linear extent of the vein at the surface, it will not give any information as to depth of the oxidized vein or the changes in ore tenor. The operator is not prepared to spend the necessary funds to undertake ~~trenching~~ drilling or sinking a shaft. It is, therefore, recommended that this application for a loan be denied.

I concur in this recommendation.

The brochure is enclosed.

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

Enclosures (9)

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA 1368X, Norway Lode Manganese Company

Summit County, Colorado

Manganese

C. M. Harrer, Mining Engineer
Bureau of Mines

D. R. MacLaren, Geologist
U. S. Geological Survey

August 5, 1952

DMA 1368K

NORWAY LODE MANGANESE COMPANY
SUMMIT COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By C. M. Harrer
Mining Engineer
Bureau of Mines

and

D. R. MacLaren
Geologist
U. S. Geological Survey

DMA 1368X

NORWAY LODE MANGANESE COMPANY
SUMMIT COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By C. M. Harrer and D. R. MacLaren

Max Dereum, manager of Norway Lode Manganese Company, of Dillon, Colo., applied for a Defense Minerals Exploration Administration loan to explore for manganese on the Norway claims 1 to 4, inclusive. He proposed to construct about 2 miles of access trail for jeep and bulldozer entry, and trench the surface over the deposits with the bulldozer at various locations, at a total cost of $1,500.00, Government participation 75 percent.

The company has, since the examination, combined the Norway claims with other property near Montezuma, Colo., and incorporated under the laws of Colorado as the Chihuahua Mining and Milling Company.

Oxides of manganese and iron occur as lens-like bodies in fissure and shear zones in pre-Pennsylvanian sediments. The presence of zinc in the assays suggests the possibility of shallow zinc sulfides which implies a very limited vertical range of manganese-iron oxides in shallow, leached outcrops.

Meager exposures and the structural relationships on the Norway Lode Manganese claims are not encouraging for the development of important manganese reserves, and analyses of the ore indicate low-grade material. Contaminants, particularly zinc, make the ore unacceptable

metallurgically. Inaccessibility of the deposits and curtailed operating season would interfere with production. Lack of concentration facilities, distance from potential markets, and very high costs make this an unattractive venture.

Reserves based on geologic inference probably would not exceed 9,000 tons with an assay from the average of two samples by the applicant and two samples by the examining team of:

Percent											
Mn	Fe	SiO_2	Al_2O_3	P	CaO	MgO	BaO	S	Zn	Pb	Cu
24.2	23.7	8.9	1.30	0.03	1.10	1.62	0.09	0.07	2.29	<.10	<.05

< less than

A program of diamond drilling or shaft sinking to gain the information necessary for a complete appraisal of the property will cost considerably more than the applicant was prepared to invest at the time of the examination.

The application for an exploration loan of $1,500.00, docket DMA 1368X, by Max Dercum to explore the Norway Lode Manganese claims is recommended for denial.

THE NORWAY LODE MANGANESE CLAIMS

SUMMIT COUNTY

DILLON, COLORADO

OMEA DOCKET 1368X

Geologic Report

By D. R. MacLaren
U. S. Geological Survey

THE NORWAY LODE MANGANESE CLAIMS
DILLON, SUMMIT COUNTY, COLORADO

INTRODUCTION

Max Dorcum, Manager of the Norway Lode Manganese Company of Dillon, Summit County, Colorado, has applied to the Defense Mineral Exploration Administration for assistance to explore for manganese on 4 claims in the Upper Blue River area, 9 miles southwest of Breckenridge, Colorado. The applicant proposes to build about 2 miles of access road suitable for the passage of a bulldozer and jeep, and to trench by bulldozer in order to explore a vein of manganese and iron oxides. The applicant estimates that the cost will be $1,500, the Government's share to be 75 percent or $1,125.

The Norway claims are in the Pollock Mining District, sec. 26, T. 7 S., R. 78 W., Sixth Principal Meridian, at an altitude of 11,500 to 12,00 feet (fig. 1). Due to long winters and heavy snowfalls, the property is accessible for only a few months of the year. It may be reached by traveling 6 miles south of Breckenridge on State Highway 9, then three-quarters of a mile along a narrow dirt road that leads up McCullough Gulch and is passable with difficulty, in a jeep. The southern boundary of the property is about a mile beyond the end of the road.

It is concluded that this is a poor manganese prospect, and it is recommended that this application for a loan be denied.

GEOLOGY

The rocks in the Upper Blue River area, as mapped by Q. D. Singewald (1947), are pre-Cambrian gneiss, schist, and granite; pre-Pennsylvanian

quartzite, shale, and dolomite; and unconsolidated alluvium, moraine, and terrace gravel.

On the Norway No. 1 claim (fig. 2), pre-Pennsylvanian sediments, dipping slightly to the east, are cut by a fairly strong mineralized fissure that strikes N. 37° W. and dips 82° NE. Near the north boundary of Norway No. 1 claim, the sediments are in contact with pre-Cambrian rocks. The contact is obscured by overburden, but it is inferred to be a fault. Farther north, near the boundary between Norway No. 2 and No. 4 claims, a second inferred fault again brings the sediments into contact with the pre-Cambrian rocks

Exploration work has been done at only two places on the claims. On Norway No. 4 claim, a shallow shaft is said to be on a vein of manganese and iron oxides. At the time of the inspection, the bottom of the shaft was full of snow and the walls were tightly cribbed so that no vein was seen. Adjacent to the shaft slightly stained fractures strike N. 20° W. and dip nearly vertically. On the dump a small pile of oxidized material, reportedly from the vein in the shaft, was sampled as a check of the assays submitted by the applicant. The assays are:

	Mn	Fe	Zn	Pb	Cu	S
Examiner's sample	24.4	27.4	0.7	0.1	0.05	0.1
Applicant's sample	22.7	21.7	2.3	nil	nil	0.07

On Norway No. 1 claim a shaft ten feet deep exposes a mineralized fissure zone, five feet wide, in which three irregular veins containing oxides of manganese and iron are separated by horses of sandy shale. The veins, vuggy to spongy in texture, vary from 2 to 8 inches wide, and make up about one-quarter of the fissure width. A sample of the vein material

was taken as a check of the assays submitted by the applicant. The assays are:

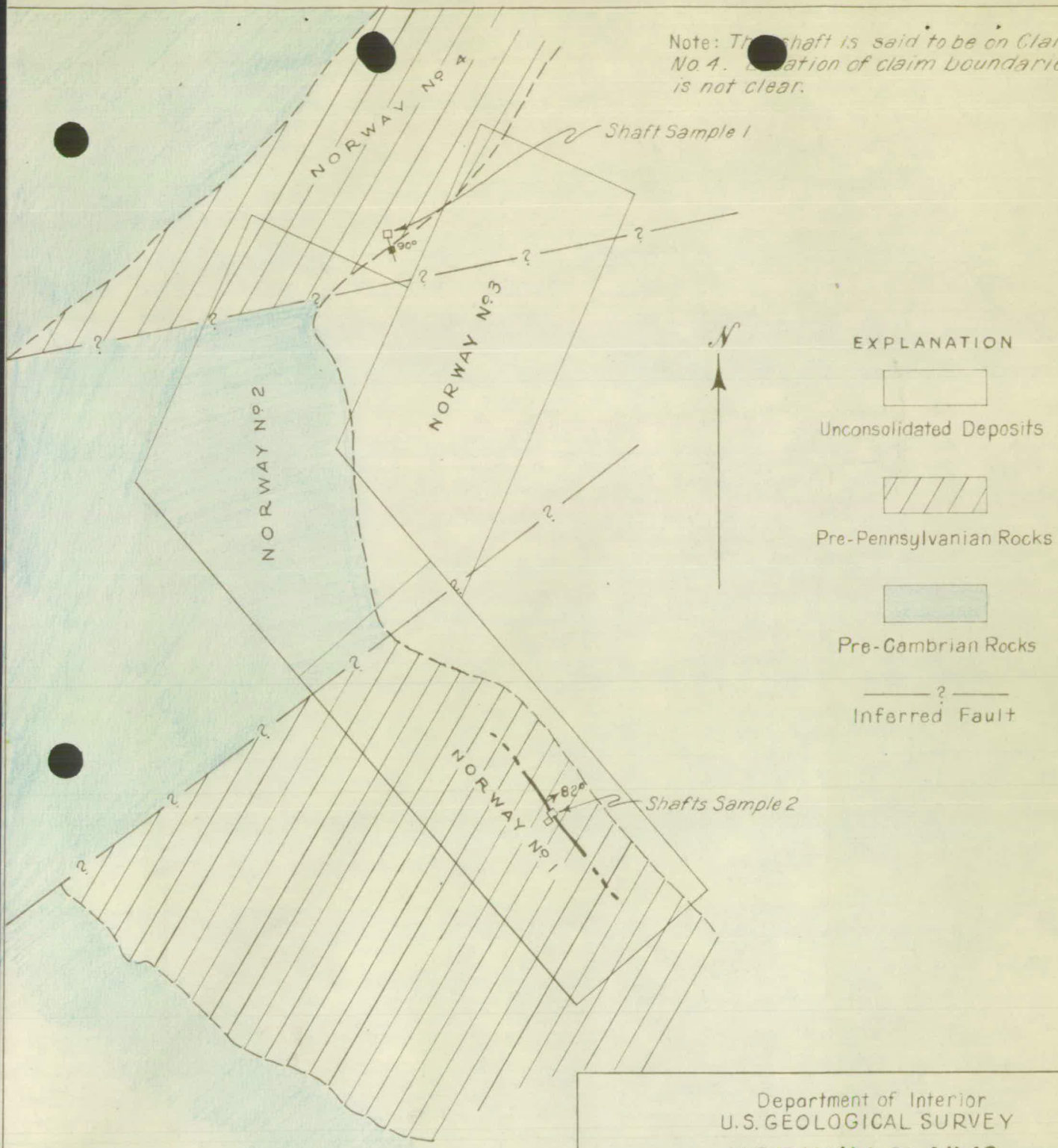
	Mn	Fe	Zn	Pb	Cu	S
Examiner's sample	34.6	22.8	3.65	0.1	0.05	0.1
Applicant's sample	25.1	23.0	2.3	nil	nil	Tr.

CONCLUSIONS AND RECOMMENDATIONS

Based on the vuggy texture and the high zinc content of the vein material, it is concluded that the exposure on the Norway No. 1 claim represents the shallow leached outcrop of a sulfide vein rather than a possible source of manganese ore. It is further concluded that although the proposed trenching may indicate the linear extent of the vein at the surface, it will not give any information as to the depth of the oxidized zone, or the changes in ore tenor that may be expected to take place in the sulfide zone. A program of drilling, or shaft sinking and drifting, such as would be needed to gain the information necessary for a proper appraisal of the value of this property will cost considerably more than the applicant was prepared to spend, at the time of the examination. It is therefore recommended that this application for a loan be denied.

REFERENCE

Singewald, Quentin D., Lode deposits of the Upper Blue River area, Summit County: State of Colorado mineral resources board, Mineral resources of Colorado, pp. 343-346, 1947.



Department of Interior
U.S. GEOLOGICAL SURVEY

NORWAY CLAIMS
Summit Co., Colo.

DMEA Docket 1368X

Claim map from applicant. Geology by D. R. MacLaren after Q. D. Singelwald

SCALE
500 0 500 FT.

July 1952

Fig. 2

DMA 1368X

NORWAY LODE MANGANESE COMPANY
SUMMIT COUNTY, COLORADO

Engineering Report

By C. M. Harter
Mining Engineer
Bureau of Mines

DMA 1366X

NORWAY LODE MANGANESE COMPANY
SUMMIT COUNTY, COLORADO

CONTENTS

Engineering Report — Page

Introduction..... 1
Acknowledgments..... 1
Location, topography, and physical features..... 2
History and production..... 2
Ownership and extent..... 2
Description of the deposits..... 3
Sampling..... 4
Minable ore reserves..... 6
Present status..... 6
  Exploration and development..... 6
  Equipment and facilities..... 6
Project proposals, with costs..... 6
Proposed financing..... 7
Conclusions..... 7
Recommendations..... 8

ILLUSTRATIONS

Figure — Follows Page

1. Location map, Norway Lode Manganese Company, Summit County, Colorado..... 2
2. Claim map, Norway claims, Summit County, Colorado..... *

* See figure following Geologic Report.

DMA 1368X

NORWAY LODE MANGANESE COMPANY
SUMMIT COUNTY, COLORADO

ENGINEERING REPORT

By

C. M. Harrer

INTRODUCTION

Max Dercum, a partner in the Norway Lode Manganese Company, of Breckenridge, Colo., applied in the fall of 1951 for a Defense Minerals Administration loan of $1,500.00 to explore the manganese possibilities of the unpatented Norway claims 1 to 4, inclusive, by bulldozing through an access trail and trenching the surface over the deposits in various locations. The property now forms part of the newly incorporated Chihuahua Mining and Milling Company, of Montezuma, Colo., with the same and additional officers.

Field examination of surface exposures on all four claims was made July 1, 1952, by an examining team of the Defense Minerals Exploration Administration.

ACKNOWLEDGMENTS

Max Dercum and R. F. Mackie accompanied the examining team as guides and furnished all information available on the property. Publications and maps of the U. S. Geological Survey, by Q. D. Singewald, were referred to for general geological information on the area.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Norway Lode Manganese claims 1 to 4, inclusive, are in sec. 26, T. 7 S., R. 78 W., 6th P. M., Pollock Mining District, Summit County, Colo. (fig. 1), at altitudes ranging between 11,500 and 12,000 feet above sea level. The property lies across a rugged ridge between McCullough and Spruce gulches. At present there is no road or trail in to the property. Nearest access is from Breckenridge, south over Colorado State Highway 9 for 6.8 miles; thence west up McCullough Gulch 1.7 miles, and north for 1 mile to the property which is inaccessible for at least 5 months of the year under the best of conditions due to the high altitude, extreme cold, and heavy snows.

HISTORY AND PRODUCTION

Early history of the property is unknown. Two shallow shafts on the Norway No. 1 claim and one on the Norway No. 4 claim and the lack of an access road indicate that no manganese or other ore was removed from the property except as samples.

OWNERSHIP AND EXTENT

The property consists of four unpatented mining claims known as the Norway Lodes Nos. 1 to 4, inclusive, formerly owned in partnership by Max Dercum, Dillon, Colo., R. F. Mackie, Breckenridge, Colo., and R. C. Brown, Royal Oak, Mich.

Since the application for exploration assistance was made, the owners have incorporated these claims with others in the vicinity of Montezuma, Colo. The company is now known as the Chihuahua Mining and

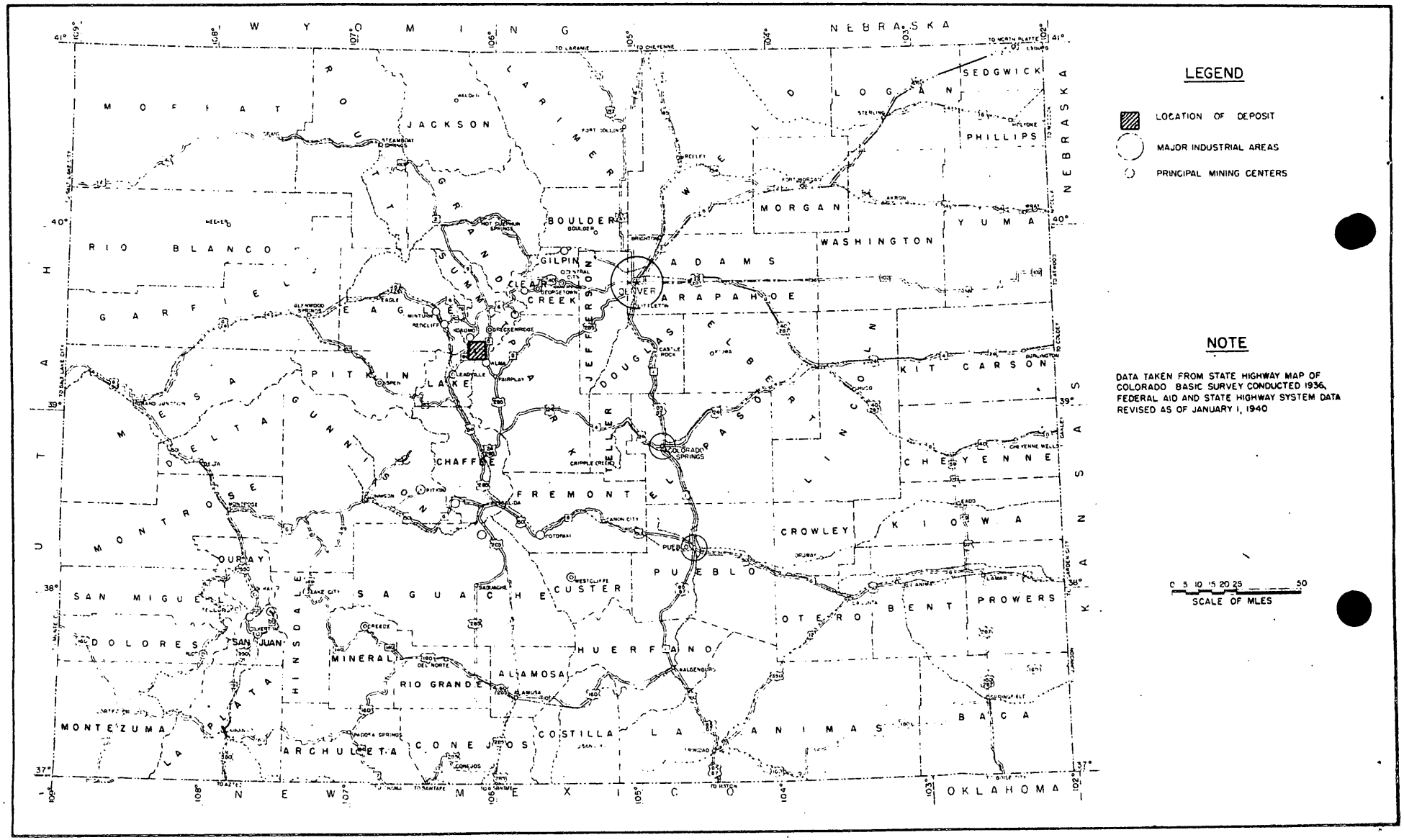


Figure 1. Location Map, Norway Manganese Lode Company, Summit County, Colorado, DMEA 1368X

Milling Company and is capitalized for $100,000.00 under the laws of the State of Colorado.

Officers are:

Max Dercum	Dillon, Colo.,	President
D. E. Leonard	Loveland, Colo.,	Vice President
Edna Dercum	Dillon, Colo.,	Secretary-Treasurer
R. F. Mackie	Breckenridge, Colo.,	Director
R. C. Brown	Royal Oak, Mich.,	Director

DESCRIPTION OF THE DEPOSITS

Manganese and iron oxides occur as fissure filling in nearly vertical shear zones in flat lying pre-Pennsylvanian limy sandstones. Outcrops are widely separated and apparently not connected, and are on opposite sides of a rugged ridge between McCullough and Spruce gulches. Surface exposures are traceable for very short distances due to almost complete masking by soil, glacial debris, and talus. Manganese is most prominently exposed in a shallow shaft on the Norway No. 1 claim. This exposure consists of narrow bands of iron and manganese oxides in limy sandstone. The accessible face was 7 feet wide and 10 feet deep. About 25 percent of the face is estimated as low-grade manganese ore. The ore zone strikes about N. 37° W. and dips 82° E. A shallow pit to the southwest shows very weak mineralization with staining. There is no other observable evidence of manganese on the claim.

The Norway No. 2 claim exhibits manganese and iron oxides as float in a talus slide near its northern boundary.

The Norway No. 3 claim shows no evidence of manganese.

The Norway No. 4 claim exposes manganese-iron oxides as float near its boundary with the Norway No. 2 claim, and a narrow shear zone

exhibits the same type of manganese-iron occurrence as exposed on the Norway No. 1 claim. The shear zone strikes roughly N. 20° W. and dips vertically. A small adjacent prospect shaft was inaccessible.

Development to date, as shown on figure 2 accompanying the geologic report, is very meager and insufficient for conclusive geologic analysis. The presence of excessive zinc in the concentrations of manganese and iron oxides and traces of lead and copper indicates that they may form the gossan over small zinc sulfide deposits.

The deposits appear to have very limited strike extent, and extension down the dip in the oxide zone is believed to be considerably less than 100 feet. As a consequence, the deposits would probably develop only very small reserves of manganese ore unacceptable in quality.

SAMPLING

Character samples of the ore by the applicant and by the examining team, separately, indicate comparable results. The former were analyzed by the Colorado Fuel and Iron Corporation, of Pueblo, Colo. Check samples numbers 1 and 2 taken by the examining team, shown on figure 2 with the geological report, were taken from the only exposures on the property. They and the applicant's samples were taken from the same approximate locations and the assays correspond with reasonable closeness. Analyses are in more detail than would ordinarily be required, to furnish information regarding the character of mineralization and to determine if the widely separated exposures were entirely similar petrologically and to conform with analyses submitted by the applicant.

Sample Data

Sample No.	Percent												Sample Location Figure 2
	Mn	Fe	SiO_2	Al_2O_3	P	CaO	MgO	BaO	S	Zn	Pb	Cu	
1 (Applicant)	25.1	23.0	8.2	1.0	0.026	1.1	1.9	nil	Tr.	2.3	nil	nil	2
1 (DMEA)	24.6	22.8	6.4	1.2	.02	1.4	1.65	0.06	0.1	3.85	<.1	<.05	2
2 (Applicant)	22.7	21.7	12.7	1.8	.074	1.1	1.8	.2	.7	2.3	nil	nil	1
2 (DMEA)	24.4	27.4	8.2	1.2	.01	.8	1.15	.03	.1	.7	<.1	<.05	1
Average	24.2	23.7	8.9	1.3	0.03	1.1	1.62	0.09	0.07	2.29	<.1	<.05	

MINEABLE ORE RESERVES

There are no mineable ore reserves available under the status of present development which classes the property as a border line prospect.

Reserves based on geologic inference probably would not exceed 9,000 tons of manganese-iron oxide ore assaying about as shown in the average shown under sampling.

Assumptions:

$$\frac{1,400 \text{ feet length} \times 5 \text{ feet width} \times 100 \text{ feet depth}}{10 \text{ cubic feet per ton}} = 70,000 \text{ tons vein matter}$$

70,000 tons x 1/4 (ore in vein) = 17,500 tons crude ore in vein

17,500 tons x 1/2 (sorting factor) = 8,750 tons possible shipping ore

PRESENT STATUS

Exploration and Development

Exploration is limited to two shallow shafts on the Norway Nos. 1 and 4 claims shown on figure 2 with the geologic report. They expose low-grade manganese and iron oxide mineralization insufficiently developed to indicate its extent.

Equipment and Facilities

There is no surface plant or any equipment on the property and no access road to it.

PROJECT PROPOSALS WITH COSTS

The applicant, Max Dercum, proposed to construct about 2 miles of exploration access bulldozer trail to the property and develop the Norway group of claims by trenching outcrops with a bulldozer to determine their extent. He estimated the work could be completed

within 12 working days at a cost of $1,500.00.

Dereum's estimate is about correct to determine surface extent and whether further exploration is justified. It does not, however, add anything to information on the size of the deposit or its character which can only be determined by a combination of trenching and diamond drilling or by underground development.

PROPOSED FINANCING

The partners proposed furnishing their services as:

Supervisor at $15.00 per day
Bulldozer operator at $14.80 per day
Miner at $12.00 per day

In addition, they would furnish an Allis Chalmers HD-10 bulldozer at $64.00 per day and a jeep at $8.00 per day, supplies and tools to be purchased by them as required.

CONCLUSIONS

Meager exposures and the structural relationships on the Norway Lode Manganese properties are not encouraging for the development of important manganese reserves, and analyses of the ore indicate low-grade material and contaminants, particularly zinc, making it unacceptable metallurgically.

In addition, the inaccessibility of the deposits and curtailed operating season would interfere with production.

If the ore were acceptable, lack of concentration facilities, distance from potential markets, and high costs make this an unattractive venture.

Reserves based on geologic inferences, totaling 9,000 tons, would require costly exploration, development, mining, and sorting charges to substantiate and bring into production. They are too unimportant and low grade to justify even the small loan requested.

The zinc content and traces of lead and copper accompanying the manganese and iron encourage the belief that exposures are the gossan over probable small zinc sulfide deposits. Their development would require construction of an access trail and diamond drilling or shaft sinking operations.

RECOMMENDATIONS

The application for an exploration loan of $1,500.00, docket DMA 1368X, by Max Dareum, to explore the Norway Lode Manganese claims for manganese is recommended for denial.

bam