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

REGIONAL DIRECTOR'S
OFFICE
REGION IV
MAR 19 1951
BUREAU OF MINES
DENVER, COLORADO

February 28, 1951

Memorandum

To: Executive Secretary, DMA
Through Operating Committee

From: Lead-Zinc Branch, DMA Ref: Docket Zn-53

Applicant: Commodity: Lead, zinc
Mr. Karit A. Surrena
1021 South Ninth Street
Canon City, Colorado

Location:
Rose Flower (Half moon) mine
Chaffee County, Colorado

Recommendations:
The field team has recommended that NO loan should be granted. The property could not contribute significantly to the expansion program for lead-zinc. A study of the mine made by the Geological Survey in 1950 found that the veins are narrow (six inches or less) and short (200 feet or less) and lie within an unfavorable rock formation. Total production has amounted to 90 tons of sorted ore containing 2 ounces of gold, 328 ounces of silver, 20,000 pounds of lead, and 24,000 pounds of zinc. Any exploration of this property would be of a highly speculative nature.

Proposal:
The applicant has not made any definite proposal as to the amount of money desired, but wants a Government loan to open the workings and extend the lower adit an estimated 152 feet to intersect the possible downward extension of an ore shoot.

OTTO HERRES

ABGriggs:jr
G: 2/28/51

[illegible], Chief
Lead-Zinc Branch
Defense Minerals Administration

Copies to: Chief, Lead-Zinc Br.
USGS - McKnight

Approved: ~~J. H. Hedges~~ L. B. Moon
DMA Operating Committee

Strobel
Rittendorf
2 copies to Executive Officer, Regional Field Team, Region IV
Files

Copy to Transcription 3/20

no longer necessary

Chairman

J. H. Hedges

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

REGIONAL DIRECTOR'S OFFICE
REGION IV
MAR 19 1951
BUREAU OF MINES
DENVER, COLORADO

March 3, 1951

Set Docket 1[illegible]-53

Mr. Merlit K. Burrous
1021 South Ninth Street
Canon City, Colorado
Dear Mr. Burrous:

Your application for Government loan status to open up the workings and explore your Lost Flower mine, Chaffee County, Colorado, has been reviewed by the Lead-Zinc Branch of the Defense Minerals Administration.

A study of the mine area in 1950 by geologists responsible for field examinations for the Defense Minerals Administration indicates that the veins are narrow and short, and are entombed within rock formations unfavorable for any significant production of zinc or lead. For these reasons the Lead-Zinc Branch believes that any exploration of your property would be of a highly speculative nature from the standpoint of zinc and lead discoveries and does not justify the expenditure of public funds.

We wish to thank you for bringing this property to our attention.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

:BGriggs:emp
3/6/51
Copies to: Chief, Lead-Zinc Br.
Mr. S - McKnight
L. J. Moon
R. T. Mote
2 copies to Exec. Officer
Regional Field Team, Region IV
Strobel
Wittendorf
Files

A BRIEF GEOLOGIC REPORT ON THE MOSS FLOWER AND SILVER KING MINES, GARFIELD QUADRANGLE, CHAFFEE COUNTY, COLORADO

By

M. G. Dinge

The Moss Flower (formerly known as the Half Moon) and the Silver King mines are in the Garfield quadrangle of central Colorado (fig. 1). Specifically, the mines are 1½ miles northwest of Garfield at an altitude of about 11,300 feet, and are reached by a trail 1½ miles long that leaves the secondary road in Middle Park at a point about 3/4 of a mile from Garfield. The surrounding area is mountainous and rugged. The climate is severe with long winters, and snow blocks the trail and road for about 8 months in a year. Under normal weather conditions the mines cannot be reached without great difficulty until about the first of July.

Geologically the mines are located near the western side of a belt of steeply dipping sedimentary rocks of Paleozoic age that are cut and bordered by the Princeton quartz monzonite stock of Tertiary age (see fig. 2).

The Moss Flower (Half Moon) and Silver King workings are in the Minturn formation (Pennsylvanian and Permian(?) age) which locally consists chiefly of quartzite and argillite beds that strike northeast and dip steeply (70-90°) northwest or southeast. The Minturn formation is cut off by the Princeton quartz monzonite about 300 feet west of the Moss Flower mine, and about 200 feet east of the mine a small intrusive body of the monzonite cuts the sedimentary beds (see fig. 2).

Locally, narrow (6 inches or less) and short (200 feet or less) quartz veins are very poorly indicated by float trains. These seem to strike northeast about parallel to the strike of the enclosing quartzite and argillite. Vein dips are not known, but they are probably steep and parallel the dip of the

sedimentary rocks. The vein matter is white quartz usually accompanied by pyrite. On the mine dumps of the Moss Flower and the Silver King mines a little galena, sphalerite, and, less commonly, chalcopyrite are associated with vein quartz containing much pyrite. Nothing is known definitely about the body of marcasite that Burrous reports was opened in the Silver King mine, but it probably is a highly pyritic shoot of a quartz vein, as material on the dump indicates pyrite rather than marcasite.

No information, other than that given by Mr. Burrous in his application, DMA 53, was obtained concerning the extent of the mine workings as all were caved when visited in 1950. No specific mention is made of either the Half Moon or Silver King mines by Crawford[1] who mapped and studied the area in 1910.

1/Crawford, R. D., Geology and ore deposits of the Monarch and Tomichi districts, Colorado: Colo. Geol. Survey, Bull. 4, 1913.

Crawford's work is the only published reference to the geology of this part of the Garfield quadrangle.

During the past fifty years (1901-1950) the only production on record[2] from the Moss Flower is 90 tons of crude ore produced in 1917 which yielded 2 ounces of gold, 326 ounces of silver, 20,000 pounds of lead, and 34,000 pounds of zinc.

2/Martin, A. J., Statistics Branch, Metal Economics Division, U. S. Bureau of Mines, Denver, Colorado.

The only mine in the vicinity of the Moss Flower that has been a substantial past producer of ore is the Columbus mine which is about 1,000 feet north of the Moss Flower. The workings are very old and were even inaccessible to Crawford in 1910. The ore, with values reported to be chiefly in silver and

Index map of Colorado showing the location of the Moss Flower property. Figure 1

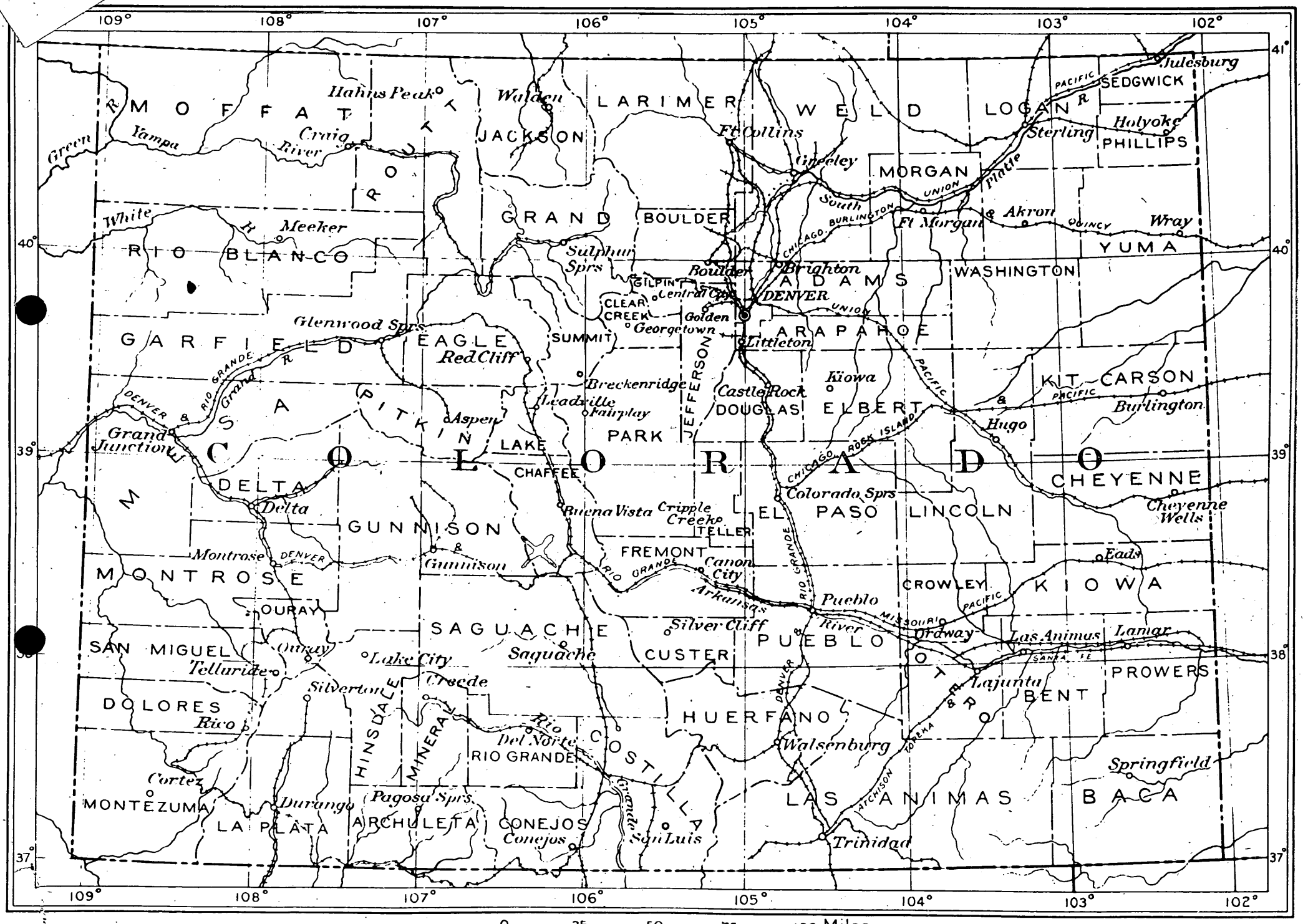
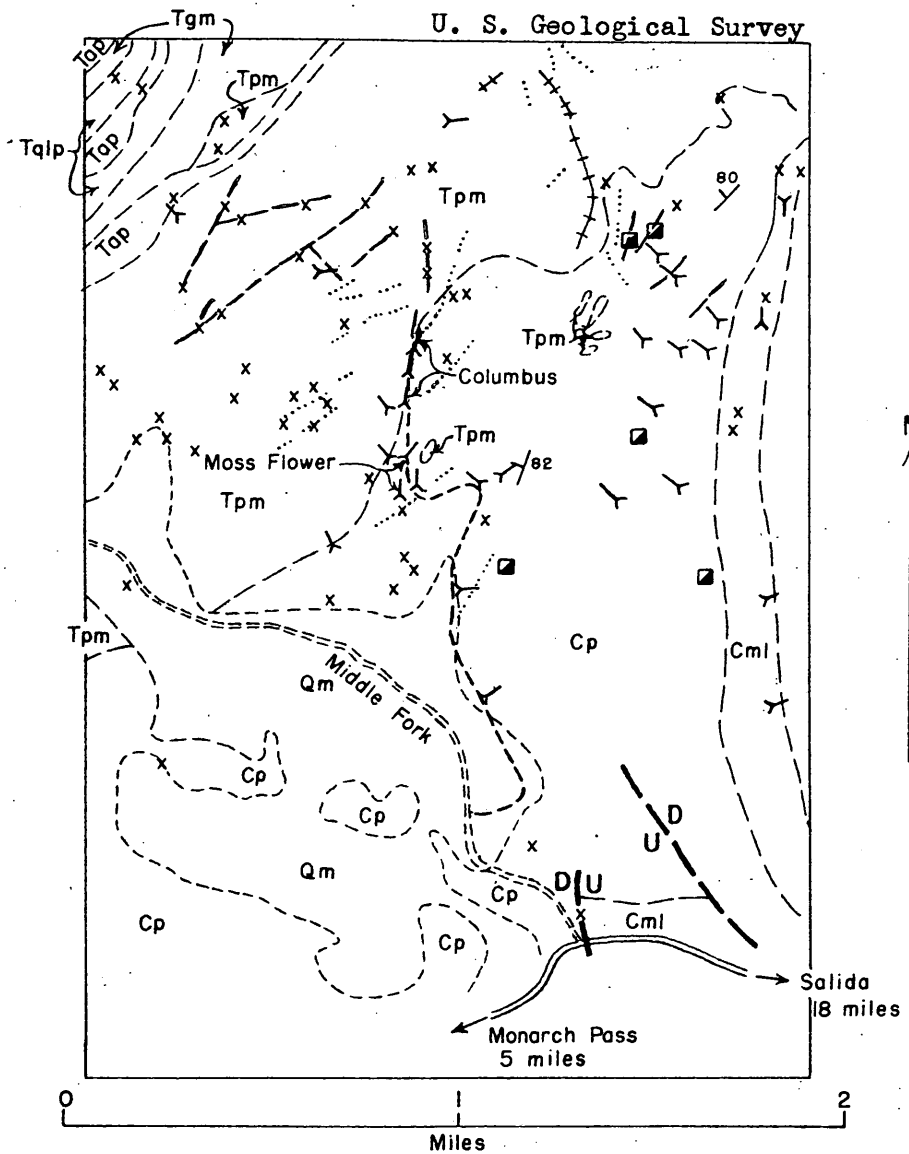
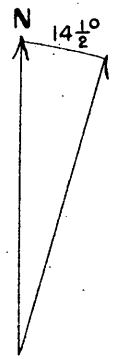


FIGURE 2





Explanation

Qm	Glacial moraine	Pleistocene
++ ++	Rhyolite dike	Tertiary
.....	Monzonitic and latitic dikes	"
Tap	Aetna quartz monzonite porphyry	"
Tqlp	Quartz latite porphyry	"
Ta	Andesite	"
Tpm	Princeton quartz monzonite	"
Tgm	Gneissic quartz monzonite	"
Cp	Belden shale and Minturn formation undifferentiated	Pennsylvanian and Permian(?)
Cml	Leadville limestone	Mississippian

Contact, showing dip (dashed where approximately located)

Indefinite contact

Fault, approximately located

30 Strike and dip of beds

Vein (dashed where approximately located)

Vertical shaft

Portal of adit or tunnel

x Small prospect pit or open cut

GEOLOGIC MAP OF THE MOSS FLOWER AREA

By M. G. Dings

A BRIEF GEOLOGIC REPORT ON THE MOSS FLOWER AND SILVER KING MINES, GARFIELD QUADRANGLE, CHAFFEE COUNTY, COLORADO

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The only mine in the vicinity of the Moss Flower that has been a substantial past producer of ore is the Columbus mine which is about 1,000 feet north of the Moss Flower. The workings are very old and were even inaccessible to Crawford in 1910. The ore, with values reported to be chiefly in silver and

copper, was contained in a vein located along the contact of the Princeton quartz monzonite and metamorphosed sedimentary rocks of the Minturn formation.

Summary and recommendations

The mine workings are inaccessible and have been for many years, and according to records very little ore has been produced. The area has been mapped and studied by the Geological Survey during 1949 and 1960 and the general geologic conditions, particularly in the Minturn formation, are not considered favorable for deposition of extensive ore bodies and provide no basis for believing a detailed geologic study of the mine and its surroundings would alter this conclusion. Past production and field conditions indicate that this is a highly speculative exploratory proposition.

Index map of Colorado showing the location of the Moss Flower property. Figure 1

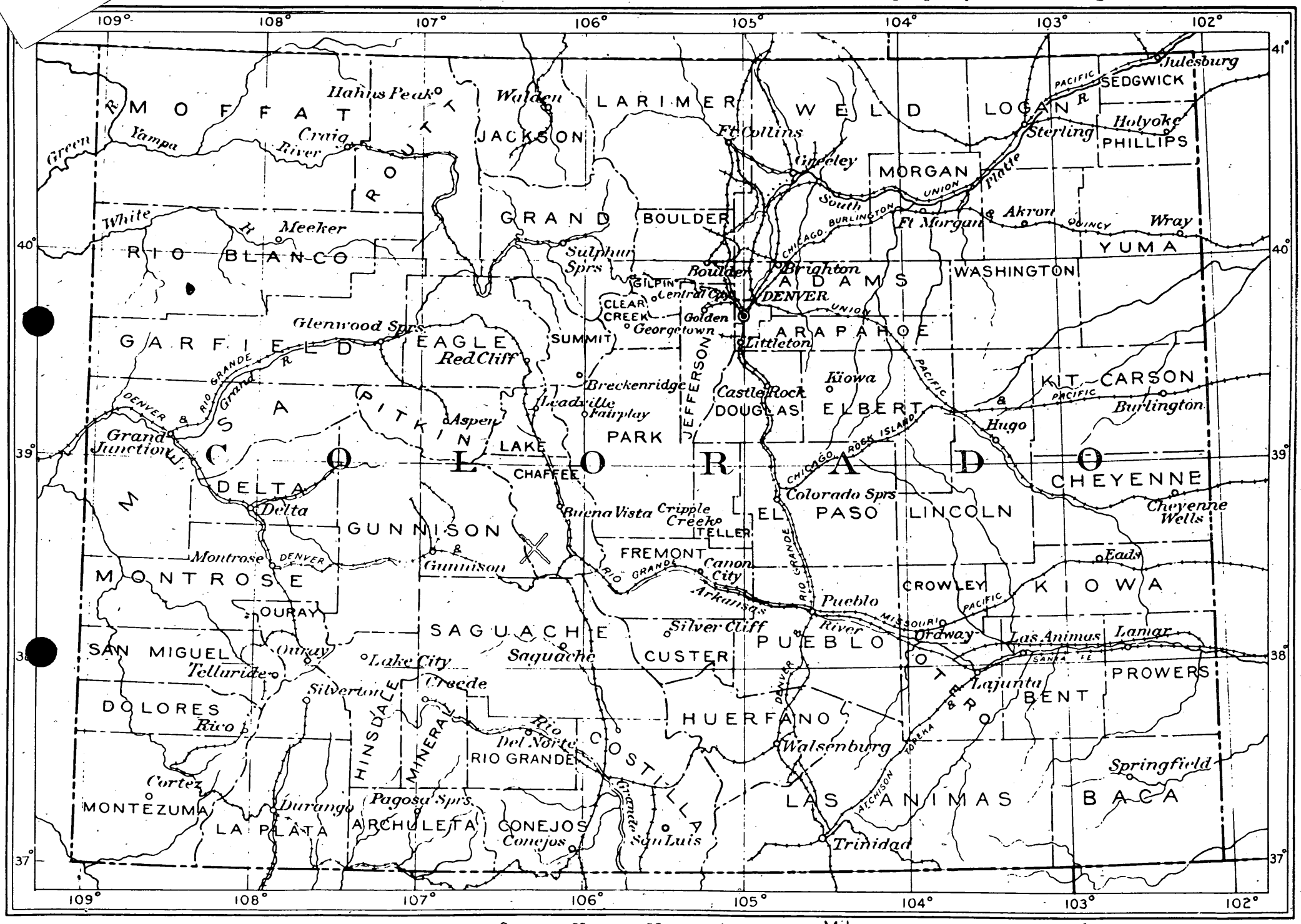
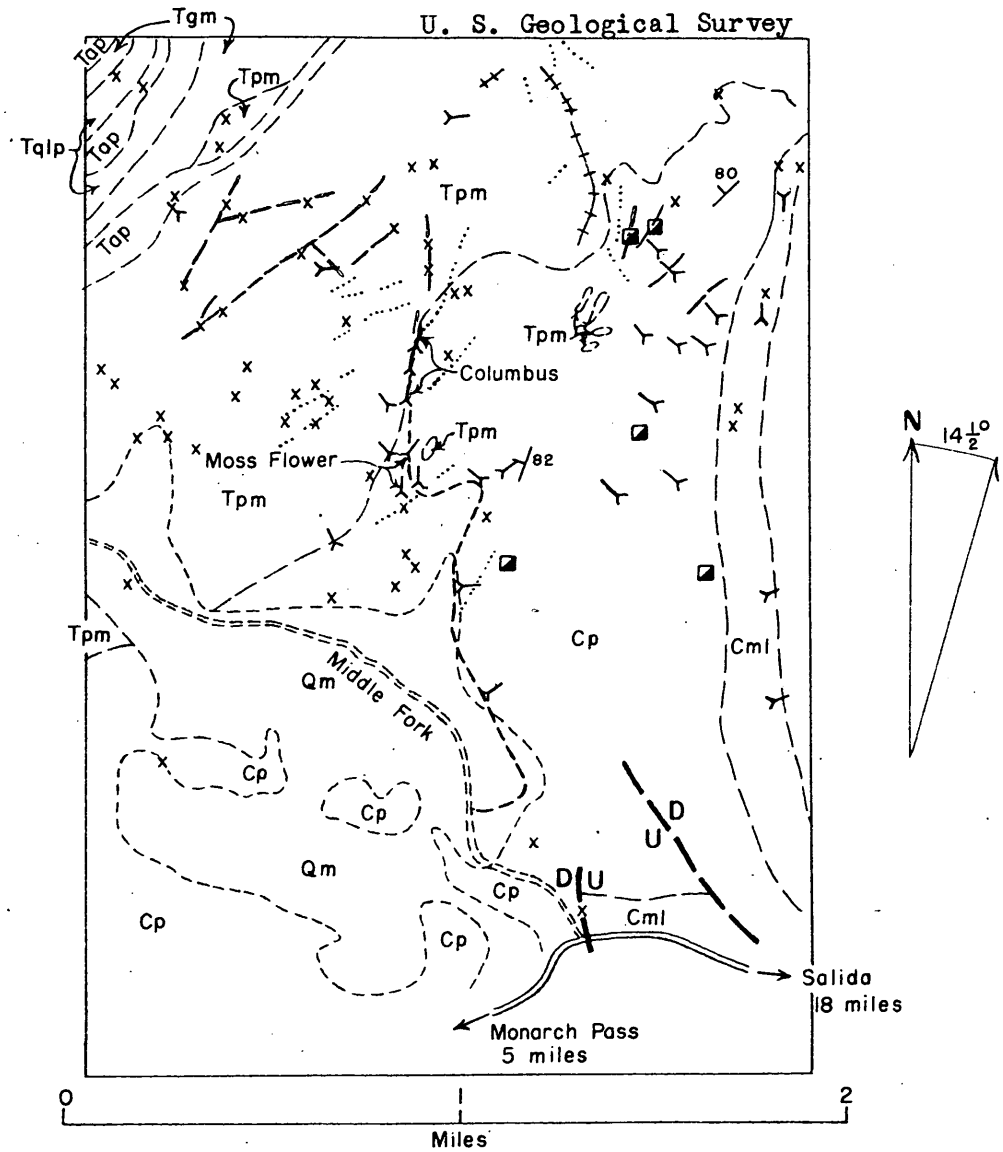


FIGURE 2



GEOLOGIC MAP OF THE MOSS FLOWER AREA

By M. G. Dings

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30 Strike and dip of beds

Vein (dashed where approximately located)

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Portal of adit or tunnel

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OFFICE OF
REGIONAL DIRECTOR

REGION IV

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

February 6, 1951

Memorandum

To: Operating Committee, Defense Minerals Administration, Washington

From: Field Team, DMA, Region IV

Subject: DMA Docket 53, Moss Flower Property

We are attaching an original and two copies of the Field Team report on the Moss Flower Property, near Canon City, Colorado, Docket DMA 53.

The geologists who made the examination, M. G. Dings, states, "Past production and field conditions indicate that this is a highly speculative exploratory proposition."

TheFieldTeam recommends that the application for Government aid for Docket DMA 53 be denied.

J. H. East, Jr.

A. H. Koschmann

Attachments

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

224 New Customhouse
Denver 2, Colorado

January 4, 1951

Memorandum

To: A. H. Koschmann, Supervising Geologist, Denver, Colo.

From: Field Team, Region IV

Subject: Docket DMA 53 - Moss Flower Property

We are in receipt of instructions from the Operating Committee to make a geological examination of the Moss Flower Property owned by Merit K. Burrous, Canon City, Colorado, Docket DMA 53. Please have the geological study made of this property as soon as possible, and a formal report should be made to the Field Team.

J. H. East, Jr.
J. H. East, Jr.

A. H. Koschmann
A. H. Koschmann

CC: JH East, Jr.
AH Koschmann (2)
PT Allsman

JHE:lm

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
ROCKY MOUNTAIN REGION
REGION IV

OFFICE OF
REGIONAL DIRECTOR

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

December 27, 1950

Memorandum

To: J. H. Hedges, Chief, Minerals Division, Washington, D. C.

From: Regional Director, Region IV

Subject: Docket DMA-53 - Moss Flower Property; DMA-1A - Chief Consolidated

We have received the report from Otto Harris, Chairman, Nonferrous Lead-Zinc Commodity Committee, on Docket DMA-53 - Moss Flower Property, Canon City, Colorado; and Docket DMA-1A - Chief Consolidated Mining Company Production Expansion proposal.

We have not received the copy of the applicant's proposal and report on these properties. It is my understanding that when the Defense Minerals Administration operating committee approved the investigation of a mining loan application, the report would be sent to the field team. We do not have any information regarding the proposal, and we believe we should be furnished with the applicant's report that accompanies his application so that our men will not be entirely ignorant of what the applicant proposes to do.

Please advise, and if it is the policy to forward the data, will you please arrange to have this done.

J. H. East, Jr.

J. H. East, Jr.

JHE:lm

File: DMA

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

REGIONAL DIRECTOR
OFFICE
REGION IV
DEC 26 1950

Memorandum

To: Executive Officer of Field Team, Region IV

From: Nonferrous Lead-Zinc Commodity Committee, DMA

Subject: Docket DMA 53
Moss Flower Property
Merit K. Burrous, Canon City, Colorado

The Moss Flower Property application, as presented by Merit K. Burrous, has been reviewed by the Nonferrous Lead-Zinc Commodity Committee.

The application does not report that the property has ore reserves. The plans put forward for this property are not clear but it is assumed that any money made available by the Government would be used to rehabilitate the old tunnels and extend them into probable ore zones.

No specific amount of money is requested. The data furnished to the committee is not complete enough for decisive action.

The committee, therefore, recommends:

(1) That the project be considered for DMA's grant-for-exploration program.

(2) That the information furnished by Mr. Burrous be referred to the field committee for review and possible field examination.

The suitability of the project in the exploration program will depend first of all on a geological examination.

Otto Herres

OTTO HERRES, Chairman
Nonferrous Lead-Zinc Commodity Committee, DMA

APPROVED:
DMA Operating Committee

S. H. Williston, Chairman

J. N. Hedges
J. H. Hedges

Olaf N. Rove
Olaf N. Rove

Copy to: Chairman, Commodity Committee
Geological Survey - McKnight
Merrill
Regional Director, Region IV
Williston
Files, DMA

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

November 20, 1950

Mr. H. K. Burrous
1021 S. Ninth
Canon City, Colorado

Dear Mr. Burrous:

Your report on the Moss Flower property located in Chaffee County, Colorado, is hereby acknowledged, and will be given careful consideration.

Sincerely yours,

J. H. East, Jr.
Regional Director

/lm

cc: PT Allsman
WM Traver

Mining Division
Region IV

November 21, 1950

Mr. Merit K. Burrous
1021 South Ninth Street
Canon City, Colorado

Dear Mr. Burrous:

This will acknowledge receipt of the information and samples sent to Mr. J. H. East, Jr., on your tungsten deposits in Chaffee County, Colorado.

This information and samples are being turned over to Mr. W. M. Traver, Jr., Chief, Colorado Branch, Mining Division, Region IV, Bureau of Mines, Denver Federal Center, Denver, Colorado, with a request that he place the property on his list for an examination when he has an engineer available. The engineer probably will contact you when he is ready to make an examination. Because of the large backlog of examinations, it may be some time before we get to it.

It is very doubtful that rock containing 6 to 7 percent ZrO_2 would prove commercial. Most of the zirconium is produced from beach sands and because of the large reserves, the competition is keen and prices are under $50 a ton for concentrates containing up to 65 percent ZrO_2 delivered in the East. Considering the high cost of mining and concentrating a 6 to 7 percent ore is not likely to be profitable.

Very truly yours,

Paul T. Allsman
Chief, Mining Division

Copy to: W. M. Traver, Jr.

Sub. File
Chron. File

FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

November 20, 1950

Mr. M. K. Burrous
1021 S. Ninth
Canon City, Colorado

Dear Mr. Burrous:

Your report on the Moss Flower property located in Chaffee County, Colorado, is hereby acknowledged, and will be given careful consideration.

Sincerely yours,

J. H. East, Jr.
Regional Director

/lm

cc: PT Allsman
WM Traver

REGIONAL DIRECTOR'S
OFFICE
REGION IV
NOV 14 1950
BUREAU OF MINES
DENVER, COLORADO

Canon City, Colorado,
November, 13, 1950.

Mr. J.H. East, Jr.,
Bureau of Mines,
Denver, 2, Colorado.

My Dear Sir:

Enclosed please find what data I have of interest to you relevant to the tungsten in the Monarch district, Chaffee County. It will be followed by the data on the lead-zinc in a day or two.

Under separate cover I am mailing you samples of the Hubnerite tungsten. You will readily see that some of the pieces show that they are taken from the surface. These tungsten showings have little or no scheelite with them, as you will see under the ultra-violet lamp. I had such a lamp since 1943, and it is very useful in this work.

As stated on the enclosed sheet, there may be nothing of value there, and again, due to the hard wall rock it may be possible to mine and mill there several of these veins and obtain much worthwhile tungsten. I do contract spray painting this season, and I will soon be through for the season. Then I will have much more time to give to my my mining work.

If you would care to advise me about when an engineer would come there, and should you care to have me see him, I would glady see that he saw all the known occurences of tungsten, and he could form his own conclusion without telling me his opinion.

I note in the November E&MJ the expansion of Zirconium production in Oregon. I would like to know if rock containing 6to 7 pounds of ZrO_2 would be worth crushing to recover same?

Thanking you, I am,

Very truly yours,

Merit K. Burrous

Merit K. Burrous,
1021 S. Ninth St.,

STATEMENT OF FACTS FORM SUBMITTED TO WM TRAVER

No.1-

This claim is best reached by taking the Middle Fork Trail from Garfield a distance of about one and one-half miles westerly from town is the second road to the right then another one and one-half miles takes you to the park. This park is accessible to a jeep, but the road is very rough after leaving the Middle Fork trail. When you have driven your jeep to the end of the road you will note a steep grassy slope to your left as you face the back end of of the park. This slope lies below a long dump higher on Mt. Etna. When you look up the slope from the end of the trail you will see a slight rib or ridge of rock running along horizontally about 400 feet up the slope to the right of a grey cliff directly before you. It is at this point the vein is located, with its strike running along the base of the mountain.

No. 2-

I note that Mr. W. M. Traver used the word "apparently" in his letter of Nov. 1, to me. I realize you people make countless trips to see deposits that don't even exist as represented. Consequently, I am shipping you a small box of samples for your examination, including specimens from two of the three other veins that I know of nearby. One of these places has a shaft abot 80 feet deep on a stringer two inches wide that probably would run 6-8% WO_3. It is associated with lead and zinc. The shaft is open in solid rock, but the collar timbers have fallen in. This stringer can be traced more than 100 feet on the surface from the shaft.

A sloping shaft was sunk on another stringer about two inches wide about 300 feet above this point. Galena is conspicuous in this stringer. At still another point is another vein about about 6 inches wide that is exposed by a shallow shaft. I believe this would run 2-3% WO_3. Frankly, I would not say that any of this would be worth working. The only way that I know that it could be evaluated would be for you to have someone look it over.

I have some other business at Garfield, and have a house there, and if Tungsten is needed in our defense effort, I would make it a point, if you wished, to be there and show you all of these occurances and you could form your own conclusions. I know a man is not going in there and find all these showings, as they could be easily passed up. One thing certain is, that if it does not look worthwhile we could forget it.

Mining Division
Region IV

November 6, 1950

Mr. Merit K. Burrous
1021 South 9th Street
Canon City, Colorado

Dear Mr. Burrous:

Mr. William M. Traver, Jr., Chief, Colorado Branch, Mining Division, Region IV, has indicated that you are interested in receiving the latest information regarding mining loans under the Defense Act of 1950.

While the program is still in the process of being developed in Washington and we cannot send you any formal forms to fill out in order to make application for mining loans, I am enclosing a form letter which in our opinion gives the essential data that will be required in order to determine whether or not your property will qualify. Such information as you can gather should be sent to Mr. J. H. East, Jr., Regional Director, Region IV, Bureau of Mines, 224 New Customhouse, Denver 2, Colorado. Further information will be sent you as it is received from Washington.

Very truly yours,

W. H. King
for Paul T. Allsman
Chief, Mining Division

Enclosure 1

Copy to: W. M. Traver, Jr.

Sub. File
Chron. File

FTM/

Mining Division
Date Rec'd.

NOV 2 1950

BUREAU OF MINES
Denver, Colorado

Building 2-A
Denver Federal Center
Denver 14, Colorado

Nov. 1, 1950

Mr. Merit K. Burrous
1021 So. Ninth St.
Canon City, Colo.

Dear Mr. Burroughs:

We have your letters of October 24, 1950 describing two mineral deposits, one apparently of tungsten ore near Garfield, Chaffee County, and a lead-zinc deposit located in the same vicinity.

The Bureau of Mines is interested in extending its knowledge of Colorado mineral resources. The two enclosed Statement of Facts forms explains the investigation program in some detail.

If you will fill out one of the forms covering each of the two deposits individually and return them to this office a preliminary examination will be made when an examining engineer is available and in the vicinity.

Please submit all the data available on both mineral occurrences as requested in the forms.

We are requesting the Regional office of the Bureau of Mines to add your name to the list to receive the questionnaire and subsequent data on the Defense Production Act as it becomes available.

Very truly yours,

Wm. M. Traver, Jr., Chief
Colorado Branch, Mining Division

Encl.

cc: P. T. Allsman
Genl. file
Chron. file

Form 6-98

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

U. S. GOVERNMENT PRINTING OFFICE 16—53493-2