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RECONSTRUCTION FINANCE CORPORATION
MINING SECTION
LIQUIDATION REPORT
****

Borrower: Victory Manganese Company
Docket No: B-ND-4320
Date of Report: January 23, 1947

1. NAME AND ADDRESS OF APPLICANT:

The Victory Manganese Company
P. O. Box 203
Mayer, Arizona

2. LOCATION OF PROJECT:

In Sections 19 and 20, T. 11 N., R. 3 E., Big Bug Mining District, Yavapai County, 12.5 miles from Mayer, Arizona.

3. AMOUNT OF LOAN AND DATE OF AUTHORIZATION:

A loan of $5000.00 was approved on October 28, 1942.

4. PURPOSES FOR WHICH LOAN WAS APPROVED:

The development of a manganese mine by the continuation of drifting from openings that were in commercial grade ore.

5. EQUIPMENT:

No equipment was purchased with loan funds. Reports written by Supervising Engineers on this project show that little if any funds were spent on equipment.

6. PROPERTY:

Applicants held property under lease and option from Robert Allen, of Mayer, Arizona, recorded July 3, 1942, Book 10, pages 111 and 112, Yavapai County Records. Lease was cancelled in January, 1946.

7. COMMENTS:

After the $5000.00 was spent, the Borrower applied for a $20,000.00 loan in March, 1943, to build a small plant to wash the ore and do more development. This loan was declined. In August, 1943, Borrower again applied for a small loan of $5000.00 to drill the property. This request was declined. Later the Borrower obtained some outside capital and built a small plant. After it was in operation the Borrower requested that it pay off the loan by applying 10% of the net receipts from sales of manganese ore. This was acceptable to the corporation. Under that program the Borrower shipped 654 tons of manganese ore that averaged about 55% manganese. The Corporation received $3593.83 towards repayment of the loan. Borrower ceased operations when Office of Metals Reserve stopped buying manganese.

On July 14, 1944, $8.74 was sent to the Federal Reserve Bank. This represented the entire balance remaining in the account after all receipts had been accounted for and bills paid.

This property was visited last on June 23, 1944, by Mr. Maitland, shortly after operations had started on a royalty basis to the RFC.

8. CONCLUSIONS:

The property ceased operating after January 17, 1946, when Metals Reserve stockpiles went out. As the lease has been cancelled, the Reconstruction Finance Corporation has no further interest and the remaining part of the loan should be considered a loss.

9. RECOMMENDATIONS:

It is recommended that this account be closed.

CHARLES A. RASOR
Supervising Engineer

CAR:gmk

File Rpts.

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328 Heard Building
Phoenix, Arizona
July 6, 1944

TULLY - Ass't Chief - Mining Division - RFC - Washington, D. C.

Re: Gold Hill Dredging Co - Docket No. ND-5541
Mountain Copper Corp. - Docket No. ND-8021
*Victory Manganese Co. - Docket No. B-ND-4320

Enclosed herewith please find my Progress Report, in duplicate, on the above captioned projects.

WILLIAM B. MAITLAND
Supervising Engineer

Encs -
bkb

325 Heard Building
Phoenix, Arizona
July 6, 1944

Mr. T. U. Beauchemin
Mayer, Arizona

Re: Victory Manganese Co
Docket No. B-ND-4320

Dear Mr. Beauchemin:

Enclosed please find the results of the samples I took at your mill on my last visit. The mill tail sample was relatively high and I think we can attribute most of this loss to the fine manganese that would be picked up by a flotation cell.

In regard to some of the low grade ore I spoke to you about in Phoenix, I suggest that you write Mr. W. F. Scholl, Box 128, Globe; Mr. Al Stovall, 610 Ash Street, Globe; and Mr. L. L. Farrington, 911 Grand Avenue, Phoenix, and merely make inquiries as to whether they have any ore that was shipped to Phoenix stockpile but rejected due to being below acceptable grade, and suggest to them that you might be interested in the purchase of this ore where is and as is. Also get their statement as to the tonnage and grade of ore that has been rejected, and then I will let you know how it compares with my figures. A Mr. Leo Farrington and a Mr. E. W. Andrews have also shipped low grade, but I do not have their addresses. You might, however, know where they live. Apparently there is about 60 to 100 tons of rejected ore here.

Thanking you for your hospitality at the time of my last visit, I am,

Sincerely yours,

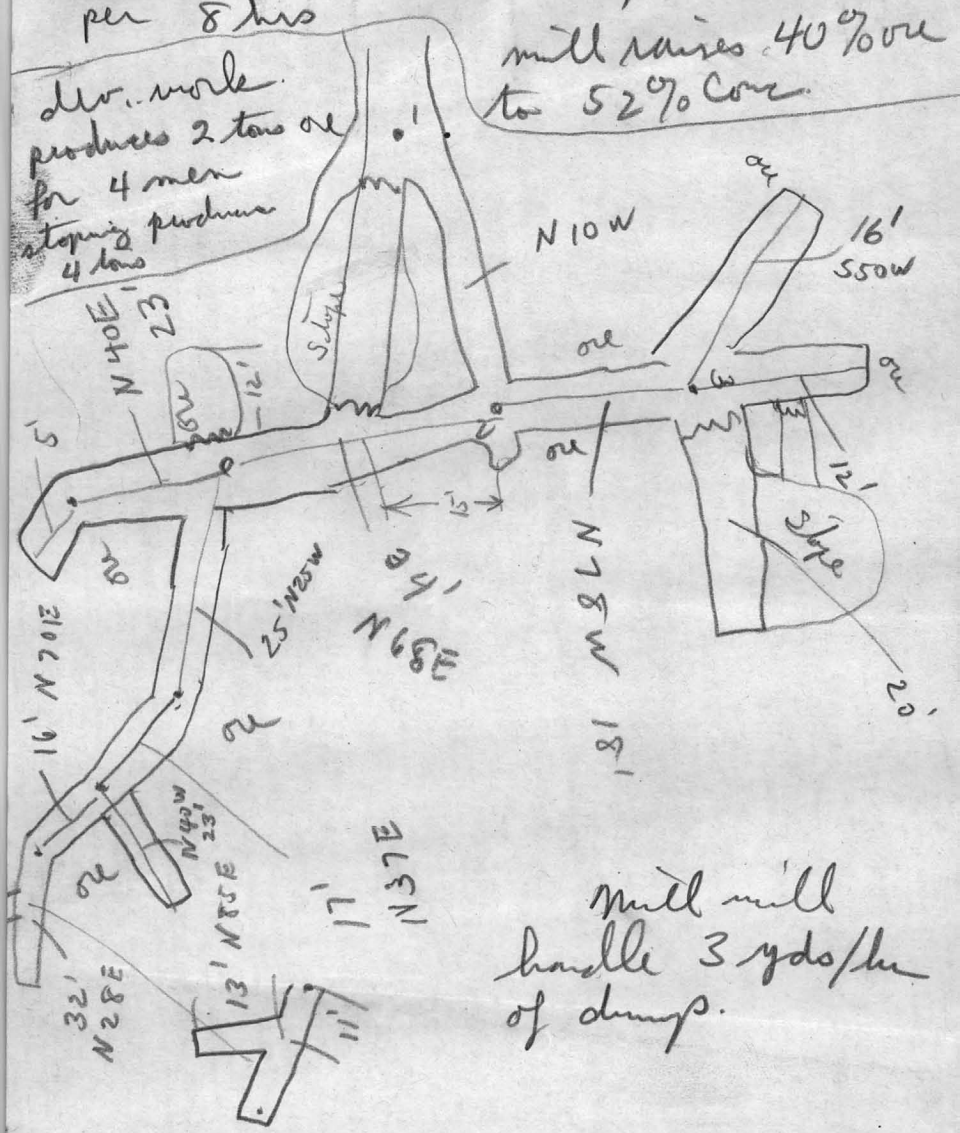
Wm. B. Maitland
Supervising Engineer

Enc -
WBM-bkb

mill will make 13,000 lbs conc per 8 hrs

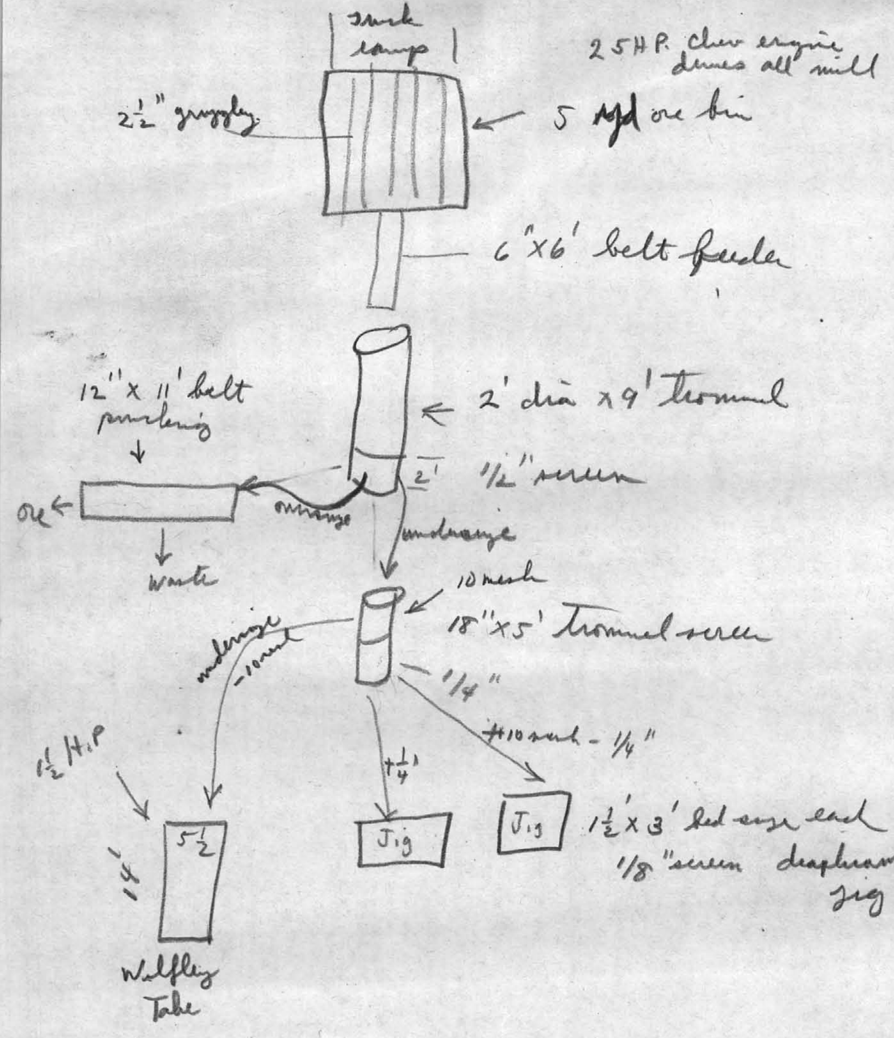
mill raises 40% ore to 52% conc

dev. work produces 2 tons ore for 4 men stoping produces 4 tons



Mill will handle 3 yds/hr of dumps.

widest ore 3 ft



Truck ramp
25 HP. Chev engine drives all mill
2 1/2" grizzly
5 yd ore bin
6"x6' belt feeder
12"x11' belt picking
ore
waste
2' dia x 9' trommel
2'
1/2" screen
oversize
undersize
10 mesh
18"x5' trommel screen
undersize -10 mesh
1/4"
+10 mesh - 1/4"
+1/4"
1 1/2 H.P
Jig
Jig
1 1/2' x 3' bed size each
1/8" screen diaphragm jig
5 1/2
14'
Wilfley Table
sand

Docket No B-ND-4320
Date Authorization for Exam. Rec'd Aug 29, 1942
Date of Examination, inclusive Sept 2, 1942
Date of Report

1 Name and Address of Applicant
Name: The Victory Manganese Co.
Address: Box 203
Mayer, Arizona

Correspondent: H. E. Williams, N. D'Arcy, T. U. Beauchemin, Carl A. Mortensen.
Mayer, Arizona

2. Character of Project
Development of Manganese Mine

3. Location of Mine
The mine is located in sections 19 & 20 Township 11 N., Range 3 E., in the Big Bug mining district, Yavapai County, Arizona. The mine is connected with Mayer, Arizona, the nearest rail point by 12½ miles of good dirt road passable at all seasons. Prescott the nearest supply center is 40 miles distant by good road from the mine.

4 Applicant

The Victory Manganese Co is a partnership composed of 3 experienced miners and a Phoenix business man. All are competent and reliable men.

5. Loan Requested

A Development loan of $5,000 is requested

[illegible] application for a request for a Preliminary Development Loan [illegible] filled in forms for this application [illegible] Development Loan) Docket B-NO-4320

6. Description of Project

A General Features

1. There are no mine workings etc. which are not confined within the applicant's ownership.

2. Applicant would comply with state compensation and safety-first statutes.

3. There are no apparent legal discrepancies in the project.

4. There are no impeded Right-of-Way facilities.

5. There is no likelihood of surface or subsurface trespass.

B. The property is opened by low dipping slopes in the bedding of the deposit.

a. Compass and tape survey was made of active workings (see accompanying map).

b. Samples were cut by pick and moil across the dip of the beds. Dump samples were taken by shovelling from the surface and sides of the dumps.

d. The manganese deposits occur near the top of a small hill which rises some 100 ft above the Agua Fria river. The regional rocks are schists and intrusive igneous rocks. The dominant manganese mineral is psilomelane which occurs as vesicular and botryoidal masses and nodules and sometimes as grains in clayey sand beds overlying a band of magnesian travertine. The surface of the travertine and the overlying beds strike approximately E-W and dip in an undulating manner, averaging 10°, toward the north. The ore generally occurs as small bedded masses or lenses on top of the travertine or as bands of pure psilomelane alternating with sandy clay beds which are often barren or contain scattered ore fragments.

c Recent workings are accessible and in fair condition; older workings are only partially accessible.

4A

No. P A distinctive band 6 to 8" wide of coarse sand loosely bound with clay lies ~~about~~ about 6 feet above the travertine and parallels it on dip and strike. ~~This is an ore ma[illegible] The manganese occurs between this sand bed and the and acts as a marker for the limits~~ The ore occurs ~~so far discovered [illegible]~~ between this sand member and the travertine and in this manner the sand bed ~~[illegible]~~ acts as a marker of the upper limit of the ore zone. The sand marker bed is generally overlain by a hard white limestone bed from 2 to 4 feet thick which ~~when~~ frequently ~~not broken into~~ provides a good roof for the workings.

4B

No. PP This stope and the old stopes are only partially accessible. There is no ore showing at present in ~~this~~ the stope.

the whole ~~mass~~ often reaching a thickness of 5 to 6 feet. Frequently, however, the ore occurs attached to the travertine and the largest masses mined to date have been found in weathered cavities in the travertine. (~~see insert~~ 4A)

The applicant's recent work has been performed on the Ridge Group, comprising three claims, ~~which is located on a hill about 1000' above the Agua Fria river~~. Some work was done on this ground during the last war and it is claimed that several carloads were shipped. The shipments were made along with shipments from the nearby Bunker-Bunnicinte ~~[illegible]~~ property (held under the same ownership at the time) and the exact tonnage is not available. The applicant has partially ~~re~~-opened the old workings and has done some development and removed about 50 tons of ~~high grade~~ ore. Present development comprises three slopes some 30-35 feet apart which point down the dip of the beds. Following is a description of the workings and the sampling: (see accompanying map)

The east slope, No 1, begins as a cut and at 33' enters the ground. At 63' an old drift is encountered and at 80 ft ~~some old workings are~~ the slope ~~entered and~~ passes through some old workings. Somewhat lower down a short stope has been opened downward toward the west and some ore stoped ~~seen~~. The stope ~~drift~~ broke through into some old workings above. see insert 4B

The middle slope, No. 2, ~~the dip of the beds for a distance of 50 where it ends in a mined area.~~ was driven down the dip of the beds for a distance of 50 feet where it ends in an open ~~large~~ mined area. The cut is partially caved and no ore was visible except on the west side near the

lower end. ~~At this point~~ Sample No. 9 represents ~~30" of alternating bands of clean ore and bands of sandy clay.~~ 18" of clean ore superimposed by alternating thin bands of ore and barren sandy clay. The sand and clay break away easily and the ore could be mined for a good shipping grade. West of sample No 9 a stope has been opened between ~~the next slope~~ Slope No 2 and the next Slope (No. 3). Samples No 1, 2 & 4 represent clean massive ore. Sample No 3 contained alternating beds of clean ore and barren sdy clay and could be mined to a somewhat higher grade.

~~The next slope, No 3,~~ is an open cut for 42' and is underground for the last 15 feet. A drift has been run westerly and slightly downward from this slope. One shows ~~on~~ or other wall of this drift for its full length with ~~one~~ in the face. Samples No. 6 and No 7 contained considerable sandy clay along with irregular masses of pure ore. As elsewhere in the mine the pure ore breaks freely from the sand and clay.

Several shallow shafts and cuts have been opened at other places on the property, but ~~none~~ ~~of them~~ is not extensive and ~~does not appear to~~ has not been productive of ore.

The applicant's development has been productive of approximately 50 tons of ore which is stocked in 2 piles on the dump at the entrance to No 1 slope. The larger of these dumps contains by measurement 35 tons of ore and assayed: 51.88% Mn. Arrangements have been made to ship this ore. The smaller second class dump contains ~~10 tons and~~ approximately 10 tons of ore and assayed: 33.34% Mn. The main dump at this point contains approximately 200 tons and ~~sample~~ chisel samples from the surface assayed: 16.52 Mn. It is claimed that the whole dump is ~~similar to~~ made up of

material similar to that contained in the ~~samples~~ sample though there were no deep cuts in the dump ~~dig~~ which this statement could be verified. The dump material is quite fine and the Mn occurs free in it as ~~hard~~ fragments and grains of hard psilomelane.

~~The workings on Bunker Burmeister property are all caved. The ore occurrence is similar to that ~~of the~~ found~~

~~The Bunker-Burmeister property comprises 57 acres of patented land and is located approximately 1/2 mile north ~~and~~ across the Agua Fria river from the Ridge group. ~~and across the Agua Fria river~~. The ore occurrence is similar to that of the Ridge group. The mine was opened by several stopes, all now caved and inaccessible. ~~The property~~ There are no maps of these workings. They are shallow ~~however~~ and it is believed that 250 feet of ~~open cut and drift of~~ work in the form of an open cut and stope and drifts from the stope will re-open the old workings.~~

X

C Proposed Development.

1. Applicant proposes to ~~develop~~ ~~the ground below the present workings~~ by drifting from the bottom of No 1 slope and extending No 3 slope down the dip. It is anticipated that recurring lenses on top of the travertine will be productive of ore during the development. The plan of development is recommended

2. The applicant is mining by room and pillar method. Material is removed by wheel barrow up the slopes. Drilling and blasting are not necessary. The ground is picked and barred down ~~and when carefully handled no timbers are required for support. In the event that larger lenses are opened and excavated some support of the almost flat roof would be required~~. No change in the mining method is recommended except that as ~~the workings are~~ depth ~~deepened~~ is gained ~~some~~ provision will have to be made for hoisting up the slopes.

3 a. Applicant expects to produce approximately 7 tons 50% Mn ore per day minimum.
b. Drift 4 ft per ~~—~~ ~~—~~ shift
c. Crosscut 4 ft per shift
d. Raise 4 ft per shift.
e. Insert 7 A
f. g. Not applicable at present time.
h. Not applicable
i. Local wage for miners - $6.50 per 8-hr shift.

D Equipment

1. Equipment on the property consists of 1 Ford truck, wheel barrow, miscellaneous hand tools
2. There is no mill on the property.
3. Not applicable

Insert 7A

e Not applicable at the present time. The applicant ~~effects~~ eventually ~~to~~ screen and wash and jig the mine reject material and thus ~~recover the~~ scattered fragments and fine particles of ~~shum~~. The plan ~~appears~~ feasible in view of the ~~fact~~ hard nature of the ore particles and the ease with which it frees itself from the associated sand and clay.

4. Equipment and Supplies recommended.
Wheelbarrows and miscellaneous hand tools
Blacksmith shop and tool sharpening equipment.
Timber to catch up present faces and render working safe.

5. No mill or washing plant is recommended for purchase under the project.

6. There are no buildings on the property.
Camp equipment consists of 1 cook-tent with equipment for 10-12 persons and 2 tents with cots for living quarters.
The camp is located on the bank of the Agua Fria River with permission from the land owner.

7. Shop building and additional tents will be needed.

8. No other expenditures recommended.

E Cost Estimates

1. Rode Mine

a. There is no performance record upon which to base estimated stoping cost. Recent development indicates that approximately 5 tons of material was handled and sorted to produce 1 ton of shipping ore. Estimated cost of mining is $2.00 per ton or $10.00 per ton of material shipped.

b. c. d. e. f. Estimated cost of development for all types of work is $12.00 per foot.

g. Not applicable

h. Trucking rate to shipping point at Mayer is $2.00 per ton

i. Freight - Mayer to Phoenix is $6.50 per ton on

$50 ore. Metals Reserve will pay the rail-road freight on material shipped on contract to the stock pile at Phoenix

j. No treatment charge. Ore will be sold to the Phoenix stock pile or to other buyers at comparable rates.

k. The lease agreement requires ~~10%~~ payment of 10% royalty on shipments

l. Oregon Pine timber costs $60-65 per thousand board feet at Mayer, Arizona. Scrub timber poles from nearby mountain area would be adequate for most needs, price subject to individual contract - probably $30-40 per thousand board feet. The mine will not require close timbering.

m. Total ~~Cost~~ estimated costs per ton of ore shipped:

Mining	10.00
Development	5.00 (@ 1 ore per ton mined)
Trucking	2.00
Total	$17.00

1/8

2. Not applicable

3. Estimated approximate premium or pay roll compensation - $200 per month

F. Ore Reserves

1. No ore is blocked out in the mine at the present time and because of the irregular occurrence and size of the ore bodies it is not generally possible to block out ore. The sampling in the workings east of No 2 slope indicate, in this engineer's opinion, approximately 1 carload (50 long tons) as safely in sight ~~ready for mining~~ ready to be mined.

Insert

4 The ore bodies so far developed have been in the form of recurring lenses and masses of high grade manganese lying on an irregular surface of travertine. The ore bodies have occurred with enough frequency in a given area to justify the expectation of a continuance of such occurrences in the area ~~to be developed~~ which it is proposed to develop. Considering the area ~~east~~ of No 1 slope and below ~~No~~ stopes No 2 and 3 ~~east of No 3 1 slope~~ (approximately 100 ft × 60') and, judging from the ore already produced to date in the mine in relation to the ground opened, it is ~~would seem in the opinion of~~ this engineer's opinion ~~that~~ at least 400 long tons of high grade shipping ore would be a reasonable expectation from the proposed development of ~~this~~ area, ~~with~~ good prospects for a much greater eventual tonnage from the mine.

5. Estimated value would be the same as noted in (2) above.

6. Estimated net profit would be the same as noted in (3) above, or \$33.00 per ton

2 The ore occurs as an exceptionally pure psilomelane and, as noted previously in this report, when it is associated with sand and clay it frees readily from this material when broken. The shipping product can be held to 50% Mn or above. Value of 50% Mn ore at the Phoenix stock pile is, per long ton.

48% Mn	$ 48.00
Plus 2 units @ $1.00	2.00
	$ 50.00

3. Estimated profit per long ton shipped would be

Value		50.00
less Mining	10.00	
Development	5.00	
Trucking	2	17.00
Estimated Profit		33.00

10A 456 See District 10A

7 Employment

A. Two miners are employed at the present time

B. Applicant proposes to employ 7 men on the project as follows:

1	Boss
3	Miners
3	Muckers
7	

C Applicant proposes to work 2 shifts per day 7 days per week.

8 Objections to Project.

A. There are no local or regional objections to the project.

B.

B. The project promises to produce a substantial amount of unusually high grade manganese ore within a short time.

9. Time Schedule

A. Project should be completed within 2 months from date of loan disbursement

B. Operations would be conducted the year-round.

C. Project ought to replay loan within one year from the date of the liquid disbursement.

10. Estimated Cost of Project

A. Total Development

250' drifting x cutting etc @ 12^{50}		3000

B. Equipment and Supplies

Miscellaneous tools	250	
Timber	250	
		500

C. Construction

Blacksmith Shop	200	
2 Tents cots etc	150	
		250

D. General Expenses

Supervision (mined in development expense)	
Insurance } Compensation }	500
Interest during project completion	300
	450
	$ 5,000

5000

11. Nature and Sources of Revenue

A. How and when loan will be repaid:

1. Loan would be paid during present development project.

(a) Project should be able to pay #1000 note in 6 mos from date of ~~loan~~ disbursement 2 - #2000 notes thereafter at 3 month intervals.

(b) Property would become self-sustaining upon successful completion of present project.

2. Not applicable.

3. Property should be self-sustaining at end of 1 years time from date of loan disbursement.

4 None

12 Comments of Supervising Engineer.

The property is capable of producing a substantial tonnage of manganese ore of exceptional purity - 50% or better - in the a short time. It is in competent hands and ought to repay the loan and provide a good profit for the operators. A development loan appears to be justified.

Re Victory Manganese Co
Docket No. S-ND-4320

Mr. Tully

I am enclosing herewith my Sup. Eng. report on the Victory Manganese Co. under the above captioned Docket.

Since making the application for a Dev. Loan the applicant has acquired ~~the adj~~ nearby ~~tract of land, the~~ Bunker-Burmeister property. This property made a substantial production of high grade manganese ore in 1917-18 and a smaller intermittent production since that time. It adjoins the Ridge group of the Victory Manganese Co and at the time of my examination I walked over the ground but did not spend any time on it since I had not been authorized to do so. The ore occurrence is similar to that of the Ridge Group and since the ~~workings~~ old stopes (all caved) are shallow and the workings not extensive the mine could be opened at small cost. The dumps (approximately 1500 tons) contain much free manganese in hard fragments and particles.

¶ In reviewing the matter it has occurred to me that ~~both of~~ these properties together could qualify for a loan of the Preliminary Development class, i.e. in both instances the proposed development would open old inaccessible workings, and in this manner the operation could be gotten under way in a much shorter ~~time~~ [illegible] than if the Development Loan (Class B) procedure for the Ridge Group alone were followed through. Accordingly I suggested ~~to the~~ applicant that he fill out the Preliminary Loan Application which I am attaching herewith for your consideration. In any event I believe that a loan of

(over)

RECONSTRUCTION FINANCE CORPORATION

MINING DIVISION

PROGRESS REPORT OF SUPERVISING ENGINEER

Victory Manganese Company
Docket No. ND-5393
Date of Report: July 5, 1944

On June 23, 1944, I visited this project. Applicants are mining ore from the No. 3 Adit (See U.S.G.S. Map) and are operating a mill. Besides the two applicants there are two employees.

The mill is a small home-made affair that is doing a very efficient job of concentrating the manganese ore.

The ore is dumped thru a 2½" grizzly into a 5 cu. yard metal ore bin. A belt feeder 6" wide and 6' long conveys the ore to a trommel screen 2' in diameter and 9' long. The trommel is "blind" except for the last two feet which is a 1/2" screen. A water spray in the trommel helps to clean the ore. The + ½" material from the trommel goes to a 12" wide by 11' long picking belt for the separation of the ore and waste. The - 1/2" undersize from the trommel goes to a second smaller trommel 18" in diameter and 5' long, having a 10 mesh screen on the upper half and a 1/4" screen on the lower half. The - 10 mesh material goes to a 14' x 5½' Wilfley sand table, the -¼" and + 10 mesh feed goes to a jig and the + ¼" goes to another jig. The jigs each have 1½' x 3' beds, are equipped with 1/8" screens and are of the diaphragm type.

A 25 HP automobile engine drives the complete mill and the operators estimate that working on mine run ore averaging 40% Mn the mill will produce 13,000 lbs. of concentrate in 8 hrs. averaging 54% Mn. Of the low grade dump material the mill will handle 3 yds. per hour.

While the mill was operating I took three grab samples as shown by the attached assay certificate. Sample No. 130 represents the mill heads; No. 131 the rejects from the picking belt; and No. 132 is the mill tails. By inspection the manganese lost in the tails is chiefly very fine manganese that partly floats on the water. Obviously a flotation cell would save a good part of the manganese in the tails. I have estimated from past shipments that the concentrates will run 54%. The mill is operating very efficiently considering the type of equipment being used.

The applicants have advanced the No. 3 adit head and have done about 200 feet of drifting - mostly in ore. While none of the ore is blocked out there is apparently many hundred of tons of ore now exposed. Attached hereto is a rough sketch of the No. 3 adit.

130 - 45.98% Mn
131 6.06 % Mn
132 13.60 % Mn

Following is a statement of the production from this property:

VICTORY MANGANESE CO.

Lot No.	Date	Dry Long Tons	% Mn	Net Returns	Royalty to R.F.C.	Net Value per ton	Source of Ore
	4-16-43	10.7274	53.09	$569.52	All	$53.09	NO. 3 adit
P. 135	8-27-43	9.6006	55.11	560.10	All	58.34	" " "
P. 200	3-2 -44	11.0478	49.00	556.04	All	50.33	" " "
P. 221	4-3 -44	10.82495	51.25	573.18	57.34	52.95	" " "
P. 244	4-17-44	15.232	54.11	869.59	86.96	57.09	" " "
P. 268	5-12-44	10.74125	53.24	601.62	60.16	56.01	" " "
P. 285	6-3 -44	17.0175	53.72	962.17	96.22	56.54	" " "
P. 297	6-19-44	16.0698	55.38	944.42	94.44	58.77	" " "
8 lots	14 mos.	101.2613	53.11	$5636.64	395.12	55.66	

Amount of Loan		$5,000.00
Receipts from first 3 shipments	$1685.66	
Mine receipts -	64.43	
Total receipts - - - - - - - - - - - - - - - -	$1,750.09	
Total expenditures - - - - - - - - - - - - - -	6,741.35	
Balance of loan on hand		8.74
Credit on royalty to R.F.C. - 10%		395.12
Total funds in loan account		$403.86

WM. B. MAITLAND
Supervising Engineer

Progress Rpt

Victory Manganese Co
ND 5393
July 5, 1944

On June 23, 1944 el visited this project. Applicants and mining ore from the No 3 adit (See USGS. Map) and are operating a mill. Besides the two applicants there are two employees.

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The ore is dumped thru a 2½" grizzly into a 5 cu yard metal ore bin. a belt feeder 6" wide and 6' long conveys the ore to a trommel screen 2' in diameter and 9' long. The trommel is "blind" except for the last two feet which is a ½" screen. a water spray in the trommel helps to clean the ore. The + ½" material from the trommel goes to a 12" wide by 11' long picking belt for the separation of the ore and waste. The - ½" undersize from the trommel goes to a second smaller trommel 18" in diameter and 5' long, having a 10 mesh screen on the upper half and a ¼" screen on the lower half. The -10 mesh material goes to a 14' x 5½' Wilfley sand table, the - ¼" and + 10 mesh feed goes to a jig and the + ¼" goes to another jig. The jigs ~~have~~ each have 1½' x 3' beds, are equipped with ⅛" screens and are of the diaphragm type.

(1)

A 25 H.P. automobile engine drives the complete mill and the operators estimate that working on mine run ore averaging 40% Mn. the mill will produce 13,000 lbs of concentrate in 8 hrs averaging 54% Mn. Of the low grade dump material the mill will handle 3 yds per hour.

While the mill was operating I took three grab samples as shown by the attached assay certificate. Sample No 130 represents the mill heads, No 131 the rejects from the picking belt, and No 132 is the mill tails. By inspection the poor manganese lost in the tails is chiefly very fine manganese that partly floats on the water. Obviously a flotation cell would save a good part of the manganese in the tails. I have estimated, from past shipments that the concentrates will run 54%. The mill is operating very efficiently considering the type of equipment being used.

The applicants have advanced the No 3 adit head and have done about 200 feet of drifting - mostly in ore. While none of the ore is blocked out there is apparently many hundreds of tons of ore now exposed. attached hereto is a rough sketch of the No 3 adit.

Following is a statement of the production from this property :-

Victory Manganese Co.

Lot No	Date	Dry Long Tons	% Mn	Net Returns	Royalty to R.F.C.	Net Value Per Ton		Source of Ore
	4/16/43	10.7274	53.09	$569.52	All	$53.09	No	3 adit
P 135	8/27/43	9.6006	55.11	560.10	All	$58.34	"	" "
P 200	3/2/44	11.0478	49.00	556.04	All	50.33	"	" 1
P 221	4/3/44	10.82495	51.25	573.18	57.34	52.95	"	" "
P 244	4/17/44	15.232	54.11	869.59	86.96	57.09	1	" "
P 268	5/12/44	10.74125	53.24	601.62	60.16	56.01	"	" 4
P 285	6/3/44	17.0175	53.72	962.17	96.22	56.54	1	" 1
P 297	6/19/44	16.0698	55.38	944.42	94.44	58.77	"	"
8 lots	14 months	101.2613	53.11	$5636.64	395.12	$55.66		

Amount of Loan		$5000.00
Receipts from first 3 shipments	1685.66	
Misc receipts	64.43	
Total receipts	1750.09	
Total expenditures	1741.35	
Balance of loan on hand		8.74
Credit on royalty to R.F.C 10%		395.12
Total funds in loan account		$403.86

Wm B Mallard

RECONSTRUCTION FINANCE CORPORATION
MINING DIVISION
MEMORANDUM REPORT OF SUPERVISING ENGINEER

Docket No. ND 5393 .
Victory Manganese Co.

On October 28, 1942, a $5000 loan was granted this manganese mine in order to develop and make accessible flat lying beds of manganese ore that occur on mesas on both sides of a small canyon. This money was spent in drifting along the ore horizon at various places but it was found that the drifting done to explore for ore did not develop any large tonnage of manganese as it was learned from this work that the ore occurs as small discontinuous saucer shaped bodies of ore between the contact of a tufa and a basaltic lava. Thus it was proven that orthodox drifting along the ore horizon is too expensive a method of exploring this type of ore deposit. Past production from the mine came from short adits and perhaps from the shafts shown on the accompanying map altho the ore mined thru the tunnels was only the ore that occurred near the outcrop of the vein horizon. A report by T. P. Lane, Supervising Engineer, on September 14, 1942 and a later report on March 15, 1943, by James H. Cazier, Supervising Engineer, cover the general conditions of the deposit. Mr. Cazier's report was made at the time an application for a $20,000 mill loan was made. This loan was not granted. In February, 1943, the U.S.G.S. mapped and reported on this project and a copy of this report and two of their maps are herewith attached.

The applicants now request a loan of $5000 with which to drill the property located on the east side of the canyon, as further described in the attached letter.

In order to justify the request for such an application, let us analyze the apparent potential value of the property. It is estimated that the property has produced in excess of 2500 tons of ore averaging over 50% manganese. Since this ore is now worth about $50 per ton at the railroad it is apparent that it will take only some 250 tons to repay this new loan and the first $5000 loan. The ore horizon is a nearly flat plane between two distinctively different formations and this horizon is overlain by a lava bed varying in thickness from 10 feet to 80 feet; the surface of the ground being nearly level. If we eliminate those areas that have already been mined and those areas over which the lava is more than 50 feet thick, we have a future prospecting area of about 300,000 sq. ft. The U.S.G.S. estimates that the probable ore in this area amounts to 7000 tons with a gross value of $350,000.

As shown by the accompanying map, 50 vertical drill holes totaling 1240 feet or an average depth of 25' per hole would checkerboard this area with holes at an average distance of 60 feet apart. The deepest hole would be 48 feet and the shallowest 10 feet. If manganese ore is found in any one hole, the next holes could be drilled closer and the ore blocked out in this way. The surface of the ground is level so no roads would need be built.

It is proposed that the drilling equipment be rented and one month should be sufficient time to complete the program. Applicants state that they have already located the necessary equipment which would include a portable compressor, light wagon drill and sectional steel rods using detachable bits. The holes would be drilled dry and since both the hanging and footwall formations are a light grey or tan in color and the manganese is black it would be easy to detect the ore when cut. Also since the formations above and below the ore horizons are of different colors it would be easy to locate this horizon in the hole. The overlying lava is soft so holes could be rapidly drilled.

Whenever a manganese ore body is located with a drill a short shaft or a drift (whichever was the cheapest) could be driven in order to mine the ore. During mining operations the few holes necessary for blasting can be drilled with an auger and the ground needs little if any timbering. The applicants are experienced miners and have done a good job under the first loan.

PROPOSED EXPENDITURES

Rental and transportation of drilling equipment	$ 600.00
Drilling 3000 ft. of holes @ 50¢ per ft.	1500.00
Supervision and incidental expense,	400.00
Total for exploration -	$2500.00
Funds to mine ore when found by drilling,	2500.00
Total for loan	$5000.00

Actually only the $2500 will be risked in this project for if the ore is not found the balance of the loan will not be used.

CONCLUSION

I recommend that a loan of $5000 be granted this project as the geology is favorable for the occurrence of high grade manganese ore , and it will take only 250 tons of ore to repay the loan, while the U.S.G.S. estimates that the proposed area to be drilled contains 7000 tons of probable ore. The applicants have proven themselves competent. No additional men will be hired for this project and it will not be necessary to buy any new equipment. The old stopes which produced over 2500 tons of ore show that the vein was over three feet thick and the lowest assay taken on the margins of these stopes ran 34.76% manganese as shown on the accompanying map and assay sheet. Drilling seems to me to be the most logical way to quickly and cheaply prove the presence of ore on this property.

WM. B. MAITLAND
Supervising Engineer

C O P Y

United States Department of the Interior
Geological Survey

A MEMORANDUM REPORT ON THE
BURMISTER MANGANESE MINE
Yavapai County-Arizona

INTRODUCTION

The Burmister Manganese Mine is located 11 miles southeast of Mayer, Yavapai County, Arizona. Workings lie at an elevation of about 3500 feet in the low bluffs that line the Agua Fria Creek, where it is joined from the east by Sycamore Creek.

The eastern workings lie in the southwest quarter of Section 17, T. 11 N. R. 3 E. This part of the property comprises 57 acres of patented land owned by Mrs. Ida Burmister, and a portion of 21 acres of patented land owned by Mr. Henry Burmister.

The western workings lie in the northeast quarter of Section 19 and the northwest quarter of Section 20, T. 11 N., R. 3 E., and consist of three claims owned by Mr. Robert Allen of Mayer. Both properties are under lease, to the Victory Manganese Company, Harry Williams, Nick D'Arcy, et al of Phoenix, Arizona.

The examination and mapping of the mine occupied the first weeks of February, 1943.

HISTORY AND PRODUCTION

The Burmister Mine is thought to have been first worked in 1917 when Jones and Ransome reported a production of 30 tons which assayed 44.56% manganese, 0.92% iron, 6.77% silica and 1.25% phosphorus. The remarkably high phosphorus

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Jones, E. L. Jr and Ransome, F. L.; "Deposits of Manganese Ore in Arizona"; U.S.Geological Survey Bulletin 710-D, 1920. pp 177-181.

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reported in this assay may be open to suspicion, since it has never appeared in any of the later assays.

In 1918 Bunker and Burmister shipped 32 cars of which an assay record is preserved in the office of F. R. Giroux, Assayer, of Mayer, Arizona. The following is an average of the assays of these shipments.

Manganese	53.15%
Silica	2.79%
Alumina	1.38%
$BaCO_3$	2.32%
Phosphorus	0.15%
Moisture	1.20%
Iron	1.03%

During the prriod of 1920 to 1930, the mine was for a shor t time opened by a Mr. Napton, who is reported to have shipped eight or ten c ars. in about 1938, Bradley and Eckstrom of San Francisco, California, operated the mine for a short time, but there is no record available at present of the production.

In 1940 an attempt was made by a Mr. Finkelstein to operate the mine by bulldozer stripping, but the overburden proved much too thick, and not more than a car was shipped.

The present lessee has operated since April of 1941, and has had an RFC $5,000 development loan during the last part of 1942. One car was shipped during this time.

The total production thus appears to be in excess of 2500 tons, of ore which averaged over 50% manganese, and contained only small quantities of such harmful impurities as zinc, iron and phosphorus.

GEOLOGY

The general geology of the area in which the mine is located has been described by Jagger and Palacha, and the mine itself has been briefly described by Jones and Ransome. As the latter have indicated, the ore occurs in a series of

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Jagger, T.A.Jr. and Palacha, Charles; U.S.Geological Survey Geologic Atlas, Bradshaw Mountains folio (No. 126) 1905.

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of Terirary (?) lake beds lumped by Jagger and Palacha with travertines that

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Jones, E. L. Jr. and Ransome, F. L.; op. cit. pp. 177-181

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occur elsewhere in the district. Here, however, they consist of tuffaceous sediments with intercalated masses od spongy dolomitic tufa.

These beds were deposited on a basement of pre-Cambrian granitic and metamorphic rocks. The known thickness in the area now being worked varies from 60 to 90 f eet, but the beds thin by overlap and disappear to the south and thicken northward. They dip from one to five degrees northwest and s trike about 40 to 50 degrees e ast across the valley of the Agua Fria Creek.

The basal beds, 20-30 feet thick, consist of medium to coarse grained sandstone containing abundant angular debris up to four inches across of the underlying basement rocks. These coarse sediments a re overlaid by platy white reqorked tuff 3-6 feet thick which has been replaced by ivory colored dolomitic tufa 0-10 feet thick. The tufa forms broad tabular layers with irregular upper surfaces, along which most of the manganese ore is found. It is locally silicified by opal and chalcedony, which has been brecciated and recemented with manganese minerals.

Though there is only one layer of tufa exposed at the south end of the eastern workings, several horizons crop out strongly along the bluffs to the north. It is not known whether manganese ore is associated with more than the uppermost of these layers.

The tufa is overlain by light brown sandstone and clay. In the eastern workings it clearly fills depressions in the tufa surface up to eight or ten feet in depth, yet it may be virtually absent beneath the marker bed a few feet distant.

The bed referred to as a marker is an interbed within the sandstone and clay consisting of fine volcanic cinders. It was deposited on a nearly level surface and was mapped wherever exposed to provide a reference plane to which the irregular surfaces of the tufa could be referred. The marker bed is seldom over two feet below the base of the lava from which it is separated by siltstone and clay.

The lake beds are overlain by massive basaltic lava, which forms the capping and principal overburden of the manganese deposits. The thickness of the lava varies from nothing to sixty feet in the areas deemed favorable for exploration, and is shown by isopachs in Plate V.

In several of the drifts, and one of the open cuts are features that can best be described as sinks. They consist of nearly circular holes through the tufa which the overlying sandstone, clay and lava appear to have collapsed. The marker bedx bends fownward and is sheared and broken aroud the sink. Fragments of this bed and the lava are mixed with the clay and sandstone around the fractured lava core.

Although field evidence definitely suggests that there is an areal relation between the occurrence of manganese ore and the sinks, the present exposures are too incomplete to be sure of the reliability of such relations. Furthermore, the covering of soil and broken lava fragments prevents the identification of the sinks on the surface, hence there appears no way in which such a relationship can serve as a guide to ore.

MANGANESE DEPOSITS

The ore at the Burmister Mine consists almost entirely of vesicular lace-work masses of "psilomelane type" mineralss When washed and sorted clean, it is high grade, averaging 50% to 55% manganese. Analyses by the U.S.Bureau of Mines show a complete absence of barium.The masses are highly irregular with stalactites or botrycidal surfaces, and contain cavities lined with rod-like stalactitic forms of all sizes, projecting inwards. A few of the small openings are lined with soft black felted masses of oxide minerals.

The greater part of the early production is reported to have occurred as spongy masses of varying size which were found along the upper surface of the tufa, or within the sandstone and clay immediately above it. These masses vary from thin films to bodies over two feet thick containing as much as fifty tons. This ore is coarse and relatively clean.

A second occurrence is that of cementing material or matrix in opal breccia, or in small pockets within or surrounding the large tufa masses. This type of ore is exposed in Adit No 2 and 3.

A third occurrence is as thin veinlets, local pockets, or nodules under an inch in diameter scattered through the sandstone and clay above the tufa, and through the softer parts of the unaltered tuff. Material of this sort is encountered most abundantly in the area immediately surrounding the larger ore bodies, but in many cases bears no systematic relation to either an orebody or the surrounding beds.

Both the latter types of ore are low grade and require beneficiation. The development by the operators to date, and the present geologic work indicates that the concentrates from these types of ore will constitute about 40% of the mine output. The milling characteristics and recovery to be expected has been described in a technical report by the U.S. Bureau of Mines.

As indicated by Jones and Ransome, there are two possible sources for the manganese. The association with tufa and opalized tuff suggests deposition from spring waters. A second explanation is that the manganese may have been derived by some sort of leaching process from the overlying lavas which may contain small quantities of manganese-bearing minerals. Whatever the original source of the manganese, the close association of the ore to the tufa, and its complete absence in the lava, even in the brecciated material of the strike, suggests that it bears a close time and genetic relation to the tufa, though it may have been moved short distances and redeposited since its original deposition.

APPLICATION OF GEOLOGY TO MINING AND PROSPECTING

There appear to be no systematic geologic controls which can serve as guides to ore.

Due to jointing and weathering which has separated the flows into more or less individual blocks, adits with a thin cap of lava do not long stand untimbered. However, when the lava is over teh feet thick the drifts will easily stand long enough for safe removal of the ore.

Plate V shows by isopachs the approximate thickness of the lava over the eastern workings, and the area to the north which seems favorable for exploration. The addition of three to five feet to the figures obtained from this map for the thickness of the lava at a given place, gives the approximate depth of the important ore-bearing horizon from the surface.

ORE RESERVES

Due to the nature of the deposits, it is impossible to give accurate figures for ore reserves without detailed development, since the ore lies in discontnuous lenses or pockets to which there appears to be no structural guide. Without further evidence for the lateral continuity of the ore, the present estimates are of necessity based on a statistical summary of the results of past production, and the present operations.

On the basis of the area mined, and the resulting production per square foot, Thos. L. Chapman of the U.S.Bureau of Mines estimates that the mine should yield from 4000 to 7000 tons of high grade ore.

There are about 50 tons of ore exposed in the mine and on the ground ready to ship. In addition, there are about 2000 tons of dumps which when milled should yield two to three hundred tons of high grade concentrates.

The development work done to date by the present operators on a $5,000 development loan from R.F.C. has shown the following results:

Total tonnage mined		1,200 tons
Total ore recovered		
Shipping ore	52 tons	
Est.conc.from low grade ore	35 "	87 "
Rock moved in recovering 1 ton of ore		13.8 "
Total cost		$4,600.00
Cost. ton of rock moved		3.84
Cost/ton of ore recovered		53.00

(35 sq. ft of surface area mined/ton of ore recovered)

On the basis of these figures and his geological studies, the writer agrees with the statistical reserves calculated by the U.S.Bureau of Mines. The following additional figures are however, also thought worthy of consideration.

Area of probable ore	250,000 to 350,000 sq ft.
* Mining vosts per sq. ft. (est. in cooperation with T.L. Chapman, of U.S.Bureau of Mines)	$1.00 per sq. ft.
* Mining costs per ton	$35 to $50 per ton
Total cost for removal of probable ore	$250,000 to $350,000
Probable Ore	7000 tons
Value (@ 50% Mn = $50 per ton)	$350,000

*Costs as estimated to not include haulage, or apportioned value of mining equipment, camp, or mill for treatment of low grade ore.

Though based on limited development, these estimates strongly indicate that the mine is sub-marginal, or at best marginal.

RECOMMENDATIONS

Government exploration of this property is not recommended unless it is deemed desirable under present conditions to prove the existence of reserves suspected from a statistical study of past production and present development, despite the fact that it appears unliekly that the mine can be operated at a profit.

MAX D. CRITTENDEN, JR.
February 25, 1943

C O P Y

Mayer, Arizona, August 2nd, 1943.

Mr. W. B. Gohring
Reconstruction Finance Corp.
325 Heard Building
Phoenix, Arizona

Re: Victory Manganese Co.,
Dockett B-ND-4320

Dear Sir:

We hereby request reconsideration of our Loan Application for milling equipment and development work which was denied by the Board on April 12, 1943, and now request that this application be changed to a $5,000 development Loan.

After considering this development work carefully, and going over the property with mining engineers, we have changed our plan of development and now contemplate drilling short vertical holes from the surface instead of doing the drifting which we proposed in our former application. This work would be done with a Wagon Drill and sectional steel. This type of drilling could be done successfully and economically as the holes would not average over fifty feet. We have located the necessary equipment for the work which can be rented. This equipment, as stated is available at the present time, however, we would ask early consideration of our request as it is naturally subject to prior rental, and if delayed to long may not be available when the loan is granted.

The estimated use of the money would be as follows: 2,500.00 for rental of equipment and drilling. $2,500.00 for opening up the ore and mining when ore is found.

Our estimated drilling costs are as follows:

Rental and transportation of equipment	$ 600.00
Drilling 2500 feet of holes; 50 holes at an average depth of 50 feet at 50 cents per foot	1,500.00
Supervision and incidentals costs	400.00
	2,500.00

Thanking you for your early consideration and handling of this matter, we are

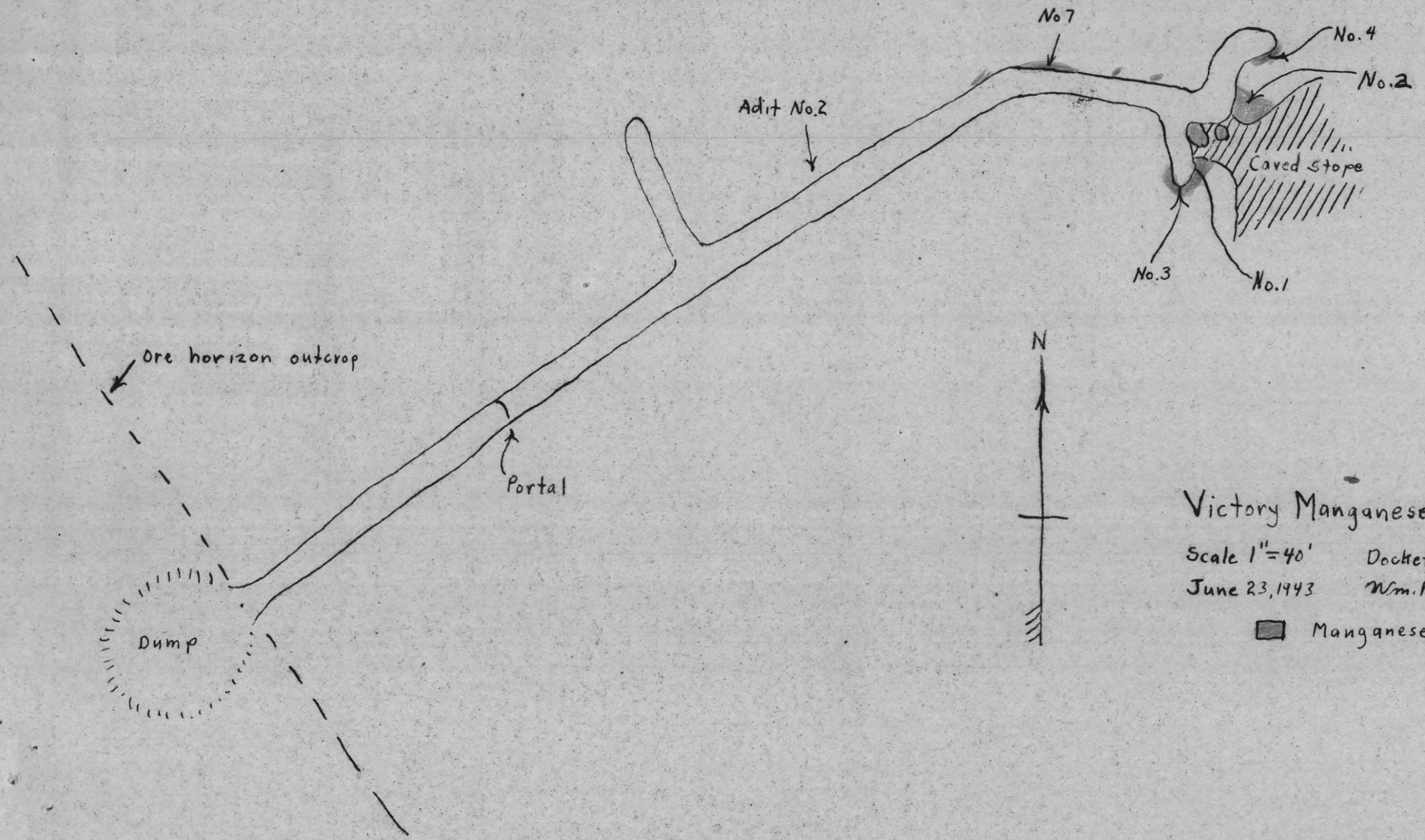
Very truly yours,

VICTORY MANGANESE COMPANY,

S/d. T. W. Beauchemin

Assay Record

No 1 - 32" - 37.39 % Mn	Maitland
No 2 - 17" - 41.00 % Mn	"
No. 3 - 26" - 34.76 % Mn	"
No 4 - 14" - 41.98 % Mn	"
No 7 - 60" - 9.83 % Mn	Cazier



Victory Manganese Co.

Scale 1" = 40' Docket ND 5393

June 23, 1943 Wm. B. Maitland

Manganese ore

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Isopachs show thickness of lava overlying the ore bearing horizon.

U. S. GEOL. SURVEY

CONFIDENTIAL

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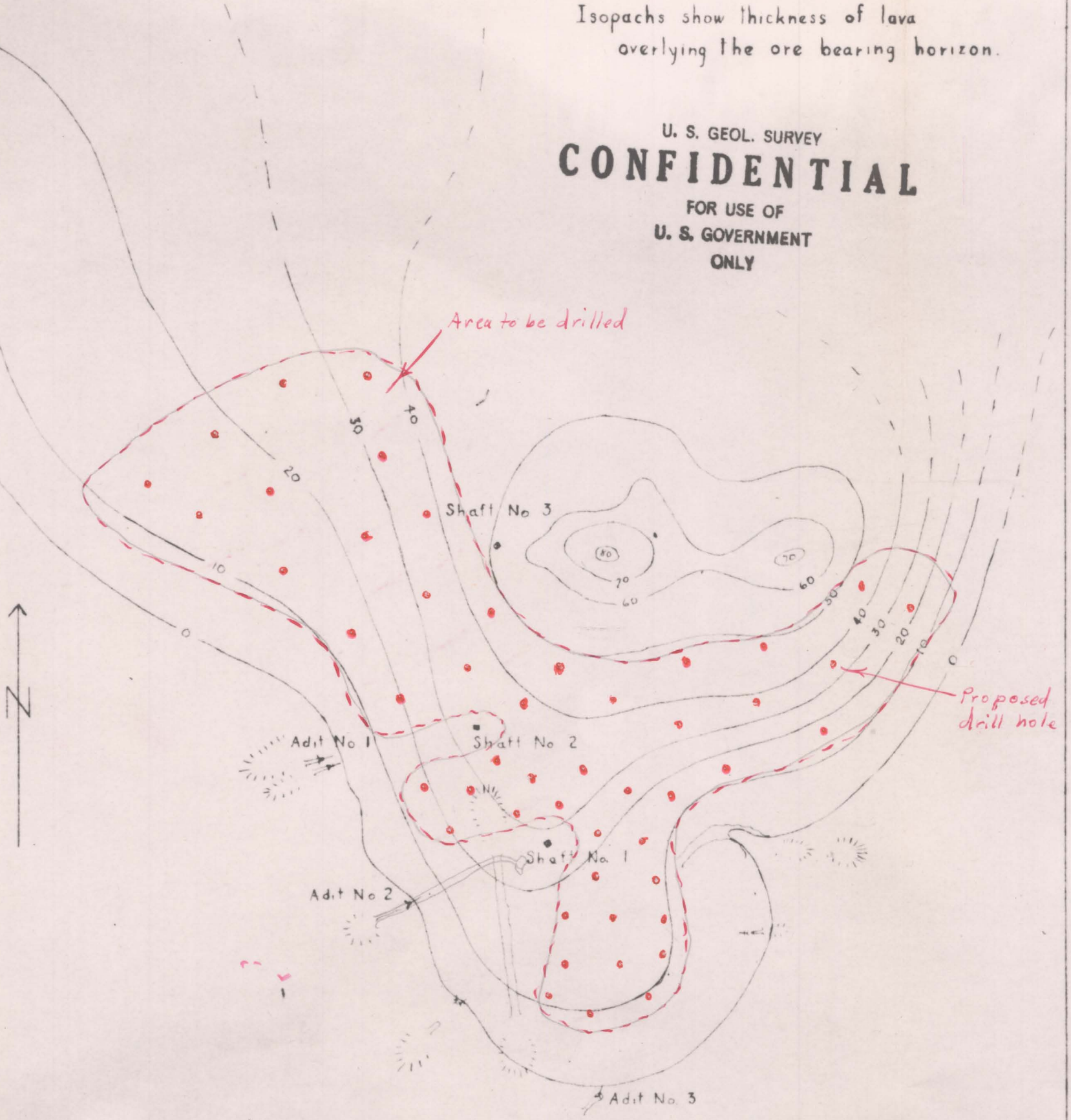
U. S. GOVERNMENT
ONLY



THE BURMISTER MANGANESE MINE

Isopach Map of Eastern Workings

0 200 400 600 800 1000 feet

PLATE II

UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Geologic and Topographic Map of Eastern Workings of

THE BURMISTER MANGANESE MINE

Yavapai County, Arizona

0 100 400 feet

Scale 1 inch = 200 feet Contour Interval 10 feet

U. S. GEOL. SURVEY
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EXPLANATION

Rocks

PRE CAMBRIAN / TERTIARY (?)

- Lava
- Lake Beds with manganese ore
- PC Basement Rocks

Symbols

- Shaft
- Open cut
- Dump
- Road
- Adit caved to Surface
- Contact, dashed approximate

Area to be drilled

Proposed drill hole

Shaft No. 3

Shaft No. 2

Shaft No. 1

Adit No. 1

Adit No. 2

Adit No. 3

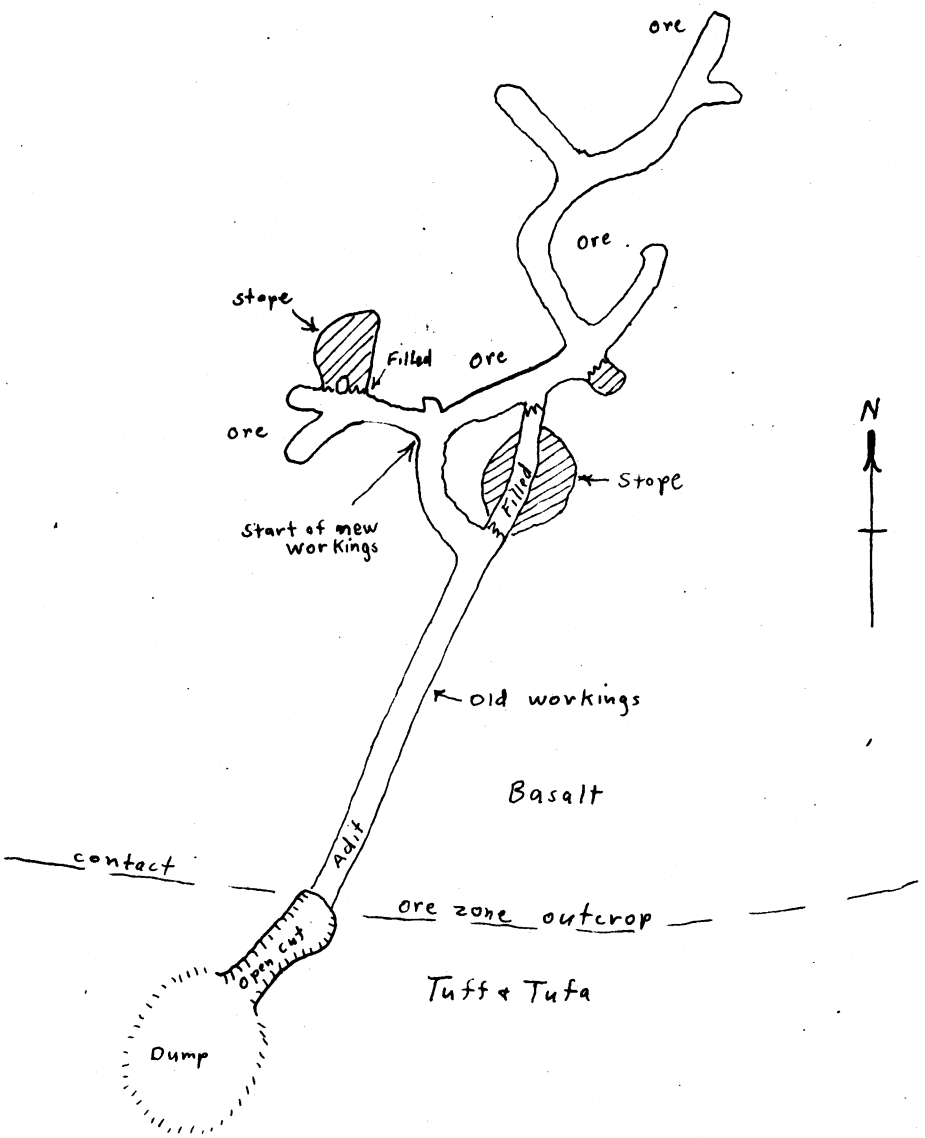
Tuff and Tufa

Basalt

PC

N

Topography and Geology by Max D. Crittenden Jr.
February 25, 1943



Victory Manganese Co.

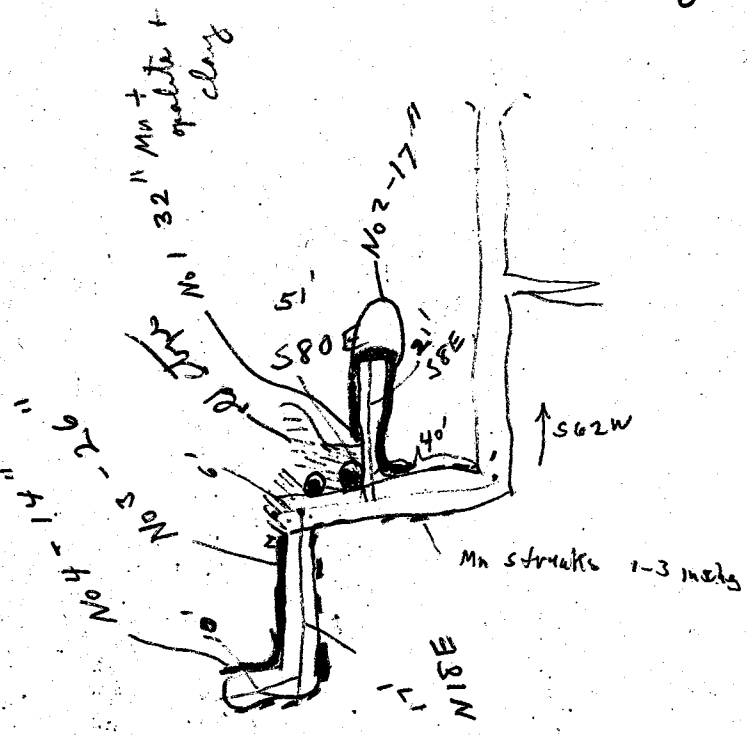
No. 3 Tunnel

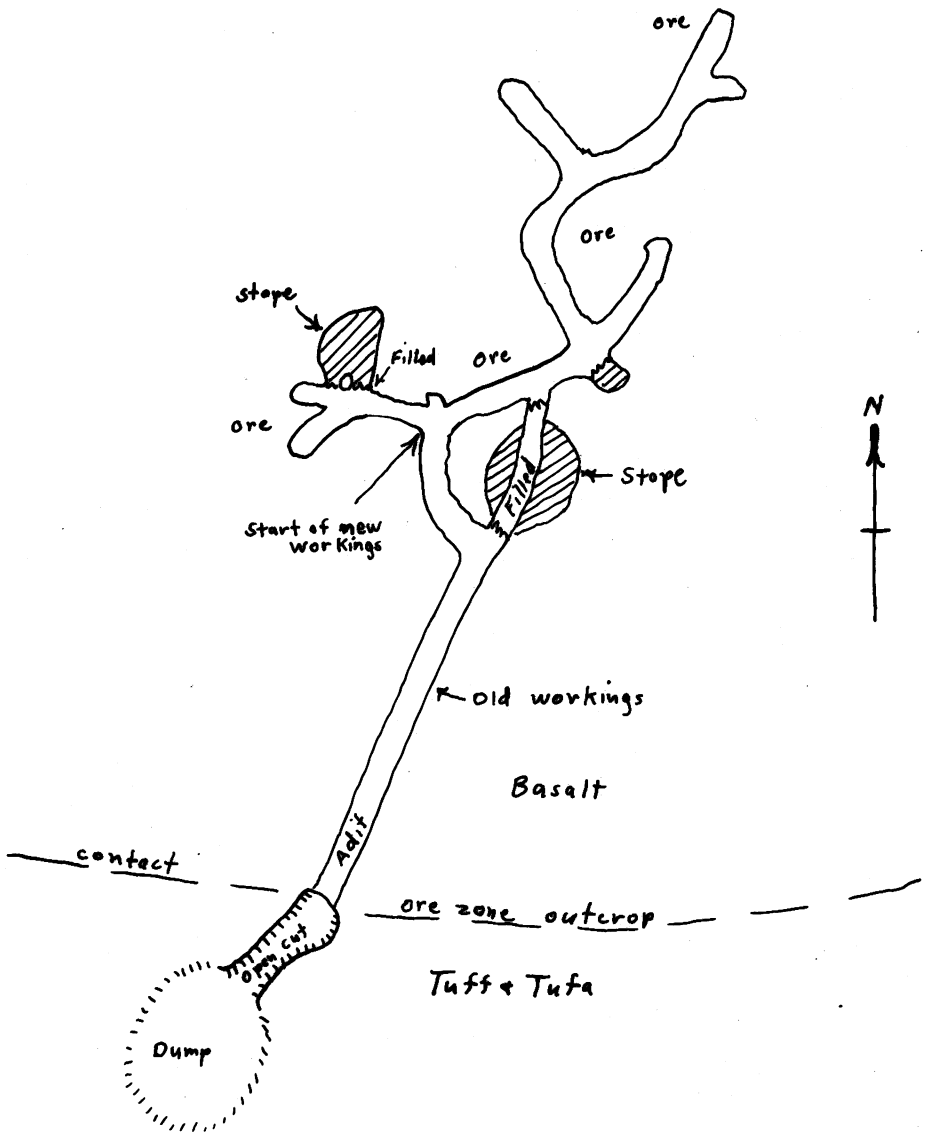
Scale 1"=40' ND 5393

June 1944 Wm. B. Maitland

June 23, 1942

Victory Mn.





Victory Manganese Co.

No. 3 Tunnel

Scale 1"=40' ND 5393

June 1944 Wm. B. Maitland

Victory Manganese Co
Docket No MD-393

On Oct 28 1942 a $5000 loan was granted this manganese mine maker to develop and make accessible flat lying beds of manganese ore that occur on ~~bottoms~~ mesas on both sides of a small canyon. This money was spent in drifting along the ore horizon at various places but it was found that the drifting done to explore for ore did not develop any large tonnage of manganese as it was learned from this work that the ore occurs as small discontinuous saucer shaped bodies of ore between the contact of ~~the~~ a trachyte and a rhyolitic lava. Thus it was proven that orthodox drifting along the ore horizon is too expensive a method of exploring this type of ore deposit. Past production from the mine came from short adits and perhaps from the shafts shown on the accompanying map, although the ore mined thru the tunnels ~~was that~~ was only that ~~from~~ of ore that occurred near the outcrop of the main horizon. A report by J. P. Lane, Supervising Engineer on Sept 14, 1942 and a later report on March 15, 1943 by James H. Cazier, Supervising Engineer cover the ~~develop~~ to general conditions of the deposit. Mr. Cazier's report was made at the time ~~the~~ an application for a $20,000 mill loan was made. This loan was not granted (1) On Feb. 1943 the U.S.G.S. mapped and reported on this project and a copy of this report and ~~of~~ two of their maps are herewith attached.

The applicants now request a loan of

$5000 with which to drill the property located on the east side of the canyon as further described in the attached letter.

In order to justify the request for such an application let us analyze the apparent potential value of the property. It is estimated that the property has produced in excess of 2500 tons of ore averaging over 50% manganese. Since this ore is now worth about $50 per ton at the railroad it is apparent that it will take only some 250 tons to repay this new loan and the first $5000 loan. The ore horizon is a nearly flat plane between two distinctively different formations and this horizon is overlain by a lava bed varying in thickness from 10 feet to 80 feet; the surface of the ground being nearly level. If we eliminate those areas that have already been mined and those areas over which the lava is more than 50 feet thick we have a future prospecting area of about 300,000 sq. ft. The U.S.G.S. estimates that the probable ore in this area amounts to 7000 tons with a gross value of $350,000. As shown by the accompanying map 50 vertical drill holes totaling 1240 feet or an average depth of 25' per hole would checkerboard this area with holes at an average distance of 60 feet apart. The deepest hole would be 48 feet and the shallowest 10 feet. If manganese ore is found in any one hole the next holes could be drilled closer and the ore blocked out in this way. The

surface of the ground is level so no roads would need be built.

It is proposed that the drilling equipment be rented and one month should be sufficient time to complete the program. Applicants state that they have already located the necessary equipment which would include a portable compressor, light wagon drill and sectional steel rods using detachable bits. The holes would be drilled dry and since both the hanging and footwall formations are a light grey or tan in color and the manganese is black it would be easy to detect the ore when cut. Also since the formations above and below the ore horizons are of different colors it would be easy to locate this horizon in the hole. The overlying lava is soft so holes could be rapidly drilled.

Whenever a manganese ore body is located with the drill a short shaft or a drift (which ever was the cheapest) could be driven under to mine the ore. During mining operations the few holes necessary for blasting can be drilled with an auger and the the ground need little if any timbering. The applicants are experienced miners and have done a good job under the first loan.

Conclusion

I recommend that a loan be granted this project as the geology is favorable for the occurrence of high grade manganese ore and it will take only 250 tons of high grade to repay the loan

Proposed Expenditures

Rental + transportation of drilling equipment	$600.00
Drilling 3000 ft of holes @ 50¢ per ft	1500.00
Supervision + incidental expense	400.00
Total for exploration	$2500.00
Funds to mine ore when found by drilling	2500.00
total for loan	$5000.00

Actually only the $2500 will be risked on this project for if the ore is not found the balance of the loan will not be used.

Conclusion of $5000

I recommend that a loan be granted this project as the geology is favorable for the occurrence of high grade manganese ore and it will take only 200 tons of ore to repay the loan. While the U.S.G.S estimates that the proposed area to be drilled contains 7000 tons of probable ore. The applicants have proven themselves competent, no additional men will be hired for this project and it will not be necessary to buy any new equipment. The old stopes which produced over 2500 tons of ore show that the vein was over 3 feet thick and the lowest assays taken on the margins of these stopes ran 34.76% manganese as shown on the accompanying map and assay sheet. Drilling seems to me to be the most logical way to quickly and cheaply prove the presence of ore on this property.

Wm P Mellor

(4)

Letter of Transmittal

Enclosed please find my report on the above captioned docket together with maps, U.S.G.S. report and letter from applicants amending their original application.

Wm B Mantland

Enclosures

Supervising Engineers
U.S.G.S Report
Maps
Letter of Application

My copy

325 Heard Building
June 29, 1943

Mr. J. G. Murphy, Manager
Worthington Machinery Company
South San Francisco Avenue
Los Angeles, California

Dear Joe:

It is some months since I heard from you, and I have not heard either from the Burton brothers for a considerable length of time, so assume they are busy fishing. As you probably know, I am with the RFC in Bill Gohring's office, and we often run across some of your high-powered salesmen.

As you remember, I had considerable experience with your drilling equipment and vacuum drill sampling. I have just examined a manganese property located near Mayer, Arizona, that now has a loan from us and has been thoroughly mapped by our office and by the U. S. G. S. Briefly, this deposit consists of horizontal, saucer-shaped lenses of about fifty per cent manganese. These lenses occur along a definite contact and the horizontal plane of this contact lies between fifteen and thirty feet below the surface which is level and easily accessible. The surface formation over the manganese consists of a soft, altered basalt and I am of the opinion that the best way to prospect this deposit is by means of drilling vertical holes from the surface with a small wagon-drill and a vacuum sample collector. The maximum depth of the holes would be about thirty (30') feet.

Orthodox development by means of tunnels has been too expensive and nonproductive due to the fact that these lenses are irregular in their occurrence and there is no indication of where they are located.

This mine produced considerable manganese during the last war and I believe that it will again produce a considerable tonnage of high grade ore. I cannot recommend any further drifting along the contact as it is too expensive for the results obtained. I would like to recommend

the drilling program if I thought it would be possible to run a wagon-drill up with sectional steel and a vacuum sampler. Of course this rental would be paid out of Government funds loaned to the project and there would be definite arrangements made to cover the freight and incidental expense of obtaining such equipment.

I anticipate that this drilling program would take about thirty to forty-five days and would need approximately fifty holes averaging 25' in depth. We could make arrangements here for the rental of the compressor and the purchase of necessary bits, but the showings on the property at present do not warrant the purchase of a wagon-drill.or the sectional steel rods necessary. If we cannot rent such equipment, I believe it will be necessary to stop work on this project as it seems to me the only feasible way of properly testing the mine.

I do not know whether Burtons still have their sectional steel rods, but I do know they never had a wagon-drill. If your Company or some of your customers would be interested in renting this equipment to us, I would appreciate a reply from you.

You would probably be interested in knowing that we were not able to complete development program at the Fortuna mine, but I hope some day to be able to go back there and poke a few diamond drill holes down and really find the ore.

Mrs. Maitland sends her kindest regards to Mrs. Murphy and to yourself, and I hope if you are ever over in this hot hole of Phoenix you will pay us a visit.

With kindest personal regards, I am,

Sincerely yours,

WM. B. MAITLAND
Supervising Engineer

WBM-b