File Copy
Surname
J. W.
Griswold
Yager
Kiilsgaard
Martin
H. Johnson

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

CW

JUN 12 1956

Mr. John R. Jackson
Box 81
Creede, Colorado

Re: Docket No. DMEA-4196 (Copper-Lead)
John Richard Jackson
Gateway Claims
Mineral County, Colorado

Dear Mr. Jackson:

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 copper and lead mineralization on your lease, 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

JWAlt/er 6/11/56

Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington, USBM
MR. Kiilsgaard, USGS
Region III (2)
Chron.

R.C.B.

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

June 11, 1956

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application, Docket No. DMEA-4196 (Copper-Lead), John Richard Jackson, Gateway Claims, Mineral County, Colorado.

The cited application, not dated, was received by this office on February 28, 1956.

The Applicant proposed to rehabilitate the lower adit and drive a drift for 150 feet to by pass a caved area in the adit. After the connection was made with the adit beyond the caved area, the Applicant proposed to extend an existing 12-foot crosscut to intersect the main vein and to drift for 300 feet in a northerly direction on the vein. The Applicant estimated that the proposed work would cost $19,885.00.

The Field Team examined the property on April 19, 1956, and this office received their report on June 6.

The Gateway and Gateway No. 1 claims are developed by two adits of unknown extent, a 22-foot winze and several inaccessible surface excavations. The upper of these adits is reported to be caved. The lower or main adit is open for about 685 feet from the portal to the beginning of a caved area. An additional 65 feet in the caved area is accessible. The winze reportedly is below the caved area of the lower adit.

There has been no known production from the property, except for about 20 tons of ore reported to have been mined during the course of the exploratory development.

Samples collected by the examining team from the vein at points 600 and 743 feet from the portal do not confirm the results of the Applicant's analysis. The samples collected by the examining team all assayed low in copper, lead, zinc, gold and silver.

The Field Team states:

"The Gateway mine is favorably situated in respect to the major mineralized fault structures of the district and is in a rock type that is known to be a favorable host rock for ore. However, the presence of ore grade copper-lead-zinc vein deposits in the Gateway fault could not be confirmed by sampling nor by visual inspection. The vein, where exposed in the main adit, has a fair continuity and, therefore, it is expected that any additional deposits that may occur along the Gateway fault to the north within the area of proposed exploration will be of similar size and grade. It is, therefore, concluded that the analysis reported by the applicant either represents carefully selected material or that the material represented by the sample occurs in very small bodies, and that further exploration will not lead to the discovery of significant deposits of copper, lead, or zinc.

"It is recommended that the application to explore the Gateway claims for copper-lead-zinc be denied."

We concur with the recommendations of the Field Team and the commodity members of the USGS and the USBM that the application be denied.

W. R. Griswold

W. R. Griswold

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Surname
J. ell
Yoz

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

June 11, 1956

Memorandum

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"It is recommended that the application to explore the Gateway claims for copper-lead-zinc be denied."

We concur with the recommendations of the Field Team and the commodity members of the TSGS and the BSEM that the application be denied.

W. R. Griswold

W. R. Griswold

JWAlt/er

Copy to: Docket
Base Metals
Chron.

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

June 7, 1956

Memorandum

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

From: Commodity Industry Analyst, Branch of Base Metals

Subject: Review of Field Team Examination Report, Docket No. DMEA 4196 (copper-lead-zinc), John R. Jackson, Gateway Claims, King Solomon Mining District, Mineral County, Colorado, $19,855.00

It was proposed to explore this property by drifting around a caved area in the main adit, crosscutting to the vein, and drifting about 300 feet along the vein at an estimated total cost of $19,855.00.

Examination of the property by C. M. Harrer and E. W. Buel, Bureau of Mines, and R. U. King, Geological Survey, revealed that mineralization was weak and lower than previously reported. In addition, indications were that further exploration would fail to discover any significant deposits of copper, lead, and zinc.

I agree with the recommendations of the Field Team that the application for assistance to explore the Gateway Claims be denied.

J. W. Pennington

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

RECEIVED
JUN - 7 1956

June 7, 1956

Memorandum

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

From: Commodity Industry Analyst, Branch of Base Metals

Subject: Review of Field Team Examination Report, Docket No. [illegible] 4196 (copper-lead-zinc), John R. Jackson, Gateway Claims, King Solomon Mining District, Mineral County, Colorado, $19,855.00

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I agree with the recommendations of the Field Team that the application for assistance to explore the Gateway Claims be denied.

J. W. Pennington

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Copy to: Division of Minerals
Branch of Base Metals (2)
Thor Kiliaguard, U.S.G.S.
R. W. Graham
File

RECEIVED

IN REPLY REFER TO:

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

RECEIVED

June 6, 1956

Re: DMEA 4196
John R. Jackson
Gateway Group
Mineral Co., Colo.
$19,875.67 - Copper-lead

Memorandum

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

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

Subject: Review of Field Team report

The applicant requested assistance in further exploration of a weakly mineralized fault, by crosscutting to and drifting on a split of the fault, followed by a long adit. Rehabilitation of the long adit is necessary.

The application is supported by statements concerning values in the fault zone. The examiners could not verify such statements and conclude that further exploration will not lead to the discovery of significant deposits of copper, lead or zinc.

The examiners and the Field Team recommend denial of the application

I concur with that recommendation.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

June 6, 1956

Re: DMEA 4196
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Mineral Co., Colo.
$19,875.67 - Copper-lead

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The examiners and the Field Team recommend denial of the application.

I concur with that recommendation.

N. E. Nelson

N. E. Nelson

NENelson:btr
G 6/6/56

cc: J. W. Pennington, Rm. 3623
O. M. Bishop, Rm. 3617
Director's reading file (4212)
Branch reading file
DMEA (3)
Chron. File
Docket File

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

RECEIVED
JUN - 1 1956

May 29, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, DMEA Docket 4196, (Copper-Lead-Zinc) John R. Jackson, (Gateway claims), Mineral County, Colorado

Enclosed are the original and three copies of a joint engineering and geologic report on the subject property.

The field examiners conclude that the probability of discovering significant deposits of copper-lead-zinc ores on the Gateway claims is slight, and they recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By J. W. Townsend
Acting Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-6-56
(date)

IN REPLY REFER TO:
DMEA
Date Rec'd.

RECEIVED
JUN - 1 1956

MAY 28 1956

BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

May 25, 1956

Memorandum

TRANSMITTED
MAY 29 1956

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw
E. N. Harshman

Subject: DMEA Docket 4196 (Copper-lead-zinc), John R. Jackson, Gateway Claims, King Solomon Mining District, Mineral County, Colorado

Enclosed are the original and nine copies of a joint engineering and geologic report by E. W. Buel, Bureau of Mines, and R. U. King, Geological Survey, covering their examination of the subject property.

The applicants propose to explore a fissure vein deposit in bedded volcanic rocks by drifting around a caved area, by completing a short crosscut to the vein, and by drifting along the vein for 300 feet, at a total estimated cost of $19,855.

The examining team concludes that the probability of discovering significant deposits of copper-lead-zinc ore on Gateway claims is slight, and, therefore, recommend that the application be denied.

We concur with the recommendations of the examining team.

John F. Shaw
Superintendent of the Denver
Experiment Station

DRMacLaren
for E. N. Harshman
Member, Field Team

Reviewed by
DMEA OPERATING COMMITTEE
6-6-56
(date)

Enclosures (10)
DRMacLaren:mp

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
JUN - 1 1956

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED
MAY 29 1956

DMEA 4196

Gateway Claims

John R. Jackson

King Solomon Mining District

Mineral County, Colorado

Copper-Lead-Zinc

Joint Engineering and Geologic Report

by

Robert U. King, Geologist
Geological Survey

Edward W. Buel, Mining Engineer
Bureau of Mines

May 21, 1956

Reviewed by
DMEA OPERATING COMMITTEE
6-6-56

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DMEA 4196

GATEWAY CLAIMS
JOHN R. JACKSON
KING SOLOMON MINING DISTRICT
MINERAL COUNTY, COLORADO

RECEIVED
JUN - 1 1956

SUMMARY

John R. Jackson of Creede, Colorado, applied for DMEA assistance, Docket 4196, in the amount of $19,855 to explore the Gateway claims, Mineral County, Colorado, for copper-lead-zinc. The applicant proposes to explore a fissure vein deposit in bedded volcanic rocks by driving a drift around a caved area, by completing a short crosscut to the vein, and by additional drifting on the vein for 300 feet.

The accessible workings on the Gateway claims were examined by the DMEA examining team of C. M. Harrer and E. W. Buel, Mining Engineers, U. S. Bureau of Mines, and R. U. King, Geologist, U. S. Geological Survey, on April 19, 1956.

The examining team could not confirm the presence of significant quantities of copper, lead, and zinc in the vein as reported by the applicant, and concludes that there is little probability of finding significant deposits of copper, lead, and zinc on the Gateway claims.

It is recommended that the application for DMEA assistance, Docket 4196, be denied.

INTRODUCTION

John R. Jackson applied for DMEA assistance (DMEA Docket 4196) for $19,855 to explore the Gateway claims for copper, lead, and zinc.

The property was examined on April 19, 1956, by a DMEA examining team composed of Robert U. King, Geological Survey, and Michael Harrer and Edward W. Buel, Bureau of Mines. Accompanying the team members were Francis Kung, Point IV Trainee from Formosa, and John R. Jackson and William T. Jackson of Creede, Colorado.

LOCATION AND ACCESSIBILITY

The Gateway claims are in the King Solomon mining district in secs. 12 and 13, T. 42 N., R. 1 W., and sec. 18, T. 42 N., R. 1 E., New Mexico principal meridian, 3 miles north of Creede in Mineral County, Colorado (fig. 1). The claims lie on the south slope of Nelson Mountain at an average altitude of 10,250 feet and are within the Rio Grande National Forest. The main adit on the Gateway claim is a few feet above Nelson Creek, a tributary of West Willow Creek.

The property is readily accessible from Creede, a small mining town having a population of less than one thousand. From Creede, the main road follows northward along Willow Creek to the fork of the West and East Willow Creeks, a distance of about three-quarters of a mile; a steep roadway follows West Willow Creek gulch for a distance of 1-1/2 miles to Nelson Creek, and then follows Nelson Creek for 3/4 of a mile to the portal of the main adit.

PHYSICAL FEATURES

Characteristic of the district which is near the eastern border of the elevated region known as the San Juan Mountains is its marked

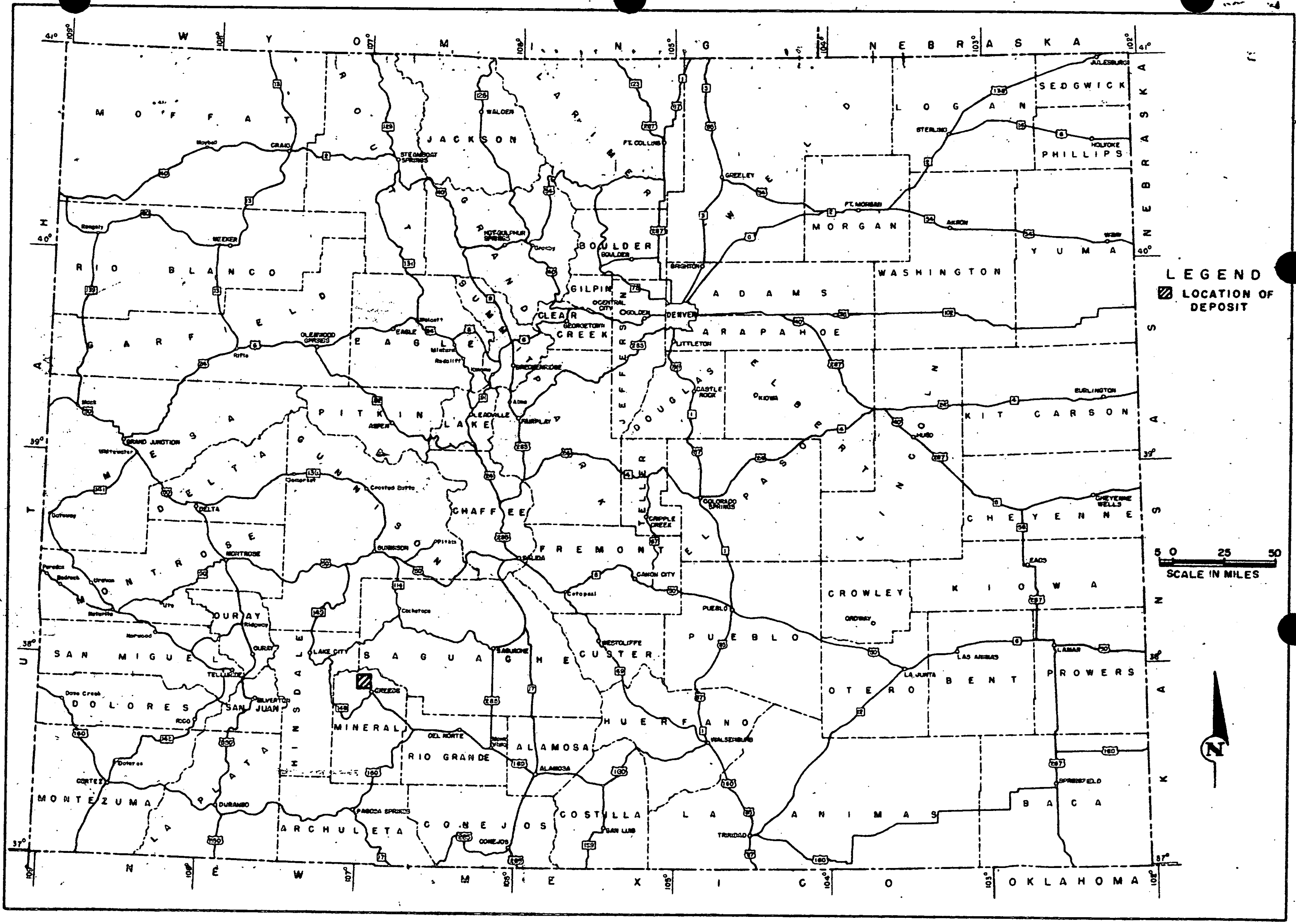

FIGURE 1 - INDEX MAP SHOWING LOCATION OF THE GATEWAY CLAIMS, MINERAL COUNTY, COLO. DMEA 4196

relief which ranges from approximately 8,700 feet about a mile downstream from Creede to over 12,050 feet atop of Nelson Mountain. Conspicuous physiographic features of the district are the gently rolling, grass-covered, sparsely timbered, hills and the deep rugged canyons of the main streams. The canyons, especially those dissected by West and East Willow Creeks above Creede, display sheer cliffs several hundred feet high that locally overhang. The upper portions of the valleys have been modified by glaciation and have gentle slopes. The Gateway claims are in an area of gentle topography.

The climate of the district is one of cool dry summers and cold winters. Snowfall is not excessive (less than 5 feet) and generally does not result in the closing of mining operations during the winter.

Nelson Creek contains an adequate supply of water for any anticipated mining venture. Timber for mining can be obtained from the surrounding forest. Electric power is available at Creede. The power needs of small operations and prospects, however, must be supplied by gasoline or diesel driven units.

At the present there are no custom mills in the district. The nearest custom mill is owned by the Resurrection Mining Company at Leadville, Colorado. Lead-zinc ore usually is shipped to the American Smelting and Refining Company smelter at Leadville, Colorado.

Creede, an active mining center, is a source of skilled labor and mining supplies. A branch of the Denver & Rio Grande Western Railroad serves Creede.

PROPERTY

The property includes the Gateway, Gateway No. 1, and Gateway No. 2 unpatented claims (fig. 2). These claims have been recorded in the County Courthouse at Creede as follows:

Claim	Book	Page
Gateway	4-C	109
Gateway No. 1	4-C	109
Gateway No. 2	4-C	120

The Gateway claims are owned by John Van Buskirk, Creede, Colorado. The applicant, John R. Jackson, has a 10-year lease that was signed February 10, 1956; the consent to lien is dated February 17, 1956.

DEVELOPMENT

The Gateway and Gateway No. 1 claims have been developed by two adits of unknown extent, a 22-foot winze, and several inaccessible surface excavations. The upper of these adits is reported to be caved. The lower or main adit is open for about 685 feet from the portal to the beginning of a caved area. An additional 65 feet in the caved area is accessible. The winze reportedly is below the caved area of the lower adit.

Inspection of the lower adit shows that most of the ground, including the alterated rock near the vein, stands unsupported. Stulls, with and without lagging, were found along parts of the adit.

Ventilation and water drainage do not appear to offer any unusual mining problems.

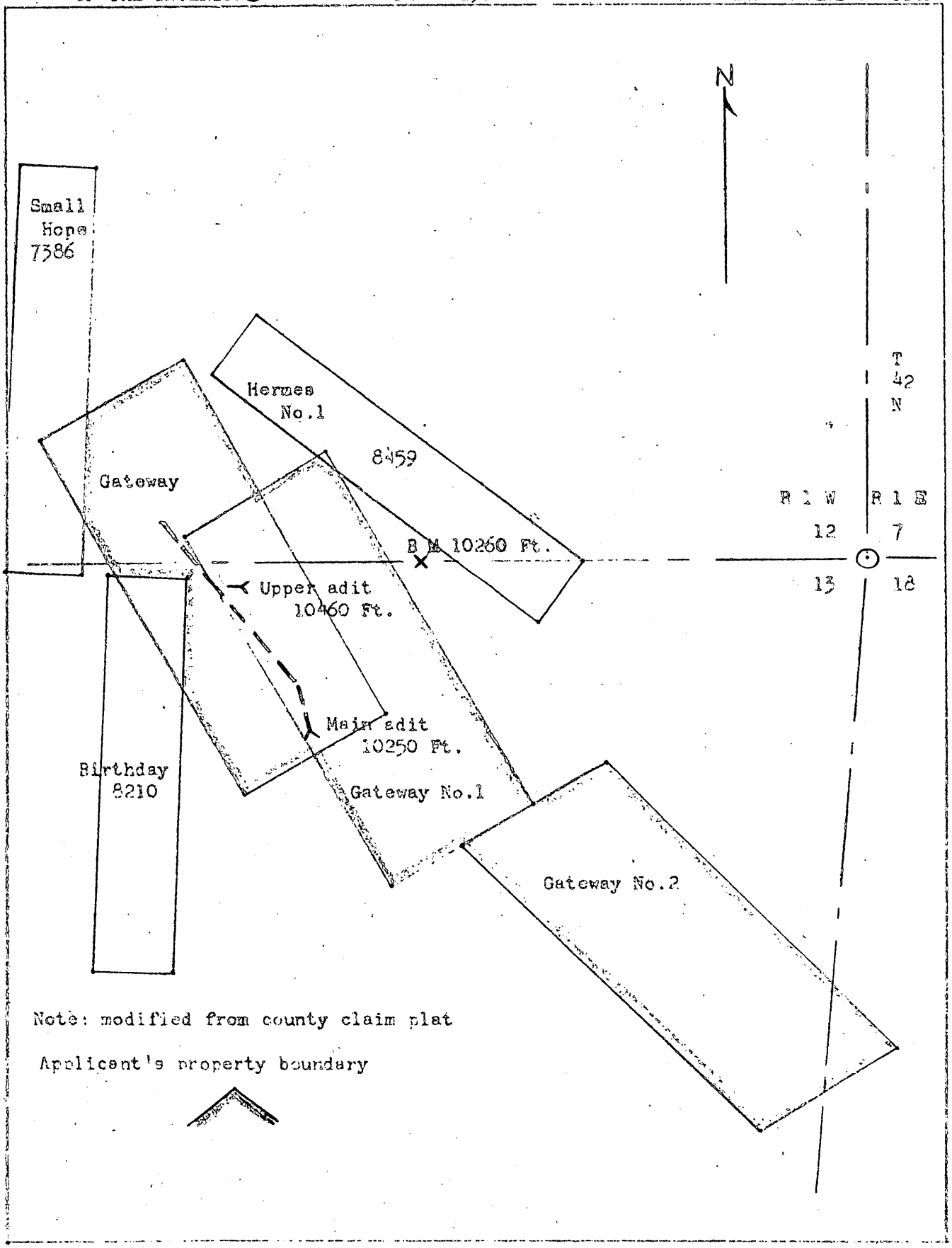

FIGURE 2.- PLAT OF GATEWAY CLAIMS AND ADJOINING PATENTED CLAIMS, MINERAL COUNTY, COLORADO

500 0 500 Feet

A building suitable for the housing of mining equipment is located near the lower adit portal.

HISTORY AND PRODUCTION

The claims were first discovered and located by Elwood Neff in 1921 (?), according to John R. Jackson. Soon after the discovery the property was leased to the Mid-West Mining Company. Probably most of the current workings were developed by this company. Messrs. E. J. Dabney and John Van Buskirk, are believed to have acquired the claims by relocation in 1941. Mr. Dabney deeded his rights to Van Buskirk the present owner.

There has been no known production from the property, except for about 20 tons of ore reported to have been mined during the course of the exploratory development.

GEOLOGY AND ORE DEPOSITS

Flat-lying bedded flow rocks that are part of the San Juan volcanic field underly the northern part of the Creede district. Only one formation, the Campbell Mountain rhyolite, is exposed in the vicinity of the claims.

The Campbell Mountain rhyolite is a dull reddish-brown to gray rock with mottled appearance due to inclusions of fragments of overlying and underlying volcanic rocks. It has an indistinct fluidal and porphyritic texture and is composed of small phenocrysts of glassy

orthoclase, white plagioclase, biotite, and quartz in an aphanitic groundmass. The rock is classed as a welded tuff or rhyolite flow breccia and has long been considered the most favorable ore host rock in the district. In the vicinity of the Gateway claims it is over 500 feet thick.

The Campbell Mountain rhyolite is overlain by the Mammoth Mountain rhyolite and the Nelson Mountain quartz-latite tuff, and underlain by the Willow Creek rhyolite.

The volcanic rocks of the Creede district are cut by a series northward to northwestward-trending faults, many of which are heavily mineralized and have contained the productive ore deposits of the district. The Gateway mine exploits a north-northwestward trending fault that lies between two of the major mineralized faults of the area: the Solomon Ridge fault to the east and the Amethyst fault to the west (fig. 3). The fault exposed in the Gateway workings has not been named and for convenience will be referred to in this report as the "Gateway" fault.

The Gateway fault can be traced with a fair degree of certainty for about one-half mile north of the portal of the main adit by exposures in old prospect pits. On the Gateway claims the fault has been prospected chiefly by two adits. An upper adit that is 212 feet above the main adit is completely caved. The main adit crosscuts for 160 feet and then drifts along the fault for about 600 feet (fig. 4), beyond which point the drift is caved.

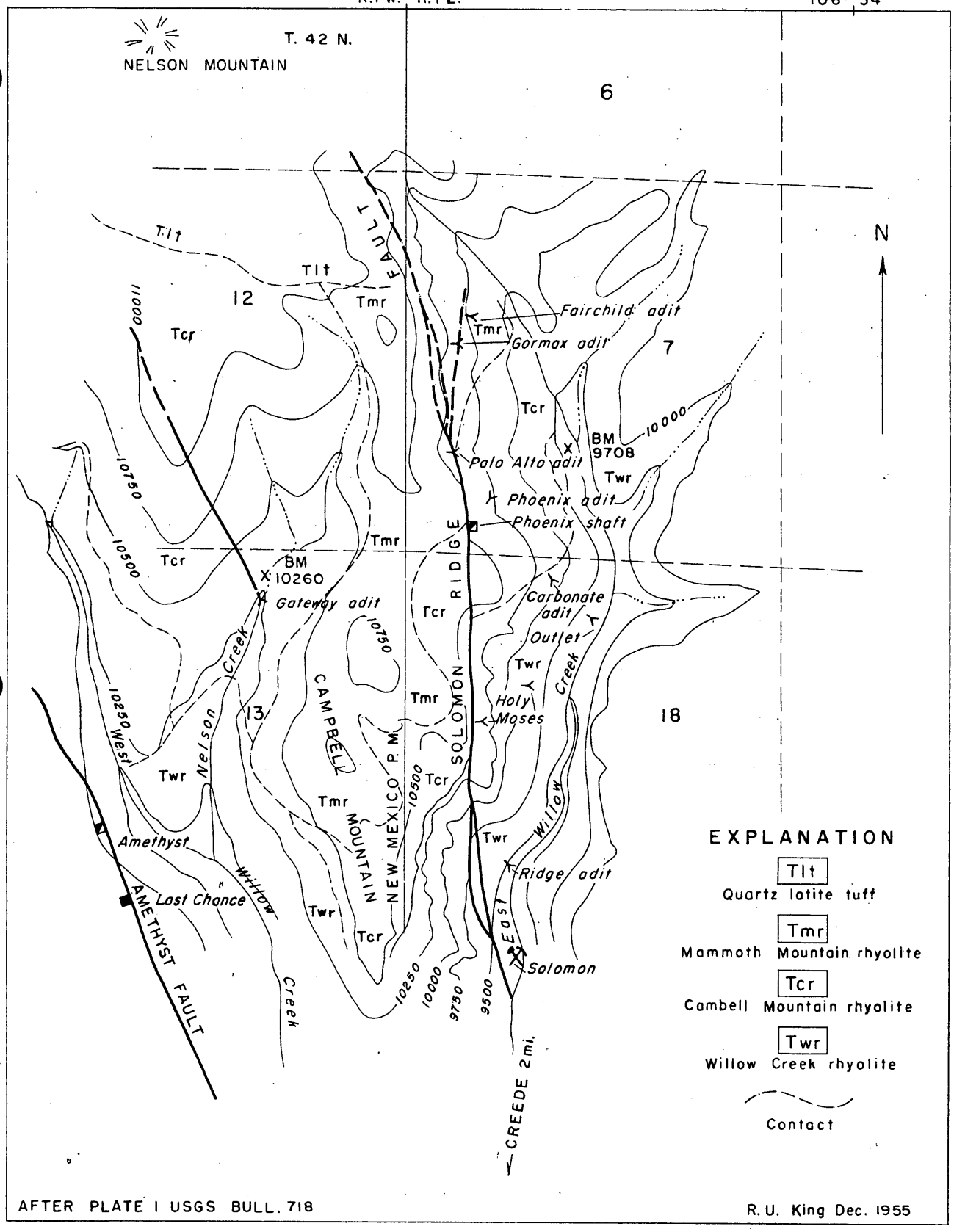

FIGURE 3-GEOLOGIC MAP SHOWING RELATION OF GATEWAY ADIT TO MINES AND GEOLOGY, CREEDE DISTRICT, MINERAL COUNTY COLORADO

0 2000 4000 Feet

The Gateway fault strikes N. 35° to 40° W. and dips 60° to 80° west; it ranges in width from 1 to 7 feet.

The mineral deposits consist of copper-lead-zinc fissure veins along the Gateway fault and subsidiary veinlets and stringers that extend for several feet into the hanging wall.

For about 150 feet along the main adit from the point where the fault was first encountered the vein consists of a 1- to 2-inch barren gouge zone between slickensided walls. Beyond 150 feet the fault widens and is mineralized over a width as much as 7 feet. In the wider parts, the vein consists of a massive, soft, black material that contains fragments of argillized rhyolite porphyry, scattered base metal sulfides, and banded chalcadonic quartz. Only scattered crystals of galena and pyrite could be found in the clay-like vein matter. It is probable that the clay-like fault filling is in part the result of leaching and oxidation and that the ore minerals now present consist largely of carbonates, sulfates, and oxides of copper, lead, zinc, and iron. Considerable quantities of efflorescent white and green minerals, probably sulfates of zinc (goslarite), copper (chalcanthite), and iron (melanterite) line the walls of the adit.

According to the applicant, an analysis of a 10-inch sample approximately 700 feet from the portal indicated that the vein contained 8 percent Cu and 13 percent Pb.

Samples collected by the examining team from the vein at points 600 and 743 feet from the portal do not confirm the results of the

applicant's analysis. Analyses and locations of samples collected from the vein by the examining team are as follows:

Sample No.	Cu Percent	Pb Percent	Zn Percent	Au Oz.	Ag Oz.	Location
59752 - EB-3	0.08	Tr.	0.2	<0.005	<0.1	610 ft from portal 2.8 ft width.
59753 - EB-4	0.40	0.60	0.3	<0.005	0.5	743 ft from portal 3.2 ft width.
59754 - EB-5	0.02	0.02	0.02	<0.005	<0.1	743 ft from portal 2 ft, hanging wall part of vein.

APPLICANT'S PROPOSAL

The applicant applied for DMEA assistance for $19,855. He proposes driving a drift for 150 feet to bypass a caved area extending approximately from points 685 to 750 feet from the portal of the lower adit. After a connection is made with the adit beyond the caved area the applicant proposes to extend an existing 12-foot crosscut to intersect the main vein and to drift for 300 feet in a northerly direction on the vein. The applicant also proposes a considerable amount of rehabilitation. The estimated time for this work is 12 months. His drifting and rehabilitation costs are $22.25 per foot for 500 feet of drifting and crosscutting and $9.70 per foot for 950 feet of rehabilitation.

CONCLUSIONS

The Gateway mine is favorably situated in respect to the major mineralized fault structures of the district and is in a rock type that is known to be a favorable host rock for ore. However, the presence of

ore grade copper-lead-zinc vein deposits in the Gateway fault could not be confirmed by sampling nor by visual inspection. The vein, where exposed in the main adit, has a fair continuity and, therefore, it is expected that any additional deposits that may occur along the Gateway fault to the north within the area of proposed exploration will be of similar size and grade. It is, therefore, concluded that the analysis reported by the applicant either represents carefully selected material or that the material represented by the sample occurs in very small bodies, and that further exploration will not lead to the discovery of significant deposits of copper, lead, or zinc.

RECOMMENDATIONS

It is recommended that the application to explore the Gateway claims for copper-lead-zinc be denied.

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

May 29, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
JUN - 1 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, DMEA Docket 4196, (Copper-Lead-Zinc) John R. Jackson, (Gateway claims), Mineral County, Colorado

Enclosed are the original and three copies of a joint engineering and geologic report on the subject property.

The field examiners conclude that the probability of discovering significant deposits of copper-lead-zinc ores on the Gateway claims is slight, and they recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By J. W. Townsend
Acting Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6/6/56
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED JUN - 1 1956

DMEA
Date Rec'd.
MAY 28 1956
BUREAU OF MINES
Denver, Colorado

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

May 25, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

TRANSMITTED
MAY 29 1956

From: John F. Shaw
E. W. Harshman

Subject: DMEA Docket 4196 (Copper-lead-zinc), John R. Jackson, Gateway Claims, King Solomon Mining District, Mineral County, Colorado

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The examining team concludes that the probability of discovering significant deposits of copper-lead-zinc ore on Gateway claims is slight, and, therefore, recommend that the application be denied.

We concur with the recommendations of the examining team.

John F. Shaw
Superintendent of the Denver
Experiment Station

for DRMacLaren
E. W. Harshman
Member, Field Team

Reviewed by
DMEA OPERATING COMMITTEE
6-6-56
(date)

Enclosures (10)
DRMacLaren:mp

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED

MAY 29 1956

DMEA 4196

Gateway Claims

John R. Jackson

King Solomon Mining District

Mineral County, Colorado

Copper-Lead-Zinc

Joint Engineering and Geologic Report

by

Robert U. King, Geologist
Geological Survey

Edward W. Buel, Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
6-6-56
(date)

May 21, 1956

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DMEA 4196

GATEWAY CLAIMS
JOHN R. JACKSON
KING SOLOMON MINING DISTRICT
MINERAL COUNTY, COLORADO

RECEIVED
JUN - 1 1956

SUMMARY

John R. Jackson of Creede, Colorado, applied for DMEA assistance, Docket 4196, in the amount of $19,855 to explore the Gateway claims, Mineral County, Colorado, for copper-lead-zinc. The applicant proposes to explore a fissure vein deposit in bedded volcanic rocks by driving a drift around a caved area, by completing a short crosscut to the vein, and by additional drifting on the vein for 300 feet.

The accessible workings on the Gateway claims were examined by the DMEA examining team of C. M. Harrer and E. W. Buel, Mining Engineers, U. S. Bureau of Mines, and R. U. King, Geologist, U. S. Geological Survey, on April 19, 1956.

The examining team could not confirm the presence of significant quantities of copper, lead, and zinc in the vein as reported by the applicant, and concludes that there is little probability of finding significant deposits of copper, lead, and zinc on the Gateway claims.

It is recommended that the application for DMEA assistance, Docket 4196, be denied.

INTRODUCTION

John R. Jackson applied for DMEA assistance (DMEA Docket 4196) for $19,855 to explore the Gateway claims for copper, lead, and zinc.

The property was examined on April 19, 1956, by a DMEA examining team composed of Robert U. King, Geological Survey, and Michael Harrer and Edward W. Buel, Bureau of Mines. Accompanying the team members were Francis Kung, Point IV Trainee from Formosa, and John R. Jackson and William T. Jackson of Creede, Colorado.

LOCATION AND ACCESSIBILITY

The Gateway claims are in the King Solomon mining district in secs. 12 and 13, T. 42 N., R. 1 W., and sec. 18, T. 42 N., R. 1 E., New Mexico principal meridian, 3 miles north of Creede in Mineral County, Colorado (fig. 1). The claims lie on the south slope of Nelson Mountain at an average altitude of 10,250 feet and are within the Rio Grande National Forest. The main adit on the Gateway claim is a few feet above Nelson Creek, a tributary of West Willow Creek.

The property is readily accessible from Creede, a small mining town having a population of less than one thousand. From Creede, the main road follows northward along Willow Creek to the fork of the West and East Willow Creeks, a distance of about three-quarters of a mile; a steep roadway follows West Willow Creek gulch for a distance of 1-1/2 miles to Nelson Creek, and then follows Nelson Creek for 3/4 of a mile to the portal of the main adit.

PHYSICAL FEATURES

Characteristic of the district which is near the eastern border of the elevated region known as the San Juan Mountains is its marked

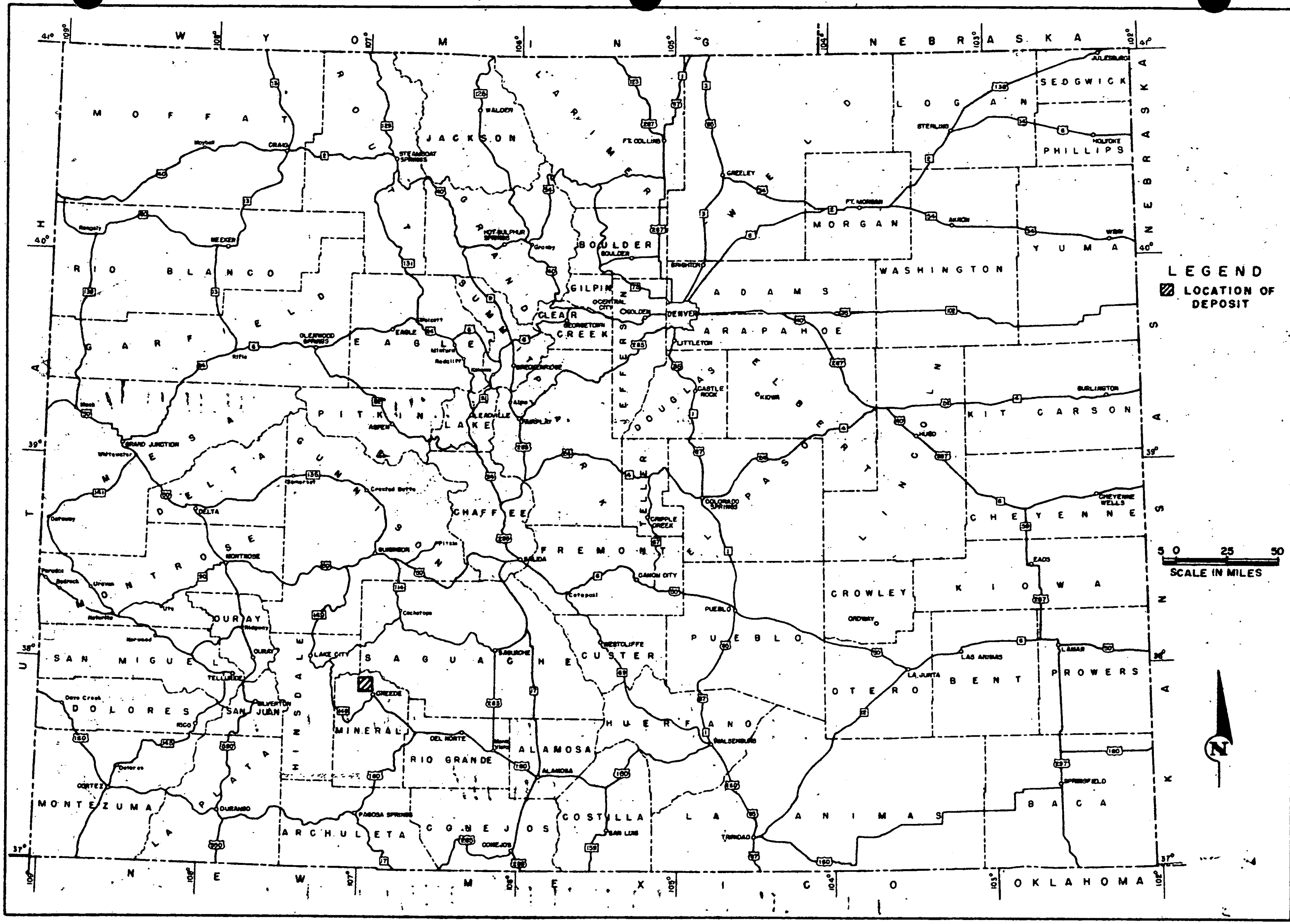


FIGURE 1 - INDEX MAP SHOWING LOCATION OF THE GATEWAY CLAIMS, MINERAL COUNTY, COLO. DMEA 4196

relief which ranges from approximately 8,700 feet about a mile downstream from Creede to over 12,050 feet atop of Nelson Mountain. Conspicuous physiographic features of the district are the gently rolling, grass-covered, sparsely timbered, hills and the deep rugged canyons of the main streams. The canyons, especially those dissected by West and East Willow Creeks above Creede, display sheer cliffs several hundred feet high that locally overhang. The upper portions of the valleys have been modified by glaciation and have gentle slopes. The Gateway claims are in an area of gentle topography.

The climate of the district is one of cool dry summers and cold winters. Snowfall is not excessive (less than 5 feet) and generally does not result in the closing of mining operations during the winter.

Nelson Creek contains an adequate supply of water for any anticipated mining venture. Timber for mining can be obtained from the surrounding forest. Electric power is available at Creede. The power needs of small operations and prospects, however, must be supplied by gasoline or diesel driven units.

At the present there are no custom mills in the district. The nearest custom mill is owned by the Resurrection Mining Company at Leadville, Colorado. Lead-zinc ore usually is shipped to the American Smelting and Refining Company smelter at Leadville, Colorado.

Creede, an active mining center, is a source of skilled labor and mining supplies. A branch of the Denver & Rio Grande Western Railroad serves Creede.

PROPERTY

The property includes the Gateway, Gateway No. 1, and Gateway No. 2 unpatented claims (fig. 2). These claims have been recorded in the County Courthouse at Creede as follows:

Claim	Book	Page
Gateway	4-C	109
Gateway No. 1	4-C	109
Gateway No. 2	4-C	120

The Gateway claims are owned by John Van Buskirk, Creede, Colorado. The applicant, John R. Jackson, has a 10-year lease that was signed February 10, 1956; the consent to lien is dated February 17, 1956.

DEVELOPMENT

The Gateway and Gateway No. 1 claims have been developed by two adits of unknown extent, a 22-foot winze, and several inaccessible surface excavations. The upper of these adits is reported to be caved. The lower or main adit is open for about 685 feet from the portal to the beginning of a caved area. An additional 65 feet in the caved area is accessible. The winze reportedly is below the caved area of the lower adit.

Inspection of the lower adit shows that most of the ground, including the alterated rock near the vein, stands unsupported. Stulls, with and without lagging, were found along parts of the adit.

Ventilation and water drainage do not appear to offer any unusual mining problems.

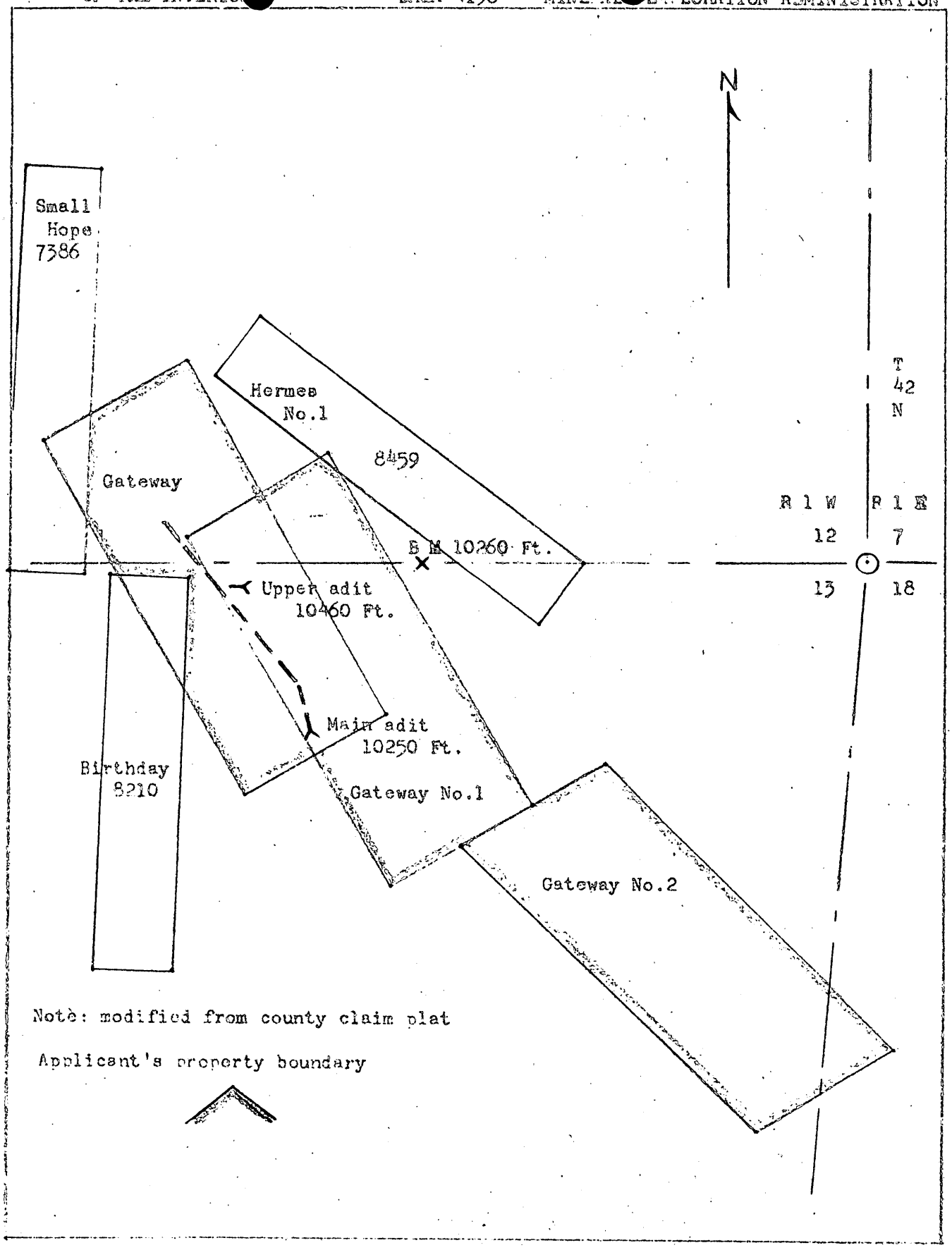


FIGURE 2.- PLAT OF GATEWAY CLAIMS AND ADJOINING PATENTED CLAIMS,
MINERAL COUNTY, COLORADO

500 0 500 Feet

A building suitable for the housing of mining equipment is located near the lower adit portal.

HISTORY AND PRODUCTION

The claims were first discovered and located by Elwood Neff in 1921 (?), according to John R. Jackson. Soon after the discovery the property was leased to the Mid-West Mining Company. Probably most of the current workings were developed by this company. Messrs. E. J. Dabney and John Van Buskirk, are believed to have acquired the claims by relocation in 1941. Mr. Dabney deeded his rights to Van Buskirk the present owner.

There has been no known production from the property, except for about 20 tons of ore reported to have been mined during the course of the exploratory development.

GEOLOGY AND ORE DEPOSITS

Flat-lying bedded flow rocks that are part of the San Juan volcanic field underly the northern part of the Creede district. Only one formation, the Campbell Mountain rhyolite, is exposed in the vicinity of the claims.

The Campbell Mountain rhyolite is a dull reddish-brown to gray rock with mottled appearance due to inclusions of fragments of overlying and underlying volcanic rocks. It has an indistinct fluidal and porphyritic texture and is composed of small phenocrysts of glassy

orthoclase, white plagioclase, biotite, and quartz in an aphanitic groundmass. The rock is classed as a welded tuff or rhyolite flow breccia and has long been considered the most favorable ore host rock in the district. In the vicinity of the Gateway claims it is over 500 feet thick.

The Campbell Mountain rhyolite is overlain by the Mammoth Mountain rhyolite and the Nelson Mountain quartz-latite tuff, and underlain by the Willow Creek rhyolite.

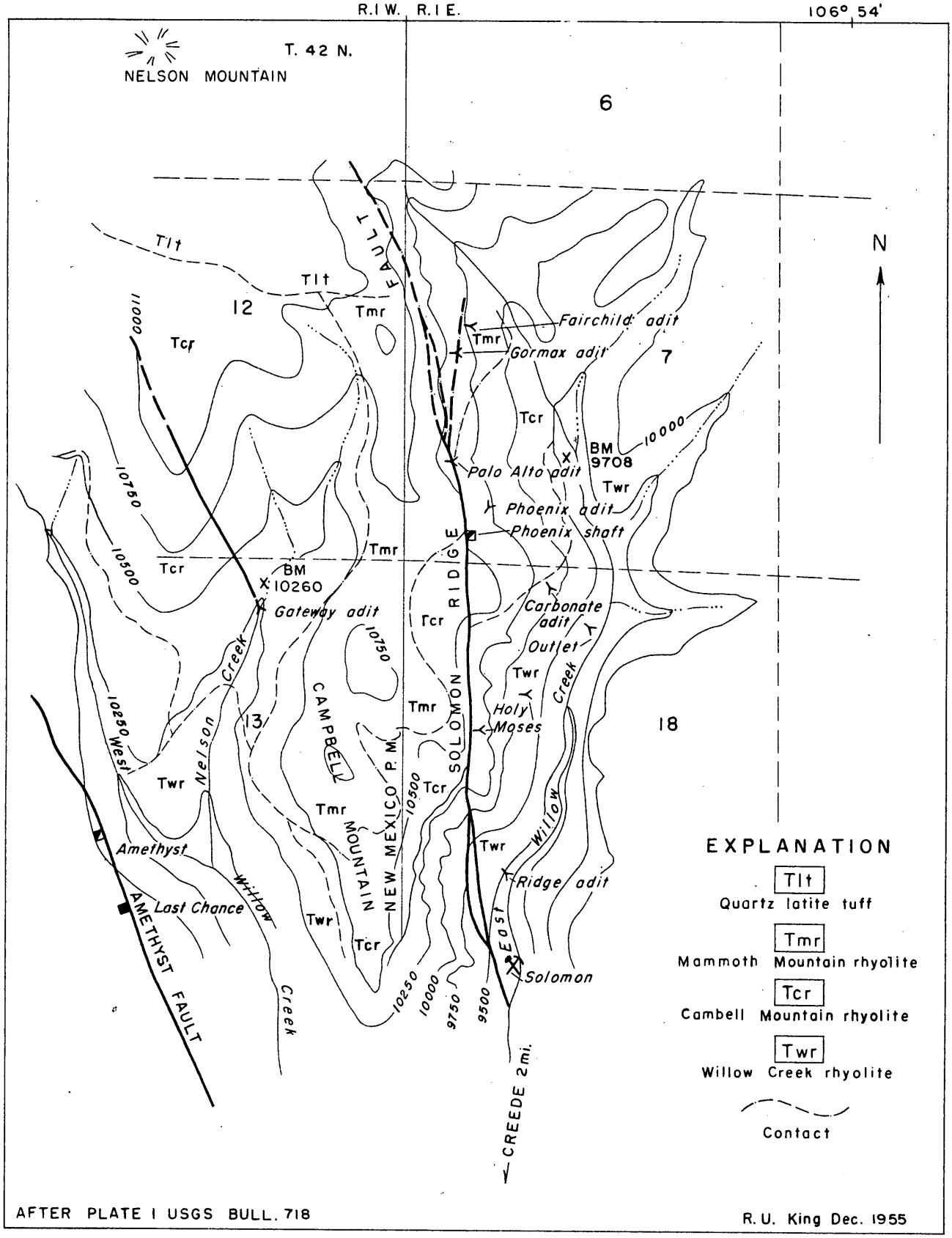
The volcanic rocks of the Creede district are cut by a series northward to northwestward-trending faults, many of which are heavily mineralized and have contained the productive ore deposits of the district. The Gateway mine exploits a north-northwestward trending fault that lies between two of the major mineralized faults of the area: the Solomon Ridge fault to the east and the Amethyst fault to the west (fig. 3). The fault exposed in the Gateway workings has not been named and for convenience will be referred to in this report as the "Gateway" fault.

The Gateway fault can be traced with a fair degree of certainty for about one-half mile north of the portal of the main adit by exposures in old prospect pits. On the Gateway claims the fault has been prospected chiefly by two adits. An upper adit that is 212 feet above the main adit is completely caved. The main adit crosscuts for 160 feet and then drifts along the fault for about 600 feet (fig. 4), beyond which point the drift is caved.

U.S. DEPT. OF THE INTERIOR

DMEA 4196

PREPARED FOR THE
DEFENSE MINERALS ADMINISTRATION



AFTER PLATE I USGS BULL. 718

R.U. King Dec. 1955

FIGURE 3-GEOLOGIC MAP SHOWING RELATION OF GATEWAY ADIT TO MINES AND GEOLOGY, CREEDE DISTRICT, MINERAL COUNTY COLORADO

0 2000 4000 Feet

The Gateway fault strikes N. 35° to 40° W. and dips 60° to 80° west; it ranges in width from 1 to 7 feet.

The mineral deposits consist of copper-lead-zinc fissure veins along the Gateway fault and subsidiary veinlets and stringers that extend for several feet into the hanging wall.

For about 150 feet along the main adit from the point where the fault was first encountered the vein consists of a 1- to 2-inch barren gouge zone between slickensided walls. Beyond 150 feet the fault widens and is mineralized over a width as much as 7 feet. In the wider parts, the vein consists of a massive, soft, black material that contains fragments of argillized rhyolite porphyry, scattered base metal sulfides, and banded chalcadonic quartz. Only scattered crystals of galena and pyrite could be found in the clay-like vein matter. It is probable that the clay-like fault filling is in part the result of leaching and oxidation and that the ore minerals now present consist largely of carbonates, sulfates, and oxides of copper, lead, zinc, and iron. Considerable quantities of efflorescent white and green minerals, probably sulfates of zinc (goslarite), copper (chalcanthite), and iron (melanterite) line the walls of the adit.

According to the applicant, an analysis of a 10-inch sample approximately 700 feet from the portal indicated that the vein contained 8 percent Cu and 13 percent Pb.

Samples collected by the examining team from the vein at points 600 and 743 feet from the portal do not confirm the results of the

applicant's analysis. Analyses and locations of samples collected from the vein by the examining team are as follows:

Sample No.	Cu Percent	Pb Percent	Zn Percent	Au Oz.	Ag Oz.	Location
59752 - EB-3	0.08	Tr.	0.2	<0.005	<0.1	610 ft from portal 2.8 ft width.
59753 - EB-4	0.40	0.60	0.3	<0.005	0.5	743 ft from portal 3.2 ft width.
59754 - EB-5	0.02	0.02	0.02	<0.005	<0.1	743 ft from portal 2 ft, hanging wall part of vein.

APPLICANT'S PROPOSAL

The applicant applied for DMEA assistance for $19,855. He proposes driving a drift for 150 feet to bypass a caved area extending approximately from points 685 to 750 feet from the portal of the lower adit. After a connection is made with the adit beyond the caved area the applicant proposes to extend an existing 12-foot crosscut to intersect the main vein and to drift for 300 feet in a northerly direction on the vein. The applicant also proposes a considerable amount of rehabilitation. The estimated time for this work is 12 months. His drifting and rehabilitation costs are $22.25 per foot for 500 feet of drifting and crosscutting and $9.70 per foot for 950 feet of rehabilitation.

CONCLUSIONS

The Gateway mine is favorably situated in respect to the major mineralized fault structures of the district and is in a rock type that is known to be a favorable host rock for ore. However, the presence of

ore grade copper-lead-zinc vein deposits in the Gateway fault could not be confirmed by sampling nor by visual inspection. The vein, where exposed in the main adit, has a fair continuity and, therefore, it is expected that any additional deposits that may occur along the Gateway fault to the north within the area of proposed exploration will be of similar size and grade. It is, therefore, concluded that the analysis reported by the applicant either represents carefully selected material or that the material represented by the sample occurs in very small bodies, and that further exploration will not lead to the discovery of significant deposits of copper, lead, or zinc.

RECOMMENDATIONS

It is recommended that the application to explore the Gateway claims for copper-lead-zinc be denied.

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

RECEIVED
MAR 28 1956

March 26, 1956

224 New Customhouse
Denver 2, Colorado

Docket

Mr. John R. Jackson
Box 81
Creede, Colorado

Re: Docket DMEA 4196

Dear Mr. Jackson:

This will acknowledge receipt of your letter dated March 21, 1956 concerning the field examination of your property. You will be advised prior to the date of the field examination so that you or your representative may be present to accompany the field examiners.

Very truly yours,

W. M. TRAVER,

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Shaw (1)
Docket 4196
Chron.

RECEIVED
MAR 19 1956

March 15, 1956

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Reg. III

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4196 (Copper-Lead), John R. Jackson, Gateway claims, Mineral County, Colorado

The subject application in the amount of $19,855.00 was received in this office on March 15, 1956.

A field examination will be made and suitable report prepared by an engineer from the Denver office.

John F. Shaw

cc: W. M. Traver (2)
R. N. Marshman
J. F. Shaw

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

RECEIVED
MAR 19 1956

March 14, 1956

224 New Customhouse
Denver 2, Colorado

abe
Betty

Docket

Memorandum

To: J. F. Shaw (2) (With brochure)
E. N. Marshman

From: Field Team, Region III

Subject: Docket DMEA 4196 (Copper-Lead), John R. Jackson, Gateway Claims, Mineral County, Colorado

Enclosed is the subject application in the amount of $19,855.00. A field examination and suitable report are requested.

Enclosed for your further information is a copy of a letter from the Chairman of the Operating Committee dated March 12, 1956 and accompanying memoranda of review of the application by N. E. Nelson and J. W. Pennington.

DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

HMC:ab

cc: Chair. Opr. Comm. (2)
Docket 4196
Chron.

File Copy
Surname

J. AO
Signed
Selfridge
Chairman

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

MAR 12 1956

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-4196 (Copper-Lead)
John R. Jackson
Gateway Claims
Mineral County, Colorado

Dear Mr. Traver:

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

In the event that you should consider this application favorably, the Applicant should be requested to obtain a Consent To Lien from the owners of this property.

Copies of memoranda dated February 29 and March 5, 1956, by N. E. Nelson, Geological Survey, and J. W. Pennington, Bureau of Mines, respectively, relating to the project, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (S/S)
JWA/er 3/9/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

/s/ Robert W. Geehan (S/S)
Member, Bureau of Mines

Thor H. Kiilsgaard (S/S)
Member, Geological Survey

R.C.S.

File Copy
Surname

J. W.
Kilsgaard
Heuhaff
Selfridge
Johnson

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

MAR 12 1956

Mr. John R. Jackson
Post Office Box 81
Creede, Colorado

Re: Docket No. DMEA-4196 (Copper-Lead)
John R. Jackson
Gateway Claims
Mineral County, Colorado

Dear Mr. Jackson:

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. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

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

Sincerely yours,

C. O. Mittendorf

Administrator

JMMlt/er 3/8/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Pennington, USBM
Mr. Kilsgaard, USGS
Region III (2)
Chron.

R.G.S.

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

RECEIVED
MAR - 6 1956

March 5, 1956

Memorandum

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

From: J. W. Pennington, Branch of Base Metals

Subject: Review of application, Docket No. DMEA 4196 (copper-lead), John Richard Jackson, Gateway Claims, Mineral County, Colorado, $19,855

It is proposed to explore the Gateway property by rehabilitating 900 feet of tunnel, drifting about 150 feet to bypass a caved section of the tunnel, and 350 feet of crosscutting and drifting along the footwall at an estimated cost of $19,855. The applicant has failed to include any costs for sample analyses.

It is stated that the vein is mineralized for most of the distance opened along the fault and that mineralization increases with depth. One sample - location not given - assayed 8.0 percent copper and 13.0 percent lead.

It is recommended that the application be referred to the field team for examination and comments.

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

RECEIVED
MAR - 6 1956

March 5, 1956

Memorandum

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

From: J. W. Pennington, Branch of Base Metals

Subject: Review of application, Docket No. [illegible] 4196 (copper-lead), John Richard Jackson, Gateway Claims, Mineral County, Colorado, $19,855

It is proposed to explore the Gateway property by rehabilitating 300 feet of tunnel, drifting about 150 feet to bypass a caved section of the tunnel, and 330 feet of crosscutting and drifting along the footwall at an estimated cost of $19,855. The applicant has failed to include any costs for sample analyses.

It is stated that the vein is mineralized for most of the distance opened along the fault and that mineralization increases with depth. One sample - location not given - assayed 8.0 percent copper and 13.0 percent lead.

It is recommended that the application be referred to the field team for examination and comments.

J. W. Pennington

J. W. Pennington

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

IN REPLY REFER TO:

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

RECEIVED
MAR - 1 1956

February 29, 1956

Re: DMEA 4196
John R. Jackson
Gateway group
Mineral County, Colorado
$19,875.67 - Copper, lead

Memorandum

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

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

Subject: Review of application.

The applicant requests assistance in rehabilitation of a long drift on a fault and the driving of a crosscut to and drifting on the footwall split of the fault. The work in the fault has shown it to be weakly mineralized with 'oxidized' lead and copper material, and it is believed the values will improve as greater depth is obtained by driving into the hill.

No support of the belief is offered other than the statement. One assay is quoted showing 8% copper and 13% lead across 10 inches in a part of the drift now inaccessible. The length of this "streak" is not given. The fault is said to show for a mile, but apparently no ore has as yet been found in it.

The work proposed consists of:--

Rehabilitation, tools, supplies and labor	$ 6,866.67
Equipment (rent or purchase)	3,825.00
Equipment (maintenance)	403.00
Labor	3,600.00
Supervision and engineering	4,600.00
Workmens comp. and OAIS	580.00
	$19,875.67

Actual new work - crosscutting, 200 feet, and drifting, 300 feet.

Criteria by which the ore-bearing potential of this fault zone may be estimated are lacking, but judging by the results of the work done to date in the fault, the potential is low. Examination

of the fault filling may give support to the belief of the applicant that leaching of one time values has occured.

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.

RECEIVED
MAR - 1 1956

February 29, 1956

Re: DMEA 4196
John R. Jackson
Gateway group
Mineral County, Colorado
$19,875.67 - Copper, lead

Memorandum

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

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of the fault filling may give support to the belief of the applicant that leaching of ore time values has occurred.

Referral to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-2/29/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
H. M. Meyer, 3623

Subject: DMEA-4196
Re: Gateway

John R. Jackson
Box 81
Creede, Colorado

February 28, 1956

Dear Sir:

The receipt of your application dated February 15, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4196 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

February 23, 1956

RECEIVED
FEB 2 1956

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

Gentlemen:

Enclosed please find-
(1) copy owner's consent to lien mining property
(1) copy "Mining Lease"
(4) completed copies and other pertinent data re: Applieation for DMEA loan.

As the involved claims are possessory no recent maps show the location and boundaries of these claims. They were formerly owned by Midwest Mining Company who at the time of their operation had maps made of this area, they forfeited these claims through non performance of labor and were filed on by present owner. I am in possession of one map, clear and correct, which shows the old boundaries of the claims involved in this application. I will hold this map for the benefit of the field team as it is in poor condition to submit with these papers.

Most sincerely yours,

John R. Jackson

John R. Jackson
Creede, Colorado
P. O. Box 81

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
FEB 27 1956

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. 4196
Metal or Mineral Copper-Lead Zinc
Date Received 2-27-56
Estimated Cost 19,855
Participation (Government %) 50

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:

John Richard Jackson
Box 81
Creede - Colorado

(*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

GATEWAY Book -4-C page 109 1/2
GATEWAY #1 " 4-C " 109 3/4
GATEWAY #2 " 4-C " 120 1/2
In Mineral County lode location records

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

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

(*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. Submitted

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

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

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 - Lead

(*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 90 days and be completed within 12 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

[X] Money [X] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated _____, 195__

John Richard JACKSON
(Applicant)

By John R. Jackson

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

To be attached to form MF 103 DMEA

4. (a) The first work to explore this fault was an upper tunnel driven Westerly to strike the fault and thence North Westerly for some distance. Quartz, Barite, some Carbon Lead and limonite was encountered but was leached badly and there was no production from this tunnel. On the basis of the mineralization in this tunnel another tunnel was driven 200' lower on the slope of the hill striking the fault from the West and driving on it for 650' to where a split occurred in the vein, the West split in the hanging wall was followe for an additional 200' and then a cross-cut tunnel started to the East from this drift to return to the footwall, it was stopped at 12' when the company became insolvent and could not pay the employees. The vein is mineralized for most of the distance opened along the fault and becomes more so with depth. The area now open is badly leached. A small winze has been sunk 22' where it is now caved and a sizeable stockpile of lead-copper ore lies outside that apparently came from this work, from reports of former workers the vein sunk on pinched and was a factor in closing the mine down. This work was done in the 1920's and the mine has not worked since.

(b) There is no record of this mine producing in the past.

(c) The fault is nearly vertical with a slight Westerly dip with striae on the footwall showing some side slippage since mineralization took place. It lies in Campbell Mountain Rhyolite overlying Willow Creek Rhyolite. The fault crosses Nelson Mountain with the tunnel on the South slope gaining depth as it is driven Northerly. The slope is gradual making secondary enrichment possible. Reasons for wishing to explore: The walls are solid on both sides of the fault with only the gouge between caving, the zone now uncovered is very badly leached but shows increasing mineralization with depth. No previous thought has been given to the copper content of the vein. The most mineralized vein is on the footwall and the old workings followed the hanging wall split. It is my belief that within a short distance, bypassing this cave for reasons of safety, the depth will be great enough to be out of the leached, altered zone and by following the footwall this fault can become a good producer. The vein outcrops for a mile plus and where exposed the walls are solid and the gouge is mineralized.

(d) Access roads: The road to the property is good with continued help promised by Mineral County Commissioners. Distances: It is approximately three miles to the nearest shipping point, supply house, residence points. It can be year round operation.

(e) Manpower: Readily available. Materials and supplies: Two sawmills operating and hauling to mines, Supply house in Creede, (3 miles), Equipment: None at mine but readily available. Water: A spring 400 yds. from mine will furnish all necessary water.

5. (a) The exploration project: In order of value, the minerals are: copper, lead, zinc.

(b) Proposed work: The tunnel is roomy and in good shape to the point where the by pass drift will start, it will need some minor timbering but is not loose ground. It will require new rail and pipe the entire distance. It is planned to equip the tunnel and drift around the cave coming into the old tunnel again 150' from start of cave, it is reported to be solid from this point a distance of approximately 200' and at this point is directed toward the footwall, it is planned to finish this cross-cut tunnel to the footwall and drift on the footwall 300'. This will place the breast in zone of sufficient depth to be productive it is believed. It will be approximately 1400' from the portal at the end of the proposed work.

(c) given on form 103

(d) Applicant has nine years experience contracting and leasing. From 1950 to 1953 was General Partner and Manager of Outlet Mining Company. 1953 to 1955 Owner and manager of Jackson Mining Company, both producers.

6. (a) None.

(b) Estimate of costs:

(1) Supervisor (applicant) @ $350. per month 12 months	$4200.
(1) Miner @ $300. per month	3600.
Engineering service (maps and survey)	400.

(c) Operating materials and supplies:

6 tons 12 lb. rail @ $190. per ton	1140.
splice bars for rail	93.
track spikes	56.
bolts	8.
600 4"X6"X36" wooden ties @ $27.50 per C.	165.
1400' 2" pipe with sleeves @ $44.78 per C.	626.92
2" valves, T's, unions, nipples, air and water spuds	110.
pipe wrenches 18" and 12"	19.40
fire extinguishers (2)	45.
hose mender and clamps, patch pipes	11.75

6. (c) Operating materials and supplies cont.

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hammers 2 lb. 4 lb. and 8 lb. furnished by applicant	
saws and axes furnished by appliacnt	
acaling bars and picks furnished by applicant	
shovels- 3 furnished 3 to purchase	$12.75
nails and spikes 300# @ $11.50 per cwt	34.50
1" air hose with connections 100'	69.75
½" water hose with connections 100"	49.00
explosives 40 sticks per ft. of drift	1500.00
primers 5 per ft. of drift	62.60
fuse 35' per ft. of drift	264.75
machine oil 50 gals. @ $.95 per gal.	47.50
compressor oil 25 gals.	
engine oil 50 gals. both $1.25 per gal.	93.75
fuel-gasoline @ $.273 per gal 6 gals. per ft. of drift	819.00
dry timber 300" @ $.21 per "	630.00
integral steel for drilling $1. per ft. of drift	500.00
cables for slusher (2 sets) 550' @ $.27 per ft.	148.50
water pressure tank (connections and hose furnished)	26.00

(d) Operating equipment:

compressor either rent or purchase on time	1500.00
jackhammer with pusher leg (complete)	715.00
slusher hoist with bucket	1100.00
tram cars (2)	510.00

(e) Compressor building and shop now standing must be moved 50' from portal of tunnel, will require 2000 bd. ft. additional lumber, nails windows and labor.

	lumber	110.00
	nails	11.50
	windows	12.00
(f) combined with e	labor	200.00

(g) Cost of maintenance and repair:

jakchammer (20% of new over 12 months)	143.00
compressor and slusher (10% of new over 12 months)	260.00
accounting: by applicant	
workmens compensation $100 deposit $27 per month premium	424.00
O. A. S. I.	156.00

(h) contingencies: Cost of all supplies and equipment other than compressor is based on new delivered. It will no doubt be possible to purchase some at a reduced price and this should cover anything falling in this category.

7. (a) Yes
(b) $5000 actual cash with $5000 in reserve, will furnish transportation, shop tools and other mining tools valued over $500.

Estimate of cost per ft. for actual drifting - 500'	$22.25	11,125.
Estimate of cost per ft. for rehabilitating tunnel 900'	9.70	8,730.

Estimates are figured from breakdown of costs and supplies etc. necessary for each of type of work.

19,855.

Owners consent to lien

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MINING AGREEMENT

THIS AGREEMENT, MADE THIS 17 DAY OF Feb., , 1956, BY AND BETWEEN JOHN VAN BUSKIRK, PARTY OF THE FIRST PART HEREINAFTER CALLED LESSOR AND JOHN R. JACKSON, PARTY OF THE SECOND PART, HEREINAFTER CALLED LESSEE.

WHEREAS LESSOR, ON THE 10TH DAY OF FEBRUARY 1956, ENTERED INTO A MINING LEASE WITH LESSEE ON THE FOLLOWING DESCRIBED LODE CLAIMS OWNED AND POSSESSED BY LESSOR, THE GATEWAY, GATEWAY # I, AND GATEWAY # 2, LOCATED AND RECORDED RESPECTIVELY IN BOOK 4-C PAGE 109 1/; BOOK 4-C PAGE 109 2/; BOOK 4-C PAGE 120 1/.

IN REGARD TO SAID LEASE AND LAST PARAGRAPH, PAGE I, CONCERNING WORK SHIFTS, LESSEE NOW FINDS THAT DUE TO WEATHER AND OTHER ADVERSE CONDITIONS AT THIS TIME THAT PERFORMANCE OF SAID WORK SHIFTS WOULD WORK A HARDSHIP ON HIM AND ASKS RELIEF FROM THAT PARTICULAR CLAUSE.

NOW THEREFORE, IN CONSIDERATION OF ABOVE, LESSOR AGREES TO RELIEVE LESSEE OF PERFORMING WORK SHIFTS ON ABOVE DESCRIBED LEASED AND DEMISED PROPERTY UNTIL JUNE 1, 1956 BUT THAT CLAUSE SHALL BE IN EFFECT THEREAFTER.

FURTHER, IN THE EVENT LESSEE SHOULD PROCURE HELP TO EXPLORE THE ABOVE DESCRIBED PROPERTY IN THE FORM OF A GOVERNMENT DMEA LOAN, LESSOR AGREES AND CONSENTS TO A LIEN ON THE PROPERTY BY THE FEDERAL GOVERNMENT FOR THE REPAYMENT OF SUCH LOAN

IN WITNESS WHEREOF THE PARTIES OF THIS AGREEMENT HAVE EXECUTED THESE PRESENTS IN TRIPLICATE THE DAY AND YEAR FIRST ABOVE WRITTEN.

Jane A. Oates — WITNESS

John Van Buskirk — JOHN VAN BUSKIRK LESSOR

Emma H. Steinhart — WITNESS

John R. Jackson — JOHN R. JACKSON LESSEE

please return

"MINING LEASE"

THIS AGREEMENT, MADE THIS 10th DAY OF Feb., 1956, BY AND BETWEEN JOHN VAN BUSKIRK, CREEDE, COLORADO, PARTY OF THE FIRST PART HEREINAFTER CALLED LESSOR, AND JOHN R. JACKSON, PARTY OF THE SECOND PART, HEREINAFTER CALLED LESSEE.

WHEREAS THE PARTY OF THE FIRST PART, LESSOR, IS THE OWNER OF THE FOLLOWING NAMED POSSESSORY MINING CLAIMS, LOCATED IN THE KING SOLOMON MINING DISTRICT, MINERAL COUNTY, COLORADO.

Gateway Lode	LOCATED	AND	RECORDED	IN	BOOK	4C-	PAGE	109 1
Gateway #1 Lode	"	"	"	"	"	4C-	"	109 2
Gateway #2 Lode	"	"	"	"	"	4C-	"	120 1

WHEREAS JOHN R. JACKSON, AN INDIVIDUAL, DESIRES TO LEASE AND OPERATE SAID MINING CLAIMS.

NOW THEREFORE, IN CONSIDERATION OF THE PREMISES AND OF THE RESPECTIVE PROMISES OF THE PARTIES HERETO, ONE TO THE OTHER AND FOR OTHER VALUABLE CONSIDER* ATIONS HEREINAFTER SET FORTH, IT IS AGREED AS FOLLOWS:

WITNESSETH THAT, THE SAID LESSOR, FOR AND IN CONSIDERATION OF THE RENTS, COVENANTS AND AGREEMENTS HEREINAFTER EXPRESSED TO BE PAID, KEPT AND PERFORMED BY THE LESSEE, HAS LEASED, LET AND DEMISED UNTO THE SAID LESSEE THE HEREINBEFORE DESCRIBED PREMISES, SITUATE, LYING AND BEING IN THE KING SOLOMON MINING DISTRICT, IN THE COUNTY OF MINERAL, AND STATE OF COLORADO.

TO HAVE AND TO HOLD THE SAME FOR THE PURPOSE OF MINING FOR THE TERM OF TEN (10) YEARS FROM THIS DATE, PROVIDED HOWEVER, THAT ALL THE TERMS AND CONDITIONS HEREINAFTER MENTIONED ARE FULLY AND COMPLETELY COMPLIED WITH.

WHEREAS THE LESSOR HEREIN, FOR AND IN CONSIDERATION OF THE LEASING OF SAID PREMISES HEREIN MENTIONED TO THE LESSEE AND THE GRANTING OF PERMISSION FOR MINING OPERATIONS AND PROSPECTING FOR ORE THEREON, FOR THE TERM OF THIS LEASE, TO-WIT: TEN (10) YEARS, THE SAID LESSEE EXPRESSLY AGREES TO WORK SAID MINING CLAIMS IN A THOROUGH AND MINERLIKE MANNER, WORKING AT LEAST TEN UNDERGROUND WORK SHIFTS PER MONTH, TO KEEP ALL ENTRANCES USED IN THIS OPERATION DRAINED, TIMBERED, AND FREE OF ALL LOOSE ROCK AND RUBBISH, TO KEEP ACCURATE ACCOUNTS OF THE SHIPMENT OR SALE OF ALL ORE REMOVED FROM THE HEREIN DEMISED PREMISES, AND TO RENDER TRUE AND CORRECT STATEMENTS TO SAID LESSOR FROM TIME TO TIME AS HE MAY DEMAND, SHOWING THE AMOUNT AND CHARACTER OF WORK DONE, AND TO PERMIT LESSOR OR HIS AGENT AT ANY TIME TO ENTER INTO SAID PREMISES AND TO INSPECT ALL WORKINGS THEREIN OR THEREON, TO PAY SAID LESSOR AS RENTAL FOR SAID PREMISES THE FOLLOWING ROYALTY FROM THE PROCEEDS OF ALL ORE EXTRACTED, SHIPPED OR REMOVED FROM SAID PREMISES, THESE PERCENTAGES TO BE BASED UPON AND FIGURED AGAINST NET SMELTER RETURNS OR NET MILL RETURNS, BY WHICH IS MEANT THE MARKET VALUE OF THE ORE AT THE MILL OR SMELTER LESS DEDUCTIONS FOR TREATMENT CHARGES AND FREIGHT, BUT NOT FOR HAULING OR ANY OTHER EXPENSES IN CONNECTION THEREWITH.

5%	to and including $20	net	smelter	or	mill	returns	per	ton
10%	$20.01 to and inc. $40	"	"	"	"	"	"	"
15%	$40.01 to and inc. $60	"	"	"	"	"	"	"
20%	all ores over $60.01							

IN ADDITION TO THE ABOVE ROYALTIES, LESSOR SHALL RECEIVE AND RETAIN 1½% OF THE NET SMELTER OR MILL RETURNS ON ALL ORE ON ACCOUNT OF TAXES WHICH MAY AT ANY TIME BE CHARGEABLE AGAINST HIM OR THE SAID PROPERTY HEREINABOVE DESCRIBED OR THE OUTPUT THEREOF, ANY BALANCE NOT NEEDED FOR TAXES TO BE RETURNED TO LESSEE ON TERMINATION OF ALL LIABILITY FOR ANY SUCH TAXES, AND SAID ROYALTIES DUE THE LESSOR FROM TIME TO TIME SHALL BE PAID TO THE LESSOR DIRECTLY FROM THE SMELTER OR ORE PURCHASING AGENCY.

ALL SHIPMENTS OF ORE SHALL BE MADE IN THE NAME OF BOTH PARTIES HERETO, AND THE SMELTER OR MILL SHALL, AND ARE DIRECTED TO DIVIDE THE PROCEEDS IN ACCORDANCE WITH THIS CONTRACT AGREEMENT.

IN ADDITION TO PARAGRAPH SEVEN RE: UNDERGROUND WORK SHIFTS. LESSEE AGREES TO WORK NOT LESS THAN TEN (10) UNDERGROUND WORK SHIFTS PER MONTH FOR THE FIRST SIX MONTHS OF THIS LEASE ON ONE OR MORE OF ABOVE DESCRIBED LODE CLAIMS AND THEREAFTER UNTIL TERMINATION OF LEASE NOT LESS THAN TWENTY FIVE (25) UNDERGROUND WORK SHIFTS PER MONTH ON ONE OR MORE OF SAID CLAIMS.

LESSEE SHALL NOT, AT ANY TIME DURING THE TERM OF THIS LEASE, TRANSPORT ORE OR WASTE FROM ANY CLAIM OTHER THAN THE HEREINBEFORE DESCRIBED PREMISES, THROUGH OR ACROSS SAID PREMISES WITHOUT WRITTEN CONSENT OF LESSOR.

THE LESSEE SHALL NOT AT ANY TIME DURING HIS OPERATIONS UNDER THIS LEASE CARRY ON OPERATIONS HEREUNDER WITHOUT AT ALL TIMES CARRYING FULL WORKMEN'S COMPENSATION INSURANCE IN RESPECT TO ALL OF HIS EMPLOYEES AS REQUIRED BY LAW, AND THE LESSEE SHALL, BEFORE BEGINNING OPERATIONS AND AT ALL TIMES THEREAFTER, KEEP PROPERLY POSTED NOTICES AS REQUIRED BY LAW, BOTH STATE AND FEDERAL, STATING THAT HE IS OPERATING SAID PREMISES AS LESSEE AND THAT THE LESSOR SHALL NOT BE RESPONSIBLE FOR ANY CONTRACTS, DEBTS OR LIABILITIES IN ANY CONNECTION WITH OR ARISING OUT OF SAID OPERATIONS.

ANY EXPENSE IN CONNECTION WITH THE MAINTENANCE OR OPERATION OF ALL TUNNELS OR DRIFTS AND OTHER WORKINGS SHALL BE BORNE BY THE LESSEE.

LESSEE AGREES TO KEEP A PROPER SET OF BOOKS AND MAKE AND FILE, IN DUE SEASON, ALL REPORTS AND RETURNS REQUIRED BY EITHER THE STATE OR FEDERAL GOVERNMENTS, AND TO SAVE LESSOR HARMLESS AT ALL TIMES FROM ANY FINES, ASSESSMENTS OR PENALTIES MADE OR LEVIED FOR FAILURE THEREOF.

IT IS EXPRESSLY AGREED THAT THE LESSEE MAY NOT ASSIGN OR SUBLET THIS LEASE WITHOUT THE WRITTEN CONSENT OF THE LESSOR.

IT IS FURTHER AGREED THAT ALL BUILDINGS, ORE BINS ETC., SHALL REMAIN ON THE PROPERTY WHERE ERECTED AT TERMINATION OF THIS LEASE ALSO ALL RAIL AND PIPE LINES SHALL REMAIN WHERE LAID ON THE AFOREMENTIONED LEASED PREMISES.

SAID LESSEE FURTHERMORE COVENANTS AND AGREES THAT IN CASE OF FAILURE IN ANY RESPECT TO KEEP AND FULFILL ANY ONE OR MORE OF THE COVENANTS OR AGREEMENTS HEREIN, EXPRESSED OR IMPLIED, THEN AND IN THAT CASE IT SHALL BE LAWFUL FOR THE SAID LESSOR TO DECLARE SAID TERM ENDED, AND WITH OR WITHOUT PROCESS OF LAW TO ENTER UPON AND TAKE POSSESSION OF SAID PREMISES AND IN SUCH CASE, AND ALSO ON THE EXPIRATION OF THIS LEASE BY LIMITATION, SAID LESSEE AGREES TO SURRENDER, YIELD AND DELIVER TO SAID LESSOR QUIET AND PEACEABLE POSSESSION OF SAID PREMISES IN GOOD CONDITION AND THAT TIME SHALL BE OF THE ESSENCE HEREOF, AND THAT ALL OF THE EXECUTORS, ADMINISTRATORS, SUCCESSORS AND LAWFUL ASSIGNS OF THE RESPECTIVE PARTIES HERETO, AND IF IT BECOMES NECESSARY TO RESORT TO COURT ACTION TO ENFORCE ANY OF THE COVENANTS OR AGREEMENTS HEREIN CONTAINED, THE LESSEE AGREES TO PAY ALL COSTS, INCLUDING A REASONABLE ATTORNEYS FEE.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT ANY STOPPAGE OF WORK BY STRIKE, RIOTS, LEGAL PROCESSES, ACCIDENTS TO MACHINERY OR ANY OTHER CAUSE NOT UNDER THE CONTROL OF LESSEE, SHALL NOT WORK A FORFEITURE OF THIS LEASE, AND SUCH TIME AS THE LESSEE IS NOT ABLE TO WORK THE GROUND SPECIFIED FOR ANY OF THE ABOVE CAUSES SHALL BE ADDED TO THE LIFE OF THIS LEASE.

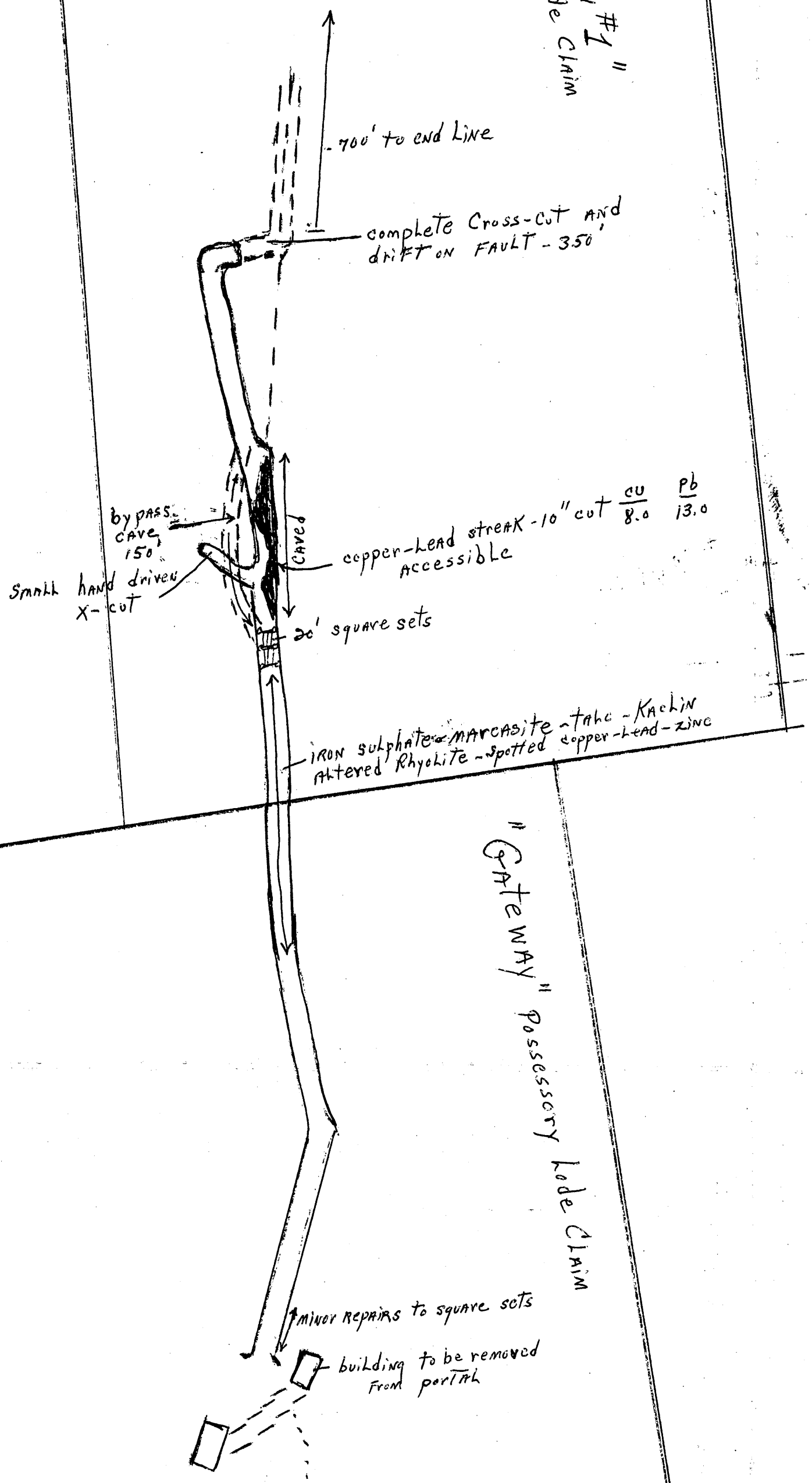
THIS AGREEMENT SHALL BE BINDING UPON AND INURE TO THE BENEFIT OF THE ASSIGNS, LEGAL REPRESENTATIVES AND HEIRS OF THE RESPECTIVE PARTIES HERETO.

IN WITNESS WHEREOF THE PARTIES OF THIS AGREEMENT HAVE EXECUTED THESE PRESENTS IN TRIPLICATE THE DAY AND YEAR FIRST ABOVE WRITTEN.

John Van Buskirk (SEAL)
JOHN VAN BUSKIRK

John R. Jackson (SEAL)
JOHN R. JACKSON

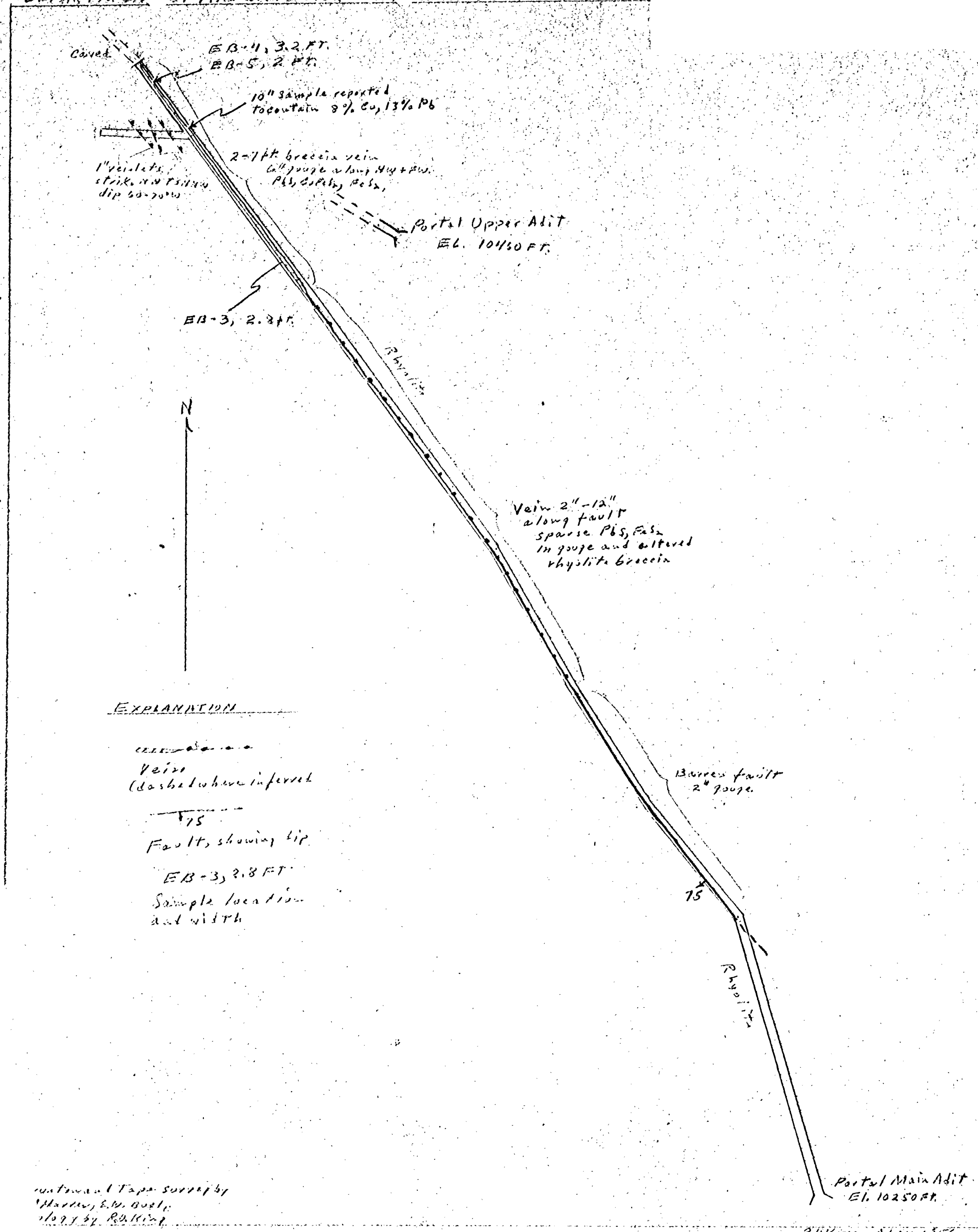
"Gateway #1"
Possessory Lode Claim



"Gateway" Possessory Lode Claim

UNITED STATES
DEPARTMENT OF THE INTERIOR

OMEA 4196



Instrument Tape survey by
Harlow, E.N. Bush,
Map by R.D. King

R.D. King May 1956

FIGURE 4.- GEOLOGIC MAP OF GATEWAY MINE, MINERAL COUNTY, COLORADO