DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

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DMA Docket No. 3584

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Exploration Assistance

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Cys to USBM & USGS

Routing Slip

To:	500	Date	11/30/54
To:	Open Conn	Date	12-3-54
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CONTROLLED DOCUMENT

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
AUG 29 1955

So. 157 Howard Street
Spokane 4, Washington

August 22, 1955

Mr. Virtus I. Tillotson

Lincoln, Montana

Re: Docket No. DMEA-3584 (lead-copper)
Virtus I. Tillotson
Consolation Group
Lewis and Clark County, Montana

Dear Mr. Tillotson:

We are enclosing American Smelting and Refining Company settlement sheets covering Lots 1 through 6, inclusive, and a photostat of a claim map in connection with the referenced application for assistance in an exploration loan.

Sincerely yours,

James J. Quinlan
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I
Northwest District

Enclosures

cc: DMEA(2)
USBM(2)
Quinlan

File Copy
Surname
Griswold
Johnson
Geehan
Kiilsgaard
Martin
Johnson

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

Mr. Virtus I. Tillotson
Box 1
Lincoln, Montana

AUG 15 1955

Re: Docket No. DMEA-3584 (Lead-Copper)
Virtus I. Tillotson
Consolation Group
Lewis and Clark County, Montana

Dear Mr. Tillotson:

Your application for aid for an exploration project and other reports available to us in Washington concerning your application 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 small 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 (for)

Administrator

WRGriswold/er 8/10/55

Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region I (2), N.W. Dist.
Chron.

File Copy
Surname

500

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

August 11, 1955

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application, Docket No. DMEA-3584 (Lead-Copper), Virtus I. Tilletson, Consolation Group, Lewis and Clark County, Montana

The above application seems typical of so many of the small lead-zinc occurences in Montana, little, stringer-like veins which occasionally make small ore pods of insignificant magnitude.

The upper mine area is apparently within a diorite sill, whereas lower down the wall rocks are argillite.

Two adits have been driven, with a total length (partly caved) of probably about a thousand feet. The adit interval is 100 feet. Probably a total of 300 tons of ore have been produced. Little expectancy exists that further work could open anything of importance. This Division agrees with the Field Team and the reviewers that the application be denied.

W. R. Griswold

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

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

August 11, 1955

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application, Docket No. DMEA-3584 (Lead-Copper), Virtus I. Tillotson, Consolation Group, Lewis and Clark County, Montana

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W R Griswold

W. R. Griswold

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

500

August 11, 1955

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To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application, Docket No. DMEA-3584 (Lead-Copper), Virtus I. Tillotson, Consolation Group, Lewis and Clark County, Montana

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W. R. Griswold

W. R. Griswold

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

RECEIVED
AUG - 8 1955

August 8, 1955 Griswold

Re: DMEA-3584
Virtus I. Tillotson
Consolation Mine
Lewis & Clark Counties,
Montana

Memorandum

To: W. R. Griswold, DMEA

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

Subject: Recommendation that application be denied

I have reviewed the subject application and the July 20, 1955 report by the Field Team with attached memorandum report by J. J. Quinlan.

The Consolation Mine consists of two adit levels driven to explore and exploit an ore structure which strikes N. 50°-65° W. and is at its best in the dioritic rocks exposed in the upper adit. The mineralization is not impressive, ranging in width from less than an inch to 18 or 20 inches and usually less than 1 foot. Fifty tons of sorted ore from a 4-month operation averaged 10 percent lead, 8.6 percent zinc, 0.34 ounces of gold and 7.5 ounces of silver.

The quartz sulfide stringers of the vein are much narrower in the lower adit where the applicant proposes to drift 500 feet southeasterly to intersect a vein called the Anaconda. Mr. Quinlan states that where pre-mineral structures have been intersected by the Consolation structure there has been no localization of ore, that the Anaconda vein is believed to be about 3,000 feet distant, and that surface examination fails to reveal any strong vein likely to be intersected by drifting 500 feet southeast on the Consolation structure from the lower adit face.

In view of the above, I recommend the application be denied.

O. M. Bishop

O. M. Bishop

Copy to - Div. of Minerals
Mr. Kiilsgaard, Rm. 5222
O. M. Bishop
Files

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

RECEIVED
AUG - 8 1955

August 8, 1955

Re: DMEA-3584
Virtus I. Tillotson
Consolation Mine
Lewis & Clark Counties,
Montana

Memorandum

To: W. R. Griswold, DMEA

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

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O. M. Bishop.

O. M. Bishop

Copy to - Div. of Minerals
Mr. Kiilsgaard, Rm. 5222
O. M. Bishop
Files

IN REPLY REFER TO:

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

RECEIVED
AUG - 3 1955

August 1, 1955

Re: DMEA 3584
Virtus I. Tillotson
Consolation Mine
Lewis & Clark Co., Mont.
$13,782.00 - Lead-copper

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The conclusions of the examining team, although at variance with the opinion of an experienced miner as stated in the application, are well justified. The recent production record sustains the statement that the small narrow lenses are of little economic interest and there are no worthwhile exploration targets.

I concur with the denial recommendation of the Field Team.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
AUG 2 1955

August 1, 1955

Re: DMEA 3564
Virtus I. Tillotson
Consolation Mine
Lewis & Clark Co., Mont.
$13,762.00 - Lead-copper

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The conclusions of the examining team, although at variance with the opinion of an experienced miner as stated in the application, are well justified. The recent production record sustains the statement that the small narrow lenses are of little economic interest and there are no worthwhile exploration targets.

I concur with the denial recommendation of the Field Team.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/1/55

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 25 1955

July 20, 1955

Answered

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

Re: Docket No. DMEA-3584 (lead-copper)
Virtus I. Tillotson
Consolation Mine
Lewis and Clark County, Montana

Dear Mr. Selfridge:

Enclosed are four copies of a memorandum by J. J. Quinlan, Geological Survey, recommending denial of the application by Virtus I. Tillotson for work at the Consolation mine.

It is apparent that the applicant was not aware of the position of the Anaconda vein when he made his proposal. A 3,000-foot crosscut is, of course, completely unreasonable in view of the small size of the known ore bodies in the area, and the intersection would not be on the applicant's property.

In view of the small size of the Consolation structure and the scarcity of sulfides, no alternate proposal is suggested.

We recommend that this application be denied.

By Field Team, Reg. I, NW District

A. E. Weissenborn/ovf.

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

Thomas E Howard
for: Wing G. Agnew, Member
U. S. Bureau of Mines

Enclosure 1 (in quad.)

cc: USBM (2)
USGS (SRO)
Quinlan

Reviewed by
DMEA OPERATING COMMITTEE
7-29-55
(date)

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

RECEIVED
JUL 25 1955

July 19, 1955

Memorandum

To: DMEA Field Team, Region I, Northwest District

From: J. J. Quinlan, Geologist, U. S. Geological Survey

Subject: Field examination report, Docket No. DMEA-3584 (lead-copper), Virtus I. Tillotson, Consolation mine, Lewis and Clark County, Montana

INTRODUCTION

The Consolation mine was examined by Tom Huber of the Geological Survey and the writer on the evening of June 20 and on June 21, 1955. Mr. Virtus I. Tillotson, the applicant, assisted during the examination.

RECOMMENDATION

It is recommended that Mr. Virtus Tillotson's application for exploration assistance on the Consolation mine be denied because there are no known worthwhile exploration targets on the property.

APPLICANT

The applicant is Mr. Virtus Tillotson of Lincoln, Montana. Mr. Tillotson is an experienced miner.

Mr. Tillotson has little or no money to contribute to a DMEA project. He has, however, most of the mining equipment needed to conduct a small project, and most of the labor would be done by members of Tillotson's family or by close associates. Mr. Tillotson has four brothers, three of whom are miners and the fourth a mining engineer. He expects to obtain what little money he may need by stoping small lenses of ore in the upper level of the Consolation mine. However, the amount of ore available is limited, and past work indicates that at best he would be lucky to make wages, if that.

Reviewed by
DMEA OPERATING COMMITTEE
7-29-55
(date)

LOCATION

The Consolation mine is in sec. 21, T. 15 N., R. 6 W., M. P. M., Heddleston mining district, Lewis and Clark County, Montana. It is on the southeast side of Shoue Creek, a tributary of the Blackfoot River. The altitude in the vicinity of the upper adit is reported to be about 5,400 feet.

The mine is 18 miles northeast of Lincoln, Montana, a small logging and resort community on the Blackfoot River. The nearest town of any size is Helena, Montana, 56 miles by road southeast of the mine.

PROPERTY

The property consists of three patented and one unpatented quartz lode mining claims. The three patented claims are the Consolation, Blackfoot Belle, and Golden Eagle (Sur. No. 10502); the unpatented claim is the Carbonate claim. The map accompanying the application shows the location of the claims in relation to each other.

The claims are owned by Mr. George M. Lingle and are leased to the applicant.

HISTORY

The mine was discovered by William Shoue in 1891. Since that time it has been worked at intermittent intervals. A record of total production is not available, but total production is estimated at about 300 tons. Limited records available would indicate that the ore shipped averaged about 0.2 ounce in gold, 6 ounces silver, 10 percent lead, 10 percent zinc, and 0.1 percent copper.

WORKINGS

The principal workings consist of two adits on the Consolation claim. The upper adit (see attached Map No. 1) is accessible to a point 420 feet from the portal. A War Minerals Report, "The Consolation Mining and Milling Company," June, 1943, reports this adit to be 460 feet in length. The lower adit (see attached Map No. 2) is approximately 100 feet below the upper adit. Drifting and crosscutting in the lower adit total 470 feet. A raise near the face of the lower adit connects with the upper adit. Only a small section of the raise, near the bottom, was examined because most of the raise no longer has ladders in it. The dumps of a number of small and now inaccessible adits and caved pits trace the Consolation vein about 550 feet southeast from the portal of the upper adit.

GEOLOGY

The geology of the mine is described by J. T. Pardee and F. C. Schrader in "Metalliferous Deposits of the Greater Helena Mining Region, Montana," U. S. Geological Survey Bulletin 842, 1933. It is also described in the War Minerals Report previously mentioned and in a brief memorandum report, dated April 11, 1944, by F. C. Armstrong, U. S. Geological Survey. Later work has shown that the War Minerals Report, prepared in the main from information supplied by the operator of the property at the time, presents a much too optimistic impression of the geology and economic potential of the property.

The Heddleston district is underlain by argillaceous and quartzic rocks of the Precambrian Belt Series. Intruded into these rocks is a large sill of diorite which Pardee and Schrader report is about 500 feet thick. Throughout the district these rocks strike eastward and dip gently northward.

Available information suggests that the diorite is a much more favorable host rock in the Heddleston district than the sedimentary rocks. The American Smelting and Refining Company recently ceased operation at the Mike Horse mine in the district, and it is reliably reported that operations were discontinued because exploration at depth below the diorite sill failed to show a downward continuation of the ore bodies in the sedimentary rocks below the sill.

The wall rock in the upper adit on the Consolation property is predominantly diorite, whereas in the lower adit the wall rock is predominantly argillite (see Maps No. 1 and 2). The dioritic rock exposed in the upper adit is a part of the large sill. Because most of the raise is inaccessible, it is difficult to locate accurately the base of the sill. Discussion with the applicant would indicate that the base of the sill is 20 to 30 feet above the lower adit. The bedding in the lower adit is very flat; it strikes in an easterly direction and dips 4° to 10° northward. The base of the sill is assumed to have the same altitude.

The Consolation structure strikes N. 50° - 65° W. and dips steeply to the southwest. The structure appears to be much better developed and stronger within the dioritic rocks on the upper adit level than within the argillaceous rocks on the lower adit level.

On the upper adit level a highly altered porphyritic dike (trachyte) follows the Consolation structure. The full width of the dike is exposed at only one place; the dike there is about 5 feet wide. On the upper adit level the vein proper follows one or the other wall of the dike (see Map No. 1 for details). It usually consists of 1 to 2 feet of highly altered or bleached wall rock with, in places, quartz

and sulfide stringers. The principal sulfide minerals are pyrite, galena, and sphalerite. The sulfide stringers range in thickness from less than an inch to about 18 or 20 inches; for the most part, however, the stringers are less than a foot wide. Small stopes have been started in areas where the stringers are the widest, but the stringers appear to pinch and swell within short distances, giving rise to small lenticular pods of ore. The largest stope is from 1½ to 2 feet wide, 50 feet long, and 14 to 25 feet high. During a 4-month period last year the applicant and associates shipped about 50 tons of sorted ore from small lenses. The average grade of these shipments was 0.34 ounce gold, 7.5 ounces silver, 10.0 percent lead, 8.6 percent zinc, and 0.09 percent copper.

The Consolation structure is exposed only in the last 160 feet of the lower adit. Although most of the argillaceous rock in the lower adit appears to be bleached, the Consolation structure is relatively narrow and tight. For the most part, it ranges in width from several inches to about a foot. Porphyritic dike material similar to that which occupies the vein-fault fissure over its entire length on the upper level is only evident for about 80 feet of its strike length in the lower adit (see Map No. 2). The quartz sulfide stringers accompanying the structure are much narrower in the lower adit than in the upper adit. The stringers range in width from less than one-half to about 6 inches.

Several pre-mineral faults intersect the Consolation structure on both levels. Alteration in the vicinity of the intersection of these faults with the Consolation structure is usually intense. Pyrite is also more abundant in the vicinity of the intersections. However, in no case do the intersections appear to localize ore.

APPLICANT'S PROPOSAL

The applicant proposes to extend the lower adit drift on the Consolation structure 500 feet to the southeast to its intersection with the Anaconda vein, a strong northward-striking vein in the district. Plate 12 accompanying U. S. Geol. Survey Bull. 842 indicates, however, that it is about 3,000 feet from the face of the lower adit to the Anaconda vein instead of the 500 feet stated by the applicant.

The surface east of the mine was examined with the applicant with the thought that he had mistaken another strong vein for the Anaconda. However, there is little or no evidence that any strong northward-striking vein intersects the Consolation vein about 500 feet southeast of the lower adit face.

EVALUATION OF APPLICANT'S PROPOSAL AND CONCLUSION

The applicant's proposal has little merit. Drifting on a narrow vein in the argillaceous rocks in the district is not considered good exploration. There is little or no evidence to suggest that a strong northward-striking vein intersects the Consolation vein about 500 feet southeast of the lower adit face, as stated by the applicant. Even if there were, it is quite likely that conditions would be analogous to the intersections of some of the larger pre-mineral fault structures with the Consolation vein as seen in the adits. None of these intersections localize on ore shoots.

Although exploration of the Consolation vein in the diorite would be better than in the argillite, this has little to offer. Past exploration and development have shown that ore in the structure occurs in small narrow lenses which at best are of little economic interest.

Since there are no worthwhile exploration targets on the property, it is recommended that the application be denied.

Enclosures 2

Distribution:
- DMEA (4)
- USBM (2)
- USGS (SRO)
- Docket
- Quinlan

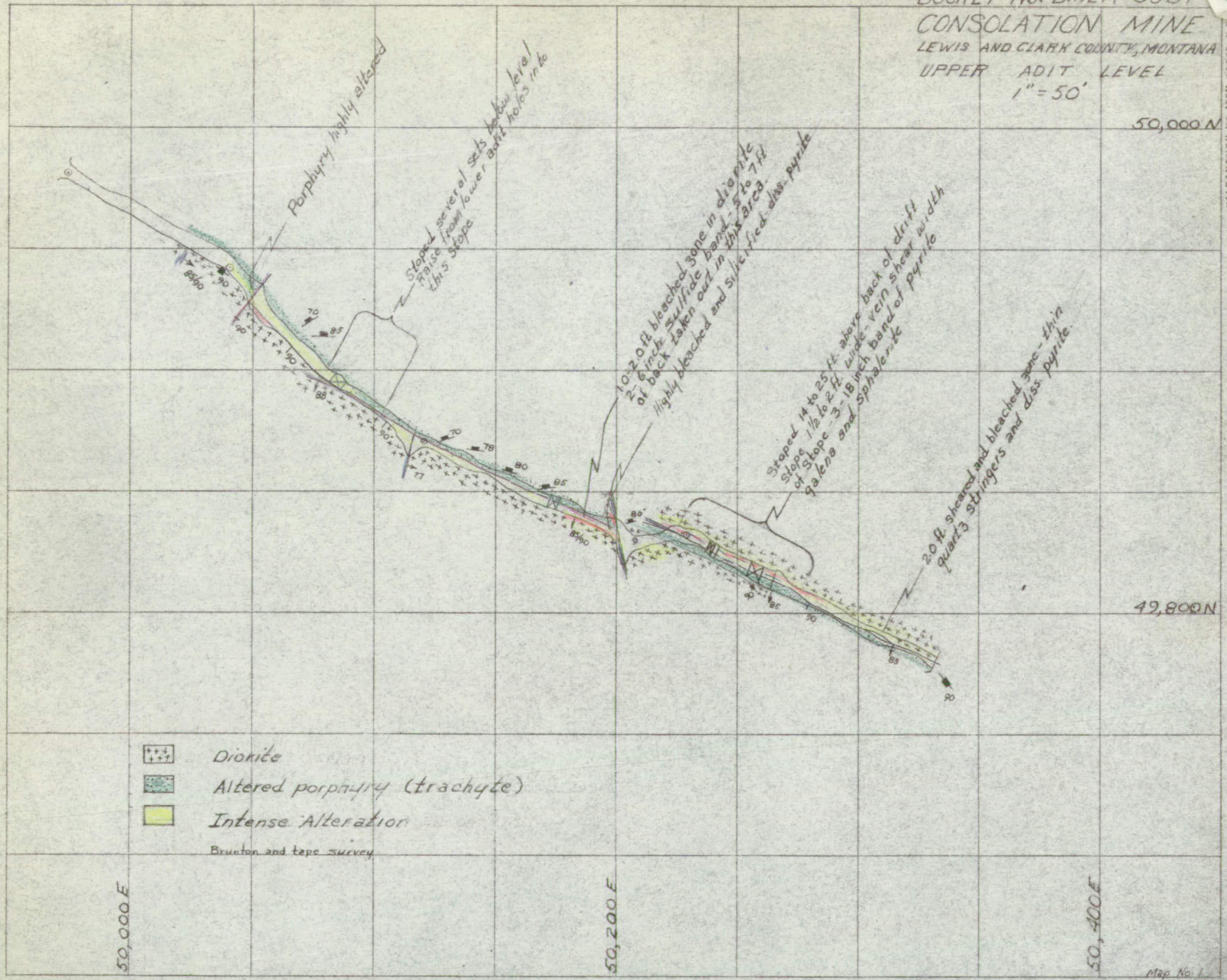
DOCKET No. DMEA 3584

CONSOLATION MINE

LEWIS AND CLARK COUNTY, MONTANA

UPPER ADIT LEVEL

1" = 50'



Map No. 1

"ALBANENE" NO. 195M K&E CO., N.Y. REG. U.S. PAT. OFF.

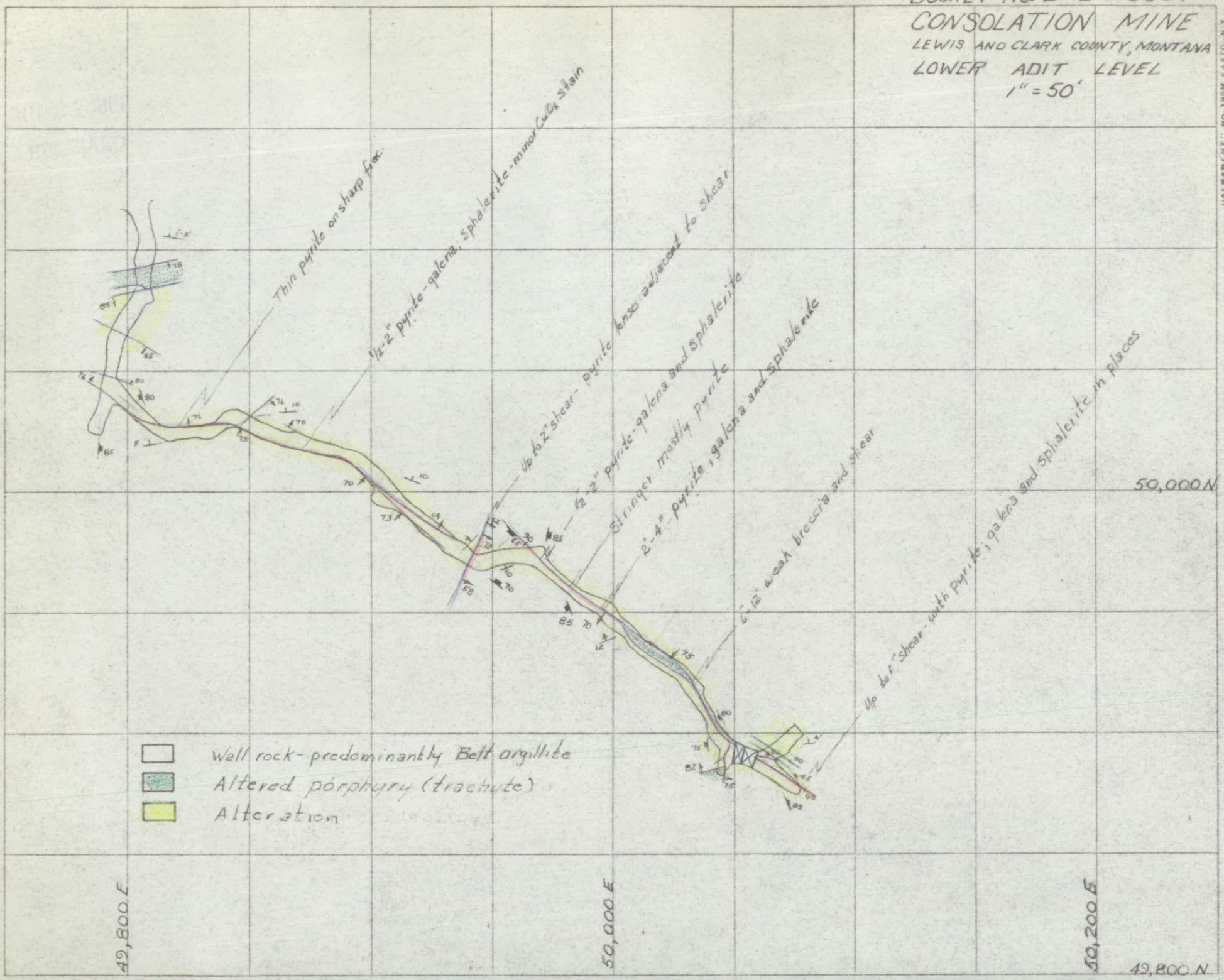
DOCKET No. DMEA 3584

CONSOLATION MINE

LEWIS AND CLARK COUNTY, MONTANA

LOWER ADIT LEVEL

1" = 50'



"ALBANENE" No. 196M K&E CO., N.Y. REG. U.S. PAT. OFF.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
JUL 25 1955

July 20, 1955

Griswold
Betty

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

Re: Docket No. DMEA-3554 (lead-copper)
Virtus I. Tillotson
Consolation Mine
Lewis and Clark County, Montana

Dear Mr. Selfridge:

Enclosed are four copies of a memorandum by J. J. Quinlan, Geological Survey, recommending denial of the application by Virtus I. Tillotson for work at the Consolation mine.

It is apparent that the applicant was not aware of the position of the Anaconda vein when he made his proposal. A 3,000-foot crosscut is, of course, completely unreasonable in view of the small size of the known ore bodies in the area, and the intersection would not be on the applicant's property.

In view of the small size of the Consolation structure and the scarcity of sulfides, no alternate proposal is suggested.

We recommend that this application be denied.

By Field Team, Reg. I, NW District

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

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

Enclosure 1 (in quad.)

cc: USGS (2)
USGS (SRO)
Quinlan

RECEIVED
JUL 25 1955

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

July 19, 1955

Memorandum

To: DMEA Field Team, Region I, Northwest District

From: J. J. Quinlan, Geologist, U. S. Geological Survey

Subject: Field examination report, Docket No. DMEA-3584 (lead-copper), Virtus I. Tillotson, Consolation mine, Lewis and Clark County, Montana

INTRODUCTION

The Consolation mine was examined by Tom Nuber of the Geological Survey and the writer on the evening of June 20 and on June 21, 1955. Mr. Virtus I. Tillotson, the applicant, assisted during the examination.

RECOMMENDATION

It is recommended that Mr. Virtus Tillotson's application for exploration assistance on the Consolation mine be denied because there are no known worthwhile exploration targets on the property.

APPLICANT

The applicant is Mr. Virtus Tillotson of Lincoln, Montana. Mr. Tillotson is an experienced miner.

Mr. Tillotson has little or no money to contribute to a DMEA project. He has, however, most of the mining equipment needed to conduct a small project, and most of the labor would be done by members of Tillotson's family or by close associates. Mr. Tillotson has four brothers, three of whom are miners and the fourth a mining engineer. He expects to obtain what little money he may need by stoping small lenses of ore in the upper level of the Consolation mine. However, the amount of ore available is limited, and past work indicates that at best he would be lucky to make wages, if that.

LOCATION

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The mine is 18 miles northeast of Lincoln, Montana, a small logging and resort community on the Blackfoot River. The nearest town of any size is Helena, Montana, 56 miles by road southeast of the mine.

PROPERTY

The property consists of three patented and one unpatented quartz lode mining claims. The three patented claims are the Consolation, Blackfoot Belle, and Golden Eagle (Sur. No. 10502); the unpatented claim is the Carbonate claim. The map accompanying the application shows the location of the claims in relation to each other.

The claims are owned by Mr. George M. Lingle and are leased to the applicant.

HISTORY

The mine was discovered by William Shoue in 1891. Since that time it has been worked at intermittent intervals. A record of total production is not available, but total production is estimated at about 300 tons. Limited records available would indicate that the ore shipped averaged about 0.2 ounce in gold, 6 ounces silver, 10 percent lead, 10 percent zinc, and 0.1 percent copper.

WORKINGS

The principal workings consist of two adits on the Consolation claim. The upper adit (see attached Map No. 1) is accessible to a point 420 feet from the portal. A War Minerals Report, "The Consolation Mining and Milling Company," June, 1943, reports this adit to be 460 feet in length. The lower adit (see attached Map No. 2) is approximately 100 feet below the upper adit. Drifting and crosscutting in the lower adit total 470 feet. A raise near the face of the lower adit connects with the upper adit. Only a small section of the raise, near the bottom, was examined because most of the raise no longer has ladders in it. The dumps of a number of small and now inaccessible adits and caved pits trace the Consolation vein about 550 feet southeast from the portal of the upper adit.

GEOLOGY

The geology of the mine is described by J. T. Pardee and F. C. Schrader in "Metalliferous Deposits of the Greater Helena Mining Region, Montana," U. S. Geological Survey Bulletin 842, 1933. It is also described in the War Minerals Report previously mentioned and in a brief memorandum report, dated April 11, 1944, by F. C. Armstrong, U. S. Geological Survey. Later work has shown that the War Minerals Report, prepared in the main from information supplied by the operator of the property at the time, presents a much too optimistic impression of the geology and economic potential of the property.

The Heddleston district is underlain by argillaceous and quartzic rocks of the Precambrian Belt Series. Intruded into these rocks is a large sill of diorite which Pardee and Schrader report is about 500 feet thick. Throughout the district these rocks strike eastward and dip gently northward.

Available information suggests that the diorite is a much more favorable host rock in the Heddleston district than the sedimentary rocks. The American Smelting and Refining Company recently ceased operation at the Mike Horse mine in the district, and it is reliably reported that operations were discontinued because exploration at depth below the diorite sill failed to show a downward continuation of the ore bodies in the sedimentary rocks below the sill.

The wall rock in the upper adit on the Consolation property is predominantly diorite, whereas in the lower adit the wall rock is predominantly argillite (see Maps No. 1 and 2). The dioritic rock exposed in the upper adit is a part of the large sill. Because most of the raise is inaccessible, it is difficult to locate accurately the base of the sill. Discussion with the applicant would indicate that the base of the sill is 20 to 30 feet above the lower adit. The bedding in the lower adit is very flat; it strikes in an easterly direction and dips 4° to 10° northward. The base of the sill is assumed to have the same altitude.

The Consolation structure strikes N. 50° - 65° W. and dips steeply to the southwest. The structure appears to be much better developed and stronger within the dioritic rocks on the upper adit level than within the argillaceous rocks on the lower adit level.

On the upper adit level a highly altered porphyritic dike (trachyte) follows the Consolation structure. The full width of the dike is exposed at only one place; the dike there is about 5 feet wide. On the upper adit level the vein proper follows one or the other wall of the dike (see Map No. 1 for details). It usually consists of 1 to 2 feet of highly altered or bleached wall rock with, in places, quartz

and sulfide stringers. The principal sulfide minerals are pyrite, galena, and sphalerite. The sulfide stringers range in thickness from less than an inch to about 18 or 20 inches; for the most part, however, the stringers are less than a foot wide. Small stopes have been started in areas where the stringers are the widest, but the stringers appear to pinch and swell within short distances, giving rise to small lenticular pods of ore. The largest stope is from 1½ to 2 feet wide, 50 feet long, and 14 to 25 feet high. During a 4-month period last year the applicant and associates shipped about 50 tons of sorted ore from small lenses. The average grade of these shipments was 0.34 ounce gold, 7.5 ounces silver, 10.0 percent lead, 8.6 percent zinc, and 0.09 percent copper.

The Consolation structure is exposed only in the last 160 feet of the lower adit. Although most of the argillaceous rock in the lower adit appears to be bleached, the Consolation structure is relatively narrow and tight. For the most part, it ranges in width from several inches to about a foot. Porphyritic dike material similar to that which occupies the vein-fault fissure over its entire length on the upper level is only evident for about 80 feet of its strike length in the lower adit (see Map No. 2). The quartz sulfide stringers accompanying the structure are much narrower in the lower adit than in the upper adit. The stringers range in width from less than one-half to about 6 inches.

Several pre-mineral faults intersect the Consolation structure on both levels. Alteration in the vicinity of the intersection of these faults with the Consolation structure is usually intense. Pyrite is also more abundant in the vicinity of the intersections. However, in no case do the intersections appear to localize ore.

APPLICANT'S PROPOSAL

The applicant proposes to extend the lower adit drift on the Consolation structure 500 feet to the southeast to its intersection with the Anaconda vein, a strong northward-striking vein in the district. Plate 12 accompanying U. S. Geol. Survey Bull. 842 indicates, however, that it is about 3,000 feet from the face of the lower adit to the Anaconda vein instead of the 500 feet stated by the applicant.

The surface east of the mine was examined with the applicant with the thought that he had mistaken another strong vein for the Anaconda. However, there is little or no evidence that any strong northward-striking vein intersects the Consolation vein about 500 feet southeast of the lower adit face.

EVALUATION OF APPLICANT'S PROPOSAL AND CONCLUSION

The applicant's proposal has little merit. Drifting on a narrow vein in the argillaceous rocks in the district is not considered good exploration. There is little or no evidence to suggest that a strong northward-striking vein intersects the Consolation vein about 500 feet southeast of the lower adit face, as stated by the applicant. Even if there were, it is quite likely that conditions would be analogous to the intersections of some of the larger premineral fault structures with the Consolation vein as seen in the adits. None of these intersections localize on ore shoots.

Although exploration of the Consolation vein in the diorite would be better than in the argillite, this has little to offer. Past exploration and development have shown that ore in the structure occurs in small narrow lenses which at best are of little economic interest.

Since there are no worthwhile exploration targets on the property, it is recommended that the application be denied.

Enclosures 2

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

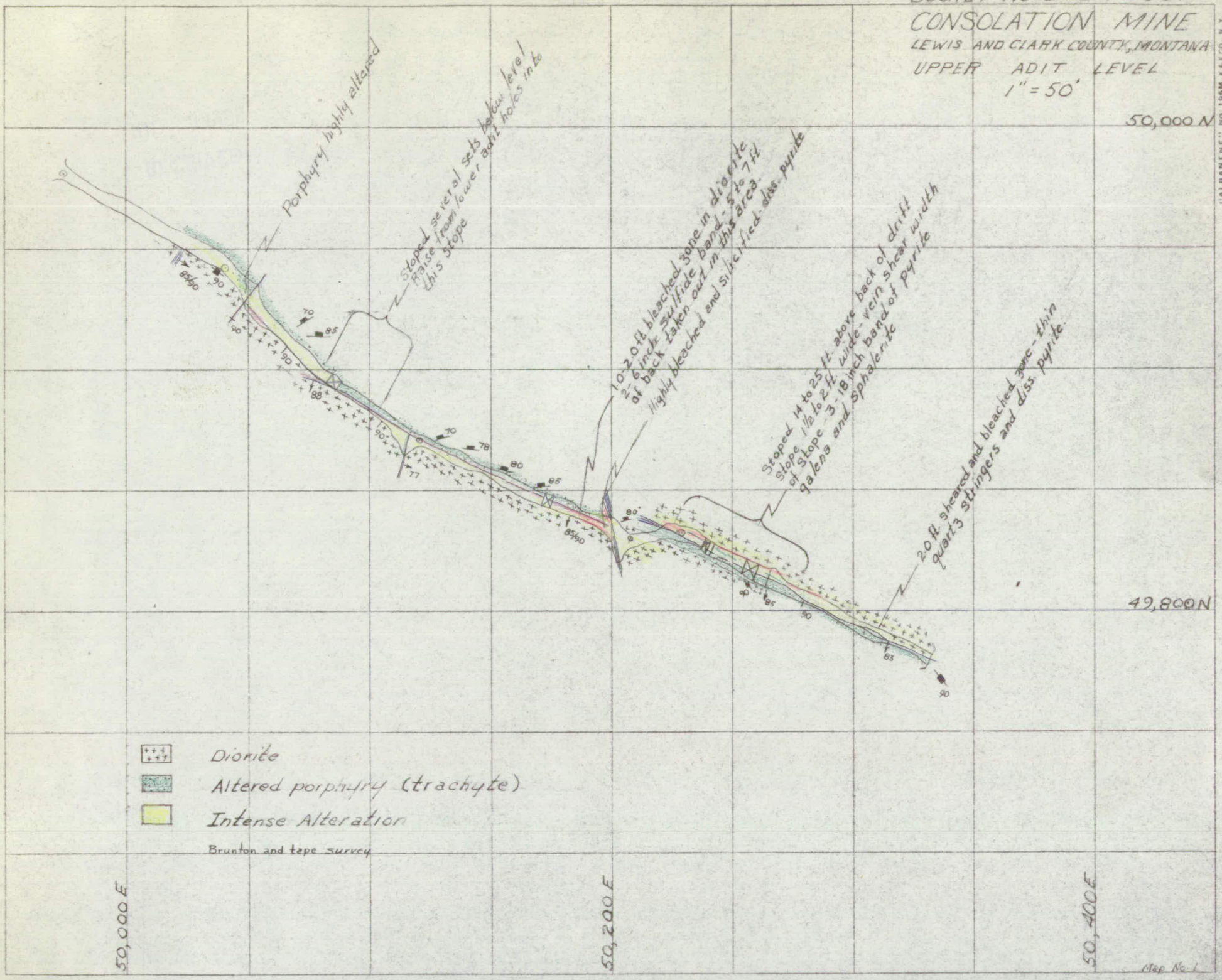
DOCKET No. DMRA 3384

CONSOLATION MINE

LEWIS AND CLARK COUNTY, MONTANA

UPPER ADIT LEVEL

1" = 50'



Map No. 1

"ALBANENE" NO. 196M K&E CO., N.Y. REG. U.S. PAT. OFF.

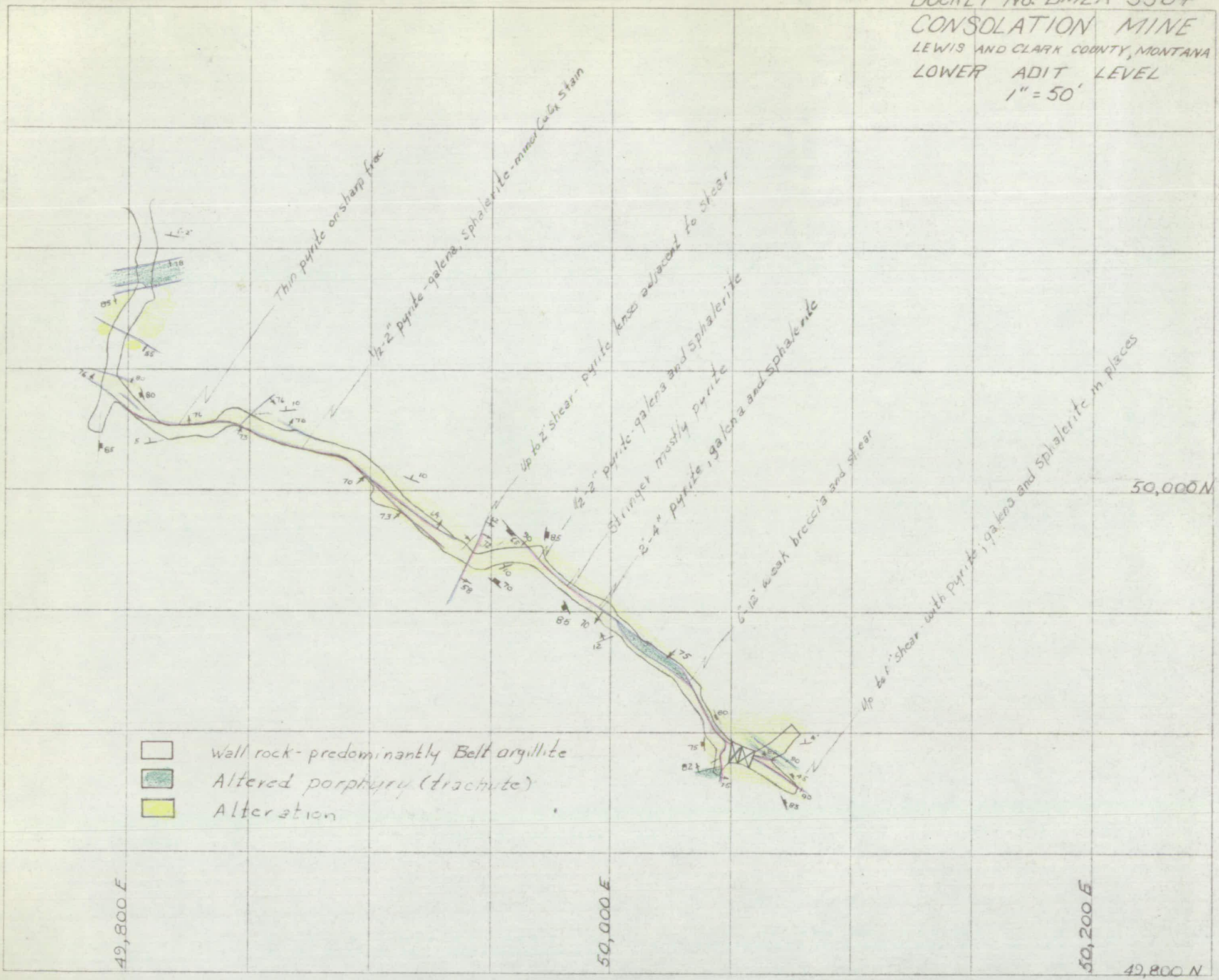
DOCKET No. DMEA 3584

CONSOLATION MINE

LEWIS AND CLARK COUNTY, MONTANA

LOWER ADIT LEVEL

1" = 50'



Map No. 2

"ALBANENE" NO. 195M K&E CO., N.Y. REG. U.S. PAT. OFF.

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

RECEIVED
JUN 20 1955

June 14, 1955

Docketed

Grouped
Betty

Mr. Virtus I. Tillotson

Lincoln, Montana

Re: Docket No. DMEA-3584 (lead-copper)
Virtus I. Tillotson
Consolation Group
Lewis and Clark County, Montana

Dear Mr. Tillotson:

A DMEA examination team will contact you at your home on Monday evening, June 20, 1955, in order to examine the Consolation property.

Any assistance you can render the examination team will be appreciated.

Sincerely yours,

John S. Vhay
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I
Northwest District

cc: DMEA(2)
USBM(2)
Quinlan

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

May 24, 1955

Docket

Mr. Virtus I. Tillotson
Box 1
Lincoln, Montana

Re: Docket No. DMEA-3584 (lead-copper)
Consolation Group
Lewis and Clark County, Montana

Dear Mr. Tillotson:

In reply to your letter received May 13, 1955, we will schedule an examination as soon as we can after you tell us that the property is accessible.

Sincerely yours,

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

cc: DMEA (2) w/cys incoming
USBM (2) " "
Quinlan " "

C
O
P
Y

United States
Department of the Interior
Defense Minerals Exploration Administration

Dear Sirs:

In regards to your letter of May 3, 1955 concerning my ability to pay my share of the loan as per contract. I will be shipping some ore from the mine as I have some blocked out. Most of the money received for this ore would be paid on my share of the loan.

As stated in my application form which you have already received I already have the equipment and most of the pipe and rail necessary to complete the exploration proposed. The expenses should not be too extreme.

It will be several weeks before a field team can make a survey or explore the property as there is still quite a large amount of snow covering the area.

Hope this will be satisfactory as it seems to be the best I can do.

Sincerely yours,

/s/ Virtus I. Tillotson

Virtus I. Tillotson
Box 1
Lincoln, Montana
Docket No. DMEA-3584
Consolation Group

xxxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

Acknowledged
Billy

April 20, 1955

Docket

Mr. Virtus I. Tillotson
Lincoln, Montana

Re: Docket No. DMEA-3584 (lead-copper)
Consolation Group
Lewis & Clark County, Montana

Dear Mr. Tillotson:

Reference is made to our letter to you of December 23, 1954, requesting assurance from you that you will be able to finance your share of the proposed exploration of the Consolation group of claims. You propose to furnish your share of the costs by providing equipment which you own. This will, however, take care of only part of the cost. As we pointed out to you, it has been our experience that in every case additional funds are required to finance the operator's share of the project.

Therefore, unless we receive this information from you by May 20, 1955, we can only conclude that you do not wish to participate in the DMEA program and we will have no alternative but to recommend to our Washington office that your application be considered as withdrawn.

Sincerely yours,

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

cc: DMEA (2)
USBM (2)
Quinlan

xxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

December 23, 1954

Mr. Virtus I. Tillotson
Lincoln, Montana

RE: Docket No. DMEA-3584 (Lead-Copper)
Virtus I. Tillotson
Consolation Group
Lewis & Clark County, Montana

Dear Mr. Tillotson:

Reference is made to your application for exploration aid.

In analyzing your application, it is noted that you propose to pay for your share of the costs of the project by use of the operating equipment. We wish to call to your attention that the return from this segment of the cost falls far short of meeting your share. Even though your and your son's wages are added to the equipment charge, it will not result in enough money to meet the monetary requirement for your share of the project. Our experience has shown that in every case additional funds will be required to finance the operator's part of the project. Therefore, before further considering your application, or examining your property, we would like to receive assurance from you that you will be able to finance your part of the costs of exploration.

Very truly yours,

A. R. Weissenborn
Executive Officer, DMEA
Field Team, Region II

ccs: DMEA (2)
USBM (2)
uinlan

(Per Operating Committee's letter of 12/8/54 and particularly Bishop's memo to Griswold of 12/3/54.)

File Copy
Surname
Griswold
Kiilsgaard
Selfridge
Bishop
Weissenborn

500

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

DEC - 8 1954

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

Re: Docket No. DMEA-3584 (Lead-Copper)
Virtus I. Tillotson
Consolation Group
Lewis & Clark County, Montana

Dear Mr. Weissenborn:

Supplementing our letter to you of December 3, covering the cited application, we are enclosing two copies of a memorandum, dated December 2, by Mr. O. M. Bishop, USBM.

Will you kindly note the points which Mr. Bishop brings up. We are quite in accord with his contention that little effort or funds should be devoted to a mine examination unless the Applicant is in a proper position to care for his share of the expenses of a project.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SHB)

Enclosures 2

WRGriswold/bjl (12/8/54)

APPROVED:

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

Thor H. Kiilsgaard
Member, Bureau of Mines (SHB)

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

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC - 3 1954

December 2, 1954

Griswold

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM, Reviewed by Walter E. Lewis

Subject: Docket No. DMEA-3584 (lead and copper), Application - Virtus Ira Tillotson, the Consolation group of claims, Lewis and Clark County, Montana

We have reviewed the subject application and note that the Executive Officer of the Region II Field Team has scheduled an examination. We concur with the Field Team's decision and recommend referral to the Field Team for an examination report.

The covering letter by John S. Vhay, acting for the Executive Officer, Region II, mentions that there is an attached copy of a letter to the applicant discussing some points in the application. This letter was not included with the copy of the application that was forwarded to this office.

The applicant proposes to extend an adit 500 feet to intersect a vein found on the surface of the Consolation group of claims.

From the data presented in the application, it is difficult to determine why the drift has to be extended a distance of 500 feet, when the intersection point appears to be about 100 feet from the present face. However, a Field Team examination should clarify the matter.

We wish to call the attention of the Field Team to the cost data and answer under 7 (b) presented by the applicant. Based on the applicant's data, our cost breakdown is as follows:

Wages (24 weeks)			Total amount to be paid applicant	
Miner -------	$2,300.88			
Mucker ------	2,106.00			
Supervisor --	2,300.88		Applicant's wages -----	$2,300.88
Engineering -	600.00	$7,307.76	Applicant's son's wages --	600.00
Industrial insurance -----		584.64		
Social Security ----------		197.35		
Supplies ----------		2,834.95		
Repairs				
Shop & compressor house-		60.00		
Bookkeeper ----------		50.00		
Sampling ----------		200.00		
Rentals (6 months)				
Compressor --	1,200.00			
Stopers -----	600.00			
Blacksmith --	90.00			
Tugger ------	150.00			
Shop equipment -------	300.00	2,340.00	Equipment rental ------	2,340.00
Total ----------		13,574.70		
Government's share --		6,787.35	Total amount received by applicant ---------	5,240.88
Applicant's share ---		6,787.35		

It should be noted that in the above cost breakdown, the item of $200 for equipment breakdown has been left out on the basis that this should be taken care of under the rental of the equipment.

The applicant proposes to pay for his share of the costs of the project by use of the operating equipment. The return from this segment of the cost falls far short of meeting the applicant's share. Even his and his son's wages added to the equipment charge will not result in enough money to meet the monetary requirement for his share of the project. The Field Team should ascertain exactly where the applicant expects to obtain the necessary additional funds to cover his share of the proposed project before any great amount of time is spent on examination of the mine.

O. M. Bishop

O. M. Bishop

Copy to: Minerals Division
Edward L. Newcomb, Room 5227
O. M. Bishop
Files

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

RECEIVED
DEC 3 1954

December 2, 1954

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM, Reviewed by Walter E. Lewis

Subject: Docket No. DMEA-3584 (lead and copper), Application - Virtus Ira Tillotson, the Consolation group of claims, Lewis and Clark County, Montana

We have reviewed the subject application and note that the Executive Officer of the Region II Field Team has scheduled an examination. We concur with the Field Team's decision and recommend referral to the Field Team for an examination report.

The covering letter by John S. Vhay, acting for the Executive Officer, Region II, mentions that there is an attached copy of a letter to the applicant discussing some points in the application. This letter was not included with the copy of the application that was forwarded to this office.

The applicant proposes to extend an adit 500 feet to intersect a vein found on the surface of the Consolation group of claims.

From the data presented in the application, it is difficult to determine why the drift has to be extended a distance of 500 feet, when the intersection point appears to be about 100 feet from the present face. However, a Field Team examination should clarify the matter.

We wish to call the attention of the Field Team to the cost data and answer under 7 (b) presented by the applicant. Based on the applicant's data, our cost breakdown is as follows:

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Mucker ------	2,106.00			
Supervisor --	2,300.88		Applicant's wages ---	$2,300.88
Engineering -	600.00	$7,307.76	Applicant's son's wages -	600.00
Industrial insurance -----		584.64		
Social Security ----------		197.35		
Supplies ----------		2,834.95		
Repairs				
Shop & compressor house-		60.00		
Bookkeeper ----------		50.00		
Sampling ----------		200.00		
Rentals (6 months)				
Compressor --	1,200.00			
Stopers -----	600.00			
Blacksmith --	90.00			
Tugger ------	150.00			
Shop equipment -------	300.00	2,340.00	Equipment rental -----	2,340.00
Total ----------		13,574.70		
Government's share -		6,787.35	Total amount received by applicant --------	5,240.88
Applicant's share --		6,787.35		

It should be noted that in the above cost breakdown, the item of $200 for equipment breakdown has been left out on the basis that this should be taken care of under the rental of the equipment.

The applicant proposes to pay for his share of the costs of the project by use of the operating equipment. The return from this segment of the cost falls far short of meeting the applicant's share. Even his and his son's wages added to the equipment charge will not result in enough money to meet the monetary requirement for his share of the project. The Field Team should ascertain exactly where the applicant expects to obtain the necessary additional funds to cover his share of the proposed project before any great amount of time is spent on examination of the mine.

O. M. Bishop

Copy to: Minerals Division
Edward L. Newcomb, Room 5227
O. M. Bishop
Files

File Copy
Surname

500

Griswold
Selfridge
Johnson
Hedges

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

DEC - 3 1954

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

Re: Docket No. DMEA-3584 (Lead-Copper)
Virtus I. Tillotson
Consolation Group
Lewis & Clark County, Montana

Dear Mr. Weissenborn :

This will acknowledge receipt of your letter of November 22, 1954, in which you state that a report of the cited application will be prepared when weather conditions permit an examination.

We will hold this application in abeyance until the Field Team report is received.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

APPROVED:

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

Thor H. Kiilsgaard
Member, Geological Survey (JHB)

WRGriswold/bjl (12/1/54)

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

R.C.H.

Two photostatic copies of each of the smelter returns and of the assay report by Goodall Bros. were received and one of each was sent to USBM & USGS.

Only one copy of each of the two assay certificates by Brunner & Perry were received and they are in this docket ——

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

November 30, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region II

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 II.

DMEA - 3584 Virtus I. Tillotson

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

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

November 30, 1954
Subject: DMEA-3584
Re: Exploration Assistance
Consolation Group

Mr. Virtus I. Tillotson

Lincoln, ~~Nebraska~~ MONTANA

Dear Sir:

The receipt of your application dated September 28, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3584 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

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

RECEIVED
NOV 23 1954

November 22, 1954

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

Re: New application (lead-copper)
Virtus I. Tillotson
Consolation Group
Lewis & Clark County, Montana

Dear Mr. Selfridge:

Enclosed are 3 copies of an application for aid in an exploration project which were submitted to this office by Virtus I. Tillotson. The application proposes to do exploration work in the Consolation group, in the Heddleston District, Lewis and Clark County, Montana. One copy of the application is being retained here.

Enclosed also is a copy of a letter to the applicant discussing some points in the application.

An examination will be made this fall depending on weather conditions.

Sincerely yours,

John S. Vhay

John S. Vhay
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure

cc: USBM (2)

U. S. GEOLOGICAL SURVEY
REFERENCE SLIP

Date 12/15/54

Referred to:

Operating Committee, DMEA
Washington, D. C.

For:

	Field Examination
	Approval & Signature
	Comment
	Initials
	Mailing
	Recommendation
	Reply
	Rewriting
	Signature
	Suggestions
X	Your Information
X	Your Files
	Return for Filing
	Distribution

REMARKS:

Reurlet December 8, Docket DMEA-3584(lead-Cu), Virtus I. Tillotson, Consolation Group, Lewis & Clark County, Montana.

Mr. Biship, in his memo of 12/2 to Griswold, mentions there was no copy of Vhay's letter of 11/22 to Tillotson, which we said was enclosed with the application.

Enclosed are 3 copies for distribution to the 3 copies of the application.

EMR

EMRaymond, Secretary
Name of Sender
For AEWeissenborn
Executive Officer, DMEA
Field Team, Region II
Spokane, Wash.

C
O
P
Y

So. 157 Howard Street
Spokane 4, Washington

November 22, 1954

Mr. Virtus I. Tillotson

Lincoln, Montana

DMEA 3854

Re: DMEA application (lead-copper)
Consolation Group
Lewis and Clark County, Montana

Dear Mr. Tillotson:

This will acknowledge receipt of your application for aid in an exploration project on the Consolation Group, in the Heddleston District, Lewis and Clark County, Montana.

Enclosed are Owner's Consent to Lien forms which will have to be signed both by the owners and the lessor from whom you have subleased the property. It might be pointed out that it would be much better for you to have a lease covering the ten-year period over which Government royalty will apply in case of a discovery, rather than the two-year lease with option for a two-year renewal which you have.

It would be appreciated in this office if you would tell us the scale of the map of the workings which accompanied the application.

It might be pointed out to you that, at least according to USGS Bulletin 842, the distance from the portal of the Consolation mine to the projection of the Anaconda vein is approximately 3,200 feet which is considerably more than the 427 feet plus 500 feet mentioned in your application. If the weather permits, however, Field Team examiners will try to inspect the property this fall and decide what targets for exploration are available. If the country is snowed in the examination will not be possible until next spring, and nothing can be done about granting a contract until an examination is made.

Sincerely yours,

John S. Vhay
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cc: DMEA (2)
USBM (2)

xxxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

November 22, 1954

Mr. Virtus I. Tillotson

Lincoln, Montana

Re: DMEA application (lead-copper)
Consolation Group
Lewis and Clark County, Montana

Dear Mr. Tillotson:

This will acknowledge receipt of your application for aid in an exploration project on the Consolation Group, in the Heddleston District, Lewis and Clark County, Montana.

Enclosed are Owner's Consent to Lien forms which will have to be signed both by the owners and the lessor from whom you have subleased the property. It might be pointed out that it would be much better for you to have a lease covering the ten-year period over which Government royalty will apply in case of a discovery, rather than the two-year lease with option for a two-year renewal which you have.

It would be appreciated in this office if you would tell us the scale of the map of the workings which accompanied the application.

It might be pointed out to you that, at least according to USGS Bulletin 842, the distance from the portal of the Consolation mine to the projection of the Anaconda vein is approximately 3,200 feet which is considerably more than the 427 feet plus 500 feet mentioned in your application. If the weather permits, however, Field Team examiners will try to inspect the property this fall and decide what targets for exploration are available. If the country is snowed in the examination will not be possible until next spring, and nothing can be done about granting a contract until an examination is made.

Sincerely yours,

John S. Vhay
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cc: DMEA (2)
USBM (2)

xxxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

November 22, 1954

Mr. Virtus I. Tillotson

Lincoln, Montana

Re: DMEA application (lead-copper)
Consolation Group
Lewis and Clark County, Montana

Dear Mr. Tillotson:

This will acknowledge receipt of your application for aid in an exploration project on the Consolation Group, in the Heddleston District, Lewis and Clark County, Montana.

Enclosed are Owner's Consent to Lien forms which will have to be signed both by the owners and the lessor from whom you have subleased the property. It might be pointed out that it would be much better for you to have a lease covering the ten-year period over which Government royalty will apply in case of a discovery, rather than the two-year lease with option for a two-year renewal which you have.

It would be appreciated in this office if you would tell us the scale of the map of the workings which accompanied the application.

It might be pointed out to you that, at least according to USGS Bulletin 842, the distance from the portal of the Consolation mine to the projection of the Anaconda vein is approximately 3,200 feet which is considerably more than the 427 feet plus 500 feet mentioned in your application. If the weather permits, however, Field Team examiners will try to inspect the property this fall and decide what targets for exploration are available. If the country is snowed in the examination will not be possible until next spring, and nothing can be done about granting a contract until an examination is made.

Sincerely yours,

John S. Vhay
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region 11

cc: DMEA (2)
USBM (2)

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED

RECEIVED
NOV 1 1954
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. 3584
Metal or Mineral Lead & Copper
Date Received
Estimated Cost $13,782
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: Virtus Ira Tillotson
Lincoln, Montana.

(*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 Description is written on the following papers.

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

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

(*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. Copy of lease enclosed

(*e*) If you own the land, describe any liens or encumbrances on it Do not own property

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. All questions following answered on separate paper

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.

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

(*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. on separate sheet

(*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. on separate sheet

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.). none

(*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. on separate sheet

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

(*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. on separate sheet

(*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. $60.00 worth of roofing

(*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. none

(*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. on separate sheet

(*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. on separate sheet

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)? yes

(*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 9-28, 1954

Victor J. Tillotson
(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.

INT.-DUP. SEC., WASH., D.C. 64941

Virtus Ira Tillotson
Lincoln, Mont.

RECEIVED
OCT 26 1954

A Brief History Of The Consolation Mine

This history has been gathered from data and from Old Timers who were acquainted with the mine's history.

The Consolation Mine was discovered by Mr Shaue in I900. Having no equipment Mr Shaue drove in on a trueu fissure vein with hand steel. This he did in an attempt to reach the Anaconda vein which ahd already been discovered and was being worked. A few years later he sold one half interest in the holdings to Mr. Thurber, owner of the Thurber Printing Press in Helena, Mont. He then made several shipments to the East Helena smelter. The ore was hauled with horses. Mr. Shaue died a short time later and Mr. Thurber inheirited his share of the holdings. In I934 or I935 Ralph Horner obtained a working agreement from Mr. Thurber to work the mine. He made a living off the property for himself and his family until I939 when he was killed in an auto accident. The following year Mr. Earl Botsford of Great Falls secured a lease and bond from Mr. Thurber and put the lower drift in 425 feet which cost him about $28,000.00. He had trouble over his lease and gave it up . The mine then remained idle till I953. The Mike Horse Mining and Milling Co. made an offer of $80,000.00 for the property. Before the deal was completed Mr. Thurber died. His estate was in litigation for a no. of years. It was leased by Mr. Thurber's heir's to Mr. George M. Lingle who holds title and deed to the property at the present time. I, Virtus Ira Tillotson, have a lease from the year of I95I obtained from Mr. George M. Lingle. Have been working the property exploring and developing it for the last three years.

APPLICATION FOR GOVERNMENT EXPLORATION LOAN

RECEIVED

I. (a); Full name of applicant; Virtus Ira Tillotson. Address; Lincoln, Montana.

(b); No corporation or Partenership involved.

(c); None.

(d); None.

3. (a);Description of property I wish to explore & adjoining property which may benefit from the exploration follows:

The Consolation, Black Foote Belle, & Golden Eagle Quartz Lode Mining Claims (U. S. Survey no I0502) patented, together with the Carbonate Quartz Lode Mining Claim, adjacent thereto (unpatented), all of which are situated in the Hedelston (unorganized) mining district near Silver Camp, Lewis & Clark County, Montana. Referred to hereafter as the Consolation Group.

(b); Mine name by which the propert y is known is the Consolation Group.

(c); I have a lease on the property with an option to buy.

(d); Enclosed with these papers is a copy of the lease.

(e); I do not own the property.

(f); The one claim unpatented is the Carbonate Quartz Lode Mining Claim recorded on page no. 438 book no. 11.

4. Physical description:

(a); there are two tunnels on the property 425 ft. long one I00 ft. above the other. One year ago I drove a raise through from the lower tunnel to connect with the upper tunnel. The raise is 98ft. high and is located 400 ft. in from the portal of the lower tunnel and comes out 150 ft. from the portal of the upper tunnel. In order to drive this raise the lower tunnel had to have a new portal built & a lot of timbering work done at an approximate cist of $I500.00. I also relaid the track & pipe in both tunnels at an approximate cost of $I200.00. It cost approximately $3500.00. to drive the raise which is on good ore all the way. An accompanying map

Virtue Ira Gillotson
Lincoln, Mont.

will show the location of all veins in both tunnels. There has been some stoping done in the past, in the upper tunnel. Two stopes were opened up by former lessors. I am working two stopes at the present. One I shall call the no. 2 stope is one that was ppened by former lessors. This stope is an overhand stope. The other stope opened by myself is an underhand stope, and is located in the raise. At the present time both are yeilding wages. All claims connected with the lease are adjacent to one another. Up to the present time all the exploration work has been done on two claims; The Consolation (patented), and the Carbonate Quartz Lode Mining Claim (unpatented). The mining claims described above are located 20 mi. east of Lincoln, Montana. The same assess road that leads to the old Mike Horse Mine leads to the Consolation mine. The raod which turns off from this main assess road is posted Consolation mine ¼ mi. This main assess road is posted on highway 20 as Mike Horse Mine and Shaue Gulch.

(b); As far as production is concerned, up until the present time , most of the work done has been done mainly for exploration purposes. There have been, However, quite a few shipments made out of the upper tunnel by different parties over a period of years. Most of this ore came out of the tunnel itself & not out of stopes. A 98 ft. raise was driven on ore averaging 8 to I4 inches wide, which pays approximately $64.00 a ton. This raise has been prospected on both sides and shipments have been made from both sides averaging $62 to $64 a ton. The main vein has been traced to a stope called the no. I stope which also averages 8 to I4 inches on the ore. There is a no. 2 stope I00 ft. from the no. I stope. Stope no. 2 is about 40 ft. long and 30 ft. high with ore averaging I2 inches wide and goes approximately 287 ft. to the surface. It is estimated, by a mining engineer, that the ore body dips into the hill below the no. I stope. It is also estimated, by the same engineer, that an extension of the lower tunnel a distance of 500 ft. would tap the main ore body where it (the true fissure vein in the lower tunnel) intersects the aAnaconda lead.

Virtus Ira Gilbertson
Lincoln, Mont.

(c); There is a true fissure vein in the workings with several small ore chutes coming into it. The mineralization consists mainly of galena which carries lead, gold, silver & copper. The fissure vein in the upper tunnel runs with a dip of 98 degrees with gabro on one side and dyrite or granite on the other. The vein runs east and west with a lot of little ore chutes coming in from both north and south. The lower tunnel crosscuts several small stringer veins up until it intersects the fussure vein from the upper tunnel. Which vein it intersects about two or three hundred feet from the portal. The small veins crosscut were not of comercial value. The reason I want to explore the claims is that owing to the pitch of the vein the lower tunnel should tap the main ore body if continued a distance of 500 ft.

(d); There is one fourth mile of private road in good condition which connects with a public road,(this road is also the assess road to the Mike Horse Mine), that has to be traveled about one half mi. before it in turn connects with State highway no. 20. The ore is hauled over this route to the smelter at east Helena an overall distance of approximately 56 miles.

(e); I have already in my employ enough experienced men to proceed with the work. There is sufficient timber of the property for mining timber etc. Both tunnels are equiped with track, water pipe, and airpipe. There is sufficient water provided by a live running creek. There is at present no electric power but this would be easily availabe as the main power line runs by within one and one fourth miles of the property.

(5);a,I want to explore for copper and lead.

(b); Inclosed is a detailed map of both tunnels including a sketch of the extension I wish to make on the lower tunnel. The proposed work is to drive an additional 500 ft. of drift ahead into the lower tunnel in an attempt to tap the estimated main ore body where the present fissure vein intersects the old Anaconda lead.

Virtus Ira Tillotson
Lincoln, Mont.

(c); The work will proceed as soon as I recieve a statement to the effect that the government will grant the loan and will be completed in approximately six months.

(d); I, the applicant, am an experienced miner. Have worked in numerous mines for the past twenty years. Iwas employed in civil service as head superintendent of all the rock quarries on Ohau Island in the territory of Hawaii from I94I to I944. I was assistant rock foreman for two years on the Hungry Horse dam. Iwas also the shaft foreman on the Canyon Ferry dam. I am a world II vetran and was head instructor of the heavy equipment classes teaching the use of air compressors, dozers, and drilling equipment. I worked for the Howe Sound mining co. for a no. of years. Also worked for U. S. Vanadium and various other mines. I worked for many years for Morrison and Knudsen Co. in tunnel work. I myself will supervise the work with the help of my consulting engineer, a graduate of the Colorado School of Mines, Ira M. Tillotson.

(6); Estimate of costs;

(a); Independent contracts; none.

(b); Labor;

To begin with I would use one miner and one mucker. They would be paid days pay. Wages for the miner would be $I4.75 per 8 hr. day. Time and one half for the sixth day. Miners wages for 24 weeks or 6 mos. would ammount to $2,I85.48. The mucker would be paid $I3.50 per 8 hr. day . Mucker's wages for 24 weeks or 6 mos. would ammount to $2, I04.80.

Supervision;

My own wages for supervision would be the same as the miners ($2,I85.48 for 24 weeks).

Consultant;

Mining engineer's wages would be $25.00 per week. Ammounting to $600.00 for 24 weeks.

(c); Operating materials and suppli es which I will find it necessary to purchase. following;

Virtus Dra Fillotson
Lincoln, Mont.

Needed to drive 500 ft. of drift into the lower tunnel;

2,625 blasting caps	$I04.90.
7-300 ft. rolls of fuse	$294.00
95 cases of powder	$I,235.00
300 lb. of carbide	$29.40
900 track spikes	$27.00
I000 ft. of single rail	$I87.00
250 qts of oil	$II2.50
I000 gallons of gas	$I60.00
248 track bolts	$I4.40
3I0 track fish plates	$I5.50
500 ft. of two inch pipe	$300.00
5 pipe unions	$7.75
5-90 degrees elbows	$5.00
5-45 degree elbows	$5.00
5 pipe t 's	$7.00
Total	$2,834.95

(d); I own all the equipment necessary for the exploration project it is listed below.

(I); Two stage Gardener Denver air compressor I60 c.f.m. almost new and in good condition.

(2); Single stage Gardener Denver air compressor I60 c.f.m.

(3); Two stopers, one Ingersoll Rand and one Chicage Pnuematic. I00 ft. of air hose, I00 ft. of water hose, also numerous spuds, fittings, and connections.

(4); One dozen mining picks.

(5); One dozen mining bars.

(6); Two dozen round point and square point shovels.

(7); I have inch stoper steel as follows; five-two ft. steel, five-four ft. steel, five-six ft. steel, and five-eight ft. steel. Jackhammer steel as follows; three-two ft. steel, three-six ft. steel, and three-eight ft. steel.

Virtus Ira Fillotson
Lincoln, Mont.

(8); One Ingersoll Rand Jackhammer with wet head and cell.

(9); Three kegs full of jack bits some new and some old. The old can be resharpened.

(I0); One Gardener Denver tugger with new quarter inch cable 200 ft. long.

(II); Four chev blocks.

(I2); Two hundred ft. of two inch surplus pipe, with one dozen two inch valves, unions, and one dozen couplings. Five hundred ft. of three quarter inch pipe with three dozen three quarter inch valves and three dozen unions. Also other pipe fittings large and small too numerous to mention.

(I4); One complete blacksmith outfit, forge, anvil, vise, hammers, and tongs.

(I5); Complete set of mechanic tools.

(I6); Complete set of carpenter tools.

(I7); One half dozen timber saws for mine use.

(I8); One half dozen mining axes.

(I9); Two hundred ft. of eight lb. mine rail.

(20); One I530 Mc Cormick Deering engine which will run the single stage air compressor.

(2I); One acetelyn welding outfit (complete).

Estimated rental for use of equipment owned by the applicant;

Two stage air compressor	$200.00 per mo.
Two stopers - each	$ 50.00 per mo.
Blacksmithing on picks and bars	$I5.00 per mo.
Gardener Denver tugger	$ 25.00 per mo.
Shop equipment	$ 50.00 per mo.

(e); Rehabilitation and repairs;

Needed for fixing shop and compressor house $60.00 worth of roofing.

(f); New buildings, installations and improvements; none necessary.

(g); All men now employed are cover ed by State Industrial Accident board ins. They are also covered by unemployme nt compensation. The rate of the State Industrial ins. is $8.00 per $I00.00 earned.

Virtus Ira Lillotron
Lincoln, Mont.

State Industrial Ins. for all employees mentioned would ammount to $592.00 for six months. Unemployment Compensation rate is 2.7 percent of total earnings a total for all employees mentioned of $179.00.

Would need $200.00 for the ta king of samples to the assay office.

Salary for bookeeper and typist $50.00 per month.

(h); May need $200.00 in case of unexpected breakdown of operating equipment.

(a);

(7); I am ready to furnish my share of the cost of the project.

(b); By use of operating equipment& material.

Estimated total cost. $13,781.71

SUB-LEASE AND OPTION TO PURCHASE

THIS SUB-LEASE AND AGREEMENT made and entered into this 29 day of October, 1954, by and between GEORGE M. LINGLE, party of the first part, and VIRTUS I. TILLOTSON, party of the second part, WITNESSETH:

THAT WHEREAS, George M. Lingle, party of the first part, is the holder of a lease from Frances Hubbel and Samuel H. Thurber upon the folowing described mining claims and property, to-wit:

> The Consolation, Black Foote Belle, and Golden Eagle Quartz Lode Mining Claims, U. S. Survey No. 10502, together with the Carbonate Quartz Lode Mining Claim adjacent thereto (unpatented), all of which are situated in the Hedelston (unorganized) Mining District, near Silver Camp, Lewis & Clark County, Montana, and will be hereinafter referred to as the "Consolation Group",

and for and in consideration of the sum of One Dollar ($1.00) and the rents, royalties and covenants hereinafter contained, has sub-leased, demised and let, and by these presents does sub-lease and let unto the party of the second part all of the above described property.

TO HAVE AND TO HOLD unto the said sub-lessees, party of the second part, for a term of two (2) years commencing on the day and year first herein above written and ending two (2) years from that date (unless sooner terminated as herein provided), upon the following terms and conditions:

FIRST: The sub-lessee agrees to enter upon said mining claims not later than the 29 day of October, 1954, and to work, prospect and mine the same for minerals, and in the prosecution of said work agrees to perform an average of thirty (30) man shifts per month during each

calender year during the time of thisilease and to perform all assessment work required under the law upon the Carbonate quartz lode mining claim each and every year during the term of this lease.

SECOND: Said sub- lessee will prosecute said work in a good and minerlike manner, and will properly timber all tunnels , drifts or other workings where proper and in accordance with good mining.

THIRD: Said sub-lessee willpost in two conspicous places upon said leased premises the fact that they are the sub-lessee of the claims, and that the owner and lessee of said claims is not liable for any work done on said premises. Nor shall the owner or the lessee of said claims be liable for wages earned by or for injuries done to any person employed thereon.

FOURTH: That said sub-lessee will not permit any lein to be placed upon said premises, or any part thereof.

FIFTH: Taht the party of th e second part will at all reasonable times permit the party of the first part, or his agents, engineers of attorneys to inspect the said premises, and all parts thereof: and using for that purpose, without cost to the party of the first part all hoists, manways, cars of other means of ingress and egress owned by the party of the second part upon said premises.

SIXTH: Sub-lessee agrees to comply with all of the terms and provisions of the Workmen's Compensation Act of the State of Montana, and the rules and regulations of the Industrial Accident Board and the U. S. Bureau of Mines.

SEVENTH: All ores and minera ls shipped from said property shall be shipped to the smelter, concentrator or reduction works in the names of all the parties hereto, and a copy of this agreement shall be deposited at such smelter, mill, concentrator or reduction works; and the party of the second part shall cause such smelter, mill sampler of reduction works to pay to the party of the first part royalties from all ores, concentrate or bullion shipped for treatment, or otherwise treated, as follows:

25% royalty on all net smelter returns and on ore or valuable metals or minerals covered from the leased premises.

By "net smelter returns", as used herein, is meant the total valueof the ore as extracted from the mine, after deducting hauling, railway freight and treatment charges, in accordance with the prevailing changes, but without deduction for mining.

EIGHTH: IT IS UNDERSTOOD AND AGREED that duplicates of all smelter returns shall be furnished to FRANCES HUBBEL and SAMUEL H. THURBER, the owners, and GEORGE M. LINGLE, the party of the first part herein.

NINTH: IT IS UNDERSTOOD AND AGREED by and between the parties hereto, that all buildings, gallows and improvements now upon said premises are the property of the owners and shall not be removed by the second party, and if replaced, such replacements shall likewise become and remain the property of the owners herein. MACHINERY and property tools and accessories hereinafter purchased by sub-lessee, not used as replacements of the present buildings or machinery, may be removed by sub-lessee within sixty (60) days after the termination of said lease.

TENTH: Lessors or owners agree to pay all property taxes assessed and levies on said mining claims and upon the machinery located thereon at the date of this lease and of which said lessors are t h e owners. The Lessee agrees to pay all taxes on machinery or improvements placed on property above stated after Oct 29. 1937 G.M.L. V.I.T.

Sub-lessee agrees to pay all Federal, State and County taxes of every kind, character and description, over and above the taxes above described, assessed and levied against said property or aga instproduct and proceeds of and from said mining claims, or either of them, including Metals Mines tax, royalty taxes, and any and all other taxes which may be hereaf ter levied upon said property, or any thereof, by reason of the operating of said mining claims by said sub-lessee.

ELEVENTH: The sub-lessee premises and agrees promptly to make all returns and reports with respect to the said propertys, the operation and management thereof, the production and proceeds thereof, and otherwise as may be lawfully required of them by any duly authorized officer, Federal or State.

TWELFTH: OPTION. For and in conside ration of the additional sum of One and no/100 dollars ($1.00), and other valuable consideration, the party of the second part shall have, and are hereby given the right and option of purchasing the a above described property for not more than One Hundred Thousand Dollars ($100,000.00) at any time during the life of this lease, in cash, including royaltys, which shall be applied upon the purchase price of said property.

THIRTEENTH: IT IS FURTHER UNDERSTOOD AND AGREED that this lease may not be a assigned or said premises sub-let by the sub-lessee.

FOURTEENTH: IT IS FURTHER UNDERSTOOD AND AGREED that failure to work said premises as herein specified shall be grounds for the forfeiture of this sub-lease. Said notice of forfeiture may be given by a written notice personally served upon the sub-lessee, or by ord ary written notice sent by first party by first class mail, postage prepaid, addressed in duplicate to the party of the second part herein.

FIFTEENTH: IT IS FURTHER UNDERSTOOD AND AGREED that the time is of the essence of this agreement, and that all of the terms and considerations herein set forth shall be obligatory and bind ing upon the heirs, administrators, executers or assigns of the parties herete.

SIXTEENTH: Upon the termination of this lease at the time limited herein (or at any time previous upon demand for forfieture for violation of any of the covenants of this lease) the sub-lessee agrees to peaceably and quietly surrender possession of said premices to the said lessor upon demand; and shall have, and be given sixty (60) days from the date of said forfeiture or termination of this lease within which to remove from said premices all machinery and equipment belonging to them.

SEVENTEENTH: Sub-lessee shal l have and is hereby given the right to use the timber growing on said properties for mining timber, and is further given the right and option of extending this sublease for and additional period of two (2) years upon their compliance with the terms and conditions of this sublease by them to be kept and performed, and the exercise of said option to extend the sublease shall be given by written notice to the party of the first part, either personally delivered, or sent by registered mail to the said first party, at least sixty (60) days prior to the expiration of this agreement, and the giving of said notice by the sublessee shall automatically extend all the terms and conditions of this sublease and option for said additional period.

IN WITNESS WHEREOF the parties hereto have set their hands the day and year in this agreement first above written.

Geo M Lozich
Party of the first part

Victor J. Tillotson
Party of the second part

These old assay reports were given to me by Mr. Earl Botsford and were taken by his mining engineer Mr. A. Franchie.

The smelter returns are from ore shipped by me.

I would like to have all of them returned.

Vitus J. Lillotson

DEPARTMENT OF THE INTERIOR
Bureau of Land Management
RECEIVED
AUG 23 1974

ASSAYED FOR

Mr. A. Franchie
Consolidated Mining Co.
Lincoln, Mont.

ASSAY CERTIFICATE

BRUNNER & PEREY

11 Broadway
Phone 2375 P. O. Box 764
HELENA, MONTANA

☑ Hand Sample
☐ Control Sample

SERIAL NO.

Date June 16, 1943

Sample No.	DESCRIPTION	GOLD Oz.PerTon	SILVER Oz.PerTon	LEAD Per Cent	ZINC Per Cent	Per Cent	Per Cent	Value Per Ton
#1 Level	106 "A" Shoot Muck Pile	0.13	2.3	0.5	0.1			
#1 Level	107 #3 Stope Mixed Ore	0.26	6.4	9.1	8.3			
#1 Level	108 #2 Stope 3'0" wide 10.0' Roof of Stope	0.22	5.8	0.6	0.1			
#1 Level	109 #1 Stope Extension 6.0 ft wide Mill Rock	Tr.	0.9	2.0	2.3			
#1 Level	110 #3 Stope, 4.0' Mill Rock	0.20	3.9	5.3	6.6			
#1 Level	111 " 1st class 10"	0.15	11.9	24.4	9.2			
#1 Level	112 #3 Stope - Drift 18" wide in 5.0' wide vein	0.06	3.0	5.4	1.2			
#1 Level	113 "A" Shoot 2.6' porphyry ore Mill rock	0.13	2.0	2.4	Tr.			
#1 Level	114 Tabc 1.0 "A" Shoot Galena	0.04	1.8	1.2	2.0			
#1 Level	115 Porphyry along vein	Tr.	0.2	0.4	Tr.			
#1 Level	123 "A" Shoot Pinchin 90.0 end of Shoot	0.02	1.3	0.6	Tr.			
#2 Level	~~124~~ 132 12" ore muck from 3.0' vein	0.02	5.9	15.0	4.0			
#2 Level	133 X vein 11.5' wide cut	0.02	1.8	1.2	Tr.			
#2 Level	134 Vein Sta. 17+24 1st class ore Gouge	0.03	5.1	16.9	13.6			
Low grade ore. actual		22.38	Real - 16.78 + bonus				22.28	
Average " "		28.00	"	21.00	"	"	30.90	
1st class ore only 75% value		44.40	"	32.30	"	"	50.45	

Charges $ 28.00

Virgus I. Tillotson
Lincoln, Mont.

BRUNNER & PEREY,

By John J. Brunner

ASSAYED FOR

Mr. A. V. Franchie
Consolidated Mining & Milling Co.
Lincoln, Mont.

ASSAY CERTIFICATE

BRUNNER & PEREY

11 Broadway
Phone 2375 P. O. Box 764
HELENA, MONTANA

☐ Hand Sample
☐ Control Sample

SERIAL NO.....

Date June 27, 1943

Sample No.	DESCRIPTION	GOLD Oz.PerTon	SILVER Oz.PerTon	LEAD Per Cent	ZINC Per Cent	Per Cent	Per Cent	Value Per Ton
135	low grade winds no 1st class	Tr.	0.5	0.6	0.1			
136	" " " 0 "	0.01	0.8	1.2	1.1			
137	across funnel face no 1st class	0.04	0.8	2.1	3.3			
138	across " "	0.02	0.7	1.2	1.3			
139	Stock Pile 2nd class no 1st class pieces included	0.05	0.7	1.6	1.2	$7.71	$5.40	
140	1st class Ore bin	0.10	7.4	22.0	14.5			
141	#1 Lewis Old ore dump	0.13	2.9	2.1	1.7			
142	" " " 1'-0 deep 20.0 ft branch	0.07	2.0	2.8	1.5			

Charges $.....

Virgus I. Tillotson
Lincoln, Mont.

BRUNNER & PEREY,
By John J. Brunner

A. J. GOODALL,
Assayer, Chemist

A. V. TRENT,
Assayer, Chemist

GOODALL BROTHERS

ASSAYERS AND METALLURGICAL CHEMISTS

46 SO. MAIN ST., HELENA, MONTANA

TEL. 628
P. O. BOX 537

Date AUG 13 1943

UMPIRE ASSAY..... CONTROL ASSAY..... HAND SAMPLE.....

ASSAYED FOR: Consolidated M & M Co

MARKS: East Butte, Mgr Lincoln

Sample No.	DESCRIPTION	GOLD Ozs. Per Ton	SILVER Ozs. Per Ton	WET LEAD Per Cent	COPPER Per Cent	ZINC Per Cent	IRON Per Cent	INSOL. Per Cent	Per Cent	Total Value Per Ton
148		0.03	1.6	0.8		0.8				2.19
		12								

Gold not deducted:.....

Charges $ 2.50 Paid

GOODALL BROS.

By Archie J. Goodall

NPCo. A-6557 Form 1

Virtus I. Tillotson
Lincoln, Mont.

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., August 20, 1954, 19

Bought of Earl Neese Mine Consolation Our Lot No. 1342

Class Crude Shipping Point Lincoln, Montana Mine Lot No. 1

Quotations of Weeks Avg. Silver .90 Lead 14.0 Cathode Copper 29.575

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	0.710	12.3	11.4	0.10	8.4	26.6	0.3		11.4	6.7	0.65		0.1
Goodall	0.72	12.3	11.6										
Umpire													
Settlement	0.715	12.3	11.5	0.10	8.4	26.6	0.3		11.4	6.7	0.65		0.1

Car Number	Weight	VALUES PER TON		DEDUCTIONS PER TON		
		Gold 91.1371% @$35-1/4%	22.75	Base for 20 % Dry Lead 8.00		
Truck	10940	Silver 95% less 1 oz. @ .90	10.17			
		Lead Less 1.5 90% @14.0-1.8	21.96			
		Copper, Less @				
		Total Au. & Ag.	54.88			
		Lead (700-)				8.00
		Copper (1400-)		Insoluble % @		
				Zinc 1.4 % @ .30		.42
		Deductions Per Ton		Arsenic 5.35 % @ .50		2.68
				Antimony % @		
Weight of Lot		Bullion Frt. Per Ton		Bismuth % @		
Weight of Sacks				Debit		
Wet Weight		Valuation For Frt. ( )		Iron Lbs. @		
Less Moisture 0.4 %	44	Less Total Deduction	11.10	Total Deductions		11.10
Dry Weight	10896	Pounds @	43.78	Per Ton	$	238.51

	Freight Per Wet Ton @	$	
	Hauling Per Wet Ton @7.00 Bill Hall or 40.00Min.&3% tax(1.20)	$ 41.20	
	Royalty 10% Geo. M. Lingle, Helena	$ 18.24	
Date of B/L	Bullion frt. @ 981# @ $24.24 ton 11.89 & 3% tax	$ .36	
Date of Arrival 7/24/54	~~Average~~ Less " " @ 981# @ $19.04 ton 9.34	$ 2.55	
Checked	Umpire Goodall	$ 12.00	
Correct	Sampling When Less Than 10 Tons	$	

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

TOTAL $ 74.35 $ 74.35

NET PROCEEDS $ 164.16

Virgus F. Tillotson
Lincoln, Mont.

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., ... 19.....

Our Lot No. ..... Mine ..... Mine Lot No. .....

Shipping Point ..... Silver ..... Lead ..... Calumet Copper .....

Assays	Gold Oz. per ton	Silver Oz. per ton	Wet Lead Per Cent	Copper Per Cent	Insol. Per Cent	Iron Per Cent	Antimony Per Cent	Sulphur Per Cent	Zinc Per Cent	Arsenic Per Cent	Bismuth Per Cent	Lime Per Cent
A. S. & R. Co.												
Samples												
Settlement												

Our Number	Weight	Value per Ton	Deductions per Ton
		Gold @	Base for Lead
		Silver 99% @	
		Lead less 3% @	
		Copper less @	
		Total Am. & Ag.	
		Lead (720-)	
		Copper (1400-)	Insoluble % @
		Deductions Per Ton	Zinc % @
			Arsenic % @
			Antimony % @
		Smelting Fee Per Ton	Bismuth % @
			Dirt
		Valuation For Pay. ( )	Iron Lime @
		Less Total Deduction	Total Deductions

Weight of Lot			
Weight of Sacks			
Net Weight			
Lead Moisture %			
Dry Weight	Pounds @	Per Ton @	
	Freight Per Wet Ton @		
	Hauling Per Wet Ton @		
	Royalty		
Date of B/L			
Date of Arrival	Amount		
Collection	Unpaid		
Correct	Sampling Mill Less Than 10 Tons		

Rates correct on contracts subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

TOTAL $

NET PROCEEDS $

FORM NO. A-31

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., October 7, 1954

Bought of Earl Neece Mine Consolation Our Lot No. 1716

Class Crude Shipping Point Lincoln, Montana Mine Lot No. 2

Quotations of Weeks Avg. Silver .90 Lead 14.5 ~~XXXXX~~ Cathode Copper 29.575

ASSAYS	GOLD OZ. PER TON	SILVER OZ. PER TON	WET LEAD PER CENT	COPPER PER CENT	INSOL PER CENT	IRON PER CENT	MANGANESE PER CENT	SULPHUR PER CENT	ZINC PER CENT	ARSENIC PER CENT	ANTIMONY PER CENT	BISMUTH PER CENT	LIME PER CENT
A. S. & R. CO.	0.260	6.0	9.4	0.10					9.7	5.20	1.46		
Goodalls	0.270	6.1	9.6										
UMPIRE													
SETTLEMENT	0.265	6.05	9.5	0.10					9.7	5.20	1.46		

CAR NUMBER	WEIGHT
Truck	10790

VALUES PER TON			
GOLD	91.1371%	@$35- 1/4%	8.43
SILVER ~~95%~~	less 1 oz.	@ .90	4.55
LEAD LESS	1.5 90%	@14.5-1.8	18.29
COPPER, LESS		@	
TOTAL AU. & AG.			31.27

DEDUCTIONS PER TON				
BASE FOR 20 %Dry LEAD		8.00		
				8.00
INSOLUBLE	%	@		
ZINC	%	@		
ARSENIC and ANTIMONY	4.66 %	@	.50	2.33
BISMUTH	%	@		
DEBIT				
IRON	LBS.	@		
TOTAL DEDUCTIONS				10.33

WEIGHT OF LOT

WEIGHT OF SACKS

WET WEIGHT

LESS MOISTURE 3.4 % 367

LESS TOTAL DEDUCTION 10.33

DRY WEIGHT 10423 POUNDS @ 20.94 PER TON $ 109.13

FREIGHT PER WET TON @	$	
HAULING PER WET TON @ Louis Peura 40.00 Min. & 3% tax (1.20)	$ 41.20	
ROYALTY 10% Samuel Thurber & Francis Hubbell Helena, Mont.	$ 4.87	
Bullion frt. on 750# @$24.24 ton 9.09 & 3% tax	$ 1.27	
Less " " on 750# @$19.04 ton 7.14	$ 1.95	
ADVANCES 9-16-54	$ 50.00	
~~UMPIRE~~ XXXXX $12.00 Goodalls	$ 5.84	
SAMPLING WHEN LESS THAN 10 TONS	$ 5.00	
TOTAL $	109.13	$ 109.13
NET PROCEEDS $		NONE

DATE OF B/L

DATE OF ARRIVAL 9-11-54

CHECKED

CORRECT

RATES EXCEPT ON CONTRACT, SUBJECT TO CHANGE WITHOUT NOTICE.

A MINIMUM CHARGE OF $5.00 MADE ON ALL LOTS UNDER 10 DRY TONS.

virtus I. Tillotson
Lincoln, mont.

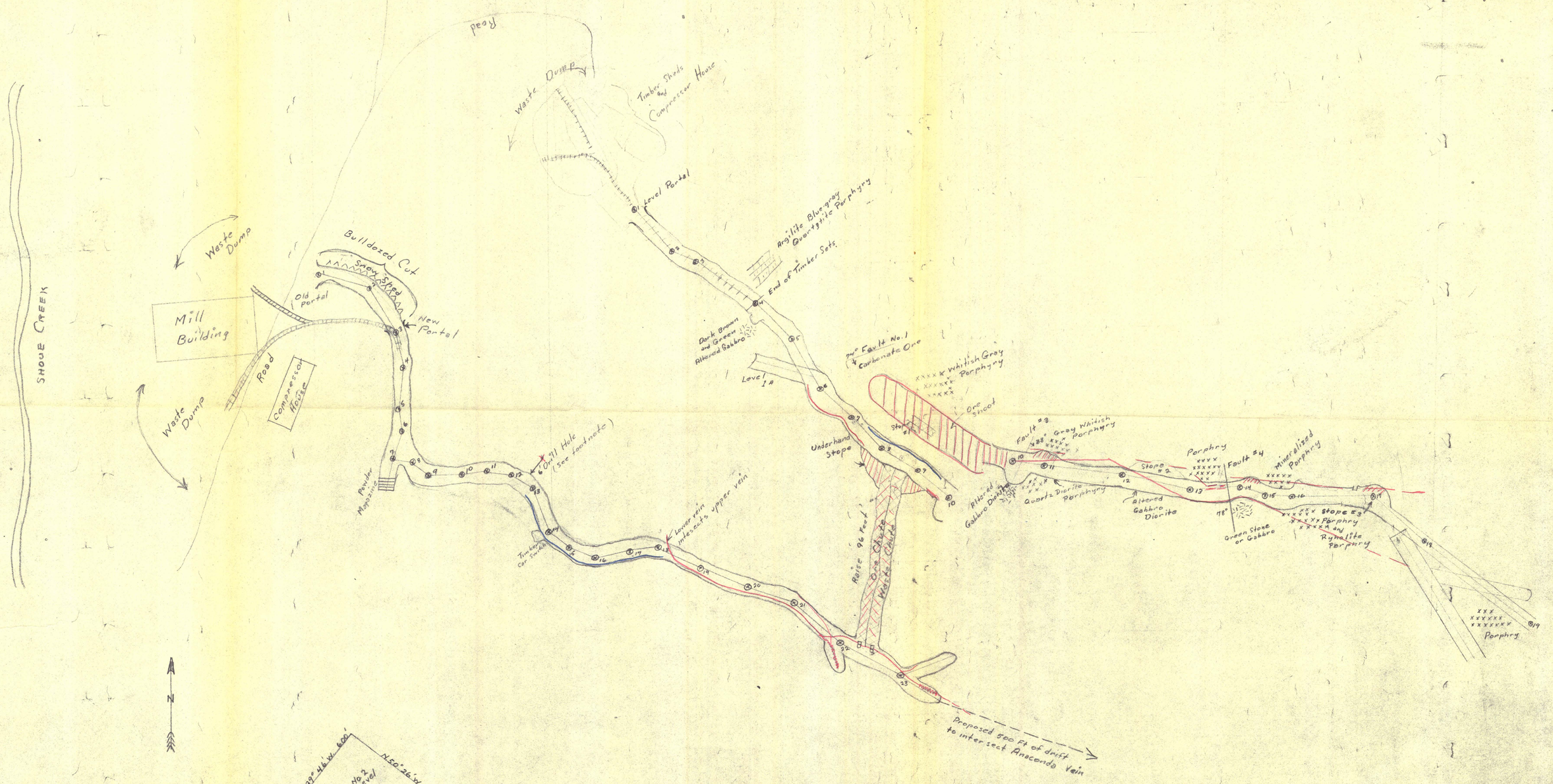
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1201 NORTH DIVISION STREET
SPOKANE 2, WASHINGTON

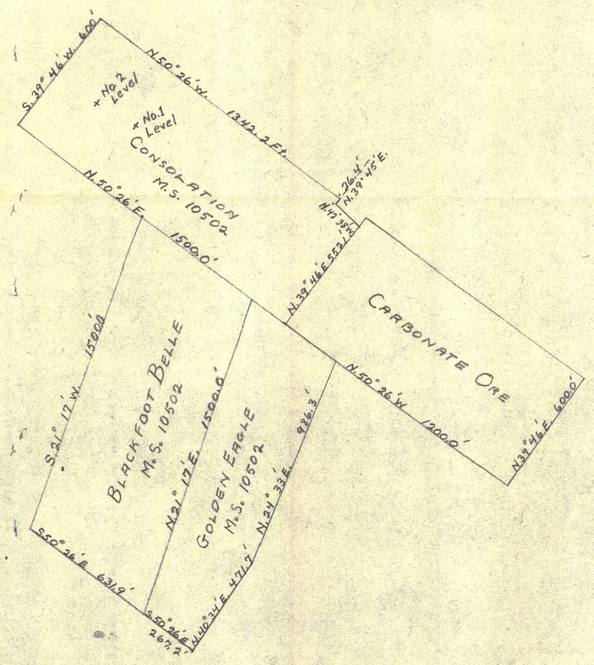
OFFICIAL BUSINESS

SPOKANE WASH.
JY 20 7 PM
1954

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

Virgus I. Hillotson
Lincoln, Mont.





*Map of Consolation Group, Located in Lewis & Clark County, State of Montana, in the Heddleston Unorganized Mining District.

Footnotes

Red markings indicate Ore bodies.
Blue markings indicate copper stains.
Upper drift measures 450 ft. from face to portal 300 ft. from face to raise.
Lower drift measures 427 ft. from face to new portal
Between survey sets 12 & 13 - 6 ft. drill hole shows last 2 ft. to contain shipping Ore.
All 4 claims heavily timbered with lodge pole pine & fir.
Upper drift makes 30 Gals. water per hour.
Lower drift approx. the same.
At low stage, Shoue creek produces approx. 200 gals. per minute