DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 1739 X

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

EXPLORATION

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

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INT.-DUP. SEC., WASH., D.C. 98868

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FILE COPY
SURNAME:

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

Selfridge

FEB 6 1952

Mr. William Hahn
J. R. Simplot Company
P.O. Box 912
Pocatello, Idaho

Re: Docket No. DMA 1789X - Manganese
Lava Hot Springs Manganese Mine
Bannock County, Idaho

Dear Mr. Hahn:

In accordance with the advice contained in your letter of January 29, 1952, we herewith withdraw your application (DMA 1789X), without prejudice.

Sincerely yours,

C. O. Mittendorf (for)

Acting Administrator
Defense Minerals Exploration
Administration

GGGentry'lm
2/1/52

cc: Admn. Reading File
2-6-52 Docket
J.D. N. B. Melcher, USBM
M. D. Crittenden, USGS
Field Team Reg. II
G. C. Selfridge
G. G. Gentry

S.a.
1-31-52

Simplot Fertilizer Company

BOX 912

POCATELLO, IDAHO

Jan. 29, 1952

Re: Docket No. DMA 1789X-
Manganese, Lava Hot Springs
Manganese Mine
Bannock County, Idaho

Mr. G. C. Selfridge, Acting Chief
Iron and Ferro-Alloy Division
U. S. Department of Interior
Defense Minerals Administration
Washington 25, D. C.

Dear Sir:

This is to advise that we do not wish to proceed with the above listed exploration program at this time, and we wish to have our Application on Docket No. DMA 1789X withdrawn.

Very truly yours,

J. R. SIMPLOT COMPANY

Wm. Hahn
Accountant

CC-John Dahl

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 31 1952

JAN 2 4 1952

J. R. Simplot Company
c/o Mr. John M. Dahl
P.O. Box 912
Pocatello, Idaho

Re: Docket No. DMA 1785X - Manganese
Lava Hot Springs Manganese Mine
Bannock County, Idaho

Dear Mr. Dahl:

Our files on the above noted application show that a request for additional information was sent you on July 23, 1951, and that no answer has yet been received.

If you wish to proceed with this application, please furnish us with the requested information. If you do not wish to continue, please so inform us.

Sincerely yours,

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

QLBrower:lm
1/23/52

cc: Admn. Reading File
Docket
N. R. Melcher, USBM
M. D. Crittenden, USGS
Field Team Reg. II
G. C. Selfridge
Q. L. Brower

FILE COPY
SURNAME:

Brewer
Selfridge
Mathewson

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

JAN 24 1952

J. R. Simplot Company
c/o Mr. John M. Dahl
P.O. Box 912
Pocatello, Idaho

Re: Docket No. DMA 1789X - Manganese
Lava Hot Springs Manganese Mine
Bannock County, Idaho

Dear Mr. Dahl:

Our files on the above noted application show that a request for additional information was sent you on July 23, 1951, and that no answer has yet been received.

If you wish to proceed with this application, please favor us with the requested information. If you do not wish to continue, please so inform us.

Sincerely yours,

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

QLBrewer'lm
1/23/52

cc: Admn. Reading File
✓ Docket
N. B. Melcher, USBM
M. D. Crittenden, USGS
Field Team Reg. II
G. C. Selfridge
Q. L. Brewer

1-24
J.D.

FILE COPY
SURNAME:

340 Holderer Jacoby

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

July 23, 1951

J. R. Simplot Company
c/o Mr. John M. Dahl
P. O. Box 912
Pocatello, Idaho

In reply please refer to:
DMA-1789-X — Tungsten

Dear Mr. Dahl:

Your request for assistance to do extensive exploration of the Lava Hot Springs manganese deposit in Bannock County, Idaho has been carefully reviewed by the Defense Minerals Administration. The information available does not indicate that the prospects of a large tonnage are sufficiently good to justify the $40,000 you have requested.

However if you are interested in participating in a much smaller amount of work, it would be possible to approve a project costing $15,000. If the results of this limited amount of work proved favorable it is possible that additional work could be scheduled.

If you desire to go ahead on a limited basis, please supplement the information you have already given us with the following:

(1) A map of the property showing the location of present workings and the exposures of ore, with any samples available, the known or suspected trends or extensions of the ore to be tested, location of the surface tranches, This should include cross sections.
(2) A new break down of costs indicating the amount to be spent on trenching, sampling, analyses, supervision, etc. and
(3) Copies of the landlords subordination agreement, see enclosures.

Very truly yours,

George B. Holderer

jam

George B. Holderer
Chief, Tungsten Branch

CHJacoby:awj

cc:File
Adm. Reading File
Reports & Records Unit
Mr. Holderer

Enclosure

856

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

340

July 23, 1951

J. R. Simplot Company
c/o Mr. John M. Dahl
P. O. Box 912
Pocatello, Idaho

In reply please refer to:
DMA-1789-X — Tungsten

Dear Mr. Dahl:

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However if you are interested in participating in a much smaller amount of work, it would be possible to approve a project costing $15,000. If the results of this limited amount of work proved favorable it is possible that additional work could be scheduled.

If you desire to go ahead on a limited basis, please supplement the information you have already given us with the following:

(1) A map of the property showing the location of present workings and the exposures of ore, with any samples available, the known or suspected trends or extensions of the ore to be tested, location of the surface trenches, this should include cross sections;
(2) A new break down of costs indicating the amount to be spent on trenching, sampling, analyses, supervision, etc. and
(3) Copies of the landlords subordination agreement, see enclosures.

Very truly yours,

George B. Holderer

George B. Holderer
Chief, Tungsten Branch

CHJacoby:awj

cc: File
Adm. Reading File
Reports & Records Unit
Mr. Holderer

Enclosure

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : George B. Holderer DATE: July 17, 1951

FROM : M. D. Crittenden

SUBJECT: DMA-1789 X Lava Hot Springs, Idaho

The J. R. Simplot Co. proposes to spend $43,000 on exploration of a manganese property in Bannock County, Idaho. This is the same property involved in the informal application of Keith Madill, whose request for a loan was not encouraged because of the small reserves.

The Survey has two reports on these deposits, both of which suggest that they are not likely to yield large quantities of ore. (The reserves in this property are given as 1000 tons @ 30% Mn but probably somewhat larger amounts of lower grade ores are present.)

On the basis of this information it does not appear that a government expenditure of $31,000 is warranted. Moreover, the application does not include maps showing the location of the proposed work. Therefore it is recommended that the applicant be informed that a smaller amount of money might be approved, say $10,000, and, if he is interested in that amount, that he be requested to supply a map and specific plans for the exploration involved. The following is a suggested draft.

"Your request for assistance to do extensive exploration of the Lava Hot Springs manganese deposit in Bannock County, Idaho has been reviewed. The information available does not indicate that the prospects for large tonnages are sufficiently good to justify expenditure of the $40,000 you have requested. However, if you are interested in participating in a much smaller amount of work, it would be possible to approve a project costing about $10,000. If the results of that limited work proved favorable, it is possible that additional work could be scheduled.

If you desire to go ahead on this limited basis, please supplement the information you have already given us with the following: (1) a map of the property showing the location of present workings, and the exposures of ore, with any samples available, the known or suspected trends or extensions of the ore to be tested, the location of the proposed surface trenches; (2) a new breakdown of costs indicating the amount to be spent on trenching, sampling, analyses, supervision, etc. as before; (3) copies of a landlord's subordination agreement, see enclosures."

MDC

FILE COPY
SURNAME:

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

July 5, 1951

Mr. John M. Dahl
Secretary
J. R. Simplot Company
P. O. Box 912
Pocatello, Idaho

Subject: DMA-1789X
Re: Exploration Loan
Lava Manganese Sales
Company

My dear Mr. Dahl:

Receipt is acknowledged of your application and attachments for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1789X and was referred to Mr. George B. Holderer, Chief, Manganese Branch on July 3, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1789X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: Strobel-2
Files
Holderer
Lyon

July 5, 1951

Mr. John M. Dahl
Secretary
J. R. Simplot Company
P. O. Box 912
Pocatello, Idaho

Subject: DMA-1789X
Re: Exploration Loan
Lava Manganese Sales
Company

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Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: Strobel-2
Files
Holderer
Lyon

July 5, 1951

Mr. John H. Dahl
Secretary
J. R. Simplot Company
P. O. Box 912
Pocatello, Idaho

Subject: DMA-1789X
Re: Exploration Loan
Lava Manganese Sales
Company

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In any future correspondence relating to your application, kindly refer to DMA-1789X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: Strobel-2
Files
> Holderer
Lyon

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1789X

Date received 7-2-51

Participation

J. R. SIMPLOT COMPANY
P. O. BOX 912
POCATELLO, IDAHO

Name and address of applicant

Date May 31, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951

Estimated cost $ 43,000.00

Mineral or metal Manganese

Percentage of Government participation 75 %

Location of mine Near Lava Hot Springs, Idaho

Date of filing MF-100 None - Not in operation

DMA Docket Number, if available DMA 1789X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

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

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

J. L. Simpson Co
(Name of company)

By John M. Dahl
(Signature of authorized official)

May 31, 1951
(Date)

Secretary
(Title)

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

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

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

---

1. Corporation

2. Not applicable

3. Officers

J. R. Simplot, President - 1503 Harrison Blvd., Boise, Idaho
W. Grant Kilbourne, Vice President - 111 Crestline Drive, Boise, Idaho
Leon C. Jones, Vice President - 324 Everett St. Caldwell, Idaho
J. Dahl, Sec. - Treas. - 3422 Meadow Drive, Boise, Idaho

Directors

J. R. Simplot
Ruby A. Simplot
Leon C. Jones

Stockholders

J. R. Simplot
Ruby A. Simplot
Scott Robert Simplot
Guy Corine Simplot
Don John Simplot
Richard Simplot

4. Operating Company is at the present mining the following ores:

Phosphate - 4,000 tons day basis
Fluorspar - 100 tons day basis
Bauxite -10,000 tons annually
Uranium (Carnotite) - 300 tons per month

Applicant is well known in the mining industry. Mine management is under the direction of Mr. Geo. A. McHugh, Mine Manager, and Mr. Charles A. Lee, Geologist.

5. Leases

6. Not applicable

7. Lease is now in hands of attorneys for pruposes of final drafting - Copies will be available upon request.

8. Attached

9. $10,750.00, yes.

10. Section 21 and 22, Township 9, Range 36 E. of Boise Meridian, County of Bannock, State of Idaho.

11. No present name, formerly known as Lava Manganese Sales Company, the previous operators.

12. Property is located approximately one mile east of Lava Hot Springs, State of Idaho, County of Bannock. Approximately 3 miles of access roads to be constructed or improved. Shipping point, Lava Hot Springs, via Union Pacific Railroad.

13. Portneuf River nearby would supply ample year around water and sufficient power could be obtained from nearby high voltage lines.

14. None

15. Ore could be loaded on trucks and hauled a distance of approximately 3 miles on roads to be constructed or improved to the rail point, at Lava Hot Springs. Ore believed to be of high enough quality which would not necessitate milling.

16. See attached report

17. Not in production

18. See attached report

19. None

20. Manganese Oxides

21. Proposed program to consist of cutting approximately 25 trenches, construction of 3 miles access road, and diamond drilling of 2,500 ft. This entire program to be accomplished in four month's time.

22. Previous production indicates ore is present. For details see attached report.

23-a	None	
b	One Manager (part time)	$1,600.00
	One Resident Engineer	1,800.00
	One Junior Engineer	1,200.00
	One Assayer (Part Time)	800.00
c	None	
d	Three (3) miles of access roads @ $2,000.00 per mile	6,000.00
e	One pickup truck	1,800.00
	One Jeep	1,800.00
f	One D-8 Tractor with which to dig trenches 25 days @ $100.00 per day. Rental includes all supplies for tractor and operator's wages	2,500.00
	Diamond Drilling of 2,500 ft. to be contracted, 2500 ft. @ $7.00 per ft.	17,500.00
g	None	
h	Approximately $2,000.00 per month would cover all supplies and expenses of personnel	8,000.00
i	To be furnished by Contractor	
	Total estimated Cost	$45,000.00

24. Trenching could be completed in first month. Road construction and diamond drilling to be carried on simultaneously in the following three months. Money spent first month would be approximately $9,800.00 with the balance spread nearly equally for the remaining three months.

ANALYSIS OF SURPLUS

J. R. Simplot Company
Period of ten months ended December 31, 1950

Paid-in Surplus			$ 288,736.21
Earned Surplus			
Balance at March 1, 1950		$1,963,131.26	
Add:			
Profit for ten months ended December 31, 1950	$307,520.34		
Provison for income taxes	110,000.00		
Net Profit		197,520.34	
Earned Surplus - Balance at December 31, 1950			2,160,651.60
Total Surplus - Balance at December 31, 1950			$2,449,387.81

SUMMARY OF INCOME & EXPENSE

J. R. Simplot Company
Ten months ended December 31, 1950

Net Sales	$5,585,362.25
Cost of Sales	4,595,029.45
Gross Profit	$ 990,332.80
General & Sales expense	202,171.42
Operating Profit	$ 788,161.38
Deduct:	
Depreciation	$ 307,319.63
Interest	53,349.84
	$ 360,669.47
	$ 427,491.91
Other expenses - net	[illegible]
Profit before income taxes	$ 307,520.34
Provision for taxes on income	110,000.00
Net profit	$ 197,520.34

Written in 1942

REPORT ON MANGANESE DEPOSIT
Lava Hot Springs, Idaho

LOCATION:

The deposits are located in Bannock Co., 48 miles southeast of the town of Pocatello in the state of Idaho. Bannock Co. is in the southeast corner of the state. The deposits are located about 3/4 mile east of the town of Lava Hot Springs.

ACCESS:

The town of Lava Hot Springs is located on the main line of the Union Pacific Railroad. The town lies about one-quarter mile south of highway U. S. 30 N. A road branches south from the main highway about one-quarter mile east of the town, goes through Lava Hot Springs and rejoins the highway about one-half mile east of town.

Two roads connect the manganese deposits and the highway at the present time. As shown on the map, a skid road connects the Vanna and Winnie claims with the highway. On the south side of the hill, a fair wagon road connects the Heaney and Cottontail showings with a gravel road which joins the highway near the point where the railroad and highway swing northward. Neither of the roads are considered suitable for use in the event of work being started on the property. It has been tentatively decided that a road which starts from one of the town streets and comes up the long slope across the irrigation ditch and waterline would be most satisfactory.

CLIMATE:

The climate is not severe, the coldest months being January and February. It is reported that there is never very much snow on the south slope of the hill in the vicinity of the Cottontail and Heaney workings.

TOPOGRAPHY:

Lava Hot Springs lies in the nearly east-west trending valley of the Portneuf River. Eastward from the town the valley turns north and south, following along a zone of weakness along a fault plane. Westward from the town the valley broadens to the north and south and maintains a fairly constant width of from 1 to 2 miles to Pocatello.

The hills have smooth, uniform slopes except in a fewplaces where rock outcrops form sharp cliffs. The town of Lava Hot Springs is at an elevation of 5000 ft. on the main street. The hill on which the manganese deposits occur rises to an elevation of 6178 feet.

The soil consists of weathered limestone with angular fragments of quartzite and chert. In wet weather the fine limestone makes the roads very slippery.

TIMBER-WATER:

A logging company is working in the Dempsey Creek area which lies south and west of Lava Hot Springs. At present they are producing plank for the Anaconda Copper Mining Co. The plank is about 3" x 10" x 8'. They put this on the siding at Lava Hot Springs for $23.00/M. It is possible that the smaller ends of the logs could be obtained for mine timber at a lower figure.

A cooperatively owned irrigation ditch (5' wide and 1.5' deep) runs around the base of the hill at an elevation of about 5170. A 10" wooden stave flow line crosses the irrigation ditch at the point where the skid road crosses the irrigation ditch and rises to the west. The flow line supplies the water for the town.

The Portneuf River lies at an elevation of about 5000' at a point below the manganese deposits. The latter are at an elevation of 5553'. The river is about 20 to 50 feet wide and from 2 to 10 feet deep at this point.

GENERAL GEOLOGY:

A narrow lava flow follows the Portneuf River from a point northeast of Lava Hot Springs to Pocatello. The hot springs of the district are located near the lava flow and are never more than a few feet from the channel of the river. These hot springs have been responsible for the deposition of large amounts of calcareous tufa in the valley along the river channel. Subsequently the river has cut through the tufa to lower levels. At frequent intervals the river bottom has a terraced effect from calcareous tufa which is being deposited at present. No rock, similar to the tufa, has been found by us at any other place than in the river channel or very close to it.

The sedimentary rocks which occur in the area are quartzites and limestone. Fossils occuring in the limestone indicate that it is early Paleozoic in age and probably Ordovician or Silurian.

Quartzite is the lowest sedimentary formation which appears in the area. In the lowest beds exposed, the quartzite is thick-bedded and varies from white, through buff to reddish-brown in color. In the upper beds some brecciated areas appear. In the brecciated areas the quartzite has been recemented by brown to reddish brown silica. At the top of the beds the quartzite grades from a limey quartzite to a siliceous sandstone.

The rock described in the paragraph above has been called quartzite because of its appearance in the field. It is a good field term for the rock. However, the unmetamorphosed nature of the limestone suggests that the quartzite may have been deposited in part chemically and in part are silicified sandstones.

The limestones have a uniform grey color and are fine-grained. Near the bottom the limestone beds have many lenses and nodules of black chert. Frequently this chert shows a dendritic film of manganese-oxide. The cherty member of the limestone is three to four hundred feet thick. Above the cherty member the limestone becomes sandy and shows a pitted surface on weathering. The sandy limestone is very impure.

GENERAL GEOLOGY Continued:

Faulting is a prominent feature of the area. The most important faults have a NW-SE strike and probably dip to the west. As shown on the map, one fault crosses through the saddle between the Vanna and Cottontail workings; another fault lies in the valley on the east side of the map and is responsible for the valley swinging to north and south from its east-west trend.

The faulting has caused a displacement of the manganiferous horizons in the limestone. It is believed that the Cottontail and Heaney working are on the same horizon as the Winne and that the Vanna horizon has been uplifted and eroded from the east side of the fault. Some evidence of strain appears in the ore zones at the Vanna. The strain shows up as slickensiding in some of the slayey formations, in the form of broken bedding in some of the sandy material and possibly in the tilted attitude of the east end of the Vanna ore body.

Outcrops of an angular breccia of chert fragments, cemented by finely divided rock material, mark the trend of the fault on surface. In the tunnels across the valley from the Vanna workings a fault appears. A drift has been driven along the fault plane and cross-cuts driven from the drift westward into the quartzites. Very little drag or deformation to bedding appears in these cross-cuts as the fault is approached.

MINERAL DEPOSITS:

The manganese ores at the Vanna workings occur in an impure bed or lens in the limestone. This bed or lens consists of rounded fragments of sandy grey limestone from the size of pebbles up to the size of cobblestones and in a few cases boulders. In the interstices between these limestone fragments are patches of unconsolidated sand, ferruginous clay and limonite with some calcium carbonate and silica. Wad and psilomelane occur in the interstices between the limestone fragments in the bed, as streaks in the unconsolidated sand and as botryoidal coatings on fragments. In the latter case it is often intimately associated with calcium-carbonate and silica.

Most of the ore mined from the Vanna workings has been wad with a small amount of psilomelane. From a study of the mine workings it appears that the wad occurred in the interstices as a core, surrounded by a narrow zone of psilomelane which was deposited on the fragments.

Two or three cars of ore were mined from the workings opened by the Cottontail shaft. The ore is impure wad averaging from [illegible]% to 28% Mn. It occurs as lenses and streaks in unconsolidated sandy material in the limestone.

Two tunnels on the Winne showing have small amounts of psilomelane in limonitic lenses in cherty limestone. The limestone. The limestone here always shows thin beds of unconsolidated sandy material between the beds of limestone.

The most recent work was done at a point on the map called Heaney's high grade. A little ore was shipped from here and there are about four or five tons of ore on the dump at the present time. A representative sample of this dump, neglecting ferruginous material which could be easily picked out, showed 35.4% Mn. The ore is chiefly psilomelane and occurs as small nodules in the sandy grey limestone and as lenses in unconsolidated sandy, calcareous material in the limestone. The lenses of ore are smaller but have hard, massive, psilomelane of much higher grade and more satisfactory qualities as regards size than at any of the other showings.

MINERAL DEPOSITS Continued:

On the hills north of the Fortueuf River, across the valley from the Vanna, manganese minerals occur but so far have not shown any mineable ore bodies. These occurrences are shown on the map in their approximate positions; they were not tied into the survey.

ORIGIN OF THE ORES:

During the deposition of the limestone there appears to have been a fluctuation in the cycle which resulted in a variation in the conditions under which the various sections of the limestone were laid down. The lowest manganiferous portions (Winne workings) represent a short period of erosion followed by submergence with the deposition of the fine sand, limonite and psilomelane.

The manganiferous horizon represented by the Vanna workings indicate an uplift, with a longer period of erosion, followed by submergence with deposition of the fine sand, ferruginous clay, limonite and manganese ores (probably shallow water) in and on the fragmental material resulting from erosion of the limestone. Submergence continued with continuous deposition of limestone over the clastic beds.

The Cottontail and Heany showings represent the same horizon as the Winne. The Winne horizon is also represented across the valley. Dendritic manganese-oxide on much of the chert in this horizon seems to indicate conditions of widespread manganese deposition.

At the Vanna, all underground workings are in the unconsolidated material. At no place have any of the exploration or development headings encountered consolidated limestone. (Possible exceptions are two places in the Lower Vanna tunnel where dip and strike symbols are shown). Surface outcrops are lacking along the probable strike of the unconsolidated material. For this reason it is impossible to say whether the Vanna deposits occur in a continuous, unconsolidated bed in the limestone or whether it occurs as a lens. Some evidence for a continuous bed is found in the presence of float, which consists of rounded limestone fragments cemented by calcium-carbonate and silica, along what should be the outcrop line of a bed if one exists.

If the formation in which the Vanna deposits occur is a continuous bed, the deposits themselves may be a reef or similar feature in which case the deposits would have a much longer axis parallel to the bedding. Further exploration might show a considerably longer ore bearing zone than is opened up at present.

If the formation in which the Vanna deposits occur is a lens, the deposits were probably form in a lake or similar feature and the length of the ore bearing zone is uncertain.

SAMPLING:

Thirty-seven samples, totaling 450#, were taken. These samples were split into two parts. One was assayed directly; the other sample was screened

SAMPLING: Continued

for plus and minus 20 mesh and each of these portions assayed. Assay results and screen analysis figures are shown in the lower left hand corner of the map.

CONCLUSIONS:

The persons who have mined the Vanna workings have made a clean job of extracting most of the ore opened up by their development headings. Possibly 500 to 1000 tons might be mined without further exploration. This would necessitate the re-opening of the three sections of the Upper Vanna tunnel which are now separated by caved sand lenses. The ore would probably average about 30% to 35% Mn but consistent car shipments of 35% Mn would be impossible to maintain. The %Mn might be increased by adding some of the higher grade wad but the amount would have to be carefully manipulated to stay within the allowable limits set by the 20 mesh screen requirements.

If the specifications regarding manganese ores (Metals Reserve Co. May 6th, 1943) are ever changed so that car shipments averaging 35% Mn would be accepted, or car shipments down to say 25% Mn would be accepted at a price sufficient to warrant mining, then some exploration work is necessary. This work could be done while some ore was being produced from the Upper Vanna workings. Exploration work should consist of cross-cuts to be driven east from the lower Vanna tunnel at suitable intervals. From these cross-cuts raises should be driven to intersect the ore above the cross-cuts. If this work proved continuity and grade for the ore, several working places would be available immediately for production.

The Cottontail and Minna showings are too low grade and too small respectively to worry about at the present time. The Heaney showing warrants more work in the way of exploration. Much of the surface in the vicinity of the Heaney showing should be stripped, hand drilled and blasted to determine whether the lens, which now shows in the tunnel, has any size. If the Heaney showing developed even a small amount of ore, the physical qualities of the ore would probably help the Vanna ores as regards screen size.

SUMMARY OF ORE SHIPMENTS:

According to Miller, one of the owners of the property, a total of about 100 railroad cars of ore have been shipped from the property. He estimated the tonnage at something between 4000 and 5000 tons. Of this tonnage shipped, the following represents the amount for which settlement sheets were available.

SUMMARY OF ORE SHIPMENTS - Continued

ORE SHIPPED BY WICKHAM

Date	Net Tons	% Moisture	%Insol.	%Mn	% S	% Zn
10-30-28	44.10	12.15	14.80	34.40	Tr.	None
11-12-28	48.40	14.10	15.60	33.80	0.05	"
12-17-28	40.59	15.00	17.80	33.60	0.05	"
10-11-29	55.28	12.40	9.20	36.90	0.05	"
10-31-29	57.98	14.08	7.00	40.50	0.08	"
11-30-29	54.08	15.10	11.40	34.90	0.07	"
12-24-29	27.18	15.35	10.16	34.80	Tr.	"
6-30-30	61.37	13.40	11.70	34.30	0.05	"
7-29-30	61.01	10.98	10.80	36.79	0.04	"
Weighted Average =	444.79 tons	13.59	11.74	35.58	0.04	None

ORE SHIPPED BY LAVA MANGANESE SALES COMPANY

Date	Net Tons	%S	% Moisture	% Mn	%Fe	% CaO	%MgO	%SiO2	%Al2O3	%P
11-29-39	31.26	0.01	10.10	38.70	7.80	Tr.	1.00	10.40	1.80	0.11
12-11-39	53.22	0.01	10.40	39.60	7.70	Tr.	1.70	9.40	1.50	0.09
1- 5-40	46.70	0.01	21.00	34.00	10.40	1.56	0.30	10.10	1.66	0.12
1-23-40	50.50	0.08	15.60	37.00	11.80	8.56	0.80	8.10#	1.40#	0.15#
2-14-40	47.31	0.01	18.50	38.80	10.80	Tr.	0.90	6.20	1.60	0.19
3-18-40	40.13	0.02	19.00	38.40	10.00	Tr#	0.60#	8.50#	1.20#	0.18
3-30-40	44.30	0.02	22.00	39.60	10.00	Tr	0.70	6.40	0.80	0.20
Weighted average	313.42	0.01	17.30	38.28	9.84	1.59	0.90	8.09	1.41	0.14

#denotes average between shipment before and shipment after-assays were not present for these.

DATA ON WICKHAMS SHIPMENTS

Average base price received	$13.28 per ton	
Average charge for crushing and sampling	0.35 per ton	No data on labor
Freight	2.25 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production	2.05 tons per day	

DATA ON SHIPMENTS BY LAVA MANGANESE SALES COMPANY

Average base price received	$11.38 per ton	
Freight	2.48 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production . . .	2.80 tons per day	

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1789X

Date received 7-2-51

Participation

J. R. SIMPLOT COMPANY
P. O. BOX 912
POCATELLO, IDAHO

Name and address of applicant

Date May 31, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951

Estimated cost $ 43,000.00

Mineral or metal Manganese

Percentage of Government participation 75 %

Location of mine Near Lava Hot Springs, Idaho

Date of filing MF-100 None - Not in operation

DMA Docket Number, if available 1789X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

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

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

J. R. Kempster Co.
(Name of company)

By John W. Dahl
(Signature of authorized official)

May 31, 1951
(Date)

Secretary
(Title)

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

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

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

---

1. Corporation

2. Not applicable

3. Officers

J. R. Simplot, President - 1500 Harrison Blvd., Boise, Idaho
W. Grant Kilbourne, Vice President - 111 Crestline Drive, Boise, Idaho
Leon C. Jones, Vice President - 384 Everett St. Caldwell, Idaho
J. Dahl, Sec. - Treas. - 5426 Meadow Drive, Boise, Idaho

Directors

J. R. Simplot
Ruby A. Simplot
Leon C. Jones

Stockholders

J. R. Simplot
Ruby A. Simplot
Scott Robert Simplot
Gay Corine Simplot
Don John Simplot
Richard Simplot

4. Operating Company is at the present mining the following ores:

Phosphate - 4,000 tons day basis
Fluorspar - 100 tons day basis
Barite - 10,000 tons annually
Uranium (Carnotite) - 300 tons per month

Applicant is well known in the mining industry. Mine management is under the direction of Mr. Geo. A. McHugh, Mine Manager, and Mr. Charles A. Lee, Geologist.

5. Leases

6. Not applicable

7. Lease is now in hands of attorneys for pruposes of final drafting - Copies will be available upon request.

8. Attached

9. $10,780.00, yes.

10. Section 21 and 22, Township 9, Range 38 E. of Boise Meridian, County of Bannock, State of Idaho.

11. No present name, formerly known as Lava Manganese Sales Company, the previous operators.

12. Property is located approximately one mile east of Lava Hot Springs, State of Idaho, County of Bannock. Approximately 3 miles of access roads to be constructed or improved. Shipping point, Lava Hot Springs, via Union Pacific Railroad.

13. Portneuf River nearby would supply ample year around water and sufficient power could be obtained from nearby high voltage lines.

14. None

15. Ore could be loaded on trucks and hauled a distance of approximately 3 miles on roads to be constructed or improved to the rail point, at Lava Hot Springs. Ore believed to be of high enough quality which would not necessitate milling.

16. See attached report

17. Not in production

18. See attached report

19. None

20. Manganese Oxides

21. Proposed program to consist of cutting approximately 25 trenches, construction of 3 miles access road, and diamond drilling of 2,500 ft. This entire program to be accomplished in four month's time.

22. Previous production indicates ore is present. For details see attached report.

23-a	None	
b	One Manager (part time)	$1,600.00
	One Resident Engineer	1,800.00
	One Junior Engineer	1,200.00
	One Assayer (Part Time)	800.00
c	None	
d	Three (3) miles of access roads @ $2,000.00 per mile	6,000.00
e	One pickup truck	1,800.00
	One Jeep	1,800.00
f	One D-8 Tractor with which to dig trenches 25 days @ $100.00 per day. Rental includes all supplies for tractor and operator's wages	2,500.00
	Diamond Drilling of 2,500 ft. to be contracted, 2500 ft. @ $7.00 per ft.	17,500.00
g	None	
h	Approximately $2,000.00 per month would cover all supplies and expenses of personnel	8,000.00
i	To be furnished by Contractor	
	Total estimated Cost	$43,000.00

24. Trenching could be completed in first month. Road construction and diamond drilling to be carried on simultaneously in the following three months. Money spent first month would be approximately $9,500.00 with the balance spread nearly equally for the remaining three months.

STATEMENT OF FINANCIAL CONDITION

J. R. Simplot Company
December 31, 1950

ASSETS

Current Assets		
Cash		
Notes and accounts receivable	$ 717,291.99	
Less: Allowance for doubtful	15,384.76	701,907.23
Inventories:		
Finished goods	$ 852,253.91	
Raw materials	202,233.53	
Manufacturing supplies	194,408.60	1,248,896.04
Total Current Assets		$1,941,514.93
Due from Affiliates		248,438.88
Investments and Other Assets		124,819.60
Property, Plant & Equipment	$4,385,993.21	
Less: Allowance for depreciation	1,970,491.72	2,415,501.49
Deferred Charges		20,798.90
Total		$4,751,073.80

LIABILITIES

Current Liabilities		
Notes & contracts payable:		
To Banks	$ 659,599.53	
To Others	88,750.92	$ 748,350.45
Accounts payable		199,934.14
Accrued expenses		101,969.74
Reserve for taxes on income:		
Prior year	$ 2,258.96	
Current year - estimated	110,000.00	112,258.96
Total Current Liabilities		$1,162,513.29
Due to Affiliates		341,036.86
Other Liabilities		
Mortgages and contracts payable	$ 661,198.27	
Accounts payable	157,697.32	
Contingency reserve	26,000.00	844,895.59
Capital Stock and Surplus		
Capital Stock - authorized & issued	$ 50,000.00	
Surplus	2,449,387.81	
	$2,499,387.81	
Deduct: Cost of Treasury Stock	96,759.75	2,402,628.06
Total		$4,751,073.80

John M. Dahl
Treas.

STATEMENT OF FINANCIAL CONDITION

J. R. Simplot Company
December 31, 1950

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John M. Dahl
Treas.

ANALYSIS OF SURPLUS

J. R. Simplot Company
Period of ten months ended December 31, 1950

Paid-in Surplus			$ 288,736.21
Earned Surplus			
Balance at March 1, 1950		$1,963,131.26	
Add:			
Profit for ten months ended December 31, 1950	$307,520.34		
Provison for income taxes	110,000.00		
Net Profit		197,520.34	
Earned Surplus - Balance at December 31, 1950			2,160,651.60
Total Surplus - Balance at December 31, 1950			$2,449,387.81

SUMMARY OF INCOME & EXPENSE

J. R. Simplot Company
Ten months ended December 31, 1950

Net Sales	$5,585,362.25
Cost of Sales	4,595,029.45
Gross Profit	$ 990,332.80
General & Sales expense	202,171.42
Operating Profit	$ 788,161.38
Deduct:	
Depreciation	$ 307,319.63
Interest	53,349.84
	$ 360,669.47
	$ 427,491.91
Other expenses - net	[illegible]
Profit before income taxes	$ 307,520.34
Provision for taxes on income	110,000.00
Net profit	$ 197,520.34

Written in 1942

REPORT ON MANGANESE DEPOSIT
Lava Hot Springs, Idaho

LOCATION:

The deposits are located in Bannock Co., 42 miles southeast of the town of Pocatello in the state of Idaho. Bannock Co. is in the southeast corner of the state. The deposits are located about 3/4 mile east of the town of Lava Hot Springs.

ACCESS:

The town of Lava Hot Springs is located on the main line of the Union Pacific Railroad. The town lies about one-quarter mile south of highway U. S. 30 N. A road branches south from the main highway about one-quarter mile east of the town, goes through Lava Hot Springs and rejoins the highway about one-half mile east of town.

Two roads connect the manganese deposits and the highway at the present time. As shown on the map, a skid road connects the Vanza and Winnie claims with the highway. On the south side of the hill, a fair wagon road connects the Heaney and Cottontail showings with a gravel road which joins the highway near the point where the railroad and highway swing northward. Neither of the roads are considered suitable for use in the event of work being started on the property. It has been tentatively decided that a road which starts from one of the town streets and comes up the long slope across the irrigation ditch and waterline would be most satisfactory.

CLIMATE:

The climate is not severe, the coldest months being January and February. It is reported that there is never very much snow on the south slope of the hill in the vicinity of the Cottontail and Heaney workings.

TOPOGRAPHY:

Lava Hot Springs lies in the nearly east-west trending valley of the Portneuf River. Eastward from the town the valley turns north and south, following along a zone of weakness along a fault plane. Westward from the town the valley broadens to the north and south and maintains a fairly constant width of from 1 to 2 miles to Pocatello.

The hills have smooth, uniform slopes except in a fewplaces where rock outcrops form sharp cliffs. The town of Lava Hot Springs is at an elevation of 5000 ft. on the main street. The hill on which the manganese deposits occur rises to an elevation of 6178 feet.

The soil consists of weathered limestone with angular fragments of quartzite and chert. In wet weather the fine limestone makes the roads very slippery.

TIMBER-WATER:

A logging company is working in the Dempsey Creek area which lies south and west of Lava Hot Springs. At present they are producing plank for the Anaconda Copper Mining Co. The plank is about 3" x 10" x 5'. They put this on the siding at Lava Hot Springs for $25.00/M. It is possible that the smaller ends of the logs could be obtained for mine timber at a lower figure.

A cooperatively owned irrigation ditch (5' wide and 1.5' deep) runs around the base of the hill at an elevation of about 5170. A 10" wooden stave flow line crosses the irrigation ditch at the point where the skid road crosses the irrigation ditch and rises to the west. The flow line supplies the water for the town.

The Portneuf River lies at an elevation of about 5000' at a point below the manganese deposits. The latter are at an elevation of 5558'. The river is about 20 to 30 feet wide and from 8 to 10 feet deep at this point.

GENERAL GEOLOGY:

A narrow Lava flow follows the Portneuf River from a point northeast of Lava Hot Springs to Pocatello. The hot springs of the district are located near the lava flow and are never more than a few feet from the channel of the river. These hot springs have been responsible for the deposition of large amounts of calcareous tufa in the valley along the river channel. Subsequently the river has cut through the tufa to lower levels. At frequent intervals the river bottom has a terraced effect from calcareous tufa which is being deposited at present. No rock, similar to the tufa, has been found by us at any other place than in the river channel or very close to it.

The sedimentary rocks which occur in the area are quartzites and limestone. Fossils occuring in the limestone indicate that it is early Paleozoic in age and probably Ordovician or Silurian.

Quartzite is the lowest sedimentary formation which appears in the area. In the lowest beds exposed, the quartzite is thick-bedded and varies from white, through buff to reddish-brown in color. In the upper beds some brecciated areas appear. In the brecciated areas the quartzite has been resemented by brown to reddish brown silica. At the top of the beds the quartzite grades from a limey quartzite to a siliceous sandstone.

The rock described in the paragraph above has been called quartzite because of its appearance in the field. It is a good field term for the rock. However, the unmetamorphosed nature of the limestone suggests that the quartzite may have been deposited in part chemically and in part are silicified sandstones.

The limestones have a uniform grey color and are fine-grained. Near the bottom the limestone beds have many lenses and nodules of black chert. Frequently this chert shows a dendritic film of manganese-oxide. The cherty member of the limestone is three to four hundred feet thick. Above the cherty member the limestone becomes sandy and shows a pitted surface on weathering. The sandy limestone is very impure.

GENERAL GEOLOGY Continued:

Faulting is a prominent feature of the area. The most important faults have a NW-SE strike and probably dip to the west. As shown on the map, one fault crosses through the saddle between the Vanna and Cottontail workings; another fault lies in the valley on the east side of the map and is responsible for the valley swinging to north and south from its east-west trend.

The faulting has caused a displacement of the manganiferous horizons in the limestone. It is believed that the Cottontail and Heaney working are on the same horizon as the Winne and that the Vanna horizon has been uplifted and eroded from the east side of the fault. Some evidence of strain appears in the ore zones at the Vanna. The strain shows up as slickensiding in some of the clayey formations, in the form of broken bedding in some of the sandy material and possibly in the tilted attitude of the east end of the Vanna ore body.

Outcrops of an angular breccia of chert fragments, cemented by finely divided rock material, mark the trend of the fault on surface. In the tunnels across the valley from the Vanna workings a fault appears. A drift has been driven along the fault plane and cross-cuts driven from the drift westward into the quartzites. Very little drag or deformation to bedding appears in these cross-cuts as the fault is approached.

MINERAL DEPOSITS:

The manganese ores at the Vanna workings occur in an impure bed or lens in the limestone. This bed or lens consists of rounded fragments of sandy grey limestone from the size of pebbles up to the size of cobblestones and in a few cases boulders. In the interstices between these limestone fragments are patches of unconsolidated sand, ferruginous clay and limonite with some calcium carbonate and silica. Wad and psilomelane occur in the interstices between the limestone fragments in the bed, as streaks in the unconsolidated sand and as botryoidal coatings on fragments. In the latter case it is often intimately associated with calcium-carbonate and silica.

Most of the ore mined from the Vanna workings has been wad with a small amount of psilomelane. From a study of the mine workings it appears that the wad occurred in the interstices as a core, surrounded by a narrow zone of psilomelane which was deposited on the fragments.

Two or three cars of ore were mined from the workings opened by the Cottontail shaft. The ore is impure wad averaging from20% to 25% Mn. It occurs as lenses and streaks in unconsolidated sandy material in the limestone.

Two tunnels on the Winne showing have small amounts of psilomelane in limonitic lenses in cherty limestone. The limestone. The limestone here always shows thin beds of unconsolidated sandy material between the beds of limestone.

The most recent work was done at a point on the map called Heaney's high grade. A little ore was shipped from here and there are about four or five tons of ore on the dump at the present time. A representative sample of this dump, neglecting ferruginous material which could be easily picked out, showed 33.4% Mn. The ore is chiefly psilomelane and occurs as small nodules in the sandy grey limestone and as lenses in unconsolidated sandy, calcareous material in the limestone. The lenses of ore are smaller but have hard, massive, psilomelane of much higher grade and more satisfactory qualities as regards size than at any of the other showings.

MINERAL DEPOSITS Continued:

On the hills north of the Portneuf River, across the valley from the Vanza, manganese minerals occur but so far have not shown any mineable ore bodies. These occurrences are shown on the map in their approximate positions; they were not tied into the survey.

ORIGIN OF THE ORES:

During the deposition of the limestone there appears to have been a fluctuation in the cycle which resulted in a variation in the conditions under which the various sections of the limestone were laid down. The lowest manganiferous portions (Winne workings) represent a short period of erosion followed by submergence with the deposition of the fine sand, limonite and psilomelane.

The manganiferous horizon represented by the Vanza workings indicate an uplift, with a longer period of erosion, followed by submergence with deposition of the fine sand, ferruginous clay, limonite and manganese ores (probably shallow water) in and on the fragmental material resulting from erosion of the limestone. Submergence continued with continuous deposition of limestone over the clastic beds.

The Cottontail and Heany showings represent the same horizon as the Winne. The Winne horizon is also represented across the valley. Dendritic manganese-oxide on much of the chert in this horizon seems to indicate conditions of widespread manganese deposition.

At the Vanza, all underground workings are in the unconsolidated material. At no place have any of the exploration or development headings encountered consolidated limestone. (Possible exceptions are two places in the Lower Vanza tunnel where dip and strike symbols are shown). Surface outcrops are lacking along the probable strike of the unconsolidated material. For this reason it is impossible to say whether the Vanza deposits occur in a continuous, unconsolidated bed in the limestone or whether it occurs as a lens. Some evidence for a continuous bed is found in the presence of float, which consists of rounded limestone fragments cemented by calcium-carbonate and silica, along what should be the outcrop line of a bed if one exists.

If the formation in which the Vanza deposits occur is a continuous bed, the deposits themselves may be a reef or similar feature in which case the deposits would have a much longer axis parallel to the bedding. Further exploration might show a considerably longer ore bearing zone than is opened up at present.

If the formation in which the vanza deposits occur is a lens, the deposits were probably form in a lake or similar feature and the length of the ore bearing zone is uncertain.

SAMPLING:

Thirty-seven samples, totaling 450#, were taken. These samples were split into two parts. One was assayed directly; the other sample was screened

SAMPLING: Continued

for plus and minus 20 mesh and each of these portions assayed. Assay results and screen analysis figures are shown in the lower left hand corner of the map.

CONCLUSIONS:

The persons who have mined the Vanza workings have made a clean job of extracting most of the ore opened up by their development headings. Possibly 500 to 1000 tons might be mined without further exploration. This would necessitate the re-opening of the three sections of the Upper Vanza tunnel which are now separated by caved sand lenses. The ore would probably average about 30% to 38% Mn but consistent car shipments of 35% Mn would be impossible to maintain. The Mn might be increased by adding some of the higher grade wad but the amount would have to be carefully manipulated to stay within the allowable limits set by the 20 mesh screen requirements.

If the specifications regarding manganese ores (Metals Reserve Co. May 4th, 1942) are ever changed so that car shipments averaging 35% Mn would be accepted, or car shipments down to say 28% Mn would be accepted at a price sufficient to warrant mining, then some exploration work is necessary. This work could be done while some ore was being produced from the Upper Vanza workings. Exploration work should consist of cross-cuts to be driven east from the lower Vanza tunnel at suitable intervals. From these cross-cuts raises should be driven to intersect the ore above the cross-cuts. If this work proved continuity and grade for the ore, several working places would be available immediately for production.

The Cottontail and Winne showings are too low grade and too small respectively to worry about at the present time. The Heaney showing warrants more work in the way of exploration. Much of the surface in the vicinity of the Heaney showing should be stripped, hand drilled and blasted to determine whether the lens, which now shows in the tunnel, has any size. If the Heaney showing developed even a small amount of ore, the physical qualities of the ore would probably help the Vanza ores as regards screen size.

SUMMARY OF ORE SHIPMENTS:

According to Miller, one of the owners of the property, a total of about 190 railroad cars of ore have been shipped from the property. He estimated the tonnage at something between 4000 and 5000 tons. Of this tonnage shipped, the following represents the amount for which settlement sheets were available.

SUMMARY OF ORE SHIPMENTS - Continued

ORE SHIPPED BY WICKHAM

Date	Net Tons	% Moisture	%Insol.	%Mn	% S	% Zn
10-30-28	44.10	12.15	14.80	34.40	Tr.	None
11-12-28	43.40	14.10	15.60	33.60	0.05	"
12-17-28	40.39	18.00	17.80	33.60	0.05	"
10-11-29	55.28	12.40	9.20	36.90	0.05	"
10-31-29	57.98	14.08	7.00	40.50	0.05	"
11-30-29	54.08	15.10	11.40	34.80	0.07	"
12-24-29	27.18	15.35	10.16	34.80	Tr.	"
6-30-30	61.37	12.40	11.70	34.30	0.05	"
7-29-30	61.01	10.95	10.80	35.70	0.04	"
Weighted Average =	444.79 tons	13.59	11.74	35.59	0.04	None

ORE SHIPPED BY LAVA MANGANESE SALES COMPANY

Date	Net Tons	%S	% Moisture	% Mn	%Fe	% CaO	%MgO	%SiO2	%Al_2O_3	%P
11-29-39	51.26	0.01	10.10	38.70	7.60	Tr.	1.00	10.40	1.90	0.11
12-11-39	53.22	0.01	10.40	39.60	7.70	Tr.	1.70	9.40	1.80	0.09
1- 5-40	46.70	0.01	21.00	34.00	10.40	1.50	0.30	10.10	1.60	0.12
1-23-40	50.50	0.05	18.60	37.00	11.80	8.50	0.80	8.10#	1.60#	0.15#
2-14-40	47.31	0.01	18.50	38.80	10.60	Tr.	0.90	6.20	1.60	0.19
3-18-40	40.13	0.02	19.00	38.40	10.00	Tr#	0.80#	6.30#	1.20#	0.10
3-30-40	44.30	0.02	22.00	39.60	10.00	Tr	0.70	6.40	0.80	0.20
Weighted average	313.42	0.01	17.30	38.28	9.84	1.59	0.90	8.09	1.41	0.14

#denotes average between shipment before and shipment after-assays were not present for these.

DATA ON WICKHAMS SHIPMENTS

Average base price received	$13.28 per ton	
Average charge for crushing and sampling	0.35 per ton	No data on labor
Freight	2.25 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production	2.05 tons per day	

DATA ON SHIPMENTS BY LAVA MANGANESE SALES COMPANY

Average base price received	$11.38 per ton	
Freight	2.48 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production . . .	2.80 tons per day	

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1789X

Date received 7-2-51

Participation

J. R. SIMPLOT COMPANY
P. O. BOX 912
POCATELLO, IDAHO

Name and address of applicant

Date May 31, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951

Estimated cost $ 43,000.00

Mineral or metal Manganese

Percentage of Government participation 75 %

Location of mine Near Lava Hot Springs, Idaho

Date of filing MF-100 None - Not in operation

DMA Docket Number, if available 1789X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

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

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

J. R. Simpson Co
(Name of company)

By John M. Paul
(Signature of authorized official)

May 31, 1951
(Date)

Secretary
(Title)

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

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

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

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1. Corporation

2. Not applicable

3. Officers

J. R. Simplot, President - 1500 Harrison Blvd., Boise, Idaho
W. Grant Kilbourne, Vice President - 111 Crestline Drive, Boise, Idaho
Leon C. Jones, Vice President - 324 Everett St. Caldwell, Idaho
J. Dahl, Sec. - Treas. - 3426 Meadow Drive, Boise, Idaho

Directors

J. R. Simplot
Ruby A. Simplot
Leon C. Jones

Stockholders

J. R. Simplot
Ruby A. Simplot
Scott Robert Simplot
Gay Corine Simplot
Don John Simplot
Richard Simplot

4. Operating Company is at the present mining the following ores:

Phosphate - 4,000 tons day basis
Fluorspar - 100 tons day basis
Barite -10,000 tons annually
Uranium (Carnotite) - 300 tons per month

Applicant is well known in the mining industry. Mine management is under the direction of Mr. Geo. A. McHugh, Mine Manager, and Mr. Charles A. Lee, Geologist.

5. Lessee

6. Not applicable

7. Lease is now in hands of attorneys for pruposes of final drafting - Copies will be available upon request.

8. Attached

9. $10,750.00, yes.

10. Section 21 and 22, Tornship 9, Range 38 E. of Boise Meridian, County of Bannock, State of Idaho.

11. No present name, formerly known as Lava Manganese Sales Company, the previous operators.

12. Property is located approximately one mile east of Lava Hot Springs, State of Idaho, County of Bannock. Approximately 3 miles of access roads to be constructed or improved. Shipping point, Lava Hot Springs, via Union Pacific Railroad.

13. Portneuf River nearby would supply ample year around water and sufficient power could be obtained from nearby high voltage lines.

14. None

15. Ore could be loaded on trucks and hauled a distance of approximately 3 miles on roads to be constructed or improved to the rail point, at Lava Hot Springs. Ore believed to be of high enough quality which would not necessitate milling.

16. See attached report

17. Not in production

18. See attached report

19. None

20. Manganese Oxides

21. Proposed program to consist of cutting approximately 25 trenches, construction of 3 miles access road, and diamond drilling of 2,500 ft. This entire program to be accomplished in four month's time.

22. Previous production indicates ore is present. For details see attached report.

23-a	None	
b	One Manager (part time)	$1,600.00
	One Resident Engineer	1,800.00
	One Junior Engineer	1,200.00
	One Assayer (Part Time)	800.00
c	None	
d	Three (3) miles of access roads @ $2,000.00 per mile	6,000.00
e	One pickup truck	1,800.00
	One Jeep	1,800.00
f	One D-8 Tractor with which to dig trenches 25 days @ $100.00 per day. Rental includes all supplies for tractor and operator's wages	2,500.00
	Diamond Drilling of 2,500 ft. to be contracted, 2500 ft. @ $7.00 per ft.	17,500.00
g	None	
h	Approximately $2,000.00 per month would cover all supplies and expenses of personnel	8,000.00
i	To be furnished by Contractor	
	Total estimated Cost	$43,000.00

24. Trenching could be completed in first month. Road construction and diamond drilling to be carried on simultaneously in the following three months. Money spent first month would be approximately $9,500.00 with the balance spread nearly equally for the remaining three months.

STATEMENT OF FINANCIAL CONDITION

J. R. Simplot Company
December 31, 1950

ASSETS

Current Assets		
Cash		$ 9,[illegible]
Notes and accounts receivable	$ 717,291.99	
Less: Allowance for doubtful	15,384.76	701,907.23
Inventories:		
Finished goods	$ 852,253.91	
Raw materials	202,233.53	
Manufacturing supplies	194,408.60	1,248,896.04
Total Current Assets		$1,941,514.93
Due from Affiliates		248,438.88
Investments and Other Assets		124,819.60
Property, Plant & Equipment	$4,385,993.21	
Less: Allowance for depreciation	1,970,491.72	2,415,501.49
Deferred Charges		20,798.90
Total		$4,751,073.80

LIABILITIES

Current Liabilities		
Notes & contracts payable:		
To Banks	$ 659,599.53	
To Others	88,750.92	$ 748,350.45
Accounts payable		199,934.14
Accrued expenses		101,969.74
Reserve for taxes on income:		
Prior year	$ 2,258.96	
Current year - estimated	110,000.00	112,258.96
Total Current Liabilities		$1,162,513.29
Due to Affiliates		341,036.86
Other Liabilities		
Mortgages and contracts payable	$ 661,198.27	
Accounts payable	157,697.32	
Contingency reserve	26,000.00	844,895.59
Capital Stock and Surplus		
Capital Stock - authorized & issued	$ 50,000.00	
Surplus	2,449,387.81	
	$2,499,387.81	
Deduct: Cost of Treasury Stock	96,759.75	2,402,628.06
Total		$4,751,073.80

John M. Dahl
Treas.

ANALYSIS OF SURPLUS

J. R. Simplot Company
Period of ten months ended December 31, 1950

Paid-in Surplus			$ 288,736.21
Earned Surplus			
Balance at March 1, 1950		$1,963,131.26	
Add:			
Profit for ten months ended December 31, 1950	$307,520.34		
Provison for income taxes	110,000.00		
Net Profit		197,520.34	
Earned Surplus - Balance at December 31, 1950			2,160,651.60
Total Surplus - Balance at December 31, 1950			$2,449,387.81

SUMMARY OF INCOME & EXPENSE

J. R. Simplot Company
Ten months ended December 31, 1950

Net Sales	$5,585,362.25
Cost of Sales	4,595,029.45
Gross Profit	$ 990,332.80
General & Sales expense	202,171.42
Operating Profit	$ 788,161.38
Deduct:	
Depreciation	$ 307,319.63
Interest	53,349.84
	$ 360,669.47
	$ 427,491.91
Other expenses - net	119,971.57
Profit before income taxes	$ 307,520.34
Provision for taxes on income	110,000.00
Net profit	$ 197,520.34

Written in 1942

REPORT ON MANGANESE DEPOSIT
Lava Hot Springs, Idaho

LOCATION:

The deposits are located in Bannock Co., 42 miles southeast of the town of Pocatello in the state of Idaho. Bannock Co. is in the southeast corner of the state. The deposits are located about 3/4 mile east of the town of Lava Hot Springs.

ACCESS:

The town of Lava Hot Springs is located on the main line of the Union Pacific Railroad. The town lies about one-quarter mile south of highway U. S. 30 N. A road branches south from the main highway about one-quarter mile east of the town, goes through Lava Hot Springs and rejoins the highway about one-half mile east of town.

Two roads connect the manganese deposits and the highway at the present time. As shown on the map, a skid road connects the Vanza and Winnie claims with the highway. On the south side of the hill, a fair wagon road connects the Heaney and Cottontail showings with a gravel road which joins the highway near the point where the railroad and highway swing northward. Neither of the roads are considered suitable for use in the event of work being started on the property. It has been tentatively decided that a road which starts from one of the town streets and comes up the long slope across the irrigation ditch and waterline would be most satisfactory.

CLIMATE:

The climate is not severe, the coldest months being January and February. It is reported that there is never very much snow on the south slope of the hill in the vicinity of the Cottontail and Heaney workings.

TOPOGRAPHY:

Lava Hot Springs lies in the nearly east-west trending valley of the Portneuf River. Eastward from the town the valley turns north and south, following along a zone of weakness along a fault plane. Westward from the town the valley broadens to the north and south and maintains a fairly constant width of from 1 to 2 miles to Pocatello.

The hills have smooth, uniform slopes except in a fewplaces where rock outcrops form sharp cliffs. The town of Lava Hot Springs is at an elevation of 5000 ft. on the main street. The hill on which the manganese deposits occur rises to an elevation of 6178 feet.

The soil consists of weathered limestone with angular fragments of quartzite and chert. In wet weather the fine limestone makes the roads very slippery.

TIMBER-WATER:

A logging company is working in the Dempsey Creek area which lies south and west of Lava Hot Springs. At present they are producing plank for the Anaconda Copper Mining Co. The plank is about 3" x 10" x 5'. They put this on the siding at Lava Hot Springs for $25.00/M. It is possible that the smaller ends of the logs could be obtained for mine timber at a lower figure.

A cooperatively owned irrigation ditch (5' wide and 1.5' deep) runs around the base of the hill at an elevation of about 5170. A 10" wooden stave flow line crosses the irrigation ditch at the point where the skid road crosses the irrigation ditch and rises to the west. The flow line supplies the water for the town.

The Portneuf River lies at an elevation of about 5000' at a point below the manganese deposits. The latter are at an elevation of 5538'. The river is about 20 to 30 feet wide and from 8 to 10 feet deep at this point.

GENERAL GEOLOGY:

A narrow Lava flow follows the Portneuf River from a point northeast of Lava Hot Springs to Pocatello. The hot springs of the district are located near the Lava flow and are never more than a few feet from the channel of the river. These hot springs have been responsible for the deposition of large amounts of calcareous tufa in the valley along the river channel. Subsequently the river has cut through the tufa to lower levels. At frequent intervals the river bottom has a terraced effect from calcareous tufa which is being deposited at present. No rock, similar to the tufa, has been found by us at any other place than in the river channel or very close to it.

The sedimentary rocks which occur in the area are quartzites and limestone. Fossils occuring in the limestone indicate that it is early Paleozoic in age and probably Ordovician or Silurian.

Quartzite is the lowest sedimentary formation which appears in the area. In the lowest beds exposed, the quartzite is thich-bedded and varies from white, through buff to reddish-brown in color. In the upper beds some brecciated areas appear. In the brecciated areas the quartzite has been recemented by brown to reddish brown silica. At the top of the beds the quartzite grades from a limey quartzite to a siliceous sandstone.

The rock described in the paragraph above has been called quartzite because of its appearance in the field. It is a good field term for the rock. However, the unmetamorphosed nature of the limestone suggests that the quartzite may have been deposited in part chemically and in part are silicified sandstones.

The limestones have a uniform grey color and are fine-grained. Near the bottom the limestone beds have many lenses and nodules of black chert. Frequently this chert shows a dendritic film of manganese-oxide. The cherty member of the limestone is three to four hundred feet thick. Above the cherty member the limestone becomes sandy and shows a pitted surface on weathering. The sandy limestone is very impure.

GENERAL GEOLOGY Continued:

Faulting is a prominent feature of the area. The most important faults have a NW-SE strike and probably dip to the west. As shown on the map, one fault crosses through the saddle between the Vanza and Cottontail workings; another fault lies in the valley on the east side of the map and is responsible for the valley swinging to north and south from its east-west trend.

The faulting has caused a displacement of the manganiferous horizons in the limestone. It is believed that the Cottontail and Heaney working are on the same horizon as the Winne and that the Vanza horizon has been uplifted and eroded from the east side of the fault. Some evidence of strain appears in the ore zones at the Vanza. The strain shows up as slickensiding in some of the clayey formations, in the form of broken bedding in some of the sandy material and possibly in the tilted attitude of the east end of the Vanza ore body.

Outcrops of an angular breccia of chert fragments, cemented by finely divided rock material, mark the trend of the fault on surface. In the tunnels across the valley from the Vanza workings a fault appears. A drift has been driven along the fault plane and cross-cuts driven from the drift westward into the quartzites. Very little drag or deformation to bedding appears in these cross-cuts as the fault is approached.

MINERAL DEPOSITS:

The manganese ores at the Vanza workings occur in an impure bed or lens in the limestone. This bed or lens consists of rounded fragments of sandy grey limestone from the size of pebbles up to the size of cobblestones and in a few cases boulders. In the interstices between these limestone fragments are patches of unconsolidated sand, ferruginous clay and limonite with some calcium carbonate and silica. Wad and psilomelane occur in the interstices between the limestone fragments in the bed, as streaks in the unconsolidated sand and as botryoidal coatings on fragments. In the latter case it is often intimately associated with calcium-carbonate and silica.

Most of the ore mined from the Vanza workings has been wad with a small amount of psilomelane. From a study of the mine workings it appears that the wad occurred in the interstices as a core, surrounded by a narrow zone of psilomelane which was deposited on the fragments.

Two or three cars of ore were mined from the workings opened by the Cottontail shaft. The ore is impure wad averaging from20% to 25% Mn. It occurs as lenses and streaks in unconsolidated sandy material in the limestone.

Two tunnels on the Winne showing have small amounts of psilomelane in limonitic lenses in cherty limestone. The limestone. The limestone here always shows thin beds of unconsolidated sandy material between the beds of limestone.

The most recent work was done at a point on the map called Heaney's high grade. A little ore was shipped from here and there are about four or five tons of ore on the dump at the present time. A representative sample of this dump, neglecting ferruginous material which could be easily picked out, showed 33.4% Mn. The ore is chiefly psilomelane and occurs as small nodules in the sandy grey limestone and as lenses in unconsolidated sandy, calcareous material in the limestone. The lenses of ore are smaller but have hard, massive, psilomelane of much higher grade and more satisfactory qualities as regards size than at any of the other showings.

MINERAL DEPOSITS Continued:

On the hills north of the Portneuf River, across the valley from the Vanza, manganese minerals occur but so far have not shown any mineable ore bodies. These occurrences are shown on the map in their approximate positions; they were not tied into the survey.

ORIGIN OF THE ORES:

During the deposition of the limestone there appears to have been a fluctuation in the cycle which resulted in a variation in the conditions under which the various sections of the limestone were laid down. The lowest manganiferous portions (Winne workings) represent a short period of erosion followed by submergence with the deposition of the fine sand, limonite and psilomelane.

The manganiferous horizon represented by the Vanza workings indicate an uplift, with a longer period of erosion, followed by submergence with deposition of the fine sand, ferruginous clay, limonite and manganese ores (probably shallow water) in and on the fragmental material resulting from erosion of the limestone. Submergence continued with continuous deposition of limestone over the clastic beds.

The Cottontail and Heany showings represent the same horizon as the Winne. The Winne horizon is also represented across the valley. Dendritic manganese-oxide on much of the chert in this horizon seems to indicate conditions of widespread manganese deposition.

At the Vanza, all underground workings are in the unconsolidated material. At no place have any of the exploration or development headings encountered consolidated limestone. (Possible exceptions are two places in the Lower Vanza tunnel where dip and strike symbols are shown). Surface outcrops are lacking along the probable strike of the unconsolidated material. For this reason it is impossible to say whether the Vanza deposits occur in a continuous, unconsolidated bed in the limestone or whether it occurs as a lens. Some evidence for a continuous bed is found in the presence of float, which consists of rounded limestone fragments cemented by calcium-carbonate and silica, along what should be the outcrop line of a bed if one exists.

If the formation in which the Vanza deposits occur is a continuous bed, the deposits themselves may be a reef or similar feature in which case the deposits would have a much longer axis parallel to the bedding. Further exploration might show a considerably longer ore bearing zone than is opened up at present.

If the formation in which the vanza deposits occur is a lens, the deposits were probably form in a lake or similar feature and the length of the ore bearing zone is uncertain.

SAMPLING:

Thirty-seven samples, totaling 450#, were taken. These samples were split into two parts. One was assayed directly; the other sample was screened

SAMPLING: Continued

for plus and minus 20 mesh and each of these portions assayed. Assay results and screen analysis figures are shown in the lower left hand corner of the map.

CONCLUSIONS:

The persons who have mined the Vanza workings have made a clean job of extracting most of the ore opened up by their development headings. Possibly 500 to 1000 tons might be mined without further exploration. This would necessitate the re-opening of the three sections of the Upper Vanza tunnel which are now separated by caved sand lenses. The ore would probably average about 30% to 35% Mn but consistent car shipments of 35% Mn would be impossible to maintain. The %Mn might be increased by adding some of the higher grade wad but the amount would have to be carefully manipulated to stay within the allowable limits set by the 20 mesh screen requirements.

If the specifications regarding manganese ores (Metals Reserve Co. May 4th, 1942) are ever changed so that car shipments averaging 35% Mn would be accepted, or car shipments down to say 25% Mn would be accepted at a price sufficient to warrant mining, then some exploration work is necessary. This work could be done while some ore was being produced from the Upper Vanza workings. Exploration work should consist of cross-cuts to be driven east from the lower Vanza tunnel at suitable intervals. From these cross-cuts raises should be driven to intersect the ore above the cross-cuts. If this work proved continuity and grade for the ore, several working places would be available immediately for production.

The Cottontail and Winne showings are too low grade and too small respectively to worry about at the present time. The Heaney showing warrants more work in the way of exploration. Much of the surface in the vicinity of the Heaney showing should be stripped, hand drilled and blasted to determine whether the lens, which now shows in the tunnel, has any size. If the Heaney showing developed even a small amount of ore, the physical qualities of the ore would probably help the Vanza ores as regards screen size.

SUMMARY OF ORE SHIPMENTS:

According to Miller, one of the owners of the property, a total of about 100 railroad cars of ore have been shipped from the property. He estimated the tonnage at something between 4000 and 5000 tons. Of this tonnage shipped, the following represents the amount for which settlement sheets were available.

SUMMARY OF ORE SHIPMENTS - Continued

ORE SHIPPED BY WICKHAM

Date	Net Tons	% Moisture	%Insol.	%Mn	% S	% Zn
10-30-28	44.10	12.15	14.80	34.40	Tr.	None
11-12-28	43.40	14.10	15.60	33.60	0.05	"
12-17-28	40.39	18.00	17.50	33.60	0.05	"
10-11-29	55.28	12.40	9.20	36.90	0.05	"
10-31-29	57.98	14.00	7.00	40.50	0.03	"
11-30-29	54.08	15.10	11.40	34.80	0.07	"
12-24-29	27.18	15.35	10.16	34.80	Tr.	"
6-30-30	61.37	12.40	11.70	34.30	0.05	"
7-29-30	61.01	10.95	10.80	35.70	0.04	"
Weighted Average =	444.79 tons	13.59	11.74	35.59	0.04	None

ORE SHIPPED BY LAVA MANGANESE SALES COMPANY

Date	Net Tons	%S	% Moisture	% Mn	%Fe	% CaO	%MgO	%SiO2	%Al_2O_3	%P
11-29-39	31.26	0.01	10.10	38.70	7.60	Tr.	1.00	10.40	1.90	0.11
12-11-39	53.22	0.01	10.40	39.60	7.70	Tr.	1.70	9.40	1.30	0.09
1- 5-40	46.70	0.01	21.00	34.00	10.40	1.50	0.30	10.10	1.60	0.12
1-23-40	50.50	0.05	18.60	37.00	11.80	8.50	0.80	8.10#	1.60#	0.15#
2-14-40	47.31	0.01	18.50	38.80	10.80	Tr.	0.90	6.20	1.60	0.19
3-18-40	40.13	0.02	19.00	38.40	10.00	Tr#	0.80#	6.30#	1.20#	0.10
3-30-40	44.30	0.02	22.00	39.60	10.00	Tr	0.70	6.40	0.80	0.20
Weighted average	313.42	0.01	17.30	38.26	9.84	1.59	0.90	8.09	1.41	0.14

#denotes average between shipment before and shipment after-assays were not present for these.

DATA ON WICKHAMS SHIPMENTS

Average base price received	$13.28 per ton	
Average charge for crushing and sampling	0.35 per ton	No data on labor
Freight	2.25 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production	2.05 tons per day	

DATA ON SHIPMENTS BY LAVA MANGANESE SALES COMPANY

Average base price received	$11.38 per ton	
Freight	2.48 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production . . .	2.80 tons per day	

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1789X

Date received 7-2-51

Participation

J. R. SIMPLOT COMPANY
P. O. BOX 912
POCATELLO, IDAHO

Name and address of applicant

Date May 31, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951

Estimated cost $ 43,000.00

Mineral or metal Manganese

Percentage of Government participation 75 %

Location of mine Near Lava Hot Springs, Idaho

Date of filing MF-100 None - Not in operation

DMA Docket Number, if available 1789X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

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

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

J. C. Simpson Co
(Name of company)

By John W. Dahl
(Signature of authorized official)

May 31, 1951
(Date)

Secretary
(Title)

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

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

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

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1. Corporation

2. Not applicable

3. Officers

J. R. Simplot, President - 1500 Harrison Blvd., Boise, Idaho
W. Grant Kilbourne, Vice President, 111 Crestline Drive, Boise, Idaho
Leon C. Jones, Vice President - 524 Everett St. Caldwell, Idaho
J. Dahl, Sec. - Treas. - 3428 Meador Drive, Boise, Idaho

Directors

J. R. Simplot
Ruby A. Simplot
Leon C. Jones

Stockholders

J. R. Simplot
Ruby A. Simplot
Scott Robert Simplot
Gay Corine Simplot
Don John Simplot
Richard Simplot

4. Operating Company is at the present mining the following ores:

Phosphate - 4,000 tons day basis
Fluorspar - 150 tons day basis
Barite - 10,000 tons annually
Uranium (Carnotite) - 300 tons per month

Applicant is well known in the mining industry. Mine management is under the direction of Mr. Geo. A. McHugh, Mine Manager, and Mr. Charles A. Lee, Geologist.

5. Leases

6. Not applicable

7. Lease is now in hands of attorneys for pruposes of final drafting - Copies will be available upon request.

8. Attached

9. $15,750.00, yes.

10. Section 21 and 22, Township 9, Range 38 E. of Boise Meridian, County of Bannock, State of Idaho.

11. No present name, formerly known as Lava Manganese Sales Company, the previous operators.

12. Property is located approximately one mile east of Lava Hot Springs, State of Idaho, County of Bannock. Approximately 3 miles of access roads to be constructed or improved. Shipping point, Lava Hot Springs, via Union Pacific Railroad.

13. Portneuf River nearby would supply ample year around water and sufficient power could be obtained from nearby high voltage lines.

14. None

15. Ore could be loaded on trucks and hauled a distance of approximately 3 miles on roads to be constructed or improved to the rail point, at Lava Hot Springs. Ore believed to be of high enough quality which would not necessitate milling.

16. See attached report

17. Not in production

18. See attached report

19. None

20. Manganese Oxides

21. Proposed program to consist of cutting approximately 25 trenches, construction of 3 miles access road, and diamond drilling of 2,500 ft. This entire program to be accomplished in four month's time.

22. Previous production indicates ore is present. For details see attached report.

23-a	None	
b	One Manager (part time)	$1,600.00
	One Resident Engineer	1,800.00
	One Junior Engineer	1,200.00
	One Assayer (Part Time)	800.00
c	None	
d	Three (3) miles of access roads @ $2,000.00 per mile	6,000.00
e	One pickup truck	1,800.00
	One Jeep	1,800.00
f	One D-8 Tractor with which to dig trenches 25 days @ $100.00 per day. Rental includes all supplies for tractor and operator's wages	2,500.00
	Diamond Drilling of 2,500 ft. to be contracted, 2500 ft. @ $7.00 per ft.	17,500.00
g	None	
h	Approximately $2,000.00 per month would cover all supplies and expenses of personnel	8,000.00
i	To be furnished by Contractor	
	Total estimated Cost	$45,000.00

24. Trenching could be completed in first month. Road construction and diamond drilling to be carried on simultaneously in the following three months. Money spent first month would be approximately $9,500.00 with the balance spread nearly equally for the remaining three months.

STATEMENT OF FINANCIAL CONDITION

J. R. Simplot Company
December 31, 1950

ASSETS

Current Assets		
Cash		[illegible]
Notes and accounts receivable	$ 717,291.99	
Less: Allowance for doubtful	15,384.76	701,907.23
Inventories:		
Finished goods	$ 852,253.91	
Raw materials	202,233.53	
Manufacturing supplies	194,408.60	1,248,896.04
Total Current Assets		$1,941,514.93
Due from Affiliates		248,438.88
Investments and Other Assets		124,819.60
Property, Plant & Equipment	$4,385,993.21	
Less: Allowance for depreciation	1,970,491.72	2,415,501.49
Deferred Charges		20,798.90
Total		$4,751,073.80

LIABILITIES

Current Liabilities		
Notes & contracts payable:		
To Banks	$ 659,599.53	
To Others	88,750.92	$ 748,350.45
Accounts payable		199,934.14
Accrued expenses		101,969.74
Reserve for taxes on income:		
Prior year	$ 2,258.96	
Current year - estimated	110,000.00	112,258.96
Total Current Liabilities		$1,162,513.29
Due to Affiliates		341,036.86
Other Liabilities		
Mortgages and contracts payable	$ 661,198.27	
Accounts payable	157,697.32	
Contingency reserve	26,000.00	844,895.59
Capital Stock and Surplus		
Capital Stock - authorized & issued	$ 50,000.00	
Surplus	2,449,387.81	
	$2,499,387.81	
Deduct: Cost of Treasury Stock	96,759.75	2,402,628.06
Total		$4,751,073.80

John M. Dahl
Treas.

ANALYSIS OF SURPLUS

J. R. Simplot Company
Period of ten months ended December 31, 1950

Paid-in Surplus			$ 288,736.21
Earned Surplus			
Balance at March 1, 1950		$1,963,131.26	
Add:			
Profit for ten months ended December 31, 1950	$307,520.34		
Provison for income taxes	110,000.00		
Net Profit		197,520.34	
Earned Surplus - Balance at December 31, 1950			2,160,651.60
Total Surplus - Balance at December 31, 1950			$2,449,387.81

SUMMARY OF INCOME & EXPENSE

J. R. Simplot Company
Ten months ended December 31, 1950

Net Sales	$5,585,362.25
Cost of Sales	4,595,029.45
Gross Profit	$ 990,332.80
General & Sales expense	202,171.42
Operating Profit	$ 788,161.38
Deduct:	
Depreciation	$ 307,319.63
Interest	53,349.84
	$ 360,669.47
	$ 427,491.91
Other expenses - net	[illegible]
Profit before income taxes	$ 307,520.34
Provision for taxes on income	110,000.00
Net profit	$ 197,520.34

Written in 1942

REPORT ON MANGANESE DEPOSIT
Lava Hot Springs, Idaho

LOCATION:

The deposits are located in Bannock Co., 42 miles southeast of the town of Pocatello in the state of Idaho. Bannock Co. is in the southeast corner of the state. The deposits are located about 3/4 mile east of the town of Lava Hot Springs.

ACCESS:

The town of Lava Hot Springs is located on the main line of the Union Pacific Railroad. The town lies about one-quarter mile south of highway U. S. 30 N. A road branches south from the main highway about one-quarter mile east of the town, goes through Lava Hot Springs and rejoins the highway about one-half mile east of town.

Two roads connect the manganese deposits and the highway at the present time. As shown on the map, a skid road connects the Vanza and Winnie claims with the highway. On the south side of the hill, a fair wagon road connects the Heaney and Cottontail showings with a gravel road which joins the highway near the point where the railroad and highway swing northward. Neither of the roads are considered suitable for use in the event of work being started on the property. It has been tentatively decided that a road which starts from one of the town streets and comes up the long slope across the irrigation ditch and waterline would be most satisfactory.

CLIMATE:

The climate is not severe, the coldest months being January and February. It is reported that there is never very much snow on the south slope of the hill in the vicinity of the Cottontail and Heaney workings.

TOPOGRAPHY:

Lava Hot Springs lies in the nearly east-west trending valley of the Portneuf River. Eastward from the town the valley turns north and south, following along a zone of weakness along a fault plane. Westward from the town the valley broadens to the north and south and maintains a fairly constant width of from 1 to 2 miles to Pocatello.

The hills have smooth, uniform slopes except in a fewplaces where rock outcrops form sharp cliffs. The town of Lava Hot Springs is at an elevation of 5000 ft. on the main street. The hill on which the manganese deposits occur rises to an elevation of 6175 feet.

The soil consists of weathered limestone with angular fragments of quartzite and chert. In wet weather the fine limestone makes the roads very slippery.

TIMBER-WATER:

A logging company is working in the Dempsey Creek area which lies south and west of Lava Hot Springs. At present they are producing plank for the Anaconda Copper Mining Co. The plank is about 3" x 10" x 5'. They put this on the siding at Lava Hot Springs for $25.00/M. It is possible that the smaller ends of the logs could be obtained for mine timber at a lower figure.

A cooperatively owned irrigation ditch (5' wide and 1.5' deep) runs around the base of the hill at an elevation of about 5170. A 10" wooden stave flow line crosses the irrigation ditch at the point where the skid road crosses the irrigation ditch and rises to the west. The flow line supplies the water for the town.

The Portneuf River lies at an elevation of about 5000' at a point below the manganese deposits. The latter are at an elevation of 5558'. The river is about 20 to 30 feet wide and from 3 to 10 feet deep at this point.

GENERAL GEOLOGY:

A narrow Lava flow follows the Portneuf River from a point northeast of Lava Hot Springs to Pocatello. The hot springs of the district are located near the Lava flow and are never more than a few feet from the channel of the river. These hot springs have been responsible for the deposition of large amounts of calcareous tufa in the valley along the river channel. Subsequently the river has cut through the tufa to lower levels. At frequent intervals the river bottom has a terraced effect from calcareous tufa which is being deposited at present. No rock, similar to the tufa, has been found by us at any other place than in the river channel or very close to it.

The sedimentary rocks which occur in the area are quartzites and limestone. Fossils occuring in the limestone indicate that it is early Paleozoic in age and probably Ordovician or Silurian.

Quartzite is the lowest sedimentary formation which appears in the area. In the lowest beds exposed, the quartzite is thick-bedded and varies from white, through buff to reddish-brown in color. In the upper beds some brecciated areas appear. In the brecciated areas the quartzite has been recemented by brown to reddish brown silica. At the top of the beds the quartzite grades from a limey quartzite to a siliceous sandstone.

The rock described in the paragraph above has been called quartzite because of its appearance in the field. It is a good field term for the rock. However, the unmetamorphosed nature of the limestone suggests that the quartzite may have been deposited in part chemically and in part are silicified sandstones.

The limestones have a uniform grey color and are fine-grained. Near the bottom the limestone beds have many lenses and nodules of black chert. Frequently this chert shows a dendritic film of manganese-oxide. The cherty member of the limestone is three to four hundred feet thick. Above the cherty member the limestone becomes sandy and shows a pitted surface on weathering. The sandy limestone is very impure.

GENERAL GEOLOGY Continued:

Faulting is a prominent feature of the area. The most important faults have a NW-SE strike and probably dip to the west. As shown on the map, one fault crosses through the saddle between the Vanna and Cottontail workings; another fault lies in the valley on the east side of the map and is responsible for the valley swinging to north and south from the east-west trend.

The faulting has caused a displacement of the manganiferous horizons in the limestone. It is believed that the Cottontail and Heaney working are on the same horizon as the Winne and that the Vanna horizon has been uplifted and eroded from the east side of the fault. Some evidence of strain appears in the ore zones at the Vanna. The strain shows up as slickensiding in some of the clayey formations, in the form of broken bedding in some of the sandy material and possibly in the tilted attitude of the east end of the Vanna ore body.

Outcrops of an angular breccia of chert fragments, cemented by finely divided rock material, mark the trend of the fault on surface. In the tunnels across the valley from the Vanna workings a fault appears. A drift has been driven along the fault plane and cross-cuts driven from the drift westward into the quartzites. Very little drag or deformation to bedding appears in these cross-cuts as the fault is approached.

MINERAL DEPOSITS:

The manganese ores at the Vanna workings occur in an impure bed or lens in the limestone. This bed or lens consists of rounded fragments of sandy grey limestone from the size of pebbles up to the size of cobblestones and in a few cases boulders. In the interstices between these limestone fragments are patches of unconsolidated sand, ferruginous clay and limonite with some calcium carbonate and silica. Wad and psilomelane occur in the interstices between the limestone fragments in the bed, as streaks in the unconsolidated sand and as botryoidal coatings on fragments. In the latter case it is often intimately associated with calcium-carbonate and silica.

Most of the ore mined from the Vanna workings has been wad with a small amount of psilomelane. From a study of the mine workings it appears that the wad occurred in the interstices as a core, surrounded by a narrow zone of psilomelane which was deposited on the fragments.

Two or three cars of ore were mined from the workings opened by the Cottontail shaft. The ore is impure wad averaging from20% to 25% Mn. It occurs as lenses and streaks in unconsolidated sandy material in the limestone.

Two tunnels on the Winne showing have small amounts of psilomelane in limonitic lenses in cherty limestone. The limestone. The limestone here always shows thin beds of unconsolidated sandy material between the beds of limestone.

The most recent work was done at a point on the map called Heaney's high grade. A little ore was shipped from here and there are about four or five tons of ore on the dump at the present time. A representative sample of this dump, neglecting ferruginous material which could be easily picked out, showed 33.4% Mn. The ore is chiefly psilomelane and occurs as small nodules in the sandy grey limestone and as lenses in unconsolidated sandy, calcareous material in the limestone. The lenses of ore are smaller but have hard, massive, psilomelane of much higher grade and more satisfactory qualities as regards size than at any of the other showings.

MINERAL DEPOSITS Continued:

On the hills north of the Portneuf River, across the valley from the Vanza, manganese minerals occur but so far have not shown any mineable ore bodies. These occurrences are shown on the map in their approximate positions; they were not tied into the survey.

ORIGIN OF THE ORES:

During the deposition of the limestone there appears to have been a fluctuation in the cycle which resulted in a variation in the conditions under which the various sections of the limestone were laid down. The lowest manganiferous portions (Winne workings) represent a short period of erosion followed by submergence with the deposition of the fine sand, limonite and psilomelane.

The manganiferous horizon represented by the Vanza workings indicate an uplift, with a longer period of erosion, followed by submergence with deposition of the fine sand, ferruginous clay, limonite and manganese ores (probably shallow water) in and on the fragmental material resulting from erosion of the limestone. Submergence continued with continuous deposition of limestone over the clastic beds.

The Cottontail and Heany showings represent the same horizon as the Winne. The Winne horizon is also represented across the valley. Dendritic manganese-oxide on much of the chert in this horizon seems to indicate conditions of widespread manganese deposition.

At the Vanza, all underground workings are in the unconsolidated material. At no place have any of the exploration or development headings encountered consolidated limestone. (Possible exceptions are two places in the Lower Vanza tunnel where dip and strike symbols are shown). Surface outcrops are lacking along the probable strike of the unconsolidated material. For this reason it is impossible to say whether the Vanza deposits occur in a continuous, unconsolidated bed in the limestone or whether it occurs as a lens. Some evidence for a continuous bed is found in the presence of float, which consists of rounded limestone fragments cemented by calcium-carbonate and silica, along what should be the outcrop line of a bed if one exists.

If the formation in which the Vanza deposits occur is a continuous bed, the deposits themselves may be a reef or similar feature in which case the deposits would have a much longer axis parallel to the bedding. Further exploration might show a considerably longer ore bearing zone than is opened up at present.

If the formation in which the vanza deposits occur is a lens, the deposits were probably form in a lake or similar feature and the length of the ore bearing zone is uncertain.

SAMPLING:

Thirty-seven samples, totaling 450#, were taken. These samples were split into two parts. One was assayed directly; the other sample was screened

SAMPLING: Continued

for plus and minus 20 mesh and each of these portions assayed. Assay results and screen analysis figures are shown in the lower left hand corner of the map.

CONCLUSIONS:

The persons who have mined the Vanza workings have made a clean job of extracting most of the ore opened up by their development headings. Possibly 500 to 1000 tons might be mined without further exploration. This would necessitate the re-opening of the three sections of the Upper Vanza tunnel which are now separated by caved sand lenses. The ore would probably average about 30% to 35% Mn but consistent car shipments of 35% Mn would be impossible to maintain. The Mn might be increased by adding some of the higher grade wad but the amount would have to be carefully manipulated to stay within the allowable limits set by the 20 mesh screen requirements.

If the specifications regarding manganese ores (Metals Reserve Co. May 4th, 1942) are ever changed so that car shipments averaging 35% Mn would be accepted, or car shipments down to say 25% Mn would be accepted at a price sufficient to warrant mining, then some exploration work is necessary. This work could be done while some ore was being produced from the Upper Vanza workings. Exploration work should consist of cross-cuts to be driven east from the lower Vanza tunnel at suitable intervals. From these cross-cuts raises should be driven to intersect the ore above the cross-cuts. If this work proved continuity and grade for the ore, several working places would be available immediately for production.

The Cottontail and Winna showings are too low grade and too small respectively to worry about at the present time. The Heaney showing warrants more work in the way of exploration. Much of the surface in the vicinity of the Heaney showing should be stripped, hand drilled and blasted to determine whether the lens, which now shows in the tunnel, has any size. If the Heaney showing developed even a small amount of ore, the physical qualities of the ore would probably help the Vanza ores as regards screen size.

SUMMARY OF ORE SHIPMENTS:

According to Miller, one of the owners of the property, a total of about 100 railroad cars of ore have been shipped from the property. He estimated the tonnage at something between 4000 and 5000 tons. Of this tonnage shipped, the following represents the amount for which settlement sheets were available.

SUMMARY OF ORE SHIPMENTS - Continued

ORE SHIPPED BY WICKHAM

Date	Net Tons	% Moisture	%Insol.	%Mn	% S	% Zn
10-30-28	44.10	12.15	14.80	34.40	Tr.	None
11-12-28	43.40	14.10	15.60	33.60	0.05	"
12-17-28	40.39	18.00	17.50	33.60	0.05	"
10-11-29	55.28	12.40	9.20	36.90	0.05	"
10-31-29	57.98	14.00	7.00	40.50	0.03	"
11-30-29	54.08	15.10	11.40	34.80	0.07	"
12-24-29	27.18	15.35	10.15	34.80	Tr.	"
6-30-30	61.37	12.40	11.70	34.30	0.05	"
7-29-30	61.01	10.95	10.80	35.70	0.04	"
Weighted Average =	444.79 tons	13.59	11.74	35.59	0.04	None

ORE SHIPPED BY LAVA MANGANESE SALES COMPANY

Date	Net Tons	%S	% Moisture	% Mn	%Fe	% CaO	%MgO	%SiO2	%Al2O3	%P
11-29-39	31.26	0.01	10.10	38.70	7.60	Tr.	1.00	10.40	1.90	0.11
12-11-39	53.22	0.01	10.40	39.60	7.70	Tr.	1.70	9.40	1.30	0.09
1- 5-40	46.70	0.01	21.00	34.00	10.40	1.50	0.30	10.10	1.60	0.12
1-23-40	50.50	0.05	18.60	37.00	11.80	8.50	0.80	8.10#	1.60#	0.15#
2-14-40	47.31	0.01	18.50	38.80	10.80	Tr.	0.90	8.20	1.60	0.18
3-18-40	40.13	0.02	19.00	38.40	10.00	Tr#	0.30#	8.30#	1.20#	0.10
3-30-40	44.50	0.02	22.00	39.60	10.00	Tr	0.70	6.40	0.80	0.20
Weighted average	313.42	0.01	17.30	38.28	9.84	1.59	0.90	8.08	1.41	0.14

#denotes average between shipment before and shipment after-assays were not present for these.

DATA ON WICKHAMS SHIPMENTS

Average base price received	$13.28 per ton	
Average charge for crushing and sampling	0.35 per ton	No data on labor
Freight	2.25 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production	2.05 tons per day	

DATA ON SHIPMENTS BY LAVA MANGANESE SALES COMPANY

Average base price received	$11.39 per ton	
Freight	2.48 per ton	
Hauling at mine	1.40 per ton	
Straight royalty		10%
Average production . . .	2.80 tons per day	