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

July 16, 1954

Memorandum

To: Mr. Ernest W. Ellis, Chief, Rare and Miscellaneous Metals Division, Room 4640, Defense Minerals Exploration Agency

From: John D. Sargent, Commodity-Industry Analyst, Rare and Precious Metals Branch

Subject: Docket No. DMEA 3236, Tantalizer Mining Corporation, Custer County, Colorado

We recommend that the Tantalizer Mining Corporation's request that Document No. 3236 be reopened and that the Tantalizer property be re-examined, be denied.

Re-examination of the subject property in view of the negative geochemical data is not recommended.

John D. Sargent

John D. Sargent

7/19/54 gla

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

July 16, 1954

Memorandum

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Re-examination of the subject property in view of the negative geochemical data is not recommended.

John D. Sargent

Surname 700

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

F. L. Knouse
Ellis
Larrabee
Hedges
Selfridge
Yeffman

Mr. George S. Hurst, Sr.
Tantalizer Mining Corporation
635 Majestic Building
Denver 2, Colorado

JUN 24 1954

Re: Docket No. DMEA-3236
(Columbium-tantalum-copper)
Sangre De Cristo Group
Custer County, Colorado

Dear Mr. Hurst:

This is with further reference to your letter dated June 1, 1954, concerning the denial of exploration aid for the captioned project.

With regard to your request for a re-examination and reconsideration of the proposed exploration program for a copper project, I have had a further review made of your application and other available related data by members of the U. S. Geological Survey, the Bureau of Mines, and my staff. You state that the copper mineralization is not in the main tunnel which the examining engineers checked, but is exposed in numerous places along the surface (about 2500 feet in length) and in a shaft and a tunnel some 750 feet higher up the mountain and as these surface exposures were covered by the deep snow at the time of their examination, it was physically impossible to see the copper exposures. The examining engineers' report was based not only on exposures in the lower tunnel of the property, but also on an examination of the tunnel workings on the Gregory claim much higher up the mountain to which the examining engineers were taken by the guide assigned to them by your company. This adit was mapped and sampled by the examining engineers. The mineral exposure in the vein in the upper tunnel was reported to be the best one accessible on the project.

The description of the mineral exposures, although noting a small amount of ore, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. Therefore, I regret to advise that the conclusion reached as a result of our review of the case does not permit a change in the decision as is set forth in the Field Team's letter of March 25, 1954.

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

Sincerely yours,

G. O. Mittendorf

Administrator

FLKnouse/am
6-22-54
cc to: Admr. Reading File
Operating Committee
Docket
Messrs. Robt. F. Griffith, Rm. 3641A
D.M. Larrabee, Rm. G-232, GSA
Code 700
F. L. Knouse
DMEA Field Team, Region IV (2)

R.C.

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

224 New Customhouse
Denver 2, Colorado

June 23, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 3236, Tantalizer Mining Corporation, Custer County, Colorado

Reference is made to your letter dated June 8, 1954 to which was attached a letter from the Tantalizer Mining Corporation to the Administrator, DMEA, requesting that Docket No. DMEA 3236 be reopened.

On June 15, 1954, we transmitted a memorandum by the examining engineer, in which he stated that the re-examination would not yield any information which might alter the original conclusions.

We are enclosing the original and three copies of a memorandum prepared by the examining geologist whose decision concurs with that of the examining engineer.

We recommend that the applicant's request for a re-examination be denied.

Enclosures

W. H. King

June 21, 1954

Memorandum

To: A. H. Koschmann AHK

From: E. N. Harshman

Subject: DMEA Docket 3236 (columbium-tantalum-copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado

W. H. King, Executive Officer, DMEA Field Team, Region IV, has requested data to forward to the Washington office regarding re-examination of the subject property.

I discussed the situation briefly with M. H. Salsbury, U. S. Bureau of Mines, who accompanied me on the examination of the Tantalizer property. Salsbury's memorandum of June 14, 1954, states the facts as we know them and our conclusions; I am in complete agreement with the statements in that memorandum.

Mr. E. P. Kaiser, Project Chief, Columbium-Tantalum Investigations, U. S. Geological Survey, examined the Tantalizer Mining Corporation's property on September 10, 11, and 12, 1953. Although he was chiefly interested in the columbium-tantalum potential of the area, he investigated the reported occurrence of high grade copper ore on the claims proposed for exploration by the applicant. At the time of Mr. Kaiser's examination, the Peerless Tunnel was not open; that tunnel was thoroughly examined and sampled at the time of the DMEA examination.

Mr. Kaiser examined the dump of the caved shaft in which the applicant reports high grade copper ore, the adit shown on figure 2 in the geologic report (DMEA Docket 3236) and all cuts, outcrops, and exposed soils in the vicinity of the caved shaft and above the Peerless tunnel. He confirms the examining team's appraisal of the narrow bedding-plane

chalcopyrite vein exposed in the adit and their belief that the reported occurrence of copper ore in the now caved shaft is probably similar to the occurrence in the adit.

Soil samples were taken by Mr. Kaiser at 25-foot intervals across the two 200-foot traverses, one 300 feet up slope and one 1,000 feet up slope from the shaft. This zone contained some barite in the overburden but assay of the samples showed only a trace of copper. The zone sampled by Mr. Kaiser is probably the 2,500 foot zone referred to in the applicant's undated letter requesting a re-examination of the property. It may represent the outcrop of the shear zone lying southwest of the Peerless tunnel east crosscut, described in the examining team's report.

It is concluded that the best exposures of copper ore were investigated and sampled by the examining team and that a re-examination of the property would not change the previous recommendation that exploration assistance be denied.

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

224 New Customhouse
Denver 2, Colorado

June 23, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 3236, Tantalizer Mining Corporation, Custer County, Colorado

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We recommend that the applicant's request for a re-examination be denied.

Enclosures

W. H. King

June 21, 1954

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To: A. H. Koschmann GHK

From: E. N. Harshman

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

224 New Customhouse
Denver 2, Colorado

June 15, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3236 (Columbium-Tantalum-Copper) Tantalizer Mining Corporation, Sangre De Cristo group, Custer County, Colorado

In compliance with your letter dated June 8, 1954 concerning the subject application, a memorandum has been prepared by the examining engineer who made the original inspection of the property.

The original and three copies of this memorandum and transmittal memorandum from W. M. Traver are enclosed.

W. H. King

W. H. King

Enclosure

Reviewed by
DMEA OPERATING COMMITTEE

(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Date Rec'd
JUN 14 1954
BUREAU OF MINES
Denver, Colorado

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 14, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3236 (Columbium-tantalum-copper) Tantalizer Mining Corporation (Sangre De Cristo group), Custer County, Colorado

Enclosed are the original and seven copies of a memorandum by the examining engineer who made the original field investigation of the subject docket, prepared in compliance with your memorandum of June 11, 1954, and the Chairman of the Operating Committee's memorandum of June 8, 1954.

Under the circumstances, there appears to be no point in reopening the docket or re-examining the property.

W. M. Traver

W. M. Traver

enclosure

WMT/kp

cc 7
ENHarshman
DMEA 3236
Chron

Reviewed by
DMEA OPERATING COMMITTEE

(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 14, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: M. H. Salsbury

Subject: DMEA 3236 (Columbium-tantalum-copper), Tantalizer Mining Corporation (Sangre De Cristo group), Custer County, Colorado--Request by applicant for re-examination

In replying to W. H. King's memorandum dated June 11, requesting comments reopening the subject docket and re-examining the property--

The conclusions reached in the engineering report by the writer were based not only on exposures in the lower tunnel on the property, but also on an examination of tunnel workings on the Gregory claim much higher up on the mountain to which the examining team was taken by the guide assigned by the applicants. Shallow pits and open cuts were, of course, filled with snow and could not be examined.

The examining team gave full weight to the ore exposure in the upper tunnel, mapped as figure 2 with the geologic report. While there was a vein of heavy chalcopyrite 1 to 6 inches wide which assayed 10.1 percent copper, it was discontinuous and could not be correlated with any showings in the lower tunnel. This vein exposure was supposed to be the best exposure which was accessible. It could not be classed as a commercial deposit nor did the formations here or in the lower tunnel indicate the probability of locating a commercial copper deposit by further exploration. There were no large or well-defined veins seen in the local sandstone formations nor any evidence that such a vein exists on the property. Several open fault fissures seen in the main tunnel were unmineralized.

The one reported commercial deposit, in a shaft which is inaccessible, could not, of course, be examined either then or now. Hearsay evidence on this occurrence relates that the operators were flooded out by an inflow of water at the time the ore was cut. There is no authentic information on probable grade or size of the ore and, therefore, no basis for a belief that the occurrence is any different than that seen in the upper tunnel, which is within about 200 feet of the shaft.

Reviewed by
DMEA OPERATING COMMITTEE

(date)

Copper mineralization is confined to narrow streaks and there is no reason to suppose that a large low-grade deposit, with copper disseminated through the body of the rock, might occur.

The examining engineer does not believe that a re-examination would yield any information which might alter the conclusions reached originally. E. N. Harshman, the Geological Survey member of the examining team, has been consulted and concurs in this conclusion.

M. H. Salsbury
M. H. Salsbury
Mining Engineer

MHS/kp

cc 7
ENHarshman
DMEA 3236
Chron

6/18/54 gla

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

224 New Customhouse
Denver 2, Colorado

June 15, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 3236 (Columbium-Tantalum-Copper) Tantalizer Mining Corporation, Sangre De Cristo group, Custer County, Colorado

In compliance with your letter dated June 8, 1954 concerning the subject application, a memorandum has been prepared by the examining engineer who made the original inspection of the property.

The original and three copies of this memorandum and transmittal memorandum from W. M. Traver are enclosed.

W H King
W. H. King

Enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 14, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3236 (Columbium-tantalum-copper) Tantalizer Mining Corporation (Sangre De Cristo group), Custer County, Colorado

Enclosed are the original and seven copies of a memorandum by the examining engineer who made the original field investigation of the subject docket, prepared in compliance with your memorandum of June 11, 1954, and the Chairman of the Operating Committee's memorandum of June 8, 1954.

Under the circumstances, there appears to be no point in reopening the docket or re-examining the property.

W. M. Traver

W. M. Traver

enclosure

WMT/kp

cc 7
EMHarshman
DMEA 3236
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 14, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

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Copper mineralization is confined to narrow streaks and there is no reason to suppose that a large low-grade deposit, with copper disseminated through the body of the rock, might occur.

The examining engineer does not believe that a re-examination would yield any information which might alter the conclusions reached originally. E. N. Marshman, the Geological Survey member of the examining team, has been consulted and concurs in this conclusion.

M. H. Salsbury
M. H. Salsbury
Mining Engineer

MHS/kp

cc /7
EMMarshman
DMEA 3236
Charon

700

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

FLKnouse

JUN 1 4 1954

Mr. George S. Hurst, Sr.
Tantalizer Mining Corporation
635 Majestic Building
Denver 2, Colorado

Re: Docket No. DMEA-3236
(Columbium-Tantalum-Copper)
Sangre De Cristo Group
Custer County, Colorado

Dear Mr. Hurst:

This acknowledges receipt of your letter dated June 1, 1954, which concerns the denial of exploration aid for the captioned project by the Field Team, Region IV, on March 25, 1954.

I have noted your request for re-examination and re-consideration of the property for a copper project only. Additional information has been requested by this office from Mr. W. H. King, Executive Officer, Region IV, 224 New Customhouse Building, Denver 2, Colorado. Upon receipt of Mr. King's reply and when a further review of the docket has been made, you will be advised of the decision as soon as possible.

Sincerely yours,

Frank E. Johnson (fw)

ACTING Administrator

FLKnouse/am
6-11-54
cc to: Admr. Reading File
Docket
Messrs. Robt. F. Griffith, Rm. 3641A
D. M. Larrabee, Rm. G-232, GSA
Code 700
F. L. Knouse
DMEA Field Team, Region IV (2)

R.C.G.

Surname
Docket copy

700

F L Knouse
Selfridge
Bergman
Wattendorf

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

JUN - 8 1954

Mr. W. H. King
Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-3236
(Columbium-Tantalum-Copper)
Tantalizer Mining Corporation
Sangre De Cristo Group
Custer County, Colorado

Dear Mr. King:

Enclosed are copies of a letter from the subject Operator which concerns the denial of his application for exploration aid and a request for a re-examination of subject project.

We agree with your decision to deny exploration aid for the program proposed by the Applicant. However, please review this letter and furnish your comments at your earliest convenience so that we are provided with the information to answer the letter.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GHB)

Enclosures 2

APPROVED:

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

D. M. Larrabee
Member, Geological Survey (GHB)

FLKnouse/gla
6-7-54
cc to: Adm. Reading File
Operating Committee
Docket
Messrs. Robt. F. Griffith, Rm. 3641A
D.M.Larrabee, Rm.G-232, GSA
Code 700
F.L.Knouse

R.C.G.

TANTALIZER MINING CORPORATION

635 MAJESTIC BUILDING
DENVER 2, COLORADO

Colorado Land Office
RECEIVED
JUN - 3 1954

June 1, 1954

GEO. S. HURST, SR., Pres.
ELLABELL S. HURST, Secty.-Treas.

FIELD OFFICE
WESTCLIFFE, COLORADO

Mr. C. O. Mittendorf
Administrator D. F. E. A.
Department of Interior
Interior Building,
Washington 25, D. C.

Re- Docket No- DMEA 3236

Dear Sir:

We have been advised that our application for aide has been denied . We underatand that the field crew examined our property on or about February 11, 1954 and at that time there was so much snow that it was physically impossible for them to see the large amount of copper which is exposed at numerous places along the surface for a distance of about 2500 feet. This copper is not in the main tunnel which they checked but is some 750 feet higher up the mountain and is exposed by shafts and tunnels. The copper in these places will assay from 13% to 30% copper and carried some gold and silver value.

We would like to have this docket reopened and another crew sent down to examine the property and aid given for following these copper to search for the main ore body. We are confident that your men could not make a thorough search of this property because of the snow and we sincerely trust you will reconsider this application for copper only.

Since the summer season is so short in the mountains, and we are very anxious to get work started as soon as possible, we will appreciate an early answer.

Sincerely,

TANTALIZER MINING CORP.

By: Geo S Hurst 62

Pres.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1954

April 6, 1954

Memorandum

To: Ernest W. Ellis, Chief, Rare and Miscellaneous Metals Division, DMEA

From: R. F. Griffith, Commodity-Industry Analyst, Rare and Precious Metals Branch

Subject: Report of Examination - DMEA Docket 3236 (Columbium-Tantalum-Copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado

This office concurs with the field team recommendation that an application for the subject report be denied.

The field team report has been forwarded to the Chief, Minerals Division, Bureau of Mines, in accordance with the routing slip attached thereto.

R. F. Griffith

R. F. Griffith

IN REPLY REFER TO:

G-MD-CNM

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

Defense Minerals
RECEIVED
APR 7 1954

April 6, 1954

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA-3236 (Columbium-Tantalum-Copper)

To: L. G. Houk, Defense Minerals Exploration Administration
From: D. A. Brobst, U. S. Geological Survey
Applicant: Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado.
Name of property: Peerless Mine.
Location of property: 7 miles west of Hillside, Custer County, Colo.
Date of field team report: March 11, 1954.
Authorship of field team report: E. N. Harshman, U.S.G.S. M. H. Salsbury U.S.B.M.

Field team's recommendation: Denial.
Comments: The field team considers the property a poor possibility for copper, columbium and tantalum. Reputable laboratories found no columbium-tantalum in the samples. The copper value in the principal vein was high (10%) but the average width is only 2 inches.
ACTION RECOMMENDED: Follow field team's recommendation.

D A Brobst
D. A. Brobst

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 7 1954

April 6, 1954

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From: R. F. Griffith, Commodity-Industry Analyst, Rare and Precious Metals Branch

Subject: Report of Examination - DMEA Docket 3236 (Columbium-Tantalum-Copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado

This office concurs with the field team recommendation that an application for the subject report be denied.

The field team report has been forwarded to the Chief, Minerals Division, Bureau of Mines, in accordance with the routing slip attached thereto.

Sig. R. F. Griffith

IN REPLY REFER TO:

G-MD-CNM

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

April 6, 1954

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA-3236 (Columbium-Tantalum-Copper)

To: L. G. Houk, Defense Minerals Exploration Administration
From: D. A. Brobst, U. S. Geological Survey
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ACTION RECOMMENDED: Follow field team's recommendation.

D. A. Brobst

Brobst:jeh
G-4/6/54
cc: DMEA 3
Director's reading 4212
Branch reading 4212
Brobst G-230

IN REPLY REFER TO:

G-MD-CNM

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

April 6, 1954

Memorandum

REVIEW OF FIELD TEAM REPORT ON APPLICATION DMEA-3236 (Columbium-Tantalum-Copper)

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U.S.G.S. U.S.B.M.

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Brobst:jeh
G-4/6/54
cc: DMEA 3
Director's reading 4212
Branch reading 4212
Brobst G-230

IN REPLY REFER TO:

G-AD-CNM

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

April 6, 1954

Memorandum

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U.S.G.S. U.S.B.M.

Field team's recommendation: Denial.
Comments: The field team considers the property a poor possibility for copper, columbium and tantalum. Reputable laboratories found no columbium-tantalum in the samples. The copper value in the principal vein was high (10%) but the average width is only 2 inches.
ACTION RECOMMENDED: Follow field team's recommendation.

D. A. Brobst

Brobst:jeh
G-4/6/54
cc: DMEA 3
Director's reading 4212
Branch reading 4212
Brobst G-230

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

COPY

224 New Customhouse
Denver 2, Colorado

March 25, 1954.

Memorandum

To: Administrator, Defense Minerals Exploration Administration, Attention: 200

From: Field Team, Region IV

Subject: Report of Examination - DMEA Docket 3236 (Columbium-Tantalum-Copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado.

Enclosed are four copies of the report of examination on the subject docket, a copy of the letter of denial to the applicant, and two copies of Form 3b.

/s/ John F. Shaw
For W. H. King

/s/ A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
4-5-54
(date)

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

COPY

224 New Customhouse
Denver 2, Colorado

March 25, 1954.

Tantalizer Mining Corporation
c/o Ben Bozeman
Suite 635, Majestic Building
Denver 2, Colorado

Re: Docket No. DMEA-3236

Gentlemen:

Reference is made to your application for Government aid on the Sangre De Cristo Group.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade, and in quantities that will significantly improve the mineral supply position for the National Defense Program.

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of tantalum, columbium and copper is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

/s/ John F. Shaw
For W. H. King
Field Team, Region IV

/s/ A. H. Koschmann
Field Team, Region IV

HMC:cwm
cc: Docket
Administrator, DMEA
WMTraver
AHKoschmann
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
4-5-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

March 25, 1954.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination - Docket No. DMEA-3236 (Columbium-Tantalum-Copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado.

Enclosed are nine copies of the engineering report on the subject docket.

The applicant requested $25,000.00 to explore the Peerless mine by diamond drilling and drifting.

The engineer examiner found no evidence of columbium or tantalum and no commercial quantities of copper. He recommends that the application be denied.

We concur in this recommendation.

John F. Shaw
For W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
4-5-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
March 19, 1954

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3236 (Tantalum-Copper) Tantalizer Mining Corporation (Sangre De Cristo Group) Custer County, Colorado.

Submitted herewith are the original and ten copies of the "Summary, Conclusions, and Recommendations," by E. N. Harshman, Geological Survey and M. H. Salsbury, Bureau of Mines, and of M. H. Salsbury's engineering report on the above docket.

Salsbury concludes there is little likelihood that the exploration proposed by this applicant would disclose commercial occurrences of either tantalum or copper and recommends denial of the loan request. I concur.

The brochure submitted with your memorandum of January 12, 1954 instructing us to prepare a suitable report and the supplemental data with your memorandum of January 25, 1954 are returned also.

W. M. Traver

W. M. Traver

enclosures

cc 10
DMEA 3236
DMEA Chron.

WMT/ici

Reviewed by
DMEA OPERATING COMMITTEE
4-5-54
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

March 11, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3236, Tantalizer Mining Corporation, Peerless Mine, Custer County, Colorado

Attached are 9 copies of the geological report by E. N. Harshman of the U. S. Geological Survey covering the above docket.

The applicant company proposes to explore in the Peerless mine for tantalum and copper by diamond drilling at unspecified localities and by extending an existing drift. Their estimated cost of the project is between $10,000 and $40,000; the loan application is for $25,000.

Narrow sulfide veins occur in sandstone beds on the northeastern flank of the Sangre de Cristo mountain range. The presence of tantalum was not confirmed by this examination nor was it confirmed by E. P. Kaiser, U. S. Geological Survey, in an earlier examination.

Narrow sulfide veins containing as much as 10 percent copper are exposed in workings on the Gregory claim but they do not appear to be commercial. Because of the lack of tantalum in the deposits and the narrowness of the sulfide veins, Harshman recommends denial of the application.

I concur in this recommendation.

E. N. Harshman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

Reviewed by
DMEA OPERATING COMMITTEE
4-5-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS MCKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3236, Sangre De Cristo Group

Tantalizer Mining Corporation

Custer County, Colorado

Tantalum - Copper

E. N. Harshman, Geologist
Geological Survey

M. H. Salsbury, Mining Engineer
Bureau of Mines

March 11, 1954

Reviewed by
DMEA OPERATING COMMITTEE
4-5-54
(date)

DMEA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By E. N. Harshman
Geologist
Geological Survey

M. H. Salsbury
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
4-5-54
(date)

DMEA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By E. N. Harshman and M. H. Salsbury

The lode claims of the Tantalizer Mining Corporation were examined by a Defense Minerals Exploration Administration examining team on February 11, 1954. An application has been submitted for Government-assisted exploration for tantalum and copper under docket DMEA 3236, at a cost of $25,000.00, Government participation 62-1/2 percent, or $15,625.00.

The claims are in the Spruce Creek, or Rito Alto mining district on the eastern slope of the Sangre de Cristo Range, 7 miles west of Hillside, Custer County, Colo. The district has a history dating from the 1890's, with an early discovery of rich copper ore reported in shallow workings. Additional work in the Peerless tunnel, the major development on the property, was done around 1920. An alleged occurrence of tantalum was reported in 1924. There is no record of any production.

The copper deposits of the Spruce Creek mining district are in a thick series of sandstones of Pennsylvanian or Permian age. Pyrite, chalcopyrite, and barite have been deposited along shear zones and bedding plane faults in the sandstone. Considerable replacement of sandstone (probably calcareous) was noted in the veins exposed in the Peerless tunnel. The copper content of

the veins in the Peerless tunnel is very low. The principal vein in the Gregory adit is high grade (10 percent Cu) but the average width is only about 2 inches.

Sampling did not disclose tantalum, columbium, or commercial quantites of copper. Previous investigators appear to have been misled by erroneous analytical results on tantalum and columbium. Although some laboratories reported substantial percentages of these elements in samples from the property, others, including two recognized authorities on columbium and tantalum, reported no content of the metals.

It is concluded that there is no possibility of finding tantalum or columbium on the property, and the chances for developing the minor showing of copper into a commercial deposit are poor.

Denial of the loan application is recommended.

TANTALIZER MINING CORPORATION

PEERLESS MINE

CUSTER COUNTY, COLORADO

DMEA DOCKET 3236

Geologic Report

By E. N. Harshman
U. S. Geological Survey

TANTALIZER MINING CORPORATION
PEERLESS MINE, CUSTER COUNTY, COLORADO

INTRODUCTION

The Tantalizer Mining Corporation, % Ben Bozeman, 635 Majestic Building, Denver 2, Colorado, applied for assistance, DMEA Docket 3236, to explore for tantalum and copper ore in the Peerless mine near Hillside, Colorado. The property is located about 4 miles (airline) southwest of Hillside, Colorado, in section 17, 19, and 20, T. 46 N., R. 12 E., New Mexico Principal Meridian.

The applicant proposes to spend between $10,000 and $40,000 (loan application is for $25,000) to diamond drill 1500 feet at unspecified locations, and to extend the southeast drift to a point beneath an old caved shaft. High grade copper is reported to have been exposed in the bottom of the shaft.

The property was examined on February 11, 1954, in company with M. H. Salsbury, U. S. Bureau of Mines engineer, and Harry Cock representing the applicant.

Copper bearing veins are exposed on several of the claims but apparently the deposits are not of economic importance. The presence of tantalum and niobium was not confirmed by this examination or by an earlier examination by E. P. Kaiser of the Geological Survey. Denial of the application for exploration assistance is therefore recommended.

GEOLOGY

The copper deposits of the Spruce Creek (or Rito Alto) mining district lie on the northeastern slope of Rito Alto peak in the Spruce

Creek drainage. The host rock for the sulfide veins is a thick series of fine to medium-grained arkosic sandstones tentatively classed as Pennsylvanian or Permian in age. The sandstones are thick bedded, red to tan, conglomeratic in certain horizons, and cross bedded. Shaly as well as calcareous beds are present through the exposed section.

The meager published geologic data on the area shows the Sangre de Cristo range as a simple anticlinal fold with a granitic core and with sedimentary rocks on the flanks. This seems to be true on a regional scale but there is every indication that the simple anticlinal structure has been complicated by minor folding and faulting.

Pyrite, chalcopyrite, quartz, barite, and copper carbonates occur along steeply dipping faults and along rather flat dipping bedding planes and bedding plane faults. The ore and gangue minerals appear to have been emplaced by filling of open spaces and by replacement of what were probably calcareous sandstone beds. The ore and gangue minerals were deposited during at least two periods of mineralization. Barite veins and replacement deposits were produced during an early stage of deposition; sulfide minerals and quartz were introduced in a later stage.

The principal working is the Peerless Tunnel, a crosscut approximately 2700 feet long. Sandstone, with minor shale beds, is exposed through the entire length of the adit. In general, the beds dip 10° to 25° west although near the portal they appear to dip gently eastward.

Several weakly mineralized shear zones and two sulfide bearing veins are exposed in the adit. At a point about 825 feet from the portal a 5-foot shear zone crosses the tunnel. The zone is 5 feet wide, strikes N. 33° W. and dips 57° E. The footwall 12 inches is brecciated and contains minor amounts of pyrite, chalcopyrite, and copper carbonate. The hangingwall

four inches contains similar ore minerals and some barite. The central portion of the shear zone is only slightly brecciated and has not been mineralized. A short drift has been driven to the northwest along this zone. Ore grade vein material was not exposed by this work.

At a point about 1,000 feet from the portal a well defined minor fault is exposed. It strikes N. 45° W., dips 65° E. and contains 6 to 10 inches of gouge and breccia. Very minor amounts of sulfide minerals and barite are present along the fault but ore grade material is not exposed in the southeast drift which followed this fault for several hundred feet.

Immediately southwest of the southeast drift is a broad zone of sandstone which contains considerable barite. The zone is exposed for a distance of 180 feet along the Peerless tunnel. It appears to have resulted from replacement of the sandstone (probably calcareous) by barite originating in solutions ascending along bedding planes and minor bedding plane slips.

Between the southeast drift and the face of the Peerless tunnel, 4 zones in which barite has been deposited in fractured sandstone are exposed. The zones are steeply dipping, range in width from 3 to 5 feet, and strike northwesterly. No sulfides were noted in these zones.

An adit on the Gregory claim has exposed several narrow sulfide veins and minor amounts of copper ore are reported to have been shipped from the area. The principal vein follows a bedding plane slip in sandstone, ranges from 1 to 6 inches in width, and contains pyrite, chalcopyrite, barite and quartz. The exposed portion of the vein, its altitude, and its relation to the enclosing sandstone is shown on figure 2. The bedding plane vein terminates against a minor fault exposed in the northwestern part of the adit. Above the bedding plane vein the fault contains ore

similar to that in the vein, below it the fault is barren. Minor veinlets of sulfides are present along bedding-plane slips above and below the principal vein; they were not mapped or sampled.

SAMPLES AND CHARACTER OF ORE

Samples taken by engineer Salsburg and analyzed by the U. S. Bureau of Mines laboratory, Salt Lake City, Utah, follow:

Sample No.	Description	% Ta	% Nb	% cu	Ag	Au
MHS 33	2' cut across veinlets 1120' W. of southeast drift	none	none	0.05	0.2	tr.
MHS 34	1.5' cut 75' W. of sample MHS 33	none	none	0.05	0.1	tr.
MHS 35	Chip sample of first 50' of 180' barite zone W. of southeast drift	none	none	0.05	0.1	tr.
MHS 36	Chip sample of next 50' as above	none	none	0.05	0.1	tr.
MHS 37	6" across footwall streak & 2" hangingwall streak face of northwest drift (825' from portal)	none	none	0.18	0.1	tr.
MHS 38	6" across cu. vein in southeast drift 10' southeast of Peerless tunnel	none	none	0.30	0.1	tr.
MHS 39	Composit of cu. vein in Gregory adit	none	none	10.10	0.1	tr.

The reported occurrence of tantalum ore in the Peerless mine is not confirmed by the spectroscopic analysis of samples obtained during this examination nor was it confirmed by analysis of samples taken by the applicant and submitted to the Denver laboratories of the U. S. Geological Survey. It must be concluded that the results of assays for tantalum and niobium made by several laboratories, on samples selected by the prior operator of the property, are in error and that tantalum and niobium are not present in

the weak veins exposed in the Peerless tunnel.

Copper is present in very minor amounts in the barite veins cut by the Peerless tunnel and it is improbable that ore grade vein material is present in any of these veins.

The one sample taken from the sulfide vein in the Gregory claim adit is representative of the better grade vein material in this working. Mining and hand sorting of the vein material could result in a shipping grade product, but the average width of the vein is about 2 inches and production would be insignificant. There is no geologic data to indicate that greater average vein widths may be expected in the area.

CONCLUSIONS AND RECOMMENDATIONS

Selected samples taken by the applicant from the "tantalum veins" in the Peerless tunnel and analyzed in the Denver laboratories of the U. S. Geological Survey, as well as samples taken during this examination and analyzed in the Salt Lake City laboratories of the U. S. Bureau of Mines, contained no tantalum or niobium. It must therefore be concluded that the veins, as might be expected fromtheir geological environment, are not tantalum bearing, and that earlier analyses showing the presence of this element are in error.

Copper ore has not been found by rather extensive exploration in the Peerless tunnel, and the veins exposed by work on the Gregory claim are too narrow to be significant. There is no indication that exploration, as proposed by the applicant, will lead to the discovery of appreciable reserves of copper or tantalum ore. It is therefore recommended that the application of the Tantalizer Mining Corporation for exploration assistance, DMEA Docket 3236, be denied.

DMEA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

Engineering Report

By M. H. Salsbury
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

4-5-54
(date)

DMEA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

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ILLUSTRATIONS

Figure	Follows Page
1. Location map, Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado	2
2. Sketch map, Tantalizer Mining Corporation, Gregory claim, Custer County, Colorado	*

* See figure 2 with geologic report

DMEA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

ENGINEERING REPORT

By M. H. Salsbury

INTRODUCTION

The property of the Tantalizer Mining Corporation was examined on February 11, 1954, by a Region IV Defense Minerals Exploration Administration, Bureau of Mines, Geological Survey examining team, accompanied by Harry Koch, who was detailed by Leland E. Niles, superintendent for the applicants, to act as guide. An application for Government-assisted exploration has been made, at an estimated cost of $25,000.00, Government participation 62-1/2 percent or $15,625.00. The proposal calls for:

(1) An indefinte amount of drifting in an existing adit tunnel to cut the downward extension of a copper ore body reported to have been found in an old shaft, now caved,

(2) Fifteen hundred feet of diamond core drilling to explore for copper and tantalum certain formations cut in the lower tunnel.

The applicants did not present a definite drilling program, but Niles stated that the work was supposed to explore a mineralized section of the tunnel about 1,100 feet from the portal.

ACKNOWLEDGEMENTS

Data have been obtained by personal observation, from material submitted with the application, including a report by George V. Bancroft, deceased mining engineer of Denver, Colo., copies of which were obtained by the applicant from Bancroft's papers in the library of the Colorado School of Mines, and by consultation with Edward P. Kaiser, geologist in charge of the tantalum and columbium project of the Geological Survey, who has made an examination of the surface exposures of the property.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property is located on the heavily timbered, lower eastern slope of the Sangre de Cristo Range in the Spruce Creek mining district, Custer County, Colo., at an elevation of about 9,700 feet, as indicated by a barometer (fig. 1). The property is reached over a poor dirt road, with steep gradients at the upper end, 7 miles from Hillside, Colo. Hillside is 21 miles north of Westcliffe, Colo. The nearest rail point is 19 miles north via Colorado State Highway 69, at Texas Creek, Colo., on the Denver and Rio Grande Western Railroad. Summer and fall seasons are ideal for mining at this elevation, and moderate to heavy winter snowfall does not prevent underground operations if proper preparations are made. Precipitation in the area is currently below normal, and the examining team drove a car within 2 miles of the Peerless tunnel, even though the road had not been cleared for several months.

A flow of water developed by the Peerless tunnel is ample for mining and limited milling requirements. There is a stand of small timber on the property suitable for mining use, and additional

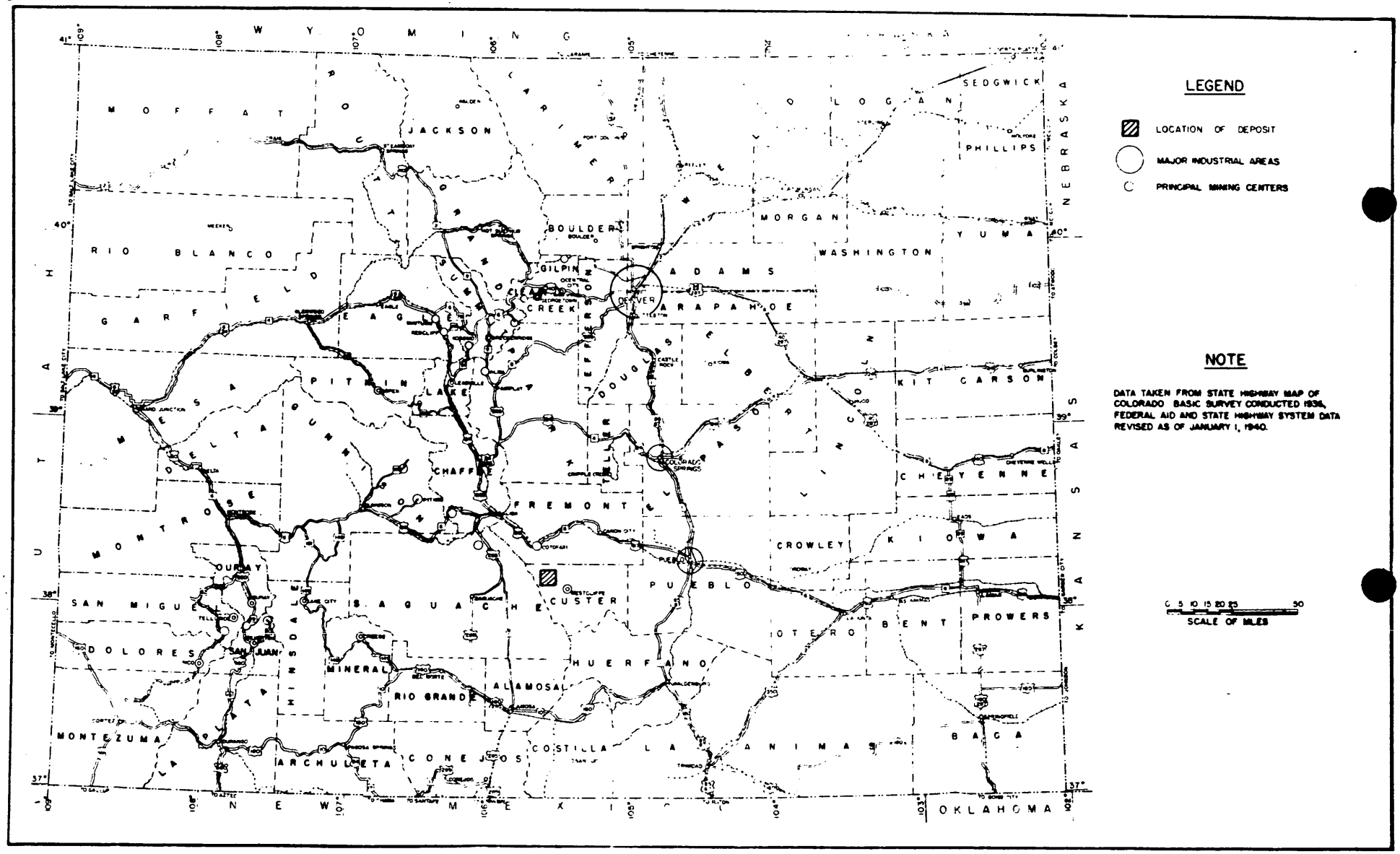

FIGURE 1. - LOCATION MAP, TANTALIZER MINING CORPORATION, SANGRE DE CRISTO GROUP, CUSTER COUNTY, COLO. (DMEA 3236)

supplies are available locally. Some supplies, including explosives, are available in Westcliffe and Canon City, Colo. Other needs must be met from more complete stocks maintained in Pueblo and Denver, Colo., 81 miles and 183 miles distant, respectively, over hard-surfaced highways.

There are no ore concentrating facilities in the vicinity. The best market for copper ore of smelting grade is at points in the Salt Lake Valley, Utah. Tantalum and columbium ores and concentrates, with a minimum content of 35 percent columbium and tantalum pentoxides combined, can be sold to the Fansteel Metallurgical Corporation, North Chicago, Ill., agents under a Government purchase program. The base price for ore or concentrates in lots of 2,000 pounds or more, containing not less than 35 percent tantalum and columbium pentoxides combined, is $1.40 per pound of contained pentoxide. An additional bonus payment of $1.40 per pound is payable to producer only. Smaller lots are accepted at three other receiving stations at the rate of $3.40 per pound of contained pentoxides, bonus included, if the combined pentoxide content is 50 percent.

LABOR AND LIVING CONDITIONS

At the present time, because of curtailment of other mining activity, there is an adequate supply of mine labor in the area. The standard wage rate for miners is $1.50 per hour with time and one-half over 40 hours per week.

There are accommodations for 4 or 5 men in a cabin at the Peerless tunnel portal. Most of the local miners have homes in or near Westcliffe, and commute to jobs as far as 20 to 25 miles away.

There is no source of electric power within a reasonable distance of the property, and requirements would have to be met by diesel- or gasoline-powered equipment.

HISTORY AND PRODUCTION

The first claims in the Spruce Creek, or Rito Alto mining district were located in the 1890's on copper outcrops on the mountain considerably higher than the lower (Peerless) tunnel. A shallow shaft, now caved, is reported to have encountered high-grade copper ore but was supposedly flooded before any ore was mined when a heavy water flow was cut. Other copper showings were explored by trenching and a short tunnel. The Peerless tunnel was driven to cut the possible downward extension of the ore found in the shaft. It did not come within several hundred feet of the position of the shaft and only slight copper mineralization was encountered.

In 1924, George Bancroft, A Denver mining engineer, was employed by the owners, the Peerless Consolidated Copper Company, and investigated a mineral which he submitted to George Sharon, the proprietor of an analytical laboratory of 214 Broadway, New York, N. Y. Sharon reported the presence of tantalum, columbium, and other rare elements in substantial quantites in samples from the property. Bancroft employed a metallurgical testing laboratory in Denver to make some concentration tests on the material he believed to contain columbium and tantalum. The concentrates were analyzed by several local chemists who reported a content of as much as 46 percent tantalum. It is interesting to note that the Fansteel Metallurgical

Corporation reported that a similar sample of concentrates sent them by Bancroft contained no tantalum or columbium. In a copy of a report in the possession of the applicants, but not furnished with the application, Bancroft surmised that either the Fansteel Corporation chemists mixed samples, or the material did not contain these elements. In 1943, E. W. Spencer of Westcliffe located five additional claims, and in 1944 an attempt was made by parties representing the surviving owners of the original company to interest a Government agency, not named, in the tantalum and columbium possibilities. Nothing came of these efforts. In 1953, George S. Hurst, Sr., his wife, Ellabell S. Hurst, of Albany, Georgia, and others formed the applicant company and rehabilitated the Peerless tunnel, which is now accessible for its entire length. This work was stopped in December 1953, and the property is now idle.

The Mineral Industry Division, Region IV, Bureau of Mines, has no record of production from the property. Local residents speak of a small shipment from the copper vein in the upper tunnel, but it is not recorded.

OWNERSHIP AND EXTENT

Three patented lode claims, the Sangre de Cristo No. 1, Bobtail and Gregory, Survey No. 12897, cover the main workings. These claims are owned by Grace L. Fidler, Rhea Rusher, Tessie Bacon, and Fay Rusher, all of Crowley County, Colo., and H. William Whitney and J. Lee Whitney of Los Angeles County, Calif. Five adjoining located claims, Tantalizer Nos. 1 to 5 inclusive, shown on exhibit

B and C accompanying the application, are owned by E. W. Spencer of Westcliffe, Colo. The Tantalizer Mining Corporation, in care of Ben Bozeman, 635 Majestic Building, Denver 2, Colo., holds a lease on all the patented and located claims for a term of 10 years from July 15, 1953. There is an unusual royalty provision calling for a payment to the owners of 10 percent of profits, after deducting all costs. In addition, Hurst has located one claim to cover the portal of the Peerless tunnel, which does not appear to be on the leased ground.

The data on ownership were all obtained from the application and verbally from L. E. Niles. No further check was considered necessary for the purposes of this report.

DESCRIPTION OF THE DEPOSITS

The formation exposed in the Peerless tunnel, in the short upper tunnel on the Gregory claim, and in outcrops, is massive sandstone striking N. 40° W. to N. 60° W. and dipping 20 to 25° southwest. The attitude of the beds locally appears to be at variance with the regional dip.

Certain beds in the sandstone have been mineralized, with minor deposition of copper sulfides and barite along bedding planes, joints, and minor fault slips. There has been some oxidation of the copper minerals, but even with shallow upper tunnel workings on the Gregory claim, the chalcopyrite exposed is quite fresh. The copper minerals, with abundant barite, ocurring in this upper tunnel are in an irregular vein 1 to 6 inches wide

(fig. 2 with the geologic report). In the Peerless tunnel, similar but much leaner copper mineralization is found in two veins striking S. 35° E. and dipping 57° northeast at 825 feet and 1,000 feet from the portal. From 1,000 feet to 1,180 feet, the tunnel crosses a heavily mineralized section of sandstone with nearly every joint and bedding plane impregnated with barite and a small amount of copper sulfides. However, the occurrence does not resemble a dike or vein as reported by the applicants. This was supposed to be one of the best exposures of tantalum, but no identifiable tantalum or columbium minerals were found by the examining team. At four other locations between 1,200 feet and the face of the tunnel at 3,200 feet, shear zones with heavy barite are exposed. These were also reported to contain tantalum. None of the copper in the Peerless tunnel is of commercial grade, and while the small vein exposed in the upper tunnel contains ore-grade chalcopyrite, it is not large enough to be mined profitably. No correlation of the vein in the upper tunnel on the Gregory claim and the low-grade mineralization in the Peerless tunnel is apparent, except that the same type of mineralization is present in both.

SAMPLING

The returns from analyses of samples from the property have been conflicting. Several commercial laboratories have reported substantial columbium and tantalum content in samples submitted to them around 1924. However, the returns from samples analyzed by the trace elements laboratory of the Geological Survey

and the Metallurgical Branch of the Bureau of Mines in 1953 and 1954, and by the Fansteel Metallurgical Corporation in 1924 gave negative results which are considered correct by the examining team. The Geological Survey laboratory reports that determination of columbium and tantalum is a difficult procedure, and false returns may easily result. Table I lists the samples taken by the examining team and analyzed by the Metallurgical Division, Region IV, Bureau of Mines at Salt Lake City, Utah. These were assayed for gold, silver, and copper, and a spectrographic analysis was made for columbium and tantalum.

TABLE I.

Sample No.	Description	Content Au	Content Ag	Content Cu
		Oz. per ton		percent
MHS-33	Two feet across streaks in altered material at first timbered section 1,120 feet west of southeast drift. Peerless tunnel.	<0.005	0.2	<0.05
34	One and one-half feet across streaks in altered material at second timbered section, Peerless tunnel 75 feet west of sample MHS-33.	<0.005	<0.1	<0.05
35	Chip sample over first 50 feet of mineralized sandstone west of southeast drift. Heavy barite. Peerless tunnel.	<0.005	0.1	<0.05
36	Chip sample over next 50 feet of mineralized sandstone west of sample MHS-35. Peerless tunnel.	<0.005	0.1	<0.05
37	Cut across 6-inch footwall streak and 2-inch hanging wall streak in face northwest drift, 825 feet from portal, Peerless tunnel.	<0.005	0.1	0.18
38	Cut across vein one and one-fourth feet wide in southeast drift at 1,000 feet from portal, Peerless tunnel. Sample taken 10 feet southeast of main tunnel	<0.005	0.1	0.30
39	Cuts across copper vein in upper tunnel on Gregory claim. Taken at 4 points. Vein from 1 to 6 inches wide.	<0.005	0.1	10.1

< less than

No columbium or tantalum detected spectrographically in any of the 7 samples.

MINEABLE ORE RESERVES

There are no mineable ore reserves on the property.

PRESENT STATUS

Exploration and Development

The property has been explored by the Peerless tunnel, 3,200 feet long, driven as a crosscut on a bearing S. 60° W. A short drift was driven 30 feet to the northwest from a point 825 feet from the portal and a drift 250 feet long was driven southeast from a point 1,000 feet from the portal. The shaft in which copper ore is reported is approximately 1,250 feet S. 33° W. from the tunnel portal on the Bobtail claim and at about 300 feet higher elevation. The depth is unknown, but judging from the size of the dump, the shaft is shallow. The upper tunnel is several hundred feet southwest of the shaft on the Gregory claim and was driven in a northwest direction from the portal (fig. 2 with the geologic report). There are a number of open cuts shown on the map with the application, but these were snow-filled. Mine workings on an adjoining property were not investigated.

Mining and Milling Equipment and other Facilities

A shack for living quarters for four or five men has been rebuilt at the Peerless tunnel portal. Other equipment belonging to the applicants, consists of a pickup truck, ore car, timber car, and small tools. Track has been laid in the first 500 feet of the tunnel. None of the other mine workings are equipped.

PROJECT PROPOSALS, WITH COSTS

The applicants propose extending the southeast drift 1,000 feet from portal of the Peerless tunnel in the direction of the old shaft for the purpose of exploring the possible downward extension of the ore reported to have been found in the shaft. A definite amount of drifting is not specified. In addition, 1,500 feet of diamond core drilling is proposed to explore the formation encountered in the main tunnel just beyond the southeast drift. Location, number, and length of holes are not given.

They propose building a compressor and service building, and either buy or rent a compressor, jack leg drill and accessories, and ventilation equipment. Necessary personnel is listed as two miners at $1.50 per hour, a foreman at $425.00 per month, and, in addition, supervision at $600.00 per month, and a consulting engineer at a fee of $1,000.00. It is estimated that the work would require 12 months to complete.

The estimated cost is given as between $10,000.00 and $40,000.00 and the loan application is in the amount of $25,000.00. The form MF-103 submitted is dated August 28, 1953, but the Bureau of Mines receiving stamp on it is dated January 12, 1954. A loan application made on the latter date would call for Government participation of 75 percent for tantalum and 50 percent for copper, or an average of 62 1/2 percent.

The applicants have not presented a definite plan of exploration, and on the basis of data available to the examining team, it is not possible to formulate a logical plan. Nothing is

known about the copper occurrence in the old shaft, and much more information about it would be necessary to justify and to plan further exploration. If the ore in the shaft resembles that seen in the upper tunnel, it is hardly likely that its continuation could be cut by exploration through the tunnel. The formation in the tunnel, which it is planned to explore by drilling, is a mineralized shear zone in a massive sandstone, rather than a vein or dike as described by the applicant, and it appears that the tunnel itself has provided all the exploration necessary, in the absence of any evidence to indicate that there is a possibility of finding tantalum, columbium, or commercial copper ore. An alternate exploration program is not suggested in this report.

PROPOSED FINANCING

The applicants state that they are prepared to furnish their share of the cost in cash and equipment.

CONCLUSIONS

The occurrence of copper in the upper tunnel on the Gregory claim is not commercial, and the ore reported to have been cut in the old shaft on the Bobtail claim is unverified. Copper mineralization in the Peerless tunnel is insignificant and there is no evidence to indicate that exploration would be likely to disclose mineable ore.

Analyses of various samples by qualified laboratories have not revealed an occurrence of columbium or tantalum on the property. Neither is it indicated by geological evidence.

RECOMMENDATIONS

Denial of the loan application under docket No. DMEA 3236 is recommended.

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

DEPARTMENT OF THE INTERIOR
Minerals Administration
RECEIVED
MAR 1954

224 New Customhouse
Denver 2, Colorado

March 25, 1954.

Tantalizer Mining Corporation
c/o Ben Bozeman
Suite 635, Majestic Building
Denver 2, Colorado

Re: Docket No. DMEA-3236

Gentlemen:

Reference is made to your application for Government aid on the Sangre De Cristo Group.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade, and in quantities that will significantly improve the mineral supply position for the National Defense Program.

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of tantalum, columbium and copper is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

John F. Shaw
For W. H. King
Field Team, Region IV

A. H. Koschmann
Field Team, Region IV

HMC:cwm

cc: Docket
Administrator, DMEA
WMTraver
AHKoschmann
Chron.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 1 1954

224 New Customhouse
Denver 2, Colorado

March 25, 1954.

Memorandum

To: Administrator, Defense Minerals Exploration Administration, Attention: 200

From: Field Team, Region IV

Subject: Report of Examination - DMEA Docket 3236 (Columbium-Tantalum-Copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado.

Enclosed are four copies of the report of examination on the subject docket, a copy of the letter of denial to the applicant, and two copies of Form 3b.

John F. Shaw
For W. H. King

A. H. Koschmann

Enclosures

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 1 1954

224 New Customhouse
Denver 2, Colorado

March 25, 1954.

Memorandum

To: Administrator, Defense Minerals Exploration Administration, Attention: 200

From: Field Team, Region IV

Subject: Report of Examination - DMEA Docket 3236 (Columbium-Tantalum-Copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado.

Enclosed are four copies of the report of examination on the subject docket, a copy of the letter of denial to the applicant, and two copies of Form 3b.

John F. Shaw
For W. H. King

A. H. Koschmann

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

March 25, 1954.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination - Docket No. DMEA-3236 (Columbium-Tantalum-Copper), Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado.

Enclosed are nine copies of the engineering report on the subject docket.

The applicant requested $25,000.00 to explore the Peerless mine by diamond drilling and drifting.

The engineer examiner found no evidence of columbium or tantalum and no commercial quantities of copper. He recommends that the application be denied.

We concur in this recommendation.

John F. Shaw
For W. H. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
March 19, 1954

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 3236 (Tantalum-Copper) Tantalizer Mining Corporation (Sangre De Cristo Group) Custer County, Colorado.

Submitted herewith are the original and ten copies of the "Summary, Conclusions, and Recommendations," by K. N. Karshman, Geological Survey and M. H. Salsbury, Bureau of Mines, and of M. H. Salsbury's engineering report on the above docket.

Salsbury concludes there is little likelihood that the exploration proposed by this applicant would disclose commercial occurrences of either tantalum or copper and recommends denial of the loan request. I concur.

The brochure submitted with your memorandum of January 12, 1954 instructing us to prepare a suitable report and the supplemental data with your memorandum of January 25, 1954 are returned also.

W. M. Traver

W. M. Traver

Enclosures

cc 40
DMEA 3236
DMEA Chron.

WMT/ici

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

March 11, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3236, Tantalizer Mining Corporation, Peerless Mine, Custer County, Colorado

Attached are 9 copies of the geological report by E. N. Harshman of the U. S. Geological Survey covering the above docket.

The applicant company proposes to explore in the Peerless mine for tantalum and copper by diamond drilling at unspecified localities and by extending an existing drift. Their estimated cost of the project is between $10,000 and $40,000; the loan application is for $25,000.

Narrow sulfide veins occur in sandstone beds on the northeastern flank of the Sangre de Cristo mountain range. The presence of tantalum was not confirmed by this examination nor was it confirmed by E. P. Kaiser, U. S. Geological Survey, in an earlier examination.

Narrow sulfide veins containing as much as 10 percent copper are exposed in workings on the Gregory claim but they do not appear to be commercial. Because of the lack of tantalum in the deposits and the narrowness of the sulfide veins, Harshman recommends denial of the application.

I concur in this recommendation.

E. N. Harshman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS MCKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3236, Sangre De Cristo Group

Tantalizer Mining Corporation

Custer County, Colorado

Tantalum - Copper

E. N. Harshman, Geologist
Geological Survey

M. H. Salsbury, Mining Engineer
Bureau of Mines

March 11, 1954

DMEA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By E. N. Harshman
Geologist
Geological Survey

M. H. Salsbury
Mining Engineer
Bureau of Mines

DMEA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By E. N. Harshman and M. H. Salsbury

The lode claims of the Tantalizer Mining Corporation were examined by a Defense Minerals Exploration Administration examining team on February 11, 1954. An application has been submitted for Government-assisted exploration for tantalum and copper under docket DMEA 3236, at a cost of $25,000.00, Government participation 62-1/2 percent, or $15,625.00.

The claims are in the Spruce Creek, or Rito Alto mining district on the eastern slope of the Sangre de Cristo Range, 7 miles west of Hillside, Custer County, Colo. The district has a history dating from the 1890's, with an early discovery of rich copper ore reported in shallow workings. Additional work in the Peerless tunnel, the major development on the property, was done around 1920. An alleged occurrence of tantalum was reported in 1924. There is no record of any production.

The copper deposits of the Spruce Creek mining district are in a thick series of sandstones of Pennsylvanian or Permian age. Pyrite, chalcopyrite, and barite have been deposited along shear zones and bedding plane faults in the sandstone. Considerable replacement of sandstone (probably calcareous) was noted in the veins exposed in the Peerless tunnel. The copper content of

the veins in the Peerless tunnel is very low. The principal vein in the Gregory adit is high grade (10 percent Cu) but the average width is only about 2 inches.

Sampling did not disclose tantalum, columbium, or commercial quantites of copper. Previous investigators appear to have been misled by erroneous analytical results on tantalum and columbium. Although some laboratories reported substantial percentages of these elements in samples from the property, others, including two recognized authorities on columbium and tantalum reported no content of the metals.

It is concluded that there is no possibility of finding tantalum or columbium on the property, and the chances for developing the minor showing of copper into a commercial deposit are poor.

Denial of the loan application is recommended.

TANTALIZER MINING CORPORATION

PEERLESS MINE

CUSTER COUNTY, COLORADO

DMEA DOCKET 3284

Geologic Report

By E. N. Harshman
U. S. Geological Survey

TANTALIZER MINING CORPORATION
PEERLESS MINE, CUSTER COUNTY, COLORADO

INTRODUCTION

The Tantalizer Mining Corporation, % Ben Bogeman, 635 Majestic Building, Denver 2, Colorado, applied for assistance, DMEA Docket 3236, to explore for tantalum and copper ore in the Peerless mine near Hillside, Colorado. The property is located about 4 miles (airline) southwest of Hillside, Colorado, in section 17, 19, and 20, T. 46 N., R. 12 E., New Mexico Principal Meridian.

The applicant proposes to spend between $10,000 and $40,000 (loan application is for $25,000) to diamond drill 1500 feet at unspecified locations, and to extend the southeast drift to a point beneath an old caved shaft. High grade copper is reported to have been exposed in the bottom of the shaft.

The property was examined on February 11, 1954, in company with M. H. Salsbury, U. S. Bureau of Mines engineer, and Harry Cack representing the applicant.

Copper bearing veins are exposed on several of the claims but apparently the deposits are not of economic importance. The presence of tantalum and niobium was not confirmed by this examination or by an earlier examination by E. P. Kaiser of the Geological Survey. Denial of the application for exploration assistance is therefore recommended.

GEOLOGY

The copper deposits of the Spruce Creek (or Rito Alto) mining district lie on the northeastern slope of Rito Alto peak in the Spruce

Creek drainage. The host rock for the sulfide veins is a thick series of fine to medium-grained arkosic sandstones tentatively classed as Pennsylvanian or Permian in age. The sandstones are thick bedded, red to tan, conglomeratic in certain horizons, and cross bedded. Shaly as well as calcareous beds are present through the exposed section.

The meager published geologic data on the area shows the Sangre de Cristo range as a simple anticlinal fold with a granitic core and with sedimentary rocks on the flanks. This seems to be true on a regional scale but there is every indication that the simple anticlinal structure has been complicated by minor folding and faulting.

Pyrite, chalcopyrite, quartz, barite, and copper carbonates occur along steeply dipping faults and along rather flat dipping bedding planes and bedding plane faults. The ore and gangue minerals appear to have been emplaced by filling of open spaces and by replacement of what were probably calcareous sandstone beds. The ore and gangue minerals were deposited during at least two periods of mineralization. Barite veins and replacement deposits were produced during an early stage of deposition; sulfide minerals and quartz were introduced in a later stage.

The principal working is the Peerless Tunnel, a crosscut approximately 2700 feet long. Sandstone, with minor shale beds, is exposed through the entire length of the adit. In general, the beds dip 10° to 25° west although near the portal they appear to dip gently eastward.

Several weakly mineralized shear zones and two sulfide bearing veins are exposed in the adit. At a point about 825 feet from the portal a 5-foot shear zone crosses the tunnel. The zone is 5 feet wide, strikes N. 33° W. and dips 57° E. The footwall 12 inches is brecciated and contains minor amounts of pyrite, chalcopyrite, and copper carbonate. The hangingwall

four inches contains similar ore minerals and some barite. The central portion of the shear zone is only slightly brecciated and has not been mineralized. A short drift has been driven to the northwest along this zone. Ore grade vein material was not exposed by this work.

At a point about 1,000 feet from the portal a well defined minor fault is exposed. It strikes N. 45° W., dips 60° E. and contains 6 to 10 inches of gouge and breccia. Very minor amounts of sulfide minerals and barite are present along the fault but ore grade material is not exposed in the southeast drift which followed this fault for several hundred feet.

Immediately southwest of the southeast drift is a broad zone of sandstone which contains considerable barite. The zone is exposed for a distance of 180 feet along the Peerless tunnel. It appears to have resulted from replacement of the sandstone (probably calcareous) by barite originating in solutions ascending along bedding planes and minor bedding plane slips.

Between the southeast drift and the face of the Peerless tunnel, 4 zones in which barite has been deposited in fractured sandstone are exposed. The zones are steeply dipping, range in width from 3 to 5 feet, and strike northwesterly. No sulfides were noted in these zones.

An adit on the Gregory claim has exposed several narrow sulfide veins and minor amounts of copper ore are reported to have been shipped from the area. The principal vein follows a bedding plane slip in sandstone, ranges from 1 to 6 inches in width, and contains pyrite, chalcopyrite, barite and quartz. The exposed portion of the vein, its attitude, and its relation to the enclosing sandstone is shown on figure 2. The bedding plane vein terminates against a minor fault exposed in the northwestern part of the adit. Above the bedding plane vein the fault contains ore

similar to that in the vein, below it the fault is barren. Minor veinlets of sulfides are present along bedding-plane slips above and below the principal vein; they were not mapped or sampled.

SAMPLES AND CHARACTER OF ORE

Samples taken by engineer Salsburg and analyzed by the U. S. Bureau of Mines laboratory, Salt Lake City, Utah, follow:

Sample No.	Description	% Ta	% Nb	% Cu	Ag	Au
MHS 33	2' cut across veinlets 1120' W. of southeast drift	none	none	0.05	0.2	tr.
MHS 34	1.5' cut 75' W. of sample MHS 33	none	none	0.05	0.1	tr.
MHS 35	Chip sample of first 50' of 180' barite zone W. of southeast drift	none	none	0.05	0.1	tr.
MHS 36	Chip sample of next 50' as above	none	none	0.05	0.1	tr.
MHS 37	6" across footwall streak & 2" hangingwall streak face of northwest drift (825' from portal)	none	none	0.18	0.1	tr.
MHS 38	6" across cu. vein in southeast drift 10' southeast of Peerless tunnel	none	none	0.30	0.1	tr.
MHS 39	Composit of cu. vein in Gregory adit	none	none	10.10	0.1	tr.

The reported occurrence of tantalum ore in the Peerless mine is not confirmed by the spectroscopic analysis of samples obtained during this examination nor was it confirmed by analysis of samples taken by the applicant and submitted to the Denver laboratories of the U. S. Geological Survey. It must be concluded that the results of assays for tantalum and niobium made by several laboratories, on samples selected by the prior operator of the property, are in error and that tantalum and niobium are not present in

the weak veins exposed in the Peerless tunnel.

Copper is present in very minor amounts in the barite veins cut by the Peerless tunnel and it is improbable that ore grade vein material is present in any of these veins.

The one sample taken from the sulfide vein in the Gregory claim adit is representative of the better grade vein material in this working. Mining and hand sorting of the vein material could result in a shipping grade product, but the average width of the vein is about 2 inches and production would be insignificant. There is no geologic data to indicate that greater average vein widths may be expected in the area.

CONCLUSIONS AND RECOMMENDATIONS

Selected samples taken by the applicant from the "tantalum veins" in the Peerless tunnel and analyzed in the Denver laboratories of the U. S. Geological Survey, as well as samples taken during this examination and analyzed in the Salt Lake City laboratories of the U. S. Bureau of Mines, contained no tantalum or niobium. It must therefore be concluded that the veins, as might be expected fromtheir geological environment, are not tantalum bearing, and that earlier analyses showing the presence of this element are in error.

Copper ore has not been found by rather extensive exploration in the Peerless tunnel, and the veins exposed by work on the Gregory claim are too narrow to be significant. There is no indication that exploration, as proposed by the applicant, will lead to the discovery of appreciable reserves of copper or tantalum ore. It is therefore recommended that the application of the Tantalizer Mining Corporation for exploration assistance, DMEA Docket 3236, be denied.

DMRA 3236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

Engineering Report

By M. H. Salabury
Mining Engineer
Bureau of Mines

DMRA 1236

SANGRE DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

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ILLUSTRATIONS

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1. Location map, Tantalizer Mining Corporation, Sangre De Cristo Group, Custer County, Colorado	2
2. Sketch map, Tantalizer Mining Corporation, Gregory claim, Custer County, Colorado	*

* See figure 2 with geologic report

DMEA 3236

RANGER DE CRISTO GROUP
TANTALIZER MINING CORPORATION
CUSTER COUNTY, COLORADO

ENGINEERING REPORT

By M. H. Salsbury

INTRODUCTION

The property of the Tantalizer Mining Corporation was examined on February 11, 1954, by a Region IV Defense Minerals Exploration Administration, Bureau of Mines, Geological Survey examining team, accompanied by Harry Koch, who was detailed by Leland E. Miles, superintendent for the applicants, to act as guide. An application for Government-assisted exploration has been made, at an estimated cost of $25,000.00, Government participation 62-1/2 percent or $15,625.00. The proposal calls for:

(1) An indefinite amount of drifting in an existing adit tunnel to cut the downward extension of a copper ore body reported to have been found in an old shaft, now caved,

(2) Fifteen hundred feet of diamond core drilling to explore for copper and tantalum certain formations cut in the lower tunnel.

The applicants did not present a definite drilling program, but Miles stated that the work was supposed to explore a mineralized section of the tunnel about 1,100 feet from the portal.

ACKNOWLEDGEMENTS

Data have been obtained by personal observation, from material submitted with the application, including a report by George V. Bancroft, deceased mining engineer of Denver, Colo., copies of which were obtained by the applicant from Bancroft's papers in the library of the Colorado School of Mines, and by consultation with Edward P. Kaiser, geologist in charge of the tantalum and columbium project of the Geological Survey, who has made an examination of the surface exposures of the property.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property is located on the heavily timbered, lower eastern slope of the Sangre de Cristo Range in the Spruce Creek mining district, Custer County, Colo., at an elevation of about 9,700 feet, as indicated by a barometer (fig. 1). The property is reached over a poor dirt road, with steep gradients at the upper end, 7 miles from Hillside, Colo. Hillside is 21 miles north of Westcliffe, Colo. The nearest rail point is 19 miles north via Colorado State Highway 69, at Texas Creek, Colo., on the Denver and Rio Grande Western Railroad. Summer and fall seasons are ideal for mining at this elevation, and moderate to heavy winter snowfall does not prevent underground operations if proper preparations are made. Precipitation in the area is currently below normal, and the examining team drove a car within 2 miles of the Peerless tunnel, even though the road had not been cleared for several months.

A flow of water developed by the Peerless tunnel is ample for mining and limited milling requirements. There is a stand of small timber on the property suitable for mining use, and additional

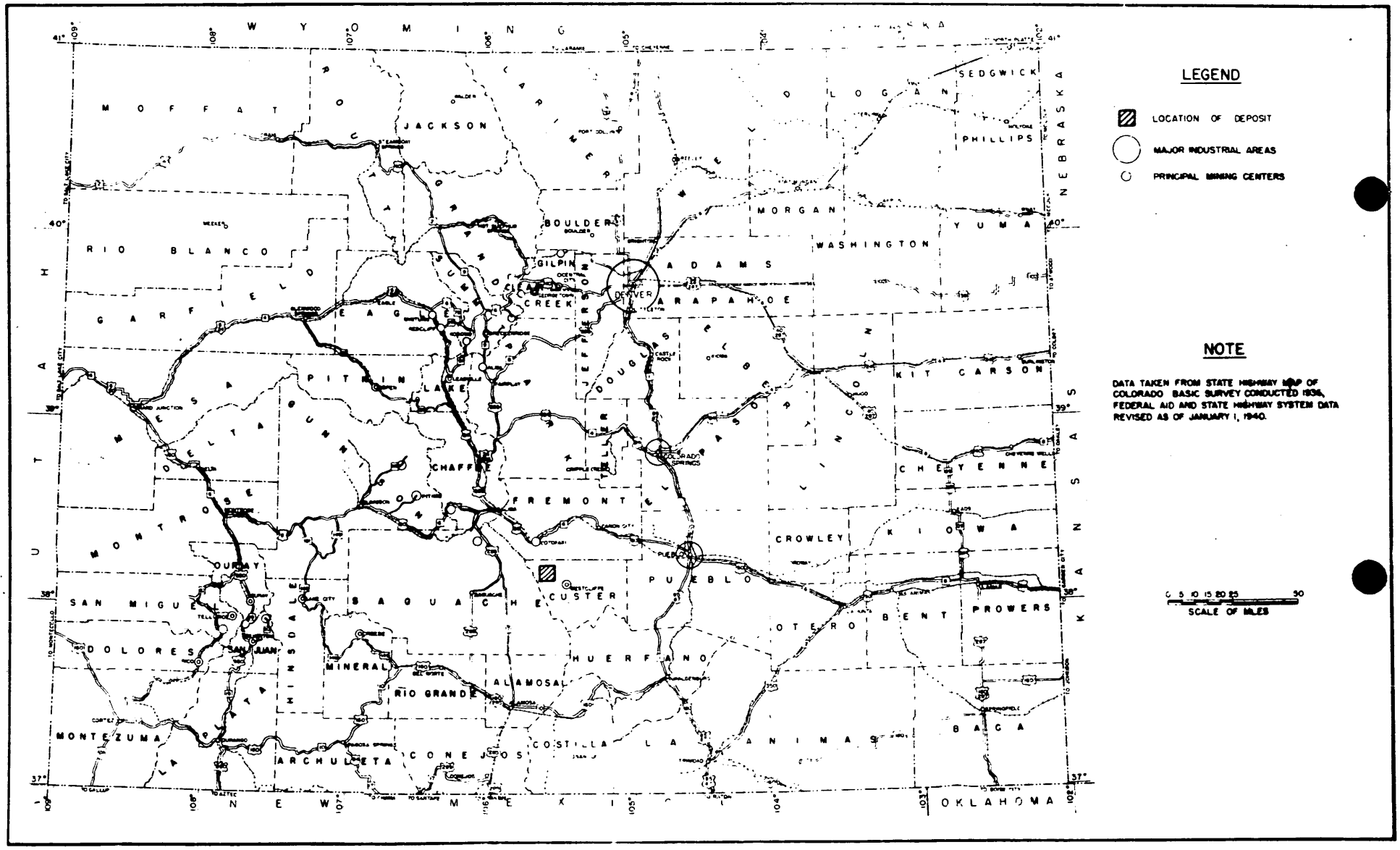

FIGURE 1. - LOCATION MAP, TANTALIZER MINING CORPORATION, SANGRE DE CRISTO GROUP, CUSTER COUNTY, COLO. (DMEA 3236)

supplies are available locally. Some supplies, including explosives, are available in Westcliffe and Canon City, Colo. Other needs must be met from more complete stocks maintained in Pueblo and Denver, Colo., 81 miles and 183 miles distant, respectively, over hard-surfaced highways.

There are no ore concentrating facilities in the vicinity. The best market for copper ore of smelting grade is at points in the Salt Lake Valley, Utah. Tantalum and columbium ores and concentrates, with a minimum content of 35 percent columbium and tantalum pentoxides combined, can be sold to the Fansteel Metallurgical Corporation North Chicago, Ill., agents under a Government purchase program. The base price for ore or concentrates in lots of 2,000 pounds or more, containing not less than 35 percent tantalum and columbium pentoxides combined, is $1.40 per pound of contained pentoxide. An additional bonus payment of $1.40 per pound is payable to producer only. Smaller lots are accepted at three other receiving stations at the rate of $3.40 per pound of contained pentoxides, bonus included, if the combined pentoxide content is 50 percent.

LABOR AND LIVING CONDITIONS

At the present time, because of curtailment of other mining activity, there is an adequate supply of mine labor in the area. The standard wage rate for miners is $1.50 per hour with time and one-half over 40 hours per week.

There are accommodations for 4 or 5 men in a cabin at the Peerless tunnel portal. Most of the local miners have homes in or near Westcliffe, and commute to jobs as far as 20 to 25 miles away.

There is no source of electric power within a reasonable distance of the property, and requirements would have to be met by diesel- or gasoline-powered equipment.

HISTORY AND PRODUCTION

The first claims in the Spruce Creek, or Rito Alto mining district were located in the 1890's on copper outcrops on the mountain considerably higher than the lower (Peerless) tunnel. A shallow shaft, now cared, is reported to have encountered high-grade copper ore but was supposedly flooded before any ore was mined when a heavy water flow was cut. Other copper showings were explored by trenching and a short tunnel. The Peerless tunnel was driven to cut the possible downward extension of the ore found in the shaft. It did not come within several hundred feet of the position of the shaft and only slight copper mineralization was encountered.

In 1924, George Bancroft, A Denver mining engineer, was employed by the owners, the Peerless Consolidated Copper Company, and investigated a mineral which he submitted to George Sharon, the proprietor of an analytical laboratory of 214 Broadway, New York, N. Y. Sharon reported the presence of tantalum, columbium, and other rare elements in substantial quantites in samples from the property. Bancroft employed a metallurgical testing laboratory in Denver to make some concentration tests on the material he believed to contain columbium and tantalum. The concentrates were analyzed by several local chemists who reported a content of as much as 46 percent tantalum. It is interesting to note that the Fansteel Metallurgical

Corporation reported that a similar sample of concentrates sent them by Bancroft contained no tantalum or columbium. In a copy of a report in the possession of the applicants, but not furnished with the application, Bancroft surmised that either the Fansteel Corporation chemists mixed samples, or the material did not contain these elements. In 1943, E. W. Spencer of Westcliffe located five additional claims, and in 1944 an attempt was made by parties representing the surviving owners of the original company to interest a Government agency, not named, in the tantalum and columbium possibilities. Nothing came of these efforts. In 1953, George S. Hurst, Sr., his wife, Elizabell S. Hurst, of Albany, Georgia, and others formed the applicant company and rehabilitated the Peerless tunnel, which is now accessible for its entire length. This work was stopped in December 1953, and the property is now idle.

The Mineral Industry Division, Region IV, Bureau of Mines, has no record of production from the property. Local residents speak of a small shipment from the copper vein in the upper tunnel, but it is not recorded.

OWNERSHIP AND EXTENT

Three patented lode claims, the Sangre de Cristo No. 1, Bobtail and Gregory, Survey No. 12897, cover the main workings. These claims are owned by Grace L. Fidler, Rhea Rusher, Tessie Bacon, and Fay Rusher, all of Crowley County, Colo., and H. William Whitney and J. Lee Whitney of Los Angeles County, Calif. Five adjoining located claims, Tantalizer Nos. 1 to 5 inclusive, shown on exhibit

B and C accompanying the application, are owned by E. W. Spencer of Westcliffe, Colo. The Tantalizer Mining Corporation, in care of Ben Bozeman, 635 Majestic Building, Denver 2, Colo., holds a lease on all the patented and located claims for a term of 10 years from July 15, 1953. There is an unusual royalty provision calling for a payment to the owners of 10 percent of profits, after deducting all costs. In addition, Hurst has located one claim to cover the portal of the Peerless tunnel, which does not appear to be on the leased ground.

The data on ownership were all obtained from the application and verbally from L. E. Miles. No further check was considered necessary for the purposes of this report.

DESCRIPTION OF THE DEPOSITS

The formation exposed in the Peerless tunnel, in the short upper tunnel on the Gregory claim, and in outcrops, is massive sandstone striking N. 40° W. to N. 60° W. and dipping 20 to 25° southwest. The attitude of the beds locally appears to be at variance with the regional dip.

Certain beds in the sandstone have been mineralized, with minor deposition of copper sulfides and barite along bedding planes, joints, and minor fault slips. There has been some oxidation of the copper minerals, but even with shallow upper tunnel workings on the Gregory claim, the chalcopyrite exposed is quite fresh. The copper minerals, with abundant barite, occurring in this upper tunnel are in an irregular vein 1 to 6 inches wide

(fig. 2 with the geologic report). In the Peerless tunnel, similar but much leaner copper mineralization is found in two veins striking S. 35° E. and dipping 57° northeast at 825 feet and 1,000 feet from the portal. From 1,000 feet to 1,180 feet, the tunnel crosses a heavily mineralized section of sandstone with nearly every joint and bedding plane impregnated with barite and a small amount of copper sulfides. However, the occurrence does not resemble a dike or vein as reported by the applicants. This was supposed to be one of the best exposures of tantalum, but no identifiable tantalum or columbium minerals were found by the examining team. At four other locations between 1,200 feet and the face of the tunnel at 3,200 feet, shear zones with heavy barite are exposed. These were also reported to contain tantalum. None of the copper in the Peerless tunnel is of commercial grade, and while the small vein exposed in the upper tunnel contains ore-grade chalcopyrite, it is not large enough to be mined profitably. No correlation of the vein in the upper tunnel on the Gregory claim and the low-grade mineralization in the Peerless tunnel is apparent, except that the same type of mineralization is present in both.

SAMPLING

The returns from analyses of samples from the property have been conflicting. Several commercial laboratories have reported substantial columbium and tantalum content in samples submitted to them around 1924. However, the returns from samples analyzed by the trace elements laboratory of the Geological Survey

and the Metallurgical Branch of the Bureau of Mines in 1953 and 1954, and by the Fansteel Metallurgical Corporation in 1924 gave negative results which are considered correct by the examining team. The Geological Survey laboratory reports that determination of columbium and tantalum is a difficult procedure, and false returns may easily result. Table I lists the samples taken by the examining team and analyzed by the Metallurgical Division, Region IV, Bureau of Mines at Salt Lake City, Utah. These were assayed for gold, silver, and copper, and a spectrographic analysis was made for columbium and tantalum.

TABLE 1.

Sample No.	Description	Content Au Oz. per ton	Ag	Cu. percent
MHS-33	Two feet across streaks in altered material at first timbered section 1,120 feet west of southeast drift. Peerless tunnel.	<0.005	0.2	<0.05
34	One and one-half feet across streaks in altered material at second timbered section, Peerless tunnel 75 feet west of sample MHS-33.	<0.005	<0.1	<0.05
35	Chip sample over first 50 feet of mineralized sandstone west of southeast drift. Heavy barite. Peerless tunnel.	<0.005	0.1	<0.05
36	Chip sample over next 50 feet of mineralized sandstone west of sample MHS-35. Peerless tunnel.	<0.005	0.1	<0.05
37	Cut across 6-inch footwall streak and 2-inch hanging wall streak in face northwest drift, 825 feet from portal, Peerless tunnel.	<0.005	0.1	0.18
38	Cut across vein one and one-fourth feet wide in southeast drift at 1,000 feet from portal, Peerless tunnel. Sample taken 10 feet southeast of main tunnel	<0.005	0.1	0.30
39	Cuts across copper vein in upper tunnel on Gregory claim. Taken at 4 points. Vein from 1 to 6 inches wide.	<0.005	0.1	10.1

< less than

No columbium or tantalum detected spectrographically in any of the 7 samples.

MINEABLE ORE RESERVES

There are no mineable ore reserves on the property.

PRESENT STATUS

Exploration and Development

The property has been explored by the Peerless tunnel, 3,200 feet long, driven as a crosscut on a bearing S. 60° W. A short drift was driven 30 feet to the northwest from a point 825 feet from the portal and a drift 250 feet long was driven southeast from a point 1,000 feet from the portal. The shaft in which copper ore is reported is approximately 1,250 feet S. 33° W. from the tunnel portal on the Bobtail claim and at about 300 feet higher elevation. The depth is unknown, but judging from the size of the dump, the shaft is shallow. The upper tunnel is several hundred feet southwest of the shaft on the Gregory claim and was driven in a northwest direction from the portal (fig. 2 with the geologic report). There are a number of open cuts shown on the map with the application, but these were snow-filled. Mine workings on an adjoining property were not investigated.

Mining and Milling Equipment and other Facilities

A shack for living quarters for four or five men has been rebuilt at the Peerless tunnel portal. Other equipment belonging to the applicants, consists of a pickup truck, ore car, timber car, and small tools. Track has been laid in the first 500 feet of the tunnel. None of the other mine workings are equipped.

PROJECT PROPOSALS, WITH COSTS

The applicants propose extending the southeast drift 1,000 feet from portal of the Peerless tunnel in the direction of the old shaft for the purpose of exploring the possible downward extension of the ore reported to have been found in the shaft. A definite amount of drifting is not specified. In addition, 1,500 feet of diamond core drilling is proposed to explore the formation encountered in the main tunnel just beyond the southeast drift. Location, number, and length of holes are not given.

They propose building a compressor and service building, and either buy or rent a compressor, jack leg drill and accessories, and ventilation equipment. Necessary personnel is listed as two miners at $1.50 per hour, a foreman at $425.00 per month, and, in addition, supervision at $600.00 per month, and a consulting engineer at a fee of $1,000.00. It is estimated that the work would require 12 months to complete.

The estimated cost is given as between $10,000.00 and $40,000.00 and the loan application is in the amount of $25,000.00. The form MF-103 submitted is dated August 28, 1953, but the Bureau of Mines receiving stamp on it is dated January 12, 1954. A loan application made on the latter date would call for Government participation of 75 percent for tantalum and 50 percent for copper, or an average of 62 1/2 percent.

The applicants have not presented a definite plan of exploration, and on the basis of data available to the examining team, it is not possible to formulate a logical plan. Nothing is

known about the copper occurrence in the old shaft, and much more information about it would be necessary to justify and to plan further exploration. If the ore in the shaft resembles that seen in the upper tunnel, it is hardly likely that its continuation could be cut by exploration through the tunnel. The formation in the tunnel, which it is planned to explore by drilling, is a mineralized shear zone in a massive sandstone, rather than a vein or dike as described by the applicant, and it appears that the tunnel itself has provided all the exploration necessary, in the absence of any evidence to indicate that there is a possibility of finding tantalum, columbium, or commercial copper ore. An alternate exploration program is not suggested in this report.

PROPOSED FINANCING

The applicants state that they are prepared to furnish their share of the cost in cash and equipment.

CONCLUSIONS

The occurrence of copper in the upper tunnel on the Gregory claim is not commercial, and the ore reported to have been cut in the old shaft on the Bobtail claim is unverified. Copper mineralization in the Peerless tunnel is insignificant and there is no evidence to indicate that exploration would be likely to disclose mineable ore.

Analyses of various samples by qualified laboratories have not revealed an occurrence of columbium or tantalum on the property. Neither is it indicated by geological evidence.

RECOMMENDATIONS

Denial of the loan application under docket No. DMEA 3236 is recommended.

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

224 New Customhouse
Denver 2, Colorado

January 22, 1954

Tantalizer Mining Corp.
c/o Ben Bozeman
Suite 635
Majestic Building
Denver 2, Colorado

Re: Docket No. DMEA 3236

Dear Mr. Bozeman:

Before we can make a field examination of your property we need the information required in Items 5 and 6 of the enclosed form MF-103.

Under 5(b), please describe fully your proposed exploration work including a map or sketch of the property showing a plan of any present mine workings, and the location of your proposed exploration work with relation to the property boundaries.

After you have determined the scope of your proposed exploration work, you can then make an estimate of costs as shown in Item 6, which should be completed in detail.

When we receive four copies of the above information, we will include it with your original application, and will be in a position to process it.

Very truly yours,

W. H. King

W. H. King
Executive Officer
DMEA Field Team, Region IV

HMC:es

cc: Docket
Chron., Mittendorf
Traver, Koschmann (2)

Enclosure

FILE COPY
SURNAME:

500

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

N.S. in R.R.

January 20, 1954

Memorandum for the Files

From: J. W. Alt, Base Metals Division

Subject: Docket No. DMEA-3236, Tantalizer Mining Corp., Custer County, Colorado (a Region IV delegation case) (Tantalum-Copper)

On January 20, 1954, Miss Webster informed me that Congressman Chenoweth had phoned and was requesting information on the Tantalizer Mining Corp., Docket No. DMEA-3236. She gave me the docket and asked if I would phone the Congressman.

Congressman Chenoweth was contacted and informed that the above application was received by the Washington Office of DMEA from the Field Team, Region IV, on January 19, 1954, and that the application is dated August 28, 1953. He inquired as to the status of the application and was informed that as the total amount of the application was $25,000.00 and was for copper and tantalum, it was within the delegated authority of the Executive Officeer of Region IV to draw up a contract if he approved of the project. He was informed that we do not yet know what action has been taken on the application. That the application would be processed by that region, and that it is customary to make a field examination of the property. This examination might be delayed because of weather conditions, and it could be possible that such an examination could not be made until spring.

/s/
J. W. Alt

JWAlt/bjl

Copy to: Docket
Admr. R. File
Base Metals

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

January 19, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA - 3236 - Tantalizer Mining Corp.

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

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

Defense Minerals Administration
RECEIVED
JAN 18 1954

224 New Customhouse
Denver 2, Colorado

January 15, 1954.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMEA Form 3a (Revised) and MF-103 and supporting data pertaining to the following applications for Government assistance in exploration work:

Tantalizer Mining Corporation c/o Ben Bozeman 635 Majestic Building Denver 2, Colorado	Tantalum & Copper
The New Era Mining Company, a Partnership 1290 Birch Street Denver, Colorado	Tungsten
Earl B. Willden, Al Willden and L. A. Petty Delta, Utah	Tungsten

W H King
W. H. King

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1038.2.

RECEIVED
JAN 18 1954

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. 3236
Metal or Mineral Tantalum & Copper
Date Received
Estimated Cost $25,000
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Tantalizer Mining Corporation, a Colorado corporation, c/o Ben Bozeman, Attorney at Law, 635 Majestic Building, Denver 2, Colorado. Officers are George S. Hurst, Sr. President, Westcliffe, Coloradp; George S. Ticknor, Vice-President, 521 Flint Avenue, Albany, Georgia; and Elabell S. Hurst, Secretary-Treasurer, Westcliffe, 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. See attached copy of leases which have been assigned to Tantalizer Mining Corporation, a Colorado corporation.

(*b*) State any mine name by which the property is known. Formerly Peerless Copper Co.

(*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.

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

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

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

(*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*) [illegible]e the mineral or minerals for which you wi[illegible] explore Columbium, Tantalum, Copper

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work ~~will start within~~ starting August, 1953 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.). None

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

(*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 August 28, 1953

TANTALIZER MINING CORPORATION
(Applicant)

By Geo L Hurst Jr
President

Ellabell L Hurst
Secretary

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

Tantalizer Mining Corporation
c/o Ben Bozeman
Attorney at Law
635 Majestic Building
Denver 2, Colorado

4. (a) Present operations are being conducted in a tunnel opened in the 1920's by Peerless Consolidated Copper Mining Co. (now defunct). A building has been erected to house men and material. The tunnel has just been reopened to its full depth of about 3,000 feet.

(b) and (c) After inspecting records of George Bancroft, mine engineer now located at Colorado School of Mines, talking with residents in and around Westcliffe, Colorado who in former years were actually in this mine, and examining attached leases and other documents, applicant firmly believes that deposits of Columbium, Tantalum and Copper in commercial quantities can be found upon these claims. Though no guarantee can be made as to the accuracy of statements and data compiled by parties not known to applicant, all reasonable efforts have been made to verify same and applicant in good faith is relying upon same in making this application and in reliance thereon is expending its own monies for exploration work upon these mining claims.

Attached are photostats of records of George J. Bancroft, mining company, marked Exhibit "A" in red, and photostat of the mining properties marked Exhibit "B". That portion of Exhibit "B" on the dotted lines described as "Peerless Tunnel" discloses the various points from which samples were taken for the tests described in assay marked "A". It is the plan of the applicant to make ore tests in various places in the tunnel to determine the existence and extent of Tantalum, Columbium and Copper deposits.

Exhibit "C" is a photostat of the general area showing claims in Spruce Creek Mining District.

Exhibit "D" is copy of assay report of copper dated July 23, 1953, and letter dated July 29, 1953, from American Smelting and Refining Company.

(d) A good access road to the mouth of the tunnel has been built. Operations are located 4 miles from a county road and 20 miles from the railroad at Texas Creek. Hillside, Colorado is 6 miles away and Westcliffe 20 miles away.

(e) Manpower is plentiful due to closed down mines. Supplies are near by and equipment is available at Denver. A water supply flows from a stream located within the mine tunnel.

5. (d) The president of this company has had experience in hard rock gold mining in North Carolina. Leland E. Niles of Silver Cliffe, Colorado is mining superintendent and has worked in mines all his adult life.

Tantalizer Mining Corporation
c/o Ben Bozeman
Attorney at Law
635 Majestic Building
Denver 2, Colorado

6. (b) Labor and salary expenses will run about $900.00 per month.

(c) Picks, shovels, axes, saws, etc. will run a total of about $500.00. Dynamite, gasoline and similar supplies will cost about $250.00 per month.

(d) Rails can be purchased for about $700.00. Muck cars cost about $300.00 each and about 3 to 5 will be needed. Attached is list of machinery which the applicant will need to purchase.

(f) $1,500.00 has been expended for a new building and $600.00 for a road.

7. Statement showing availability of funds of applicant to share in cost of construction will be presented upon request. Applicant will share the cost of the proposed project in accordance with the regulations on government participation. Cost will be shared in money and equipment owned by applicant. Compliance will be had by the applicant with all government regulations concerning loan disbursements. It is estimated that the cost of operations will be between $10,000.00 and $40,000.00 for exploratory work. Application is hereby made for a loan in the amount of $25,000.00.

Geo. J. Bancroft & Company

WM. FAULKNER, METALLURGIST

ASSAY OFFICE AND ORE TESTING WORKS

DENVER

PRACTICAL WORKING TESTS OF ORES BY
CYANIDE PROCESS
AMALGAMATION
FLOTATION
ELECTRO-MAGNETIC SEPARATION

BANCROFT BUILDING
218 BROADWAY

DENVER, COLO.,

MEMORANDUM OF ASSAY OF _____ MADE FOR Perlen Copper Co

ASSAY VALUE PER TON OF 2,000 POUNDS AVOIRDUPOIS

SAMPLE MARK	Copper at ..... cts. per lb			Lead at ..... cts. per lb.			Silver at ..... cts. per oz.			Gold at $20 per oz.			Total	
	Per Cent.	Dollars	Cts.	Per Cent.	Dollars	Cts.	Ounces	100ths	Dollars	Cts.	Ounces	100ths	Dollars	Cts.	Dollars	Cts.

Concentration Test July 12th

Sample from 75 ft of ore body ground through 20 mesh. Screened through 80 mesh
20 - 80 = 25 lbs
Concentration showed little concentration of black stuff
Sub 80 mesh = 18½ lbs from which 3¼ lbs concentrates resulted. The [illegible] scoop shows very little concentration of black stuff. Concentrate treated with Ba [illegible] & HCl shows much [illegible] spar which the acid did not [illegible].
Table worked [illegible] and showed distinct stratification

PHOTO - COPY
PICK PICK
FOR EXTRAORDINARY SERVICE 2876
PICK PHOTOGRAPHIC BLUEPRINT CO.
1015 - 17th ST. DENVER, COLO.
CERTIFIED ON REQUEST

213

Charles [illegible]

Address [illegible]

Assay [illegible]

J-11

LaSalle Extension University
HIGHER ACCOUNTANCY COURSE

Section

Lesson No.

Matriculation

LIBRARY
SCHOOL OF MINES
GOLDEN, COLORADO

JOURNAL

DATE		EXPLANATION			FOL.	✓	DEBITS	CREDITS
		%	%	%		oz	oz	oz
	Sample No.	1/4	[illegible]	Cu.		Viu.	Ia.	Cb.
11/25/25	1	.42	5.[illegible]			.025	46.08	
	2	16	.16			.02	[illegible].20	
	3	.02	.41	3.90			1.24	
8/31/26	1						1.60	Tails 20 M [illegible]
	2						10.10	" [illegible]
	3						15.40	" Conc. [illegible]
8/7/26	1	1' [illegible] 150' [illegible]					.60	19.80
	2	4' at 2nd Patch of [illegible]					4.80	6.80
	3	[illegible] 10' toward [illegible]					[illegible]	
	4	3' [illegible] #3					.60 "	
	5	10' N of Line Drift					0.00 "	
	6	N Drift 3' of Flat Body					2.70 "	
8/10/26	1	.68	.34	[illegible]			[illegible]	
8/17/26	1	.22				.00	2.56 "	
8/24/26	1	Heads 20 M					4.32	3.76
	2	Slimes for 2 tests					3.84	1.68
8/25/26	1	By Buckingham & Parker		Roasted Conc.			3.97	
9/1/26	1			Concl			[illegible] "	
	2			Tails			[illegible] "	
9/8/26	1	Wt. [illegible].50 % of whole		Magnetic Conc.			[illegible] "	
	2	Wt. 30.70 % "		" Tails			[illegible] "	
9/30/26	1		Special Sample				[illegible].50	2.72
	2						None	None

This paper in assorted [illegible]

Price Hundred Columnar, Ledger, and Journal sheets $1.00 with order.

PHOTO - COPY
BY PICK
FOR EXTRA COPIES, [illegible] 287.
PICK PHOTOGRAPHIC [illegible] CO.
1015 - 17th ST. [illegible] COLO.
CERTIFIED ON REQUEST

HIGHER ACCOUNTANCY COURSE

Matriculation No.

JOURNAL

DATE		EXPLANATION				FOL.	✓	DEBIT	CREDIT
				%				%	
	Samp.			Ca.		Ca.		Ca	
11/18/26	1	[illegible] Sample						2.39	Trace
	2	[illegible] White Spar						Trace	
	3	[illegible] Spar						None	
	4	[illegible]						Trace	
	[illegible]	[illegible]						"	
	[illegible]	[illegible]						[illegible]	
	[illegible]	"						[illegible]	
	[illegible]	[illegible]						[illegible]	
	9	[illegible]						[illegible]	
	10	[illegible]						[illegible]	
11/22/26	1	.02	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]			[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	1.70	[illegible] Sample			[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	1.30	[illegible]			[illegible]	[illegible]
	[illegible]				E ½ [illegible]			[illegible]	[illegible]
11/30/26	1			White				[illegible]	Trace
	2			Grey				[illegible]	"
	3			Black				[illegible]	"

This paper in assorted package of three hundred columnar, ledger, and journal sheets $1.00 with order.

PHOTO - COPY
BY PICK
FOR EXTRA COPIES, [illegible] 287[illegible]
[illegible]
PICK PHOTOGRAPHIC [illegible] 60.
1015 - 17[illegible] [illegible] 0.
CERTIFIED [illegible] REQUEST

The field for this tantalum rectifier is enormous, so the market for a large and steady production of Tantalum ore seems to be assured unless some unforseem condition arises. The Engineering and Mining Journal gives the following quotations:
Tantalum Ore--Foreign 50¢ per lb. of Tantalum Oxide contained c.i.f. New York. Tantalum Metal---$36.00 per lb. nominal only. None for sale.

The principal sources of tantalum at present are from China and Australia, where it is found in pockets in pergatite* dikes. So far as my investigations have gone, the Hillside deposits are larger and appear more dependable than any other deposits yet discovered.

THE ORE BODIES

The ore bodies are, as mentioned above, for the most part, shattered zones in sand stone, the cracks of which have been filled with a cream colore spar occasionally loaded with chalcopyrite. The cream colored spar conforms more nearly to the description of arohnite than any other tantalum mentioned by Dana. Mixed with the arehnite are crystals of baryta and quartz. The ore bodies are probably vein like in general dimensions. They are what the Germans call "Stockwerk" veins. The larger ore body outcrops in Gulch and has been developed by 3 tunnels and a shaft, all on the northside of the gulch. Its width at this place is 120 ft. South of Gulch there are no developements but some float indicates that it extends southerly a few hundred feet. From Gulch to a point vertically over the main tunnel there is a continuous sprinkling of float indicating a fairly continous ore body. The float does not lie in a straight line but in a gentle curve. I did not follow it continuously from the point over the tunnel to the next developement north, which is on the claim's end line. I observed float in several places along this Line. So I think we may assume for the present that the ore bodies are not isolated bunches or pockets, but are tabular bodies of reasonable continuity and generous dimensions.

METALLURGY

The chaleopyrite can, of course, be saved by ordinary milling processes, so no tests have been made on ores containing important quantities of copper. The tantalum mineral is slightly heavier than the sandstone and reasonable separation can be effected by very careful table concentration. The concentrates can then be purified somewhat by removing the magnetic constituents with a magnetic separator. The sandstones, being red, contain enough iron to pull away from the tantalum spar to a limited extent. So far as our metallurgical tests have proceeded this is the only scheme of concentration by milling methods that has given any encouragement. We can make a commercia product in this way, saving the copper as a by product but the tailings loss is high and we feel that some better method may yet be found. The ore yields rather well to the simple method of washing and hand sorting, so there is no real haste about finding a perfect milling method. So far as we have gone in our investigations, it appears that a hansome profit can be made by simply washing and hand sorting. The discard will of course be piled by itself so that it will be available when the mill is erected. When the cream colored spar id heated it becomes a porus like a sponge and turns black. I assume tha carbon dioxide and water of crystalization is driven off, but have not proved this assumption. At any rate it leaves the Tantalum mineral in a poor state for concentration but a very good state for taking into solution by chemical means. I understand that the Fan Steel people use a chemical to dissolve Tantalum as the first step in their process; so this characteristic of our ore may be useful. The action of surface agencies seems to have much the same effect on the ore as heating, but with this difference, the black

mineral in the surface ores is granular, rather than spongy, and concentrates on the table very well, giving a 4-made of cum concentrate. Further metallurgical tests are in progress and will be reported later.

VALUES

Tantalum is bought in the form of oxide, (Ta2-O5). It is now quoted at 50¢ per lb. but is actually selling higher. The presence of Tantalum in ore was first discovered by George Sharon in the spring of 1925. Sharon made a complete analysis of the ore, finding Tantalum Niebium (or Columbium) and ruthenium. A number of confirmatory samples were made at that time, the detail sheets of which I have mislaid. In October 1925 I went to the mine and brought down about 200 lbs. representing a roughly hand sorted product from the wide exposure in Gulch. This ore concentrated on a Wilfley card table and the concentrates ran 46% Tantalum, 5/100 ozs. ruthenium, 5.58 ozs. silver and $840 gold, the total value being $470.00 per ton. The concentrati was 10 to 1, making a recovery from the crude samples of $47.60. The second concentrates ran 28.2% Tantalum, 2/100 ruthenium, 2/10 ozs. silver and $3.00 gold. The middlings ran very low except that they contained but 4% copper which no doubt could be re-concentrated by flotation giving an additional $6.00 to the value of the recovery from the crude sample, making a total of $53.60. The heads of this test were not assayed, nor were the tailings, so the values above represent the actual recovery only. The loss in tailings is not know. This sample was ore broken from the wall of the short tunnels in the Lemon's Gulch about 1,000 ft. above the portal of the main tunnel. The Tantalum in this ore occures in very fine grains of black mineral, which is readily concentrated. A similar mineral can be obtained by heating the cr cream colored spar found in the mail tunnel, except that this roasted mineral is spongy and won't concentrate on the table. Our next test was made by taking large samples from the several veins out by the main tunnel. Those veins are shown on the accompanying map. Most of the testing has been done on the big vein. We took about 75 lbs. from this vein by chiseling a cut clo across it. The average value is 5.2% (Ta2-O5) tantalum oxide, which would give the ore a value of $52.00 per ton as it stands in the ground.

We first attempted to concentrate this sample in the usual way, but foun that the Tantalum mineral in this unoxidized ore is only slightly heavier than the sandstone and does not concentrate as well as the surface ores. Without going into detail on all of our tests, I feel fairly sure that we can at least make a 30% concentrate by water concentration, followed by magnetic separation. The tailings loss is however, very high.

I am planning to test the ore with flotation and with electric smelting, but in the meantime I am submitting samples of our product to the buyers to Tantalum. If these samples are satisfactory to the buyers and the price is high enough to stand the freight rate, I think the company may well proceed to mine, hand sort and ship in the near future, and leave the matter of the mill until such time as we feel entirely sure that we have found the very best process. It is very likely that the engineers of the Fan Steel Company may offer some suggestions regarding milling methods.

The other veins in the tunnel ran as follows:

4 ft. dike 150 ft. from breast	5.6% Ta2O5
4 ft. vein 550 ft. from breast	4.8% Ta2O5
5 ft. vein 570 ft. from breast	3.3% Ta2O5
3 ft. vein 590 ft. from breast	.3% Ta2O5
3.ft. vein N.W. drift	1.5% Ta2O5
6 ft. vein 130 ft. S.W. of S.E. drift	.3% Ta2O5

The 3 ft. in the N.W. drift also contains copper but was not assayed for the same. This is the only vein in the main tunnel that shows copper. The rest shows nothing but the cream colored spar of Tantalum and a little baryta. In the course of exploration, however, I anticipate that copper will be found in sufficient quantities to warrant making a copper product.

SUMMARY

If the several exposures of Tantalum ore represents segments of continuing veins, the Tantalum ore indicated by these discoveries is enormous. If they represent nothing more than disconnected pockets the amount disclosed is improtant.

In any event I feel that the mine warrants intelligent exploitation and gives promise of being very profitable.

(signed) George J. Bancroft.

* Pergatite. We believe this is a typographical error, as there is no such word in the dictionary nor in Dana's Minerals. The word meant is probably PEGMATITE

WESTERN MACHINERY COMPANY
Denver 4, Colorado

August 11, 1953

Mr. George J. Hurst
P. O. Box 184
West Cliff, Colorado

Dear Mr. Hurst:

Our good friend Adolph Poston, has asked that we quote you the folowing new equipment:

1 - Jaeger 250 cfm portable air compressor powered with an International UD14A diesel engine.

Price, f.o.b. Columbus, Ohio.....$6,800.00
Weight, 6,900 pounds

The above compressor can be shipped LCL freight from Columbus to West Cliff from stock. Estimated freight is $500.00. We are obtaining one o. these compressors on our next carload shipment scheduled for arrival in Denver about September 1st, and quote $7,038.00 f.o.b. Denver, Colorado.

1 - Jaeger 250 c.f.m. compressor mounted on steel base, and driven with vee belt drive by a Continental B427 power unit.

Price, f.o.b. Denver, Colorado.....$4,350.00
Delivery one week

We also have an used Jaeger portable diesel at $3,750.00, and an used Jaeger gasoline powered skid mounted compressor at $3,050.00 f.o.b. Denver, Colorado.

1 - Thor Model 380 combination sinker drill and leg as per bulletin.

Price, f.o.b. West Cliff.....$ 665.00

1 - 50' length Wemco blue 3/4" air hose with Thor coupling..... 30.50

1 - 50' length Wemco blue 1/2" water hose with thor coupling..... 25.00

1 - Thor pressure water tank with fittings..... 71.50

1 - 42" diameter x 96" long air receiver, price f.o.b. Denver..... 300.00

3 - 7/8" x 4-1/4" x 2' alloy drill steel.....	5.70 ea.
3 - 7/8" x 4-1/4" x 6' alloy drill steel.....	9.55 ea.
3 - 7/8" x 4-1/4" x 4' alloy drill steel.....	7.55 ea.
500 - Assorted Liddicoat 1L throw away bits.....	.23 ea.
500' - 2" aluminum air line with quick detachable leak proof aluminum coupling, price per 20' length.....	11.20
30' - Length.....	14.40
40' - Length.....	17.20
1000' - Bemis 12" flexipipe rubberize grade in 50' lengths.....	948.00
1 - Sutorbilt No. 2 windy fan suitable for 2,000 cubic feet per minute at the end of 1,000' of 12" flexipipe, complete with 7½ H.P. Wiconsin air cooled engine, and vee belt drive.	
Price, f.o.b. Los Angeles, California.....	565.00

Our Mr. Jack Quist is planning a trip into your area within the next few days, and will call on you to discuss the advantages of the equipment which we are quoting.

Very truly yours,

WESTERN MACHINERY COMPANY

A. George Setter

AGS:mjr

833. MINING LEASE-Out West Printing and Stationery Co., Colorado Springs, Colo.

THIS AGREEMENT OF LEASE, Made and entered into this 13th day of July, A.D. 1953, by and between E. W. Spencer (1st party), Westcliffe, Colorado, party of the first part, and Geo. S. Tickner, Geo. S. Hurst, Sr., and Ellabell S. Hurst, All of Albany, Georgia, parties of the second part, WITNESSETH, That the said party of the first part, for and in consideration of the rents, covenants and agreements hereinafter expressed to be paid, kept and performed by the said parties of the said second part, has leased, let and demised, and by these presents does lease, let and demise unto the said parties of the second part, the following described premises, to-wit:

Tantalizer No. 1,
Tantalizer No. 2,
Tantalizer No. 3,
Tantalizer No. 4, and
Tantalizer No. 5.

Lode Mining Claims, the Location Certificates of which are recorded in Book 106, Pages 55 to 59 inclusive, respectively, in the office of the County Clerk of Custer County, Colorado.

TO HAVE AND TO HOLD, For the purpose of mining, with power to assign or sub-let the whole or any part of said premises for a term of ten years from the date hereof. Said parties of the second part, for and in consideration of the premises aforesaid, have covenanted, contracted and agreed, and by these presents do covenants, contract and agree with said party of the first part his heirs, executors, administrators, successors or assigns, to commence work on said premises on or before September 1, 1954, and to work the same continuously and with reasonable diligence, in thorough and workmanlike manner; performing thereon at least $500.00 worth of ~~shftxxxf~~ work, during every calendar year of the life of said lease; keeping the same securely timbered in all parts during the term of this lease; to keep accurate accounts, and to render semi-annual statements, accompanied by vouchers, to the said party of the first part, his agent or attorney, showing the amount of all ore taken from said premises, and the yield of the same, and the cost of hauling, milling and mining the same & all costs of operations to said party of the first part, his agent or attorney, as rental for said premises, as follows, to-wit:

10% of the profits after deducting all costs of hauling, treatment, mining and all costs of operating said premises.

Said parties of the second part furthermore agree that the said party of the first part, his agent or attorney, shall have the right at any and all times to enter upon and descend into any and all parts of said premises, and that the said parties of the second part will render to him all the assistance in their power in so doing.

Said parties of the second part furthermore agree that in case they fail to commence work on said premises as aforesaid, or to work the same continuously and with reasonable diligence and in workmanlike manner, or to keep the same securely timbered, or render said statements, or to pay said rental as aforesaid, or in any respect to keep and fulfill any and all agreements herein expressed or implied, then, and in that case, it shall be lawful for the said party of the first part, his agent or attorney, to declare this lease void and of no effect thereafter, and without process of law to enter upon and take possession of said premises; and also at the expiration of this lease by limitation, said parties of the second part agree to surrender, yield and deliver to said party of the first part, his heirs, administrators, executors, successors and assigns, quiet and peaceable possession of said premises in good condition.

STATE OF COLORADO)
COUNTY OF CUSTER)SS.

The foregoing instrument was acknowledged before me, this 13th day of July, 1953, A.D., by - E. W. Spencer, Geo. S. Ticknor, Geo. S. Hurst, Sr., and Ellabell S. Hurst.
Witness my hand and official seal.

/S/ ELMER MILLER
County Clerk.

/S/ E. W. SPENCER (SEAL)
E. W. Spencer

/S/ GEO. S. TICKNOR (SEAL)
Geo. S. Ticknor

/S/ GEO. S. HURST, SR (SEAL)
Geo. S. Hurst, Sr.

/S/ ELLABELL S. HURST (SEAL)
Ellabell S. Hurst

MINING LEASE-Cut Rest Printing and Stationery Co.,
Colorado Springs, Colo.

THIS AGREEMENT OF LEASE, Made and entered into this 15th day of July, A.D. 1953, by and between Grace L. Fidler, Rhea Rusher, Tessie Bacon, A. William Whitney, Fay Rusher and J. Lee Whitney, parties of the first part, and Geo. S. Ticknor, Geo. S. Hurst, Sr., and Ellabell S. Hurst, all of Albany, Georgia, parties of the second part, WITNESSETH, That the said parties of the first part, for and in consideration of the rents, covenants and agreements hereinafter expressed to be paid, kept and performed by the said parties of the said second part, have leased, let and demised, and by these presents do lease, let and demise unto the said parties of the second part, the following described premises, to-wit:

Sangre De Christo Lode, U. S. Mining Survey #12897, in Section Seventeen, Township Forty-six, Range Twelve;

Bobtail Lode, U. S. Mining Survey #12897, in Section Eighteen, Township Forty-six, Range Twelve;

Gregory Lode, U. S. Mining Survey #12897, in Section Twenty, Township Forty-six, Range Twelve;

All in the County of Custer, and State of Colorado;

TO HAVE AND TO HOLD, For the purpose of mining, without the power to assign or sub-let the whole or any part of said premises for a term of ten years from the date hereof. Said parties of the second part, for and in consideration of the premises aforesaid, have covenanted, contracted and agreed, and by these presents do covenant, contract and agree with said parties of the first part their heirs, executors, administrators, successors or assigns, to commence work on said premises on or before September 1, 1954, and to work the same continuously and with reasonable diligence, in thorough and workmanlike manner; performing thereon at least $500.00 worth of work, during every calendar year of the life of said lease; keeping the same securely timbered in all parts during the term of this lease; to keep accurate accounts, and to render semi-annual statements, accompanied by vouchers, to the said parties of the first part, their agent or attorney, showing the amount of all ore taken from said premises, and the yield of the same, and the cost of hauling, milling and mining the same & all costs of operations to said parties of the first part, their agent or attorney, as rental for said premises, as follows, to-wit:

Ten per cent of the profits after deducting all costs of hauling, treatment, mining and all costs of operating said premises.

Said parties of the second part furthermore agree that the said parties of the first part, their agent or attorney, shall have the right at any and all times to enter upon and descend into any and all parts of said premises, and that the said parties of the second part will render to them all the assistance in their power in so doing.

Said parties of the second part furthermore agree that in case they fail to commence work on said premises as aforesaid, or to work the same continuously and with reasonable diligence and in workmanlike manner, or to keep the same securely timbered, or render said statements, or to pay said rental as aforesaid, or in any respect to keep and fulfill any and all agreements herein expressed or implied, then, and in that case, it shall be lawful for the said parties of the first part, their agent or attorney, to declare this lease void and of no effect thereafter, and without process of law to enter upon and take possession of said premises; and also at the expiration of this lease by limitation, said parties of the second part agree to surrender, yield and deliver to said parties of the first part, their heirs, administrators, executors, successors and assigns, quiet and peaceable possession of said premises in good condition.

The lessors shall not be responsible for any act or omission of the lessees, and said lessors shall not be liable for any claims of any kind or nature, nor for any materials or supplies which may be furnished in the construction of any improvements, nor for any labor performed in connection therewith.

All improvements erected on said leased premises, consisting of buildings or other structures, timbering, tunneling and all other permanent improvements shall be left on said premises by the lessees upon the expiration of the term hereinabove mentioned, but the lessees shall have the right and privilege of removing all machinery and mining equipment at the expiration of said term.

_____	/S/ A. WILLIAM WHITNEY	(SEAL)
_____	/S/ FAY RUSHER	(SEAL)
_____	/S/ RHEA RUSHER	(SEAL)
Parties of the Second Part	/S/ TESSIE BACON	(SEAL)
	/S/ GRACE L. FIDLER	(SEAL)
	Parties of the First Part	

STATE OF COLORADO)
) ss.
COUNTY OF GARFIELD)

The foregoing instrument was acknowledged before me on this 28th day of July, 1953 by Grace L. Fidler, Rhea Rusher, Tessie Bacon and Fay Rusher.

My commission expires April 17, 1955

WITNESS My hand and official seal.

/S/ JARRY E. MAST
Notary Public

STATE OF CALIFORNIA)
) SS.
COUNTY OF LOS ANGELES)

The foregoing instrument was acknowledged before me on this 21 day of July, 1953, by A. William Whitney.

My commission expires August 12, 1956

WITNESS my hand and official seal.

/S/ JOHN G. DUNN
Notary Public

STATE OF CALIFORNIA)
) SS.
COUNTY OF _____)

The foregoing instrument was acknowledged before me on this _____ day of July, 1953, by J. Lee Whitney.

My commission expires _____.

WITNESS My hand and official seal.

_____
Notary Public.

WESTERN MACHINERY COMPANY
Denver 4, Colorado

RECEIVED
JAN 26 1954

August 12, 1953

Mr. George J. Hurst
P. O. Box 184
Westcliffe, Colorado

Dear Mr. Hurst:

Yesterday we sent you a quotation on several items of mining equipment. We notice that we made an error in quoting the Sutorbilt No. 2 "Windy" Fan and the correct price should be $655.00 instead of $565.00.

Very truly yours,

WESTERN MACHINERY COMPANY

A. George Setter

AGS:vkc

U. S. Government Messenger Envelope

Standard Form No. 65 (Rev. 1/46)

1. Use blocks consecutively, one at a time.
2. Void previous block.
3. Write clearly.

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
[illegible]	RUN / STOP	DMEA-3236 Maps	RUN / STOP
Property Office Bldg. 3rd	RUN / STOP		RUN / STOP
~~[illegible]~~ R. F. Geller	RUN / STOP		RUN / STOP
Mrs. Lillian H. Gilvin 306 West	RUN / STOP		RUN / STOP
4/6 [illegible]	RUN / STOP		RUN / STOP
Procurement S. & R.	RUN / STOP		RUN / STOP
Miss [illegible] 116 South	RUN / STOP		RUN / STOP
[illegible]	RUN / STOP		RUN / STOP
Mr. Jennings [illegible]	RUN / STOP		RUN / STOP
Mr. Chas Thomason ~~Room 3330~~ INTERIOR ~~D.M.E.~~ Rm. 2446	RUN 16 / STOP 43		RUN / STOP

Send surplus envelopes to supply room for reissue.

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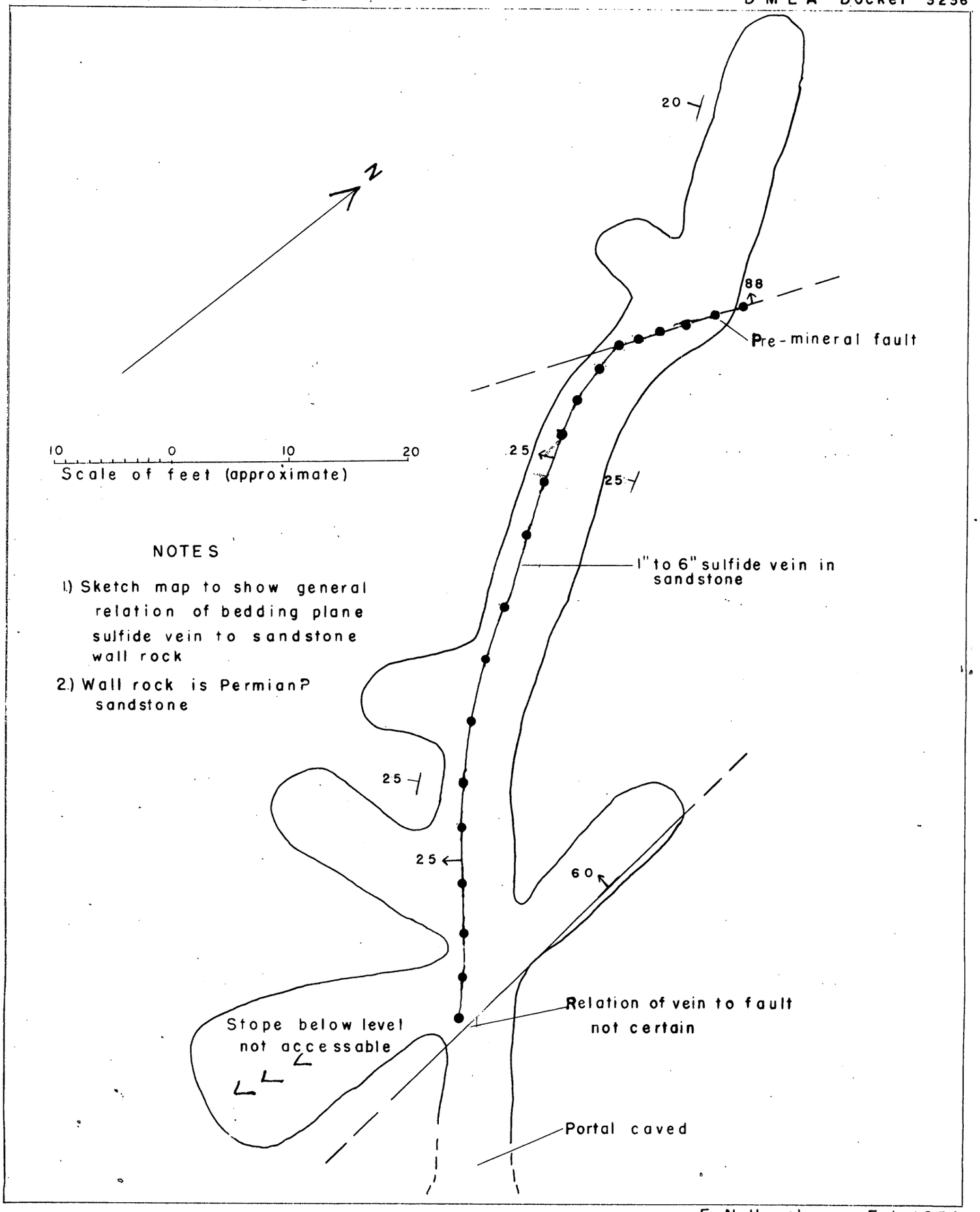
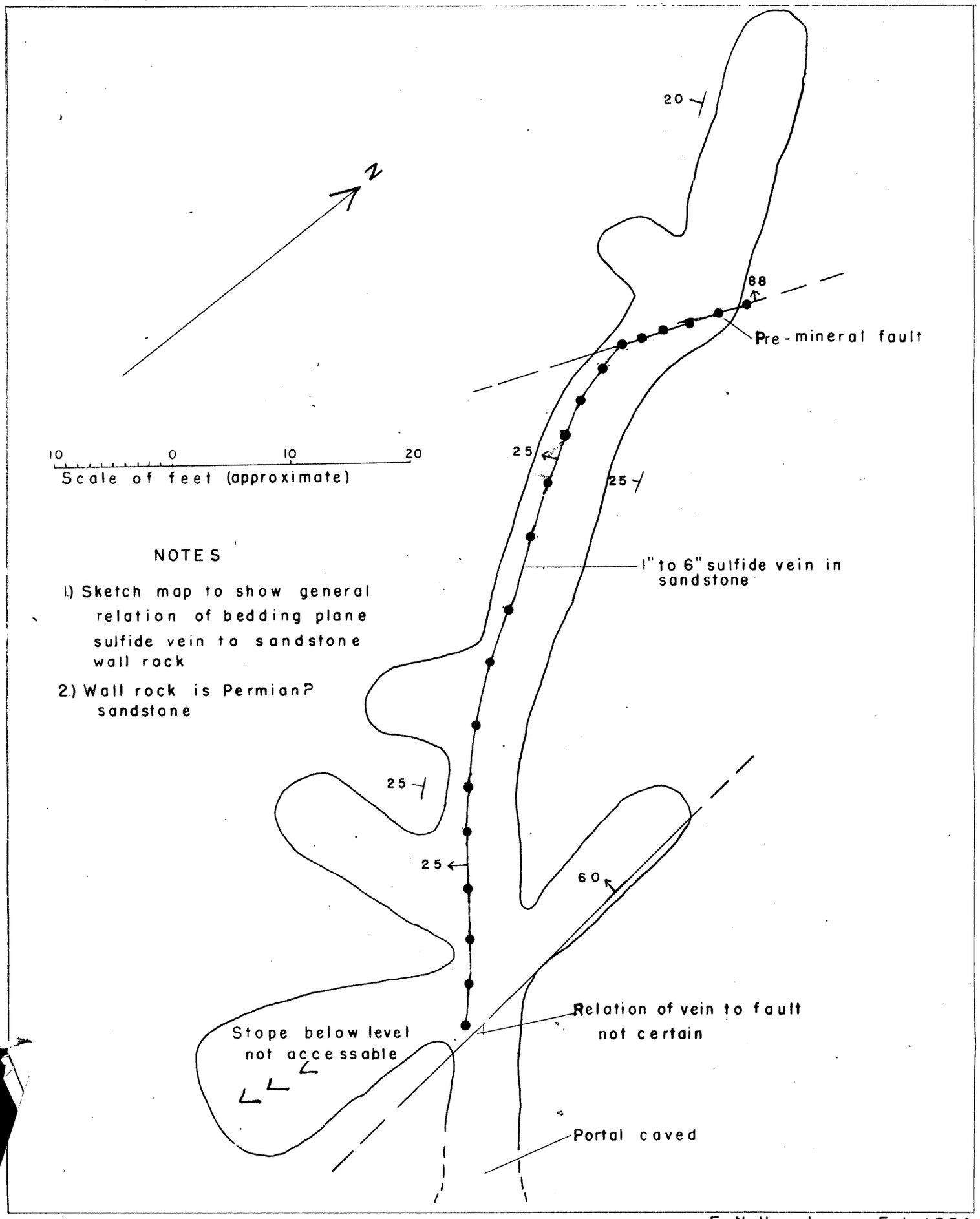
Use RUN and STOP only when messenger service between Government buildings in Washington is required. Your mail room has RUN and STOP information.



E. N. Harshman Feb., 1954

Fig. 2 Sketch Map - Tantalizer Mining Co., Gregory claim, Custer County, Colorado



E. N. Harshman Feb., 1954

Fig. 2 Sketch Map - Tantalizer Mining Co., Gregory claim, Custer County, Colorado

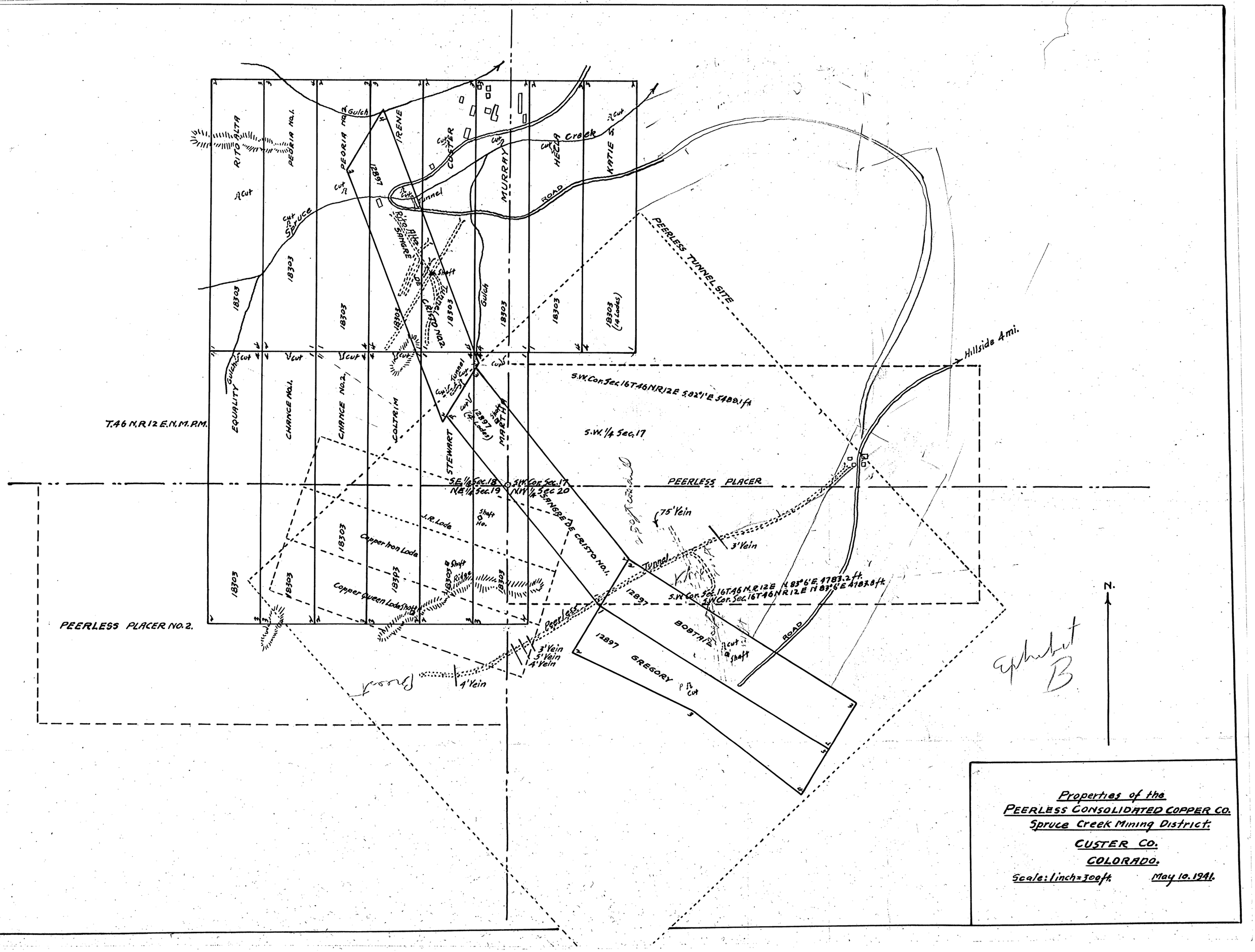


Exhibit B

Properties of the
PEERLESS CONSOLIDATED COPPER CO.
Spruce Creek Mining District.
CUSTER CO.
COLORADO.
Scale: 1 inch = 300 ft. May 10. 1941.

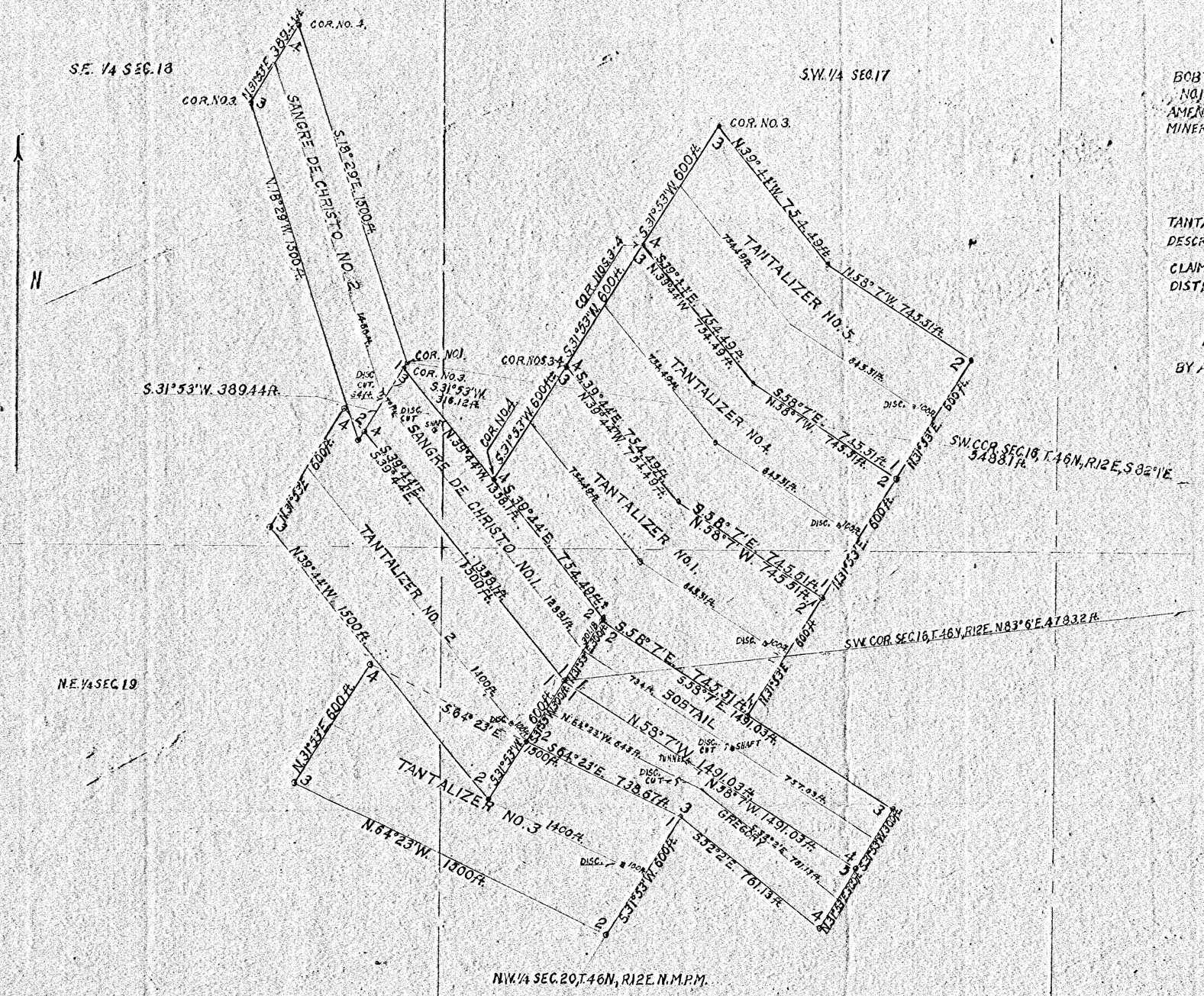
PLAT

OF THE CLAIM OF
J. H. BARNES, ET AL.,
KNOWN AS THE
BOBTAIL, GREGORY, SANGRE DE CHRISTO
NO. 1 AND NO. 2, AND CONTAINING 38.839 ACRES.
AMENDED LOCATIONS, OCT. 10, 1898.
MINERAL SURVEY NO. 12397.
VARIATION 14° 30' EAST

AND THE CLAIM OF
E. W. SPENCER,
KNOWN AS THE
TANTALIZER NO. 1, NO. 2, NO. 3, NO. 4, AND NO. 5 LODES.
DESCRIBED IN LOCATION CERTIFICATES OF JAN. 5, 1943.

CLAIMS ARE LOCATED IN SPRUCE CREEK MINING
DISTRICT IN CUSTER COUNTY, COLORADO.

SCALE: 1 INCH = 400 FEET.

FOR MRS. GEORGE S. HURST.

BY A. H. CRESS, CUSTER COUNTY SURVEYOR
AUGUST 18, 1953.