DMA Form 1

DEFENSE MINERALS ADMINISTRATION
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AUG 22 1955

Mr. W. R. Cochran
Sugar Loaf Route
Boulder, Colorado

Re: Docket No. DMEA-3806, Tungsten
Wild Tiger Mine
Boulder County, Colorado

Dear Mr. Cochran:

Your application for aid for an exploration project and other data available to us in Washington concerning the above-referenced property have been reviewed.

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

Careful study of our information, although noting a small amount of tungsten mineralization in surface trenches and in the Wild Tiger shaft and drifts, indicates to us that the probability of disclosing minable tungsten ore reserves by your proposed program is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File
Robt. Holliday, USBM
Thor Kiilsgaard, USGS
FT, Reg. 3

SPHolt/ls
8/17/55

400

August 17, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro Alloys Division

Subject: Denial of request for exploration assistance in the amount of $16,529.79
Docket No. DMEA 3806 Tungsten
W. R. Cochran
Wild Tiger Mine
Boulder County, Colorado

The denial of the subject application is recommended by this Division based on the following information:

(1) The applicant, W. R. Cochran, Sugar Loaf Route, Boulder, Colorado, requested exploration assistance in the amount of $16,529.79 for 100 feet of shaft sinking and 200 feet of drifting in the Wild Tiger mine.

(2) The applicant controls, by lease from Albert B. Pace, owner of an undivided 3/4 interest, the following patented mining claims:

Mt. Pisgah lode mining claim, U.S. Survey No. 5272
Wild Tiger lode mining claim, U.S. Survey No. 5272
Wild Tiger No. 2 lode mining claim, U.S. Survey No. 5272

These claims are located in the Sugar Loaf Mining District, Boulder County, Colorado.

(3) The proposed program is by sinking 100 feet in the Wild Tiger shaft and drifting 200 feet southwesterly from the new depth along the Wild Tiger vein.

(4) In the area explored by the Wild Tiger mine, sparse tungsten mineralization occurs in the shaft and surface workings, but there is no reason to predict, as the applicant suggests, that the size and grade of the ore bodies will improve with depth.

(5) The Field Team concludes that there is little probability of making a significant discovery and recommends denial. The Commodity Division of the Geological Survey and the Bureau of Mines concur in this recommendation.

cc: Docket
Code 400
Oper. Committee
Adm. Read. File

Thos. L. Chapman, Acting Chief
Iron and Ferro Alloys Division

SPHolt/ls 8/17/55

IN REPLY REFER TO:

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

August 17, 1955

Re: DMEA 3106
W. R. Cochran
Wild Tiger Mine
Boulder Co., Colo.
$16,630.19 - Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report.

The applicant applied for a loan to sink 100 feet of shaft and drift 200 feet, at an estimated cost of $16,589.79. As estimated by the examiners the cost would be $16,630.19.

Work on and near the surface by the applicant has yielded 7.6 tons of sorted ore worth (net) $1,069.80, and assaying 4.7% WO_3. The 35.6 units resulted from mining about 75 tons of material.

A shaft, Wild Tiger or Mt. Fisgah (two names are given) follows the vein down dip for 56 feet and it has been exposed along strike for 140 feet and 46 feet in drifting from the shaft. The mining and shaft work afford a good sample of the vein and the it contains high grade streaks, the vein as opened is not of ore grade. As the examiners reason, there is no ground for thinking that the vein will improve with depth as inferred by the applicant.

I concur with the denial recommendation of the Field Team.

N. E. Nelson

NENelson:iml
G-8/17/55

N. E. Nelson

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3513

RECEIVED
AUG 18 1955

400

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

RECEIVED
JUN - 3 1955

224 New Customhouse
Denver 2, Colorado

May 26, 1955

Memorandum

Copy retained 400

To: J. F. Shaw W/Brochure
E. N. Harshman

From: DMEA Field Team, Region III

Subject: DMEA-3806 (Tungsten), W. R. Cochran (Wild Tiger mine), Boulder County, Colorado

Enclosed are copies of the subject loan application for $16,529.79, referral letter from the Chairman of the Operating Committee, and memorandum of review by N. E. Nelson, USGS; also copies of memoranda and correspondence concerned with the application.

A field examination and suitable covering reports are required. Should a project be recommended, please give consideration to the Chairman's suggestion in his referral letter.

W. M. Traver
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

WMT:sr

cc Sec. Op. Comm. (2)
Subject
Chron

400

MAY 23 1955

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

Re: Docket No. DMEA 3806 - Tungsten
W. R. Cochran
Wild Tiger mine
Boulder County, Colorado

Dear Mr. Trever:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property.

In reviewing the subject application, it was noted that adjoining claims may be benefited by the proposed exploration. If an exploration project is warranted, the possibility of including these claims should be investigated. In any event, if an exploration project will be recommended by the Field Team, an Owner's Consent to Lien should be obtained from Mr. Pace covering an undivided three-fourths interest in the land.

Two copies of a relevant memorandum dated May 17, 1955, by N. E. Nelson, Geological Survey, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

APPROVED:

J. H. Hedges

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

FARutledge:foc
5-20-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. III
Messrs. Holliday, USBM
Kiilsgaard, USGS

MAY 23 1955

Mr. W. R. Cochran
Super Leaf Route
Boulder, Colorado

Re: Docket No. DMEA 3406 - Tungsten
Wild Tiger mine
Boulder County, Colorado

Dear Mr. Cochran:

Your application for exploration assistance for tungsten assigned Docket Number DMEA 3406, has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. W. M. Trever, Executive Officer, DMEA Field Team, Region III, 22h New Customhouse Building, Denver, 2, Colorado, for a field examination of the property.

Any assistance that you can render the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
5-20-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. III
Messrs. Holliday, USBM
Kiilsgaard, USGS

IN REPLY REFER TO:

402

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

May 17, 1955

Re: DMEA-3806
W. R. Cochran
Wild Tiger Mine
Boulder, Colorado
$16,529.79
Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of application

The subject of this application is about one third of a mile north of the Boulder Falls productive tungsten area, in what would appear to be the fringe of the Boulder County District (U.S.G.S. Prof. Paper No. 245). The Wild Tiger mine is better known for its gold production than for the small production of tungsten taken from the tungsten shaft.

The application says new work has uncovered a well mineralized vein which has been stripped for 100 feet. Presumably the mineralization is by tungsten minerals. A shaft has been sunk 25 feet and drifted 25 feet to the northeast. 10 tons of ore was recovered which assayed 3 to 5½ WO_3, about 42.5 units. The average for the material taken out, 100± tons, would be approximately 0.425% WO_3.

Unless the bottom of the shaft and the drift look much better than the average the exploration proposed would appear to be out of proportion to the ore probabilities, but some work may be justified. An inspection by the Field Team of the recent work is recommended.

H. E. Nelson

H. E. Nelson

HENelson:hlm
G-5/17/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. W. Holliday, 3513 Interior

4071

IN REPLY REFER TO:

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

May 18, 1955

Copy retained 400

Re: DMEA-3807
Reynolds Tungsten Corp.
Boser Mine
Hamerland, Colorado
$258,795.00 - Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of application

The ambitious program of this application would prospect a large block of heretofore little tested ground on the top and the northeast and northwest slopes of Hurricane Hill. The block of ground composing the Hill is flanked by properties credited with low to fair production records, but the block itself has been singularly unproductive.

The 1400 foot Prospect Tunnel and the proposed work from it would prospect the core of the Hill. Workings on and above the Tunnel level produced 65,667.50 pounds of WO_3 (3,283 units), according to the application, a production quite disproportionate to the work done. The productive area of the Tunnel is 1000 feet east of the Clyde mine which is credited with a production of 28,000 units of WO_3.

Hurricane Hill is underlain in large part by pegmatite, aplite, Boulder Creek granite, and Idaho Springs schist and is traversed from northwest to southeast by the Hurricane Hill breccia reef zone. Of itself such an assemblage should not constitute an unfavorable locality, but the records tend to condemn it. The Tunnel (El. 8800 feet), if extended as proposed, would attain a depth beneath the crest of the hill of about 570 feet, and would afford an opportunity for study of conditions at a depth below surface afforded by few of the mines, but the horizon to be explored would not be below that of some of the large producers. The Conger mine, 8,500' to the west, the largest producer of the District was productive over 560 feet 8,690 to 8,130 feet, and the essentially barren vein was followed to 7,700 feet elevation.

Curiosity concerning the Hurricane Hill area is justified, but there may be a question as to how much money should be spent to satisfy the curiosity. The Field Team and geologists intimately acquainted with the District should review the application. Referral to them is recommended.

N. E. Nelson

N. E. Nelson

NENelson:hlm G-5/18/55
CC: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. W. Holliday, 3513 Int.

IN REPLY REFER TO:

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

400

August 17, 1955

Copy returned 400

Re: DMEA 3306
W. R. Cochran
Wild Tiger Mine
Boulder Co., Colo.
$16,630.19 - Tungsten

Memorandum

To: N. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report.

The applicant applied for a loan to sink 100 feet of shaft and drift 200 feet, at an estimated cost of $16,529.79. As estimated by the examiners the cost would be $16,630.19.

Work on and near the surface by the applicant has yielded 7.6 tons of sorted ore worth (net) $1,069.86, and assaying 4.7% WO_3. The 35.6 units resulted from mining about 75 tons of material.

A shaft, Wild Tiger or Mt. Pisgah (two names are given) follows the vein down dip for 56 feet and it has been exposed along strike for 140 feet and 46 feet in drifting from the shaft. The mining and shaft work afford a good sample of the vein and tho it contains high grade streaks, the vein as opened is not of ore grade. As the examiners reason, there is no ground for thinking that the vein will improve with depth as inferred by the applicant.

I concur with the denial recommendation of the Field Team.

RECEIVED
AUG 18 1955

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/17/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3513

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 13 1955

224 New Customhouse
Denver 2, Colorado

3806

May 10, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Tungsten), William Robert Cochran, Wild Tiger mine, Sugar Loaf Mining District, Boulder County, Colorado

Enclosed are the original and two copies of the subject application for Government assistance to explore the Wild Tiger mine for tungsten at an estimated cost of $16,529.79.

The applicant has submitted a lease dated March 18, 1955 for an undivided three-fourths (3/4) interest in the mining claims involved. The other one-quarter interest in the property is not obtainable. We are enclosing copies of previous correspondence between this office and the Washington DMEA office concerning the acceptability of an application where applicant does not own full mining rights to the property. Your attention is directed to the ruling prepared by J. L. Hofflund of the DMEA legal department dated February 1, 1955, a copy of which is enclosed.

W. M. TRAVER

Enclosures

W. M. Traver

400

DOCKET
Surname:
Holt
Chapman
Kelson
Holliday
Kiilsgaard
Selfridge
Gechan

AUG 22 1955

Mr. W. R. Cochran
Sugar Loaf Route
Boulder, Colorado

Re: Docket No. DMEA-3806, Tungsten
Wild Tiger Mine
Boulder County, Colorado

Dear Mr. Cochran:

Your application for aid for an exploration project and other data available to us in Washington concerning the above-referenced property have been reviewed.

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

Careful study of our information, although noting a small amount of tungsten mineralization in surface trenches and in the Wild Tiger shaft and drifts, indicates to us that the probability of disclosing minable tungsten ore reserves by your proposed program is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing this property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Docket
Code 400
Oper. Comm.
Adm. Read. File
Robt. Holliday, USBM
Thor Kiilsgaard, USGS
FT, Reg. 3

SPHolt/ls
8/17/55

IN REPLY REFER TO:

Dochart

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

August 17, 1955

Copy retained 400

Re: DMEA 3806 - Tung
W. R. Cochran
Wild Tiger Mine
Boulder Co., Colo.
$16,630.19 - Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report.

The applicant applied for a loan to sink 100 feet of shaft and drift 200 feet, at an estimated cost of $16,529.79. As estimated by the examiners the cost would be $16,630.19.

Work on and near the surface by the applicant has yielded 7.6 tons of sorted ore worth (net) $1,069.86, and assaying 4.7% WO_3. The 35.6 units resulted from mining about 75 tons of material.

A shaft, Wild Tiger or Mt. Pisgah (two names are given) follows the vein down dip for 56 feet and it has been exposed along strike for 140 feet and 46 feet in drifting from the shaft. The mining and shaft work afford a good sample of the vein and tho it contains high grade streaks, the vein as opened is not of ore grade. As the examiners reason, there is no ground for thinking that the vein will improve with depth as inferred by the applicant.

I concur with the denial recommendation of the Field Team.

N. E. Nelson

N. E. Nelson

RECEIVED
AUG 18 1955

IN REPLY REFER TO:

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

August 17, 1955

Re: DMEA 3806
W. R. Cochran
Wild Tiger Mine
Boulder Co., Colo.
$16,630.19 - Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Report.

The applicant applied for a loan to sink 100 feet of shaft and drift 200 feet, at an estimated cost of $16,529.79. As estimated by the examiners the cost would be $16,630.19.

Work on and near the surface by the applicant has yielded 7.5 tons of sorted ore worth (net) $1,069.86, and assaying 4.7% WO_3. The 35.6 units resulted from mining about 75 tons of material.

A shaft, Wild Tiger or Mt. Pisgah (two names are given) follows the vein down dip for 56 feet and it has been exposed along strike for 140 feet and 46 feet in drifting from the shaft. The mining and shaft work afford a good sample of the vein and tho it contains high grade streaks, the vein as opened is not of ore grade. As the examiners reason, there is no ground for thinking that the vein will improve with depth as inferred by the applicant.

I concur with the denial recommendation of the Field Team.

N. E. Nelson

RECEIVED
AUG 1 8 1955

NENelson:iml
G-8/17/55

N. E. Nelson

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3513

400

DOCKET
Surname
Holt
Chapman
Nelson
Holliday

August 17, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro Alloys Division

Subject: Denial of request for exploration assistance in the amount of $16,529.79
Docket No. DMEA 3806 Tungsten
W. R. Cochran
Wild Tiger Mine
Boulder County, Colorado

The denial of the subject application is recommended by this Division based on the following information:

(1) The applicant, W. R. Cochran, Sugar Loaf Route, Boulder, Colorado, requested exploration assistance in the amount of $16,529.79 for 100 feet of shaft sinking and 200 feet of drifting in the Wild Tiger mine.

(2) The applicant controls, by lease from Albert B. Pace, owner of an undivided 3/4 interest, the following patented mining claims:

Mt. Pisgah lode mining claim, U.S. Survey No. 5272
Wild Tiger lode mining claim, U.S. Survey No. 5272
Wild Tiger No. 2 lode mining claim, U.S. Survey No. 5272

These claims are located in the Sugar Loaf Mining District, Boulder County, Colorado.

(3) The proposed program is by sinking 100 feet in the Wild Tiger shaft and drifting 200 feet southwesterly from the new depth along the Wild Tiger vein.

(4) In the area explored by the Wild Tiger mine, sparse tungsten mineralization occurs in the shaft and surface workings, but there is no reason to predict, as the applicant suggests, that the size and grade of the ore bodies will improve with depth.

(5) The Field Team concludes that there is little probability of making a significant discovery and recommends denial. The Commodity Division of the Geological Survey and the Bureau of Mines concur in this recommendation.

Thos. L. Chapman, Acting Chief
Iron and Ferro Alloys Division

cc: Docket
Code 400
Oper. Committee
Adm. Read. File

SPHolt/ls 8/17/55

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

August 17, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division

Subject: Denial of request for exploration assistance in the amount of $16,529.79
Docket No. DMEA 3806 - Tungsten
W. R. Cochran
Wild Tiger Mine
Boulder County, Colorado

The denial of the subject application is recommended by this Division based on the following information:

(1) The applicant, W. R. Cochran, Sugar Loaf Route, Boulder, Colorado, requested exploration assistance in the amount of $16,529.79 for 100 feet of shaft sinking and 200 feet of drifting in the Wild Tiger mine.

(2) The applicant controls, by lease from Albert B. Pace, owner of an undivided 3/4 interest, the following patented mining claims:

Mt. Pisgah lode mining claim, U.S. Survey No. 5272
Wild Tiger lode mining claim, U.S. Survey No. 5272
Wild Tiger No. 2 lode mining claim, U.S. Survey No. 5272

These claims are located in the Sugar Loaf Mining District, Boulder County, Colorado.

(3) The proposed program is by sinking 100 feet in the Wild Tiger shaft and drifting 200 feet southwesterly from the new depth along the Wild Tiger vein.

(4) In the area explored by the Wild Tiger mine, sparse tungsten mineralization occurs in the shaft and surface workings, but there is no reason to predict, as the applicant suggests, that the size and grade of the ore bodies will improve with depth.

(5) The Field Team concludes that there is little probability of making a significant discovery and recommends denial. The Commodity Division of the Geological Survey and the Bureau of Mines concur in this recommendation.

Thos. L. Chapman

Thos. L. Chapman, Acting Chief
Iron and Ferro-Alloys Division

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

Docket

RECEIVED
AUG 10 1955

224 New Customhouse
Denver 2, Colorado

August 2, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Joint Report of Examination, DMEA Docket 3806 (Tungsten), W. R. Cochran, (Wild Tiger mine), Boulder County, Colorado

Enclosed are the original and three copies of the report pertaining to the above application.

The field examiners concluded that there is little possibility of discovering a significant amount of tungsten by the proposed exploration.

We concur in their recommendation that the application be denied.

DMEA Field Team, Region III

W. M. Traver

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
8-15-55
(date)

DMEA
Date Rec'd

RECEIVED
AUG 10 1955

AUG 1 1955
BUREAU OF MINES
Denver, Colorado

Building 20, Room 17
Denver Federal Center
Denver 2, Colorado
July 29, 1955

TRANSMITTED
AUG - 3 1955

Region III

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw
E. N. Harshman

Subject: Examination Report, Docket No. DMEA 3806, W. R. Cochran, Wild Tiger Mine (Tungsten), Boulder County, Colorado

Enclosed are the original and 8 copies of the Joint Geologic and Engineering report by M. H. Salsbury, Mining Engineer and J. E. O'Rourke, Geologist covering Docket No. DMEA 3806.

W. R. Cochran applied for exploration assistance in the amount of $16.630.19 to explore the Wild Tiger Mine by 100 feet of shaft sinking and 200 feet of drifting. The field examination was made on June 15, 1955.

The examining team concluded that there was little possibility of discovering a significant amount of tungsten by the proposed exploration. It is recommended that the application be denied.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

E. N. Harshman
E. N. Harshman
Member Field Team

JFS:jw

cc: 8
DMEA 3806
Subj.
ENHarshman

Reviewed by
DMEA OPERATING COMMITTEE
8-15-55
(date)

RECEIVED
AUG 10 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3806

W. R. Cochran

Wild Tiger Mine

Boulder County, Colorado

Tungsten

Joint Engineering and Geologic Report

By

M. H. Salsbury, Mining Engineer
Bureau of Mines

J. E. O'Rourke, Geologist
Geological Survey

July 28, 1955

Reviewed by
DMEA OPERATING COMMITTEE
8-15-55
(date)

DMEA 3806

D. R. Cochran
WILD TIGER MINE
BOULDER COUNTY, COLORADO

CONTENTS

Engineering report	Page
Introduction	1
Acknowledgement	2
Location, topographic and physical features	3
History and production	3
Ownership	3
Geology and description of deposit	6
Minable Ore reserve	8
Present status	9
Project proposals with costs	11
Conclusions	12
Recommendations	13

ILLUSTRATIONS

Figure	Follows page
1. Location map of Wild Tiger Mine, W. R. Cochran, Boulder County, Colorado	3
2. Claim map of Wild Tiger Group, W. R. Cochran, Boulder County, Colorado	5
3. Plan and section, Wild Tiger Mine, Boulder County, Colo	9

Reviewed by
DMEA OPERATING COMMITTEE
8-15-55
(date)

DMEA 3806

W. R. COCHRAN
WILD TIGER MINE
BOULDER COUNTY, COLORADO

JOINT ENGINEERING AND GEOLOGIC REPORT

By M. H. Salsbury and J. E. O'Rourke

INTRODUCTION

W. R. Cochran, Sugarloaf, Colorado, lessee of the Wild Tiger Mine, Boulder County, Colorado, has applied for Government assistance in underground exploration for tungsten under the Defense Minerals Exploration Administration. The application, dated May 9, 1955, calls for 100 feet of shaft-sinking, continuing an existing 60 foot shaft, and 200 feet of drifting, all to be driven on the Wild Tiger or Pisgah vein. The estimated cost, arrived at by completing the applicant's cost computations, is $16,630.19 in which Government participation at 75 percent would be $12,472.64.

A field examination was made on June 15, 1955, by E. N. Harshman and Joseph O'Rourke of the Geological Survey and M. H. Salsbury of the Bureau of Mines. The applicant accompanied the examiners. A second visit was made on July 5, 1955 after the Wild Tiger shaft had been unwatered. Salsbury, O'Rourke, and Alberto Manrique, a Point 4 trainee, participated in the second examination.

The property consists of 5 patented mining claims on North Boulder Creek, $\frac{1}{4}$ mile northwest of the Good Friday tungsten mine, covering the outcrops of several tungsten and gold veins. Three of these claims are included in the DMEA application. There are vein exposures at surface in several open cuts and shallow holes but no appreciable tungsten

mineralization except in the vicinity of the Wild Tiger shaft at the West end of the Mt. Pisgah claim. Different outcrops cannot be correlated as being the same vein with any certainty.

There has been minor recorded production by the applicant from surface workings southwest of the shaft, and eariler production is reported. There was probably a small tonnage mined from the cutout at the 44 foot level of the Wild Tiger shaft, but no records are available. It is doubtful that any of the operations were profitable.

The applicant suggests that the size and grade of the ore would be likely to increase at depth. There is no evidence, however, to support this view. There appears to be a reasonable possibility that tungsten mineralization of the tenor found in the shaft and surface workings probably repeats in depth, but there is certainly no reason to predict an improvement. The vein structure is not nearly as strong as in the well-defined Good Friday vein which has the best production record in the immediate area. Justification for further exploration would therefore have to be based on the assumption that ore bodies similar to those now exposed might be significant under conditions of national emergency. This appears to be a remote possibility, and only small amounts of tungsten production would be likely to result from further exploration. Denial of the application for Government assistance in exploration under DMEA 3806 is recommended.

ACKNOWLEDGEMENTS

The applicant furnished a claim map and production figures. Data from DMEA examinations of nearby properties were utilized in considering

the proposed project. The property is described very briefly on page 173 of the Geological Survey Professional Paper 245, "Geology and Ore Deposits of the Boulder County Tungsten District, Colorado", by T. S. Lovering and Ogden Tweto.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Wild Tiger mine, at an altitude of 7,500 feet, is in section 36, T. 1. N., R. 72 W., sixth principal meridian, Boulder County, Colorado. (Fig. 1). The claims lie on the north slope of North Boulder Creek, 2.3 miles by poor access road southeast of Sugar Loaf, Colorado. Sugar Loaf is 11.6 miles from the county seat at Boulder, Colorado and 39 miles from Denver, Colorado, the nearest major supply center. All but the access road are all-weather highways. There are three concentrating plants which accept custom ore within 12 miles of the property.

Power lines of the Public Service Company of Colorado cross the west end of the property. Water and a limited stand of timber are available at or near the Wild Tiger shaft. Equipment for the proposed project would be powered by gasoline-driven units.

An adequate supply of labor for a small operation is available in Nederland, Colorado, Boulder, Colorado and other nearby communities. The current wage rate for miners is $1.75 per hour with time and one-half over forty hours per week. The wages for other classes of labor range from $1.50 to $1.75 per hour.

HISTORY, PRODUCTION AND OWNERSHIP

The Wild Tiger and Mt. Pisgah claims antedate tungsten mining in

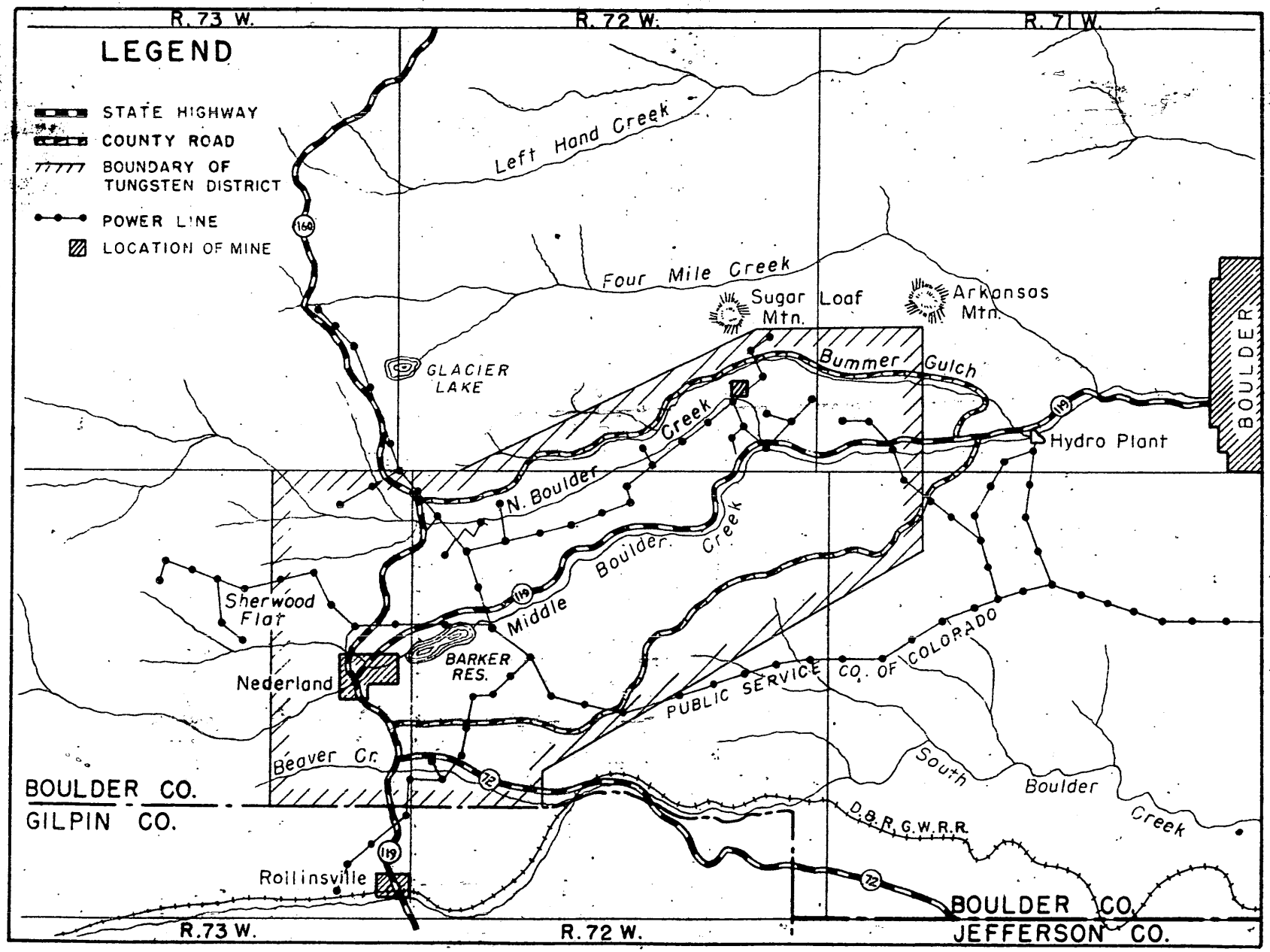

FIGURE 1 - LOCATION MAP OF WILD TIGER MINE, W. R. COCHRAN, BOULDER COUNTY, COLO. DMEA 3806

Boulder County and were explored primarily for gold. Tungsten mining dates from before World War I.

The Wild Tiger group is surrounded by properties which have a record of small to moderate production such as the Good Friday, Eureka, and Castastrophe. There have been DMEA projects on the Good Friday (DMEA 2343), and the Eureka (DMA 1567X). These projects were certified and are currently paying royalties on production to the Government.

There is no record of early production on the Wild Tiger but it was undoubtedly small. The present owner of the claims has shipped some tungsten ore, largely through lessee operations, but has not retained the shipment records. These totals were also probably insignificant. The applicant has been engaged at intervals since the summer of 1954 in mining a surface pillar west of the Pisgah shaft, and has shipped sorted ore as follows:

Mill Lot No. and Mill	Date Shipped	Dry weight pounds	CONTENT Percent WO_3	CONTENT Pounds WO_3	Price Per Pound	Net Return After Hauling, Sampling, Penalties Et Cetera
Hetzer #1291	9-13-54	891.0	3.5	31.19	1.52	$ 32.50
Wah-Chang #13	9-28-54	87.12	19.2	16.72	1.726	25.85
Hetzer #1347	10-27-54	3,559.0	5.0	177.95	1.65	273.92
Wah-Chang #28	12-26-54	3,461.0	2.5	84.70	1.43	105.42
Hetzer #1543	4-16-55	1,960.0	4.9	96.04	1.645	127.99
Tungsten Ref. #243	5-20-55	281.0	19.34	544.0	1.86	101.18
Wah Chang ?	5- ?-55	5,025.0	5.03	252.76		403.00
Totals		15,264.12		713.76		$1,069.86

The above production came from an estimated 75 tons of broken ore. The average return per ton mined would be about $14.00 on this basis.

The Mt. Pisgah, Wild Tiger and Wild Tiger No. 2 Lodes are patented mining claims, U. S. Survey No. 5272, (Fig. 2). Two additional claims, the Wild Tiger No. 3, and No. 4, are north of the other three, and were patented under U. S. Survey No. 7371 A. There is considerable open ground surrounding the patented claims, which presumably cover the apex of the Wild Tiger vein but there is some possibility that portions of the vein apex on open ground. In fact, the examining teams Branton survey indicates that the shaft is very close to the west side of the Mt. Pisgah claim, and the surface workings may be on open ground. Cochran has located the Wild Tiger Extension Lode to cover the possible position of the surface workings and any vein extension across the Wild Tiger No. 2 claim, as well as the block bounded by the west ends of the Mt. Pisgah and Wild Tiger No. 4 claims and the south end of the Wild Tiger No. 3 claim (Fig. 2). He is willing to subordinate this claim if required.

The position of the shaft on the Mt. Pisgah claim, as indicated by the applicant, was checked by the examining team by tying it to a corner monument designated by Cochran as Corner No. 5 of the Wild Tiger No. 2 claim, although there were no workings to identify it. Cochran had not found any marked claim corners, and closer verification would necessiatate a survey. The map furnished by the applicant checks with the Land Office survey plat.

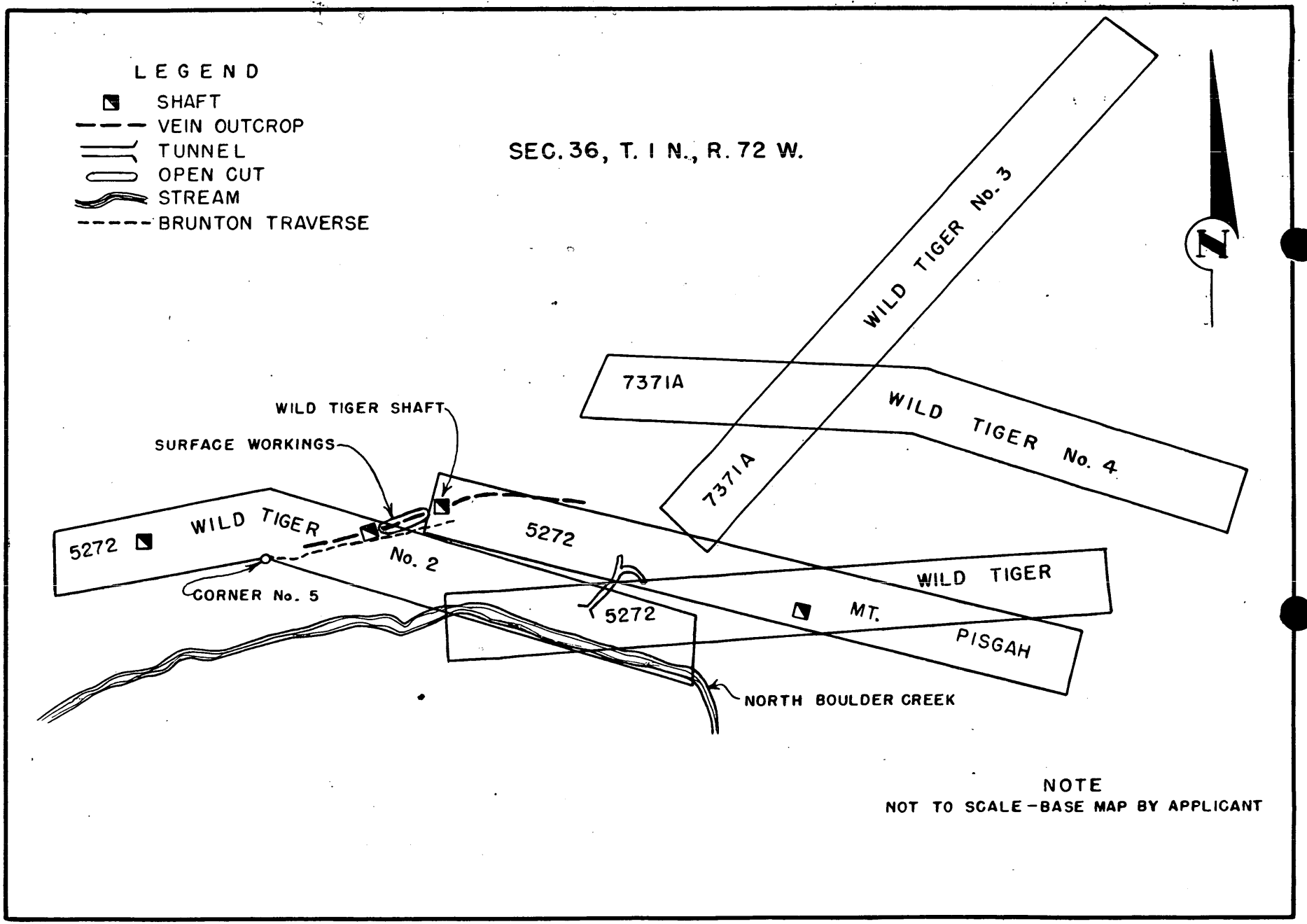

FIGURE 2 - CLAIM MAP OF WILD TIGER GROUP, W. R. COCHRAN, BOULDER COUNTY, COLO. DMEA 3806

Only the three claims patented under Survey No. 5272 are included in the DMEA application. The other two do not appear to be essential to the project.

The claims are owned by Albert B. Pace of Boulder, Colorado holding an undivided three-fourths, and Philip J. Perry of Riverside, California who owns the remaining one-fourth. All taxes are reported to be paid up but county records were not checked.

The applicant has a lease and option agreement with Pace covering his three-fourths interest calling for 15 percent royalty to apply to the purchase price of from $7,000.00 to $10,000.00, with the maximum of $10,000.00 to be due if not paid before the expiration date of the lease, March 18, 1958.

Cochran has been unable to obtain a lease from the other owner and plans to operate under the Colorado "Tenants in Common" law (L. 23, p. 451, Section 1, CSA, C92, Section 8), whereby he will operate as the lessee of the consenting owner, accounting to the other owners for the latter's share of any net profits. An opinion dated February 1, 1955 has been rendered by the Acting Assistant Solicitor, Defense Minerals, stating that a DMEA project could be approved with the usual Owner's Consent to Lien for Pace's interest, and a surety bond or third-party guaranty for the remaining interest if the Administrator does not choose to waive Owner's Consent to Lien.

GEOLOGY

The Boulder County tungsten district has been described thoroughly

in a recent publication by T. S. Lovering and O. Tweto (U. S. Geol. Surv. Prof. Paper 245, 1953). Much of the following general description was derived from that source.

The tungsten deposits of the Nederland district are cavity-filling, quartz-ferberite veins that follow faults in pre-Cambrian schistose and granitic rocks. The faults are generally several hundred yards long, but tungsten mineralization along them is sporadic. A vein may grade abruptly into a barren, gouge-filled fracture, or expand into a sizeable ore-shoot. The element of risk in prospecting is great.

Most of the veins in the area are between 6 inches and three feet wide, but veins as little as 1 inch wide have been worked. Much of the ore has been taken from irregular shoots that range from 50 to 100 ft. in stope length and 100 to 200 feet in pitch length.

Ore shoots tend to occur in zones of fracturing rear fault intersections, and in steep segments of normal faults or gently inclined portions of reverse faults.

The granitic country rocks have been argillized and then sincitized by the hydrothermal ore-bearing solutions that deposited ferberite. Most of the veins are surrounded by a zone of argillization, but only the larger, richer veins have a halo of sinsitized rock.

The Mt. Pisgah vein of the Wild Tiger prospect follows a fault in porphyritic gneissic granite. The fault strikes N45° - 60°E, and dips 55-80°NW. It has been exposed along strike for 140 feet by trenching and 46 feet by drifting and was followed down dip for 56 feet by means of an inclined shaft. The vein is present nearly continuously along the fault except for gaps a few feet long.

It ranges in thickness from $\frac{1}{2}$ inch to 4 inches. The fine-grained ferberite is present in reticulating stringers or as interstitial cement in brecciated quartz. The vein material is said to average 3 to 5% WO_3 but may be hand sorted to give a concentrate of about 20% WO_3. It averages about 0.1 percent "phosphorous",

Short lenticular quartz veins, some containing ferberite, were noted in the walls of the fault at several places. If these veins are tension "gashes" related to movement along the fault, their attitude indicates that the northwest side of the fault moved northeastward and upward.

In many mines of the district, ore shoots have been formed in veins following faults where the dip of the fault decreases appreciably. The dip of the Mt. Pisgah fissure flattens from 75 degrees to 57 degrees in the bottom 20 feet of the shaft, but no change in the thickness or grade of the vein is perceptible. Presumably, differential movement on the fault did not produce sufficient brecciation and open space to have effected a significant increase in ore-deposition.

In sum, the Mt. Pisgah vein is uniformly low grade in all of the mine workings. It does improve in quality where improvement is most likely to be expected. No grounds exist for assuming that it will become economically minable at greater depth.

MINABLE ORE RESERVES

There are no ore reserves on the property. Four samples were taken during the examination as follows:

Sample No.	Width cut (feet)	Descriptions	Content Percent WO_3
M.H.S. 82	0.25	Stringer in surface pillar 25 feet southwest of Wild Tiger shaft. Heavy ferberite streak varies from 0.25 foot to knife-blade seam.	3.1
M.H.S. 83	0.1 to 0.2	Chip sample along 6 feet of streak in back of cutout 12 feet above 44 foot level NE of Wild Tiger shaft.	6.3
M.H.S. 84	0.1 to 0.2	Sample of pod of heavy ferberite in several stringers in NE end of Wild Tiger shaft 51 feet below collar. Pod is about 7 feet long vertically, extending down from floor of 44 foot level but pinching out to a knifeblade seam above the water level.	7.2
M.H.S. 85	0.1 to 0.2	Sample of ore pod 3 feet long in SW end of shaft 50 feet below collar. Streak pinches above and below.	5.1

PRESENT STATUS

Exploration and Development

Vein outcrops on the Wild Tiger claims have been explored by at least 4 open pits or trenches, 3 shafts and one tunnel. One of the shafts and the tunnel in the center of the Mt. Pisgah claim were driven while exploring for gold (fig. 2). They are inaccessible. The Wild Tiger shaft at the west end of the Mt. Pisgah claim, which the applicant proposes to sink, was pumped out for examination. It was sunk 60 feet on the Wild Tiger vein, and a drift was driven 28 feet northeast, at the 44-foot level and a level cutout made on the southwest side of the shaft at 38 feet. (fig. 3) A cutout was made for a distance of

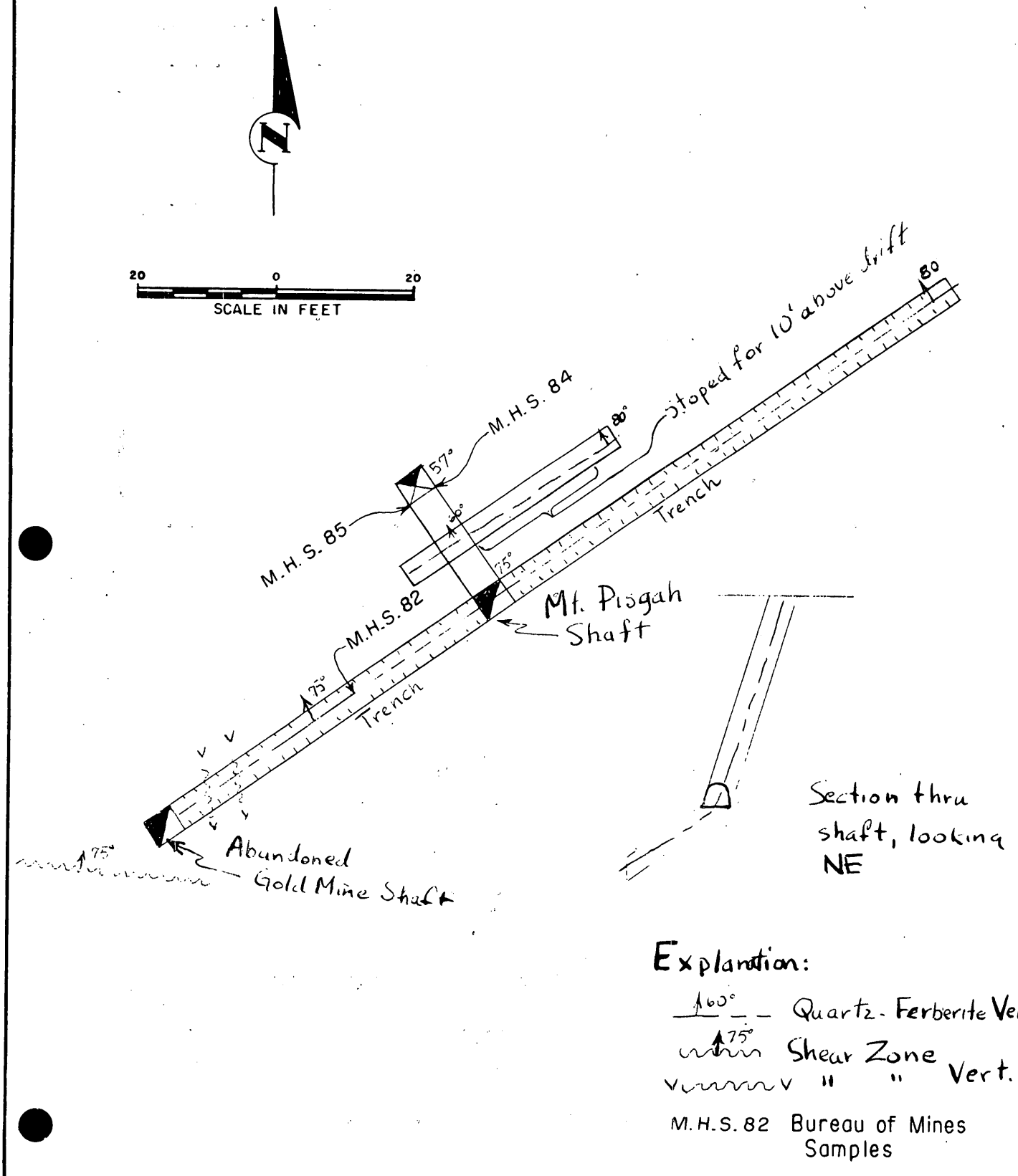

FIGURE 3 - PLAN AND SECTION, WILD TIGER MINE, BOULDER COUNTY, COLORADO

20 feet northeast of the shaft, and was carried up two or three rounds. The southwest end breaks back into a fill along the northeast end of the shaft. At surface about 60 feet of the vein has been explored by trenching and by what appears to be another shaft which is now filled in. This is the area in which the applicant has been mining surface pillars. The available ore here is nearly exhausted. There is good tungsten mineralization in 0.1 to 0.25-foot widths in a surface pillar about 25 feet southwest of the Wild Tiger shaft, and in the back of the cutout on the northeast drift. Similar mineralization showing in both ends of the shaft below the 44 foot level appears to pinch to a knife-blade seam in the bottom. The northeast end of the shaft above the level is lagged with fill behind it and could not be seen. The extent of the mining done behind this timber is not known. The streak along the southwest end of the shaft and in the level station cut at 38 feet is very narrow and shows very little tungsten. If any stoping has been carried on southwest of the shaft other than the work at surface, it must have been done from the other shaft which is now filled. None of the exposures appear to be commercial ore deposits.

Veins in the other accessible trenches and pits are fairly well defined but show very little tungsten mineralization.

Equipment and Facilities

The applicant owns a 75 cubic-foot gasoline-driven compressor, a 300 cubic-foot converted Norwalk compressor, a gasoline hoist, drill and auxiliary equipment, shaft bucket and materials for a headframe. A

surface building and a sinking pump or equivalent would be required.

PROJECT PROPOSALS WITH COSTS

The applicant proposes to sink the Wild Tiger shaft another 100 feet and drift 200 feet at the new depth. Originally he proposed 100 feet along the vein each way but during the second examination indicated that drifting to the southwest only might be the better plan.

The cost estimate offered by the applicant was not complete. The cost of equipment rental was given only as $150.00 per month. Operations are planned on a five day week and dividing the total cost of supervision for shaft sinking, $1950.00, by the weekly rate for a supervisor, $150.00, total time for sinking is 13 weeks. Similarly total time for drifting is 11 weeks. Time for completion of the project is thus approximately 6 months. On this basis the estimated cost (applicant's figures) is as follows:

Sinking		
Supervision	$1,950.00	
Labor	3,213.60	
Supplies	1,988.65	
Equipment rental	486.00	
Miscellaneous	329.65	
Total Direct sinking costs		$7,867.90
Drifting		
Supervision	$1,650.00	
Labor	2,760.40	
Supplies	1,807.08	
Equipment rental	414.00	
Miscellaneous	280.81	
Total Direct drifting costs		6,912.29
New buildings, improvements and installations		900.00

Road repairs, shaft repairs	$ 950.00	$ 950.00
Total estimated cost of project		$16,630.19
Government participation at 75 percent		12,472.64
Direct cost of sinking per foot	$\frac{7,867.90}{100}$ =	78.68
Direct cost of drifting per foot	$\frac{6,912.29}{200}$ =	34.56

Estimated progress rates

Sinking -- 1.54 feet per day
One round every other day

Drifting -- 3.63 feet per day
One round per day

The rate of advance estimated by the applicant is reasonable. The costs are somewhat high by comparison with unit cost prices allowed in a recent contract E748, DMEA 3483 at the Gale shaft in Boulder County where conditions are very similar. Contract E-748 allows $75.00 per foot for sinking and $30.00 per foot for drifting. The difference is in the labor costs. The applicant provides for supervision for 24 weeks but labor is computed for 29 weeks at a total cost of $5,974.00, or $1,030.00 more than the cost for 24 weeks. With an adjustment to correct this, the applicant's costs become $74.73 per foot for sinking, and $32.08 per foot for drifting.

CONCLUSIONS

It is concluded that there is little possibility of finding a significant amount of tungsten ore by the proposed exploration. While ore similar to that which has been mined might result from deeper work, the actual amount of tungsten produced would be small, even if the price should be high enough to make it profitable.

RECOMMENDATIONS

It is recommended that the application for Government assistance in exploration under DMEA 3806 be denied.

/jw

Docket

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

RECEIVED
JUN - 3 1955

224 New Customhouse
Denver 2, Colorado

May 26, 1955

Copy returned 600

Memorandum

To: J. F. Shaw W/Brochure
E. N. Harshman

WSM

From: DMEA Field Team, Region III

Subject: DMEA-3806 (Tungsten), W. R. Cochran (Wild Tiger mine), Boulder County, Colorado

Enclosed are copies of the subject loan application for $16,529.79, referral letter from the Chairman of the Operating Committee, and memorandum of review by N. E. Nelson, USGS; also copies of memoranda and correspondence concerned with the application.

A field examination and suitable covering reports are required. Should a project be recommended, please give consideration to the Chairman's suggestion in his referral letter.

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

WMT:sr

cc Sec. Op. Comm. (2)
Subject
Chron

DOCKET
SURNAME
Rutledge
Martin
Davis
Selfridge
FS Johnson

400

MAY 23 1955

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

Re: Docket No. DMEA 3806 - Tungsten
W. R. Cochran
Wild Tiger mine
Boulder County, Colorado

Dear Mr. Trever:

The above-docketed application for exploration assistance is being refefred to your office for a field examination of the property.

In reviewing the subject application, it was noted that adjoining claims may be benefited by the proposed exploration. If an exploration project is warranted, the possibility of including these claims should be investigated. In any event, if an exploration project will be recommended by the Field Team, an Owner's Consent to Lien should be obtained from Mr. Pace covering an undivided three-fourths interest in the land.

Two copies of a relevant memorandum dated May 17, 1955, by N. E. Malnes, Geological Survey, are enclosed for your information.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (SHB)

APPROVED:

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

Thor H. Kiilsgaard (SHB)
Member, Geological Survey

FARutledge:foc
5-20-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. III
Messrs. Holliday, USBM
Kiilsgaard, USGS

RGh

400

DOCKET
SURNAME
Martin
Kilsgaard
Hedges
Selfridge
Eckman

MAY 23 1955

Mr. W. R. Cochran
Sugar Loaf Route
Boulder, Colorado

Re: Docket No. DMEA 3806 - Tungsten
Wild Tiger mine
Boulder County, Colorado

Dear Mr. Cochran:

Your application for exploration assistance for tungsten assigned Docket Number DMEA 3806, has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. W. M. Traver, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver, 2, Colorado, for a field examination of the property.

Any assistance that you can render the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
5-20-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. III
Messrs. Holliday, USBM
Killsgaard, USGS

R.C.h.

DOCKET

IN REPLY REFER TO:

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

May 17, 1955

Re: DMEA-3806
W. R. Cochran
Wild Tiger Mine
Boulder, Colorado
$16,529.79
Tungsten

Copy retained 400

WSM

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of application

The subject of this application is about one third of a mile north of the Boulder Falls productive tungsten area, in what would appear to be the fringe of the Boulder County District (U.S.G.S. Prof. Paper No. 245). The Wild Tiger mine is better known for its gold production than for the small production of tungsten taken from the tungsten shaft.

The application says new work has uncovered a well mineralized vein which has been stripped for 100 feet. Presumably the mineralization is by tungsten minerals. A shaft has been sunk 25 feet and drifted 25 feet to the northeast. 10 tons of ore was recovered which assayed 3 to $5\frac{1}{2}$ WO_3, about 42.5 units. The average for the material taken out, 100± tons, would be approximately 0.425% WO_3.

Unless the bottom of the shaft and the drift look much better than the average the exploration proposed would appear to be out of proportion to the ore probabilities, but some work may be justified. An inspection by the Field Team of the recent work is recommended.

N. E. Nelson

N. E. Nelson

May 13, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

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 III.

DMEA 3806 William Robert Cochran

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

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

Bureau of Mines Mineral Administration
RECEIVED
MAY 13 1955

224 New Customhouse
Denver 2, Colorado

May 10, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Tungsten), William Robert Cochran, Wild Tiger mine, Sugar Loaf Mining District, Boulder County, Colorado

Enclosed are the original and two copies of the subject application for Government assistance to explore the Wild Tiger mine for tungsten at an estimated cost of $16,529.79.

The applicant has submitted a lease dated March 18, 1955 for an undivided three-fourths (3/4) interest in the mining claims involved. The other one-quarter interest in the property is not obtainable. We are enclosing copies of previous correspondence between this office and the Washington DMEA office concerning the acceptability of an application where applicant does not own full mining rights to the property. Your attention is directed to the ruling prepared by J. L. Hofflund of the DMEA legal department dated February 1, 1955, a copy of which is enclosed.

W. M. Traver

W. M. Traver

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA Date Rec'd. MAY 9 1955

Defense Minerals Administration RECEIVED MAY 13 1955 BUREAU OF MINES Denver, Colorado

Form Approved. Budget Bureau No. 42-R1085.2.

DMEA Date Rec'd. APR 13 1955 BUREAU OF MINES Denver, Colorado

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant.

Docket No. DMEA-3806
Metal or Mineral Tungsten
Date Received 5-13-55
Estimated Cost $16,529.79
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: William Robert Cochran Sugar loaf Rt, Boulder, 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 Wild Tiger Lode, survey No. 5272. Wild Tiger #2 Lode, survey No. 5272. Mount Pisgah Lode, survey No. 5272.

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

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

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

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

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

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

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

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

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

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

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

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

(*c*) The work will start within 30 days and be completed within 6 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

[X] Money [X] Use of equipment owned by you [X] 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 March 10, 1955

William Robert Cochran
(Applicant)

By

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

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

4 (a) The Wild Tiger has been thoroughly trenched for a distance of 100 feet, exposing a heavily mineralized vein. A shaft has been sunk sixty feet on the vein. At the forty foot level a drift has been driven n. easterly on the vein for a distance of about thirty feet. Applicant in recent operations has sunk a 25 foot shaft about 50 feet s. west of the origonal shaft and has drifted about 25 feet n. aesterly on the vein.

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Defense Minerals Administration
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Workings are accessible for inspection.

4 (b) The Wild Tiger is mentioned in Professional paper #124, a Government publication. Present operator has shipped about 10 tons of ore which assayed from 3% to ~~5~~ 5½% . Owner and former operator has lost most of his records, but stated that most of his mill dirt ran about the same as that shipped by present operator.

4 (c) The vein occurs in Grahite, with some contacts with spar and appelite. It appears strong with good crystal mineralization. The ore is easily milled with high recovery and very little Ph content, and no other contaminating content.

I wish to explore the above mentioned vein at depth to prove the continuation of Tungsten mineralization and the commercial possibilities of increased mineralization at depth. The property is located in the imm idiate vicinity of several major producing Tungsten mines.

4 (d) Good access road 1½ miles long connecting with Sugar Leaf road. ½ mile to mine needs some repair.
Mine is 3 miles from the Marion Mill, 12 miles from the Wolf Tongue Mill, 7 miles from Craig and McCoy Mill in Boulder and ½ mile from SugarLeaf settlement.

4 (e) Manpower, materials, supplies, equipment, water and power are readily available.

5 (b) Applicant proposes to sink 100 feet further on the vein to prove the existence of commercial Tungsten mineralization at depth, and to explore therefrom the length of any favorable Tungsten mineralization for a distance of 100 feet n.easterly and 100 feet s. westerly on the vein.

5 (d) Applicant has had 4 years experience hard rock mining in addition to supervision and engineering. Only competent and reliable miners will be employed under the loan when granted.

7(b) Applicant proposes to furnish his share of the cost of this project with labor, equipment furnished, personal finances and any production arising from this application.

6 (a) none

6 (b) To sink shaft 100 feet.

Supervision @ $150.00 wk.	$1950.00
2 miners @ $1.75 hrly	2184.00
1 top man @ 1.65 hrly	1029.60
	$5163.60

6 (c)

Powder	$394.40
Electric caps, wire	300.00
Detonator (used)	110.00
Electric lamps, chargers @ $40.00 ea.	160.00
Gasoline, compressor	276.00
Gasoline, hoist	86.25
Oil, grease	41.25
Timber	335.00
Pipe, 2" 150 ft	360.75
Misc. valves, fittings	20.00
Steel, bits	175.00
Misc. hand tools	40.00
Repair and upkeep	90.00
	$1988.65

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6 (a) None

6 (b) continued, To drift 200 ft.

Supervision @ $150.00	$1650.00
2 miners @$1.75 hrly	1876.00
Top man @ $1.65 hrly	884.00
	$4410.00

6 (c) continued,

Powder	$419.40
Elect. caps, wire	349.62
Gasoline, compressor	246.56
Gasoline, hoist	154.10
Oil, grease	36.85
Track	208.85
Spikes	15.00
Plates	11.10
Ties	22.60
Nails	15.00
Pipe, 2" 200 ft.	81.00
Steel, bits	180.00
Repair and upkeep	67.00
	$1807.08

6 (d) Equipment owned by operator

Norwalk 1107 compressor	$900.00
Hoist, motor, cable	300.00
Ore bucket	35.00
Worthington jack hammer	200.00
Air hose, 100 ft	85.00
Water tank, 100 ft hose.	90.00
Ore car	50.00
Misc. tools	50.00
	$1710.00

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Suggested use allowance $150.00 monthly

6 (e) Repair access road, level dump, build trestle $300.00
Recrib, clean shaft, replace rotten headframe 650.00
$950.00

6 (f) Build shaft house, tool shed and compressor house $600.00
Install equipment 300.00
$900.00

6 (g) Repair and upkeep $157.00 (included in 6(c) $

Book keeping services	$150.00
Assaying	120.00
Workmans Compensation ins. deposit	100.00
Social Security tax 2%	190.00
Liability ins.	50.00
	$610.46

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224 New Customhouse
Denver 2, Colorado

February 11, 1955

Mr. W. R. Cochran
Sugar Loaf Route
Boulder, Colorado

Dear Mr. Cochran:

We have had a reply from our Washington office concerning an application for DMEA assistance where the applicant controls only a three-quarters interest in the property and where the owner of the remaining one-quarter interest would not sign an Owner's Consent to Lien.

We are advised that the applicant in this case has a sufficient interest in the land for the purpose of conducting the work under an exploration program contract. Of course, an Owner's Consent to Lien is required as to the three-quarters interest held by the lessor. As to the one-fourth interest in the land for which a lease and Owner's Consent to Lien are not obtainable, the Administrator may require a third party guarantee or surety bond, in lieu of an Owner's Consent to Lien.

Enclosed are five copies of Form MF-103, a copy of DMEA Order No. 1 Amended, and a pamphlet containing questions and answers on the DMEA program. You may send your application to this office or direct to the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C.

Very truly yours,

W. M. Traver

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

Enclosures

HMC:pw

cc: Subject
Chron
Shireman

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FEB 1 0 1955

FEB 7 1955

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

Re: DMEA loans on leased patented claims where owners are tenants in common

Dear Mr. Traver:

This will acknowledge your letter of January 28, 1955, on the cited subject.

Enclosed for your information are three copies of a memorandum of February 1, 1955, from Mr. J. L. Hofflund, Acting Assistant Solicitor, Defense Minerals, prepared with reference to your inquiry.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges

Member, Bureau of Mines

Thor H. Kiilsgaard

Member, Geological Survey

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UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
Washington 25, D. C.

February 1, 1955

Memorandum

To: The Administrator, DMEA

From: Acting Assistant Solicitor, Defense Minerals

Subject: DMEA loans on leased patented claims where owners are tenants in common

With a reference slip dated January 31 you transmitted to me a memorandum dated January 28 from the Executive Officer, Region III, to you, and asked the question whether under the law of Colorado a lessee of a three-quarter interest in mining property has a sufficient interest in the land for the purposes of an exploration project contract. It appears that a lease of the outstanding one-fourth interest and an Owner's Consent to Lien covering it are probably unobtainable.

Under the law of Colorado, two or more owners of a mine are considered tenants in common (Chapter 92, 1935 Colorado Statutes Annotated, sec. 8), and any one tenant may work the mine, accounting to the other tenants for their share of profits. Any tenant in common also has the right to lease his working interest in the mine, and his lessee in such case is entitled to all of the rights and obligations of his lessor (id., sec. 15).

Accordingly, the applicant has a sufficient interest in the land for the purposes of conducting the work under an exploration project contract. Of course, an Owner's Consent to Lien is required as to the three-quarter interest held by the lessor. As to the one-quarter interest in the land for which a lease and an Owner's Consent to Lien are not obtainable, the Administrator may require a third-party guaranty or surety bond, in lieu of an Owner's Consent to Lien, or he may waive an Owner's Consent to Lien as to this interest.

Signed: J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor
Defense Minerals

224 New Customhouse
Denver 2, Colorado

January 28, 1955

Memorandum

To: Administrator, DMEA, Washington

From: Executive Officer, DMEA Field Team, Region III

Subject: DMEA loans on leased patented claims where owners are tenants in common

A Mr. W. R. Cochran, Sugar Loaf Route, Boulder, Colorado, has a valid lease signed by the owner of 3/4 interest in a tungsten property located in the Boulder County District. The mine owners are tenants in common. The owner of the other 1/4 interest refuses to respond to correspondence, although they have her accurate address in California as attested by her receipt of tax notices and payments thereof.

Mr. Cochran is interested in applying for a DMEA loan and requests a determination as to whether it would be considered inasmuch as it is apparent he will be unable to secure an Owner's Consent to Lien on the 1/4 interest.

For your information the following is quoted from the Colorado State Mining Laws:

> "92-23-1. Mine Owners--Tenants in Common--Rights.-- Whenever two or more persons own any mine they shall be considered tenants in common. Any one or more such tenants in common shall have the right to enter upon, occupy, prospect, develop and work said mine in a minerlike manner, extracting, milling and disposing of the ore from the common property without the consent of any nonworking tenant in common, subject to accounting to the nonworking tenant in common for his proportionate share of the net profits of such mining operations.
> Source: L. 23, p. 451, Section 1; CSA, C. 92, Section 8."

Please advise at your earliest convenience if in view of the circumstances cited above you would consider favorably a loan application from Mr. Cochran.

WMT:jp
cc Subject
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Shireman

Back
Here

W. M. Traver

W. M. Traver

No. 90B. MINING LEASE AND [illegible]ION—Short Form.
—Bradford-Robinson Ptg. Co., Mfrs. Robinson's Legal Blanks, [illegible]-46 Stout St., Denver, Colorado

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THIS INDENTURE, Made this 18th day of March in the year of our Lord one thousand nine hundred and 1955 between Albert B Pace Boulder, Boulder County, Colorado of the first part, and William R Cochron, Sugar Leaf Colorado, 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 party of the second part, has leased, let and demised, and by these presents do lease, let and demise unto the said party of the second part, the following described premises, situate, lying and being in Sugar Leaf Mining District, in the County of Boulder and State of Colorado, to-wit: an undivided three Fourths(3/4) intrest in the folling Mining Claims;

Mount Pisgh Lode Mining Claim, Survey Lot No. 5272
Wild Tiger Lode Mening Claim, Survey Lot No. 5272
Wild Tiger No 2 Mining Claim, Survey Lot No, 5272
Wild Tiger No 3 Mining Claim, Survey Lot No,7371A
Wild Tiger No 4 Mining Claim, Survey Lot No.7371A

Copy.

TO HAVE AND TO HOLD THE SAME, for the purpose of mining, for the term of Three (3) Years from the date hereof, unless sooner terminated under any of the provisions herein contained, ~~with no power to assign or sublet any part of said premises except upon the written consent of the party of the first part.~~

And the said party of the second part, for and in consideration of the leasing of said premises, covenants and agrees with said party of the first part to commence work on said premises with in ten Days and thereafter to work the same continuously, in a thorough and workmanlike manner, employing at least two men underground,

and working at least.....Fifteen----------shifts each calendar month; to keep the same securely timbered, drained and clear of loose rock and rubbish; to keep accurate accounts, and to render Semi Annual.....statements to said party..... of the first part, ...his.....agent or attorney, showing the amount and character of work done, and to pay to said party..... of the first part, ..his..... agent or attorney, as rental for said premises royalty upon all ore taken and sold therefrom as follows, to-wit: **Fifteen per cent (15) of the Assay ~~XX~~ Value of the Ore extracted from the Properties.**

And it is expressly understood and agreed by and between the parties hereto, that the said party..... of the first part reserves the property and right of property in and to all ores extracted from said premises during the term hereof, and that all settlements for royalty shall be made upon the assay value of the mineral in the ore that may be taken from said premises less the actual cost of~~XXXXX~~ transportation and treatment; and the sampling works, mill, smelter, or ore buyer purchasing any such ore shall retain the amount of royalty herein stated and shall pay the same to the party..... of the first part at each settlement for ore purchased.

And the said party..... of the second part furthermore covenants... and agrees..... 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 to inspect the same, make surveys thereof, or take samples therefrom, and that the said party..... of the second part will render to.....him..... all the assistance in.....his.....power in so doing. And the said party..... of the second part furthermore covenants... and agrees..... to occupy and hold all side veins, spurs, feeders, cross-lodes, parallel lodes, or mineral deposits of any kind which may be discovered by the said party..... of the second part or by any person working under.....him.....in any manner, by working within or from the aforesaid premises, as the property of the said party..... of the first part and as part of the premises demised, and to not allow any person not in privity with the parties hereto to take or hold possession of said premises or any part thereof under any pretense whatever, and to pay in due season all taxes and assessments levied against said demised premises on account of the production of ore under this lease.

and said Party of the second Part agrees to carry Compensation Insurance for the Protection and benefit of all persons employed by him, and the Party of the first part.

And the said party of the second part furthermore covenants and agrees that in case he fails in any respect to keep and fulfill any one or more of the covenants or agreements herein expressed or implied, then, and in that case it shall be lawful for the said party of the first part, his agent or attorney, to declare said term ended, and with or without process of law to enter upon and take possession of said premises, and in such case, and also at the expiration of this lease by limitation, said party of the second part agrees to surrender, yield and deliver to the said party of the first part quiet and peaceable possession of said premises in good condition, and that time shall be of the essence hereof, and that all the covenants and agreements herein contained shall extend to and be binding upon the heirs, executors, administrators, successors and lawful assigns of the respective parties hereto.

And in consideration of the party of the second part having fully complied with all of the terms and provisions hereof, the said party of the second part is hereby given the right to purchase said property for the sum of Ten Thousand Dollars. ($10000.00) ---------- Dollars, payable as follows Seven Thousand if Paid by March 18th 1956 a Eight Thousand if Paid by March 18th 1957.$10000.00 if Paid by March 18th ~~1957~~ 1958. ---------- and all royalties that are received by the party of the first part hereunder are to be applied upon the said purchase price and upon payment in full, the party of the first part will make, execute, acknowledge and deliver a good and sufficient ---------- Mining ---------- deed conveying said property to the party of the second part, free and clear of all encumbrances except Taxes ----------

In the event that this lease be forfeited, surrendered or terminated for any cause, the right to purchase shall thereafter cease and if the party of the second part does not make payment as hereinbefore mentioned at or before the time when the same ought to be made according to the terms hereof, the party of the first part may at any time after such failure to pay declare this lease and option forfeited and terminated and shall have the right to retain any and all payments that may be made hereunder as liquidated damages.

IN WITNESS WHEREOF, The parties hereto have executed these presents the day and year first above written.

Albert B. Page [SEAL]

William R. Carlson [SEAL]

[SEAL]

[SEAL]

[SEAL]

[SEAL]

MINING LEASE

FROM

Albert B Pace

TO

William R Cochran

STATE OF COLORADO,
County of ..... } ss.

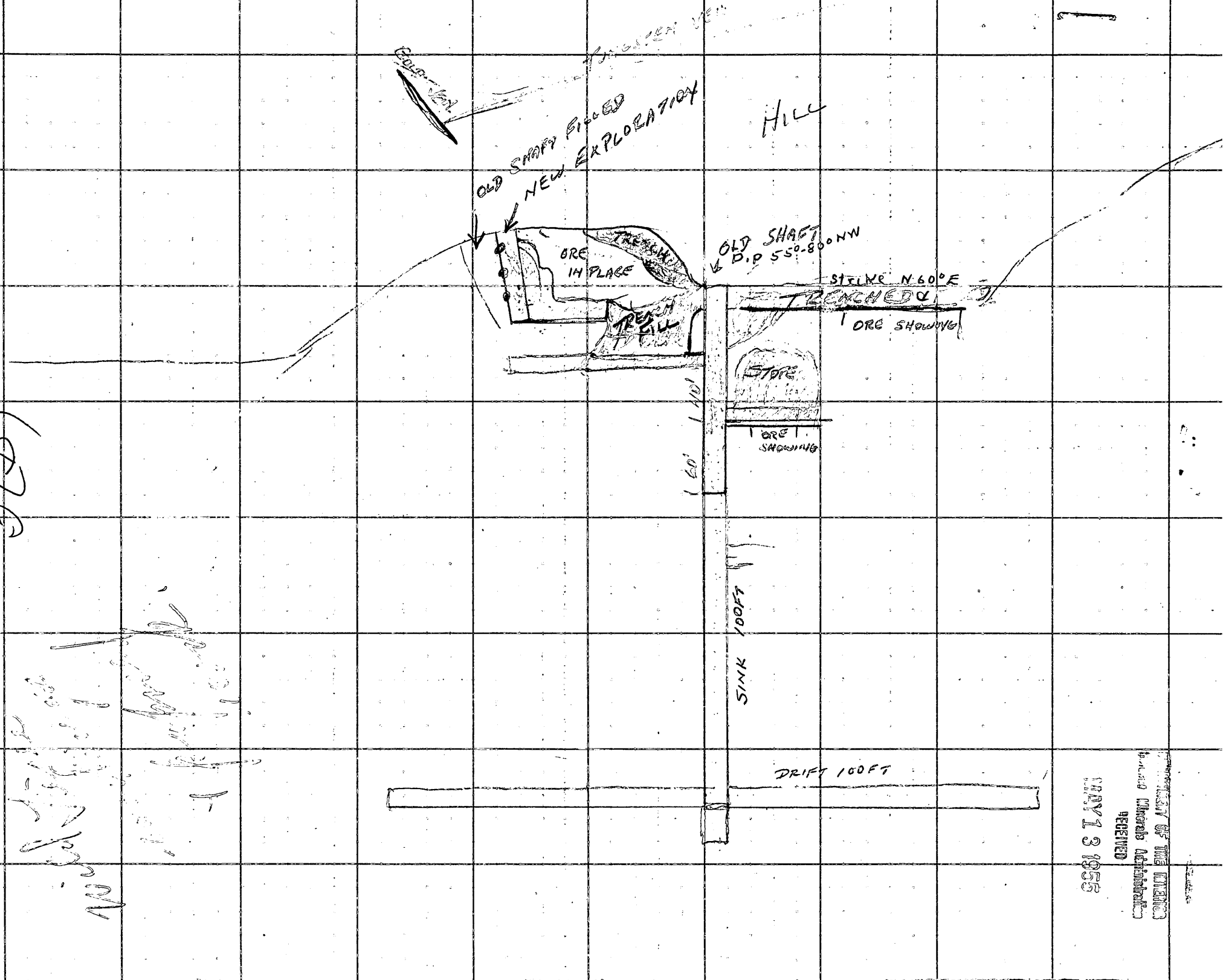
I hereby certify that this instrument was filed for record in my office, at ..... o'clock ..... M., on the ..... day of ....., A. D. 19....., and is duly recorded in book ....., page .....

..... Recorder.

By ..... Deputy.

Fees, $.....

11-54 BRADFORD-ROBINSON PTG. CO., DENVER



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Bureau of Mines Administration
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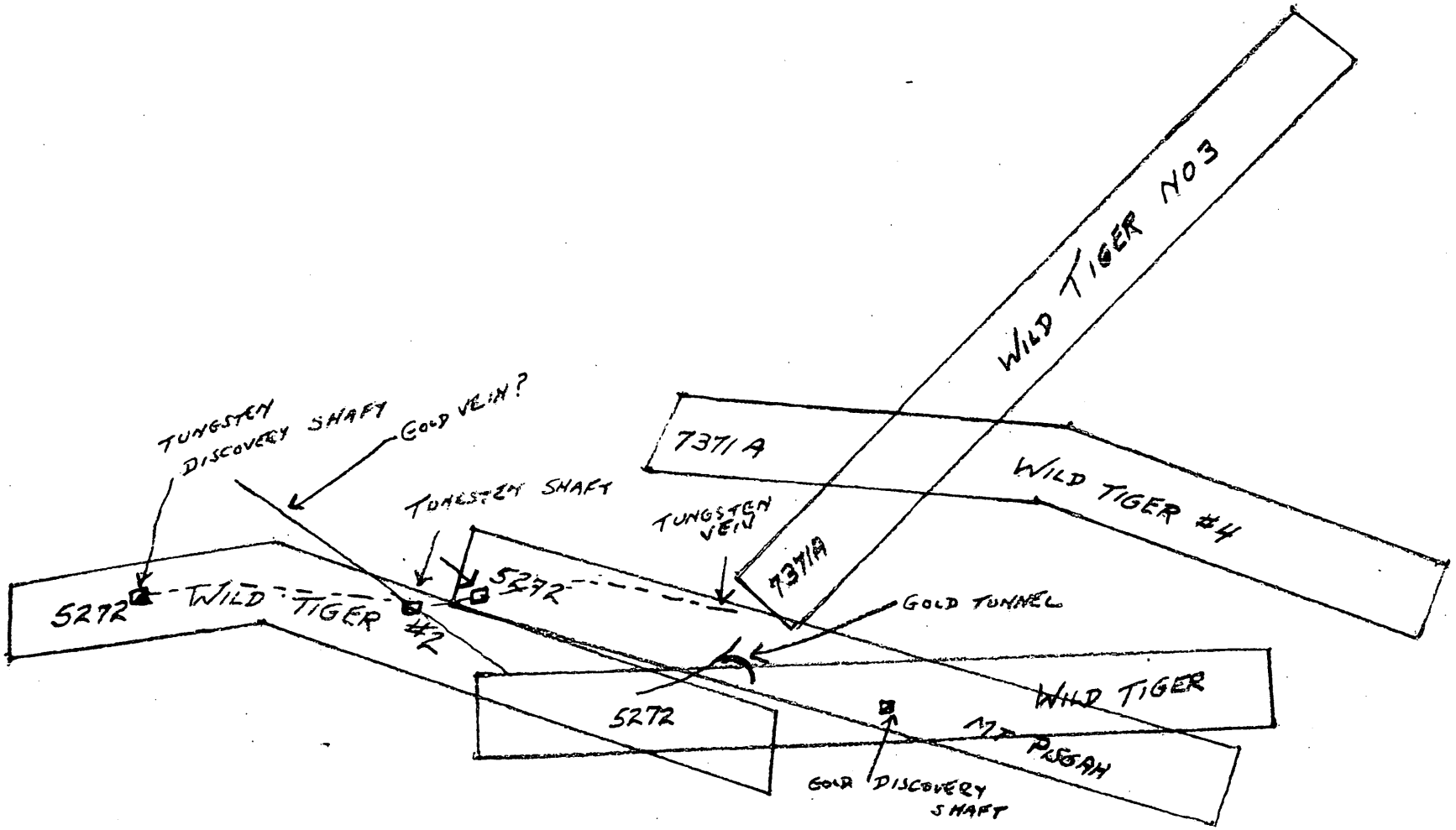
WILD TIGER GROUP

SEC. 36, T. 1N. R 72W



W. R. Cordeman

Victoria Memorial Museum
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