DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4983

Application
- [x] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

Folders No._____: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

COPY
DMEA
RECEIVED APR 18 1958
DATE | INITIALS | CODE

April 15, 1958

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

Re: New Application (Manganese)
John T. Macale and M. G. Lopes
Davy Creek
Madison County, Montana

Dear Mr. Selfridge:

Enclosed are the original and two copies of an application for DMEA aid to explore for manganese in Madison County, Montana. Copies of the assays are attached to the original of the application only. We are returning to the applicant the originals of the assays as he requested.

The applicant proposes a two-stage program, each stage to consist of winzing and drifting at an estimated total cost of $41,445, of which the Government's share would be 75 percent or $31,083.75.

The applicant is aware of the need for an early examination and will inform us when an inspection can be made. We will send an examining team out as soon as practicable.

Sincerely yours,

A. E. Weissenborn

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

Enclosures

cc: USBM (2)
Prinz

[illegible]

[illegible]
[illegible]
April [illegible]

S. Department of the Interior
[illegible] Minerals Exploration Administration
[illegible] 18th Street
[illegible], N. W., Washington

Attention: Mr. A. A. Weissenborn
Executive Officer, DMEA
Field Team, Region 1

Dear Mr. Weissenborn:

We are attaching herewith four copies of Application for Aid in an Exploration Project, along with maps, shipping and assay reports.

A letter will be forthcoming in a few days [illegible] when the ground in that area will be clear enough for [illegible]

Please notify me beforehand when you intend to visit the property as I would like to be there at that time.

Very truly [illegible]

Lost Pole Mines

John T. Mecal

Form MF–103
Revised Oct. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42–R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed)

John T. Macale and M. G. Lopes
9013 37th S. W.
Seattle, 6, Washington

RECEIVED
APR 14 1958
U. S. G. S.
SPOKANE, WASH.

APPLICANT NOT TO USE THIS BLOCK

Docket Number: DMEA-4483
Date Received: 4-18-58
Government Participation %:
Region: I
Division Code: 400

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [ ]
- Partnership [X]
- Other (Specify) [ ]

State in which firm is organized

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
John T. Macale	9013 37th S. W. Seattle, 6, Wash.	(Partner)
M. G. Lopes	Box 16 Alder, Montana	(Partner)

Mineral(s) for which you wish to explore: Manganese

Estimated Cost of Project $: $41,445.00

LOCATION OF PROPERTY

Name	County	State
Davy Creek (9 miles south of Alder, Montana)	Madison	Montana

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order–I, Revised, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals,* of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

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.

April 10, 1958
Dated

John T Macale
BY *(Signature)*

Partner (half owner)
Title

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2*(a)*.

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *property boundaries* or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. *(Note* – If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

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)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Revised.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 25960

1. Applicant's Property Rights:

a. Legal Description.

Certificate of Location of Lost Lode No. 2 in Davy Creek was filed for record August 18, 1956 at 11:09 A.M., and recorded in Volume 178 of Lode Location at Page 573 and states that the southeast corner of this claim is southwest from the corner common to Sections 2, 3, 10 and 11, T7S, R4W, about 500 feet.

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Certificate of Location of Lost Lode No. 3 in Davy Creek was filed for record August 18, 1956 at 11:10 A.M., and recorded in Volume 178 of Lode Locations at Page 575 and states that the east side line of this claim is 1200 feet west of the corner common to Sections 2, 3, 10 and 11, T7S, R4W.

Certificate of Location of Lost Lode No. 4 in Davy Creek was filed for record August 18, 1956 at 11:11 A.M., and recorded in Volume 178 of Lode Locations at Page 577 and states that the west side line of this claim runs through and intersects the corner common to Sections 2, 3, 10 and 11, T7S, R4W.

These claims were located by M. G. Lopes and John T. Macale, each one-half interest.

The above locations were recorded in the Office of the Clerk and Recorder, Madison County, Virginia City, Montana.

b. Names by which the property is known are Davy Creek or Davy Gulch.

c. Owners. Each one-half interest.

John T. Macale	Joe (M.G.) Lopes
9013 37th S. W.	Box 16
Seattle, 6, Washington	Alder, Montana

d. There are no liens, mortgages or other encumbrances on this property.

2. Physical Description:

a. We have crosscut three leads above ground and drifted in the side of the hill. Have uncovered 4' lead and made open cuts along the vein with a bulldozer.

b. Half owner, each applicant.

c. The attached shipping reports will give an estimate of the past production from these workings.

d. See attached assay and shipping reports.

e. Dolomite, Quartz. (Geologic formation).

2. Physical Description (Continued)

f. We have found considerable manganese on top prior to development work and as we bulldozed on top, we found other stringer leads which we believe will form into an ore body where they intersect below. We took samples in various places along the full length of the lead for assay and as we drilled and blasted each round, we took what we thought were honest samples to have assayed.

g. Mr. Richard Storch and Mr. John McWilliams of the U.S. Bureau of Mines, 1201 North Division, Spokane, Washington, have the complete report as they surveyed this property. Since that time we have had some production and considerable development work.

3. Accessibility of Project:

a. DMEA Representatives wishing to examine the property would be met at Alder, Montana by M. G. Lopes who would take them to the property and describe operations. Property is readily accessible by car.

b. Shipping point is Alder, Montana, 9 miles from the property site, and Mr. Lopes' home is about 3 miles from the property.

4. The Exploration Project:

a. We would like to carry out an exploration program divided into two stages, the second stage dependent upon the success of the first stage. The program to be as follows:

Stage I

1. Sink 120 foot shaft on the ore. Shaft to be two compartment, each compartment 4' x 4' in clear.

2. Cut station and pocket on the 100 foot level.

3. Drift a total of 200 feet on the 100 foot level off the shaft. Drift to be approximately 5' x 7' timbered where necessary.

4. Construct two small buildings, one for a compressor house and forge room and the other for a dry and living quarters.

Stage II

1. Sink shaft an additional 100 feet.

2. Cut station and pocket on 200 foot level.

3. Drift 200 feet on 200 foot level.

b. An access road is already in. No further construction is necessary on this road.

c. Will start immediately. Work will last several months, unable to determine how many at this time.

5. Experience:
John T. Macale has had 12 years experience in mining. M. G. Lopes has had 35 years experience in mining. Work will be supervised by both Macale and Lopes.

6. Estimate of Costs:
a. Independent Contracts. (None)
We intend doing the major part of the work ourselves.

b. Personal Services.
Besides working ourselves (2), we intend to hire two men at the Butte scale, which is approximately $17.00 per day for a miner. Miners are available in this vicinity for hire.

c. Operating materials and supplies.
Power is within 1-1/2 miles of the property.
Water is available.

d. Operating Equipment.
To be furnished by the applicant. All items listed below are owned by John T. Macale:

Item	Market Value
1 - D-8 Bulldozer	$ 5,000.00
1 - #210 Portable Worthington Compressor	1,200.00
1 - G.E. Portable Welder, 250 amp.	375.00
1 - 1500 KW 110 Volt Light Plant	250.00
2 - Oxygen-acetylene welding & cutting assembly	175.00
2 - Gardner-Denver Drilling Machines	550.00
1 - Archer Blower Fan	100.00
100' - Air Hose	100.00
1 - Submarine Tank	25.00
1 - Blacksmith forge, anvil & ept.	100.00
2 - Ore cars	100.00
2 - Automatic air line oilers	50.00
1 - Homelite Chain Saw	235.00
1 -1-1/2 Ton flatbed Chev. Truck, '46	300.00
1 - GMC 5 Ton ore truck	550.00
Approx. 300' mine rail (12 lb.)	
200' of 1" water pipe	
100' of 2" air line	

e. Initial Rehabilitation and Repairs.
There are no existing buildings at the property site.

All operating equipment now owned by the applicants is in good working condition.

f. New buildings, fixtures, installations.
Two buildings will have to be constructed as follows, one for a compressor house & forge room and the other as a dry and living quarters:

1 - 12x14' Building - (no floor)
35 - 2 x 4s #2, Rafters & studs
800 Bf 1x8s #2
7 Rolls 90# Black roofing, tar & nails
20# 8 Box nails
5# 16 " "
1 Door and 1 Sash
200 2x4s #2 & better

$175.00 Lot

6. Estimate of Costs (continued)

f. New buildings, fixtures, installations. (Continued)

1 - 12 x 20' Building

74 - 2 x 4s 8's #2 & better
250 - 2 x 4s #2 & Better
1300 Bf 1 x 7 #2, sides, roof & floor
9 Rolls 90# Black Roofing
25# 8 Box Nails
10# 16 " "
21 2 x 4s 12 #2 joists
2 - Sash 28 x 33 4'
3 Pr. 8" Ex. Hvy. Hinges
1 Hasp $275.00 Lot

g. If possible, we would like to carry out the work under a unit cost contract whereby the costs are agreed upon in the contract. We figure the costs of carrying out the proposed work as follows:

Stage I

1. Sink 120 feet timbered shaft (including 20 foot sump)
120 feet @ $100/foot $12,000.00

2. Cut station and pocket on 100 foot level
Job @ $500. 500.00

3. Drift 200 feet on 100 foot level
200 feet @ $37.50 7,500.00
200' of timbering if necessary
@ $7.50 per foot 1,500.00

4. Construct two small buildings 445.00

Stage II

1. Sink shaft 100 feet
100' @ $100/foot 10,000.00

2. Cut station and pocket on 200' level
Job @ $500. 500.00

3. Drift 200' on 200' level
200' @ $37.50/foot 7,500.00
200' timber where necessary
@ $37.50/foot 1,500.00

Estimated Cost Stage I - - - - - - - - $21,945.00
Estimated Cost Stage II- - - - - - - - $19,500.00

Total Cost of Project - - - - - - - - $41,445.00

7. a. Does not apply.

b. We propose to furnish the equipment for use in the exploration work. This equipment is owned by John T. Macale. The equipment is free and clear with the exception of the bulldozer which I am buying on monthly payments. There is a small balance owing.

Bunker Hill and Sullivan Mining and Concentrating Company

ORE TESTING REPORT
SUMMARY

Metallurgical Department

Date January 29, 1955

Test No. 553-3

Test On Montana manganese ore submitted by John T. Nesale

Assay of Heads Oz. Au. Oz. Ag. %Pb. %Zn. % % %Cu. %Fe. %Insol

PRODUCT	% Weight	ASSAY Mn	ASSAY Fe	ASSAY Insol	PER CENT RECOVERY OR LOSS Mn	PER CENT RECOVERY OR LOSS Fe	PER CENT RECOVERY OR LOSS Insol
Combined Concentrates	74.52	48.6	0.84	12.66	90.26	64.87	38.61
Table Tailings	25.48	15.3	1.33	58.88	9.74	35.13	61.39
Mill Feed (Calc.)	100.00	40.1	0.97	24.44	100.00	100.00	100.00

Note: The above test results represents the sample submitted for beneficiation only, and represents the ore in question only to the extent that the sample represents the ore.

REAGENTS:

REMARKS: In calculating this final summary sheet I have as used that by tabling the slime product on table results comparable to the coarser fraction can be achieved.

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2

BUNKER HILL & SULLIVAN MINING and CONCENTRATING COMPANY

ORE TESTING REPORT

DATE 1/23/55

METALLURGICAL DEPARTMENT — Laboratory Flotation Test — ORE _____ TEST NO. 553-2

Assay of Heads: Montana Manganese Ore Submitted by John T. Macale

PRODUCT	WEIGHT Grams	WEIGHT % Wt.	ASSAYS Mn	ASSAYS Fe	ASSAYS Insol	METALLIC CONTENTS Mn	METALLIC CONTENTS Fe	METALLIC CONTENTS Insol
#1 Table Concentrate	3183	58.61	50.7	0.8	9.93	29.718	.469	5.820
#2 Table Concentrate	875	16.12	40.8	1.0	22.70	6.576	.161	3.659
Table Tailings	1372	25.27	15.5	1.03	59.58	3.915	.261	15.057
Table Feed	5430	100.00	40.2	0.89	24.54	40.209	.891	24.536

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PRODUCT	% RECOVERY OR LOSS Mn	Fe	Insol
#1 Concentrate	73.91	52.64	23.72
#2 Concentrate	16.35	18.07	14.91
Table Tailings	9.74	29.29	61.37
	100.00	100.00	100.00

GRINDING DATA	Reagents In Ball Mill	1st Rougher Reagents	2nd Rougher Reagents
% -200 Mesh—			

1st Cleaner Reagents	2nd Cleaner Reagents

Note: The above test results represents the sample submitted for beneficiation only, and represents the ore in question only to the extent that the sample represents the ore.

Remarks:

This report shows the final disposition of the deslimed table feed.

Metallurgist BOB LASKEY

BUNKER HILL & SULLIVAN MINING and CONCENTRATING COMPANY

ORE TESTING REPORT

DATE 1/29/55

METALLURGICAL DEPARTMENT — Laboratory Flotation Test — ORE John Meagle — TEST NO. 553-1

Assay of Heads: Montana manganese ore submitted by John T. Meagle

PRODUCT	WEIGHT Grams	WEIGHT % Wt.	ASSAYS Mn	ASSAYS Fe	ASSAYS Insol	METALLIC CONTENTS Mn	METALLIC CONTENTS Fe	METALLIC CONTENTS Insol
Table #1 Concentrate	3050	48.57	50.7	0.8	9.93	24.625	.389	4.823
Table #2 Concentrate	830	13.22	40.8	1.0	22.70	5.394	.132	3.008
Table Middling	630	10.03	27.2	0.8	43.00	2.728	.080	4.313
[illegible] Tailing	920	14.65	13.8	1.1	61.98	2.022	.161	9.080
Slimes	850	13.53	39.6	1.5	23.80	5.358	.203	3.220
Heads (Calc.)	6280	100.00	40.1	0.97	24.44	40.127	.965	24.437
Combined Concentrate	3880	61.79	48.6	0.84	12.66	30.089	.521	7.824

PRODUCT	% RECOVERY OR LOSS Mn	Fe	Insol
#1 Concentrate	61.37	40.31	19.74
#2 Concentrate	13.44	13.68	12.28
Middling	6.80	8.29	17.65
[illegible]ing	5.04	16.60	37.16
Slimes	13.35	21.04	13.17
	100.00	100.00	100.00
Combined Concentrate	74.81	53.99	32.02

GRINDING DATA	Reagents In Ball Mill	1st Rougher Reagents	2nd Rougher Reagents

1st Cleaner Reagents	2nd Cleaner Reagents

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BMEA

Please return to Pat T. Meagle 37 Pine St. Wallace, Idaho

Note: The above test results represents the sample submitted for beneficiation only, and represents the ore in question only to the extent that the sample represents the ore.

Remarks: This report shows the products that were obtained by grinding the feed to pass 20 mesh, desliming and tabling on a laboratory size Wilfley concentrating table. No attempt was made to concentrate the slime portion. In actual milling practice the middling product shown would be returned to the grinding circuit and retabled for additional manganese recovery. For calculating the products shown in this report we assumed that 50% of this middling would report to the concentrate and the remainder would be lost to the tailings.

BOB LACKEY
Metallurgist

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION I

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Albany, Oregon

March 26, 1956

AIR MAIL

USBM-U-109

FOR OFFICIAL USE ONLY

Mr. S. A. Brown, Purchasing Agent in Charge
General Services Administration
P. O. Box 177, Butte, Montana

Dear Mr. Brown:

This is a metallurgical report on manganese oxide ore sample 482. Test samples and head samples will be mailed under separate cover.

Summary

This test demonstrates that manganese oxide ore sample 482, from John T. Macale's Lost Lode Claim Mine at Alder, Montana, was amenable to concentration to a product meeting the specifications of the manganese purchasing program. The testwork shown represents the most practical procedure.

Product	Analyses, percent								
	Mn	Fe	SiO_2	Al_2O_3	P	Cu	Pb	Zn	CaO
Crude ore-Butte	21.8	2.1			0.0548	0.05			
Crude ore-Alby	21.7	1.72	48.7	1.16	0.032	<0.02	<0.02	0.11	2.0
Manganese conc	40.3	2.05	13.8	0.31	0.064	0.02	<0.02	0.11	
Tailing	9.36								

	Percent Mn	Moisture content percent
CALCULATED HEAD ASSAY	21.5	
MILL RECOVERY	72.91	
POUNDS CONCENTRATE PER 100 POUNDS CRUDE	39.26	1.2

Petrographic Analysis

This sample consists primarily of a pyrolusite-psilomelane admixture, chalcedony, and feldspar with some associated tremolite and quartz and small amounts of limonite, sericite, Zeolites, chlorite, calcite, and biotite.

Some of the manganese oxides are liberated in the minus 100 plus 200-mesh fraction; however, because of the silicified nature of this sample, most of the manganese oxide minerals are locked through the minus 200-mesh fraction.

Beneficiation Test Work

A representative sample of minus 10-mesh material was stage-ground in a laboratory ball mill at 50 percent solids. Subsequent screen analysis showed size fraction distribution as follows:

Product	Weight percent
Plus 100 mesh	-
100/200-mesh	1.7
Minus 200-mesh	98.30
	100.00

Representative samples ground as shown were treated as follows:

1. The ground pulp was conditioned for 12 minutes at 35 percent solids with 3 pounds of sodium fluoride, 12 pounds of sulfuric acid, and 70 pounds of emulsified reagent* per ton of ore at a pH of 4.7.

2. The conditioned pulp was diluted to 30 percent solids and the manganese minerals were floated for 5 minutes at a pH of 4.7.

3. Six cleaners were made, with the addition to each of 3 pounds of sodium fluoride per ton of ore and enough sulfuric acid to maintain a pH of 3.5.

Conclusions

Testwork performed in the laboratory demonstrated that manganese oxide ore sample 482 rrom John T. Macale of Alder, Montana, was amenable to concentration to a grade meeting the specifications of the manganese purchasing program.

It was necessary to use extremely fine grinding on this ore in order to obtain a concentrate meeting GSA specifications. Examination indicated that the association of the silica with the manganese minerals was much more intimate in this sample than in the previous lot submitted from this mine.

The manganese concentrate contained 40.3 percent manganese and 14.11 percent silica plus alumina, with a mill recovery of 72.91 percent.

Yours very truly,

William A. Stickney
Supervising Metallurgist
Branch of Process Metallurgy

WAS:bw
cc: AHR
Mf
Rf
Brown 3
Lillis
Library

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
ALBANY, OREGON

Calculations for test on sample 482

Calculated Head

Product	Weight percent	Assay percent Mn	Units
Manganese concentrate	39.26	40.3	1582.178
Tailing	60.74	9.36	568.526
			2150.704

Calculated Head 21.5
Assay Head 21.7

Mill Recovery

$$\frac{100(\text{wt \% conc})(\text{assay \% conc})}{(\text{wt \% head})(\text{assay \% head})} = \frac{100(39.26)(40.3)}{100(21.7} = 72.91 \ \%$$

Reagent scheme for test on sample 482. Test Engineer: C. W. Sanders

Point of Addition	Conditions			Reagents (lbs/T)		
	minutes	% solids	pH	H_2SO_4	NaF	Emul Reag*
Condition	12	35	4.7	12	3	70
Rougher float	5	30	4.7			
Cleaners: 1	3	22	4.0	4	3	
2	3	19	4.0	1	3	
3	3	17	3.6	1	3	
4	3	15	3.6	1	3	
5	3	13	3.5	1	3	
6	3	12	3.5	1	3	

*25% emulsion of 6 parts Liqro, 6 parts fuel oil No 2, & 1 part Oronite L

Extra

This payment is not final; final payment if any is dependent upon recoverability test.

GENERAL SERVICES ADMINISTRATION
MANGANESE PURCHASE DEPOT
BUTTE, MONTANA

ACCEPTANCE

DATE: February 7, 1956

ACCEPTANCE NUMBER: 538

ISSUED UNDER CERTIFICATE OF AUTHORIZATION NUMBER: 10 - 444

TO
THE LOST LOUD CLAIMS
c/o John T. Macale
P.O. Box 151
Alder, Montana

COPY

LOT NO.: 8

RECEIPT AND WEIGHT TICKET NO.: 3 - 4

8.1295 L.T - Alder ore

Subject to the terms and conditions of the Manganese Regulation, as amended, establishing the Government's Purchase Program for Domestic Manganese Ore at Butte, Montana,, the Government accepts 18210 pounds (wet basis) of manganese ore, delivered by you at the Purchase Depot, Butte, Montana, and covered by Receipt No. 3 - 4. Such ore has a moisture content of ____ % and analyzes on a dry basis as follows: 7.484

		PERCENT
MANGANESE (Mn) CONTENT		21.0
WEIGHT	POUNDS	
WET BASIS	18210	
LESS MOISTURE 7.484 %	1363	
		L.D.T.
NET DRY BASIS	16847	7.5210

EVALUATION AND SETTLEMENT DATA

(Based upon price schedule for ores) — AMOUNT OF SCHEDULE PAYMENT

$ 13.60 x 7.5210 L.D.T. = 102.29

MANGANESE ORE

(Signature) (Title)
(Name)

GENERAL SERVICES ADMINISTRATION

(Signature) (Title) Purchasing Agent
(Name S. A. [illegible])

RECEIVED APR 18 1958 G.M.S.A.

(FOR USE OF PRODUCER ONLY)

INVOICE

TO: GENERAL SERVICES ADMINISTRATION - REGION 10
FEDERAL OFFICE BUILDING, SEATTLE, WASHINGTON

FOR: MANGANESE ORE delivered as indicated above $ 102.29

I certify that the above bill is correct and just and that payment therefor has not been received. The Producer warrants that said ore was mined in the United States, its Territories or Possessions .

Producer JOHN T. MACALE Date

By Title

GPO 987572

R10-527
8-18-55

Extra

Albany Sample [illegible]

GENERAL SERVICES ADMINISTRATION
MANGANESE PURCHASE DEPOT
BUTTE, MONTANA

SUPPLEMENTARY ACCEPTANCE

DATE: April 3, 1956

ISSUED UNDER CERTIFICATE OF AUTHORIZATION NUMBER: 20 - [illegible]

To apply to lots received at a rate of more than 200 long dry tons during a 30 day period.

APPLIES TO ACCEPTANCE NO. (S) LOT NO. (S) 2
Accep't Ent't [illegible]
Feb. 7, 1956

TO: [illegible] STATES
c/o John P. [illegible]
Box 151, [illegible], Montana

COPY

RECOVERABILITY OF THE CONTAINED MANGANESE AND CHARACTERISTICS ON A DRY BASIS OF THE MATERIAL DELIVERED IN ACCORDANCE WITH THE ACCEPTANCES LISTED ABOVE, BY BENEFICIATION.

	PERCENT
RECOVERABILITY OF MANGANESE (COMPOSITE ORE SAMPLE - PERCENT MN) [illegible] recovery	72.91
CHARACTERISTICS MANGANESE (Mn)	40.3
IRON (Fe)	2.05
SILICA (SiO_2) PLUS ALUMINA (Al_2O_3)	14.11
PHOSPHOROUS (P)	0.064
COPPER PLUS LEAD PLUS ZINC (Cu + Pb + Zn)	0.15

EVALUATION AND SETTLEMENT DATA

							DOLLARS
BASE PRICE - PER L.D.T. UNIT							2.30
PREMIUMS			DOLLARS		DOLLARS		
Mn	-	x	.005	=			
Fe	2.05	x	.005	=	0.01975		
NET INCREASE							DOLLARS 0.01975
PENALTIES			DOLLARS		DOLLARS		
[illegible]	6.0	x	.01	=	0.0600		
[illegible]	3.7	x	.015	=	0.0555		
Fe	-	x	.01	=	-		
Fe	-	x	.0075	=	-		
$SiO_2 + Al_2O_3$	9.11	x	.01	=	0.0911		
P	-	x	.0033	=	-		
NET DECREASE							0.1266
NET AMOUNT OF ADJUSTMENT						PLUS	0.01975
						MINUS	0.1266
ADJUSTED BASE PRICE - PER L.D.T. UNIT							2.19715

MANGANESE OXIDE

[illegible] DMEA
RECEIVED APR 18
DATE [illegible]

Continued on reverse

R10-531
9-14-55

L.D.T. CRUDE ORE		% Mn IN CRUDE ORE		% Mn RECOVERABLE		L.D.T. UNITS OF Mn RECOVERABLE	
7.5210	x	21.7	x	72.92	=	118.9933	

	L.D.T. UNITS OF Mn RECOVERABLE		ADJUSTED BASE PRICE - DOLLARS		DOLLARS
	118.9933	x	2.19315	=	260.97

	L.D.T. CRUDE ORE		DOLLARS		
DEDUCTION FOR COST OF BENEFICIATION	7.5210	x	16.60	=	124.85

TOTAL AMOUNT OF PAYMENT	136.12
TOTAL OF SCHEDULE PAYMENTS MADE	122.29
NET AMOUNT OF PAYMENT — DUE PRODUCER	13.83
NET AMOUNT OF PAYMENT — DUE GOVERNMENT	

(Name) (Signature) (Title)

GENERAL SERVICES ADMINISTRATION

(Name) D. A. [illegible] (Signature) Contracting Agent (Title)

(FOR USE OF PRODUCER ONLY)

INVOICE

TO: GENERAL SERVICES ADMINISTRATION - REGION 10
FEDERAL OFFICE BUILDING, SEATTLE, WASHINGTON

FOR: MANGANESE ORE delivered as indicated above $ 13.83

I certify that the above bill is correct and just, and that payment therefor has not been received. The producer warrants that said ore was mined in the United States, its Territories or Possessions.

Producer [illegible] T. [illegible] Date _____

By _____ Title _____

[illegible] GRADE BUREAU OF [illegible] ALBANY SAMPLE NO. [illegible]

136.12 ÷ 7.5210 = 18.10 per ton

Albany lead carry 21.75 lb.
Butte lead carry 21.53 lb.

GPO 987446

- Extra

This payment is not final; final payment if any is dependent upon recoverability test.

GENERAL SERVICES ADMINISTRATION
MANGANESE PURCHASE DEPOT
BUTTE, MONTANA

ACCEPTANCE

DATE: September 26, 1955

ACCEPTANCE NUMBER: 482

ISSUED UNDER CERTIFICATE OF AUTHORIZATION NUMBER: 10 - 444

TO:
LOST BOY CLAIM
John T. Macale
Box 151
Alder, Montana

COPY

10.7431 L.T.

LOT NO.: 1

RECEIPT AND WEIGHT TICKET NO.: 1 - 2

Subject to the terms and conditions of the Manganese Regulation, as amended, establishing the Government's Purchase Program for Domestic Manganese Ore at Butte, Montana,, the Government accepts 2400 pounds (wet basis) of manganese ore, delivered by you at the Purchase Depot, Butte, Montana, and covered by Receipt No. _____. Such ore has a moisture content of 1.379 % and analyzes on a dry basis as follows:

		PERCENT
MANGANESE (Mn) CONTENT		26.4
WEIGHT	POUNDS	
WET BASIS	2400	
LESS MOISTURE 1.379 %	332	
		L.D.T.
NET DRY BASIS	2372	10.5930

MANGANESE ORE

EVALUATION AND SETTLEMENT DATA	
(Based upon price schedule for ores)	AMOUNT OF SCHEDULE PAYMENT
$ 23.83 x 10.5930 L.D.T. =	231.25

(Signature) (Title)
(Name)

GENERAL SERVICES ADMINISTRATION
(Signature) Purchasing Agent
(Name) (Title)

RECEIVED APR 15 1958 G.M.E.A.

(FOR USE OF PRODUCER ONLY)

INVOICE

TO: GENERAL SERVICES ADMINISTRATION - REGION 10
FEDERAL OFFICE BUILDING, SEATTLE, WASHINGTON

FOR: MANGANESE ORE delivered as indicated above $ 231.25

I certify that the above bill is correct and just and that payment therefor has not been received. The Producer warrants that said ore was mined in the United States, its Territories or Possessions .

Producer JOHN T. MACALE Date

By Title

GPO 987351

R10-527
8-18-55

Albany Sample #422

GENERAL SERVICES ADMINISTRATION
MANGANESE PURCHASE DEPOT
BUTTE, MONTANA

November 8, 1955

SUPPLEMENTARY ACCEPTANCE

To apply to lots received at a rate of more than 200 long dry tons during a 30 day period.

TO: [illegible]
c/o John T. Pacala, Box 151
[illegible], Montana

OTHER [illegible]: 10 - 444

APPLICATION [illegible]: 1

Recep. [illegible] #482
Sept. 26, 1955

RECOVERABILITY OF THE CONTAINED MANGANESE AND CHARACTERISTICS ON A DRY BASIS OF THE MATERIAL DELIVERED IN ACCORDANCE WITH THE ACCEPTANCES LISTED ABOVE, BY BENEFICIATION.

	PERCENT
RECOVERABILITY OF MANGANESE (COMPOSITE ORE SAMPLE - PERCENT MN) [illegible]	32.31
CHARACTERISTICS	
MANGANESE (Mn)	46.3
IRON (Fe)	4.3
SILICA (SiO_2) PLUS ALUMINA (Al_2O_3)	12.67
PHOSPHOROUS (P)	0.073
COPPER PLUS LEAD PLUS ZINC (Cu + Pb + Zn)	0.07

EVALUATION AND SETTLEMENT DATA

							DOLLARS
BASE PRICE - PER L.D.T. UNIT							[illegible]
PREMIUMS			DOLLARS		DOLLARS		
Mn	-	x	.004	=			
Fe	4.7	x	.005	=	0.0235		
NET INCREASE						DOLLARS 0.0235	
PENALTIES			DOLLARS		DOLLARS		
Mn'	3.7	x	.01	=	0.0370		
Mn	-	x	.015	=	-		
Cu	-	x	.02	=	-		
Fe	-	x	.0075	=	-		
$SiO_2 + Al_2O_3$	1.67	x	.01	=	0.0167		
P	-	x	.0033	=	-		
NET DECREASE						0.0537	
NET AMOUNT OF ADJUSTMENT						PLUS	0.0235
						MINUS	0.0537
ADJUSTED BASE PRICE - PER L.D.T. UNIT							2.2698

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DMEA
RECEIVED APR 18 [illegible]
DATE | INITIAL | CODE

Continued on reverse

(2)

R10-551
9-14-55

L.D.T. CRUDE ORE		% Mn [redacted]UDE ORE		% Mn RECOVERABLE		L.D.T. UN[redacted] OF Mn RECOVERABLE	
10.5930	x	26.4	x	90.53	=	253.1719	

	L.D.T. UNITS OF Mn RECOVERABLE		ADJUSTED BASE PRICE - DOLLARS		DOLLARS
	253.1719	x	2.2696	=	574.65

	L.D.T. CRUDE ORE		DOLLARS		
DEDUCTION FOR COST OF BENEFICIATION	10.5930	x	16.60	=	175.84
TOTAL AMOUNT OF PAYMENT					398.81
TOTAL OF SCHEDULE PAYMENTS MADE					231.25
NET AMOUNT OF PAYMENT				DUE PRODUCER	167.56
				DUE GOVERNMENT	

(Signature) (Title)
(Name)

GENERAL SERVICES ADMINISTRATION

(Signature) Purchasing Agent
(Name) (Title)

(FOR USE OF PRODUCER ONLY)

INVOICE

TO: GENERAL SERVICES ADMINISTRATION - REGION 10
FEDERAL OFFICE BUILDING, SEATTLE, WASHINGTON

FOR: MANGANESE ORE delivered as indicated above $ 167.56

I certify that the above bill is correct and just, and that payment therefor has not been received. The producer warrants that said ore was mined in the United States, its Territories or Possessions.

Producer _____ Date _____

By _____ Title _____

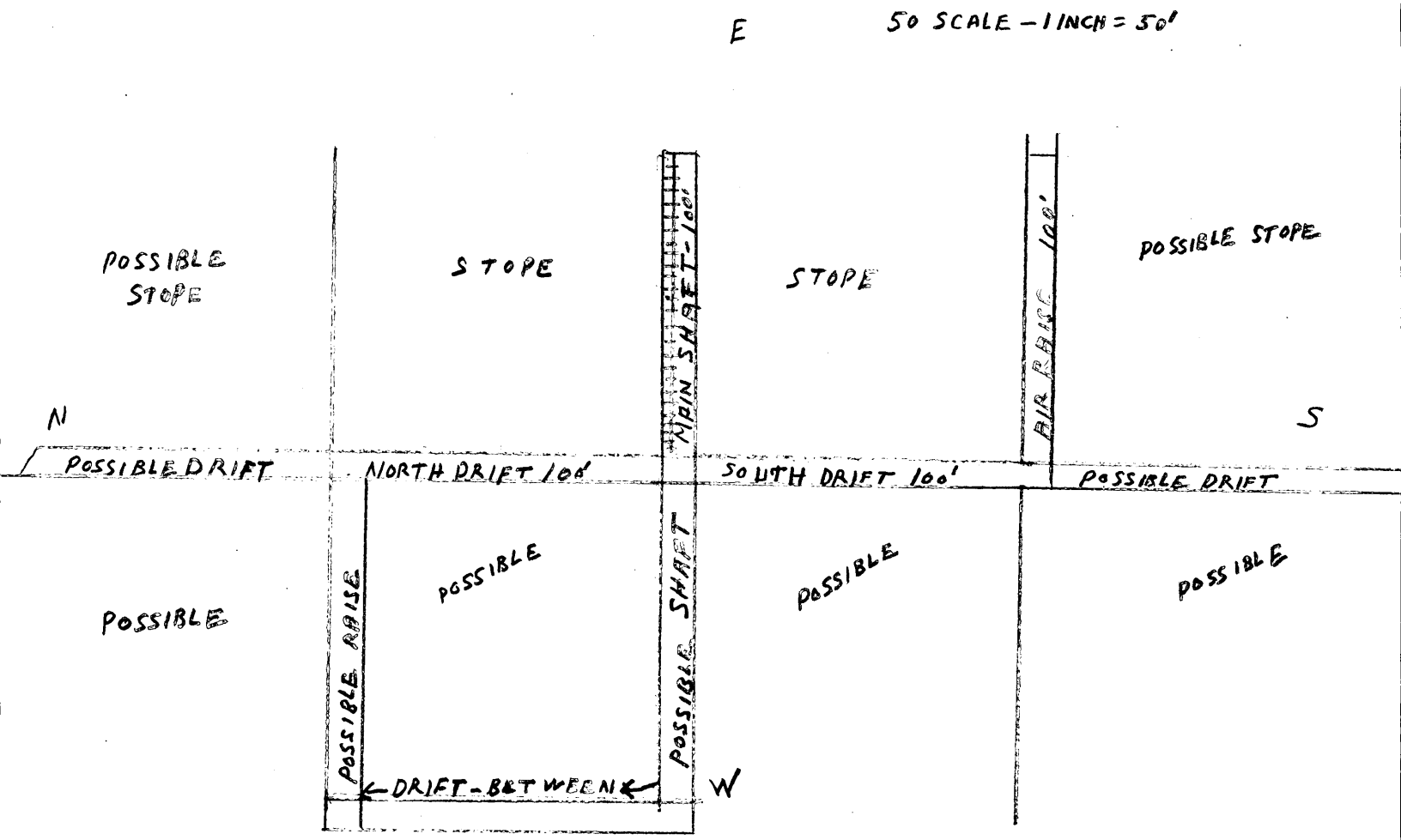
UNITED STATES BUREAU OF MINES ALBANY SAMPLE 11422 - BUTTE LOT [redacted]

398.81 ÷ 10.5930 = 37.65 per ton

Albany head assay 26.4% Mn.
Albany head assay 26.4% Mn.
Butte head assay 26.4% Mn.
Butte head assay 0.5997 26.42% Mn.

FINAL FILE COPY
DMEA
RECEIVED

Item 4. (Page 2)



Proposed Exploration Project

Lost LodeMines

Alder, Montana

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/26	Martin	400
6/27	Selbrede	120
"	Johnson	110
30	Stoddard	100
	D	220

JUN 30 1958

Mr. John T. Macale
9013 37th Street, S. W.
Seattle 6, Washington

Re: Docket No. DMEA 4983 - Manganese
Lost Lode claims
Davy Creek Unorganized Mining District
Madison County, Montana

Dear Mr. Macale:

Your letter of June 18, 1958, appears to have crossed in the mail with our letter of June 16 which informed you of our denial of the above-cited application for exploration aid. For your convenience an extra copy of our same letter is attached.

It is our understanding that the Courts have ruled adversely in the case of the companies that complained of damage caused them by War Production Board Order L-208 of October 8, 1942, that closed the gold mines. Consequently, it would be improper for us to comment on that subject.

Similarly, we believe that it would be inappropriate for us to discuss either the testing work done for you at Albany, Oregon, or your deliveries to General Services Administration under any of the Domestic Manganese Programs. Any inquiries about these matters should be addressed directly to the agencies concerned.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

WSMartin:foc
6-26-58
cc to: Code 400
Admr. R. File
FT. REG. I

Enclosure

G. L. DeHuff, USBM
T. H. Kiilsgaard, USGS

8623

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 23 1958

DATE	INITIALS	CODE
6/23	C	220
	WSM	400
		225

9013 37th S. W.
Seattle, 6, Wash.

June 18, 1958

United States Department of the Interior
Defense Minerals Exploration Administration
Washington, 25, D. C.

Attention: Mr. C. O. Mittendorf, Administrator

Re: DMEA-4983

Gentlemen:

I have received your Notice of Termination of Government Aid in Defense Exploration Projects and I feel that a letter to you is necessary and I don't quite understand what is taking place.

First, several years ago we had started to mine gold properties (at the time of the Roosevelt administration) and we were told to close our gold mines down and to look for strategic minerals which we did and found manganese. We developed this property the best way we could with our own limited funds (known as the Lost Lode Mines).

All of the ore that we took off of it was from surface workings being stripped by a bulldozer. We find now that the ore body is somewhat deep-seated and I know we will never be able to develop this property with money from our own funds.

The ore that we did ship to Domestic Manganese in Butte was previously tested for acceptance at the Government Testing Plant in Albany, Oregon. They did accept the ore and we were advised to deliver it to Domestic Manganese in Butte, at that time the government stock-piling depot. They also stated they would take all we could bring in. Now we are being advised by the DMEA office in Spokane that we have too much silica. As I have stated previously, this was just surface workings at a depth that the bulldozer could dig.

We realize that the price of manganese now is low but we would be able to develop our ground with the government aid and seek this ore body below. We would be ready to ship when and if this new program comes through.

We can't go back to our gold properties because there is 30' of water in three shafts which would take a considerable amount of money to put back into operation again. I have been out of work for some time and was assured that I would get government aid from the DMEA program.

It's very disheartening to get let down twice by the U. S. Government. I still do not understand why they accepted our ore to begin with, leading us to believe that they would take any amount of it; so we continued our operation and purchased more equipment prior to this shaft sinking program, thinking that we would get some government aid which would enable us to locate the ore body. We are very dissatisfied with the way they have been using us and if they hadn't accepted the ore at first, I certainly would have done differently.

Very truly yours,
LOST LODE MINES
John T. Macale
John T. Macale

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6-12	Chapman	400
6-12	Martin	400
6/16	[illegible]	130
6/13	[illegible]	130
6/13	Kiilsgaard	130
6/16	[illegible]	110
"	Mittendorf	100
		220

JUN 16 1958

Messrs. John T. Macale
and M. G. Lopez
9013 37th St. S. W.
Seattle 6, Washington

Re: Docket No. DMEA 4983 - Manganese
Davy Creek (Davy Gulch) property
Madison County, Montana

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington concerning the above referenced property have been reviewed.

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

Careful study of all our data indicates that, although manganese mineralization occurs on the property, the probability of disclosing significant reserves is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

TLCHAPMAN/dlm 6-12-58
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG. I
Messrs. G. L. DeHuff, Jr. USBM
T. H. Kiilsgaard, USGS

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6-12	Chapman	400
6-12	Martin	400
		170
		100

June 16, 1958

MEMORANDUM

To: Administrator, DMEA

From: Division of Iron and Ferro-Alloys, DMEA

Subject: Denial of the subject application for exploration assistance in the amount of $41,445.00
Docket No. DMEA 4983 - Manganese
John T. Macale and M. G. Lopez
Davy Creek (Davy Gulch) property
Madison County, Montana

A denial of the subject application for exploration assistance is recommended by this Division based on the following information:

The above-noted property was the subject of a request dated April 10, 1958, for exploration assistance at an estimated cost of $41,445.00 for a two stage project to sink a shaft to the 120 foot level and drift 200 feet and then sink an additional 100 feet and drift 200 feet.

The property was examined April 30, 1958, by William C. Prinz, Geological Survey, and John A. Bowsher, Bureau of Mines, accompanied by John T. Macale and M. G. Lopez, the Applicants.

Applicant: John T. Macale and M. G. Lopez
9013 37th Street, S.W.
Seattle 6, Washington

Property Ownership: The property consists of the following unpatented lode mining claims recorded as follows:

Name	Locator	Book No.	Page No.
Lost Lode	M. G. Lopez	34	125
Lost Lode No.2	Macale and Lopez	178	573
Lost Lode No.3	Macale and Lopez	178	575
Lost Lode No.4	Macale and Lopez	178	577

The claims are located in sections 2,3,10 and 11, T. 7 S., R. 4 W., Madison County, Montana.

8623

Geology: The area covered by the claims of the Applicant is underlain primarily by early Precambrian metamorphic rocks. These rocks are mainly dolomitic marble, quartzite and schist belonging to the Cherry Creek series.

The manganese minerals on the property are all black oxides and are found in streaks parallel with the beddings. This mineralization is mainly in narrow streaks, but at places it may be up to 4 feet in width. Four possible hypotheses of the ore deposit are indicated as follows:

(1) The deposit could represent a primary low grade sedimentary bed in which weathering has left a residual concentration.

(2) It could be a high grade bed exposed at the surface.

(3) The manganese could be hydrothermal in origin and be a disseminated low grade type and any concentration be the result of weathering;

(4) or the replacement could have been massive, in which case the exposed surface material would not be a residual concentration.

Past History and Production:

The property was first discovered by M. G. Lopez in 1940, who located the Lost Lode claim. In 1946, Lopez and Macale located*Lode No's 2,3 and 4. The trenching on the property was done by Macale and Lopez. An adit was driven by lessees.

Two lots of ore were shipped from the property and the results were as follows:

Lot 1, $10\frac{1}{2}$ tons, 26.4% Mn Receovery 90.53%. Concentrate 44.3%Mn
Lot 2, $7\frac{1}{2}$ tons, 21.7% Mn Recovery 72.9%. Concentrate 40.3% Mn

Ore Value and Tonnage: No estimate can be made of measured, indicated or inferred ore tonnage. Samples taken indicate the following values.

* Lost

Sample No.	Width	Place	% Mn.
841	48"	Open cut. proposed shaft	30.24
842	grab	Ore from above cut	27.39
843	48"	Channel at end adit, to south	18.85
844	Grab	Ore at end adit	19.21
845	24"	Channel at end adit, to north	1.42

Recommendations:

The Commodity Division of the Geological Survey recommends a contract divided into two stages. The first to consist of trenching and if successful in finding ore, then sink a 100 foot inclined shaft and drift 200 feet from the bottom. The Commodity Division of the Bureau of Mines recommends denial of the project, but estimates the above work proposed by the Geological Survey would cost $22,380.00, Government participation 75 percent $16,785.00.

This Division recommends denial.

W S Martin

W. S. Martin, Director
Division of Iron and Ferro-Alloys

TLCHAPMAN/dlm 6-12-58
cc to: Code 400
Code 110
Admr. R. File
Oper. Comm.

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DATE	INITIAL	CODE
6/5	C	220
	WSM	400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

Date June 4, 1958

DMEA Docket No. 4983
DMEA Contract No.
Commodity Manganese
Name of applicant John T. Macale & M.G. Lopes
Name of property Davy Creek (Gulch) or Lost Lode
Location of property Madison Co., Mont.
Estimated cost of project $1,080 (stage I)
$22,380 (stages I & II)

To: W. S. Martin, DMEA

From: G. L. DeHuff, Jr., Commodity Specialist
Branch of Ferrous Metals and Ferroalloys

Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of project document: 5/26/58 2. Date received by reviewer: 5/30/58

3. Prior reports on this property known to reviewer: Yes [XX] No [ ]

4. Prior reports on nearby properties known to reviewer: Yes [XX] No [ ]

5. Information available on past production: Yes [XX] No [ ]

6. Other pertinent factors known to reviewer: Yes [ ] No [XX]

7. Explain items marked yes above: Please see my 4/25/58 memo. Also, DMEA 2691 (Black Magic property) is a manganese docket for a property located in Sec. 6, T.7S, R 4W, M.P.M., Madison Co., Mont. (3 or 4 miles west of Lost Lode property).

8. Factors needing special consideration:
a. Location [ ]
b. Ownership [XX]
c. Evidence of mineralization
d. Geology [ ]
e. Proposed exploration method [ ]
f. Alternate exploration method [ ]
g. Costs [ ]
h. _____ [ ]

9. Action advised:
a. Obtain information from applicant [ ]
b. Refer to Field Team [ ]
c. Denial [ ]
d. Agree with Field Team [ ]
e. Disagree with Field Team [ ]
f. Suggest alternate plan [ ]
g. Request another examination [ ]
h. Approval [ ]
i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary) The examining geologist-engineer team is in disagreement as to recommendation; the Field Team makes none. Under these circumstances, a 6 of one and half-a-dozen of the other situation with both engineer and geologist presenting good cases, current DMEA policy should be the deciding factor. I am inclined to favor DMEA participation to the extent of the 2-stage program proposed by Prinz, based on exploration for pyrolusite, having in mind the possibilities for discovery of a battery or chemical ore rather than metallurgical ore.

(over)

For metallurgical ore, Zoldok is correct in that it is most unlikely that a significant amount could result. The higher price for the other grades, and their great domestic scarcity, makes exploration based on their possibilities more interesting - even just for the information obtained whether it be positive or negative.

S R Dellhoff Jr

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

IN REPLY REFER TO:

ORIGINAL FILE COPY
DMEA
RECEIVED JUN 3 1958

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June 2, 1958

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team Report, DMEA Docket 4983 (Manganese) Lost Lode Claims, Madison County, Montana

The applicant has requested DMEA participation in a two-stage exploration project, the total cost of which is estimated at $41,445. Field examiners visited the property on April 30, 1958, following which a report was written by the Survey member of the team, in which a modified program was recommended. This work would consist of some Stage I bulldozing, to be followed by 120 feet of shaft and 200 feet of drifting. Estimated cost is $22,380.00.

The covering letter from the Field Team informs of split recommendations, with the Survey recommending approval of the modified proposal and the Bureau of Mines recommending denial.

ON SITE EXAM

Prinz reports the property to have been explored by numerous bulldozer trenches and two short adits. None of these workings have found significant mineralization, although most of the trenches are believed to be too shallow to reach bedrock.

Two lots of ore, totaling 18 tons, have been shipped from the northern part of the property, from the best exposures. The mining site is shown on Plate 2. Here, it is to be seen that the deposit varies sharply along the strike, even as it crosses the dozer trench. The nearby short adit shows a variation in grade from the south to the north side. Trenches both to the north and south of the productive site do not show mineralization, although from the map descriptions these trenches cut bedrock. From the two shipments, the first lot was able to be up-graded to place it within GSA specifications. The second lot, however, was barely acceptable even after up-grading.

The deposits described in this report appear to be like those found elsewhere in the Cherry Creek formation of Western Montana. They probably are sedimentary in origin; they are everywhere

described as pod-like and discontinuous in occurrence. There are no reported producing deposits from these rocks. From Prinz's description, I would expect the proposed program to find more of what already has been found, which cannot be considered as a significant deposit.

Much as I dislike to, I cannot concur with Prinz's recommendations. Instead, I recommend denial of the application on the basis that a significant discovery cannot reasonably be expected from the proposed work.

T. H. Kiilsgaard

T. H. Kiilsgaard

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6/2	HB	130
6/2	C	220
	WSM	400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

~~Air Mail~~

May 26, 1958

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

Re: Docket No. DMEA-4983 (Manganese)
John T. Macale and M. G. Lopes
Lost Lode Claims
Madison County, Montana

Dear Mr. Selfridge:

Enclosed are three copies each of memorandum reports by William C. Prinz, Geologist, U. S. Geological Survey, and S. W. Zoldok and G. G. Waddell, Mining Engineers, U. S. Bureau of Mines, on the cited application.

Black oxides of manganese apparently controlled by bedding are found in schist, dolomitic marble, and quartzite in the Cherry Creek series of Precambrian age. Several trenches and a short adit have not passed through the zone of soil creep and therefore the true dip of the beds cannot be determined with certainty. The northwestern part of the Lost Lode claim has yielded 18 long dry tons of ore averaging 24.7 percent manganese. Because of the shallowness of the workings, it cannot be determined whether the exposed manganese ore in a residual concentration from the weathering of low-grade sedimentary beds, or a high-grade bed exposed on the surface. Neither can it be determined whether the manganese is hydrothermal or sedimentary in origin. Prinz believes the origin is sedimentary. Although he suspects that the ore may be a residual concentration rather than a high-grade bed, he concludes that more work should be done before the property is abandoned. He therefore recommends that a two-stage program be approved.

Zoldok, who has not seen the property, recommends that the application be denied, principally on the basis of Pardee's report, U. S. Geological Survey Bulletin 690-F, pages 131-143. Waddell has prepared an estimate of costs on the basis of other DMEA contracts in the area in the event that the program recommended by Prinz is approved.

By Field Team, Region I

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Wing G. Agnew, Member
U. S. Bureau of Mines

Reviewed by DMEA OPERATING COMMITTEE 6-2-58 (date)

Enclosures

cc: USBM (2)
USGS (SRO)
Prinz

EXTRA COPY
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RECEIVED MAY 28 1958

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6/2	24B	130
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UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

May 21, 1958

MEMORANDUM

To: DMEA Field Team, Region I

From: William C. Prinz, Geologist, U. S. Geological Survey

Subject: Field Examination Report, Docket No. DMEA-4983 (Manganese), John T. Macale and M. G. Lopes, Lost Lode Claims (Davy Creek or Davy Gulch), Madison County, Montana.

INTRODUCTION

An application for DMEA assistance to explore the Lost Lode group of claims, Madison County, Montana, for manganese was received April 14, 1958, from John T. Macale and M. G. Lopes, partners. They propose to explore the property by a two-stage program of shaft-sinking and drifting. Stage I would consist of sinking a 120-foot incline shaft on ore and of drifting 100 feet northerly and 100 feet southerly from the bottom of the shaft. Underground work would be preceded by the construction of two small service buildings. Stage II would consist of sinking the shaft an additional 100 feet and of drifting 200 additional feet from the bottom of the shaft. They estimate that the total cost of the program would be $41,445; Government participation at 75 percent would be $31,083.75.

The property was examined April 30, 1958, by the author, accompanied by John A. Bowsher, Mining Engineer, U. S. Bureau of Mines, John T. Macale and M. G. Lopes, the applicants. The property had previously been examined on July 7, 1955, by R. H. Storch and J. R. McWilliams, Mining Engineers, U. S. Bureau of Mines. Since Storch and McWilliams' examination of the property, considerable development work has been done and some ore has been produced.

SUMMARY

Manganese oxide mineralization, apparently controlled by bedding in the enclosing Precambrian schist, dolomitic marble, and quartzite of the Cherry Creek series is found on the Lost Lode property. Surface workings have yielded a small amount of manganese

Reviewed by
DMEA OPERATING COMMITTEE
6-2-58
(date)

ore and exposures to date show that the zone is fairly wide and is of good grade. However, it is not known whether this material exposed at the surface represents a residual concentration which would not be expected to continue at depth, or whether it is the outcrop of an extensive high-grade zone. A two-stage program is recommended for approval. Stage I would consist of deep trenching to determine whether or not the deposit is residual. Should it be found that the deposit is residual, no further work would be warranted. However, should the Stage I work show that the deposit may be expected to continue at depth, a second stage consisting of shaft-sinking and drifting is recommended.

LOCATION AND ACCESSIBILITY

The Lost Lode claims are 10 miles by road south of Alder, Montana (pl. 3). They are in secs. 2, 3, 10, and 11, T. 7 S., R. 4 W., in the Davy Creek Unorganized Mining District, Madison County, Montana. The property is accessible by passenger car by the following route: From Alder, Montana, which is on Montana Highway 34 sixty-six miles south of Butte, turn west on the graveled road at the south end of town. Continue for one block, then turn left or southerly on the road leading up the valley of the Ruby River. Continue on this road for 8 miles or just past the Ruby Dam. Then turn easterly on the mine road, continue for 1.9 miles, then turn left and go up the hill 0.3 mile to the mine. The mine is at an altitude of about 5,000 feet in an area of moderate snowfall. It could probably be worked year-round but would necessitate plowing during the winter months.

THE APPLICANT

The applicants, John T. Macale and M. G. Lopes, form a partnership, each being half owner. Mr. Macale's address is 9013 - 37th S. W., Seattle 6, Washington; apparently he is handling all of the details connected with the DMEA application. Mr. Lopes is an old prospector who made the original discovery in this area about 18 years ago. Mr. Macale is a younger man who has been associated with small prospecting and mining ventures for several years. He claims to own some mining equipment as listed in the application, but apparently his funds are limited. The applicants would probably furnish their share of the cost of the proposed exploration program mainly by use of equipment and by labor.

PROPERTY RIGHTS

The applicants own four unpatented mining claims as shown on plate 1 and as listed below:

Claim	Book	Page
Lost Lode	34	123
Lost Lode No. 2	178	573
Lost Lode No. 3	178	575
Lost Lode No. 4	178	577

According to the applicants, these claims are recorded in the office of the Clerk and Recorder, Madison County, Virginia City, Montana. The records were not examined by the examining team; however, the applicants did furnish us with copies of the Certificates of Location for each claim. The Lost Lode Claims No. 2, 3, and 4 were staked by both partners in 1956 and are included in their DMEA application. The original Lost Lode claim was staked by Mr. Lopes in 1940 and was inadvertently omitted from their application. During the examination they agreed to include this claim in their application.

DESCRIPTION OF PROPERTY

The Lost Lode claims lie at an altitude of about 5,000 feet in the gentle foothills near the northern tip of the Ruby Range on the west side of the valley of the Ruby River. The slopes are bare except for scattered clumps of sagebrush and a few pines.

The property has been explored by numerous bulldozer trenches, the most important of which are shown on plate 1, and by two short adits. Numerous trenches are also found east of those shown on plate 1; however, they did not contain anything significant and were not mapped. For the most part the trenches are shallow and apparently do not get below the soil creep zone which here appears to be rather deep. The more significant of the two adits is a short adit in the northwestern part of the Lost Lode claim (pl. 2) which cuts the main manganiferous zone about 20 feet below the surface. The second adit is about 825 feet to the south in the southeastern part of the Lost Lode No. 2 claim. This adit was driven northerly along manganese oxide-stained marble. The manganese staining pinched out 25 feet north of the portal, but the adit was continued for 95 feet in a northerly direction. Believing that the manganiferous zone may have been lost in the west wall of the adit, a small doghole drift was driven about 30 feet westerly from its northern end. This doghole is also barren.

There are no buildings or mining equipment at the property, but Mr. Macale stated that he had some mining equipment stored in Idaho.

GEOLOGY

The regional geology of the area including the Lost Lode claims has been described in the following report:

Tansley, W., Schafer, P. A., and Hart, L. H., 1933, A Geological Reconnaissance of the Tobacco Root Mountains, Madison County, Montana: State of Montana, Bur. of Mines and Geology, Memoir No. 9.

Small manganese deposits lying about 15 to 20 miles to the east and southeast have been described in the following publication:

Pardee, J. T., 1919, Some manganese deposits in Madison County, Montana: U. S. Geol. Survey Bull. 690-F, p. 131-143.

A property lying 3-4 miles to the west across the valley of the Ruby River has been the subject of a DMEA memorandum examination report, by John S. McNabb and J. J. Quinlan, Docket No. DMEA-2691 (Manganese), A. A. McDonald, J. E. Ettien, and P. D. Hanifen, partners, Black Magic property, Madison County, Montana, October 31, 1952. This application was denied by the Operating Committee on December 4, 1952.

The Lost Lode claims are in southwestern Montana in an area underlain primarily by early Precambrian (pre-Belt) metamorphic rocks. These are mainly dolomitic marble, quartzite, and schist belonging to the Cherry Creek series. The marble is coarsely crystalline and is commonly gray to greenish-gray, but it may be stained dark-gray to black or yellow-brown. The quartzite is also moderately coarse-grained and gray to slightly greenish-gray. It commonly contains small grains of reddish-brown euhedral garnet crystals and flecks of biotite. In many places the biotite becomes abundant and the rock grades into a biotite-muscovite schist. The schist contains considerable quartz and, in some places, a little garnet. Near the surface the marble weathers to an incoherent mass of sand-size dolomite grains; the quartzite breaks up into a series of small blocks which are generally less than 1 inch square; and the schist weathers to a fine-grained pastey mass of clay minerals. Since the depth of weathering has been rather deep and soil creep near the surface has been extensive, the true strike and dip of the bedding in the sediments is difficult to determine. Most of the trenches are in the soil creep zone and the beds appear to strike north-northeasterly and dip gently to

the southeast. However, in the deeper trenches the strike of the beds is more nearly north-south and they dip steeply to the east. The north-south strike and steep easterly dip probably more nearly represents the average true strike and dip of the bedding in this area.

Several quartz lenses or pods were found on the property but no extensive quartz veins. The quartz here is similar to that found in the quartzite, except that it does not contain garnet. I believe that these quartz masses are metamorphic in origin and that they have no significance insofar as indicating extensive hydrothermal activity at the property.

The manganese minerals found on the property are all black oxides and are almost everywhere in streaks parallel with the bedding in the enclosing sediments. In most places, they form only thin streaks a few inches wide, but in the northwestern part of the Lost Lode claim these streaks are much wider and much richer in manganese. This area has yielded 18 long dry tons of ore averaging 24.7 percent manganese. This manganiferous zone is exposed near the western end of a shallow trench, along a small dozer cliff to the south, and in a short adit whose sill is about 20 feet below the dozer cliff (pl. 2). The manganiferous zone along the north wall of the trench consists of soft manganese oxides (pyrolusite) associated with yellow-brown, white, or more rarely, pink clay. The mineralization follows the bedding in the enclosing sediments which here dips 14° to the east. This flat dip is probably due to creep. The mineralized zone is 48 inches wide, measured normal to the bedding, and it assays 30.24 percent manganese (Sample No. 841). The zone on the southern wall of the trench is somewhat different. It contains some soft manganese oxides similar to those found on the north wall, but in addition contains boulders or nodules of very hard manganese oxide. These hard boulders or nodules appear to be a mixture of pyrolusite or psilomelane and chert. Some nodules of gray to brown chert without manganese mineralization are found immediately east of this zone. A grab sample of this manganiferous cherty material assayed 27.39 percent manganese (Sample No. 842).

The zone is also exposed in the small dozer cliff to the south. The exposures in this cliff, however, are poor as they are all very near the surface. The manganese mineralization consists mainly of soft oxides associated with weathered and crumbly metasediments and appears to follow bedding which dips to the east.

Just below the cliff the zone has been cut by a short adit. The zone is strongest on the south wall of the adit where it consists of 6 feet of gouge with stringers of soft manganese oxides. Some nodules of manganiferous chert similar to that found along the south wall of the trench are found near the sill along the south wall of the adit. A discontinuous quartz vein or quartz

lens is found on the south wall of the adit but is not present on the north wall. Two samples of the material exposed on the south wall of the adit were assayed. Sample 843 is a 48-inch chip sample cut across the main part of the manganiferous zone. It assayed 18.85 percent manganese. Sample No. 844 is a grab sample of the cherty material. This assayed 19.21 percent manganese. The manganiferous zone exposed in the eastern part of the north wall is similar to that found on the south wall. The zone exposed in the western part of the north wall is somewhat different. It consists mainly of light-gray to brown clay gouge with some stringers of soft manganese oxides. In addition, it contains streaks and blebs of a pink mineral which at first appeared to be very fine-grained rhodochrosite. However, a sample of this material assayed only 1.42 percent manganese; therefore, it appears to be either an altered feldspar or a pink clay mineral. The back of this adit was lagged tight and could not be examined.

The zone in the adit strikes slightly west of north and dips about 70° to the east on the north wall and about 85° to the west on the south wall. The dip of the individual strands in the zone, however, is quite variable. The enclosing host rock in the adit is a massive marble in which the bedding could not be distinguished; therefore, it is not known whether or not this zone parallels bedding in the enclosing sediments. Five samples for assay were collected during the examination. The results of these assays are posted on plate 2 and have been referred to in the preceding paragraph.

Two lots of ore from the property have been shipped to the General Services Administration, Manganese Purchase Depot, Butte, Montana. The first lot consisted of 10½ tons and the supplementary acceptance sheet dated November 8, 1955, shows that the manganese content in the crude ore was 26.4 percent. Manganese recoverability was 90.53 percent, with the concentrate containing 44.3 percent manganese and 12.6 percent SiO_2 plus Al_2O_3 thus meeting Government specifications. All of the other constituents were well within Government specifications. The second lot weighed 7½ long dry tons and had 21.7 percent manganese in the crude ore. The supplementary acceptance sheet on this lot dated April 2, 1956, showed a manganese recoverability of only 72.91 percent. The concentrate contained 40.3 percent manganese and 14.11 SiO_2 plus Al_2O_3. This lot was therefore very close to the minimum manganese specifications, 40 percent, and close to the maximum SiO_2 plus Al_2O_3 specifications, 16 percent. Concerning test work on this second lot, William A. Stickney, Supervising Metallurgist, Branch of Process Metallurgy, U. S. Bureau of Mines, Albany, Oregon, stated in a letter to S. A. Brown, Purchasing Agent in Charge of the GSA Purchasing Depot in Butte, Montana, that the ore was amenable to concentration to a grade meeting the specifications of the purchase program but that it was necessary to use extremely fine grinding. He further stated that petrographic

examination indicated that the association of the silica with the manganese minerals was much more intimate in this sample than in the previous lot submitted from the mine. This letter is dated March 26, 1956, and was included as part of the application. From the available data, it appears that the first lot consisted mainly of the soft pyrolusite-type ore, whereas the second lot contained quite a bit of the hard, black cherty material. The applicants were questioned on this point during the examination but could not verify this generalization. It appears, therefore, that unless some tonnage of the soft pyrolusite-type ore is developed, the mine could never be operated. The Bunker Hill and Sullivan ore-testing report submitted with the application cannot be evaluated because nothing is known of the nature of the sample submitted.

The width and grade of the manganiferous zone exposed thus far is encouraging and amenability tests of two lots shipped to the GSA Purchasing Depot indicate that the ore can be satisfactorily up-graded if it contains some of the soft pyrolusite-type material. The extensions of the deposit to the north and the south appear limited as shown by the lack of significant manganese oxide mineralization in trenches a short distance north and south of the main exposures (pl. 1). Therefore, future hopes for the deposit lie at depth. In order to speculate on the possibilities of the deposit continuing at depth, a brief review of the facts and of the possible hypotheses for the origin of the deposit appear necessary.

Except possibly in the short upper adit the manganiferous mineralization appears to be everywhere controlled by bedding. With this in mind, let us review four possible hypotheses of the origin of this ore deposit. (1) The deposit could represent a primary low-grade sedimentary bed in which weathering has left a residual concentration at the surface; or (2) it could be a high-grade bed exposed at the surface. On the other hand, the manganese could be hydrothermal rather than sedimentary in origin having selectively replaced a particular bed or group of beds. This replacement could have been (3) a disseminated low-grade type, in which case the concentration now seen near the surface would be the result of weathering; or (4) the replacement could have been massive in which case the material exposed at the surface would not be a residual concentration.

Although some of the manganese mineralization is associated with pods or lenses of quartz which could be of hydrothermal origin, I believe that the quartz is of metamorphic origin and that its association with the manganiferous minerals is fortuitous. With the absence of any evidence for hydrothermal activity in the district, I believe that a sedimentary origin for the manganese presents a more plausible hypothesis. This opinion has also been

expressed by Pardee regarding the Cherry Creek and Wigwam Creek deposits to the east. Pardee, however, suggests that the deposits may be controlled by solution cavities and limestone. There is no evidence to support this idea at the Lost Lode property. McNabb and Quinlan used Pardee's solution cavern hypothesis in explaining the small pods of manganese at the Black Magic property to the west (Docket No. DMEA-2691).

Whether or not the property contains a target worthy of further exploration depends upon which of the four above-mentioned hypotheses one accepts. If one accepts either hypothesis No. 1 or hypothesis No. 3, then the chances for the deposit continuing at depth appear slim and further exploration would be unwarranted. However, if either hypothesis No. 2 or No. 4 is accepted, the chances that the deposit will continue at depth are good and further exploration would, of course, be warranted. Although I lean toward acceptance of hypothesis No. 1, work to date has not been sufficient to rule out the other three, and I believe that a small amount of work in order to uncover more critical evidence is warranted.

Reserves on the property consist of a few tens of tons of ore now exposed at the surface. This material would probably have a grade of about 25 percent manganese.

HISTORY

The property was first discovered by M. G. Lopes, one of the applicants in 1940. He was digging fence-post holes and turned up a little bit of manganiferous material. He did a little more digging around and staked the original Lost Lode claim. After the war, Mr. Lopes in partnership with Mr. Macale, the other applicant, found the better manganiferous material in the northwestern part of the Lost Lode claim and in late 1955 and early 1956 they made two shipments from this area. They also staked the other three Lost Lode claims. Most of the trenching work at the property has been done by Mr. Macale and Mr. Lopes. The lower adit was driven by lessees who controlled the property for a short period of time.

APPLICANTS' PROPOSAL

The applicants propose to explore the property by a two-stage program of shaft-sinking and drifting. They propose to begin sinking on the manganiferous exposure near the west end of the trench in the northern part of the principal manganiferous area (pl. 2). They propose a Stage I of sinking 120 feet on an incline on the ore. From the bottom of this inclined shaft, they propose to drift 200 feet, probably divided into 100 feet northerly and 100 feet southerly. They then propose a second stage consisting of sinking the shaft an additional 100 feet and drifting 200 feet from the 200-foot level. The applicants estimate that this program would cost $41,445.

Although the manganiferous exposures at the property are somewhat encouraging, in the present stage of development there is no justification for this extensive shaft work. For the present, a more cautious approach would seem prudent.

RECOMMENDED PROGRAM

The program recommended for approval consists of two stages. The first stage is designed to gather evidence which would shed some light on the origin of the deposit. Should the Stage I work be encouraging and indicate that the deposit may continue at depth, a second stage to explore the extensions of the deposit is recommended.

Stage I consists primarily of bulldozing. This bulldozing work should be directed toward getting below the creep zone into more solid bedrock and may therefore necessitate a minor amount of blasting. Critical areas which should be bulldozed are as follows:

(1) Deepen the western end of the trench where the best manganiferous showings are found (pl. 2).

(2) Trench along the ore zone between here and the adit.

(3) Trench across the ore zone a short distance south of the adit.

(4) Trench to the north to establish the northern limits of the zone.

It should be possible to trench to a depth of about 20 feet and this should be deep enough to get below the zone of surficial weathering.

If the deposit becomes weaker in depth or more siliceous, then it would be apparent that either hypothesis (1) or (3) would be correct and no further work at the property would be justified. However, should the ore continue to the bottom of this trenching work, then the chances that it would continue further in depth would be good and further work would be warranted. Therefore, a Stage II is recommended consisting of sinking a 100-foot inclined shaft on the ore and of drifting 200 feet from the bottom of this shaft.

Enclosures
Distribution:
DMEA(3) Docket
USEM(2) Prinz
USGS(SRO)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

1201 N. Division St.
Spokane 2, Washington

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May 26, 1958

MEMORANDUM

To: DMEA Field Team, Region I

From: G. G. Waddell, Mining Engineer, U. S. Bureau of Mines

Subject: Estimate of costs, Docket No. DMEA-4983 (manganese), John T. Macale and M. G. Lopes, Lost Lode Claims (Davy Creek or Davy Gulch), Madison County, Montana

The following estimate of costs is based on the program recommended by W. C. Prinz, geologist, U. S. Geological Survey, and does not imply approval of the project nor the method of exploration.

All costs are based on past DMEA contracts having similar work and on the applicant's estimate.

Stage I

Bulldozing to be performed with applicant's D-8 cat @ $16.00/hr. A total of 4 trenches distributed along the 150-ft. strike length was proposed to crosscut the approximately 10-ft. wide manganese mineralized zone. It may be necessary to bulldoze to a depth of 20 feet in the center of the cuts, necessitating trenches 100 feet long. An alternative that might be feasible would be to trench along the strike of the mineralized zone, one trench the entire 150-foot length exposing the mineralization continuously to the depth desired. In any case, 50 hours of dozing should adequately expose the area. This allows 2,667 cu. yds. of excavation @ $0.30/yd.

Stage II

If Stage I is successful in exposing a significant amount of manganese, the following work is proposed for Stage II.

Reviewed by
DMEA OPERATING COMMITTEE
6-2-58
(date)

Construct a small headframe and compressor shed.
This will take 3 men about a week which, with materials, will cost approximately $ 500.00

120 feet timbered, vertical, 1½-compartment shaft, measuring approximately 4'x6' inside timber @ $100/ft. 12,000.00

Price based on the following contracts:

Jennie Moore,	Idm-E781, Philipsburg, Mont.	@	$105/ft.
Nabob Mng. Co.,	-E184, Kellogg, Ida.	@	107/ft.
Roger Pierce,	-E574, Gilmore, Ida.	@	94/ft.

This allows 20 feet for a sump and loading chute.

Station on the 100-ft. level, including timber as needed 500.00

200 feet bald drift @ $33/ft. 6,600.00

Price based on following contracts:

Jennie Moore,	Idm-E781	@	$32.50/ft.
Nabob	Idm-E184 (6'x8' drift)	@	38.80/ft.
Roger Pierce	Idm-E574	@	30.00/ft.

200 feet drift timbering @ $6.00/ft. 1,200.00

Idm-E781	@	6.50/ft.
Idm-E574	@	5.00/ft.

SUMMARY OF COSTS

Stage I

Bulldozer trenching (D-8 or equivalent) 50 hours @ $16/hr.	$ 800.00	
Assays for manganese, silica and alumina 15 samples @ $10/ea. for combined determinations	150.00	
Cleanup work and sampling on trenches, including labor and materials	130.00	
Total - Stage I		$1,080.00
Government participation @ 75%		810.00

Stage II

Headframe and compressor shed	500.00	
1½-compartment timbered shaft 120 feet @ $100/ft.	12,000.00	
Station on 100-ft. level, including timber as needed	500.00	
Bald drift, 5'x7' in clear 200 feet @ $33/ft.	6,600.00	
Drift timbering 200 feet @ $6/ft.	1,200.00	
Assays for manganese, silica, alumina 20 @ $10/ea. for combination	200.00	
Engineer-geologist 4 days @ $75/day	300.00	
Total - Stage II		$21,300.00
Government participation @ 75%		15,975.00
Total cost - Stages I and II		$22,380.00
Government participation @ 75%		16,785.00

Distribution:
DMEA (3)
USGS (2)
Docket
Engineer

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UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
1201 N. Division St.
Spokane 2, Washington

May 20, 1958

MEMORANDUM

To: DMEA Field Team, Region I

From: S. W. Zoldok, Mining Engineer, Bureau of Mines

Subject: Appraisal of application, Docket No. DMEA-4983 (manganese) Macale and Lopes, Lost Lode Claims, Madison County, Montana

I have read W. C. Prinz' report on the Lost Lode claims, McNabb's and Quinlan's report on the Black Magic property (Docket No. 2691, manganese), and Pardee's paper on "Some Manganese Deposits in Madison County, Montana," U. S. Geol. Survey Bull. 690-F, p. 131-143; I have also talked to J. R. McWilliams, Bureau of Mines engineer who examined the Lost Lode claims in July 1955.

I do not believe the property is worthy of DMEA participation for the following reasons:

(1) Pardee's hypothesis on the origin of these deposits is still valid. Under these circumstances the deposits are likely to be small and scattered and it is unlikely that a significant amount of manganese could be produced. The deposits Pardee saw are even lower in combined silica and alumina than the Lost Lode claims (Storch and McWilliams, Bureau of Mines, Summary Examination Report) though Prinz did not have his samples assayed for SiO_2 + Al_2O_3.

(2) The ore would have to be concentrated. It is unlikely that the deposit, or even the district, has enough ore to justify a mill. Currently only ore containing 40 percent plus manganese is salable.

I recommend that the application be denied.

S. W. Zoldok

S. W. Zoldok

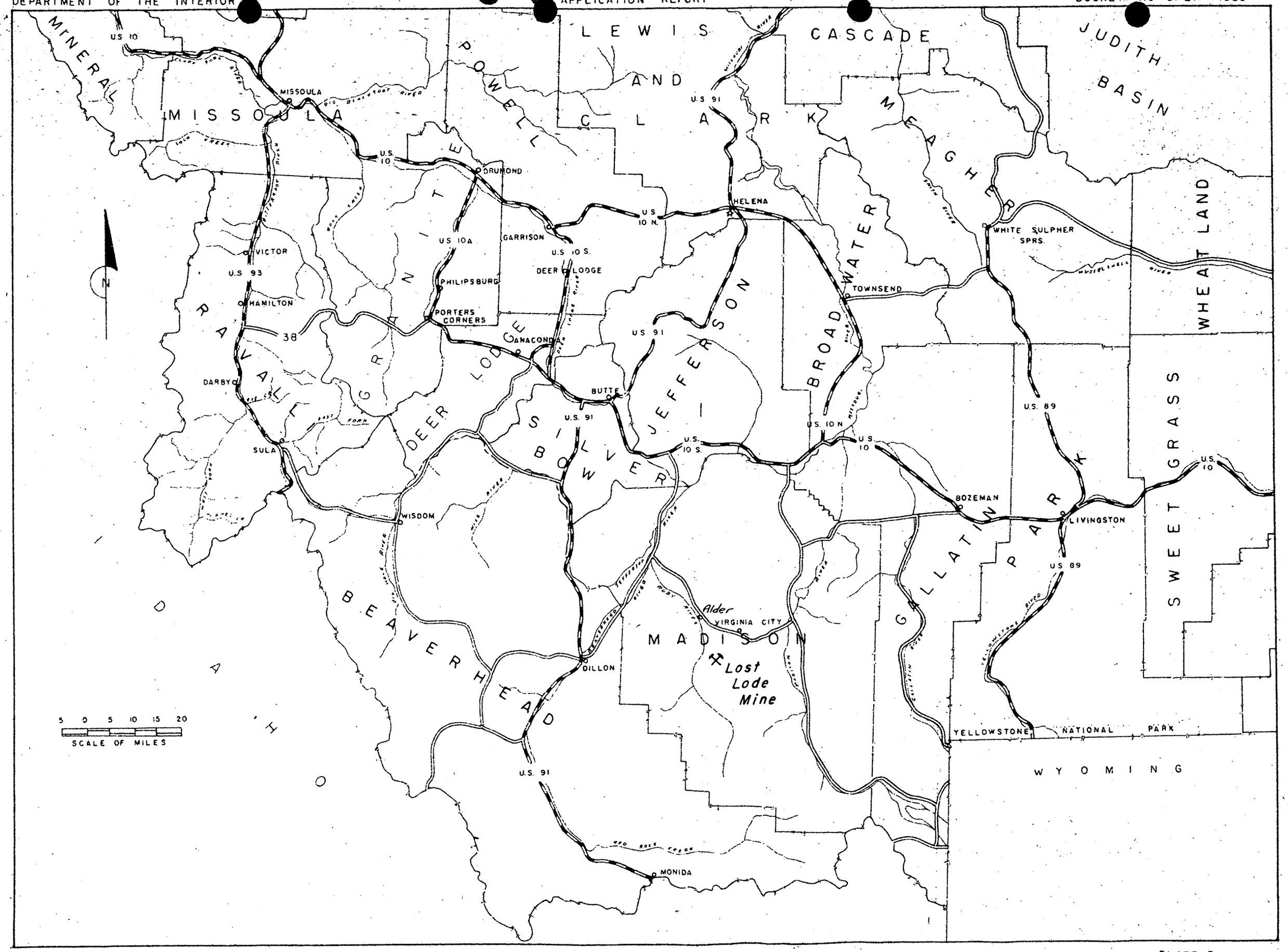
Distribution:
DMEA (3)
USGS (2)
Docket
M/D

Reviewed by
DMEA OPERATING COMMITTEE
6-2-58
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR

PREPARED FOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
APPLICATION REPORT

DOCKET NO DMEA 4983



Index map of Southwestern Montana

PLATE 3

DMBC
RECEIVED NOV 28
DATE | INITIALS

DMBC
RECEIVED NOV 28

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4-30	Chapman	400
4-30	Martin	400
4/30	Lodge	130
4/30	Davis	130
4/30	Kilsgaard	130
"	Johnson	110
"	Mittendorf	100
5/1	[illegible]	220
		400

MAY 1 1958

Mr. John T. Macale
9013 37th Street, S.W.
Seattle 6, Washington

Re: Docket No. DMEA 4983 - Manganese
Davy Creek (Davy Gulch) property
Madison County, Montana

Dear Mr. Macale:

The above-referenced application for exploration assistance for manganese ores has been referred to Mr. A. E. Weissenborn, Executive Officer, DMEA Field Team, Region I, South 157 Howard Street, Spokane 4, Washington, for a field examination of the property.

Any assistance you may give the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

TLCHAPMAN/dlm 4-30-58
cc to: Code 400
Admr. R. File
Oper. Comm.
REGIONLI
Messrs. G. L. DeHuff, Jr. USBM
T. H. Kiilsgaard, USGS

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4-30	Chapman	400
4-30	Martin	400
4/30	GCS	130
"	[illegible]	110
"	[illegible]	100
		220

MAY 1 1958

Mr. A. E. Weissenborn, Executive Officer
DMEA Field Team, Region I
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA 4983 - Manganese
John T. Macale and M. G. Lopes
Davy Creek (Davy Gulch) property
Madison County, Montana

Dear Mr. Weissenborn:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property.

Copies of memoranda dated April 25, 1958, by T. H. Kiilsgaard, Geological Survey, and G. L. DeHuff, Jr., Bureau of Mines, relating to the project are enclosed. Also enclosed is an extra copy of the application for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (HB)

APPROVED:

Frank D. Lamb
Member, Bureau of Mines (HB)

Thor H. Kiilsgaard
Member, Geological Survey (HB)

TLCHAPMAN/dlm 4-30-58
cc to: Code 400
Admr. R. File
Oper. Comm.
REGION I
Messrs. G. L. DeHuff, Jr. USBM
T. H. Kiilsgaard, USGS

Enclosures

8623

IN REPLY REFER TO:

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

RECEIVED APR 28 1958

DATE		
4/28	C	220
	WSM	400

Memorandum April 25, 1958

To: W. S. Martin, Defense Minerals Exploration Administration

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of application, DMEA Docket 4983, (manganese), Lost Lode Mines, Madison County, Montana.

The applicant proposes a rather ambitious program to explore what appears to be a new manganese discovery in Madison County, Montana. There are no maps nor assay data with the application nor do we have any information in our files on this particular property. We are therefore in no position to evaluate the applicant's proposal.

I recommend that the application be referred to the field for field examination.

T. H. Kiilsgaard

T. H. Kiilsgaard

DMEA
RECEIVED APR 28 1958

DATE	INITIALS	CODE
4/28	C	220
	WSM	400

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

Date April 25, 1958

DMEA Docket No. 4983
DMEA Contract No.
Commodity Manganese
Name of applicant John T.Macale, & M.G.Lopes
Name of property Davy Creek(Gulch)or Lost Lode
Location of property Madison Co., Mont.
Estimated cost of project $41,445

Memorandum

To: W. S. Martin, DMEA

From: G. L. DeHuff, Jr., Commodity Specialist
Branch of Ferrous Metals and Ferroalloys

Subject: Review of Application
(Application, ~~Field Team Report, etc.~~)

1. Date of subject document: 4/10/58 2. Date received by reviewer: 4/21/58

3. Prior reports on this property known to reviewer: Yes [XX] No [ ]

4. Prior reports on nearby properties known to reviewer: Yes [ ] No [XX]

5. Information available on past production: Yes [XX] No [ ]

6. Other pertinent factors known to reviewer: Yes [ ] No [XX]

7. Explain items marked yes above: Property examined 7/7/55 by R. H. Storch & J. R. McWilliams (Bureau Mines)(Summary exam. report dated 11/7/56). Div. of Mineral Industries Montana tabulations show: 1956 - John T. McCale, Lost Lode Mine, Madison Co. shipped 8 L.T. (21.7% Mn); 1955 - John T. McCale, Lost Lode Mine, Madison Co. shipped 11. L.T. (26.4% Mn) (Shipment data to be treated "Individual Company Data - Confidential").

8. Factors needing special consideration:
- a. Location [ ]
- b. Ownership [ ]
- c. Evidence of mineralization
- d. Geology [XX]
- e. Proposed exploration method [XX]
- f. Alternate exploration method [ ]
- g. Costs [ ]
- h. [ ]

9. Action advised:
- a. Obtain information from applicant [ ]
- b. Refer to Field Team [XX]
- c. Denial [ ]
- d. Agree with Field Team [ ]
- e. Disagree with Field Team [ ]
- f. Suggest alternate plan [ ]
- g. Request another examination [ ]
- h. Approval [ ]
- i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary) Applicants have done more work since examination of Storch & McWilliams. It is recommended that this application be referred to the Field Team for consideration.

G. L. DeHuff Jr.

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

April 18, 1958

Mr. John T. Macale
9013 37th S. W.
Seattle 6, Washington

Subject: DMEA-4983

Dear Mr. Macale:

Your application for exploration assistance, dated April 10, 1958 submitted to our office at Spokane, Washington has been assigned Docket Number DMEA-4983 and referred to the Iron and Ferro-Alloys Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to: Region I.

OFFICIAL FILE COPY
DMEA
RECEIVED APR 21

DATE		
4/21	C	326
	NSM	400

So. 157 Howard Street
Spokane 4, Washington

April 17, 1958

4482

Mr. John T. Macale
9013 - 37th Street, S. W.
Seattle 6, Washington

Re: New application (Manganese)
Davy Creek area
(Lost Lode claims 2, 3, and 4)
Madison County, Montana

Dear Mr. Macale:

We are returning herewith, as you requested, the acceptance sheets, ore testing reports, and letter dated March 26, 1958 from William A. Stickney to GSA, which you submitted with your application for DMEA aid on the Lost Lode claims.

Your application was forwarded to our Washington, D. C. office April 15, 1958 and you should be hearing from them shortly.

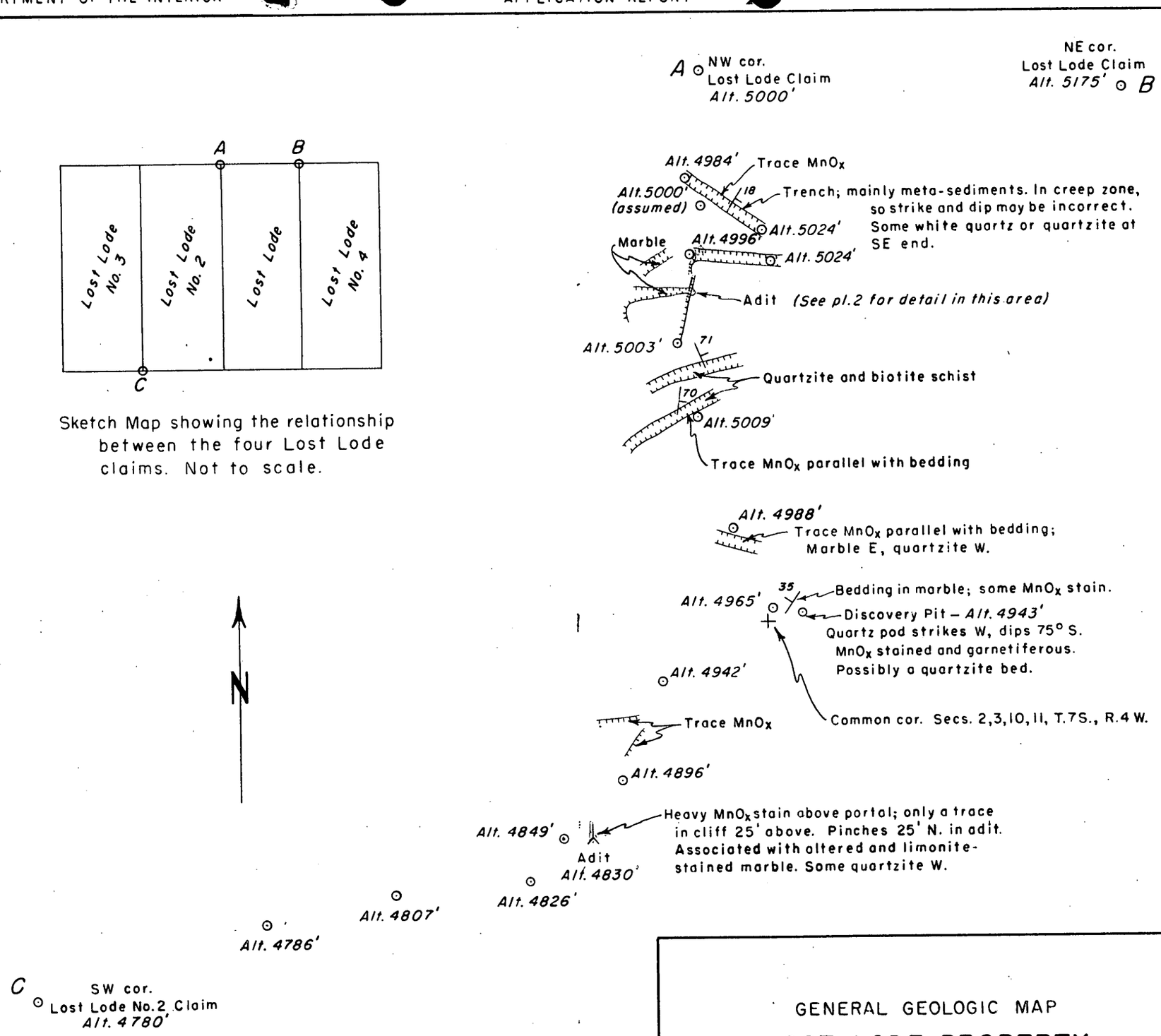
Sincerely yours,

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

Enclosures

cc: DMEA (2)
USBM (2)

Sketch Map showing the relationship between the four Lost Lode claims. Not to scale.



GENERAL GEOLOGIC MAP

LOST LODE PROPERTY

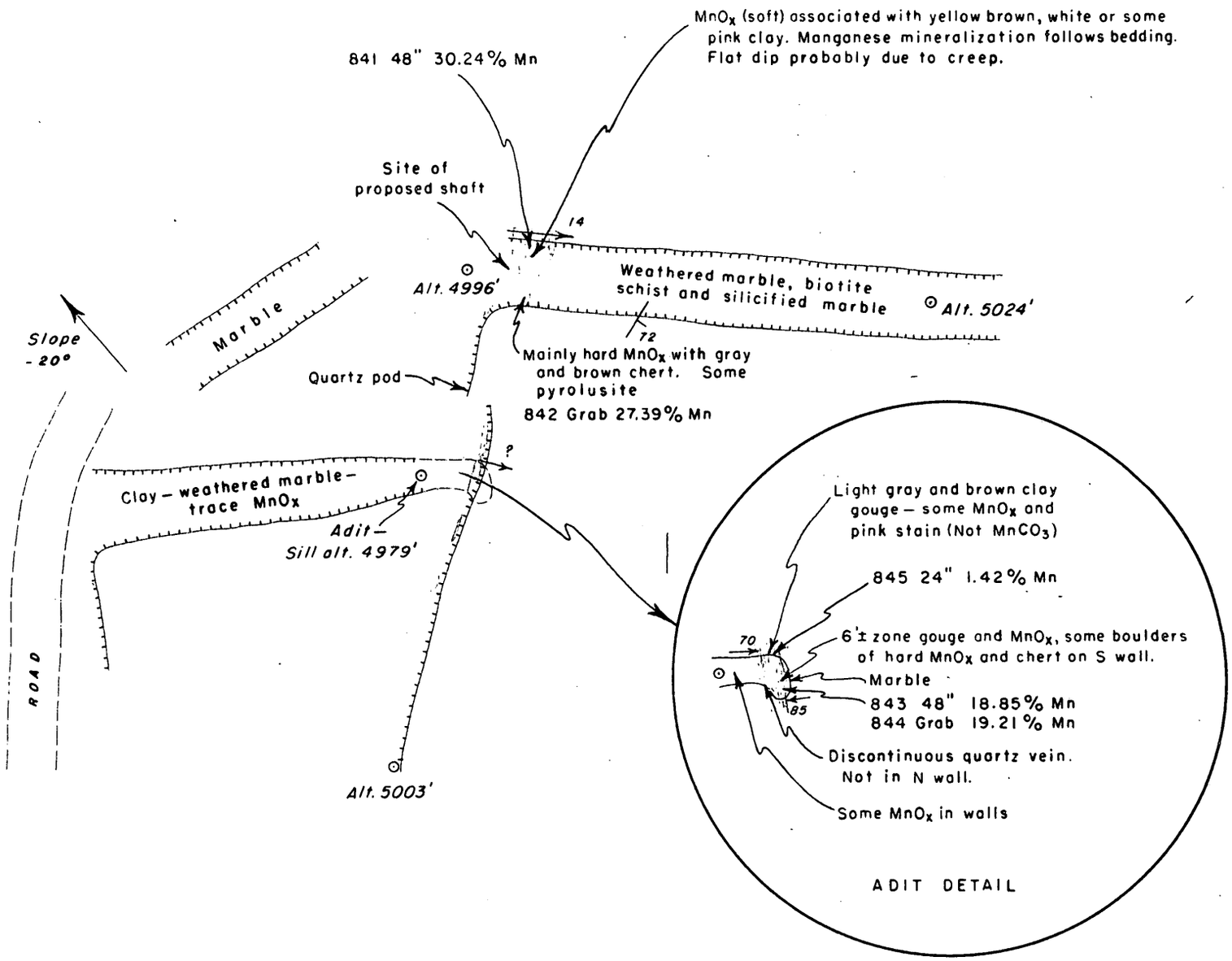
MADISON COUNTY, MONTANA

200 0 200 FEET

Brunton and tape survey by W. C. Prinz, USGS, and J. A. Bowsher, USBM, April 30, 1958.

May 1958

PLATE I



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Brunton and tape survey by W.C. Prinz, USGS, and J.A. Bowsher, USBM, April 30, 1958.

DETAILED GEOLOGIC MAP
PRINCIPAL MANGANIFEROUS AREA

LOST LODE PROPERTY

MADISON COUNTY, MONTANA

40 0 40 FEET

May 1958

PLATE 2