UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
SEP 30 1955

September 26, 1955

Mr. Ivan L. Taylor
Box 537
Mackey, Idaho

Re: Docket No. DMEA-3743 (Lead-Zinc-Copper)
Horseshoe Mine
Custer County, Idaho

Dear Mr. Taylor:

As requested we are returning to you the geologic plan map of the Horseshoe & White Knob Mines and the claim map of the property of the Horseshoe Copper Co., Ltd.

Sincerely yours,

Harry L. Shelser
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I
Northwest District

Enclosures(2)
cc: [illegible](2)
[illegible](2)

File Copy
Surname

Griswold
Nelson
Yoder
Selfridge

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

Mr. Ivan I. Taylor
Box 537
Mackey, Idaho

SEP - 2 1955

Re: Docket No. DMEA-3748 (Lead-Zinc-Copper)
Ivan I. Taylor
Horseshoe Mine
Custer County, Idaho

Dear Mr. Taylor:

Your application for aid for an exploration project and other data available to us in Washington concerning the above-named 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 a certain amount of lead-zinc 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. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/er 9/1/55
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region I (2) NW Dist.
Chron.

RSh.

UNITED STATES
DEPARTMENT OF THE INTERIOR 500
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

September 1, 1955

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application for Docket No. DMEA-3748, Ivan I. Taylor, Horseshoe Mine, Custer County, Idaho

The cited application covers an old mine which has a total reported production of some ten thousand tons of good lead ore. Most of the production came from rich carbonate ore in the first hundred feet below surface. Lower levels were driven afterward but the sulphide ores appeared only as small irregular lenses of intermediate grade.

The mine is now inaccesible and the Field has been guided by reports of previous inspections by members of the USBM and the USGS. The field states that these reports demonstrate further exploration is unwarranted.

Another feature which is unfavorable is the fact that of a total estimated cost of $72,233.00, about two thirds of the money would be for mine rehabilitation. This feature has influenced the commodity reviewers to reluctantly agree with the field recommendation for denial.

The undersigned is also a bit reluctant in recommending denial, but apparently there is no recourse. Ordinarily, we would request the field to attempt to work out a more balanced program, but with an inaccessible mine the problem seems hopeless.

W. R. Griswold

W. R. Griswold

File Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR 500
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

September 1, 1955

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application for Docket No. DMEA-3748, Ivan I. Taylor, Horseshoe Mine, Custer County, Idaho

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W. R. Griswold

W. R. Griswold

WRG/er 9/1/55

Copy to: Docket
Base Metals
Chron.

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

Griswold
Betty

August 30, 1955

Re: DMEA-3748
Ivan I. Taylor
Horseshoe Mine
Custer County, Idaho
(Zinc-Lead-Copper,
$72,232)

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop,
Branch of Base Metals

Subject: Review of subject application and field team report on it

Ivan I. Taylor has a lease with option to buy the Horseshoe Mine 5 1/2 miles west of Mackay, Idaho. A total of 10,642 tons of lead-silver ore (17 percent lead and 12.8 ounces of silver recovered per ton) was mined from 1916-1954, the major portion coming from oxidized ore in the upper part of the mine. Principal development consists of the Fitzgerald Adit level and the Archibald Adit level. At 430 feet from the portal of the Archibald Adit there is a 350-foot winze with levels at 100, 200, 260 and 350 feet of depth. Development revealed the oreshoots were massive sulfide replacements with related oxides along fractures in the limestone near an irregular contact with a diorite porphyry.

The exploration record suggests the ore lenses were small, and there is no evidence in the text of the application or in the maps submitted that indicates otherwise. Apparently the sulfide ores encountered on the 100, 200, 260 and 350 levels were all of lower grade than the oxidized ores shipped. The average of 4 samples plotted on the plan view of the 200-foot level was 1.3 percent lead, 8.2 percent zinc, 0.6 percent copper and 3 ounces of silver. The applicant gives assay data of substantially better grade, but no data are given on specific locations or as to what widths they may represent. The field team reports that Fowler's report says the grade on the 350-foot level was too low to merit sampling. The only note on the plan map relative to the ore is "marmatite, FeS_2, limestone bondings."

The proposed exploration program consists of rehabilitating the Archibald Tunnel and the winze, equipping the latter with headframe and hoist, followed by 300 feet of drifting on the 200-foot level and 300 feet of drifting on the 350-foot level. The rehabilitation work and hoisting facilities would cost almost $48,000 while the exploration on the levels would cost about $24,000.

Were it possible to explore the contact zone on the 200 or 350 levels without the expensive rehabilitation I would recommend the project. As it stands the target is not sufficiently attractive to warrant the $72,000 program.

I concur with the field examiners and field team in recommending the application be denied.

O. M. Bishop

O. M. Bishop

Copy to - Division of Minerals
Helena M. Meyer
Mr. Kiilsgaard, Room 5222
O. M. Bishop
Files

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

August 30, 1955

Re: DMEA-3748
Ivan I. Taylor
Horseshoe Mine
Custer County, Idaho
(Zinc-Lead-Copper,
$72,232)

Memorandum

To: W. R. Griswold, DMEA

From: C. M. Bishop,
Branch of Base Metals

Subject: Review of subject application and field team report on it

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O. M. Bishop

Copy to - Division of Minerals
Helena M. Meyer
Mr. Kiilsgaard, Room 5222
O. M. Bishop
Files

IN REPLY REFER TO:

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

July 14, 1955

Griswold

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report, Horseshoe Mine, Custer Co., Idaho, DMEA Docket 3748.

The Field Team has recommended denial of the cited application, their recommendations based on, 1) the ore shoots to be explored are too small and too low in grade, and 2) principle expenditures will be on rehabilitation rather than exploration.

It is unfortunate that an exploration project, agreeable to both the applicant and the Government, cannot be worked out for this property as it appears to have some merit. Production from the mine, while not impressive, is nevertheless substantial. Furthermore, if there is any amount of sulfide ore that may be expected to assay 4.0-7.0% Pb, 10-17% Zn, 3 to 8 ounces Ag, and less than 1% Cu, it would appear to warrant exploration.

The Field Team has based their recommendation for denial on reports and maps by G. M. Fowler, Fred Farwell, and John Tabor. I have searched the Washington files and while I have found copies of Fowler's maps and Farwell's report, I have not found Fowler's report nor have I found Tabor's report; therefore, I have no way of checking the opinions those men had on the mine. As I have no further information available, I concur with the Field Team recommendations although, because of the above-stated reasons, I do so with reluctance.

Thor H. Kiilsgaard

Thor H. Kiilsgaard

IN REPLY REFER TO:

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

July 14, 1955

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report, Horseshoe Mine, Custer Co., Idaho, DMEA Docket 3748.

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THKiilsgaard:iml
G-7/14/55

Thor H. Kiilsgaard

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
O. M. Bishop, 3617

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
JUL 14 1955

July 11, 1955

Griswold
Betty

Docket

Mr. Ivan I. Taylor
Box 537
Mackay, Idaho

Re: Docket No. DMEA-3748 (lead-zinc-copper)
Horseshoe mine
Custer County, Idaho

Dear Mr. Taylor:

This will acknowledge receipt of your letter dated July 4, 1955, to Howard B. Nickels n asking about the status of your application for exploration assistance.

Our recommendations have been forwarded to Washington, and you should be hearing from them in the very near future.

Sincerely yours,

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

cc: [illegible] A(2)✓
[illegible](2)
[illegible]ickelson

File Copy

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

July 8, 1955

Mr. Ivan I. Taylor
Box 537
Mackay, Idaho

Re: Docket No. DMEA-3748 (Lead-Zinc-Copper)
Ivan I. Taylor
Horseshoe Mine
Custer County, Idaho

Dear Mr. Taylor:

We have received your letter, dated July 5, inquiring as to the status of the cited application.

The report of the Field Team has just reached us and we should be able to advise you within the course of the next ten days.

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief
Base Metals Division

WRG/er

Copy to: Docket
Base Metals
Chron.

Box 537

Mackay, Idaho

5 July, 1955

RECEIVED

JUL - 7 1955

Mr. Robert E. Adams, Chief

Operations Control and

Statistics Division

Defense Minerals Ex. Administration

Washington 25, D. C.

DMEA 3748

Greenwood

Docket

Mr. Adams:

I would appreciate any information that you could give me concerning the status of my loan application dated March 15, 1955 (Docket No. 3748).

Ivan I. Taylor

Ivan I. Taylor

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
JUL - 5 1955

June 28, 1955

Forwarded

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

Re: Docket No. DMEA-3748 (lead-zinc-copper)
Ivan I. Taylor
Horseshoe mine
Custer County, Idaho

Dear Mr. Selfridge:

Enclosed are four copies of a report by Howard B. Nickelson on an application for exploration assistance on the Horseshoe mine, Custer County, Idaho.

Although the mine is now inaccessible, the information on the property contained in an unpublished Bureau of Mines War Mineral Report by John W. Taber (Horseshoe Mine, Alder Creek mining district, Custer County, Idaho, dated April 1945) and an unpublished U. S. Geological Survey memorandum by Fred Farwell (Preliminary Memorandum on Horseshoe mine, Alden Creek district, Custer County, Idaho, dated December 22, 1943), demonstrates that further exploration of the property is not warranted. These reports should be available in the Bureau or Survey files.

Therefore, we recommend that the application be denied.

By Field Team, Region I
Northwest District

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

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

Enclosure

Reviewed by
DMEA Operating Committee
7-8-55

cc: USBM (2)
Nickelson

DMEA

UNITED STATES
Department of the Interior
Geological Survey
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
JUL - 5 1955

June 3, 1955

Memorandum

To: DMEA Field Team, Region I, Northwest District

From: Howard B. Nickelson, Geologist, U. S. Geological Survey

Subject: Docket No. DMEA-3748 (lead-zinc-copper), Application examination report, Horseshoe Mine, Custer County, Idaho

SUMMARY

Ivan I. Taylor, Box 537, Mackay, Idaho, submitted a DMEA application on March 23, 1955, for exploration aid at the Horseshoe mine in the Alder Creek mining district, Custer County, Idaho.

The applicant proposes to drive 150 feet of adit to gain access to the Archibald level, and to rehabilitate this level and 350 feet of vertical shaft. After the rehabilitation the exploration would consist of 300 feet of drift on the 200 level and 300 feet of drift on the 350 level to explore veins along the marble and igneous rock contact.

When the application was submitted to this office the writer spent several hours discussing various phases of it with Mr. Taylor. No geologic field examination was made because the only level now accessible is the Archibald level, and the level maps by G. M. Fowler, made when the level was still accessible are considered adequate. Fred W. Farwell, Geologist, Geological Survey, in a Preliminary Memorandum dated December 22, 1943, on the Horseshoe mine stated that Fowler's maps were correct, but his rock classification was somewhat generalized. The mine is also described by John W. Tabor, Mining Engineer, Bureau of Mines, in a War Minerals Report April 1945. It is presumed Farwell's and Tabor's reports are available in the Washington files; therefore, a copy of Fowler's map is part of Tabor's report. Copies of these reports will not be forwarded unless Washington requests them. In addition, C. P. Ross briefly described the Horseshoe mine in Idaho Bureau of Mines and Geology Pamphlet No. 33, p. 15, "Geology and Ore Deposits of the Seafoam, Alder Creek, Little Smoky and Willow Creek Mining Districts, Custer and Camas Counties, Idaho."

Reviewed by
DMEA OPERATING COMMITTEE
7-8-55
(date)

RECOMMENDATION

It is recommended that the application for DMEA assistance be denied because the ore shoots are probably too small and irregular or are too low grade to improve significantly the mineral supply position for the National Defense Program. Further, the principle expenditure of funds will be on rehabilitation rather than exploration.

LOCATION

The Horsehoe mine is in the Alder Creek mining district, Custer County, Idaho, in sec. 33, T. 7 N., R. 23 E., B. M. It is 5 miles from the Union Pacific railroad station at Mackay, Idaho. The mine is reached by a good, 15-foot wide gravel road, the last 2½ miles were constructed by the Forest Service as a mineral access road. The elevation of the main portal is approximately 8,260 feet above sea level. Some snow removal is necessary during the winter and spring months.

COMPETENCY OF THE APPLICANT

The applicant is considered competent to perform the exploration. He has most of the necessary equipment, he plans to do part of the work, and it is believed he has the necessary money to see the project to completion.

PROPERTY

The property is owned by Ethel May Strunk, a widow from Mackay, Idaho. Mr. Taylor holds a lease and option to purchase.

The property consists of 17 unpatented claims described in the applicant's lease and shown on the applicant's claim map.

DESCRIPTION OF THE PROPERTY

The principle developments in the mine consist of the Fitzgerald Tunnel, Archibald Tunnel, and a 350-foot vertical shaft inside the Archibald Tunnel approximately 430 feet from the portal, with 100, 200, 260, and 350 levels off the shaft. The extent of the levels is shown on the applicant's maps. No surface facilities exist.

GEOLOGY

The following brief summary is based on the work of Farwell and Tabor.

The ore shoots occur as massive, veinlike sulfide replacements and related oxides along fractures in marmarized Mississippian limestone near an irregular contact with a diorite porphyry intrusive. The ore within the apparent hydrothermal veins is limited to the marble adjacent to the intrusive. The fractures are barren in the porphyry and are barren or too weak to mine away from the contact.

Tabor describes the ore shoots as small irregular lenses, none exceeding 60 feet in length, and apparently limited in length along the dip. Some of these lenses such as those exposed on the 200 and 350 levels have a high iron content which makes them submarginal. The sulfide ore consists of pyrite, marmatitic sphalerite, galena, calcite, chalcopyrite, and pyrrhotite in about that order of abundance.

The mine has produced 10,642 tons of ore from 1916-1954 from six levels. This ore yielded 78.81 ounces of gold, 136,231 ounces of silver, 24,670 pounds of copper, 3,906,763 pounds of lead, and 115,614 pounds of zinc. The major portion of this production was from rich carbonate ore found above the 100-foot level.

The production record accompanying the application suggests the ore lenses were small because except for the early discovery years 1917 through 1920, production has been small. There is no evidence to suggest that the tonnage to be expected from proposed exploration will exceed the past production, and the metal content per ton is much lower in the sulfide zone. The numerous samples reported in the application and the reports suggest that the richer sulfide ore may range between 4.0 to 7.0 percent lead, 10.0 to 17.0 percent zinc, less than 1.0 percent copper, and 3.0 to 8.0 ounces of silver per ton.

The wide veins cut on the 200 level and the 350 level are interesting, but Fowler reports that grade of the vein on the 350 level was too low to sample, and the samples shown on the level map on the 200 level submitted with the application are not of commercial grade.

The applicant's proposal devotes $45,815.90 toward rehabilitation and $26,624.00 toward actual exploration. This amount of money needed to open the mine for exploration seems excessive for the amount to explore the small targets which are indicated by the previous production and the geologic information available concerning the property.

Distribution:
DMEA (4)
USBM (2)
USGS (SRO)
Docket
Nickelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
No. 157 Howard Street,
Spokane 4, Washington

RECEIVED
JUL - 5 1955
Greenwood
Reilly

June 28, 1955

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

Re: Docket No. DMEA-3748 (lead-zinc-copper)
Ivan I. Taylor
Horseshoe mine
Custer County, Idaho

Dear Mr. Selfridge:

Enclosed are four copies of a report by Howard B. Nickelson on an application for exploration assistance on the Horseshoe mine, Custer County, Idaho.

Although the mine is now inaccessible, the information on the property contained in an unpublished Bureau of Mines War Mineral Report by John W. Taber (Horseshoe Mine, Alder Creek mining district, Custer County, Idaho, dated April 1945) and an unpublished U. S. Geological Survey memorandum by Fred Farwell (Preliminary Memorandum on Horseshoe mine, Alden Creek district, Custer County, Idaho, dated December 22, 1943), demonstrates that further exploration of the property is not warranted. These reports should be available in the Bureau or Survey files.

Therefore, we recommend that the application be denied.

By Field Team, Region I
Northwest District

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

King C. Agnew, Member
U. S. Bureau of Mines

Enclosure

cc: DMEA (2)
Nickelson

Dmea

UNITED STATES
Department of the Interior
Geological Survey
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
JUL - 5 1955

June 3, 1955

Memorandum

To: DMEA Field Team, Region I, Northwest District

From: Howard B. Nickelson, Geologist, U. S. Geological Survey

Subject: Docket No. DMEA-3748 (lead-zinc-copper), Application examination report, Horseshoe Mine, Custer County, Idaho

SUMMARY

Ivan I. Taylor, Box 537, Mackay, Idaho, submitted a DMEA application on March 23, 1955, for exploration aid at the Horseshoe mine in the Alder Creek mining district, Custer County, Idaho.

The applicant proposes to drive 150 feet of adit to gain access to the Archibald level, and to rehabilitate this level and 350 feet of vertical shaft. After the rehabilitation the exploration would consist of 300 feet of drift on the 200 level and 300 feet of drift on the 350 level to explore veins along the marble and igneous rock contact.

When the application was submitted to this office the writer spent several hours discussing various phases of it with Mr. Taylor. No geologic field examination was made because the only level now accessible is the Archibald level, and the level maps by G. M. Fowler, made when the level was still accessible are considered adequate. Fred W. Farwell, Geologist, Geological Survey, in a Preliminary Memorandum dated December 22, 1943, on the Horseshoe mine stated that Fowler's maps were correct, but his rock classification was somewhat generalized. The mine is also described by John W. Tabor, Mining Engineer, Bureau of Mines, in a War Minerals Report April 1945. It is presumed Farwell's and Tabor's reports are available in the Washington files; therefore, a copy of Fowler's map is part of Tabor's report. Copies of these reports will not be forwarded unless Washington requests them. In addition, C. P. Ross briefly described the Horseshoe mine in Idaho Bureau of Mines and Geology Pamphlet No. 33, p. 15, "Geology and Ore Deposits of the Seafoam, Alder Creek, Little Smoky and Willow Creek Mining Districts, Custer and Camas Counties, Idaho."

RECOMMENDATION

It is recommended that the application for DMEA assistance be denied because the ore shoots are probably too small and irregular or are too low grade to improve significantly the mineral supply position for the National Defense Program. Further, the principle expenditure of funds will be on rehabilitation rather than exploration.

LOCATION

The Forsehose mine is in the Alder Creek mining district, Custer County, Idaho, in sec. 35, T. 7 N., R. 23 E., B. M. It is 5 miles from the Union Pacific railroad station at Mackay, Idaho. The mine is reached by a good, 15-foot wide gravel road, the last 2½ miles were constructed by the Forest Service as a mineral access road. The elevation of the main portal is approximately 8,260 feet above sea level. Some snow removal is necessary during the winter and spring months.

COMPETENCY OF THE APPLICANT

The applicant is considered competent to perform the exploration. He has most of the necessary equipment, he plans to do part of the work, and it is believed he has the necessary money to see the project to completion.

PROPERTY

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Distribution:
DMEA (4)
USBM (2)
USGS (SRO)
Docket
Nickelson

File Copy
Surname
Griswold
Selfridge
Kjerman
Mattenberg

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

500

APR - 7 1955

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

Re: Docket No. DMEA-3748 (Lead-Zinc-Copper)
Ivan I. Taylor
Horseshoe Mine
Custer County, Idaho

Dear Mr. Weissenborn:

We have your letter of March 29 enclosing the cited application.

We shall hold it in abeyance until receipt of your appraisal, which you believe can be made without a field examination.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (24B)

APPROVED:

J. H. Hedges (24B)
Member, Bureau of Mines

Thor H. Kiilsgaard (24B)
Member, Geological Survey

WRGriswold/er 4/5/55

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

R.C.S.

Mr. Ivan I. Taylor
Box 537
Mackay, Idaho

April 4, 1955
Subject: DMEA 3748
Re: Exploration Assistance
Horseshoe Mine

Dear Mr. Taylor:

The receipt of your application dated March 15, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3748 and referred to the Base Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

60932

April 4, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region I Nw.

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region I Northwest.

DMEA - 3748 Ivan I. Taylor

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

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

So. 157 Howard Street
Spokane 4, Washington

March 29, 1955

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

Re: Application for exploration aid
Ivan I. Taylor
Horshoe Mine
Custer County, Idaho

Dear Mr. Selfridge:

Enclosed are the following in connection with an application for exploration assistance submitted by Ivan I. Taylor, Box 537, Mackay, Idaho.

1. Original and two copies of form MF-103.

2. Three copies of a claim map.

3. Three copies of an underground geologic map.

4. Three copies of a surface geologic map.

5. Lease and Option agreement dated March 15, 1955, between Ethel May Strunk (widow) and Ivan I. Taylor.

The consent to lien from Ethel May Strunk submitted with the application is on an old form; however, Mr. Taylor is getting new ones executed and as soon as they are received, we will send them on in.

The applicant proposes to explore the Horseshoe Mine in the Alder Creek Mining District, Custer County, Idaho for lead, copper, and zinc. The application appears to be well prepared. We believe we have sufficient information on this mining district here in the office to prepare an appraisal of the application; therefore, we will try to do so without making a field examination.

Very truly yours,

John S. Vhay

John S. Vhay
For: A. E. Weissenborn, Exec. Officer
DMEA Field Team, Region I, NW Dist.

cc: USBM(2)
Nickelson

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
MAR 23 1955
U. S. G. S.
SPOKANE, WASH.

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. 3748
Metal or Mineral Lead-Zinc-Copper
Date Received 4-1-55
Estimated Cost $72,232.90
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: Ivan I. Taylor
Box 537
Mackay, Idaho

(*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 Page I

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

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

(*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. See LEASE AND OPTION attached

(*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. Page I

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

Encl.

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

(*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 60 days and be completed within 24 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?

[X] Money [X] 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 March 15, 1955

Jan S. Hayh
(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

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 3

Item 3 Applicant's property rights:

A - Legal description of land

The property is in the Alder Creek mining district, Custer County, Idaho, in Section 35 Township 7 North, Range 23 East, Boise Meridian. It is 5 miles from the Union Pacific railroad station at Mackay, Idaho.

B - Name of property:

Horseshoe Mine.

C - Interest in land:

Lessee with option to purchase.

D - Lease papers attached to application.

F - Book and page numbers of recorded location notice:

Name of Claim	Date of Location	Custer County, Idaho Book of Quartz Locations		
		Recorded	Book	Page
Third of July	7 / 3/1899	9/30/1899	E	161
Horseshoe	10/ 9/1899	12/30/1899	E	189
(Amended)	5/24/1901	8/21/1901	3	538
Schley	12/29/1899	3/30/1900	E	202
Mackay	9/ 7/1900	12/ 3/1900	E	294
(Amended)	12/31/1902	12/31/1902	4	311
(Amended)	5/11/1903	8/ 6/1903	4	500
Lauvena	6/20/1900	9/15/1900	E	288
Smuggler	9/17/1900	11/10/1900	E	292
(Amended)	10/ 3/1904	11/ 3/1904	5	264
Golden Harvest	11/11/1901	2/ 4/1902	E	437
(Amended)	10/ 4/1904	11/ 3/1904	5	265
Horseshoe No.2	1/17/1902	12/31/1902	4	310
Horseshoe No.3	1/17/1902	12/31/1902	4	312
Iron	4/21/1902	12/31/1902	4	309
Smuggler No.2	12/31/1902	3/28/1903	4	374
Smuggler No.3	5/25/1903	8/ 6/1903	4	501
Lucky Boy	7/ 1/1903	8/ 6/1903	4	499
Clara	10/ 1/1903	11/14/1903	4	574
Lassie	12/ 3/1903	1/ 8/1904	5	53
Reliance	8/30/1904	11/ 3/1904	5	268
Bedro Fraction	7/10/1917	9/ 8/1917	F	640

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 4 - PHYSICAL DESCRIPTION

The Horseshoe Mine is an idle lead - zinc - copper mine in the White Knob Mountains 5½ miles by road west of the nearest railroad terminal at Mackay, Idaho. The principal development in the mine consists of the Fitzgarrald Tunnel and the Archbold Tunnel and a 350 ft. shaft inside the Archbold Tunnel approximately 430 ft. from the portal, with 100, 200, 260 and 350 ft. levels in the shaft. The 100 ft. level was developed more extensively than the other three levels. There is estimated to be more than 2700 ft. of development work in the tunnels, crosscuts and shaft.

The bodies of sulphide ore containing pyrite, sphalerite, chalcopyrite and galena which are exposed on the 100, 200, 260 and 350 ft. levels in the shaft have been shipped in small lots only. At the time these ore bodies were discovered there was no suitable market for this class of material and the price of metals was insufficient to cover mining and treating charges. Production of the mine commenced in 1916. The profitable shipments prior to 1942 were confined to lead carbonate ore containing good values in silver. Subsequent production included both carbonate and sulphide ores.

The shaft was re-timbered in the fall of 1942, but the owner R. A. Strunk, passed away in the spring following and no work has been done in the shaft since the summer of 1943.

The applicant has successfully engaged in leasing in the Mackay District for 17 years with the exception of two periods spent in the Army. Three of the 17 years (1938, 1939 and 1940) were spent leasing at the Horseshoe mine and the applicant is well acquainted with the property.

The Archbold Tunnel level is the only portion of the mine now accessible for examination.

A development loan of $5,000.00 obtained from R. F. C. in 1942 has been repaid from royalties from ore produced.

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 4 - B

METAL PRODUCTION - HORSESHOE MINE - MACKAY, IDAHO
(From records of the U. S. Bureau of Mines)

Year	Crude tons	Gold ozs	Silver ozs	Copper lbs	Lead lbs	Zinc lbs	Cons. tons
1916	196	.88	1,468	3,093	55,587		
1917	1,462	6.99	17,293	2,997	678,074		
1918	1,087	8.64	11,440	1,522	446,628		
1919	1,128	4.76	12,011	2,333	361,937		
1920	2,319	5.96	21,165	2,021	386,352		
1921	116	2.25	1,811	376	55,902		
1922	651	7.61	9,297	902	246,659		
1923	660	6.98	5,014	1,603	169,872		
1924	79	4.33	1,012	287	36,538		
1925	75	1.50	1,348	384	59,310		
1926	865	11.72	10,236	3,198	332,597	18,942	32
1927	182	1.52	2,275	495	58,256	18,163	53
1928	49	.43	159	1,123	791	2,366	5
1929 thru 1935 No production							
1936	32		563	126	19,031		
1937	166	3.	3,309	185	102,758		
1938	62	1.	929		34,392		
1939	68	1.	1,080		38,386		
1940	62	1.	1,096	174	35,052		
1941	166	1.	1,633	438	65,934		
1942 no production. Following compiled from settlement sheets:							
1943	77	.94	293	452	7,840	19,109	
1944	260	2.48	908	1,898	16,051	52,202	
1945	124	.99	1,081	418	47,695	2,515	
1946	265	3.83	3,995	645	157,925	2,317	
1947	37.5		285		7,944		
1948	89.1		1,783		34,663		
1949	99.8		1,105		54,807		
1950	85.1		812		29,088		
1951	148.3		2,382		68,018		
1952 thru 1953 No production							
1954	31.4		232		10,676		
Totals	10,642	78.81	136,251	24,670	3,609,763	115,614	90

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 4 - C

Ore shoots at the Horseshoe are massive vein-like sulfide replacements and related oxides, along fractures in limestone near an irregular contact with diorite porphyry intrusives. Past production came from oxidized ore bodies. The ore shoots remaining are lenticular masses of iron and copper sulfides, marmatite and galena.

Accompaning maps indicate the extent of underground workings to date as well as the general geology. Occassionaly lenses have reached a width of 20 feet. The samples shown on the maps are at the present working faces.

The sulphide ore bodies were exposed about 1925 and no suitable recovery could be made by mill methods available at that time.

About 200 tons were mined from the sulphide ore body on the 200 foot level and stockpiled for test purposes. No further mining or development of this deposit has been undertaken.

The sulphide vein on the 100 foot level is considerably higher grade and limited stoping was done above the level by inexperienced miners in 1943 - 1944 resulting in the loss of the stope. No ore was taken below the sill.

On the 350 foot level a lense of sulphide ore was exposed showing a width of 12 to 15 feet. This ore body was crosscut but not explored due to the lack of a market.

It is the applicant's belief that by drifting on the 200 foot level to explore the downward extension of the 100 foot level ore body and by developing the 350 foot level, sufficient ore reserves could be proven to warrant construction of a mill.

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 4 - D.

There is 5½ miles of good road from mine to railhead at Mackay. The road can be maintained all year so that living quarters are not required at the mine. Two ore trucking companies operate out of Mackay where mine supplies are available.

Item 4 - E.

There are several unemployed miners at Mackay. Applicant has sufficient equipment for proposed project. Water is available at the mine. If sufficient ore reserves are developed to justify a mill, power will be available from Mackay.

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 5

Item 5 - B

It is requested that the Government participate in rehabilitating the Archbold Tunnel and repairing the main shaft station at the Archbold Tunnel level, then enlarging to two compartments and generally rehabilitating this main shaft to the 350 level. Thereafter it is proposed that 600 feet of drifts and crosscuts be driven as deemed feasible by both the Government and applicant. The direction and distribution of lateral work being subject to sampling and studying the workings which are now inaccessible.

Development suggested by applicant has been sketched on PLANS & SECTION HORSESHOE MINE map.

Applicant has set up work schedule in five phases as follows:

PHASE I - - New Adit, Archbold Tunnel

Due to the condition of the first portion of the old adit it is advisable to start about 25 feet east and drive a drift approximately 145 feet and intersect the main drift in better ground. The old tunnel was driven for the first 100 feet in a very soft porphyry and through the years it has sloughed and been retimbered until it is a natural channel for surface water. This condition leads to the formation of ice in the winter and swelling ground during the spring and summer thus making the tunnel a source of continual trouble. A new adit would eliminate this.

Approximate time required - 2½ months.

This phase also includes dumping facilities.

PHASE II - - Rehabilitating 300 feet main drift and 55 feet Hoisting station.

Most of this drift is in good condition except for some sloughing and old timber to be replaced. The portion around the shaft collar will require timber and some filling. Air lines and track will be installed.

Estimated time - 2 months.

Ivan I. Taylor
Box 537
Mackay, Idaho

PHASE III - - New Head frame, collar sets, pocket, hoist and Sheeve wheel

The old headframe has rotted away and is completely down. The shaft is bulkheaded at the bottom of the second set so one set and a collar set must be installed prior to putting up a new headframe and pocket.

It is the applicant's intention to use a bucket for hoisting and to install guides for use with the steel cage for men and supplies. A sketch of the proposed head frame is enclosed.

Estimated time - 2 months.

PHASE IV - - Enlarged and rehabilitate 365 feet of shaft.

It is expected that the first 100 feet of shaft will be in fair condition and replacement of the timber will be the only work to be done there.

The remainder of the shaft will have to be enlarged and completely retimbered.

Assume 2 feet advance per shift - - - - - - $7\frac{1}{2}$ months

Allow 1 month for contingencies - - - - - - 1

Estimated total time for phase IV - - - - - $8\frac{1}{2}$

PHASE V - - Drifting, 300 feet on the 200 foot level
300 feet on the 350 foot level

Some of this work may be carried on while the shaft is being repaired below the 200 feet level. In case this is not feasible, allow 9 months for the drifting and contingencies in the event that pumping may be necessary.

Total time estimated for the project - - - 24 months.

Proposed work is sketched on the Plan and Section Map which accompanies this application.

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 5 continued

Item 5 D - Operating experience of applicant:

1936 Spent 1 year prospecting on claims owned by applicant.
Ore: Lead-silver.

1937-38 Leasing in partnership at White Knob Mine.
Ore: Lead-silver.

1938-41 Leasing Horseshoe Mine.
Ore: Lead-silver.
This work consisted of drifting and mining small bodies of ore on the Schley claim of the Horseshoe and also in opening and rehabilitating the Fitzgarald Tunnel. Some shipments were made from each operation.

1942-45 Army service, 3 years overseas (European Theater).

1945-50 Upon return from overseas, applicant purchased a 25% interest in lease at White Knob Mine. Subsequent purchases brought interest to 66 2/3 %. During this lease, approximately 14,000 tons of lead-silver ore were shipped and also about 8,000 tons of oxide zinc ores. Gross value of these shippments exceeded $750,000.00. Work included about 2,000 feet of drifting and crosscutting, open pit work (bulldozing and power shovel), two 2-compartment shafts (115 feet and 250 feet) as well as several winzes. Average miners employed, 15.

1950-51 Applicant was recalled to army and served 10 months.

1951-52 Leased Phi Kappa Mine.
Produced about 1250 tons of lead-zinc-copper-silver ore. Falling metal prices forced closure of this operation.

1953-54 Drifting at the Champion Mine under contract. This was a DMEA project. In the latter part of 1954 was engaged in leasing at the same property.

Applicant is able to survey accruately and to plot results of the survey.

It is the intention of the applicant to personally supervise all operations of the project.

Ivan I. Taylor
Box 537
Mackay, Idaho

Item 6 B Labor, supervision, consultants:

Labor rates will differ under changing mining conditions. Labor and supervision costs shown in each phase of projects. Wage rates based on following schedule:

Supervision	$20.00
Miners	15.00
Hoist man	16.00
Timber framer	15.00

In sinking operation, supervision @ 21.00.

Item 6 C-New adit for Archbold Tunnel. 145 feet
Assume 4 feet advance per shift

PHASE I:

Item	Per shift	Per foot
Supervision	$20.00	
Miners - 2 @ $15.00	30.00	
Man Tramming - ½	7.50	
Man framing & compressor - ½	7.50	
	$65.00	$16.25
Rails - 16# @ $8.50/100 M	4.53	1.13
Spikes & connections	.90	.23
Pipe - 2" @ $0.75/foot	3.00	.75
Pipe - 1" @ $0.20/foot	.80	.20
Fittings	.68	.17
Ties - 2 @ $0.40	.80	.20
Ventilation pipe - 4 ft @ $100/ft	4.00	1.00
Fuel oil, lube., grease, gas	5.20	1.30
Repairs & parts	2.40	.60
Small tools, shovels, picks, axes, etc.	.60	.15
Transportation	2.50	.62
Powder, caps, fuse, carbide	10.00	2.50
Rock drills (2) & air leg		1.00
Bits, steel, air connections, hose fittings		1.25
Machine repairs, water & air hoses		1.00
Depreciation		1.91
Payroll taxes 12%		2.70
Blacksmith outfit		.50
Contingencies & misc.		.50
		$33.96

Timber: (1 set timbers 5 feet of drift)
1 set requires 26 lineal feet fir timber. (2 posts 14' - Cap 5½' sill 6½') @ $6.50
Lagging & blocking 300' per set @ $65.00M 19.50
Wedges - 10 per set @ $0.04 .40
Labor 20.00
$46.40 $9.28

Adit:

145 feet timber @ $9.28/ft	$1,345.60
145 feet drifting @ $33.96	4,924.20
	$6,269.20

Ivan I. Taylor
Box 537
Mackay, Idaho

PHASE II:

Rehabilitating 355 feet main drift and hoisting station.
Assume 100 feet timbering required and 12 feet advance per shift.

	Shift	Per foot	Total
Labor & supervision	$65.00	$5.42	
Operating materials & supplies:			
Rails		1.13	
Spikes & connections		.23	
Pipe - 2"		.75	
Pipe - 1"		.20	
Fittings		.17	
Ties		.20	
Ventilation		1.00	
Fuel, lube., gas, etc.		.43	
Repairs & parts		.20	
Small tools		.05	
Transportation		.21	
Depreciation		.53	
Payroll taxes		.90	
Blacksmith outfit & contingencies		.33	
		$11.75	
Timber required:			
100 feet @ $9.28		$928.00	
Main drift & hoisting station			
355 feet rehab @ $11.75			$4,171.25
100 feet timber @ 9.28			928.00
			$5,099.25

PHASE III:

Headframe, pocket, hoist, collar set:

Materials for headframe & pocket:			
Lumber - 5,000' @ $65.00/M	$325.00		
Spikes - 150#	18.00		
Bolts, lag screws & rods	35.00		
Bell & cord	25.00		
Swinging door with steel plate	75.00		
Blocks for counter weights, 4	20.00		
Cable - 100 feet ½"	14.00		
	$512.00	$512.00	
Allow 1 month for headframe & pocket:			
Labor - 25 shifts @	$65.00	$1,625.00	
Hoist - timber & bolts to install		1,100.00	
Collar set & shaft set			
2,000 ft lumber @ $65.00		130.00	
(above figured on 12"X12" stringers)			
This type of work is very slow and exacting, so assume 1 month's time:			
25 shifts @	$65.00	$1,625.00	
Payroll taxes 12% $3,250.00		400.00	
			$4,392.00

Ivan I. Taylor
Box 537
Mackay, Idaho

PHASE IV Enlarging and Timbering shaft - 365 feet.
Assume 3 feet advance per shift, timbering only first 100 feet.

Labor:

		Per foot	
Hoistman 1 @	$16.00		
Shaftman 2 @ $21.00	42.00		
Supervision	21.00		
Framer and compressor	15.00		
	$94.00	$31.33	
Payroll taxes @ 12%	11.28	3.76	
Depreciation per month	239.13	3.19	
Fuel, gas, lube., etc		3.33	
Timber, 600 ft @ $65.00M		13.00	
Hanging rods		2.00	
Ladders, 3 feet		.32	
Shaft guides, 8bd. ft. @ $0.16		.64	
Pipe - 3'X1½"		.40	
Pipe - 3'X2"		.75	
Misc. tools, pipe fittings, spikes, etc.		1.00	
Repair parts for equipment		1.00	
Transportation		1.25	
Contingencies		2.00	
Total		$63.97	
100 feetof shaft			$6,397.00

Enlargement and timbering 265 feet of shaft. Assume 2 feet advance per shift:

Labor @	$94.00	$47.00	
Payroll taxes @ 12%		5.64	
Fuel, gas, etc.		5.00	
Timber		13.00	
Hanging rods		2.00	
Ladder		.32	
Shaft guides		.64	
Pipe - 1½"		.40	
Pipe - 2"		.75	
Tools, pipe fittings, etc.		1.00	
Powder, caps, fuse, carbide, etc.		2.50	
Bits		.75	
Steel		.50	
Rock drills - 2		1.00	
Transportation		1.25	
Contingencies		2.00	
Total		$88.53	
265 feet of shaft			$23,451.45

Ivan I. Taylor
Box 537
Mackay, Idaho

PHASE V

300 feet drifting on the 200 feet level

300 feet drifting on the 350 feet level - total 600 feet

Assume 4 feet advance per shift:

	Shift	Per foot
Labor:		
1 hoist man	$16.00	
2 miners @ $16.00	32.00	
1 trammer & compressorman	15.00	
Supervision	20.00	
	$83.00	$20.75
Payroll taxes @ 12%	9.96	2.49
Depreciation		2.39
Fuel, etc. @	10.00	2.50
Pipe - 2"		.75
Pipe - 1"		.24
Powder, caps, fuse & carbide		2.50
Fittings		.17
Ties - 2 @	.40ea.	.20
Repairs to equipment		1.00
Tools & misc.		.15
Rock drills - 2		1.00
Bits, steel, air & water hoses, etc.		1.25
Blacksmith outfit		.50
Contingencies		.50
Transportation		.62
Rails, spikes & connections		1.36
		$38.37

600 feet of drifting	$23,022.00
Assume 150ft timber required @ $9.28	1,392.00
	$24,414.00

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Mackay, Idaho

Item 6 D - Operating Equipment:

Following depreciation allowed on Phases I&2:

Equipment	Value	Depreciation/Month	Total
Compressor	$6,000.00	$100.00	
Truck (2 ton)	2,000.00	41.70	
Truck (½ ton)	1,800.00	30.00	
Chain saw	275.00	4.60	
Mine cars (3)	600.00	15.00	
Total	$10,675.00	$191.30	

Additional depreciation allowed on Phases 3-4-5:

Hoist (air)	$800.00	$13.33	
Sheave wheel	150.00	2.50	
Cable (500')	200.00	10.00	
Cage	425.00	7.00	
Buckets, (sinking-2)	90.00	15.00	
Total	$1,665.00	$47.00	$239.13

Item 6 E - Rehabilitation and repairs:

Repair compressor

New valves	$150.00
Gaskets	15.00
Grind valves (diesel)	20.00
Labor (50 hours @ $3.50	175.00
Total	$360.00

Item 6 F - New buildings, improvements, installations:

Applicant will construct such buildings as required, at own expense.

Ivan I. Taylor
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Mackay ,Idaho

Item 6 continued

SUMMARY OF ITEM 6

PHASE I	New adit Archbold tunnel - 145 ft.	$6,269.20
PHASE II	Rehabilitating Archbold tunnel - 355ft	5,099.25
PHASE III	Headframe & hoist installation	4,392.00
PHASE IV	Timbering 100 feet of shaft	6,397.00
	Enlarging & retimbering 265 feet.	23,451.45
PHASE V	Drifting 600 ft plus 150 ft timber	24,414.00
Overhauling equipment		360.00
Assays - 200 samples @ $3.00		600.00
Geology & mapping		1,250.00
Total cost of projected work		~~$72,439.90~~ $72,232.90

It is proposed that the Government participate in the units of work and costs as stated.

Total costs of proposed project	$72,439.90
Government's share @ 50%	36,219.95

The applicant requests that Agreed Unit Costs be set up for the project.

Independent contracts are not anticipated but the applicant would prefer that they be allowed in the event of unforseen situations. In this event, work could be carried on by competent parties in order to complete the project.

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Mackay, Idaho

Item 7

Item 7 A

Applicant will furnish his share of the cost of proposed project.

Item 7 B Equipment furnished by operator:

Equipment	Value	Rental/ Month
Compressor (315 cmf)	$6,000.00	$500.00
Truck (2 ton)	2,500.00(part time use)	100.00
Truck (½ ton)	1,800.00	100.00
Chain saw	375.00	25.00
Mine cars (3)	600.00	20.00
Rock drills (5)	1,500.00	85.00
Stoper	600.00	50.00
Air leg	150.00	10.00
Hoist	800.00	16.00
Sheave wheel	150.00	10.00
Cable (600 ft 3/4")	200.00	20.00
Cage	425.00	10.00
Buckets (sinking 2)	100.00	10.00
Tugger hoist	600.00	25.00
Blacksmith outfit	300.00	10.00
Water tanks (2)	50.00	5.00
Timber carts (2)	75.00	5.00
Total	$16,225.00	$1,001.00

Ivan I. Taylor
Box 537
Mackay, Idaho

COPY

Item III
Exhibit A

MEMO: TO Dr. Francis A. Thompson
FROM Robert E. Sorenson
Re Specimen of ore from the Kay Development Co. of Mackay, Idaho. (Horseshoe Mine)

Megascopic:

In the hand specimen of ore appears to be composed largely of marmatite, a spalerite containing more than 10% iron, some pyrite and galena. The galena and spalerite crystals seem to be well developed and appear clean and fresh. The Ore as a whole seems to show no alteration.

Microscopic:

In the polished surface the following minerals were identified:

Pyrite, sphalerite, galena and chalcopyrite.

PYRITE seems to have been the first mineral to form. it is found isolated in both a galena and a sphalerite matrix. Fractured pyrite contains galena and sphalerite veinlets which indicate a later genesis of these minerals.

SPHALERITE may be earlier than galena or, in some cases perhaps, contemporaneous with the latter. The sphalerite makes up a large part of the specimen. It has very well developed crystals of fairly large size which may aid in making the ore as friable as it is. Pryite and sphalerite are not intimately associated in fine grained intergrowth so it might be inferred that their separation should not be difficult. The removal of the iron which is present in the marmatite, however, is a chemical problem.

GALENA is in most cases, of later genesis than the sphalerite for definite veinlets of the former traverse the latter and completely surround sphalerite grains which now are isolated in the galena.

CHALCOPYRITE occurs along galena - sphalerite contacts and as fine specks in the sphalerite. This latter association is a common one for these minerals. The Chalcopyrite may be contemporaneous or later than sphalerite. Most of the evidence points to its being younger than the sphalerite and galena.

SUMMARY AND CONCLUSIONS

1. The ore is composed of the following minerals, in the order of their paragenesis, the oldest given first - they are:
   PYRITE, SPHALERITE, GALENA AND CHALCOPYRITE.
2. The sphalerite is of the "high iron" type known as marmatite.
3. All evidence, in the polished surfaces, seem to indicate that the minerals are primary and hypogene.

Ivan I. Taylor
Box 537
Mackay, Idaho

Exhabit B

Sample No. 1 Taken by former State Mine Inspector, Robert N. Bell from the 200 foot level in July, 1923. This sample was sent to the International Smelting Company, Salt Lake City. Assayed as follows:

Au. oz	Ag Oz	Pb %	Cu %	Zn %	Fe %	Ins %
0.010	8.9	4.8	0.41	21.58	31.9	2.6

Sample No. 2 Taken by former State Mine Inspector, Robert N. Bell from the 200 foot level in July, 1923. This sample weighed 200 lbs and was sent to the International Smelting Company, Salt Lake City. Assayed as follows:

Au. oz	Ag oz	Pb %	Cu %	Zn %	Fe %	Ins %
0.005	6.55	3.1	0.27	19.8	33.3	1.2

Sample No. 3 This is shown as "Sample No. 1" in the report of the flotation tests made by C. H. O'Connor, Butte, Montana, dated July 16th, 1926. Assayed as follows:

Au oz	Ag oz	Pb %	Cu %	Zn %	Fe %
Tr.	4.9	8.2	0.22	12.6	31.7

Sample No. 4 This is shown as "Sample No. 2" in the report of the flotation tests made by C. H. O'Connor, Butte, Montana, dated July 16th, 1926. Assayed as follows:

Au oz	Ag oz	Pb %	Cu %	Zn %	Fe %
Tr.	2.5	0.3	0.44	11.0	34.5

Sample No. 5 This is shown as "Sample No. 3" in the report of the flotation tests made by C. H. O'Connor, Butte, Montana, dated July 16th, 1926. Assayed as follows:

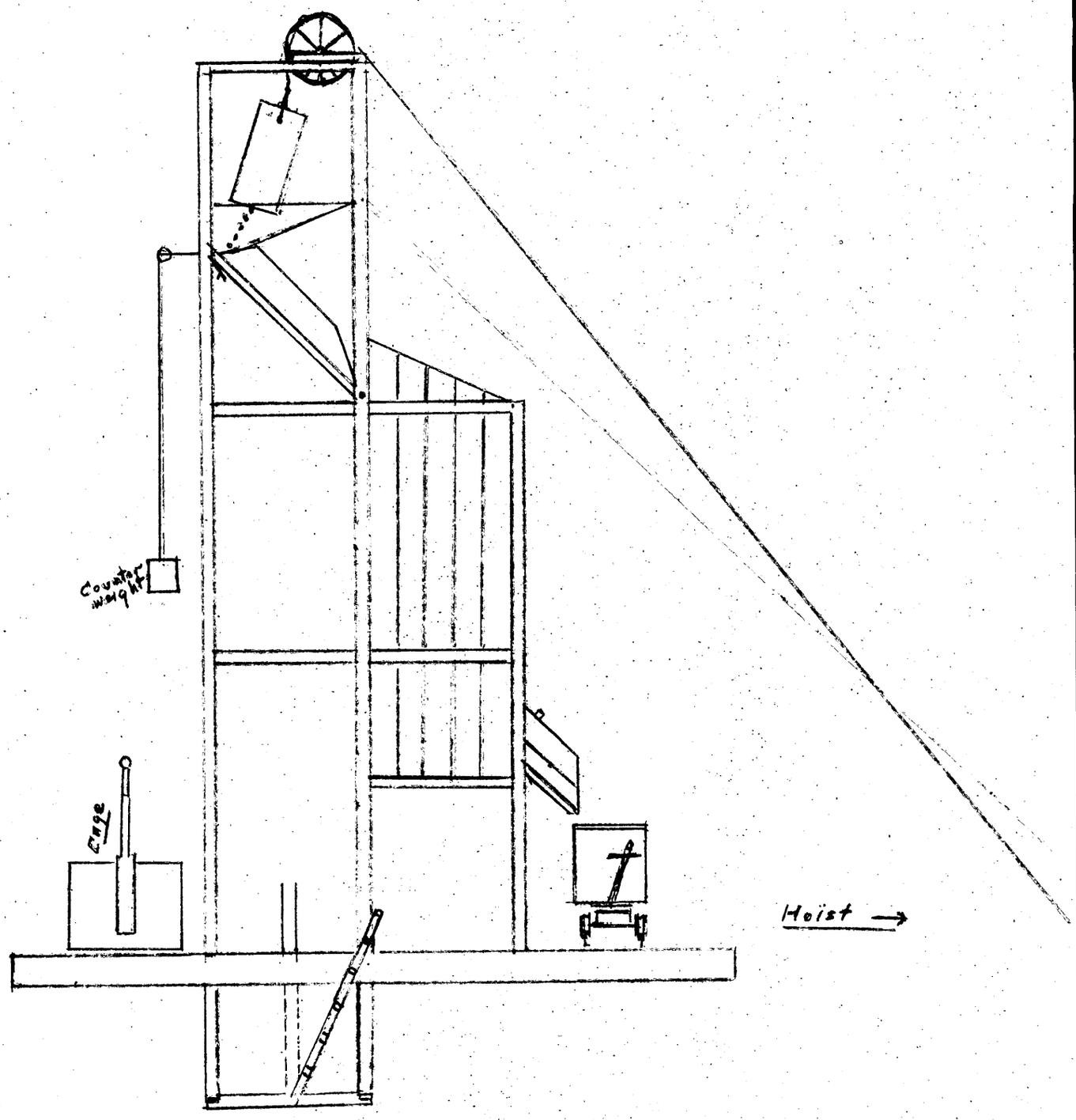
Au oz	Ag oz	Pb %	Cu %	Zn %	Fe %
0.005	4.7	0.2	6.16	Tr	27.9

Sample No. 6 Taken by R. A. Struck, Sept. 1929 from the 200 foot level. This sample was approximately 50 lbs and was sent to the Federal Mining & Smelting Co., Wallace, Idaho. Assayed as follows:

Au oz	Ag oz	Pb %	Cu %	Zn %	Fe %
	4.3	70. ?		12.4	29.8

Sample No. 7 Taken by J. H. Chaney and Bill Rush, Sept. 1941. This sample is from the dump and is from the ore extracted when sinking the shaft between the 100 foot level and the 200 foot level. It weighed approximately 100 lbs and was sent to Combined Metals Reduction Company, Stockton, Utah. Assayed as follows:

Au oz	Ag oz	Pb %	Cu %	Zn %	Fe %	Ins %
Tr.	8.61	14.7	0.25	21.0	23.6	1.3



Proposed Headframe
Horseshoe Shaft
Scale 1" = 5 feet
Sketch by Ivan T. Taylor

LEASE AND OPTION

THIS LEASE AND OPTION made as of the 15th day of March, 1955 by and between Ethel May Strunk, a widow, Mackay, Custer County, Idaho, hereinafter called "Lessor" and Ivan J. Taylor, a married man, Mackay, Custer County, Idaho, hereinafter called "Lessee",

WITNESSETH:

That Lessor, for and in consideration of the royalties, covenants and agreements by the said Lessee to be paid, kept and performed has granted, demised and let, and by these presents does grant, demise and let unto said Lessee, all that portion of the mining property of the Lessor situate in the Alder Creek Mining District, County of Custer, State of Idaho, particularly described as follows:

Third of July, Horseshoe, Schley, Mackay, Lauvens, Smuggler, Golden Harvest, Horseshoe No. 2, Horseshoe No. 3, Iron, Smuggler No. 2, Smuggler No.3, Luckey Boy, Clara, Lassie, Reliance, Pedro Fraction.

together with all and singular the minerals, lodes and veins within the lines of said lode mining claims extended downward vertically, but subject, however, to all extralateral rights, if any, of mining claims lying without the boundaries of the demised premises and owned by others than the Lessor.

TO HAVE AND HOLD the said demised premises unto said Lessee for the purpose of mining and with option to purchase as hereinafter set forth, for a term of ten (10) years commencing on 15 March 1955 and expiring at midnight on 14 March 1965, unless sooner terminated for default on the part of said Lessee as hereinafter provided.

The Lessee has the exclusive right and option to purchase the said premises for the sum of One Hundred Thousand Dollars ($100,000.00) to be paid as follows: Ten (10) per cent royalties shall be paid Lessor on all ores extracted and shipped or milled during the life of this agreement and Lessee guarantees that a minimum sum of Five ($5,000.00) Thousand Dollars will be paid the Lessor either through royalties or cash or both, by deposit to the credit of the Lessor in the Idaho Bank and Trust Co., Blackfoot

Idaho on or before 15 March 1959, and a payment of Five Thousand Dollars ($5,000.00) will be made in the same manner on or before 15 March of each and every year thereafter until the amounts so paid shall have equalled the purchase price of said premises. Lessee agrees to pay any fees should there by any, charged by the bank holding any papers in connection with this lease and option. Failure of the payment of the amounts as stipulated on 15 March 1959 or for any one of the years following thereafter shall constitute this agreement null and void.

AND IN CONSIDERATION of said demise said Lessee covenants and agrees with said Lessor as follows, to wit:

1. To enter upon said premises and work the same in a good and minerlike fashion, with due regard to the safety, development and preservation of said premises, and to keep all tunnels and other permanent workings thoroughly drained, clear of loose rock, rubbish and obstruction unless prevented by extraordinary mining casualty except where safe and economical mining practice requires back filling in stopes. To work said premises in the manner aforesaid steadily and continuously from the date of this lease with at least two (2) men on the same shift, and not less than a total of (40) man shifts each month during the term hereof.

2. To procure at Lessee's expense and carry all compensations, insurance and taxes required by Law, both Federal and State for which Lessee may become obligated and to comply with all other laws, rules and regulations of any Governmental authority affecting Lessee's operations in the demised premises and to furnish Lessor with supporting evidence of such compliance.

3. To allow the agents or representatives of Lessor at all reasonable times, but at their own risk, access to all parts of the demised premises for the purpose of inspecting and/or surveying the same and the workings therein, and the taking of such samples of ore or rock therefrom as they may desire; to allow said agents

and representatives at all reasonable times access to Lessee's records of production from said premises and such other records as will show compliance on the part of Lessee with the provisions of this lease.

4. To furnish Lessor with copies of any surveys, maps, assay plans or assay records made during or incident to operations under this lease upon request of Lessor or expiration or termination of this lease.

5. To forthwith post and thereafter keep posted in conspicious places on the demised premises, such notices as may be necessary to adequately notify all persons who may come within or upon the demised premises that the same are held by Lessee under a lease and option from said Lessor and that Lessee is and not Lessor is liable for all labor performed and supplies and materials used by Lessee in and upon the demised premises and that Lessee and not Lessor shall be responsible for all debts and expenses incurred in mining operations in or upon the demised premises.

6. To promptly pay all bills and accounts for labor, supplies and materials done, performed or furnished to, for, or on said demised premises and not to permit or suffer any mechanic's or materialman's lien to be filed upon said demised premises or any part thereof.

7. To hold Lessor harmless and fully indemnify her against all claims and demands of every kind and nature which may be made upon Lessor or against the demised premises for or on account of any debts or expenses contracted or incurred by Lessee, as well as from and against all acts, transactions or omissions by Lessee, his agents and servants, including claims, demands, causes of action, costs and expenses arising during the continuance of this lease from or on account of damage to property or injury to any person, whether occasioned by any unsafe or dangerous condition of any part of the demised premises or any workings thereon or therein used by Lessee or otherwise, and to defend Lessor at Lessee's own cost and expense from any such liability or asserted liability.

8. To pay or cause to be paid, to Lessor on all ores and minerals extracted, removed and shipped or milled from the demised

premises, royalty as follows:

> A flat Ten (10) per cent of the net value of all ores or concentrates removed and shipped or milled. Said royalty to be applied as stated heretofore.

9. That Lessee is an independent contractor and there shall be no privity of contract between Lessor and Lessee or Lessee's employees or sublessees, but all such employees or subleasees, whether on a wage or profit-sharing basis, shall be selected by Lessee, discharged by Lessee, directed by Lessee and paid by Lessee.

10. That if Lessee violates any covenant or covenants of this lease, upon his failure to cease and fully remedy such default within thirty (30) days after notice by Lessor to Lessee so to do, then this lease shall, at Lessor's option, expire, cease and become terminated, and Lessor may thereupon enter said premises and dispossess all persons occupying the same, with or without force, and with or without process of law; or at the option of Lessor, Lessee and all persons found in occupation of the demised premises may be proceeded against as guilty of unlawful detainer. For said purpose Lessor's notice to Lessee shall be in writing and mailed by registered mail addressed to Ivan I. Taylor, Mackay, Idaho, and the notice shall state the nature of such default and Lessor's intent to terminate this lease if Lessee should fail to cease and fully remedy such default within thirty (30) days after the mailing by Lessor of said notice. Failure of Lessor to exercise for any length of time any right of forfeiture for any cause shall in no event operate as a waiver of any right of forfeiture nor prejudice Lessor's right to enforce the same.

11. That upon expiration of the term hereof or upon the surrender or earlier termination for default, Lessee shall immediately deliver the demised premises to the Lessor, ~~or the purchaser thereof~~ free and clear, with the appurtenances and improvements thereon in good order and condition, with all tunnels and other permanent workings clear of waste, rubbish and water, and ready for immediate working, accident not arising from negligence alone excepted; provided that Lessee shall have a period of ninety(90) days after such expiration or termination within which to remove all tools, equipment and

machinery installed by them upon or in the leased premises, and that any such removable property which is not removed within the time limited shall remain with the land and be deemed abondoned by the Lessee and all his right, title and interest in and to said property shall immediately vest in Lessor and she shall become the owner thereof.

And the parties mutually agree:

That this lease shall be binding upon and shall inure to the benefit of the heirs, executors and administrators of Ethel May Strunk, and the heirs, executors, administrators and consent assigns of the Lessee.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals. Executed in the presence of:

Ethel May Strunk
Ethel May Strunk
Lessor

Ivan I. Taylor
Ivan I. Taylor
Lessee

STATE OF IDAHO)
County of)ss.
Custer)

On this 15th day of March, 1955, before me, the undersigned, a Notary Public for said State, personally appeared Ethel May Strunk and Ivan I. Taylor, known to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate

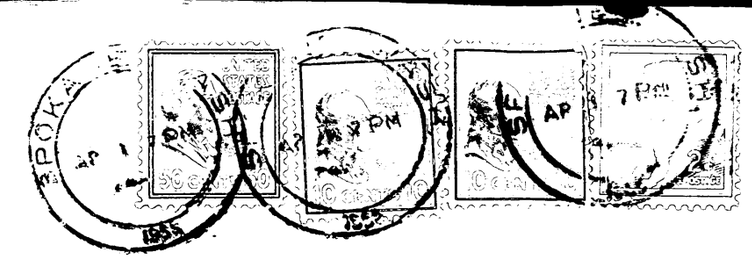
(SEAL)

Notary Public for Idaho
Residing at Mackay, Idaho

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION
[redacted]

OFFICIAL BUSINESS

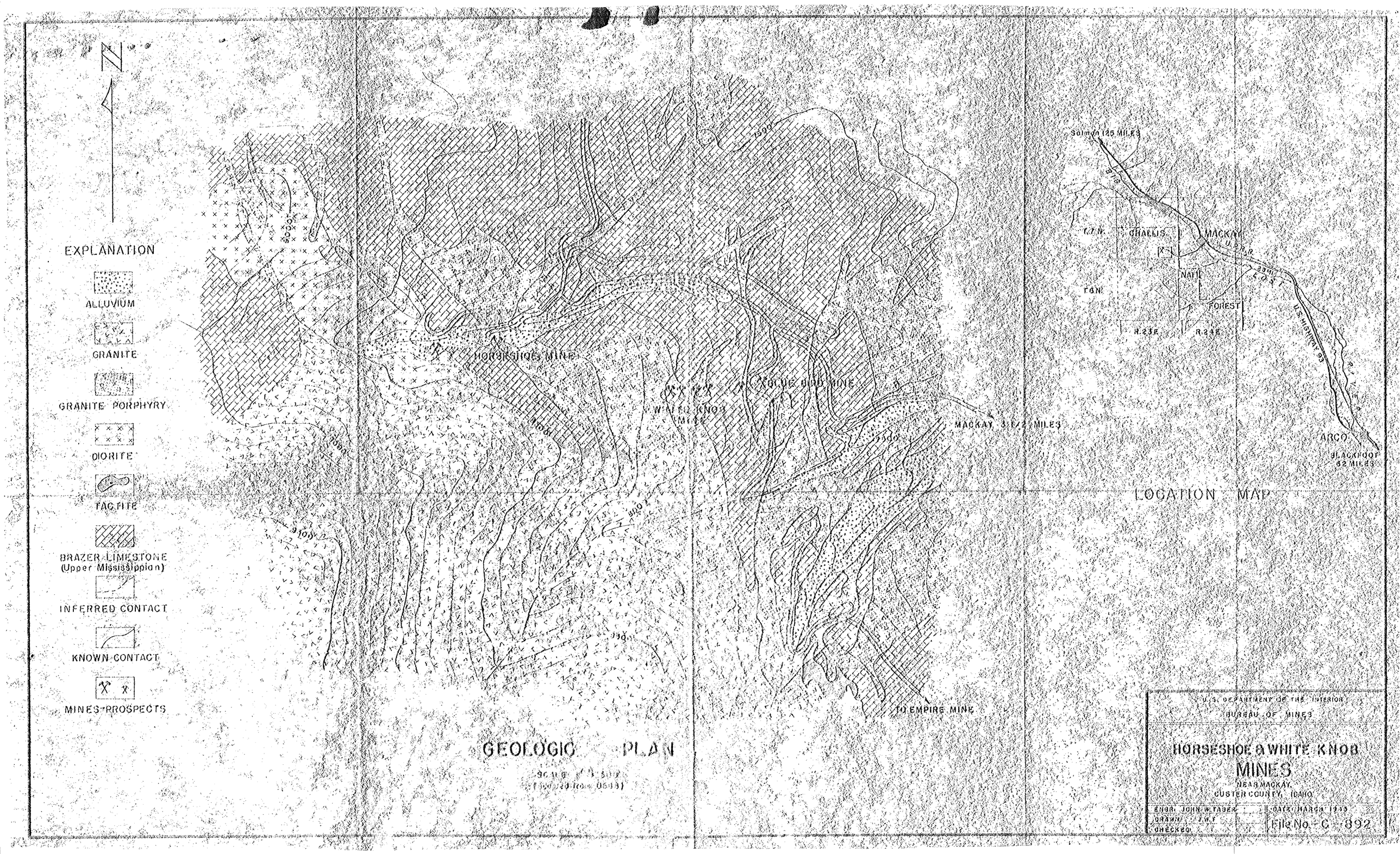
~~U. S. GEOLOGICAL SURVEY~~
~~SOUTH 157 HOWARD ST.~~
~~SPOKANE 4, WASHINGTON~~

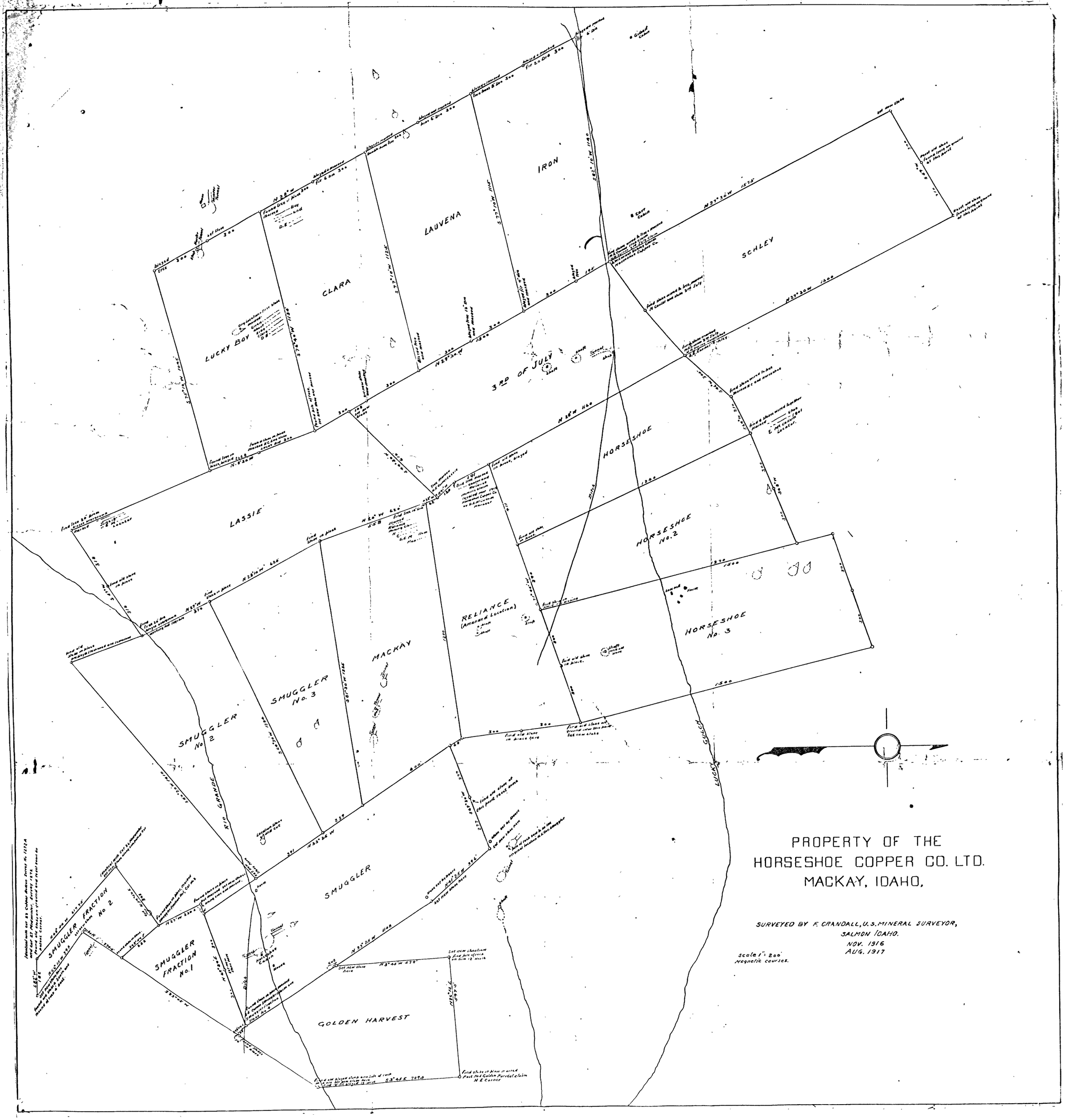


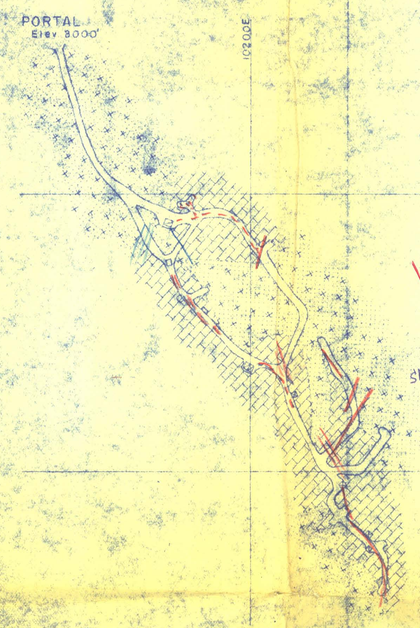
[redacted]
AIR MAIL

Maps

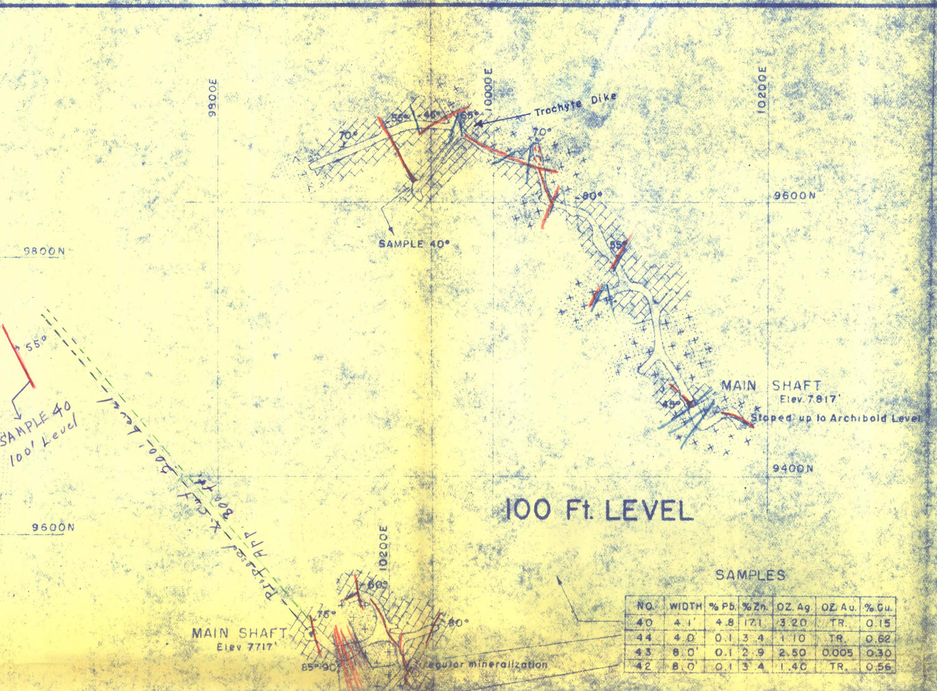
Mr. George C. Selfridge
Chairman, Operating Committee
Defense Minerals Explor. Admin.
Department of the Interior
Washington 25, D. C.


EXPLANATION
ALLUVIUM
GRANITE
GRANITE PORPHYRY
DIORITE
TACTITE
BRAZER LIMESTONE
(Upper Mississippian)
INFERRED CONTACT
KNOWN CONTACT
MINES-PROSPECTS
HORSESHOE MINE
BLUE BIRD MINE
WHITE KNOB MINE
MACKAY 3 1/2 MILES
TO EMPIRE MINE
GEOLOGIC PLAN
Salmon 125 MILES
T.7 N.
CHALLIS
MACKAY
U.P.R.R.
NAPIL
T.6 N.
FOREST
R.23 E.
R.24 E.
U.S. HIGHWAY 93
ARCO
BLACKFOOT
62 MILES
LOCATION MAP
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
HORSESHOE & WHITE KNOB
MINES
NEAR MACKAY,
CUSTER COUNTY, IDAHO
ENGR. JOHN W. FABER
DRAWN J.W.F.
CHECKED
DATE MARCH 1949
File No. G-892


PROPERTY OF THE
HORSESHOE COPPER CO. LTD.
MACKAY, IDAHO.
SURVEYED BY F. CRANDALL, U.S. MINERAL SURVEYOR,
SALMON IDAHO.
NOV. 1916
AUG. 1917
Scale 1" = 200'
Magnetic courses.
LUCKY BOY
CLARA
LAUVENA
IRON
SCHLEY
3RD OF JULY
HORSESHOE
HORSESHOE No. 2
HORSESHOE No. 3
LASSIE
RELIANCE (Amended Location)
MACKAY
SMUGGLER No. 3
SMUGGLER No. 2
SMUGGLER
SMUGGLER FRACTION No. 2
SMUGGLER FRACTION No. 1
GOLDEN HARVEST
RIO GRANDE
LUCKY GULCH



FITZGERALD TUNNEL

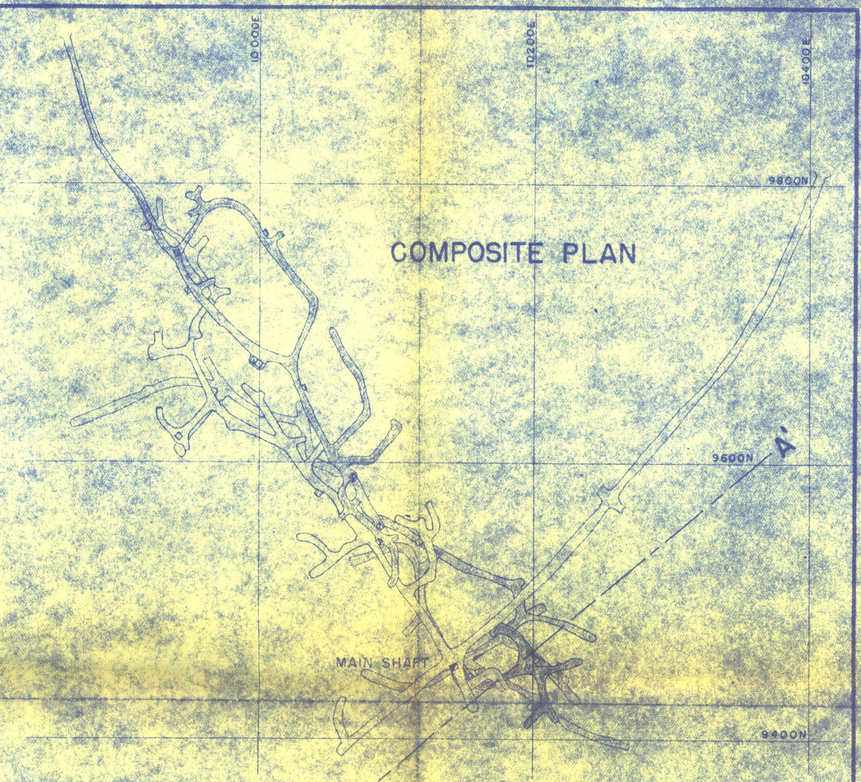


100 Ft. LEVEL

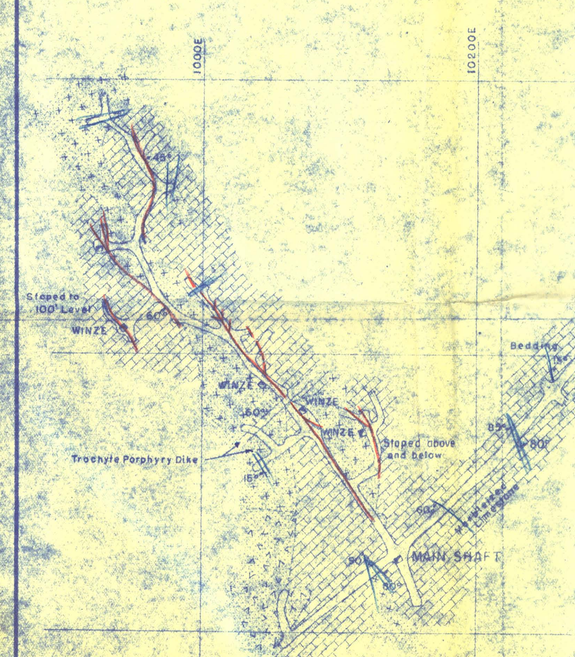
SAMPLES

NO.	WIDTH	% Pb.	% Zn.	OZ. Ag	OZ. Au.	% Cu.
40	4.1	4.8	17.1	3.20	TR.	0.15
44	4.0	0.1	3.4	1.10	TR.	0.62
43	8.0'	0.1	2.9	2.50	0.005	0.30
42	8.0'	0.1	3.4	1.40	TR.	0.56

200 Ft. LEVEL



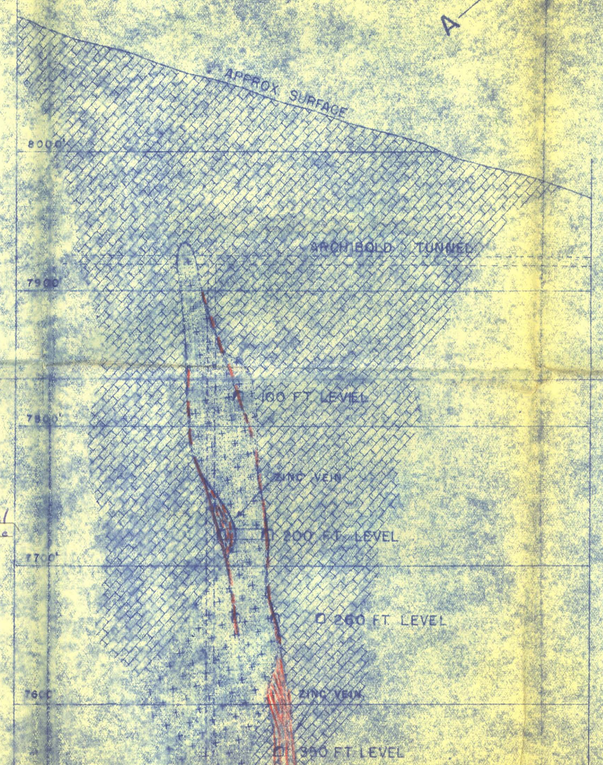
COMPOSITE PLAN



ARCHIBOLD TUNNEL

260 Ft. LEVEL

350 Ft. LEVEL



SECTION A–A'

EXPLANATION

- GRAY LIMESTONE Mobilized - Near Diorite
- DIORITE PORPHYRY
- GRANITE PORPHYRY
- ORE
- FAULTS — Mostly Very Minor Displacement
- FITZGERALD TUNNEL
- ARCHIBOLD TUNNEL
- 100 FT. LEVEL
- 200 FT. LEVEL
- 260 FT. LEVEL
- 350 FT. LEVEL

(Adapted from maps by G. M. FOWLER Consulting Geologist Joplin, Mo.)

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

PLANS & SECTION HORSESHOE MINE

ALDER CREEK MINING DISTRICT
Custer County, Idaho

Scale 1" = 50'

ENGR. JOHN W. TABER
TRACED J.W.T.
CHECKED

DATE MARCH 1942

File No. 8892