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DMA Docket No. 3086

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To:	~~Oper Com~~	Date	~~9-15-53~~
To:	~~Code 400~~	Date	~~9-21-53~~
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3086-
mn.

OCT 19 1953

Mr. O. H. Griggs
Indian Valley Manganese Mines
1903 Outpost Drive
Hollywood 28, California

Re: Docket No. DMEA 3086 - Manganese
Highgrade Manganese Nos. 1 & 2 claims
Plumas County, California

Dear Mr. Griggs:

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

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

Careful study of all our information, although noting the occurrence of manganese mineralization on your property, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you thatyour application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Program and for bringing the referenced property to our attention.

Sincerely yours,

Frank E. Johnson

ACTING Administrator

FARutledge:foc
10-15-53
cc: Docket
Code 400
Admr. Reading File
FT. Reg. 3
Gilbert DeHuff, USBM
Louis Pavlides, USGS

October 15, 1953

MEMORANDUM

TO: Administrator

FROM: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $11,710.00
Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Claims, No. 1 and No. 2
Plumas County, California

The denial of the subject application by this Division is based on the following information:

1. The applicant requested exploration assistance in the sum of $11,710.00 to explore for manganese on the Highgrade Manganese claims, No. 1 and No. 2, Plumas County, California.

2. The mining claims are underlain with rocks of Carboniferous age and consist principally of slaty shales that grade into tuffaceous sandstones and lapilli-tuff with small lenses of calcareous matter intercalated. Thin beds of gray quartzite occur also, and hematitic and manganiferous jasper, derived from chert, form prominent ledges that range in width from 5 to 20 feet.

3. Manganese minerals, principally pyrolusite and braunite, associated with the ledges of hematitic jasper are widespread in seams and fractures, but only in a few spots 2 to 3 feet square do the manganese oxides appear to form more than a small percentage of the rock.

4. The workings on the property consist of two adits, several short prospect drifts, a shaft connecting No. 2 Adit level with the surface and a number of surface trenches. The No. 2 Adit alone is accessible over a distance of 200 feet to the face.

5. The following results were obtained from samples, taken in the only accessible opening on the property, and are believed to represent all of the rather limited ore reserves:

Sample No.	% Mn	% Fe	% P	% SiO_2	Description and location
1	9.5	8.55	0.019	68.60	3 ft. channel at face of No.2 Adit
2	16.1	11.35	0.077	42.60	1.2 " " " " " " " "
3	8.0	5.70	0.027	49.62	2.8 " " " " " " " "
4	13.4	19.25	0.014	42.80	7 " " " " " " " "
5	12.7	11.0	0.013	59.16	Grab of 3 tons at Portal of No.2 Adit
6	0.5	34.40	0.006	46.36	Specimen of hematitic and manganiferous jasper

6. For ore as mined the percentage of manganese as the sampling shows is too low and the iron and silica contents far exceed the specifications of acceptable ore. Also, the manganese is too closely associated with silica in seams and veinlets — to make concentration economically possible.

7. Only a small tonnage of low-grade manganiferous material high in iron and silica is indicated by the above samples. In order to make a milling operation worthwhile a large tonnage must necessarily be available. It is unlikely that large reserves of low-grade manganese rock can be developed on the Indian Valley Manganese Mines claims.

8. The Field Team of Region IV recommends denial. The Commodity Divisions of the U. S. Geological Survey and Bureau of Mines concur with the recommendation.

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

JHOPKINS:FOC
10-15-53
cc: Docket
Code 400
Admr. Reading File
Operating Comm.

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

400

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 8, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 and 2 Claims
Plumas County, California

Reference is to your letter dated July 1, 1953, requesting a review and possibly a field examination of the subject property.

The property was examined on July 21, and attached are four copies of a report entitled "DMEA-3086, Indian Valley Manganese Mines, Highgrade Manganese Nos. 1 and 2 Claims, Plumas County, California," by John D. Warne, Mining Engineer, U. S. Bureau of Mines, and J. F. Robertson, Geologist, U. S. Geological Survey, dated October 5, 1953.

The engineer and geologist are in agreement that an exploration loan on this property is not warranted as sufficient low grade ore could not be developed to warrant a beneficiation plant. They have also stated that it was doubtful that hand sorting would make a commercial grade ore and have recommended that a loan for exploration be denied. Mr. Bailey and I concur with their recommendations.

H. C. MILLER
H. C. Miller
Executive Officer
DMEA Field Team, Region III

Enclosure

Copy to: E. H. Bailey, USGS

Reviewed by
DMEA OPERATING COMMITTEE
10-16-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-3086, Indian Valley Manganese Mines

Highgrade Manganese Nos. 1 and 2 Claims

Plumas County, Calif.

John D. Warne, Mining Engineer
U. S. BUREAU OF MINES

J. F. Robertson, Geologist
U. S. GEOLOGICAL SURVEY

October 5, 1953

Reviewed by
DMEA OPERATING COMMITTEE

10-16-53
(date)

REPORT OF EXAMINATION

Docket No.: DMEA-3086 (Manganese)

Name and address of applicant: O. H. Griggs
Indian Valley Manganese Mines
1903 Outpost Drive
Hollywood 28, Calif.

Name and location of property: Highgrade Manganese Nos. 1 and 2 claims
Plumas County, Calif.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A joint examination of the Highgrade Manganese Nos. 1 and 2 claims, in connection with an application for exploration assistance, was made by an engineer of the Bureau of Mines and a geologist of the Geological Survey on July 21, 1953. Mr. S. W. Brinker represented the applicant and was present at the examination.

This property is located about four miles east of ~~Tailerville~~ Taylorsville, Plumas County, Calif.

The applicant's financial responsibility is not known; and his previous exploration work was not impressive.

The mine property is held under a lease agreement by the applicant.

Samples taken from the most favorable manganese oxide mineralized formation averaged about 12 percent manganese and a high silica and iron content. The manganese content of ores, exposed on the claims, is considered too low to allow present day mining.

It is recommended that a DMEA loan be denied.

NAME AND LOCATION OF PROPERTY

The Highgrade Manganese Nos. 1 and 2 claims are located in sec. 29, T. 26 N., R. 11 E. in Plumas County, Calif. They are situated four miles east of ~~Tailorsville~~ Taylorsville, California at an approximate elevation of 5,340 feet above sea level. The claims are accessible by roads leading a distance of 9 miles from ~~Tailorsville~~ Taylorsville as shown by the attached index map.

ACCESSIBILITY

The first 3.0 miles of road to the property is a paved county road; thence, 4.1 miles of steep graveled road leading up Beardsley Grade; and finally 1.9 miles of unimproved poor road leading southward to the claims.

The claims can be reached via automobile during the dry periods throughout most of the year; however, rain or snow conditions during the winter months would prevent access over the last 1.9 miles of mine access road.

COMPETENCY OF APPLICANT

The financial responsibility of the applicant is not known. His previous work in conducting the Lakeview Manganese Mines (docket DMEA-2393 - Contract Idm-E447) was not considered entirely satisfactory.

The mining and exploration ability of the applicant and his associates is not impressive.

APPLICANT'S PROPERTY RIGHTS

The Highgrade Manganese Nos. 1 and 2 claims are held under lease by

O. H. Griggs under the name of "Star Mines Co." and are assigned under limited partnership called the Indian Valley Mines (the applicant). Officers of the partnership are as follows:

O. H. Griggs, General Partner, 1903 Outpost Drive, Hollywood, 28 Calif.

Horace Brier, Limited partner, 1056 Illif St., Pacific Palisades, Calif.

Harry Plaimer, Limited partner, 15912 Woodvale Rd., Encinio, Calif.

These two unpatented claims are owned by E. W. Stevens and Lena M. Sebrero of ~~Tailoresville~~ Taylorville, Calif. They are stated by the applicant to have been recorded on October 8, 1942 in book 23, pages 66 and 67 in the Plumas County, California courthouse. The applicant states that there are no liens or encumbrances against the property.

DESCRIPTION OF PROPERT Y

Surface facilities at the propurty consist of a small cabin suitable to accommodate four men and a combination tool and compressor shed.

The main mine workings consist of the No. 2 adit which extendx southward for a distance of approximately 200 feet (fig. 2). Several short prospect drifts were driven near its terminal and an inclined shaft connects with the surface at an elevation of about 72 feet above the adit level. These workings are now accessible with the exception of the shaft.

Adit No. 1, which is located 550 feet south of the portal of Adit No. 2, is now inaccessible. It is reported to have 70 feet in length, with a 14-foot winze located 30 to 70 feet from its portal.

Several surface trenches, which are now caved, are located between the two adits.

SAMPLING

Six samples taken in conjunction with this examination and analysis by the Bureau of Mines Hydrometallurgical and Ore Dressing Branch, Reno, Nevada, are as follows:

Sample No.	%, Mn	%, Fe	%, P	%, SiO_2	Description and location
1	9.5	8.55	0.019	68.60	(3-foot vertical channel taken from back downward along right side of face of northwest drift 150 feet from portal of Adit No. 2 (fig. 2))
2	16.1	11.35	0.077	42.60	(1.2-foot vertical channel, an extension of Sample No. 1.)
3	8.0	5.70	0.027	49.62	(2.8-feet vertical channel, an extension of Sample No. 2.)
4	13.4	19.25	0.014	42.80	(7.0-foot vertical channel across mineralized portion of left side of face.)
5	12.7	11.0	0.013	59.16	(Grab sample of about 3 tons of manganese ore at portal of Adit No. 2)
6	0.50	34.40	0.006	46.36	(Specimen sample of prominent jasper capping overlying manganese-bearing formation)

GEOLOGY

The Highgrade Manganese Claims of the Indian Valley Manganese Mines Company are located in the north end of the Sierra Nevada province in an area of overturned and overthrust Paleozoic and Mesozoic sediments

and meta-volcanics. The Indian Valley regional geology has been mapped and described by Diller[1/]. As seen on Diller's map, the Highgrade Manganese Claims lie within the Peale formation of Carboniferous age. (Age is probably Mississippian, from correlation made with the Baird formation in the Redding, California area.) Lithologically, the Peale formation contains slaty shale that grades into tuffaceous sandstone and lapilli-tuff, with small lenses of calcareous matter intercalated. Thin beds of gray quartzite occur also, and black to red cherts form prominent ledges.

Lithology

On the Indian Valley property, the Peale formation is poorly exposed at the surface, being mostly covered by colluvium and vegetation. Practically the only rock exposures are of reddish-gray, hematitic and manganiferous jasper derived from chert. The jasper forms a prominent line of outcrops that trend S. 30° E. for nearly 500 feet up the nose of a ridge. The outcrops range in width from 5 to 20 feet.

Trenches and pits along the jasper outcrops reveal overlying and underlying brown to gray, bedded cherts and black shale. At the southernmost outcrop, the shale is light reddish-gray to brown, partly from weathering, but also from iron oxide contamination from the adjacent jasper. Bedding strikes N. 15°-20° W. and dips about 50° west. The road cut-bank at No. 2 adit exposes interbedded shales, cherts, and andesitic tuffs that are

1/ Diller, J. S., 1908, Geology of the Taylorsville region, California: U. S. Geol. Survey Bull. 353.

bleached by weathering. Within the adit, the same rock types are well represented. Altered chert, from 42 to 70 feet from the portal, is massive, buff to white in color, and soft and punky when wet. Andesitic tuffs are fine- to coarse-grained, with lapilli ranging up to an inch or more in size.

Structure

The "ledge" of jasper appears to parallel the N. 15° -20° W., 50° west-bedding in the enclosing shales and cherts. It lies apparently in undisturbed contact with the shale where exposed in the trench 90 feet south of the adit and in the trench at the southeast end of the map. At some places, however, the exposed contacts show evidences of movement along bedding planes as noted at the collar of the shaft and in the trench 40 feet south of it. The jasper itself gives the appearance of being brecciated and sheared, although such a texture may be obtained through its partial replacement by hematite and manganese minerals. It is not certain, therefore, whether the ledge of jasper represents a mineralized strike fault or simply a chert bed that includes sedimentary derived hematite, manganese, and recrystallized quartz, along which minor faulting has taken place.

The fault zone, on which the inclined shaft is sunk, strikes N. 25° W., dips 60° southwest, and is about 1 foot thick. Probably the same fault is exposed in the adit along the drift at the bottom of the shaft. At the north end of this drift, the hanging wall of the fault is mineralized

with manganese. Mineralization is relatively poor on the footwall side.

Other faults exposed in No. 2 adit may be divided into two sets. One set strikes east to northeast and dips 60° north to vertical. The other younger set of faults strikes generally north and dips from 10° west to vertical. Amounts of movements on these faults were not ascertained.

MANGANESE DEPOSITS

Manganese minerals on the Highgrade Manganese Nos. 1 and 2 Claims are associated mainly with the ledge of hematitic jasper. A vein-like deposit of black manganese minerals is exposed in No. 2 adit, and similar deposits are reported to occur in the shaft and in the caved adit No. 1. The manganese ore minerals observed on the property are pyrolusite and braunite. Crystals of hausmannite or goethite and hematite were noted locally associated with quartz in veinlets. The manganese carbonate, rhodochrosite, and the silicate, rhodonite, were not observed.

Hematite content in jasper outcrops varies considerably, and distribution is quite irregular. Manganese oxides associated with the hematitic jasper are widespread in seams and fractures, but only in a few spots 2 to 3 feet square do the manganese oxides appear to range higher than a few percent of the rock. Sample No. 6, consisting of random specimens of hematitic jasper taken at the portal of adit No. 2, assayed the following:

%, Mn	%, Fe	%, P	%, SiO_2
0.50	34.40	0.006	46.36

This is fairly typical of the hematite-rich jasper, but the silica content is high and manganese content is negligible.

Manganese oxide minerals are most concentrated in adit No. 2 at the face of the drift northwest of the shaft. They replace the sheared chert and shale in the fault that trends north, and occurs extensively as replacement of wall rock in fractures and seams for a thickness of 5 feet on the hanging wall side of the fault. The footwall side is only weakly mineralized. At the intersection of the drift with the crosscut, the manganese mineralization ends abruptly.

Twenty feet south of the shaft in adit No. 2, hematite occurs in a 1 to 3-foot wide vein-like mass at the contact between shale and medium- to coarse-grained andesitic tuff. About 65 feet south of the portal in adit No. 2, another mass of hematite, 1 to 3 feet thick, occurs in a northeast-trending fault in altered massive chert or jasper. Manganese minerals do not appear to be associated with these occurrences of hematite.

According to Mr. S. W. Binker, considerable manganese has been stoped from the inclined shaft, but the shaft was not accessible for examination. Mr. Binker also claims that 70 tons of ore, sorted to 56 percent manganese, was taken from adit No. 1 in 1942. The adit was inaccessible when the property was examined. Several pits and trenches on the property showed only traces of manganese oxides in stained siliceous rocks.

DISCUSSION OF RESERVES

It is doubtful if any of the manganese-bearing material on the High-grade Manganese Nos. 1 and 2 Claims can be profitably sorted or milled to ore specifications. According to the Army and Navy Munitions Board[2/], specifications for manganese ore that is acceptable, but below the desired average and dependent for its acceptance on quantities and qualities of ore in stockpile and the conditions of supply, are:

Mn (minimum)	% 40.00
Fe (maximum)	14.00
Mn:Fe ratio (minimum)	3.40
$SiO_2 + Al_2O_3$ (maximum)	15.00
P (maximum)	0.18

The desired grade of ore, however, contains at least 48 percent manganese and not more than 6 percent iron.

Referring to the assays of samples taken on the Indian Valley property, it is apparent that the percentage of manganese is too low for ore as mined directly, and the content of iron and silica far exceed the requirements of acceptable ore. Material of such grade would have to be sorted and concentrated by milling to raise it above 40 percent manganese, but to begin with, it is so tied up mechanically with silica in seams and veinlets through the cherty rock as to make concentration extremely difficult. Then too, if the iron is locked with the manganese, it will increase percentage-wise as the silica is sorted out, so that raising of the Mn:Fe ratio must also be considered. A large amount of iron in manganiferous material can be taken

2/ Bureau of Mines, 1952, Materials Survey: Manganese; compiled for the Materials Office, National Security Resources Board.

out by flotation or by roasting and magnetic separation, but the success of such processes depends on the way the iron and manganese are combined. Then too, the phosphorus content might increase substantially with concentration of manganese and iron.

In order to make a milling operation as indicated worthwhile, a large tonnage of low-grade manganiferous material must be available. Possibilities of developing a large tonnage on the Indian Valley property do not appear likely. The material at the face of the drift in adit No. 2 north of the shaft averages about 12 percent manganese on the hanging wall of the fault; this zone is exposed for a thickness of 5 feet and width of 8 feet and has been mined for a length of 10 feet. Over half of the material in this block, comprising roughly 24 tons, is piled on the dump of adit No. 2. Another 40 tons of like material with about the same grade of manganese is indicated beyond the face of the drift to north for 10 feet. There are no reliable data by which other low-grade reserves of manganiferous rock on the claims may be inferred. Probably concentrations of manganese oxides of comparable grade occur spottily throughout the hematitic jasper.

Hematite in the jasper and in the vein or fault zones, probably occurs in concentrations suitable for iron ore, but it is spotty and there is not enough to constitute important reserves of iron ore under present-day conditions. Not enough data was collected or samples taken, however, to estimate reserves of iron ore.

PROPOSED EXPLORATION

The applicant, Mr. O. H. Griggs, was not present during the examination so that his proposals for exploration are only vaguely known. Mr. S. W. Binker, a partner present at the examination, explained that more definite plans would be formulated after the findings and recommendations of the DMEA field team were made known. The applicant had considered several diamond-drill holes to test the down dip continuation of the jasper ledge, as well as some underground work in adit No. 2, but amounts, directions, etc., had not been decided.

No proposals for exploration are suggested, considering the low assays of the best material exposed on the property and the relatively small amount of manganese-bearing rock observed.

GEOLOGIST'S CONCLUSIONS AND RECOMMENDATIONS

The manganiferous rocks thus far exposed in the Indian Valley Manganese Mines claims appear to be too low-grade and too high in iron and silica to range within the possibilities of ore under present-day conditions. Beneficiation of the rock might improve the grade to a point where it could be marketed, but any extensive milling process requires large tonnages of low-grade material to sustain it. It appears unlikely that large reserves of low-grade manganese rock can be developed on the Indian Valley Manganese Mines claims. Milling out of silica and iron from the material available probably would make the cost of recovery prohibitive.

Exploration for large reserves of manganese ore on the Indian Valley Manganese Mines property under the DMEA program is not warranted; it is, therefore, recommended that no loan be granted.

PAST OPERATIONS

The applicant claims to have produced 70 to 80 tons of manganese oxide ore averaging over 50 percent in manganese content from a 15-foot shaft and a connecting adit during 1944. The source of this production is stated to have been from adit No. 1 (fig. 2).

No ore of this quality was observed or sampled in connection with this inspection. At the time of the inspection, no work was in progress at the mine.

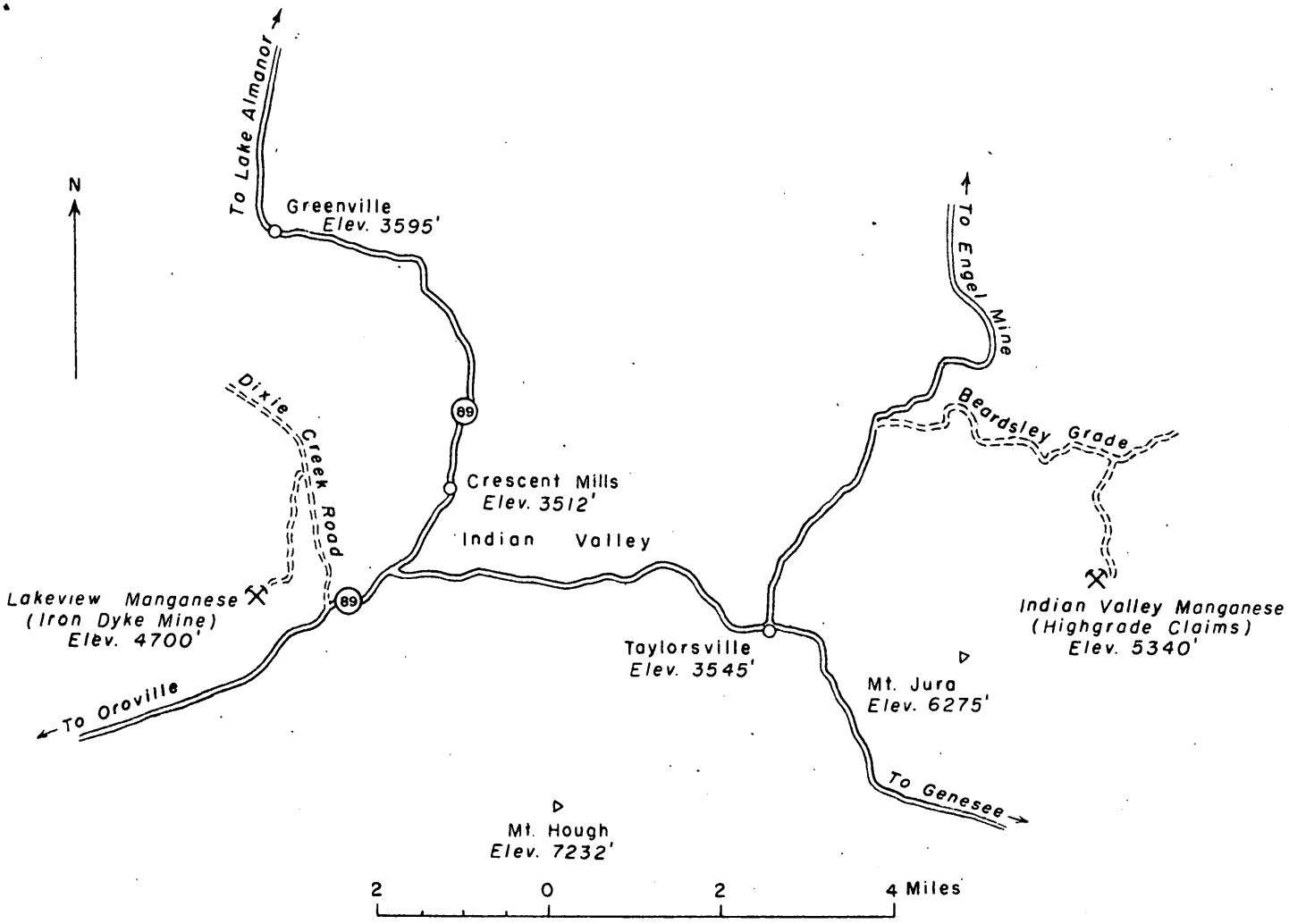
APPLICANT'S PROPOSAL

The exploration work proposed by the applicant includes:

1. About 100 hours of bulldozing along the strike of the formation to explore and develop manganese oxide ores near the surface.

2. Diamond drill 15 holes to a maximum depth of 100 feet, spaced 50 to 60 feet apart, to explore about 800 feet along the mineralized formation for shallow underground manganese deposits.

The estimated cost of the proposed work by the applicant is $11,710.00.



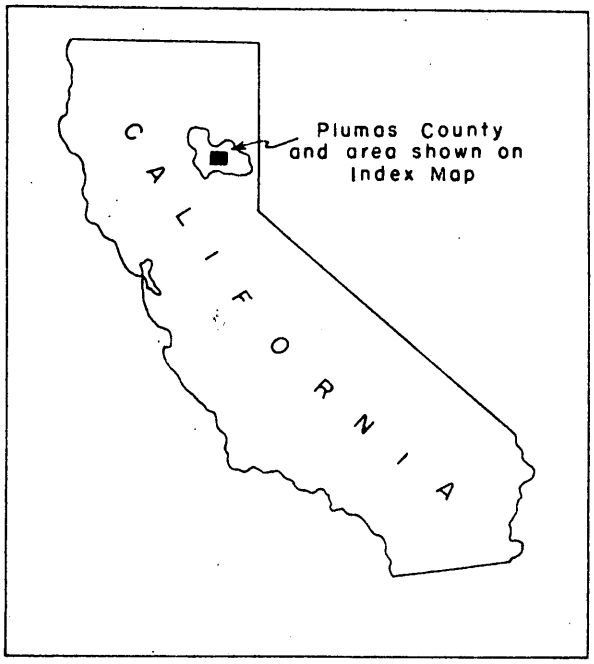
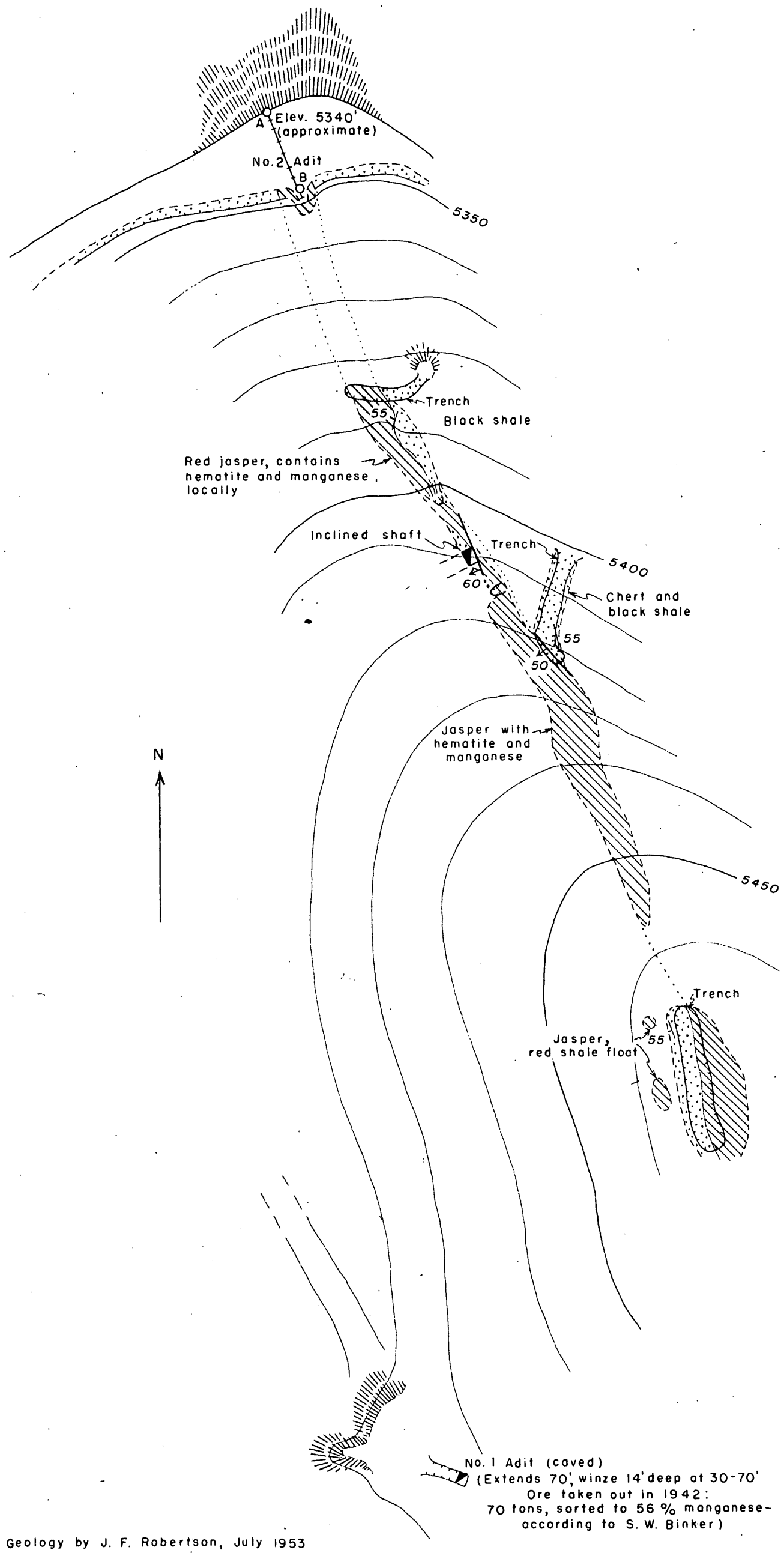
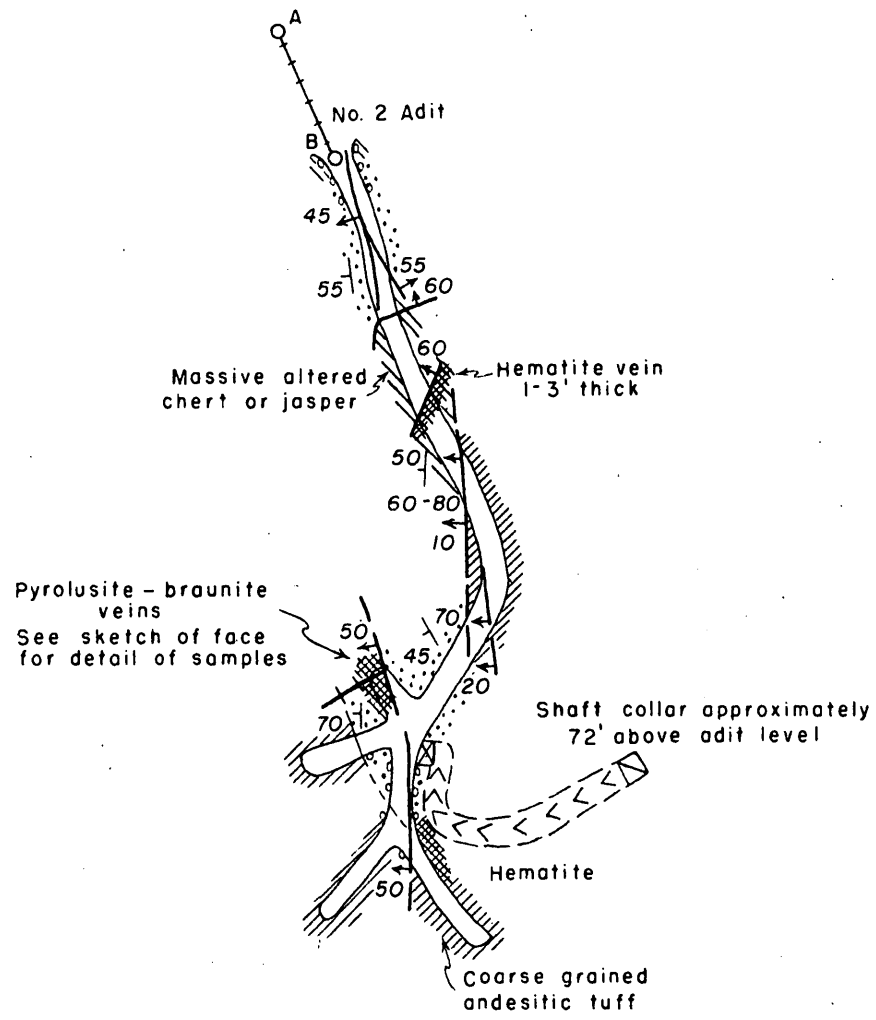


Figure 1 INDEX MAP

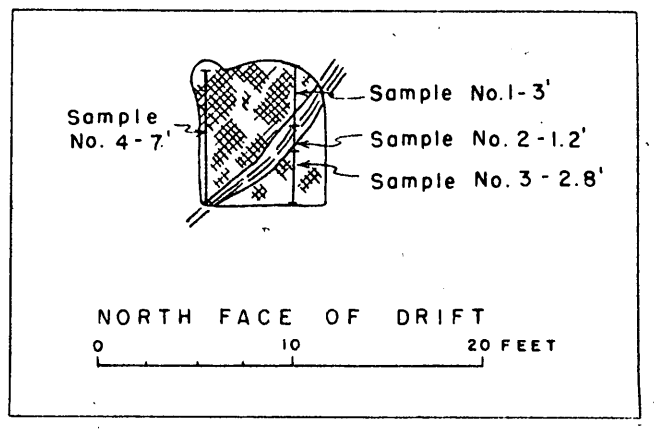


Geology by J. F. Robertson, July 1953

SURFACE MAP



UNDERGROUND MAP, NO. 2 ADIT



EXPLANATION

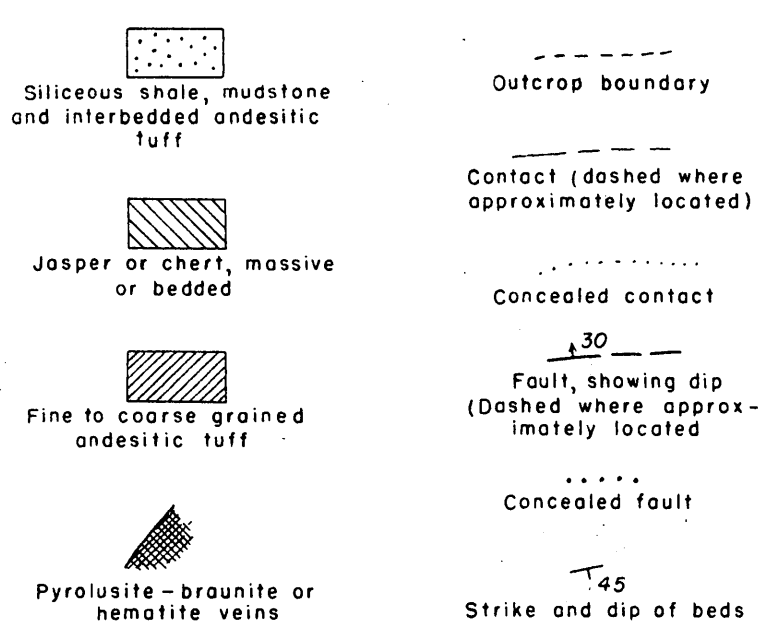


Figure 2

HIGHGRADE MANGANESE CLAIMS, INDIAN VALLEY MANGANESE MINES
PLUMAS COUNTY, CALIFORNIA

50 0 50 100 FEET

SEP 21 1953

Mr. H. J. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco, California

Re: Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2
Claims
Plumas County, California

Dear Mr. Miller:

Reference is made to the subject application for exploration assistance, which we referred to your office by our letter of July 1, 1953, for review and possibly a field examination of the property.

According to Region III's monthly report for July, the field examination had been made and the report was then in course of preparation. It will be appreciated if you will let us know when we may except to receive the completed report.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

J. H. Hedges

Member, Bureau of Mines

A. R. Kinkel, Jr.

Member, Geological Survey

WSMartin:foc 9-14-53
cc: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. 3
Mr. DeHuff, USBM
Mary Miller, USGS

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

400

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT - 5 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

September 30, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: Docket DMA-3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2 Claims
Plumas County, California

Reference is made to your letter dated September 21, 1953, requesting information as to when you might expect the completed report on the Bureau of Mines-Geological Survey field examination of the subject property.

Our Reno office informs us that the report will be forwarded to this office the latter part of this week, and also that the Geological Survey has recommended denial of this application. Mr. Warne, of the Bureau of Mines, is in agreement with the Survey's recommendations.

The report will be mailed to you probably early next week.

H. C. MILLER
H. C. Miller
Executive Officer
DMA Field Team, Region III

Copy to: M. N. Bailey

Copy retained 400

JUL 1 1953

Mr. O. H. Griggs
% Indian Valley Manganese Mines
1903 Outpost Drive
Hollywood 28, California

Re: Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2
Claims
Plumas County, California

Dear Mr. Griggs:

Your application for assistance in exploring manganese veins on your Highgrade Manganese Claims Nos. 1 and 2 in Plumas County, California, has been reviewed by the Iron and Ferro-Alloys Division, DMEA, and has been referred to Mr. H. C. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, for further consideration and possibly a field examination.

Should a field examination be made of the property, any assistance that you can render the examining engineers will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

JHopkins:foc
6-29-53
cc: Docket
Code 400
FT. Reg. 3
Admr. Reading File
Oper. Comm.
Mrs. Martha Carr, USGS
Mr. Melcher, USBM

JUL 1 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 3066 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2
Claims
Plumas County, California

Dear Mr. Miller:

Reference is made to the subject application for exploration assistance which is being referred to your office for review and possibly a field examination.

The applicant states that the location of the claims is given in the office of the Recorder in Plumas County, California, but has failed to furnish the exact location in his application.

The following memorandum has been prepared and is enclosed for your information:

Memorandum by Martha Carr, U. S. Geological Survey, June 25, 1953.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Approved:

J. H. Hedges

Member, Bureau of Mines

A. R. Kinkel, Jr.

Member, Geological Survey

Enclosure

JHopkins:foc
6-29-53
cc: Docket
Code 400
Admr. Reading File
Operating Comm.
Mr. Melcher, USBM
Mrs. Martha Carr, USGS
FT. REG. III

400

IN REPLY REFER TO:

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

June 25, 1953

To: Mr. W. D. Martin, DMEA

From: Martha Carr, USGS

Subject: Exploration application $11,710 DMEA-3086 Manganese
Indian Valley Manganese Mines (Lessee)
(A limited partnership: O. H. Griggs, Horace Brier, and Harry Plainer)
1903 Outpost Drive
Hollywood 28, Calif.

Property: Two adjoining lode mining claims, "Highgrade Manganese" Nos. 1 and 2, which are about 8 miles by new road (over half of which is paved) from the Western Pacific Railway at Crescent Mills, Calif. The claims are 4 miles distant from Taylorsville. Although the applicant indicated that the location of the claims is given in the office of the Recorder of Plumas Co., he has failed to furnish the exact location in his application. The claims, however, may be in the area described in Calif. Bull. 152, p. 172-173 (no. 2, Braito Mine - Dixie Creek, Feather River, Iron Dyke) (1918) and in an unpublished report on "Western Manganese" (Iron Dyke, Lakeview), by Ivan Wilson, 1943, a copy of which is attached. This report would indicate that the claims are located in sec. 27, T. 26 N., R. 9 E. In 1943, according to the same report, they were owned by Al Timmins and others in Crescent Mills and leased to Western Manganese Company, O. H. Griggs, in charge. They lie on a steep southeast slope on the northwest bank of Indian Creek, 1,000 feet above the valley floor at an elevation of 4500 feet.

Proposal: The work proposed by the applicant in exploring for manganese oxide ores includes (1) about 100 hours of bulldozing along the strike of the formation for the purpose of removing surface materials to sufficient depths where it overlies the ore formation in order to open up ore that might be produced from surface work; and (2) diamond drilling 15 holes to a maximum depth of 100 feet each. The location of drilling work would extend from a point about 50 feet northerly from the surface outlet of the raise along the formation

outcroppings for a distance of approximately 800 feet with holes spaced 50 to 60 feet apart. The work could be under way in less than 20 days from the date of authorization and completed within 6 months, provided the date of authorization permits completion before the winter season.

Geology: The following excerpts from Wilson's report on "Western Manganese" are believed to apply to the applicant's property:

> The manganese deposits lie in a belt of phyllite or sericite schist mapped as the Arlington formation by Diller. The schist has a general strike of N. 60° W and dip of 35° -65° SW. The manganese ore is underlain or overlain in places by jasper; in many places the ore is in contact with the schist or with red clay with which it is commonly associated. The ore bodies, lenticular in shape, seem to follow a zone of faulting and are more or less parallel with the schistosity of the surrounding rocks. Although the ore appears to occur essentially in one horizon, it is not continuous in the various workings but wedges out in places along the strike and dip. The average thickness of the ore-bodies is about 6 feet. The ore is black, hard, dense, and massive. P. E. Trask identified it as braunite. A few streaks of soft black oxide mineral occur along fractures in the hard massive ore. (Calif. Bull. 152, p. 173, states that both psilomelane and pyrolusite are present.) The mine, which was operated during the first World War as the Braito or Noble lease, produced to 1943 a total of 4400 tons, with a Mn content of 41-43 percent and SiO_2 of 15-25 percent. No accurate estimate of reserves can be made because of the great variability of the ore bodies along the strike and dip. The greatest future possibilities would seem to lie in discovering further ore down the dip. The grade of ore appears to be fairly uniform and reserves are likely to range between 45 and 48 percent Mn. Mr. Wilson concludes his report by saying that, regardless of the ultimate tonnage that may be found, the present possibilities of the mine are believed to be quite favorable. Also, Mr. Wilson states in the attached copy of his memorandum of August 21, 1943, that he would rate the Western Manganese Mine as one of the best in the State.

Recommendation: It is recommended that the application with the attached copies of the report and memorandum on "Western Manganese", both by Wilson, be referred to the field team, with the request that the specific location of the applicant's claims be obtained from Mr. Griggs--and if considered worthwhile, the claims be visited. Our recommendation for approval or denial of the project would appear to be unjustified without complete information on the location of the property.

Martha Carr

Attachments

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U. S. GOVERNMENT
ONLY

COPY

COPY

To: TAB. from Ivan P. Wilson, Berkeley, California, Aug. 21, 1943.

Enclosed is one copy of a report on the Western Mn Mine in Plumas County, California, together with a tracing of a sketch map.

It may be seen that my estimates of reserves are considerably lower than those of Mr. Griggs in his letter to the Metals Reserve Company. Furthermore, there are a number of statements in his letter with which I am not in agreement, and which, surprisingly enough, were controverted by statements made by the foreman of the mine, a Mr. Rosborough.

For example, Mr. Griggs states: "The workings off Tunnel No. 1 were all drifting in a solid face of ore both to the North and South. The ore width is about the same as found in the Winze--from 8 to 12 feet". Mr. Rosborough, on the other hand, states that the ore wedged out along the drift between the 1st 2 stopes and also wedged out about 30 or 35 feet from the end of the drift. As the roof is lagged I could not establish the facts for certain except that no ore is exposed on the walls at the places mentioned, and the west face of the drift is definitely barren of ore. The thickness of ore as stated also seems exaggerated. Likewise, the statement that drifting along tunnel no. 2 "is now in progress in a full face of ore" is certainly not correct as of this date, because the face is barren of ore. The statement that "For the past 6 months only, shipments from this property have been solely from development work," also does not seem to be strictly correct, for Mr. Rosborough estimates that about 75% of the ore shipped this year came from the stopes above tunnel no. 1.

Regardless of all this, I would rate this as one of the best mines in the state, and I think the possibilities of continuing or increasing the pres. rate of production of 200 tons per month are very good. I would be inclined to favor any reasonable request for road improvement, if such should arise.

COPY

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COPY

Nevada
3086

400

1903 Outpost Drive
Hollywood 28, Calif.
June 19, 1953

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

Gentlemen:-

We regret to advise you that, due to an error, our application for exploration funds sent you under date of June 15th inst., no letter of transmittal was included.

We should have informed you that the matter of our application was discussed fully with the officials of the U. S. Bureau of Mines at Reno, Nevada, and as a result of the discussion we have made this application.

We should also comment that it would be advantageous for any work emanating from this application be commenced well before autumn as the property lies at an elevation of about 4500' and is subject to storms as early as the first part of November, and such storms would greatly impede the work. These storms will not prevent haulage of ores as our road is well graveled, but would make bulldozing and drilling on the surface difficult.

Respectfully yours,

Indian Valley Manganese Mines

By (S) O. H. Griggs

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3086-DMEA
Metal or Mineral
Date Received 6/22/53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: [illegible]

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

(*b*) State any mine name by which the property is known.

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

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

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

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

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

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

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

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

.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated ....., 195...

.....
(Applicant)

By.....

.....

.....

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

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

1. Name of Applicant:-Indian Valley Manganese Mines.
   (b) A limited partnership under California law.
   (d) O.H.Griggs, General Partner, 1903 Outpost Dr., Hollywood28, Calif.
   Horace Prior, Limited Partner,1056 Hilif St.,Pac.Palisades, "
   Harry Plainer, " " ,15912 Woodvale Road,Encino, "

2. General:- Four copies herewith.

3. Applicant's Property Rights:-The property held by Applicant consists of two (2) lode mining claims named "Highgrade Manganese" Nos 1 & 2. These claims lie side by side-- see sketch Marked Exhibit A, accompanying this application.
   (b) This property is known as the "Highgrade".
   (c) Applicant is Lessee-- see lease accompanying this application Marked Exhibit B.
   (d) Copy of lease herewith--Exhibit B.
   (e) There are no liens or encumbrances.
   (f) "Highgrade No. 1"notice of location recorded October 8, 1942 in the office of the Recorder of Plumas County California in Book 23 at Page 66.
   "Highgrade No. 2" notice of location recorded October 8, 1942 in Book 23 at Page 67 in the office of the Recorder of Plumas County, California.

4. Physical Description:-This property was first opened up by O.H.Griggs, General Partner of Applicant, in 1944 just prior to the end of the War program and from a shallow 15 foot shaft and a short connecting tunnel produced some 70 to 80 tons of highgrade Manganese oxide ore assaying above 50% Mn. The operation was suspended in December, 1944, because of the termination of the Metals Reserve program.
   Refer to sketch Marked Exhibit A:-The ore formation is very strong and rides the crest of what is equivalent to a hogback, is relatively straight in strike, is continuous for more than 1800 feet with outcrops and some ore showing on the surface at various points. The ground is stable and underground workings require practically no timbering. The hanging wall is hard jasper rock in places more than 15 feet thick containing enough Manganese to come close to a Rhodonite ore. The country rock is slate. At the end of work in December, 1944, there was three feet of highgrade ore in the bottom of the 15 foot shaft. Surface trenches along a distance of more than 400 feet were all in highgrade ore. That the ore persists to some depth is now proven by a tunnel (see sketch Exhibit A) with ore in the floor of the tunnel. this being 80 feet below the surface at the point where a raise has been driven to the surface which raise was in ore all the way. This tunnel will be approximately 125 feet below the surface when it reaches a point directly below the mentioned 15 foot shaft.
   Geologically, it is believed that this deposit is a bedding, having been filled with the slates
   A new road constructed within the past two months brings this property within approximately 8 miles to the shipping point on the Western Pacific Ry at Crescent Mills, Calif. More than half of this distance is on a paved road.
   A cottage with all accomodations for four men has been erected on the property. Any additional help can come in daily from the town of Layiersville 3 miles distant.

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

Manpower for operations is readily available. Materials and supplies are usually available locally or at farthest from Reno or Sacramento. Water needs are for camp, compressor and drilling and comes from mine drainage. Power required is for aircompressing and is by gasoline engine direct connected to compressor. The property is fully equipped for mining and ore is being currently produced in a limited amount from the tunnel shown on sketch Exhibit A.

5. (a) Manganese oxide ores are the only mineral of this property.
(b) Work proposed by Applicant is (1) about 100 hours of Bulldozing along the strike of the formation for the purpose of removing surface materials to sufficient depths where it overlies the ore formation in order to open up ore which might be produced from surface work. And (2) diamond drilling 15 holes to a maximum depth each of 100 feet each. This drilling would obtain practically a true cross section of ore encountered as the ore dips about 45 degrees and the slope of the hill where drill setups would be made would form nearly a right angle. The location of this work of drilling would extend from a point about 50 feet northerly of the surface outlet of the raise (see sketch Exhibit A) along the formation outcroppings for a distance of approximately 500 feet with holes spaced 50 to 60 feet apart.
(c) This work could be underway not less than 20 days from the date of authorization and completed within 6 months at most, provided allowance is made for delays in event authorization throws the work into the winter season.
(d) This work will be carried on under supervision of O.M.Briggs, who has had extensive experience in the production of Manganese ores having been the largest producer of Manganese during the past War in California and so far as can be learned in the Pacific Coast country. He has been mine operator for more than 30 years having been engaged in iron ore mining in Minnesota and Michigan, copper and gold mining in California and in other metal production. He has in his employ also men well trained in production and sorting of Manganese ores.

6. Diamond drilling, 1500 feet of hole, estimated to cost $6.0 per foot $9,000.00
Bulldozing, 100 hours @ $14.00, ... 1,400.00
Explosives for blasting in connection with bulldozing..... 250.00
Labor, blasting cap and air for bulldozer operator, 100 hours @1.80 180.00
Supervision for complete program, out at 2 months..... 400.00
Transportation supporting diamond drill crew..... 180.00
Geologist examinations, 5 days @ $50.00..... 250.00
Clerical..... 320.00
11,780.00

(a) Bulldozing and diamond drilling could be let by contract.
(b) See estimate above. Note:- Prevailing wage for common labor in the district is a minimum of $1.50 per hour.
(c) Applicant will furnish power-- that is, compressed air for drilling; Bulldozer will furnish own power.
(d) Applicant now has all necessary equipment, excepting drilling machinery and bulldozer-- both of which will be contracted.
(e) No rehabilitation required.
(f) No additional buildings required.
(g) No repairs. Employers' insurance is negligible. Above figures include totals excepting only 40 to assays in case assays are required. If required, Applicant suggests some reasonable addition to above figures.

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

(a) There are only two contingencies occuring to Applicant:- (1) Assays of ore discovered by diamond drilling and as to this Applicant assumes there would be no more than 3 assays for each drilled hole or a maximum of 25 assays which, with express and laboratory charges, would amount to approximately $5.00 each or a total of $125.00; and (b) unforeseen costs caused by winter conditions in the mountains in case work cannot be commenced until late autumn, which extra costs would be due to freezing conditions, transportation difficulties and delays by snow or inclement weather.

7. Applicant's proposed to furnish the share.
(b) Applicant proposes to furnish the share (25%) both in money and in services-- no charges are included for use of equipment other than said forth in Section 6 above.

Note:- It should be explained that while O.H.Griggs (Star Mines Co.) has a leasehold on the mining claims "Highgrade Manganese Co.) & 2", such property is not under control of the Vendor Partnership Indian Valley Manganese Mines, the Applicant herein. If it should be deemed desirable to extend the work contemplated herein to such called property, this can be arranged by authorization of O.H.Griggs (Star Mines Co.)

Dated June 25, 1953.

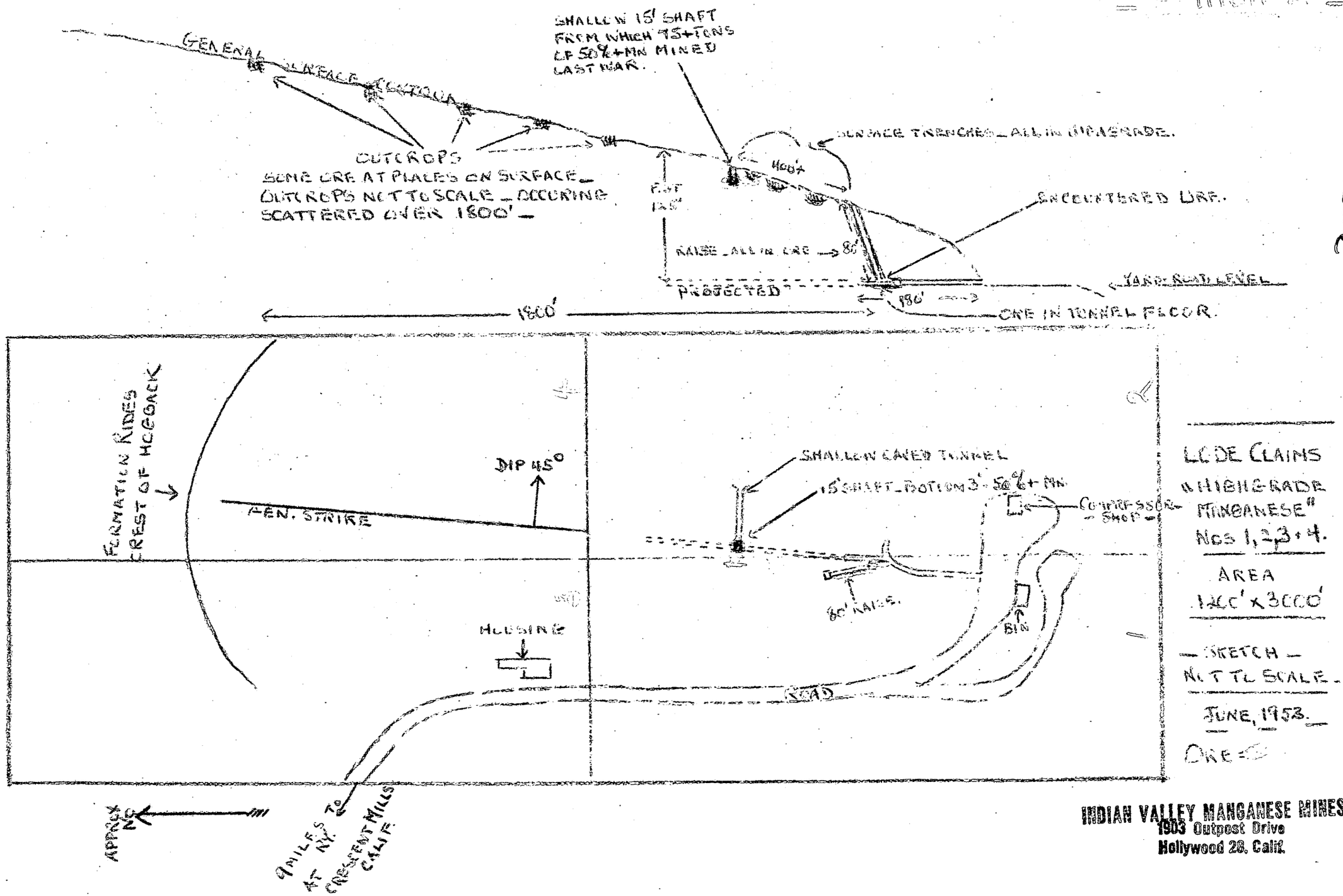
Indian Valley Manganese Mines

By O.H.Griggs, General Partner.

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

EXHIBIT A

DMEA-3086



LODE CLAIMS
"HIGHGRADE
MANGANESE"
Nos 1, 2, 3 + 4.

AREA
1200' x 3000'

— SKETCH —
NOT TO SCALE.

JUNE, 1953.

ORE

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

MINING LEASE

This Agreement made and entered into this 29 day of November, 1950, by and between E.W.Stevens and Lena M.Sobrero, Lessor, and Star Mines Company, Lessee.

WITNESSETH:

That in consideration of the mutual covenants herein expressed, it is now agreed as follows:-

1. That Lessor lets and hereby leases unto Lessee the following described lode mining claims situated in Plumas County, California, and hereinafter referred to as the property, under the terms and conditions herein specified:- The lode mining claims named the Highgrade Manganese Nos 1, 2, 3, and 4, the notices of location of which are recorded in the office of the County Recorder of Plumas County, California.

2. The term of this lease shall be ten years from date hereof unless sooner terminated as hereon provided.

3.Lessee shall pay to Lessor a royalty of ten percent (10%) of all proceeds derived from the shipment sales of products derived from the property at the plant having deducted from such proceeds actual cost of freightage from the property to point of shipment; and such royalty shall be paid not later than on the 15th day of each month upon proceeds received during the next preceding month.

4. It is understood that the property is potential Manganese ore producing property and that it is the intent hereof that the same shall be developed to its proper economical capacity. Lessee shall take immediate possession of the property and shall at his own cost and expense carry development thereof in a miner-like manner in compliance with law and in obedience to the orders, rules and regulations of authorities having jurisdiction thereof; and shall mine and sell at the best obtainable prices marketable Manganese ores therefrom in a diligent manner in keeping with good practice in similar cases. Work on the property may be on a five-day-a-week basis and shall be continuous subject to weather and season conditions otherwise, Lessee having the right to suspend work during winter or inclement periods when such work would be impractical or impossible. No default in this lease shall be deemed to have occured in the event of labor troubles, so-called acts of God or other events beyond control of Lessee which cause a suspension of work.

5. Coincident with payments of royalty Lessee shall furnish Lessor with statements showing weights, grades and prices received of the products sold from the property, and Lessor shall at all reasonable times have the right to inspect the books of account and records of Lessee having to do with the same; and Lessor shall during working hours have the right to access to the property and the workings within same shall not be at the cost and expense of Lessee.

6. Lessee shall have the right to terminate this agreement upon giving notice thereof to Lessor and upon such termination shall have the right to remove from the property machinery and equipment placed thereon by Lessee, but Lessee shall not remove underground tracks, piping or timber supports.

7. Lessee shall pay all taxes assessed against the property, perform assessment work required by law and file proof thereof, and shall furnish Lessor with proof that the same has been done. Lessee shall not permit liens or other encumbrances caused by Lessee to accrue against the property but this shall not preclude Lessee from defending any action in such connection an adverse result of which shall obligate Lessee to discharge such lien or obligation immediately.

8. In the event that either party hereto shall allege a default of this agreement by the other, the same shall be in writing specifying in detail the nature of such default, and the party so alleged to be in such default shall have 30 days after the serving of such writing in which to cure or remedy such default, and, upon so curing or remedying, no default shall be considered to have occured but failing which this agreement shall be subject to instant termination at the election of the party alleging such default.

9. Lessor represents that the title to the property is free and unencumbered subject

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

only to the paramount title of the U.S., and reposed in Lessor.

10. This is of the essence hereof, and this agreement and its terms and conditions shall inure to the benefit and belong to the heirs, assigns and successors of the parties hereto.

IN WITNESS WHEREOF both parties have hereunto affixed their signatures the day and year first hereinabove written.

E.M.Stevens	(signed)
Agnes H.Stevens (his wife)	"
Leon H. Roberts	"
John R. Roberts (her husband)	"
Star Mines Company	
By O.H.Griggs	"

Note:- I hereby certify that the foregoing is a true and correct copy of the lease instrument.

O H Griggs

TO WHOM IT MAY CONCERN:- This is to state that the undersigned O.H.Griggs has carried on business under the fictitious name of "Star Mines Co." and that he has complete right and power to transact any and all business done under the said name of Star Mines Co. in any way he sees fit; and that he did as Star Mines Co. assign that portion of a certain mining lease covering lode mining claims named "Highgrade Manganese Nos 1& 2" to that certain limited partnership named Indian Valley Manganese Mines and that said lease and said assignment are at the date hereof in full force and effect and in good standing in every particular; and further that O.H.Griggs and Star Mines Co. are one and the same; and that the said assignment effectively conveys all rights specified in the said lease to the said mining claims without reservations or ratification.

Los Angeles, California.
June 23, 1953.

O.H.Griggs.

FILE COPY
SURNAME:

400

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

Hopkins
Martin
DeHuff
Pavlides
Hodges
Rogers
Selfridge

OCT 19 1953

Mr. O. H. Griggs
Indian Valley Manganese Mines
1903 Outpost Drive
Hollywood 28, California

Re: Docket No. DMEA 3086 - Manganese
Highgrade Manganese Nos. 1 & 2 claims
Plumas County, California

Dear Mr. Griggs:

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

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

Careful study of all our information, although noting the occurrence of manganese mineralization on your property, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Program and for bringing the referenced property to our attention.

Sincerely yours,
Frank E. Johnson (for)
ACTING Administrator

FARutledge:foc
10-15-53
cc: Docket
Code 400
Admr. Reading File
FT. Reg. 3
Gilbert DeHuff, USBM
Louis Pavlides, USGS
Operating Comm.

R.C.G.
10-19-53

FILE COPY
SURNAME:

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Hopkins
Mayfield
Dethloff
Pauldo
per me

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

October 15, 1953

MEMORANDUM

TO: Administrator

FROM: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $11,710.00
Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Claims, No. 1 and No. 2
Plumas County, California

The denial of the subject application by this Division is based on the following information:

1. The applicant requested exploration assistance in the sum of $11,710.00 to explore for manganese on the Highgrade Manganese claims, No. 1 and No. 2, Plumas County, California.

2. The mining claims are underlain with rocks of Carboniferous age and consist principally of slaty shales that grade into tuffaceous sandstones and lapilli-tuff with small lenses of calcareous matter intercalated. Thin beds of gray quartzite occur also, and hematitic and manganiferous jasper, derived from chert, form prominent ledges that range in width from 5 to 20 feet.

3. Manganese minerals, principally pyrolusite and braunite, associated with the ledges of hematitic jasper are widespread in seams and fractures, but only in a few spots 2 to 3 feet square do the manganese oxides appear to form more than a small percentage of the rock.

4. The workings on the property consist of two adits, several short prospect drifts, a shaft connecting No. 2 Adit level with the surface and a number of surface trenches. The No. 2 Adit alone is accessible over a distance of 200 feet to the face.

R.G.B.
10-19-53

5. The following results were obtained from samples, taken in the only accessible opening on the property, and are believed to represent all of the rather limited ore reserves:

Sample No.	% Mn	% Fe	% P	% SiO_2	Description and location
1	9.5	8.55	0.019	68.60	3 ft.channel at face of No.2 Adit
2	16.1	11.35	0.077	42.60	1.2 " " " " " " " "
3	8.0	5.70	0.027	49.62	2.8 " " " " " " " "
4	13.4	19.25	0.014	42.80	7 " " " " " " " "
5	12.7	11.0	0.013	59.16	Grab of 3 tons at Portal of No.2 Adit
6	0.5	34.40	0.006	46.36	Specimen of hematitic and manganiferous jasper

6. For ore as mined the percentage of manganese as the sampling shows is too low and the iron and silica contents far exceed the specifications of acceptable ore. Also, the manganese is too closely associated with silica in seams and veinlets — to make concentration economically possible.

7. Only a small tonnage of low-grade manganiferous material high in iron and silica is indicated by the above samples. In order to make a milling operation worthwhile a large tonnage must necessarily be available. It is unlikely that large reserves of low-grade manganese rock can be developed on the Indian Valley Manganese Mines claims.

8. The Field Team of Region IV recommends denial. The Commodity Divisions of the U. S. Geological Survey and Bureau of Mines concur with the recommendation.

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

JHOPKINS:FOC
10-15-53
cc: Docket
Code 400
Admr. Reading File
Operating Comm.

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

October 15, 1953

MEMORANDUM

TO: Administrator

FROM: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of exploration project in the amount of $11,710.00
Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Claims, No. 1 and No. 2
Plumas County, California

The denial of the subject application by this Division is based on the following information:

1. The applicant requested exploration assistance in the sum of $11,710.00 to explore for manganese on the Highgrade Manganese claims, No. 1 and No. 2, Plumas County, California.

2. The mining claims are underlain with rocks of Carboniferous age and consist principally of slaty shales that grade into tuffaceous sandstones and lapilli-tuff with small lenses of calcareous matter intercalated. Thin beds of gray quartzite occur also, and hematitic and manganiferous jasper, derived from chert, form prominent ledges that range in width from 5 to 20 feet.

3. Manganese minerals, principally pyrolusite and braunite, associated with the ledges of hematitic jasper are widespread in seams and fractures, but only in a few spots 2 to 3 feet square do the manganese oxides appear to form more than a small percentage of the rock.

4. The workings on the property consist of two adits, several short prospect drifts, a shaft connecting No. 2 Adit level with the surface and a number of surface trenches. The No. 2 Adit alone is accessible over a distance of 200 feet to the face.

5. The following results were obtained from samples, taken in the only accessible opening on the property, and are believed to represent all of the rather limited ore reserves:

Sample No.	% Mn	% Fe	% P	% SiO_2	Description and location
1	9.5	8.55	0.019	68.60	3 ft. channel at face of No. 2 Adit
2	16.1	11.35	0.077	42.60	1.2 " " " " " " " "
3	8.0	5.70	0.027	49.62	2.8 " " " " " " " "
4	13.4	19.25	0.014	42.80	7 " " " " " " " "
5	12.7	11.0	0.013	59.16	Grab of 3 tons at Portal of No. 2 Adit
6	0.5	34.40	0.006	46.36	Specimen of hematitic and manganiferous jasper

6. For ore as mined the percentage of manganese as the sampling shows is too low and the iron and silica contents far exceed the specifications of acceptable ore. Also, the manganese is too closely associated with silica in seams and veinlets to make concentration economically possible.

7. Only a small tonnage of low-grade manganiferous material high in iron and silica is indicated by the above samples. In order to make a milling operation worthwhile a large tonnage must necessarily be available. It is unlikely that large reserves of low-grade manganese rock can be developed on the Indian Valley Manganese Mines claims.

8. The Field Team of Region IV recommends denial. The Commodity Divisions of the U. S. Geological Survey and Bureau of Mines concur with the recommendation.

W S Martin

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

Docket

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

October 8, 1953

WSM

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 and 2 Claims
Plumas County, California

Reference is to your letter dated July 1, 1953, requesting a review and possibly a field examination of the subject property.

The property was examined on July 21, and attached are four copies of a report entitled "DMEA-3086, Indian Valley Manganese Mines, Highgrade Manganese Nos. 1 and 2 Claims, Plumas County, California," by John D. Warne, Mining Engineer, U. S. Bureau of Mines, and J. F. Robertson, Geologist, U. S. Geological Survey, dated October 5, 1953.

The engineer and geologist are in agreement that an exploration loan on this property is not warranted as sufficient low grade ore could not be developed to warrant a beneficiation plant. They have also stated that it was doubtful that hand sorting would make a commercial grade ore and have recommended that a loan for exploration be denied. Mr. Bailey and I concur with their recommendations.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Enclosure

Copy to: E. H. Bailey, USGS

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

10/19/53

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-3086, Indian Valley Manganese Mines

Highgrade Manganese Nos. 1 and 2 Claims

Plumas County, Calif.

John D. Warne, Mining Engineer
U. S. BUREAU OF MINES

J. F. Robertson, Geologist
U. S. GEOLOGICAL SURVEY

October 5, 1953

REPORT OF EXAMINATION

Docket No.: DMEA-3086 (Manganese)

Name and address of applicant: O. H. Griggs
Indian Valley Manganese Mines
1903 Outpost Drive
Hollywood 28, Calif.

Name and location of property: Highgrade Manganese Nos. 1 and 2 claims
Plumas County, Calif.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A joint examination of the Highgrade Manganese Nos. 1 and 2 claims, in connection with an application for exploration assistance, was made by an engineer of the Bureau of Mines and a geologist of the Geological Survey on July 21, 1953. Mr. S. W. Brinker represented the applicant and was present at the examination.

This property is located about four miles east of ~~Tailorsville~~ Taylorsville, Plumas County, Calif.

The applicant's financial responsibility is not known; and his previous exploration work was not impressive.

The mine property is held under a lease agreement by the applicant.

Samples taken from the most favorable manganese oxide mineralized formation averaged about 12 percent manganese and a high silica and iron content. The manganese content of ores, exposed on the claims, is considered too low to allow present day mining.

It is recommended that a DMEA loan be denied.

NAME AND LOCATION OF PROPERTY

The Highgrade Manganese Nos. 1 and 2 claims are located in sec. 29, T. 26 N., R. 11 E. in Plumas County, Calif. They are situated four miles east of ~~Tailorsville~~ Taylorsville, California at an approximate elevation of 5,340 feet above sea level. The claims are accessible by roads leading a distance of 9 miles from ~~Tailorsville~~ Taylorsville as shown by the attached index map.

ACCESSIBILITY

The first 3.0 miles of road to the property is a paved county road; thence, 4.1 miles of steep graveled road leading up Beardsley Grade; and finally 1.9 miles of unimproved poor road leading southward to the claims.

The claims can be reached via automobile during the dry periods throughout most of the year; however, rain or snow conditions during the winter months would prevent access over the last 1.9 miles of mine access road.

COMPETENCY OF APPLICANT

The financial responsibility of the applicant is not known. His previous work in conducting the Lakeview Manganese Mines (docket DMEA-2393 - Contract Idm-E447) was not considered entirely satisfactory.

The mining and exploration ability of the applicant and his associates is not impressive.

APPLICANT'S PROPERTY RIGHTS

The Highgrade Manganese Nos. 1 and 2 claims are held under lease by

O. H. Griggs under the name of "Star Mines Co." and are assigned under limited partnership called the Indian Valley Mines (the applicant). Officers of the partnership are as follows:

O. H. Griggs, General Partner, 1903 Outpost Drive, Hollywood, 28 Calif.

Horace Brier, Limited partner, 1056 Illif St., Pacific Palisades, Calif.

Harry Plainer, Limited partner, 15912 Woodvale Rd., Encinio, Calif.

These two unpatented claims are owned by E. W. Stevens and Lena M. Sobrero of ~~Tailorsville~~ Taylorsville, Calif. They are stated by the applicant to have been recorded on October 8, 1942 in book 23, pages 66 and 67 in the Plumas County, California courthouse. The applicant states that there are no liens or encumbrances against the property.

DESCRIPTION OF PROPERT Y

Surface facilities at the property consist of a small cabin suitable to accommodate four men and a combination tool and compressor shed.

The main mine workings consist of the No. 2 adit which extends southward for a distance of approximately 200 feet (fig. 2). Several short prospect drifts were driven near its terminal and an inclined shaft connects with the surface at an elevation of about 72 feet above the adit level. These workings are now accessible with the exception of the shaft.

Adit No. 1, which is located 550 feet south of the portal of Adit No. 2, is now inaccessible. It is reported to have 70 feet in length, with a 14-foot winze located 30 to 70 feet from its portal.

Several surface trenches, which are now caved, are located between the two adits.

SAMPLING

Six samples taken in conjunction with this examination and analysis by the Bureau of Mines Hydrometallurgical and Ore Dressing Branch, Reno, Nevada, are as follows:

Sample No.	%, Mn	%, Fe	%, P	%, SiO_2	Description and location
1	9.5	8.55	0.019	68.60	(3-foot vertical channel taken from back downward along right side of face of northwest drift 150 feet from portal of Adit No. 2 (fig. 2))
2	16.1	11.35	0.077	42.60	(1.2-foot vertical channel, an extension of Sample No. 1.)
3	8.0	5.70	0.027	49.62	(2.8-foot vertical channel, an extension of Sample No. 2.)
4	13.4	19.25	0.014	42.80	(7.0-foot vertical channel across mineralized portion of left side of face.)
5	12.7	11.0	0.013	59.16	(Grab sample of about 3 tons of manganese ore at portal of Adit No. 2)
6	0.50	34.40	0.006	46.36	(Specimen sample of prominent jasper capping overlying manganese-bearing formation)

GEOLOGY

The Highgrade Manganese Claims of the Indian Valley Manganese Mines Company are located in the north end of the Sierra Nevada province in an area of overturned and overthrust Paleozoic and Mesozoic sediments

and meta-volcanics. The Indian Valley regional geology has been mapped and described by Diller[1/]. As seen on Diller's map, the Highgrade Manganese Claims lie within the Peale formation of Carboniferous age. (Age is probably Mississippian, from correlation made with the Baird formation in the Redding, California area.) Lithologically, the Peale formation contains slaty shale that grades into tuffaceous sandstone and lapilli-tuff, with small lenses of calcareous matter intercalated. Thin beds of gray quartzite occur also, and black to red cherts form prominent ledges.

Lithology

On the Indian Valley property, the Peale formation is poorly exposed at the surface, being mostly covered by colluvium and vegetation. Practically the only rock exposures are of reddish-gray, hematitic and manganiferous jasper derived from chert. The jasper forms a prominent line of outcrops that trend S. 30° E. for nearly 500 feet up the nose of a ridge. The outcrops range in width from 5 to 20 feet.

Trenches and pits along the jasper outcrops reveal overlying and underlying brown to gray, bedded cherts and black shale. At the southernmost outcrop, the shale is light reddish-gray to brown, partly from weathering, but also from iron oxide contamination from the adjacent jasper. Bedding strikes N. 15°-20° W. and dips about 50° west. The road cut-bank at No. 2 adit exposes interbedded shales, cherts, and andesitic tuffs that are

1/ Diller, J. S., 1908, Geology of the Taylorsville region, California: U. S. Geol. Survey Bull. 353.

bleached by weathering. Within the adit, the same rock types are well represented. Altered chert, from 42 to 70 feet from the portal, is massive, buff to white in color, and soft and punky when wet. Andesitic tuffs are fine- to coarse-grained, with lapilli ranging up to an inch or more in size.

Structure

The "ledge" of jasper appears to parallel the N. 15° -20° W., 50° west-bedding in the enclosing shales and cherts. It lies apparently in undisturbed contact with the shale where exposed in the trench 90 feet south of the adit and in the trench at the southeast end of the map. At some places, however, the exposed contacts show evidences of movement along bedding planes as noted at the collar of the shaft and in the trench 40 feet south of it. The jasper itself gives the appearance of being brecciated and sheared, although such a texture may be obtained through its partial replacement by hematite and manganese minerals. It is not certain, therefore, whether the ledge of jasper represents a mineralized strike fault or simply a chert bed that includes sedimentary derived hematite, manganese, and recrystallized quartz, along which minor faulting has taken place.

The fault zone, on which the inclined shaft is sunk, strikes N. 25° W., dips 60° southwest, and is about 1 foot thick. Probably the same fault is exposed in the adit along the drift at the bottom of the shaft. At the north end of this drift, the hanging wall of the fault is mineralized

with manganese. Mineralization is relatively poor on the footwall side.

Other faults exposed in No. 2 adit may be divided into two sets. One set strikes east to northeast and dips 60° north to vertical. The other younger set of faults strikes generally north and dips from 10° west to vertical. Amounts of movements on these faults were not ascertained.

MANGANESE DEPOSITS

Manganese minerals on the Highgrade Manganese Nos. 1 and 2 Claims are associated mainly with the ledge of hematitic jasper. A vein-like deposit of black manganese minerals is exposed in No. 2 adit, and similar deposits are reported to occur in the shaft and in the caved adit No. 1. The manganese ore minerals observed on the property are pyrolusite and braunite. Crystals of hausmannite or goethite and hematite were noted locally associated with quartz in veinlets. The manganese carbonate, rhodochrosite, and the silicate, rhodonite, were not observed.

Hematite content in jasper outcrops varies considerably, and distribution is quite irregular. Manganese oxides associated with the hematitic jasper are widespread in seams and fractures, but only in a few spots 2 to 3 feet square do the manganese oxides appear to range higher than a few percent of the rock. Sample No. 6, consisting of random specimens of hematitic jasper taken at the portal of adit No. 2, assayed the following:

%, Mn	%, Fe	%, P	%, SiO_2
0.50	34.40	0.006	46.36

This is fairly typical of the hematite-rich jasper, but the silica content is high and manganese content is negligible.

Manganese oxide minerals are most concentrated in adit No. 2 at the face of the drift northwest of the shaft. They replace the sheared chert and shale in the fault that trends north, and occurs extensively as replacement of wall rock in fractures and seams for a thickness of 5 feet on the hanging wall side of the fault. The footwall side is only weakly mineralized. At the intersection of the drift with the crosscut, the manganese mineralization ends abruptly.

Twenty feet south of the shaft in adit No. 2, hematite occurs in a 1 to 3-foot wide vein-like mass at the contact between shale and medium- to coarse-grained andesitic tuff. About 65 feet south of the portal in adit No. 2, another mass of hematite, 1 to 3 feet thick, occurs in a northeast-trending fault in altered massive chert or jasper. Manganese minerals do not appear to be associated with these occurrences of hematite.

According to Mr. S. W. Binker, considerable manganese has been stoped from the inclined shaft, but the shaft was not accessible for examination. Mr. Binker also claims that 70 tons of ore, sorted to 56 percent manganese, was taken from adit No. 1 in 1942. The adit was inaccessible when the property was examined. Several pits and trenches on the property showed only traces of manganese oxides in stained siliceous rocks.

DISCUSSION OF RESERVES

It is doubtful if any of the manganese-bearing material on the High-grade Manganese Nos. 1 and 2 Claims can be profitably sorted or milled to ore specifications. According to the Army and Navy Munitions Board[2/], specifications for manganese ore that is acceptable, but below the desired average and dependent for its acceptance on quantities and qualities of ore in stockpile and the conditions of supply, are:

Mn (minimum)	% 40.00
Fe (maximum)	14.00
Mn:Fe ratio (minimum)	3.40
$SiO_2 + Al_2O_3$ (maximum)	15.00
P (maximum)	0.18

The desired grade of ore, however, contains at least 48 percent manganese and not more than 6 percent iron.

Referring to the assays of samples taken on the Indian Valley property, it is apparent that the percentage of manganese is too low for ore as mined directly, and the content of iron and silica far exceed the requirements of acceptable ore. Material of such grade would have to be sorted and concentrated by milling to raise it above 40 percent manganese, but to begin with, it is so tied up mechanically with silica in seams and veinlets through the cherty rock as to make concentration extremely difficult. Then too, if the iron is locked with the manganese, it will increase percentage-wise as the silica is sorted out, so that raising of the Mn:Fe ratio must also be considered. A large amount of iron in manganiferous material can be taken

2/ Bureau of Mines, 1952, Materials Survey: Manganese; compiled for the Materials Office, National Security Resources Board.

out by flotation or by roasting and magnetic separation, but the success of such processes depends on the way the iron and manganese are combined. Then too, the phosphorus content might increase substantially with concentration of manganese and iron.

In order to make a milling operation as indicated worthwhile, a large tonnage of low-grade manganiferous material must be available. Possibilities of developing a large tonnage on the Indian Valley property do not appear likely. The material at the face of the drift in adit No. 2 north of the shaft averages about 12 percent manganese on the hanging wall of the fault; this zone is exposed for a thickness of 5 feet and width of 8 feet and has been mined for a length of 10 feet. Over half of the material in this block, comprising roughly 24 tons, is piled on the dump of adit No. 2. Another 40 tons of like material with about the same grade of manganese is indicated beyond the face of the drift to north for 10 feet. There are no reliable data by which other low-grade reserves of manganiferous rock on the claims may be inferred. Probably concentrations of manganese oxides of comparable grade occur spottily throughout the hematitic jasper.

Hematite in the jasper and in the vein or fault zones, probably occurs in concentrations suitable for iron ore, but it is spotty and there is not enough to constitute important reserves of iron ore under present-day conditions. Not enough data was collected or samples taken, however, to estimate reserves of iron ore.

PROPOSED EXPLORATION

The applicant, Mr. O. H. Griggs, was not present during the examination so that his proposals for exploration are only vaguely known. Mr. S. W. Binker, a partner present at the examination, explained that more definite plans would be formulated after the findings and recommendations of the DMEA field team were made known. The applicant had considered several diamond-drill holes to test the down dip continuation of the jasper ledge, as well as some underground work in adit No. 2, but amounts, directions, etc., had not been decided.

No proposals for exploration are suggested, considering the low assays of the best material exposed on the property and the relatively small amount of manganese-bearing rock observed.

GEOLOGIST'S CONCLUSIONS AND RECOMMENDATIONS

The manganiferous rocks thus far exposed in the Indian Valley Manganese Mines claims appear to be too low-grade and too high in iron and silica to range within the possibilities of ore under present-day conditions. Beneficiation of the rock might improve the grade to a point where it could be marketed, but any extensive milling process requires large tonnages of low-grade material to sustain it. It appears unlikely that large reserves of low-grade manganese rock can be developed on the Indian Valley Manganese Mines claims. Milling out of silica and iron from the material available probably would make the cost of recovery prohibitive.

Exploration for large reserves of manganese ore on the Indian Valley Manganese Mines property under the DMEA program is not warranted; it is, therefore, recommended that no loan be granted.

PAST OPERATIONS

The applicant claims to have produced 70 to 80 tons of manganese oxide ore averaging over 50 percent in manganese content from a 15-foot shaft and a connecting adit during 1944. The source of this production is stated to have been from adit No. 1 (fig. 2).

No ore of this quality was observed or sampled in connection with this inspection. At the time of the inspection, no work was in progress at the mine.

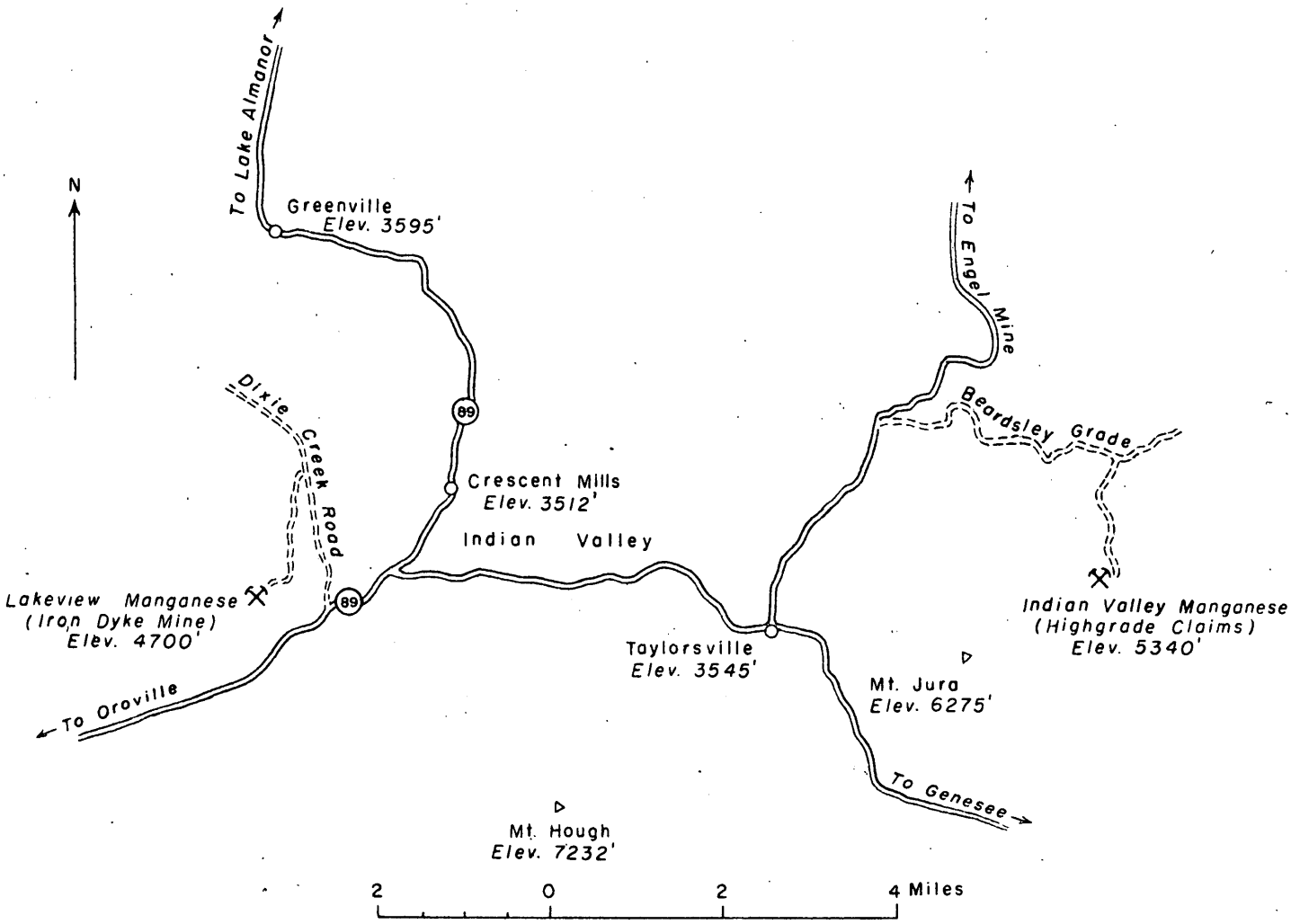
APPLICANT'S PROPOSAL

The exploration work proposed by the applicant includes:

1. About 100 hours of bulldozing along the strike of the formation to explore and develop manganese oxide ores near the surface.

2. Diamond drill 15 holes to a maximum depth of 100 feet, spaced 50 to 60 feet apart, to explore about 800 feet along the mineralized formation for shallow underground manganese deposits.

The estimated cost of the proposed work by the applicant is $11,710.00.



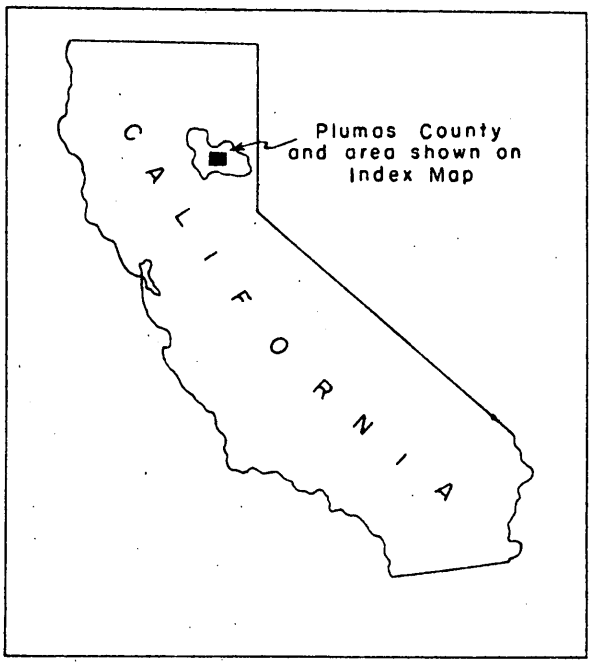
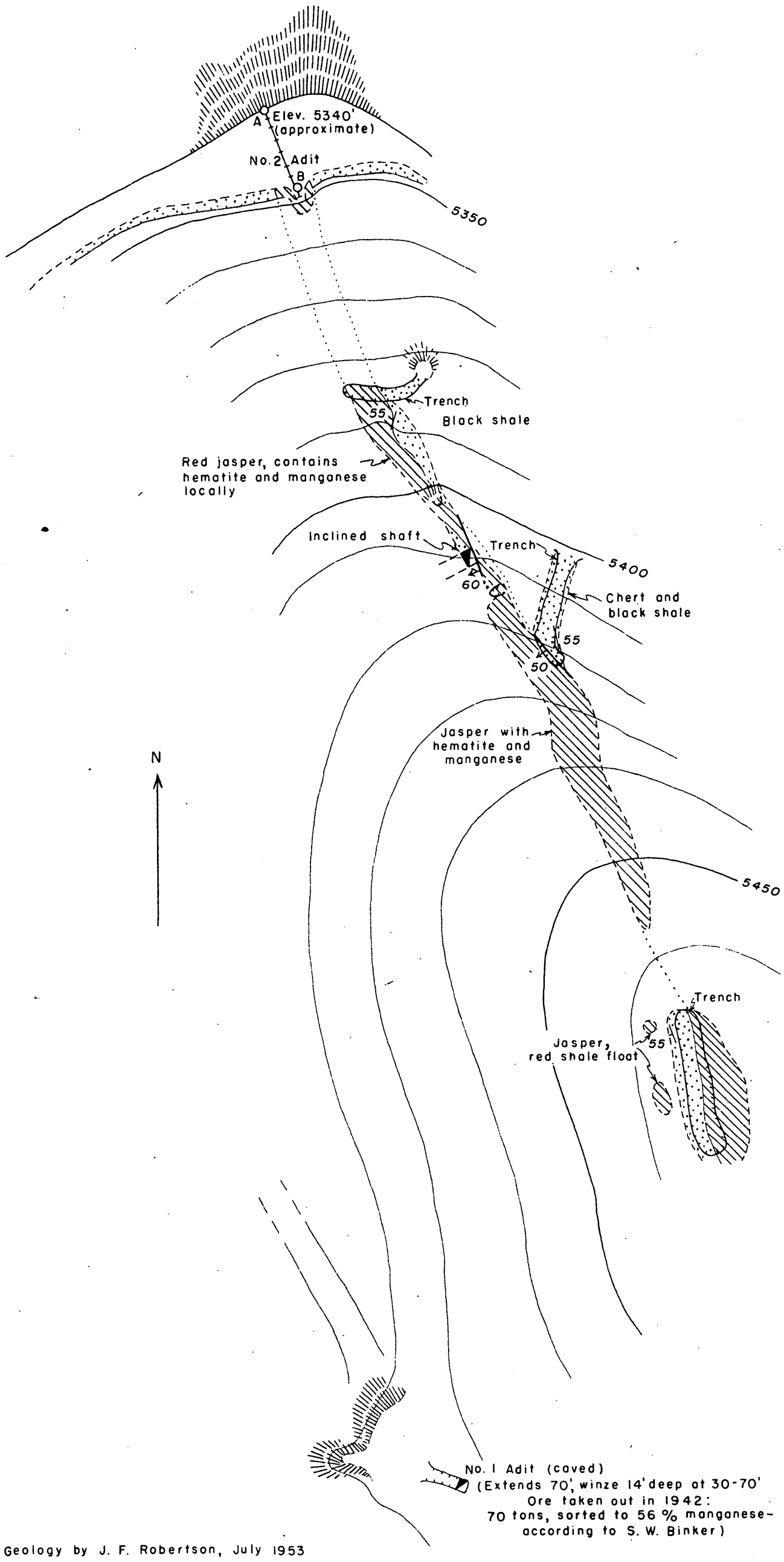
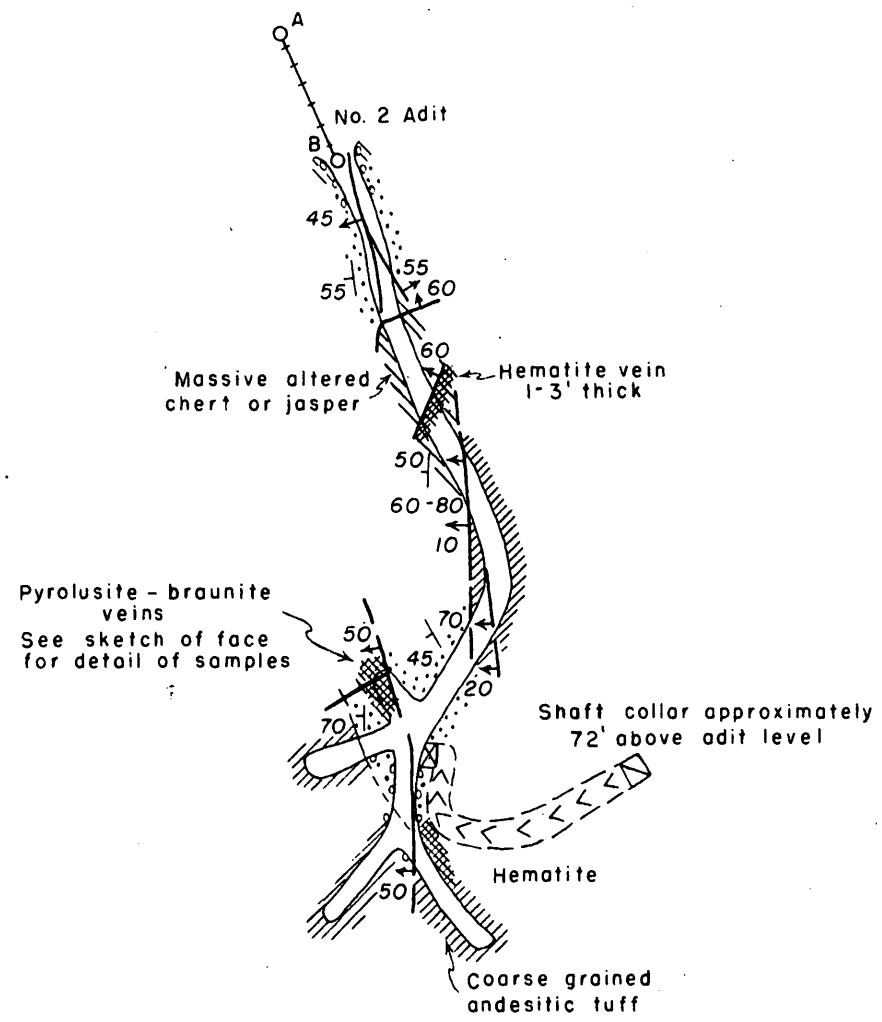


Figure 1 INDEX MAP

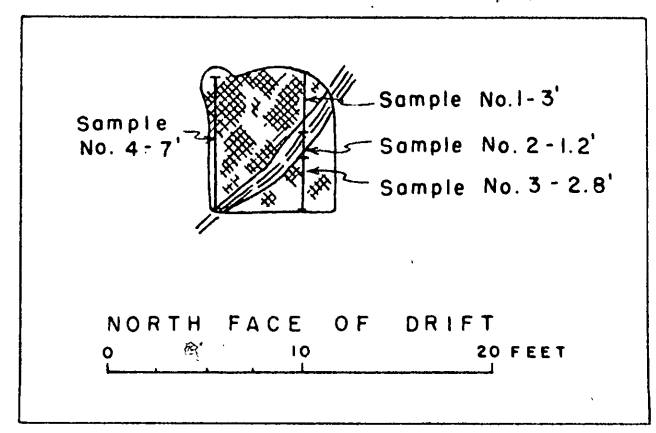


Geology by J. F. Robertson, July 1953

SURFACE MAP



UNDERGROUND MAP, NO. 2 ADIT



EXPLANATION

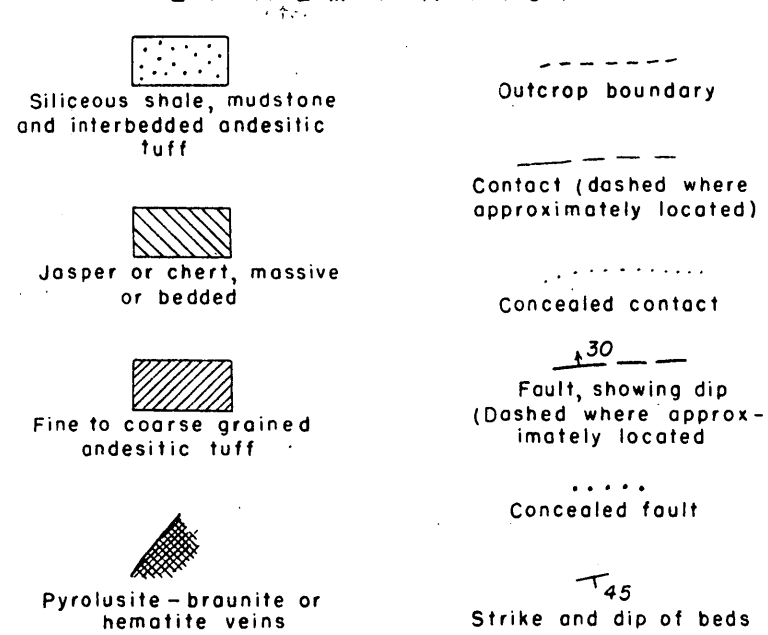


Figure 2

HIGHGRADE MANGANESE CLAIMS, INDIAN VALLEY MANGANESE MINES
PLUMAS COUNTY, CALIFORNIA

50 0 50 100 FEET

Docket MDS

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT - 5 1953

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

September 30, 1953

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2 Claims
Plumas County, California

Reference is made to your letter dated September 21, 1953, requesting information as to when you might expect the completed report on the Bureau of Mines-Geological Survey field examination of the subject property.

Our Reno office informs us that the report will be forwarded to this office the latter part of this week, and also that the Geological Survey has recommended denial of this application. Mr. Warne, of the Bureau of Mines, is in agreement with the Survey's recommendations.

The report will be mailed to you probably early next week.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Copy to: E. H. Bailey

Copy retained 400

July monthly report of Region3 said FT report being prepared.

400

FILE COPY
SURNAME:

Martin
Rutledge
Selfridge
E. J. Rusch

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

SEP 21 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco, California

Re: Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2
Claims
Plumas County, California

Dear Mr. Miller:

Reference is made to the subject application for exploration assistance, which we referred to your office by our letter of July 1, 1953, for review and possibly a field examination of the property.

According to Region III's monthly report for July, the field examination had been made and the report was then in course of preparation. It will be appreciated if you will let us know when we may except to receive the completed report.

Sincerely yours,

George C. Selfridge (GCS)
Chairman, Operating Committee

APPROVED:

J. H. Hedges (JHH)
Member, Bureau of Mines

A. R. Kinkel, Jr. (ARK)
Member, Geological Survey

WSMartin:foc 9-14-53
cc: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. 3
Mr. DeHuff, USBM
Mary Miller, USGS

9-21-53

FILE COPY
SURNAME:

Hopkins
Martin
Kendall
Hedges
Selfridge
Johnson

400

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

JUL 1 1953

Mr. O. H. Griggs
% Indian Valley Manganese Mines
1903 Outpost Drive
Hollywood 28, California

Re: Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2
Claims
Plumas County, California

Dear Mr. Griggs:

Your application for assistance in exploring manganese veins on your Highgrade Manganese Claims Nos. 1 and 2 in Plumas County, California, has been reviewed by the Iron and Ferro-Alloys Division, DMEA, and has been referred to Mr. H. C. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, for further consideration and possibly a field examination.

Should a field examination be made of the property, any assistance that you can render the examining engineers will be appreciated.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

JHopkins:foc
6-29-53
cc: Docket
Code 400
FT. Reg. 3
Admr. Reading File
Oper. Comm.
Mrs. Martha Carr, USGS
Mr. Melcher, USBM

R.C.H.
7-1-53.

FILE COPY
SURNAME:

Hopkins
Martin
Selfridge
Johnson

400

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

JUL 1 1953

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 3086 - Manganese
Indian Valley Manganese Mines
Highgrade Manganese Nos. 1 & 2
Claims
Plumas County, California

Dear Mr. Miller:

Reference is made to the subject application for exploration assistance which is being referred to your office for review and possibly a field examination.

The applicant states that the location of the claims is given in the office of the Recorder in Plumas County, California, but has failed to furnish the exact location in his application.

The following memorandum has been prepared and is enclosed for your information:

Memorandum by Martha Carr, U. S. Geological Survey, June 25, 1953.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

Approved:

J. H. Hedges
Member, Bureau of Mines (JHB)

A. R. Kinkel, Jr.
Member, Geological Survey (JHB)

JHopkins:foc
6-29-53
cc: Docket
Code 400
Admr. Reading File
Operating Comm.
Mr. Melcher, USBM
Mrs. Martha Carr, USGS
FT. REG. III

Enclosure

Docket

IN REPLY REFER TO:

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

June 25, 1953

To: Mr. W. S. Martin, DMEA

From: Martha Carr, USGS

Subject: Exploration application $11,710 DMEA-3086 Manganese
Indian Valley Manganese Mines (Lessee)
(A limited partnership: O. H. Griggs, Horace Brier, and Harry Plainer)
1903 Outpost Drive
Hollywood 28, Calif.

Property: Two adjoining lode mining claims, "Highgrade Manganese" Nos. 1 and 2, which are about 8 miles by new road (over half of which is paved) from the Western Pacific Railway at Crescent Mills, Calif. The claims are 4 miles distant from Taylorsville. Although the applicant has indicated that the location of the claims is given in the office of the Recorder of Plumas Co., he has failed to furnish the exact location in his application. The claims, however, may be in the area described in Calif. Bull. 152, p. 172-173 (no. 2, Braito Mine - Dixie Creek, Feather River, Iron Dyke) (1918) and in an unpublished report on "Western Manganese" (Iron Dyke, Lakeview), by Ivan Wilson, 1943, a copy of which is attached. This report would indicate that the claims are located in sec. 27, T. 26 N., R. 9 E. In 1943, according to the same report, they were owned by Al Timmins and others in Crescent Mills and leased to Western Manganese Company, O. H. Griggs, in charge. They lie on a steep southeast slope on the northwest bank of Indian Creek, 1,000 feet above the valley floor at an elevation of 4500 feet.

Proposal: The work proposed by the applicant in exploring for manganese oxide ores includes (1) about 100 hours of bulldozing along the strike of the formation for the purpose of removing surface materials to sufficient depths where it overlies the ore formation in order to open up ore that might be produced from surface work; and (2) diamond drilling 15 holes to a maximum depth of 100 feet each. The location of drilling work would extend from a point about 50 feet northerly from the surface outlet of the raise along the formation

outcroppings for a distance of approximately 800 feet with holes spaced 50 to 60 feet apart. The work could be under way in less than 20 days from the date of authorization and completed within 6 months, provided the date of authorization permits completion before the winter season.

Geology: The following excerpts from Wilson's report on "Western Manganese" are believed to apply to the applicant's property:

> The manganese deposits lie in a belt of phyllite or sericite schist mapped as the Arlington formation by Diller. The schist has a general strike of N. 60° W and dip of 35° -65° SW. The manganese ore is underlain or overlain in places by jasper; in many places the ore is in contact with the schist or with red clay with which it is commonly associated. The ore bodies, lenticular in shape, seem to follow a zone of faulting and are more or less parallel with the schistosity of the surrounding rocks. Although the ore appears to occur essentially in one horizon, it is not continuous in the various workings but wedges out in places along the strike and dip. The average thickness of the ore-bodies is about 6 feet. The ore is black, hard, dense, and massive. P. D. Trask identified it as braunite. A few streaks of soft black oxide mineral occur along fractures in the hard massive ore. (Calif. Bull. 152, p. 173, states that both psilomelane and pyrolusite are present.) The mine, which was operated during the first World War as the Braito or Noble lease, produced to 1943 a total of 4400 tons, with a Mn content of 41-48 percent and SiO_2 of 15-25 percent. No accurate estimate of reserves can be made because of the great variability of the ore bodies along the strike and dip. The greatest future possibilities would seem to lie in discovering further ore down the dip. The grade of ore appears to be fairly uniform and reserves are likely to range between 45 and 48 percent Mn. Mr. Wilson concludes his report by saying that, regardless of the ultimate tonnage that may be found, the present possibilities of the mine are believed to be quite favorable. Also, Mr. Wilson states in the attached copy of his memorandum of August 21, 1943, that he would rate the Western Manganese Mine as one of the best in the State.

Recommendation: It is recommended that the application with the attached copies of the report and memorandum on "Western Manganese", both by Wilson, be referred to the field team, with the request that the specific location of the applicant's claims be obtained from Mr. Griggs--and if considered worthwhile, the claims be visited. Our recommendation for approval or denial of the project would appear to be unjustified without complete information on the location of the property.

Sent to F.T. by ltr.

Martha Carr

Martha Carr

Attachments

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U. S. GEOL. SURVEY
CONFIDENTIAL

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To: TAH. from Ivan F. Wilson, Berkeley, California, Aug. 21, 1943.

Enclosed is one copy of a report on the Western Mn Mine in Plumas County, California, together with a tracing of a sketch map.

It may be seen that my estimates of reserves are considerably lower than those of Mr. Griggs in his letter to the Metals Reserve Company. Furthermore, there are a number of statements in his letter with which I am not in agreement, and which, surprisingly enough, were controverted by statements made by the foreman of the mine, a Mr. Rosborough.

For example, Mr. Griggs states: "The workings off Tunnel No. 1 were all drifting in a solid face of ore both to the North and South. The ore width is about the same as found in the Winze—from 8 to 12 feet". Mr. Rosborough, on the other hand, states that the ore wedged out along the drift between the 1st 2 stopes and also wedged out about 30 or 35 feet from the end of the drift. As the roof is lagged I could not establish the facts for certain except that no ore is exposed on the walls at the places mentioned, and the west face of the drift is definitely barren of ore. The thickness of ore as stated also seems exaggerated. Likewise, the statement that drifting along tunnel no. 2 "is now in progress in a full face of ore" is certainly not correct as of this date, because the face is barren of ore. The statement that "For the past 6 months only, shipments from this property have been solely from development work," also does not seem to be strictly correct, for Mr. Rosborough estimates that about 75% of the ore shipped this year came from the stopes above tunnel no. 1.

Regardless of all this, I would rate this as one of the best mines in the state, and I think the possibilities of continuing or increasing the pres. rate of production of 200 tons per month are very good. I would be inclined to favor any reasonable request for road improvement, if such should arise.

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U. S. GEOL. SURVEY
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U. S. GOVERNMENT
ONLY

Docket

1903 Outpost Drive,
Hollywood 28, Calif.
June 19, 1953.

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

Gentlemen:-We regret to advise you that, due to an error, our application for exploration funds sent you under date of June 15th inst., no letter of transmittal was included.

We should have informed you that the matter of our application was discussed fully with the officials of the U.S. Bureau of Mines at Reno, Nevada, and as a result of that discussion we have made this application.

We should also comment that it would be advantageous for any work emanating from this appliaction be commenced well before autumn as the property lies at an elevation of about 4500' and is subject to storms as early as the first part of November, and such storms would greatly impede the work. These storms will not prevent haulage of ores as our road is well graveled, but would make bulldozing and drilling on the surface difficult.

Respectfully yours,

INDIAN VALLEY MANGANESE MINES

BY O. T. Riggs

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 23 1953

Copy in 400

June 22, 1953

Mr. O. H. Griggs
Indian Valley Manganese Mines
1903 Outpost Drive
Hollywood 28, California

Subject: DMEA-3086
Re: Exploration Assistance
"Highgrade"

My dear Mr. Griggs:

The receipt of your application dated June 15, 1953, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3086 and referred to the Iron and Ferro-Alloys Division.

Kindly refer to DMEA-3086 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Chief, Operation's Control
and Statistics Division

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3086-DMEA
Metal or Mineral
Date Received 6/22/53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: FOR RESPONSES TO THIS QUESTIONAIRE SEE PAGES 1, 2 & 3 ATTACHED HERETO.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

(*b*) State any mine name by which the property is known.

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

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

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

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

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

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

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

16—66551-1

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

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

.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated ....., 195...

.....
(Applicant)

By.....

.....

.....

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

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

1. Name of Applicant:-Indian Valley Manganese Mines.
   (b) A limited partnership under California law.
   (d) O.H.Griggs, General Partner, 1903 Outpost Dr., Hollywood28, Calif.
   Horace Brier, Limited Partner,1056 Illif St.,Pac.Palisades, "
   Harry Plainer, " " ,15912 Woodvale Road,Encino, "

2. General:- Four copies herewith.

3. Applicant's Property Rights:-The property held by Applicant consists of two (2) lode mining claims named "Highgrade Manganese" Nos 1 & 2. These claims lie side by side-- see sketch Marked Exhibit A, accompanying this application.
   (b) This property is known as the "Highgrade".
   (c) Applicant is Lessee-- see lease accompanying this application Marked Exhibit B.
   (d) Copy of lease herewith--Exhibit B.
   (e) There are no liens or encumbrances.
   (f) "Highgrade No. 1"notice of location recorded October 8, 1942 in the office of the Recorder of Plumas County California in Book 23 at Page 66.
   "Highrade No. 2" notice of location recorded October 8, 1942 in Book 23 at Page 67 in the office of the Recorder of Plumas County, California.

4. Physical Description:-This property was first opened up by O.H.Griggs, General Partner of Applicant, in 1944 just prior to the end of the War program and from a shallow 15 foot shaft and a short connecting tunnel produced some 70 to 80 tons of highgrade Manganese oxide ore assaying above 50% Mn. The operation was suspended in December, 1944, because of the termination of the Metals Reserve program.
   Refer to sketch Marked Exhibit A:-The ore formation is very strong and rides the crest of what is equivalent to a hogsback, is relatively straight in strike, is continuous for more than 1800 feet with outcrops and some ore showing on the surface at various points. The ground is stable and underground workings require practically no timbering. The hanging wall is hard jaspery rock in places more than 15 feet thick containing enough Manganese to come close to a Rhodonite ore. The countrykrocksistslate. At the end of work in December, 1944, there was three feet of highgrade ore in the bottom of the 15 foot shaft. Surface trenches along a distance of more than 400 feet were all in highgrade ore. That the ore persists to some depth is now proven by a tunnel (see sketch Exhibit A) with ore in the floor of the tunnel, this being 80 feet below the surface at the point where a raise has been driven to the surface which raise was in ore all the way. This tunnel will be approximately 125 feet below the surface when it reaches a point directly below the mentioned 15 foot shaft.
   Geologically, it is believed that this deposit is a bedding, having been tilted with the slates
   A new road constructed within the past two months brings this property within approximately 8 miles to the shipping point on the Western Pacific Ry at Crescent Mills, Calif. More than half of this distance is on a paved road.
   A cottage with all accomodations for four men has been erected on the property. Any additional help can come in daily from the town of Taylorsville 4 miles distant.

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

Manpower for operations is readily available. Materials and supplies are usually available locally or at farthest from Reno or Sacramento. Water needs are for camp, compressor and drilling and comes from mine drainage. Power required is for aircompressing and is by gasoline engine direct connected to compressor. The property is fully equipped for mining and ore is being currently produced in a limited amount from the tunnel shown on sketch Exhibit A.

5. (a) Manganese oxide ores are the only mineral of this property.
(b) Work proposed by Applicant is (1) about 100 hours of Bulldozing along the strike of the formation for the purpose of removing surface materials to sufficient depths where it overlies the ore formation in order to open up ore which might be produced from surface work. And (2) diamond drilling 15 holes to a maximum depth each of 100 feet each. This drilling would obtain practically a true cross section of ore encountered as the ore dips about 45 degrees and the slope of the hill where drill setups would be made would form nearly a right angle. The location of this work of drilling would extend from a point about 50 feet northerly of the surface outlet of the raise (see sketch Exhibit A) along the formation outcroppings for a distance of approximately 800 feet with holes spaced 50 to 60 feet apart,
(c) This work could be underway not less than 20 days from the date of authorization and completed within 6 months at most, provided allowance is made for delays in event authorization throws the work into the winter season.
(d) This work will be carried on under supervision of O.H. Griggs, who has had extensive experience in the production of Manganese ores having been the largest producer of Manganese during the past War in California and so far as can be learned in the Pacific Coast country. He has been mine operator for more than 30 years having been engaged in iron ore mining in Minnesota and Michigan, copper and gold mining in California and in other metal production. He has in his employ also men well trained in production and sorting of Manganese ores.

6. Diamond drilling, 1500 feet of hole, estimated to cost $6.00 per foot $9,000.00

Bulldozing, 100 hours @ $14.00, ...	1,400.00
Explosives for blasting in connection with bulldozing.....	200.00
Labor, blasting and aid for bulldozer operator, 100 hours @1.80	180.00
Supervision for complete program, est at 1 month.....	400.00
Transportation supporting diamond drill crew.....	180.00
Geologist examinations, 5 days @ $50.00.....	250.00
Clerical.....	120.00
	11,710.00

(a) Bulldozing and diamond drilling would be let by contract.
(b) See estimate above. Note:- Prevailing wage for common labor in the district is a minimum of $1.80 per hour.
(c) Applicant will furnish power-- that is, compressed air for drilling; Bulldozer will furnish own power.
(d) Applicant now has all necessary equipment, excepting drilling machinery and bulldozer-- both of which will be contracted.
(e) No rehabilitation required.
(f) No additional buildings required.
(g) No repairs. Employers' insurance is negligible. Above figures include totals excepting only as to assays in case assays are required. If required, Applicant suggests some reasonable addition to above figures.

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

(g) There are only two contingencies occuring to Applicant:- (1) Assays of ore discovered by diamond drilling and as to this Applicant assumes there would be no more than 3 assays for each drilled hole or a maximum of 45 assays which, with express and laboratory charges, would amount to approximately $5.00 each or a total of $225.00; and (b) unforeseen costs caused by winter conditions in the mountains in case work cannot be commenced until late autumn, which extra costs would be due to freezing conditions, transportation difficulties and delays by snow or inclement weather.

7. Applicantis prepared to furnish its share.
(b) Applicant proposes to furnish its share (25%) both in money and in services-- no charges are included for use of equipment other than set forth in Section 6 above.

Note:- It should be explained that while O.H.Griggs (Star Mines Co.) has a leasehold on the mining claims "Highgrade Manganese Nos.3 & 4", such property is not under control of the Limited Partnership Indian Valley Manganese Mines, the Applicant herein. If it should be deemed desirable to extend the work contemplated herein to such added property, this can be arranged by authorization of O.H.Griggs (Star Mines Co.)

Dated June 15, 1953.

Indian Valley Manganese Mines
By O.H.Griggs, General Partner.

MINING LEASE

This Agreement made and entered into this 29 day of November, 1950, by and between E.W.Stevens and Lena M.Sobrero, Lessor, and Star Mines Company, Lessee,

WITNESSETH:

That in consideration of the mutual covenants herein expressed, it is now agreed as follows:-

1. That Lessor lets and hereby leases unto Lessee the following described lode mining claims situated in Plumas County, California, and hereinafter referred to as the property, under the terms and conditions herein specified:- The lode Mining claims named the Highgrade Manganese Nos 1, 2, 3, and 4, the notices of location of which are recorded in the office of the County Recorder of Plumas County, California.

2. The term of this lease shall be ten years from date hereof unless sooner terminated as herein provided.

3.Lessee shall pay to Lessor a royalty of ten percent (10%) of all proceeds derived from the ~~property~~ sales of products derived from the property after first having deducted from such proceeds actual cost of freightage from the property to point of shipment; and such royalty shall be paid not later than on the 15th day of each month upon proceeds received during the next preceding month.

4. It is understood that the property is potential Manganese ore producing property and that it is the intent hereof that the same shall be developed to its proper economical capacity. Lessee shall take immediate possession of the property and shall at his own cost and expense carry development thereof in a minerlike manner in compliance with law and in obedience to the orders, rules and regulations of authorities having jurisdiction thereof; and shall mine and sell at the best obtainable prices marketable Manganese ores therefrom in a diligent manner in keeping with good practise in similar cases. Work on the property may be on a five-day-a-week basis but shall be continuous subject to weather and season conditions otherwise, Lessee having the right to suspend work during winter or inclement periods when such work would be impractical or unprofitable. No default in this lease shall be deemed to have occured in the event of labor troubles, so-called acts of God or other events beyond control of Lessee which cause a suspension of work.

5. Coincident with payments of royalty Lessee shall furnish Lessor with statements shwoing weights, grades and prices received of the products sold from the property, and Lessor shall at all reasonable times have the right to inspect the books of account and records of Lessee having to do with the same; and Lessor shall during working hours have the right to access to the property and its workings butthe same shall not be at the cost and expense of Lessee.

6. Lessee shall have the right to terminate this agreement upon giving notice thereof to Lessor and upon such termination shall have the right to remove from the property machinery and equipment placed thereon by Lessee, but Lessee shall not remove underground tracks, piping or timber supports.

7. Lessee shall pay all taxes assessed against the property, perform assessment work required by law and file proof thereof, and shall furnish Lessor with proof that the same has been done. Lessee shall not permit liens or other encumbrances caused by Lessee to accrue against the property but this shall not preclude Lessee from defending any action in such connection an adverse result of which shall obligate Lessee to discharge such lien or obligation immediately.

8. In the event that either party hereto shall allege a default of this agreement by the otherm the same shall be in writing specifying in detail the nature of such default, and the party so alleged to be in such default shall have 30 days after the serving of such writing in which to cure or remedy such default, and, upon so curing or remedying, no default shall be considered to have occured but failing which this agreement shall be subject to instant termination at the election of the party alleging such default.

9. Lessor represents that the title to the property is free and unencumbered subject

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

only to the paramount title of the U.S., and reposes in Lessor.

10. Time is of the essence hereof, and this agreement and its terms and conditions shall inure to the benefit and belong to the heirs, assigns and successors of the parties hereto.

IN WITNESS WHEREOF both parties have hereunto affixed their signatures the day and year first hereinabove written.

E.W.Stevens	(signed)
Anna R.Stevens (his wife)	"
Lena M. Sobrero	"
John B. Sobrero (her husband)	"
Star Mines Company	
By O.H.Griggs	"

Note:- I hereby certify that the foregoing is a true and correct copy of the lease instrument.

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

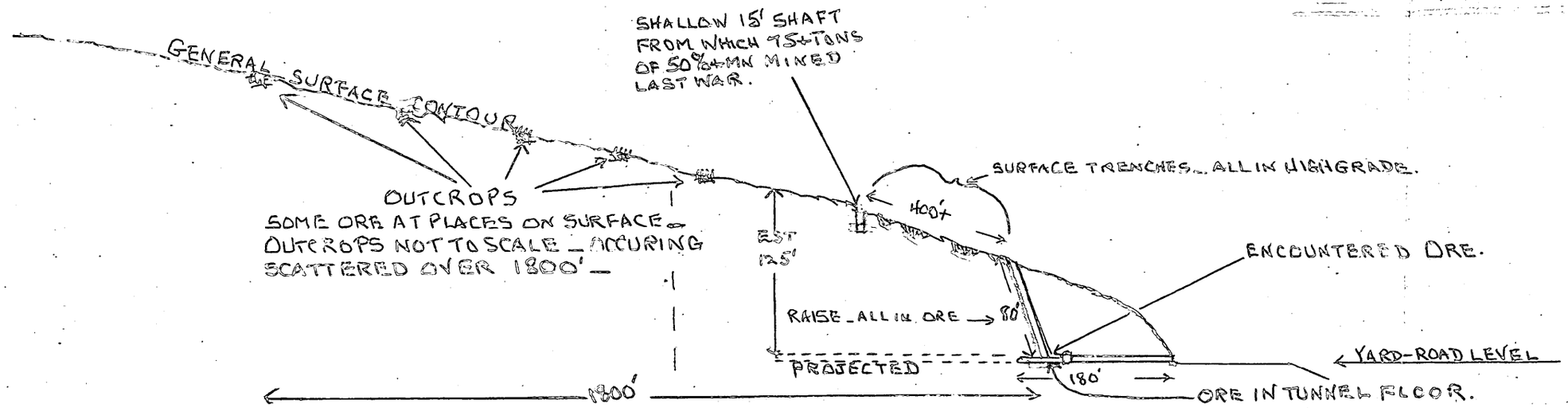
TO WHOM IT MAY CONCERN:- This is to state that the undersigned O.H.Griggs has carried on business under the fictitious name of "Star Mines Co." and that he has complete right and power to transact any and all business done under the said name of Star Mines Co. in any way he sees fit; and that he did as Star Mines Co. assign that portion of a certain mining lease covering lode mining claims named "Highgrade Manganese Nos 1& 2" to that certain limited partnership named Indian Valley Manganese Mines and that said lease and said assignment are at the date hereof in full force and effect and in good standing in every particular; and further that O.H.Griggs and Star Mines Co. are one and the same; and that the said assignment effectively conveys all rights specified in the said lease to the said mining claims without reservations or modification.

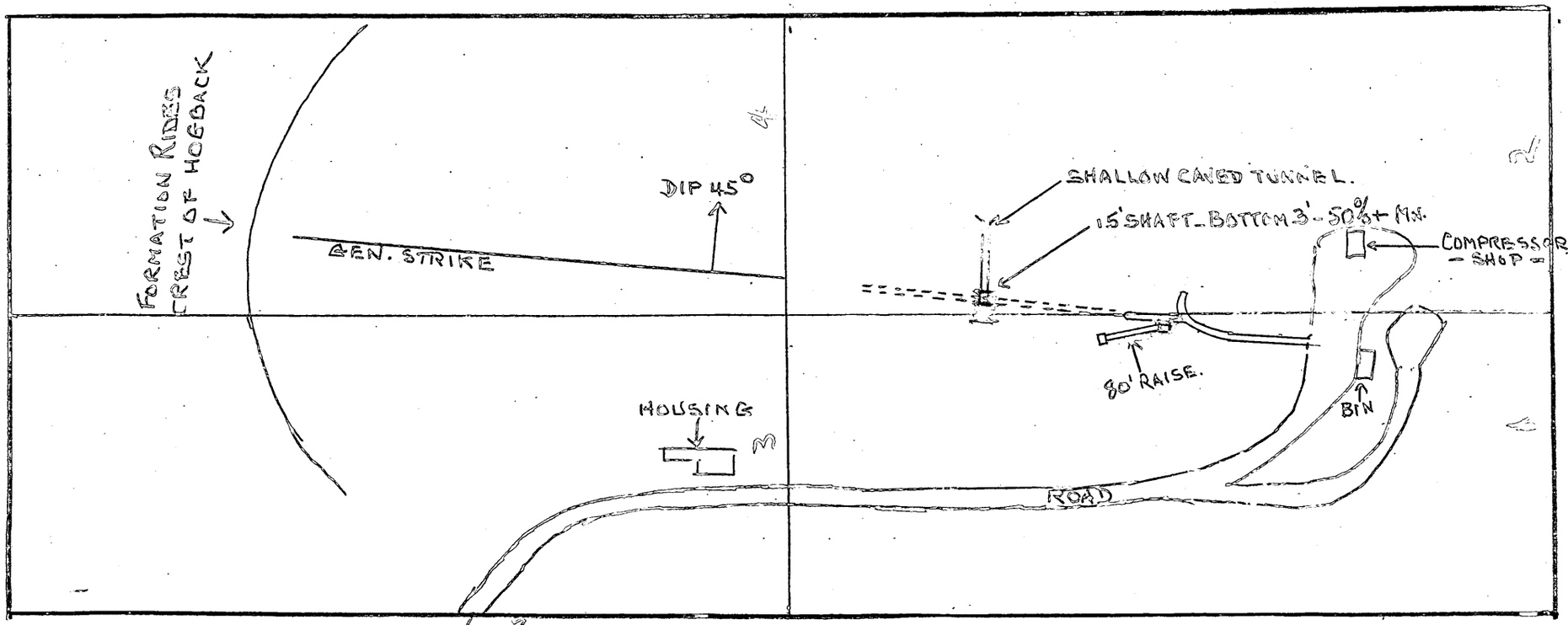
Los Angeles, California.
June 15, 1953.

O.H.Griggs.

EXHIBIT A

DUNEG - 8086





LODE CLAIMS
"HIGHGRADE MANGANESE"
NOS 1, 2, 3 + 4.

AREA
1200' x 3000'

— SKETCH —
NOT TO SCALE.

JUNE, 1953.

ORE =

INDIAN VALLEY MANGANESE MINES
1903 Outpost Drive
Hollywood 28, Calif.

WASHINGTON 25, D. C.

OFFICIAL BUSINESS

KNOXVILLE
JUN 16
430PM
1953
TENN.

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Mr. George C. Selfridge, Chairman
Operating Committee, D M E A
Dept. of the Interior
Washington 25, D. C.