cw

File Copy
Surname
Klugescheid.
Grimwood
Lamb
Kiilsgaard
Selfridge.

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

OCT - 1 1956

Mr. Willie Downs
Box 757
Wallan, Idaho

Re: Docket No. DMEA-4292 (Copper)
Willie Downs and Oscar Hahn
Saltese Metals Mine
Mineral County, Montana

Dear Mr. Downs:

Your application for aid for an exploration project and other data available to us in Washington relating to your mine 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 copper mineralization on your property, indicates to us that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

C. O. Mittendorf

Administrator

WPKlugescheid/er 10/1/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington, USBM
Mr. Kiilsgaard, USGS
Region I, NW Dist. (2)
Chron.

R.C.K.

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

October 1, 1956

Memorandum for the Files

From: W. P. Klugescheid

Subject: Denial of Application, Docket No. DMEA-4292 (Copper), Willie Downs and Oscar Hahn, Saltese Metals Mine, Mineral County, Montana

The cited application, dated May 2, 1956 was received in this office May 7.

The Applicants propose to explore the downward continuation of the main vein by means of two diamond drill holes. This work would provide information concerning the grade, size, and the possibility of secondary enrichment at a further depth of about 400 feet. The total estimated cost of the work is $6,350.00 and the diamond drill footage would be 1,100 feet. The drill holes would be drilled from the face of the adit.

A field examination was made by Donald F. Kellum, of the Geological Survey, and E. G. Erickson, of the Bureau of Mines.

The adit is approximately 880 feet long and at about 500 feet from the portal there are drifts driven on the main vein to the northwest and southeast. The vein is exposed by the drifting for a distance of about 370 feet.

Samples of the vein taken by the examining team were very low grade.

Sparse primary sulphides in this and similar veins in the area, and the lack of evidence for enrichment at depth in this vein indicate that the presence of an adequate target for exploration is doubtful. The examining team therefore concludes that this application should be denied.

The Field Team, the commodity members of the Bureau of Mines and the Geological Survey and the Base Metals Division all concur with the recommendation of the examiners.

W. P. Klugescheid

W. P. Klugescheid

WPK/er
Copy to: Docket
Base Metals
Chron.

IN REPLY REFER TO:

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

RECEIVED
SEP 24 1956

September 21, 1956

Re: DMEA 4292
Willie Downs and Oscar Hahn
Saltese Metals Mine
Mineral Co., Montana
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 applicants requested assistance in exploring by diamond drilling an 'oxidized' bedded quartz-siderite vein containing sparse-copper as malachite and chalcopyrite.

The vein is opened an unstated distance below the outcrop by an 880 foot crosscut and 470 feet of drifting in the vein. The vein is well defined for about 270 feet, none of which is ore, but from which specimens of ore have been taken.

The applicant proposed drilling downward to the vein from a crosscut in the hanging wall, expecting to find better material at depth.

In the opinion of the examiners, such a change is not to be expected, other similar veins in the neighborhood having failed, under exploration, to show significant bodies of ore.

Because of the unfavorable history of the veins the examiners and the Field Team recommend denial of the application.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
SEP 24 1956

September 21, 1956

Re: DMEA 4292
Willie Downs and Oscar Hahn
Saltese Metals Mine
Mineral Co., Montana
Copper

Memorandum

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The applicant proposed drilling downward to the vein from a crosscut in the hanging wall, expecting to find better material at depth.

In the opinion of the examiners, such a change is not to be expected, other similar veins in the neighborhood having failed, under exploration, to show significant bodies of ore.

Because of the unfavorable history of the veins the examiners and the Field Team recommend denial of the application.

I concur with the recommendation.

NENelson:btr
G 9/21/56

N. E. Nelson

N. E. Nelson

cc: J. W. Pennington, 3623
Director's reading file (4212)
Branch reading file (4212)
DMEA (3)
Chron. file
Docket file

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

RECEIVED
SEP 20 1956

September 19, 1956

Memorandum

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

From: Commodity Specialist, Branch of Base Metals

Subject: Review of Field Team Examination Report, Docket No. DMEA 4292 (copper), Willie Downs and Oscar Hahn, Saltese Metals Mine, Mineral County, Montana

The applicant proposed to explore the downward extension of a copper-bearing quartz carbonate vein by two diamond drill holes totaling 1,100 feet at an estimated total cost of $6,350.00.

Examination of the property by Donald F. Kellum, Geological Survey, and E. G. Erickson, Bureau of Mines, revealed that the vein to be explored was weakly mineralized. In addition, there was no evidence to indicate enrichment of the vein with depth. For these reasons the Field Team recommends that the application for assistance to explore the property be denied.

I concur with the Field Team's recommendation.

J. W. Pennington

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiilsgaard, U. S. G. S.
F. D. Lamb
F i l e s

RECEIVED
SEP 20 1956

September 19, 1956

Memorandum

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

From: Commodity Specialist, Branch of Base Metals

Subject: Review of Field Team Examination Report, Docket No. DMEA 4292 (copper), Willie Downs and Oscar Hahn, Saltese Metals Mine, Mineral County, Montana

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I concur with the Field Team's recommendation.

J. W. Pennington

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiilsgaard, U. S. G. S.
F. D. Lamb
F i l e s

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
SEP 14 1956

September 6, 1956

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

Re: Docket No. DMEA-4292 (Copper)
Willie Downs and Oscar Hahn
Saltese Metals Mine
Mineral County, Montana

Dear Mr. Selfridge:

Enclosed are four copies of an examination report on this property by Donald F. Kellum of the Geological Survey and E. G. Erickson of the Bureau of Mines.

Several veins in the area are known to contain varying amounts of primary and secondary copper minerals. Exploration of these veins has been in the oxidized zone or near the top of the primary zone. Evidence to suggest the presence of a zone of enrichment in these veins, including the one the applicant proposes to explore, is not strong and on geologic grounds the examiners conclude and recommend that the application be denied.

The Field Team concurs in the recommendation of the examiners.

By Field Team, Region I, NW Dist.

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

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

Enclosure

cc: USBM (2)
USGS(SRO)
Kellum

Reviewed by
DMEA OPERATING COMMITTEE
9-17-56
(date)

RECEIVED
SEP 14 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

August 15, 1956

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: Donald F. Kellum, Geologist, U. S. Geological Survey, and E. G. Erickson, Mining Engineer, Bureau of Mines

Subject: Application examination report, Docket No. DMEA-4292 (Copper), Willie Downs and Oscar Hahn, Saltese Metals Mine, Mineral County, Montana

SUMMARY

Willie Downs and Oscar Hahn, partners, have applied for DMEA assistance to explore for copper in Mineral County, Montana. They propose to explore the downward extension of a copper-bearing quartz carbonate vein at a depth of about 400 feet below the Lower Tunnel workings by means of two diamond drill holes aggregating approximately 1,100 feet. The applicant estimates that the proposed work would cost $6,350 (Government's share 50 percent or $3,175).

The property, known as Saltese Metals mine (formerly the Boston Colby property) consists of three claims in unsurveyed T. 19 N., R. 31 W., approximately a quarter of a mile west of the town of Saltese, Montana. The property is accessible throughout the year.

An examination was made June 21, 1956 by E. G. Erickson, Mining Engineer, Bureau of Mines, and D. F. Kellum, Geologist, Geological Survey, accompanied by Mr. Downs, one of the applicants. The Lower Tunnel workings consist of approximately 880 feet of crosscut and 470 feet of drift within sediments of the Precambrian Belt series. A steeply dipping quartz-carbonate vein exposed by drifts east and west of the crosscut contains sparse amounts of primary and secondary copper minerals.

Sparse primary sulfides in this and similar veins in the area, and the lack of evidence for enrichment at depth in this vein indicate that the presence of an adequate target for exploration is doubtful. It is therefore concluded that on the basis of geologic probability this application should be denied.

Reviewed by
DMEA OPERATING COMMITTEE
9-17-56
(date)

EXAMINATION

The examination made on June 21 consisted of checking the geologic map of the Lower Tunnel submitted by the applicant, and taking four check samples across portions of the vein. The applicant's map is quite satisfactory and, with some additions, accompanies this report (fig. 1).

During the examination, a traverse was also made from the Lower Tunnel portal to the NE corner of Claim No. 3 to establish the relationship of accessible underground workings to claim boundaries. A claim map is also included with this report (fig. 2).

COMPETENCY OF APPLICANT

The applicant is a partnership between Willis Downs, Box 757, Mullan, Idaho, and Oscar Hahn, Irwin, Idaho. Mr. Hahn is a businessman, while Mr. Downs, an experienced miner, is working at the Lucky Friday mine where he has been employed for several years. It is believed that he would be entirely competent in carrying out a program such as the one proposed. The partners have contacted Mr. Long, geologist for Bunker Hill Company, who will direct the drilling, log cores, and do the necessary engineering and geologic work.

PROPERTY RIGHTS

Three claims designated Nos. 1, 2, and 3, are stated in the application to be owned by the applicant. It is assumed that, since these claims are unpatented, the applicant holds them by right of location. The application states that the claims are recorded in the County Recorder's office at Superior in Mineral County, Montana, as the following unpatented claims:

Saltese Metals Claim No. 1, Book 4 of Lode Locations, p. 547
Claim No. 2, Book 4 of Lode Locations, p. 555
Claim No. 3, Book 4 of Lode Locations, p. 582

The records were not checked.

DESCRIPTION OF THE PROPERTY

The applicant's property, formerly known as the Boston Colby property, is on the south side of the St. Regis River valley immediately west of Saltese, Montana. Relief in the area ranges

in altitude from about 3,350 feet at the valley floor to about 5,600 feet along adjacent ridge crests. Hill slopes are sparsely to heavily timbered with small pine, whereas the valley bottom is generally more open and supports deciduous trees as well as some evergreens. With the exception of the northeast portion of Claim No. 3 in the valley bottom, the applicant's property is on moderately steep hillside.

Transportation routes through the valley include U. S. Highway 10 which passes immediately north of Claim No. 3, and the main lines of both the Northern Pacific and the Milwaukee Railroads which cross the northeastern corner of Claim No. 3. At Saltese, a graveled road south from Highway 10 crosses the Northern Pacific right-of-way and an unimproved branch road continues westward between the two rail lines for approximately a quarter of a mile to the Lower Tunnel portal of the Saltese Metals mine on the north side line of Claim No. 3.

Underground workings on the property consist of a Lower Tunnel containing approximately 880 feet of crosscut and 470 feet of drift (fig. 1). Workings above this level are inaccessible but reportedly contain about 350 feet of combined crosscuts and drifts. There are no surface improvements on the property.

The Lower Tunnel crosscut was driven S. 20° W. for approximately 880 feet. Only the first 100 feet required timbering. About 500 feet from the portal the main vein is exposed by drifts northwest and southeast from the crosscut, and by a number of short raises and stub crosscuts in the vein. A 25-foot vertical winze, now filled with water, is at the drift-crosscut intersection. At the face of the crosscut, approximately 880 feet from the portal, a strong fault is exposed by about 25 feet of drift. The applicant's proposed drill site is at the face of the crosscut.

GEOLOGY

The geology of the area around Saltese, Montana, has been described by Calkins and Jones (Economic Geology of the Region around Mullan, Idaho, and Saltese, Montana, U. S. Geological Survey Bulletin 540, Part I, p. 167-211); also included in this report is a brief description of the applicant's property (p. 198-199).

According to the geologic map (Plate III) accompanying Calkins and Jones' report, the area near Saltese is underlain by the Ravalli group of the Precambrian Belt series. These rocks are dominantly greenish impure quartzites and slates which have a general northwest strike and dip to the southwest at angles ranging from 30° to 60°. The Osburn fault, a major regional structure, lies about 3 miles north of Saltese.

Calkins and Jones describe a number of similar, well-defined, steeply dipping quartz-siderite veins containing pyrite and some chalcopyrite which occur, generally, south of the Osburn fault in what is termed the southern copper area. Some of these veins, of which the applicant's is one, are leached and oxidized and contain local areas of enriched vein material. Others, although neither greatly oxidized nor leached, contain only small amounts of copper minerals. Calkins and Jones state that chalcopyrite is enclosed in both quartz and siderite. Most of the veins were first developed near the turn of the century and some have been intermittently worked since that time but no significant production has been recorded from the area.

The rocks exposed on the applicant's property in the Lower Tunnel workings are fine-grained, greenish, impure quartzites and slates which probably belong to the St. Regis formation, uppermost unit in the Ravalli group. These rocks have a general strike to the northwest and an average dip to the southwest of 50°.

In addition to two veins exposed in the workings, there are a number of small northwest-striking faults some of which parallel the bedding, while others transect the beds. Both the main vein, and a lesser vein exposed at the end of the adit crosscut, strike about N. 60° W. and dip from vertically to less than 75° SW. The lesser vein consists mostly of crushed and altered wall rock and contains very little mineralized material.

The main vein is exposed for about 370 feet along the strike and ranges from 20 feet in thickness in its central portion to less than 1 foot in thickness at the southeastern end. Northwest of its thickest portion the vein is faulted at several places and appears to be pinching. At its northwesternmost exposure the vein is about 3.5 feet thick. An estimated 100 feet of drift to the northwest beyond the last exposure of the vein is not shown on figure 1. This portion of the drift intersects broken wall rock and erratic stringers of quartz and iron-stained material which are apparently discontinuous and are difficult to correlate with the main vein trend. A number of slips and larger faults (fig. 1) cross, diverge, or are parallel to the trend of the main vein. One such fault offsets the vein near the crosscut-drift intersection. Southeast of the intersection the vein is represented by gouge and minor quartz-siderite deposition along several splits of the fault. Along the 370 feet of its exposed length, the main vein is essentially composed of gangue minerals within a shear zone.

Sulfides in the vein are pyrite and chalcopyrite, while gangue minerals are dominantly siderite and quartz. Lesser amounts of massive siliceous hematite and specular hematite are found near

the northwestern exposed limits of the vein. There is also a varying amount of finely crushed and altered wall rock included within the vein boundaries. With the exception of chalcopyrite-bearing quartz bodies and some unaltered areas containing siderite, most of the vein is highly leached and oxidized. Therefore, it is difficult to determine what proportion of the altered material represents finely crushed wall rock, and what represents former siderite. Quartz bodies within the vein do not appear to be greatly affected by this alteration and are not extensively crushed by shears which pass through portions of the vein. Chalcopyrite and associated pyrite are found mainly in quartz bodies and silicified portions of the vein, particularly near its thickest, or central, portion. Here, blebs and spots of chalcopyrite are exposed sporadically from sill level to about 20 feet above the sill in a short vertical raise. A chip sample (S559A 4' trace gold, 0.15 ounce silver, 0.68 percent copper) was taken across the mineralized zone exposed in this raise about 12 feet above sill level. A second chip sample (S560A 10' trace gold, trace silver, 0.12 percent copper) was taken below this point in the back of the drift and along a stub crosscut penetrating the north vein wall. A third sample (S558A 7' trace gold, trace silver, 0.10percent copper) was cut across the vein about 98 feet to the southwest. This portion of the vein contained some malachite stain in leached and oxidized material. Gouge from a small fault at this point had been sampled by the applicant. A fourth grab sample (S561A 1' trace gold, trace silver, 0.03 percent copper) of oxidized material was taken from a crooked deghole raise in the vein, about 30 feet above sill level. Here, the vein contains a 1-foot watercourse bordered by decomposed, dark-brown limonitic material representing a former siderite lens. Throughout the vein, occasional spots of pyrite and chalcopyrite are distinguishable in quartz bodies but in no great quantity. Malachite stains and druses occur mainly along some of the shears which cut the veins, while only minor amounts of staining were noted in adjacent leached or oxidized material.

Calkins and Jones mention that chalcopyrite enclosed in siderite is a typical feature of these veins; however, in the case of the applicant's vein, the examiners saw no such association in the relatively few portions of the vein where unoxidized siderite was observed. Leaching appears to have affected only the more permeable or soluble portions of the vein and not the quartz bodies with which the chalcopyrite is associated. Iron stain on parts of the walls and in fractures in the quartz bodies may mask some copper showings but it is believed that the general low tenor of the vein shown by assays is predominant.

CONCLUSION AND RECOMMENDATION

Exploration along the strike of the applicant's vein, and both along strike and at depth on similar veins in the Saltese area, indicates that the copper content of these veins is generally low. In Calkins and Jones' description of the applicant's property (U. S. Geol. Survey Bull. 540, Part I, p. 199) they state: "The sulphides are sparsely distributed, and unless the ore contains considerable quantities of other metals than the copper it is probably too lean to be successfully milled. The deposit, however, as judged from the porous copper-stained limonite, may prove in depth to have a zone of enrichment."

On the basis of similarity to other veins in the area, it is doubtful that a significant change in grade of primary sulfides will occur with depth. There is a slight possibility that a zone of enrichment exists at depth, but the probability that such a zone would be of any size is doubtful. This doubt is based partly on the fact that chalcopyrite-quartz portions of the vein are not appreciably leached, and partly on the assumption that an observed lack of chalcopyrite in the few unoxidized sideritic portions of the vein may be typical of the extensively leached sideritic portions.

Therefore, on the basis of present geologic data it is recommended that the application be denied.

Enclosures 2

Distribution:
DMEA (4)
USBM (5)
USGS(SRO)
Docket
Kellum

Klugerhead

RECEIVED

SEP 14 1956

xxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

September 6, 1956

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

Re: Docket No. DMEA-4292 (Copper)
Willie Downs and Oscar Hahn
Maltese Metals Mine
Mineral County, Montana

Dear Mr. Selfridge:

Enclosed are four copies of an examination report on this property by Donald F. Kellum of the Geological Survey and E. G. Erickson of the Bureau of Mines.

Several veins in the area are known to contain varying amounts of primary and secondary copper minerals. Exploration of these veins has been in the oxidized zone or near the top of the primary zone. Evidence to suggest the presence of a zone of enrichment in these veins, including the one the applicant proposes to explore, is not strong and on geologic grounds the examiners conclude and recommend that the application be denied.

The Field Team concurs in the recommendation of the examiners.

By Field Team, Region 1, NW Dist.

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

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

Enclosure

cc: USBM (2)
USGS(SRO)
Kellum

Reviewed by
DMEA OPERATING COMMITTEE

(date)

RECEIVED
SEP 14 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

August 15, 1956

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: Donald F. Kellum, Geologist, U. S. Geological Survey, and E. G. Erickson, Mining Engineer, Bureau of Mines

Subject: Application examination report, Docket No. DMEA-4292 (Copper), Willie Downs and Oscar Hahn, Saltese Metals Mine, Mineral County, Montana

SUMMARY

Willie Downs and Oscar Hahn, partners, have applied for DMEA assistance to explore for copper in Mineral County, Montana. They propose to explore the downward extension of a copper-bearing quartz carbonate vein at a depth of about 400 feet below the Lower Tunnel workings by means of two diamond drill holes aggregating approximately 1,100 feet. The applicant estimates that the proposed work would cost $6,350 (Government's share 50 percent or $3,175).

The property, known as Saltese Metals mine (formerly the Boston Colby property) consists of three claims in unsurveyed T. 19 N., R. 31 W., approximately a quarter of a mile west of the town of Saltese, Montana. The property is accessible throughout the year.

An examination was made June 21, 1956 by E. G. Erickson, Mining Engineer, Bureau of Mines, and D. F. Kellum, Geologist, Geological Survey, accompanied by Mr. Downs, one of the applicants. The Lower Tunnel workings consist of approximately 880 feet of crosscut and 470 feet of drift within sediments of the Precambrian Belt series. A steeply dipping quartz-carbonate vein exposed by drifts east and west of the crosscut contains sparse amounts of primary and secondary copper minerals.

Sparse primary sulfides in this and similar veins in the area, and the lack of evidence for enrichment at depth in this vein indicate that the presence of an adequate target for exploration is doubtful. It is therefore concluded that on the basis of geologic probability this application should be denied.

Reviewed by
DMEA OPERATING COMMITTEE

(date)

EXAMINATION

The examination made on June 21 consisted of checking the geologic map of the Lower Tunnel submitted by the applicant, and taking four check samples across portions of the vein. The applicant's map is quite satisfactory and, with some additions, accompanies this report (fig. 1).

During the examination, a traverse was also made from the Lower Tunnel portal to the NE corner of Claim No. 3 to establish the relationship of accessible underground workings to claim boundaries. A claim map is also included with this report (fig. 2).

COMPETENCY OF APPLICANT

The applicant is a partnership between Willis Downs, Box 757, Mullan, Idaho, and Oscar Hahn, Irvin, Idaho. Mr. Hahn is a businessman, while Mr. Downs, an experienced miner, is working at the Lucky Friday mine where he has been employed for several years. It is believed that he would be entirely competent in carrying out a program such as the one proposed. The partners have contacted Mr. Long, geologist for Bunker Hill Company, who will direct the drilling, log cores, and do the necessary engineering and geologic work.

PROPERTY RIGHTS

Three claims designated Nos. 1, 2, and 3, are stated in the application to be owned by the applicant. It is assumed that, since these claims are unpatented, the applicant holds them by right of location. The application states that the claims are recorded in the County Recorder's office at Superior in Mineral County, Montana, as the following unpatented claims:

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Claim No. 2, Book 4 of Lode Locations, p. 555
Claim No. 3, Book 4 of Lode Locations, p. 582

The records were not checked.

DESCRIPTION OF THE PROPERTY

The applicant's property, formerly known as the Boston Colby property, is on the south side of the St. Regis River valley immediately west of Saltese, Montana. Relief in the area ranges

in altitude from about 3,350 feet at the valley floor to about 5,600 feet along adjacent ridge crests. Hill slopes are sparsely to heavily timbered with small pine, whereas the valley bottom is generally more open and supports deciduous trees as well as some evergreens. With the exception of the northeast portion of Claim No. 3 in the valley bottom, the applicant's property is on moderately steep hillside.

Transportation routes through the valley include U. S. Highway 10 which passes immediately north of Claim No. 3, and the main lines of both the Northern Pacific and the Milwaukee Railroads which cross the northeastern corner of Claim No. 3. At Saltese, a graveled road south from Highway 10 crosses the Northern Pacific right-of-way and an unimproved branch road continues westward between the two rail lines for approximately a quarter of a mile to the Lower Tunnel portal of the Saltese Metals mine on the north side line of Claim No. 3.

Underground workings on the property consist of a Lower Tunnel containing approximately 880 feet of crosscut and 470 feet of drift (fig. 1). Workings above this level are inaccessible but reportedly contain about 350 feet of combined crosscuts and drifts. There are no surface improvements on the property.

The Lower Tunnel crosscut was driven S. 20° W. for approximately 880 feet. Only the first 100 feet required timbering. About 500 feet from the portal the main vein is exposed by drifts northwest and southeast from the crosscut, and by a number of short raises and stub crosscuts in the vein. A 25-foot vertical winze, now filled with water, is at the drift-crosscut intersection. At the face of the crosscut, approximately 880 feet from the portal, a strong fault is exposed by about 25 feet of drift. The applicant's proposed drill site is at the face of the crosscut.

GEOLOGY

The geology of the area around Saltese, Montana, has been described by Calkins and Jones (Economic Geology of the Region around Mullan, Idaho, and Saltese, Montana, U. S. Geological Survey Bulletin 540, Part I, p. 167-211); also included in this report is a brief description of the applicant's property (p. 198-199).

According to the geologic map (Plate III) accompanying Calkins and Jones' report, the area near Saltese is underlain by the Ravalli group of the Precambrian Belt series. These rocks are dominantly greenish impure quartzites and slates which have a general northwest strike and dip to the southwest at angles ranging from 30° to 60°. The Osburn fault, a major regional structure, lies about 3 miles north of Saltese.

Calkins and Jones describe a number of similar, well-defined, steeply dipping quartz-siderite veins containing pyrite and some chalcopyrite which occur, generally, south of the Osburn fault in what is termed the southern copper area. Some of these veins, of which the applicant's is one, are leached and oxidized and contain local areas of enriched vein material. Others, although neither greatly oxidized nor leached, contain only small amounts of copper minerals. Calkins and Jones state that chalcopyrite is enclosed in both quartz and siderite. Most of the veins were first developed near the turn of the century and some have been intermittently worked since that time but no significant production has been recorded from the area.

The rocks exposed on the applicant's property in the Lower Tunnel workings are fine-grained, greenish, impure quartzites and slates which probably belong to the St. Regis formation, uppermost unit in the Ravalli group. These rocks have a general strike to the northwest and an average dip to the southwest of 50°.

In addition to two veins exposed in the workings, there are a number of small northwest-striking faults some of which parallel the bedding, while others transect the beds. Both the main vein, and a lesser vein exposed at the end of the adit crosscut, strike about N. 60° W. and dip from vertically to less than 75° SW. The lesser vein consists mostly of crushed and altered wall rock and contains very little mineralized material.

The main vein is exposed for about 370 feet along the strike and ranges from 20 feet in thickness in its central portion to less than 1 foot in thickness at the southeastern end. Northwest of its thickest portion the vein is faulted at several places and appears to be pinching. At its northwesternmost exposure the vein is about 3.5 feet thick. An estimated 100 feet of drift to the northwest beyond the last exposure of the vein is not shown on figure 1. This portion of the drift intersects broken wall rock and erratic stringers of quartz and iron-stained material which are apparently discontinuous and are difficult to correlate with the main vein trend. A number of slips and larger faults (fig. 1) cross, diverge, or are parallel to the trend of the main vein. One such fault offsets the vein near the crosscut-drift intersection. Southeast of the intersection the vein is represented by gouge and minor quartz-siderite deposition along several splits of the fault. Along the 370 feet of its exposed length, the main vein is essentially composed of gangue minerals within a shear zone.

Sulfides in the vein are pyrite and chalcopyrite, while gangue minerals are dominantly siderite and quartz. Lesser amounts of massive siliceous hematite and specular hematite are found near

the northwestern exposed limits of the vein. There is also a varying amount of finely crushed and altered wall rock included within the vein boundaries. With the exception of chalcopyrite-bearing quartz bodies and some unaltered areas containing siderite, most of the vein is highly leached and oxidized. Therefore, it is difficult to determine what proportion of the altered material represents finely crushed wall rock, and what represents former siderite. Quartz bodies within the vein do not appear to be greatly affected by this alteration and are not extensively crushed by shears which pass through portions of the vein. Chalcopyrite and associated pyrite are found mainly in quartz bodies and silicified portions of the vein, particularly near its thickest, or central, portion. Here, blebs and spots of chalcopyrite are exposed sporadically from sill level to about 20 feet above the sill in a short vertical raise. A chip sample (S559A 4' trace gold, 0.15 ounce silver, 0.68 percent copper) was taken across the mineralized zone exposed in this raise about 12 feet above sill level. A second chip sample (S560A 10' trace gold, trace silver, 0.12 percent copper) was taken below this point in the back of the drift and along a stub crosscut penetrating the north vein wall. A third sample (S558A 7' trace gold, trace silver, 0.10percent copper) was cut across the vein about 98 feet to the southwest. This portion of the vein contained some malachite stain in leached and oxidized material. Gouge from a small fault at this point had been sampled by the applicant. A fourth grab sample (S561A 1' trace gold, trace silver, 0.03 percent copper) of oxidized material was taken from a crooked doghole raise in the vein, about 30 feet above sill level. Here, the vein contains a 1-foot watercourse bordered by decomposed, dark-brown limonitic material representing a former siderite lens. Throughout the vein, occasional spots of pyrite and chalcopyrite are distinguishable in quartz bodies but in no great quantity. Malachite stains and drusses occur mainly along some of the shears which cut the veins, while only minor amounts of staining were noted in adjacent leached or oxidized material.

Calkins and Jones mention that chalcopyrite enclosed in siderite is a typical feature of these veins; however, in the case of the applicant's vein, the examiners saw no such association in the relatively few portions of the vein where unoxidized siderite was observed. Leaching appears to have affected only the more permeable or soluble portions of the vein and not the quartz bodies with which the chalcopyrite is associated. Iron stain on parts of the walls and in fractures in the quartz bodies may mask some copper showings but it is believed that the general low tenor of the vein shown by assays is predominant.

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CONCLUSION AND RECOMMENDATION

Exploration along the strike of the applicant's vein, and both along strike and at depth on similar veins in the Saltese area, indicates that the copper content of these veins is generally low. In Calkins and Jones' description of the applicant's property (U. S. Geol. Survey Bull. 540, Part I, p. 199) they state: "The sulphides are sparsely distributed, and unless the ore contains considerable quantities of other metals than the copper it is probably too lean to be successfully milled. The deposit, however, as judged from the porous copper-stained limonite, may prove in depth to have a zone of enrichment."

On the basis of similarity to other veins in the area, it is doubtful that a significant change in grade of primary sulfides will occur with depth. There is a slight possibility that a zone of enrichment exists at depth, but the probability that such a zone would be of any size is doubtful. This doubt is based partly on the fact that chalcopyrite-quartz portions of the vein are not appreciably leached, and partly on the assumption that an observed lack of chalcopyrite in the few unoxidized sideritic portions of the vein may be typical of the extensively leached sideritic portions.

Therefore, on the basis of present geologic data it is recommended that the application be denied.

Enclosures 2

Distribution:
DMEA (4)
USBM (5)
USGS(SRO)
Docket
Kellum

File Copy
Surname
Klugescheid
Martin
Johnson

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

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

Re: Docket No. DMEA-4292 (Copper)
Willie Downs and Oscar Hahn
Saltese Metals Mine
Mineral County, Montana

Dear Mr. Weissenborn:

The cited application for exploration assistance is being referred to your office for consideration, a field examination of the property if warranted, and recommendation.

Copies of memoranda dated May 17, 1956, by M. E. Nelson, Geological Survey, and J. W. Pennington, Bureau of Mines, relating to the project are enclosed for your information.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (WSM)

Enclosures

WPKlugescheid/er 5/23/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington, USBM
Mr. Hiilsgaard, USGS
Chron.

APPROVED:

P. F. Yopes (WSM)
Member, Bureau of Mines

Thor H. Kiilsgaard (WSM)
Member, Geological Survey

R.C.S.

File Copy
Surname
Klugescheid
Kilsgaard
Martin

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

500

MAY 25 1956

Mr. Willie Downs
Box 757
Mullan, Idaho

Re: Docket No. DMEA-4292 (Copper)
Willie Downs and Oscar Kahn
Saltese Metals Mine
Mineral County, Montana

Dear Mr. Downs:

Your application for Government assistance to explore the cited property has been reviewed by the Base Metals Division of the Defense Minerals Exploration Administration and has been referred to:

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

If the Field Team requires additional information concerning your application, they will contact you at an early date.

Sincerely yours,

G. O. Mittendorf

Administrator

WPKlugescheid/er 5/23/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington, USBM
Mr. Killsgaard, USGS
Region I, NW Dist. (2)
Chron.

Inspected
Betty

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

May 17, 1956

Memorandum

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

From: Commodity Industry Analyst, Branch of Base Metals

Subject: Review of application, Docket No. DMEA 4292 (copper) Willie Downs and Oscar Hahn, Saltese Metals, Mineral County, Montana. $6,360.00

The applicant proposes to explore the downward extension of the copper-bearing vein below the 3,400 foot elevation to the 3,000 foot elevation by 1,100 feet of diamond drilling at an estimated total cost of $6,350.00.

The exploration program appears sound; however, the data are inadequate to evaluate the program.

I recommend that the application be referred to the Field Team for appraisal.

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiilsgaard, U.S.G.S.
R. W. Geehan
F i l e s

May 17, 1956

Memorandum

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

From: Commodity Industry Analyst, Branch of Base Metals

Subject: Review of application, Docket No. DMEA 4292 (copper) Willis Bowen and Oscar Bohn, Saltese Metals, Mineral County, Montana. $6,350.00

The applicant proposes to explore the downward extension of the copper-bearing vein below the 3,400 foot elevation to the 3,000 foot elevation by 1,100 feet of diamond drilling at an estimated total cost of $6,350.00.

The exploration program appears sound; however, the data are inadequate to evaluate the program.

I recommend that the application be referred to the Field Team for appraisal.

J. W. Pennington

J. W. Pennington

Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiilsgaard, U.S.G.S.
R. W. Gaskan
Files

IN REPLY REFER TO:

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

RECEIVED
MAY 17 1956

May 17, 1956

Re: DMEA 4292
Willie Downs & Oscar Hahn
Saltese Metals
Mineral Co., Montana
$6,350.00 - Copper

Memorandum

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

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

Subject: Review of application.

The applicants request assistance in exploring, by 1100 feet of diamond drilling, an oxidized quartz siderite vein containing some copper as malachite and chalcopyrite. The applicants expect to find an enriched copper zone below the zone of oxidation. Some preparatory work must be done before the drilling can be done. The total cost of the work is estimated to be $6,350.00.

The vein to be explored has been explored, by drifting from a crosscut, for a length of 360 feet. No part of the vein is ore. The vein is of the bedded type; that is it conforms to the strike and dip of the enclosing quartzite, probably the St. Regis formation of the Belt Series.

Referral to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

May 17, 1956

Re: DMEA 4292
Willis Downs & Oscar Hahn
Maltese Metals
Mineral Co., Montana
$6,350.00 - Copper

Memorandum

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

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

Subject: Review of application.

The applicants request assistance in exploring, by 1100 feet of diamond drilling, an oxidized quartz siderite vein containing some copper as malachite and chalcocyrite. The applicants expect to find an enriched copper zone below the zone of oxidation. Some preparatory work must be done before the drilling can be done. The total cost of the work is estimated to be $6,350.00.

The vein to be explored has been explored, by drifting from a crosscut, for a length of 360 feet. No part of the vein is ore. The vein is of the bedded type; that is it conforms to the strike and dip of the enclosing quartzite, probably the St. Regis formation of the Belt Series.

RECEIVED
MAY 17 1956

Referral to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-5/17/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. W. Pennington, 3623

May 15, 1956

Mr. Willie Downs
Box 757
Mullan, Idaho

Subject: DMEA 4292
Re: Exploration Assistance
Saltese Metals

Dear Mr. Downs

The receipt of your application dated May 2, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number 4292 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

May 15, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region I NW

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA
- 4292 Willie Downs and Oscar Hahn

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

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

RECEIVED
MAY 14 1956

May 9, 1956

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

Re: New application (Copper)
Willie Downs and Oscar Hahn,
individuals
Saltese Metals
Mineral County, Montana

Dear Mr. Selfridge:

Enclosed are three copies of an application from Willie Downs, Mullan, Idaho, and Oscar Hahn, Irwin, Idaho. Donald C. Long, who prepared the attached maps, is a Bunker Hill geologist.

Production from the many carbonate veins in this part of Montana has never been impressive though many of the veins are of great size; however on the basis of the excellent map and report submitted we would favor the modest exploration proposed.

By Field Team, Region I, NW Dist.

A. E. Weissenborn/ocf

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

Wing G. Agnew

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

Enclosure

cc: USBM (2)
Fryklund

RECEIVED
MAY 14 1956

Box 757
Mullan, Idaho
May 2, 1956

Mr. A. E. Weissenborn
Executive Office, DMEA
Field Team, Region II
Spokane, Washington

Dear Mr. Weissenborn,

I am herewith enclosing our application for an exploration contract on the Boston Colby Mine, Mineral County, Montana.

This application has been prepared with the aid of Donald C. Long, Mine Geologist. Mr. Long was not able to examine the surface at the property because of the deep snow.

Very truly yours,

Willie Downs

Willie Downs

RECEIVED
MAY 4 1956
U. S. G. S.
SPOKANE, WASH.

RECEIVED

MAY 14 1956

Saltese Metals
Willie Downs
Box 757
Mullan, Idaho

Form
MF—103

UNITED STATES DEPARTMENT OF THE INTERIOR

MINERALS EXPLORATION ADMINISTRATION

1. Name of Applicant.

1 (a) Willie Downs
Saltese Metals
Box 757
Mullan, Idaho

1 (d) Owner and operator—Willie Downs, Mullan, Idaho

Owner Oscar Hahn, Irwin, Idaho

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
MAY 14 1956

RECEIVED
MAY 4 1956
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. DMEA-4292
Metal or Mineral ~~SALTESE~~ COPPER
Date Received 5/14/56
Estimated Cost $6,350.00
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: Willie Downs Box 757, Mullan, Idaho
Oscar Hahn Irwin, Idaho

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it None

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

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

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

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

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

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

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

(*c*) The work will start within 30 days and be completed within 3 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated May 2, 1956

Willie Downs
(Applicant)

By

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

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

Saltese Metals
Willis Evans
Box 757
Mullan, Idaho

Form
MP—103

3. Applicant's Property Rights.

3 (a) The applicant owns the following mining claims:

Unpatented Claims

Recorded in Office of
County Recorder, of
Mineral County, Montana
Superior, Montana

Saltese Metals

Claim No. 1—Book No. 4 of Lode Locations—Page 547

Claim No. 2—Book No. 4 of Lode Locations—Page 555

Claim No. 3—Book No. 4 of Lode Locations—Page 502

The group is laid out from east to west on the south side of the St. Regis river valley about one-fourth mile west of Saltese, Mineral County, Montana.

3 (b) The property known as the Boston Colby Mine.

3 (c) The applicant's interest in the land is that of an owner.

3 (e) There are no liens or encumbrances against the company.

Saltese Metals
Willis Towns
Box 757
Mullan, Idaho

Form
MP—103

4. Physical Description.

4 (a) The portal of the lower tunnel was recently rehabilitated by the owners and the workings on the level are accessible for examination. There are no mining operations being carried on at the property.

An examination was recently made by D. C. Long, geologist for the Saltese Metals Company.

According to old reports on the property, workings above the main level consist of 350 ft. of cross-cutting and drifting. These workings are all inaccessible at the present time. The portal of the main tunnel level is located between the tracks of the Northern Pacific Railroad to the north, and the Chicago Milwaukee Railroad to the south. These workings consist of 900 ft. of cross-cutting and 550 ft. of drifting. This tunnel is about 6 x 6 ft. in cross-section and requires no timbering after it reaches solid rock about 100 ft. from the portal. At 510 ft. from the portal, where the tunnel reaches the main vein, there is a winze station about 16 wide by 24 ft. long. The winze is vertical and is 25 ft. deep.

There is no track in the mine at the present time.

There are no buildings on the property.

4 (b) There is no past production of the Boston Colby Mine and the ore found in the drifting is judged too low grade to be successfully milled.

4 (c) Geologic Features of the Property.

Structure:

The thick greenish quartzites with argillaceous members, exposed in the workings probably belong to the St. Regis formation of the Belt Series. The strike of the bedding is uniformly to the northwest, and the dip 50 degrees to the southwest. Two parallel structures, dipping 80 degrees to the south, are crossed by the 900-ft. cross-cut of the main adit.

The first of these structures, cut at 500 ft. from the portal, is the main vein. It contains vein material which varies in width from 4 to 20 ft. as exposed by a drift west from the crosscut. Near the intersection of the crosscut with the vein there is a split in the vein and strike faulting which seem to affect the strength of the vein to the east. The vein towards the end of the east drift "horsetails" into a series of scattered veinlets.

The second structure cut by the crosscut, at 900 ft. from the portal, contains gouges and leached vein material varying in width from 6 inches to 3 ft. The leached vein material consists mostly of quartz and porous limonite. Only 20 ft. of drifting was done along this vein.

Mineralization:

The main vein to the west of the crosscut is principally quartz and siderite replacement with some fracture filling; to the east of the crosscut it is mostly siderite with quartz lenses

here and there. Most of the siderite of the vein has been reduced to a porous mass of limonite. Intense oxidation has taken place through the vein. Chalcopyrite is sparsely distributed and, in some portions of the vein, could not be detected. Green copper stain occurs throughout the vein but is concentrated along gouges and in the porous portions of the vein. Specular hematite, as well as other iron oxides, are abundant. Large quantities of limonite from the oxidation of the siderite is present in all of the vein exposed by drifting. Picked samples contained 3 to 4 percent copper and .10 oz. gold per ton.

It is difficult to determine to what extent values may have been removed by the intense leaching and subsequent oxidation of the vein.

According to old reports the main vein has the same appearance on surface as in the present workings. On page 196 of Bulletin 540 of the United States Geological Survey is a brief description of the property. The author of that report believed that the porous, copper-stained limonite and concentrations of copper stain along gouges indicated that the vein may have a zone of enrichment at depth.

4 (d) The Chicago Milwaukee Railroad crosses the group from east to west. The Northern Pacific passes just north of the property in the St. Regis Valley, as does U. S. Highway 10. It is 210 miles eastward to the copper smelter at Anaconda over either railway or by highway.

4 (e) There is sufficient manpower, supplies, materials and equipment in the nearby Coeur d'Alene Mining District. Plenty of water is available both from the mine workings and the nearby St. Regis river.

Saltese Metals
Willis Towns
Box 757
Mullan, Idaho

Form
MF---103

5. The exploration project.

5 (a) Mineral sought.

The proposed program is to explore for copper.

5 (b) Description of the proposed work.

The company wishes to explore the oreshoot from the present lowest mine level at 3400 feet elevation (assumed) above sea level down to the 3000 ft. elevation. To accomplish this it proposes to prospect the vein at this depth with diamond drill holes. This program is further clarified by Map 1 and by Sections A-A and B-B.

A brief outline is as follows:

Exploration of downward extension of vein by diamond drilling.

1. Preparatory Work

a. Cut diamond drill station.

b. Lay 900 ft. of track and install 900 ft. of pipe.

2. Put diamond drill holes down.

5 (c) The work will start within 30 days and be completed within 3 months of the date of an exploration project contract.

5 (d) Operating experience and background of applicant.

Lifetime miner.

6. Estimate of costs.

		Diamond Drilling
6 (a)	Independent Contract at a cost of $5.50 per foot	1100' $6050.00
6 (b)	Labor, Supervision, Consultants	$300.00

Saltese Metals
Willis Downs
Box 757
Mullan, Idaho

Form
MP—103

6 (c) Operating Materials and Supplies (to be furnished without charge by applicants)

Total $6350.00

A cost of $5.50 per foot was bid by one of the drilling contractors in the area. This would include the air providing the company installed a 2 inch line to the drill site.

Total

50% Company Participation	$3,175.00
50% MMA Participation	$3,175.00

7. Financing.

7 (a) The applicants will be prepared to furnish their share of the cost of the proposed project in accordance with the regulations on government participation.

7 (b) The applicants proposes to furnish their share of the costs by money.

DOCKET NO. DMEA 4292 (COPPER)

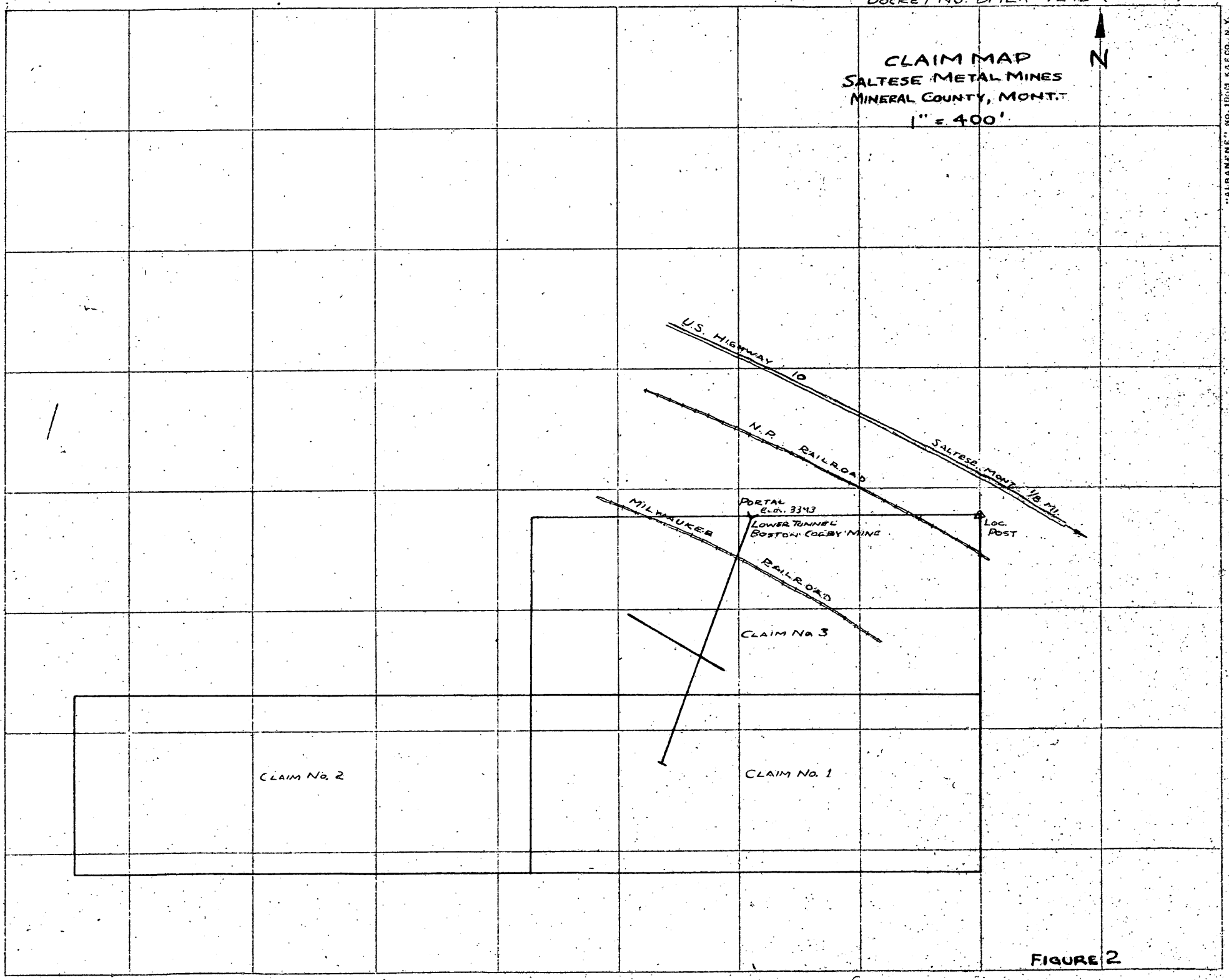


FIGURE 2

"ALBANENE" NO. 1000M K&E CO., N.Y.
REG. U.S. PAT. OFF.

RECEIVED
SEP 14 1999

DOCKET NO. DMEA 4292 (COPPER)

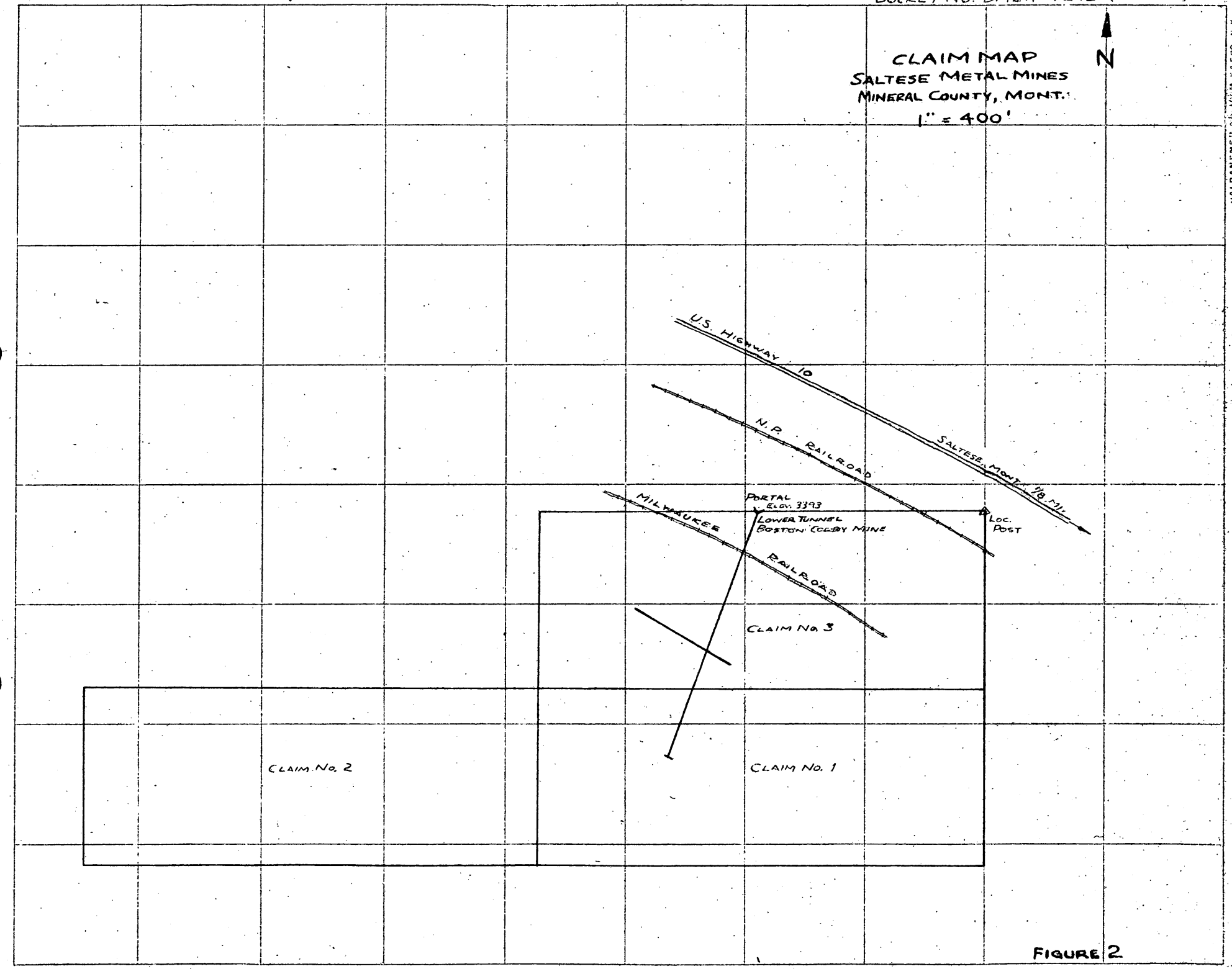
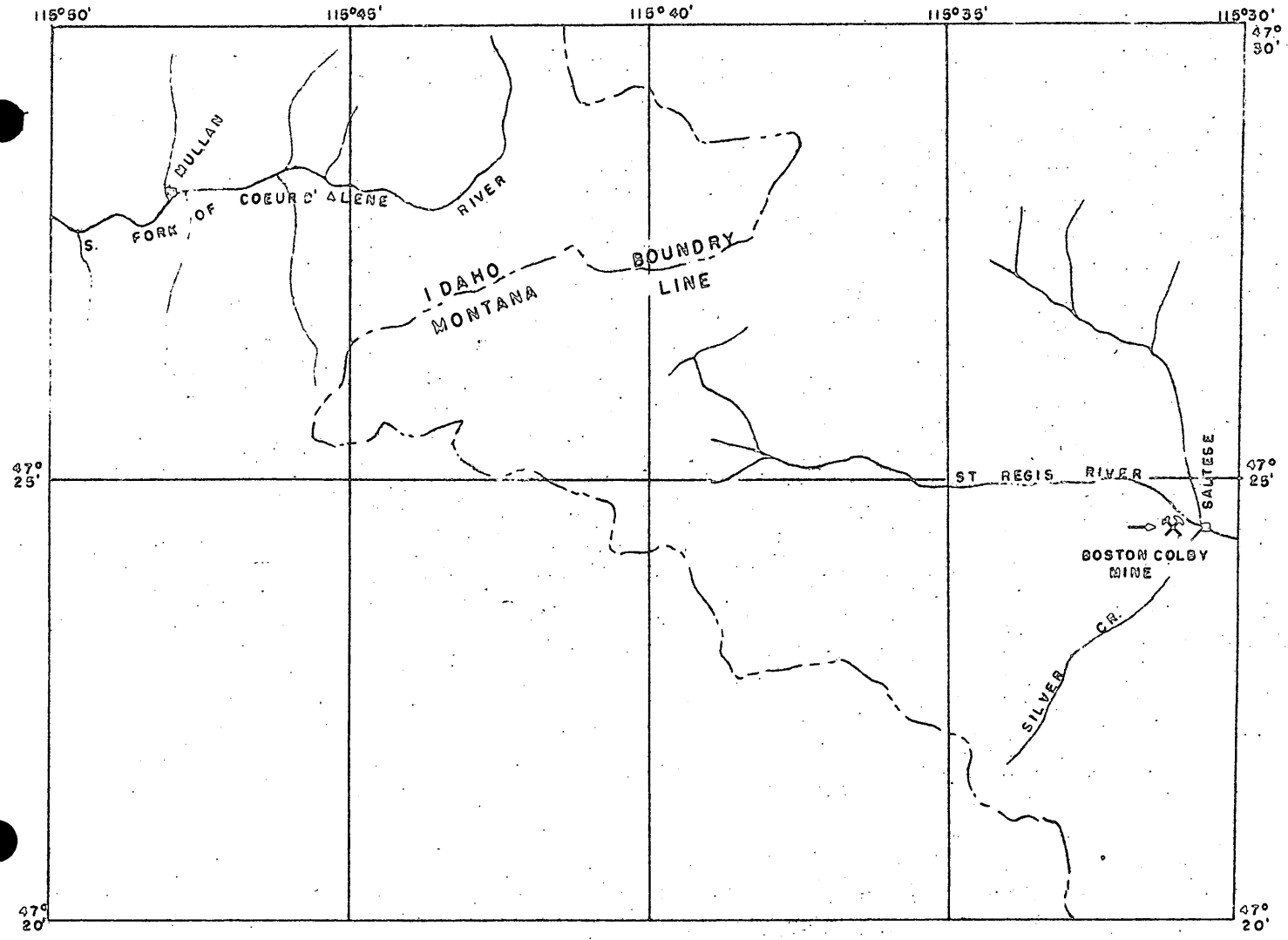


FIGURE 2

"ALBANENE" REG. U.S. PAT. OFF. K&E CO., N.Y.



INDEX MAP

Showing Location of

THE BOSTON COLBY MINE

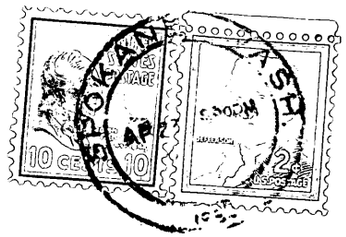
Mineral County

Montana

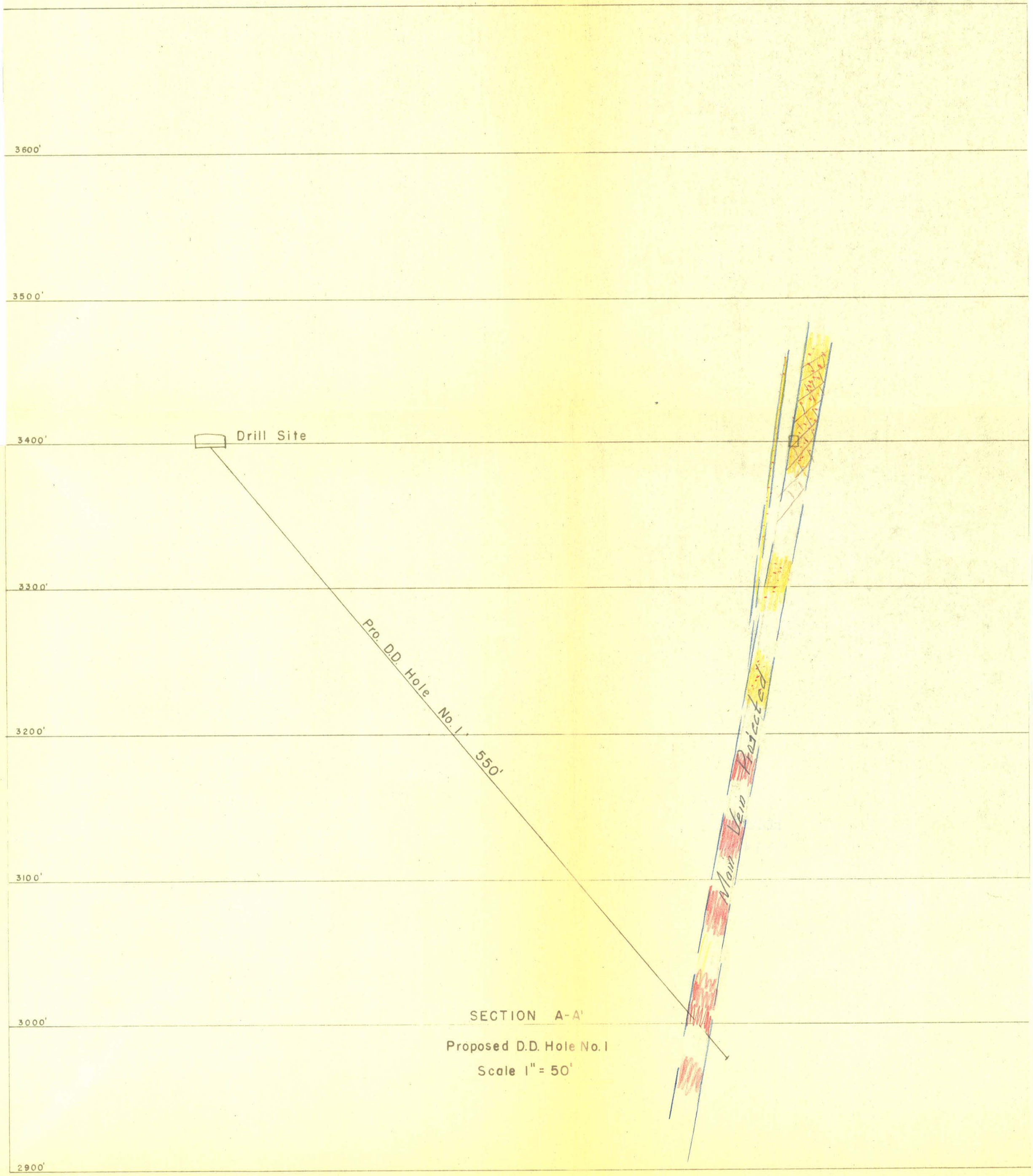
SCALE 1 0 1 2 MILES

RECEIVED
MAY 14

OFFICIAL BUSINESS
DEPARTMENT OF THE INTERIOR
WASHINGTON 25, D.C.
PENALTY FOR PRIVATE USE
TO AVOID PAYMENT OF POSTAGE



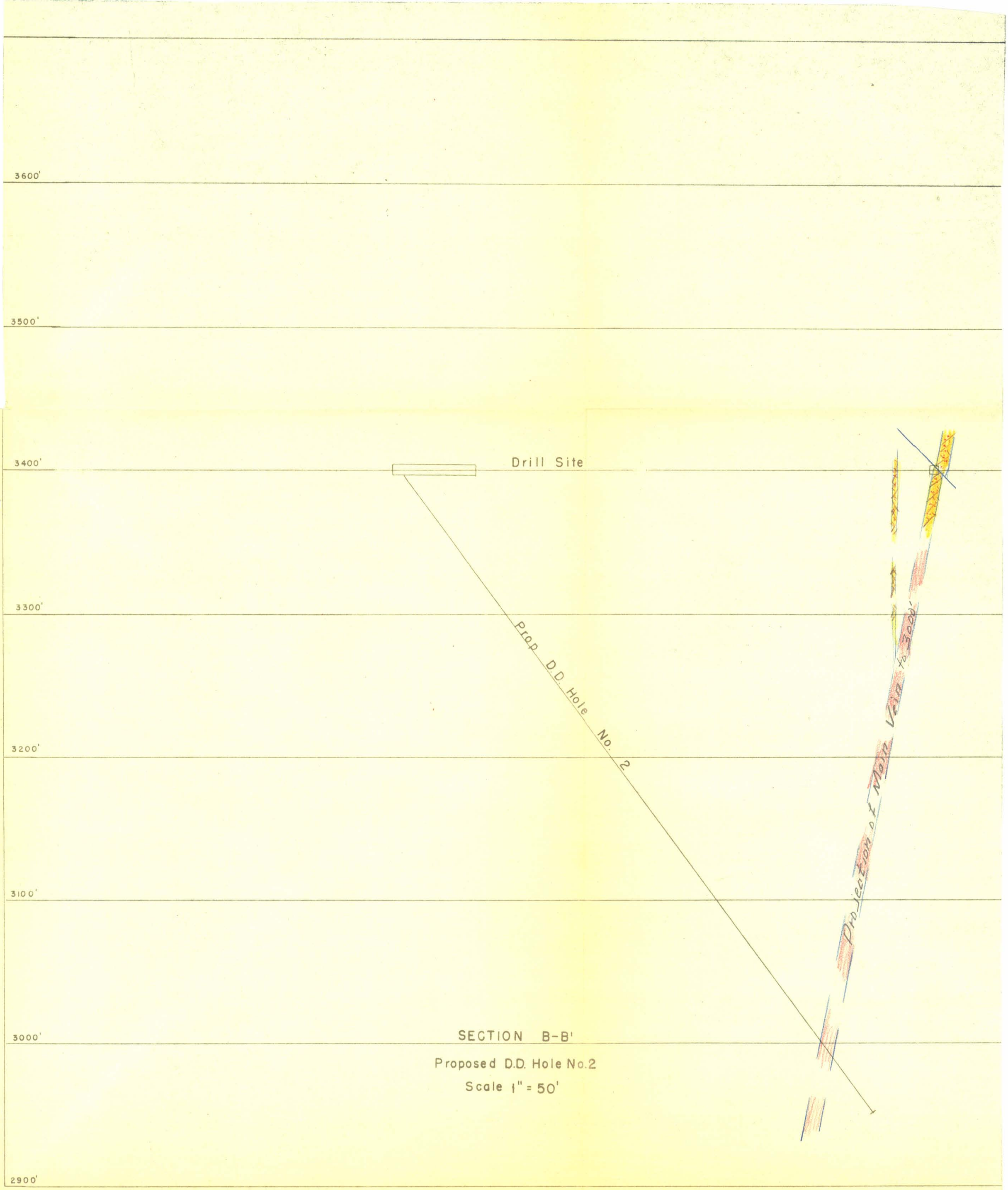
Mr. Jay L. Chambers, Chief
Contract Administration and Audit Division
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D.C.



SECTION A-A'

Proposed D.D. Hole No. 1

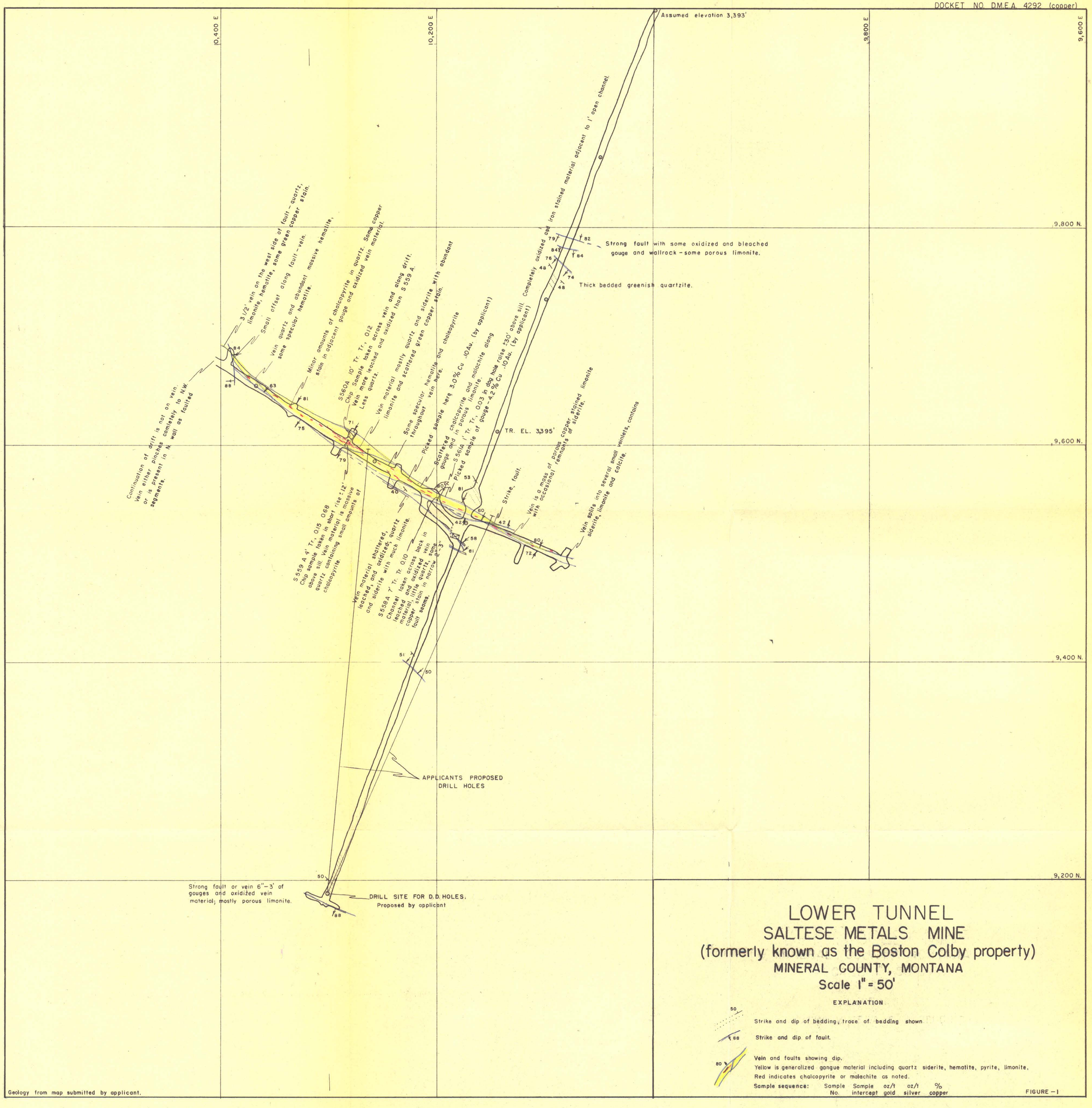
Scale 1" = 50'



SECTION B-B'

Proposed D.D. Hole No.2

Scale 1" = 50'



LOWER TUNNEL
SALTESE METALS MINE
(formerly known as the Boston Colby property)
MINERAL COUNTY, MONTANA
Scale 1" = 50'

EXPLANATION

Strike and dip of bedding, trace of bedding shown

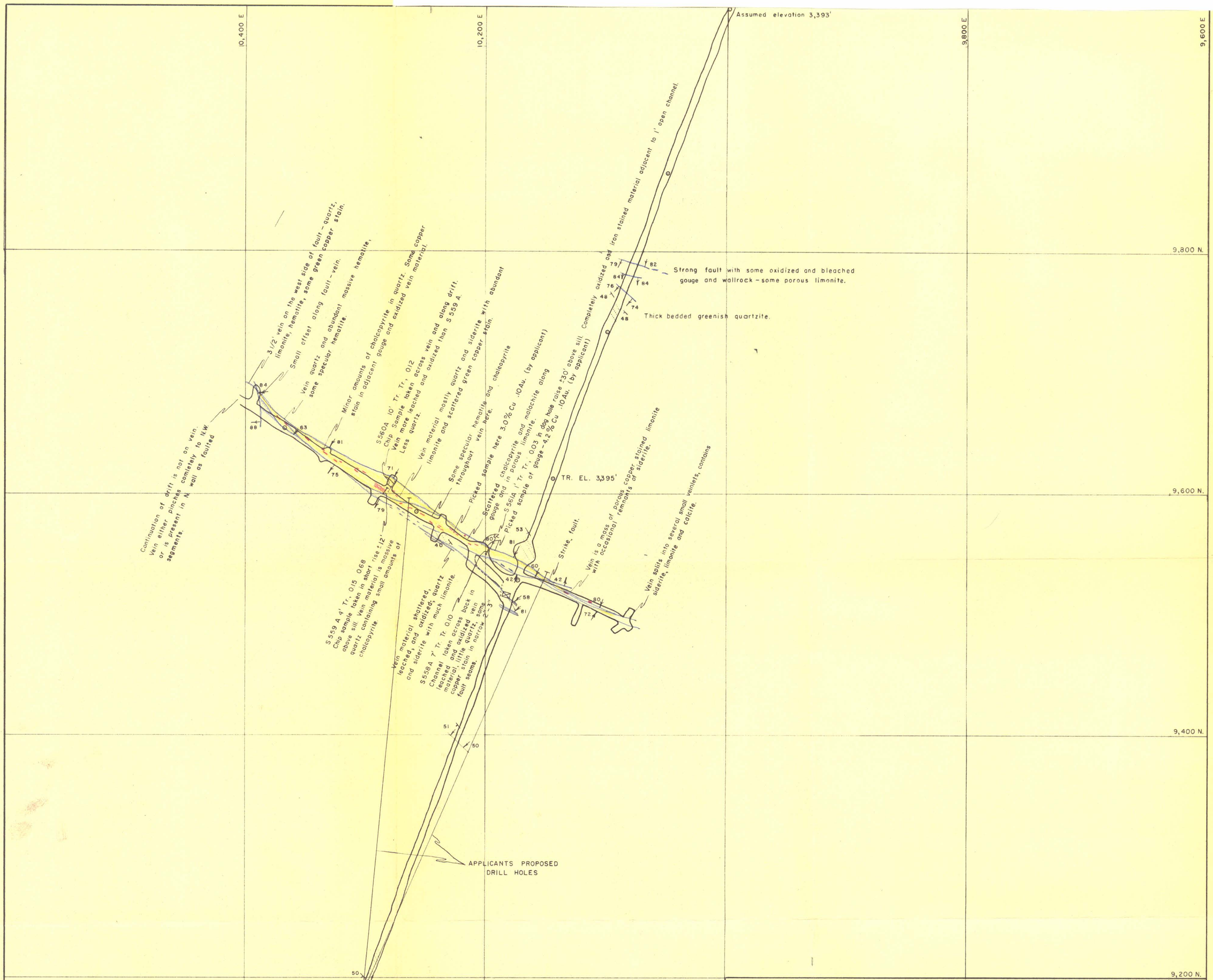
Strike and dip of fault.

Vein and faults showing dip.
Yellow is generalized gangue material including quartz siderite, hematite, pyrite, limonite.
Red indicates chalcopyrite or malachite as noted.

Sample sequence: Sample No. | Sample intercept | oz/t gold | oz/t silver | % copper

Geology from map submitted by applicant.

FIGURE - 1



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MINERAL COUNTY, MONTANA
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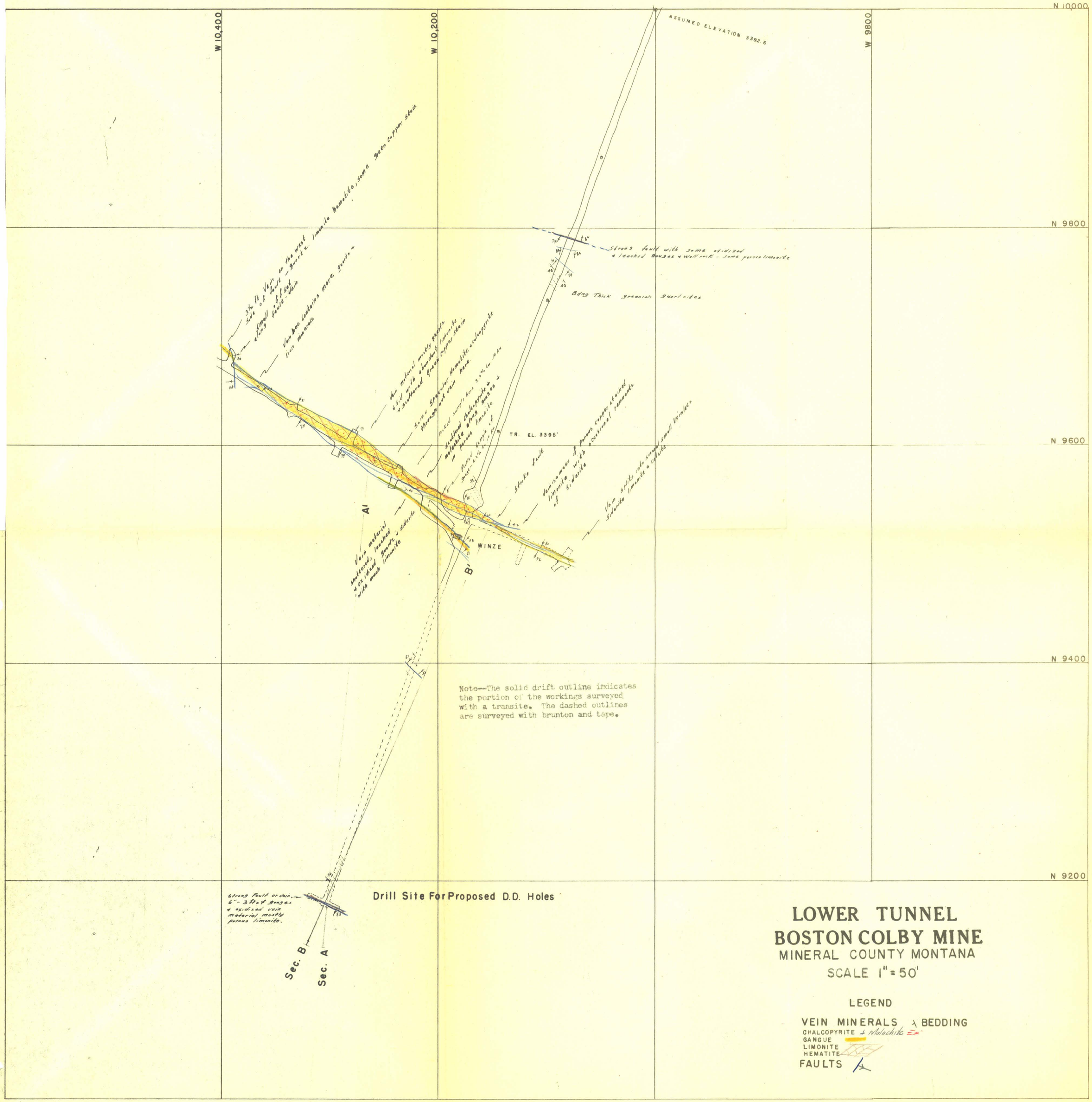
Geology from map submitted by applicant.

FIGURE - 1

DMEA - 4292



LOWER TUNNEL
BOSTON COLBY MINE
MINERAL COUNTY MONTANA

SCALE 1" = 50'

LEGEND

VEIN MINERALS & BEDDING

CHALCOPYRITE & Malachite

GANGUE

LIMONITE

HEMATITE

FAULTS