MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of application for exploration assistance to the amount of $21,676.00
Docket No. DMEA 3502 - Tungsten
Alfred Hanek, E. E. Sims, Frank Tomkinson
435 Francis Street, Longmont, Colorado
Fraction Lode
Boulder County, Colorado

The denial of the subject application by Region IV is based on the following information:

1. The applicant requested exploration assistance in the amount of $21,676.00 to explore for tungsten on the Fraction Lode, Boulder County, Colorado.

2. The work was to be done on the Fraction Lode mining claim in sections 34 and 35, T. 1 N., R. 72 W., 6th P. M. Boulder County, Colorado.

3. The country rock of this area is granite, which in places has been shattered and is somewhat gneissic. A small quartz vein, 2 to 18 inches in width cuts through the granite and carries small lenses of ferberite.

4. Earlier working included a shaft 100 feet deep and 230 feet of drifting on the vein. A stope about 50 feet long was carried to a heigth of 40 feet above the 100 foot level, from which 24.716 tons of ore was produced, containing 116.61 units of WO_3.

5. The applicant proposed to sink shaft to the 200 foot level and do 200 feet of drifting on the vein.

6. The Field Team concluded that the ore shoot mined on the 100 foot level probably would continue to the 200 foot level, but that no significant amount of tungsten would be produced.

TJCHAPMAN:foc
1-17-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

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

400

January 17, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of application for exploration assistance to the amount of $21,676.00
Docket No. DMEA 3502 - Tungsten
Alfred Hauck, E. E. Sims, Frank Tonkinson
435 Francis Street, Longmont, Colorado
Fraction Lode
Boulder County, Colorado

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W S Martin
W. S. Martin, Chief
Iron and Ferro-Alloys Division

DOCKET
SURNAME
400 Chapman
Martin

Cole
1-17

January 17, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of application for exploration assistance to the amount of $21,676.00
Docket No. DMEA 3502 - Tungsten
Alfred Hauck, E. E. Sims, Frank Tonkinson
435 Francis Street, Longmont, Colorado
Fraction Lode
Boulder County, Colorado

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TLCHAPMAN:foc
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W S Martin
W. S. Martin, Chief
Iron and Ferro-Alloys Division

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

400

denial by Region 4

224 New Customhouse
Denver 2, Colorado

December 1, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: DMEA Field Team, Region IV

Subject: Report of Examination, DMEA Docket No. 3502 (Tungsten), Alfred Hauck, E.E. Simon and Frank Tonkinson, Fraction Lode, Boulder County, Colorado.

Enclosed are the original and three copies of the report of examination on Docket No. 3502, a copy of the letter of denial to the applicant and two copies of Form 2c.

The production of record from the Fi[illegible] feet is [illegible] tons of ore containing [illegible] units of tungsten.

It is concluded that the chance of making a significant discovery of tungsten ore in this mine is poor, and the Field Team has denied the application.

W. H. King
W. H. King

E. M. Hershman
for A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(date)

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

COPY

224 New Customhouse
Denver 2, Colorado

Alfred Hauck
E. E. Simms
Frank Tonkinson
435 Francis Street
Longmont, Colorado

Gentlemen:

Reference is made to your application for exploration assistance on the Fraction Lode, Docket No. DMEA 3502.

Projects approved by the Defense Minerals Exploration Administration must, in its judgement, 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 tungsten 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/ W. H. King

/s/ E. N. Harshman for
A. H. Koschmann

Field Team, Region IV

HFS:dm

cc: Administrator
DMEA
AHKoschmann
WMTraver
Mining Division
Subject
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

December 1, 1954

[illegible] New Customhouse
Denver 2, Colorado

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket No. 3502 (Tungsten), Alfred Hauck, E. E. Imus and Frank Tonkinson, Fraction Lode, Boulder County, Colorado

Enclosed are the original and eight copies of the engineering report on Docket No. 3502.

The mine is opened by a 160 foot tunnel (50 foot level), a 100 foot shaft, and a 100 foot drift from the 100 foot level of the shaft.

The production record is 116.61 units of tungsten.

The applicant proposes to sink the shaft an additional 100 feet, drift 120 feet northeast and 80 feet southwest on the 200 foot level, at an estimated cost of $21,676.00.

The ore deposits in the first 100 feet are small. It is believed that the chance of making a significant discovery of tungsten in this mine is poor, and it is recommended that the application be denied.

W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
October 26, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: DMEA 3502 (Tungsten) Alfred Hauck, E. E. Simms and Frank Tonkinson (Fraction Lode) Boulder County, Colorado

Enclosed are the original and eight copies of a "Summary, Conclusions, and Recommendations" by Carl Belser, Bureau of Mines and D. R. MacLaren, Geological Survey and of Belser's engineering report on the subject docket.

Belser concludes the vein on the Fraction lode is an extension of the productive Hillside vein and possibly junctions with the Annie Hughes, another productive vein within the limits of property under consideration. The Fraction vein, where exposed, is from two to eighteen inches wide and contains quartz lenses with ferberite mineralization. He considers the possibility good that an ore shoot mined over a length of more than 50 feet on the 100-foot level should continue downward for at least 100 feet. However, he recommends denial of the application on the basis that the applicants proposal is development, rather than exploration.

While it is quite apparent the project proposed would be the development at greater depth of ore showing in the floor of the 100-foot level and stoped above that level, I would be inclined to interpret it as exploration with a fair possibility of resulting in a significant discovery. Although it might not result in the development of reserves sufficient to repay the Government's investment, it could, if Belser's thesis is correct, contribute some and possibly a substantial amount of tungsten. Therefore, I recommend the proposal be reviewed critically at the Regional level before denial.

It has been determined that there is no ownership involvement with the Gordon Gulch placer claim.

The brochure forwarded with your memorandum of September 21, 1954 is also enclosed.

W. M. Traver

W. M. Traver

enclosures
WMT/dg j
cc 8 DMEA 3502 Chron

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(date)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

October 22, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3502, Fraction Lode Mining Claim, Boulder County, Colorado

Enclosed are 9 copies of a geologic report by D. R. MacLaren of the U. S. Geological Survey covering the above docket.

The applicants propose to explore for tungsten ore by deepening the present shaft 100 feet and by 200 feet of drifting on the 200-foot level. On the 100-foot level, ferberite occurs in scattered narrow streaks along a 1 inch to 2 foot wide mineralized zone in granite. MacLaren concludes that the proposed work impinges on development and that there is little chance of making a new discovery of tungsten ore. He therefore recommends denial of the application for exploration assistance.

I concur in this recommendation.

The brochure is also enclosed.

E. M. Hershman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 1302, Fraction Lode

Alfred Knopf, E. H. Simms, and Frank Tonkinson

Boulder County, Colo.

Tungsten

Carl Belser, Mining Engineer
Bureau of Mines

D. R. MacLaren, Geologist
Geological Survey

October 13, 1954

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(date)

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON
BOULDER COUNTY, COLO.

Summary, Conclusions, and Recommendations

By Carl Belser
Mining Engineer
Bureau of Mines

D. R. MacLaren
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(date)

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON
BOULDER COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Carl Belser and D. R. MacLaren

Alfred Hauck, E. E. Simms, and Frank Tonkinson, all of Longmont, Colo., applied for a Defense Minerals Exploration Administration loan of $21,676.00 to explore the Fraction lode for tungsten by an additional 100 feet of shaft sinking and 200 feet of drifting.

A field examination was made on October 8, 1954, by a Region IV Defense Minerals Exploration Administration examining team accompanied by Hauck, Simms, and Tonkinson.

The exposed country rock is pre-Cambrian granite, some of it shattered and gneissic in character. The vein in the Fraction shaft has a strike of about N.30°E. and a dip of 85° SE. The vein has been opened by underground workings for a distance of 230 feet and is probably a continuation of the Hillside vein which is being mined on the south side of Gordon Gulch. The vein, where exposed, is from 2 to 18 inches wide and contains lenses of quartz with stringers of ferberite. The gouge consists mainly of quartz, clay, and altered country rock. To the north of the shaft on the 100 foot level the ore has been stoped for a length of 50 feet and a height of 30 to 40 feet. The total production since 1951 is 24.716 tons containing 116.61 units of WO_3. The Fraction Lode is adjacent to the Annie Hughes and Pennsylvania (both with good past production records) on the west.

The applicant requests Government assistance to sink the Fraction shaft an additional 100 feet and to drift on a level at that depth 80 feet southwest and 120 feet northeast from the shaft. The examining team is of the opinion that the proposed work should be considered development rather than exploration and for that reason recommends that the application be denied.

FRACTION LODE MINING CLAIM

BOULDER COUNTY, COLORADO

DMEA DOCKET 3802

Geologic Report

By D. R. MacLaren
U. S. Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
12-13-54
(Date)

FRACTION LODE MINING CLAIM
BOULDER COUNTY, COLORADO

INTRODUCTION

Alfred Hauch, E. E. Sims, and Frank Tomkinson, partners, of Longmont, Colorado, have applied to the Defense Minerals Exploration Administration for assistance to explore for tungsten in secs. 34 and 35, T. 1 N., R. 72 W., 6th P. M., Boulder County, Colorado. The applicants propose to explore on the Fraction Lode claim by deepening a shaft now 100 feet to a depth of 200 feet, and by drifting 125 feet north and 75 feet south from the shaft on the 200-foot level. The applicants estimate that this program will cost $21,676, of which the Government will pay $16,257.

The Fraction Lode claim is in Gordon Gulch about one-quarter of a mile north of the junction of Gordon Gulch and North Boulder Creek. Within a few feet of a good graded county road, the property is accessible throughout the year. An examination was made October 8, 1954, in company with Carl Belzer of the U. S. Bureau of Mines and the three applicants.

It is concluded that the chance of making a singificant new discovery of tungsten ore is poor, and that the proposed work is more in the nature of development of a known small ore body than true exploration.

GEOLOGY

The Fraction Lode claim is in an area of Boulder Creek granite which is cut by a fissure that strikes about N. 25° E. and dips vertically to 80° southeast. The fissure is probably the northern extension of the Millsite vein from which, according to Belzer, about 1,500 units WO_3 have been produced.

On the Fracture Lode claim (figure 2), the fissure has been developed by a shaft 100 feet deep from which levels have been turned at depths of 50 and 100 feet below the shaft collar. The 50-foot level has been driven to the northeast but is caved beyond a point 32 feet from the shaft. The100-foot level has been driven to the northeast a distance of 98 feet and is accessible to the breast. About 115 feet southeast of the shaft is an adit said to connect with the shaft on the 50-foot level. The first 39 feet of the adit is an open cut. The adit proper is caved from a point 47 feet beyond the end of the open cut to the shaft.

Where exposed in the workings, the fissure is filled by clay gouge and breccia that vary in width from one-half inch to two feet. Ferberite occurs in the clay gouge as small scattered streaks a foot or so long up to one inch thick, and as fillings between breccia fragments. The wall rock is granite, slightly silicified along the vein, and more or less weathered within a foot or less of the vein walls.

Stoping is reported from the open cut and the caved portions of the adit on the 50-foot level but production figures are not available. The applicants have mined about 24 tons of ore yielding 116units of WO_3 from two small stopes on the 100-foot level. One stope is about six feet long and twenty feet high while the other is about thirty feet long and twenty feet high at the mouth. Northeast of the larger stope no ferberite was seen in the vein which pinches and almost dies out at the breast.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the chance of making a significant discovery of tungsten ore in this mine is poor and that the principal result of the proposed program will be the possible development of a small known ore body for mining at a lower horizon.

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. H. SIMMS, and FRANK TONKINSON
BOULDER COUNTY, COLO.

Engineering Report

By Carl Belser
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

12-13-54
(date)

DMSA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, and FRANK TONKINSON
BOULDER COUNTY, COLO.

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ILLUSTRATIONS

Figure	Follows page
1. Location map, Fraction lode, Alfred Hauck, E. E. Simms, and Frank Tonkinson, Boulder County, Colo.	2
2. Composite plan showing surface features, underground workings, and proposed exploration, Fraction Claim, Boulder County, Colorado	*

*See figure with geologic report.

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON
BOULDER COUNTY, COLO.

ENGINEERING REPORT

By Carl Belser

INTRODUCTION

Alfred Hauck, 435 Francis Street, Longmont, Colo., E. E. Simms, Route 3, Box 363, Longmont, Colo., and Frank Tonkinson, 319 Pratt St, Longmont, Colo., on September 23, 1954, submitted an application to the Defense Minerals Exploration Administration for aid in an exploration project on the Fraction Lode Mining Claim, located in Gordon Gulch, Sugar Loaf mining district, Boulder County, Colo. The application, DMEA 3502, requested aid in sinking the Fraction shaft an additional 100 feet and drifting 200 feet on the vein on a level to be established at that depth at an estimated cost of $21,676.00 of which the government's participation (75 percent for tungsten) would be $16,257.00. The project is designed to explore at greater depth tungsten-bearing deposits which have been worked near the surface, on the 50 foot level, and on the 100 foot level.

A field investigation of the application was made by a Region IV Examining Team on October 8, 1954.

ACKNOWLEDGMENTS

The applicants, Alfred Hauck, E. E. Simms, and Frank Tonkinson, accompanied the examining team.

D. R. MacLaren, geologist, was assigned to make the examination as the Geological Survey member of the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Fraction lode mining claim is located in the Sugar Loaf mining district in secs. 34 and 35, T. 1N., R.72W., sixth principal meridian, Boulder County, Colo. (fig.1).

The Fraction shaft is on the north side of Gordon Gulch about 30 feet above the bottom of the gulch at an altitude of approximately 7,500 feet. A short access road connects the shaft with the county road in Gordon Gulch from whence the Wolf Tongue custom mill is 7 miles distant and Boulder, the nearest supply point and rail head, is 14 miles to the east. Growths of pine and spruce timber occur on or near the property and native timber and lumber can be purchased in Nederland. Water for mine purposes can be obtained from Gordon Gulch, but water for domestic use is hauled from Boulder.

Miners can be employed in Nederland and Boulder. Local housing is not available but accommodations can be obtained in Boulder and Nederland. The applicants have a small building which will house two or four men during the workweek. Service lines of The Public Service Company of Colorado are nearby.

Annual rainfall is about 18 inches. Although the winters are somewhat severe, the county roads are kept open and interruptions to year-around operations would be few.

HISTORY AND PRODUCTION

Ferberite was first produced in Boulder County in 1900 and the first tungsten mill was located a few hundred yards above the Fraction lode in Gordon Gulch. The Fraction lode was discovered during World War I when a small shaft was sunk on ore at the bottom of the

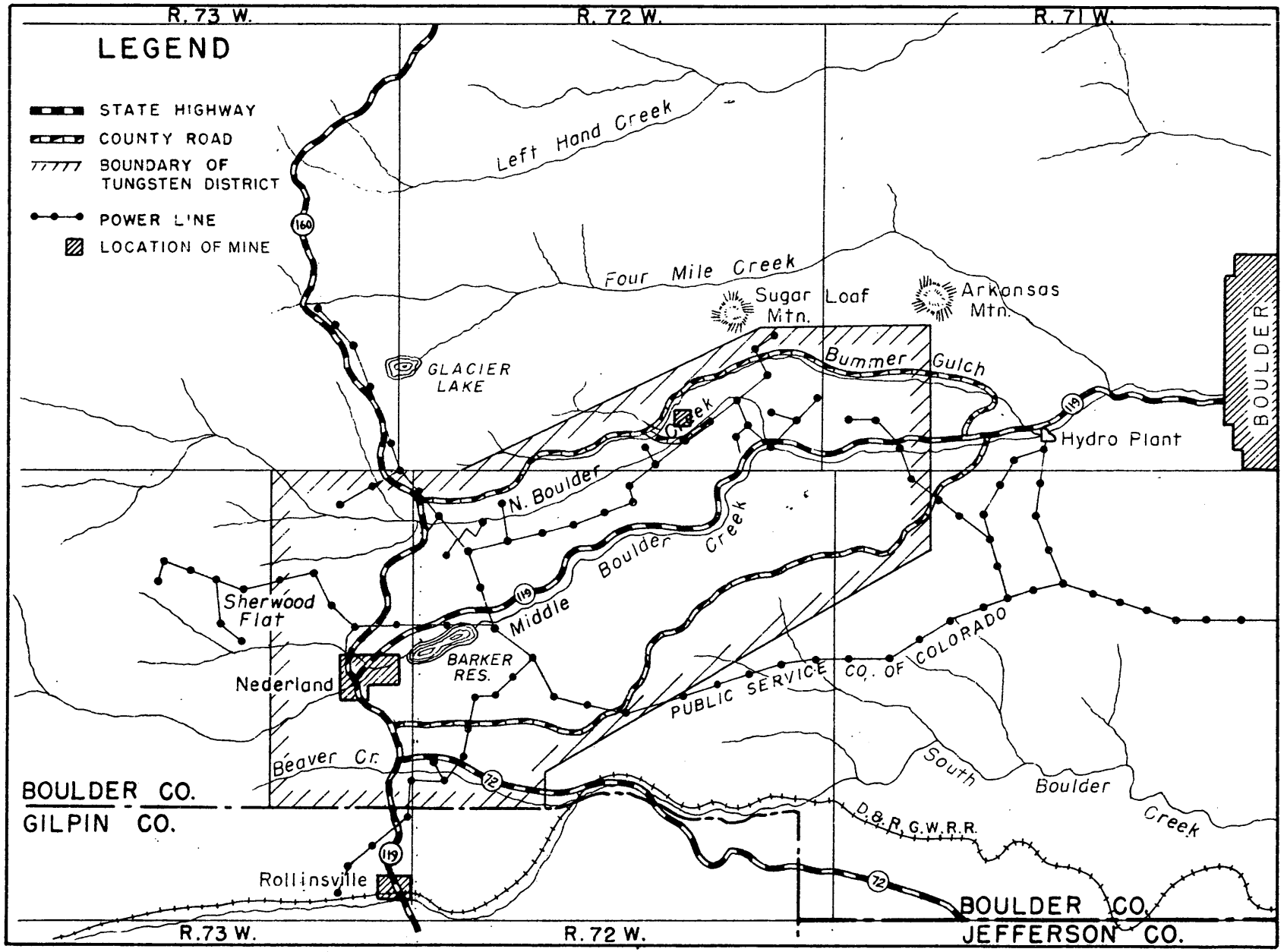

FIGURE 1 - LOCATION MAP, FRACTION LODE, ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON, BOULDER COUNTY, COLO. (DMEA 3502)

hill and an adit driven northeasterly into the hill. Ore was produced from both the shaft and the tunnel but no record of the production is available. The claim was patented in 1923 and has been idle most of the time until 1951 when the applicants sank the shaft to the 100 foot level. Since then this level was driven 100 feet northeast and 24.716 tons of ore containing 116.61 units of tungsten were mined and shipped.

OWNERSHIP AND EXTENT

The property consists of the Fraction lode, survey No. 20251, 1,500 feet by 519.08 feet, from which small portions of the Annie Hughes lode and the Gordon Gulch placer have been exempted. The discovery lode from which all production has been made, appears to pass through the side line of the Fraction claim near corner 3 of the Annie Hughes, making a strike length of about 200 feet for the Fraction vein on The Fraction claim. Ownership of the Fraction lode is vested in the names of the applicants.

DESCRIPTION OF DEPOSITS

The ore occurs as ferberite in lenticular deposits associated with quartz, clay, and altered country rock. The vein has an average strike of about N. 30° E. and a dip of 85° SE. The country rock is shattered granite and gneissic. The vein, which is probably an extension of the Hillside, has two and possibly three ore shoots on the Fraction claim. One ore lens occurs on surface just south of the Fraction end line and may pitch into the Fraction with depth. The other two ore lenses are short distances southwest and northeast of the Fraction shaft. The ore lens southwest of the shaft was mined through an adit (50-foot level) and is not accessible at the present

time. The vein, where exposed, is from 2 to 18 inches wide. The ore deposit northeast of the shaft extends for 53 feet along the strike on the 100 foot level and may strengthen with depth as it does not appear to have been mined on the 50-foot level.

MINEABLE ORE RESERVES

There are no mineable ore reserves on the property. Ore totaling 24.716 tons mined from the ore shoot on the northeast side of the shaft averaged 4.7 percent WO_3. It is inferred that all three ore lenses will continue downward for at least another 100 feet of depth.

PRESENT STATUS

Exploration and Development

All the mine workings are shown on figure 2 with the geological report. The ore deposits are developed by a 160 foot tunnel, (50 foot level) a 100 foot shaft, and a 100 foot drift from the 100 foot level of the shaft.

Mining and Milling Equipment and Other Facilities

A short access road connects the property with a good county road. A one-room frame house and a hoist house are located on the property. Mining equipment consists of the following:

	ITEM	APPLICANTS' VALUATION
1	Single Stage Ingersoll-Rand Compressor	$ 800.00
1	Buda motor (50-hp)	400.00
1	Ingersoll-Rand pump No. 25 air	300.00
1	125-gallon bailer	100.00
2	Mine cars	75.00
1	Dolly (bucket truck)	10.00
1	Cooling tank	25.00
2	Mine buckets	25.00
1	6 inch blower, 100 feet of 6 inch air pipe, 6 hp gas engine	185.00

(Continued)

ITEM		APPLICANTS' VALUATION
1	Gardner-Denver jackhammer	$ 100.00
1	Atlas drill, jack leg, and steel	800.00
1	Steel stoper leg	100.00
1	Oiler and hose	110.00
90	Feet Air hose	100.00
1	Air receiver	150.00
1	Water line 3/4 inch -125 feet long	25.00
1	Water trap	5.00
1	Hoist - homemade	200.00
1	Shive wheel	10.00
200-feet 5/8 inch cable		35.00
1-1/2 tons rails		150.00
110-feet, 1-1/4 inch pipe		40.00
40	feet water hose	15.00
		$3,760.00

There is no milling equipment on the property. There is an operating custom mill located at Nederland.

PROJECT PROPOSALS, WITH COSTS

The applicant proposed to sink the Fraction shaft an additional 100 feet, drift 120 feet northeast, and 80 feet southwest on the 200-foot level, at a total cost of $21,676.00. Government participation (75 percent for tungsten) $16,257.00.

The estimated cost of this work follows:

Independent Contracts:		
None		
Labor and Supervision:		
Supervisor at $2.25 an hour, miners and muckers at $2.00- 10 months		$ 12,000.00
Operating Material and Supplies:		
2-1/2 tons powder at $480.00	$ 1,200.00	
Fuse	200.00	
Caps	100.00	
Carbide	15.00	
Trackspikes	25.00	
Oil and grease	52.00	
Gas	500.00	
Total		2,092.00

Operating Equipment:		
To be purchased		
2 inch pipe and rails	$ 400.00	
Rental		
Rental of equipment listed under mine equipment	3,000.00	
Total		$ 3,400.00
Initial Rehabilitation and Repairs:		
Repairs to tipple, build ore chute and storage bin		1,500.00
New Buildings, Improvements, etc:		
Timber shaft		1,500.00
Miscellaneous:		
Repairs to equipment	450.00	
Payroll Taxes	434.00	
Liability insurance	300.00	
		1,184.00
Total estimated cost of project		$ 21,576.00

ESTIMATED COST

Sinking (100 feet -5 month time required)

Independent Contracts:		
None		
Labor and Supervision:		
Labor:		
220 shifts at $14.00	3,080.00	
Supervision:		
(Includes hoistman--topman)		
5 months at $400.00	2,000.00	
Total Labor and Supervision		5,080.00
Operating Materials and Supplies:		
Timber		
Ladders, stulls, wallplates, skids, platforms, lagging	530.00	
Explosives, caps, fuse	625.00	
Carbide	13.00	
Oil and grease	26.00	
Gasoline	250.00	
Total Supplies		1,444.00

Operating Equipment:			
To be purchased			
100 feet 2 inch pipe	$ 90.00		
Rental (from operator)			
Rental of equipment listed under "Mining Equipment"			
5/60 of $3,760.00	313.00		
Total operating equipment		$	403.00
Initial Rehabilitation and Repairs:			
None			
New Buildings, Improvements, etc.:			
New head frame			400.00
Miscellaneous:			
Repairs to equipment	50.00		
Payroll Taxes $1.50/$100.00	77.33		
Liability insurance $2.95/$100.00	152.07		
Bookkeeping $15.00 month	75.00		
Total miscellaneous			354.40
Total		$	7,681.40

Cost per foot shaft sinking $ 76.81

Drifting

From experience in the area the drifting will cost about $32.00 a foot.

Recapitulation of Project Costs

100 feet of shaft sinking at $77.00 a foot	7,700.00
200 feet of drifting at $32.00 a foot	6,400.00
Total	$14,100.00

Retimbering of the upper 50 feet of the shaft and the construction of the ore chute and storage bin requested by the applicants and $2,374.00 of excess rental, making a total of $4,974.00, were not considered in the above estimate.

Government participation in tungsten exploration is 75 percent or, in this case, $10,575.00.

CONCLUSIONS

The Fraction vein is probably the extension north of the Hillside

vein, and further northeast it should junction with the Annie Hughes vein in the main ore shoot of the Annie Hughes. This junction appears to be about 120 feet from the breast of the 100-foot level in the Fraction shaft. The ore deposits on the Fraction are not large but should continue downward for at least 100 feet. However, as ore was mined from both of the Fraction ore shoots above, the applicants' proposal is considered to be more in the nature of development than exploration.

RECOMMENDATIONS

It is recommended that the application be denied.

/dj

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

RECEIVED
DEC 8 1954

224 New Customhouse
Denver 2, Colorado

December 1, 1954

Alfred Hauck
E.E. Simms
Frank Tonkinson
435 Francis Street
Longmont, Colorado

Gentlemen:

Reference is made to your application for exploration assistance on the Fraction Lode, Docket No. DMEA 3502.

Projects approved by the Defense Minerals Exploration Administration must, in its judgement, 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 tungsten 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,

W H King
W. H. King

for E. N. Hardinman
A. H. Koschmann

Field Team, Region IV

HFS:dm

cc: Administrator
DMEA
AHKoschmann
WMTraver
Mining Division
Subject
Chron

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

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

224 New Customhouse
Denver 2, Colorado

December 1, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: DMEA Field Team, Region IV

Subject: Report of Examination, DMEA Docket No. 3502 (Tungsten), Alfred Hauck, E.E. Simms and Frank Tonkinson, Fraction Lode, Boulder County, Colorado.

Enclosed are the original and three copies of the report of examination on Docket No. 3502, a copy of the letter of denial to the applicant and two copies of Form 3b.

The production of record from the first 100 feet is 24.716 tons of ore containing 116.61 units of tungsten.

It is concluded that the chance of making a significant discovery of tungsten ore in this mine is poor, and the Field Team has denied the application.

W. H. King
W. H. King

for E. M. Hanschmann
A. H. Koschmann

Enclosures

denial letter
A.B.12.8
to copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

December 1, 1954

224 New Customhouse
Denver 2, Colorado

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket No. 3502 (Tungsten), Alfred Hauck, E. E. Simms and Frank Tonkinson, Fraction Lode, Boulder County, Colorado

Enclosed are the original and eight copies of the engineering report on Docket No. 3502.

The mine is opened by a 160 foot tunnel (50 foot level), a 100 foot shaft, and a 100 foot drift from the 100 foot level of the shaft.

The production record is 116.61 units of tungsten.

The applicant proposes to sink the shaft an additional 100 feet, drift 120 feet northeast and 80 feet southwest on the 200 foot level, at an estimated cost of $21,676.00.

The ore deposits in the first 100 feet are small. It is believed that the chance of making a significant discovery of tungsten in this mine is poor, and it is recommended that the application be denied.

W. H. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
October 26, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: DMEA 3502 (Tungsten) Alfred Hauck, E. E. Simms and Frank Tonkinson (Fraction Lode) Boulder County, Colorado

Enclosed are the original and eight copies of a "Summary, Conclusions, and Recommendations" by Carl Belser, Bureau of Mines and D. R. Maclaren, Geological Survey and of Belser's engineering report on the subject docket.

Belser concludes the vein on the Fraction lode is an extension of the productive Hillside vein and possibly junctions with the Annie Hughes, another productive vein within the limits of property under consideration. The Fraction vein, where exposed, is from two to eighteen inches wide and contains quartz lenses with ferberite mineralization. He considers the possibility good that an ore shoot mined over a length of more than 50 feet on the 100-foot level should continue downward for at least 100 feet. However, he recommends denial of the application on the basis that the applicants proposal is development, rather than exploration.

While it is quite apparent the project proposed would be the development at greater depth of ore showing in the floor of the 100-foot level and stoped above that level, I would be inclined to interpret it as exploration with a fair possibility of resulting in a significant discovery. Although it might not result in the development of reserves sufficient to repay the Government's investment, it could, if Belser's thesis is correct, contribute some and possibly a substantial amount of tungsten. Therefore, I recommend the proposal be reviewed critically at the Regional level before denial.

It has been determined that there is no ownership involvement with the Gordon Gulch placer claim.

The brochure forwarded with your memorandum of September 21, 1954 is also enclosed.

W. M. Traver

W. M. Traver

enclosures
WMT/dgj
cc 8 DMEA 3502 Chron

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

October 22, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3502, Fraction Lode Mining Claim, Boulder County, Colorado

Enclosed are 9 copies of a geologic report by D. R. MacLaren of the U. S. Geological Survey covering the above docket.

The applicants propose to explore for tungsten ore by deepening the present shaft 100 feet and by 200 feet of drifting on the 200-foot level. On the 100-foot level, ferberite occurs in scattered narrow streaks along a 1 inch to 2 foot wide brecciated zone in granite. MacLaren concludes that the proposed work impinges on development and that there is little chance of making a new discovery of tungsten ore. He therefore recommends denial of the application for exploration assistance.

I concur in this recommendation.

The brochure is also enclosed.

E. M. Hawkman
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 3502, Fraction Lode

Alfred Hauck, E. E. Simms, and Frank Tonkinson

Boulder County, Colo.

Tungsten

Carl Belser, Mining Engineer
Bureau of Mines

D. R. MacLaren, Geologist
Geological Survey

October 13, 1954

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON
BOULDER COUNTY, COLO.

Summary, Conclusions, and Recommendations

By Carl Belser
Mining Engineer
Bureau of Mines

D. R. MacLaren
Geologist
Geological Survey

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON
BOULDER COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Carl Belser and D. R. MacLaren

Alfred Hauck, E. E. Simms, and Frank Tonkinson, all of Longmont, Colo., applied for a Defense Minerals Exploration Administration loan of $21,676.00 to explore the Fraction lode for tungsten by an additional 100 feet of shaft sinking and 200 feet of drifting.

A field examination was made on October 8, 1954, by a Region IV Defense Minerals Exploration Administration examining team accompanied by Hauck, Simms, and Tonkinson.

The exposed country rock is pre-Cambrian granite, some of it shattered and gneissic in character. The vein in the Fraction shaft has a strike of about N.30°E. and a dip of 85° SE. The vein has been opened by underground workings for a distance of 230 feet and is probably a continuation of the Hillside vein which is being mined on the south side of Gordon Gulch. The vein, where exposed, is from 2 to 18 inches wide and contains lenses of quartz with stringers of ferberite. The gouge consists mainly of quartz, clay, and altered country rock. To the north of the shaft on the 100 foot level the ore has been stoped for a length of 50 feet and a height of 30 to 40 feet. The total production since 1951 is 24.716 tons containing 116.61 units of WO_3. The Fraction Lode is adjacent to the Annie Hughes and Pennsylvania (both with good past production records) on the west.

The applicant requests Government assistance to sink the Fraction shaft an additional 100 feet and to drift on a level at that depth 80 feet southwest and 120 feet northeast from the shaft. The examining team is of the opinion that the proposed work should be considered development rather than exploration and for that reason recommends that the application be denied.

FRACTION LODE MINING CLAIM

BOULDER COUNTY, COLORADO

DMEA DOCKET 3502

Geologic Report

By D. R. MacLaren
U. S. Geological Survey

FRACTION LODE MINING CLAIM
BOULDER COUNTY, COLORADO

INTRODUCTION

Alfred Hauch, E. E. Simms, and Frank Tonkinson, partners, of Longmont, Colorado, have applied to the Defense Minerals Exploration Administration for assistance to explore for tungsten in secs. 34 and 35, T. 1 N., R. 72 W., 6th P. M., Boulder County, Colorado. The applicants propose to explore on the Fraction Lode claim by deepening a shaft now 100 feet to a depth of 200 feet, and by drifting 125 feet north and 75 feet south from the shaft on the 200-foot level. The applicants estimate that this program will cost $21,676, of which the Government will pay $16,257.

The Fraction Lode claim is in Gordon Gulch about one-quarter of a mile north of the junction of Gordon Gulch and North Boulder Creek. Within a few feet of a good graded county road, the property is accessible throughout the year. An examination was made October 8, 1954, in company with Carl Belser of the U. S. Bureau of Mines and the three applicants.

It is concluded that the chance of making a singificant new discovery of tungsten ore is poor, and that the proposed work is more in the nature of development of a known small ore body than true exploration.

GEOLOGY

The Fraction Lode claim is in an area of Boulder Creek granite which is cut by a fissure that strikes about N. 25° E. and dips vertically to 80° southeast. The fissure is probably the northern extension of the Hillside vein from which, according to Belser, about 1,500 units WO_3 have been produced.

On the Fracture Lode claim (figure 2), the fissure has been developed by a shaft 100 feet deep from which levels have been turned at depths of 50 and 100 feet below the shaft collar. The 50-foot level has been driven to the northeast but is caved beyond a point 32 feet from the shaft. The 100-foot level has been driven to the northeast a distance of 98 feet and is accessible to the breast. About 115 feet southeast of the shaft is an adit said to connect with the shaft on the 50-foot level. The first 39 feet of the adit is an open cut. The adit proper is caved from a point 47 feet beyond the end of the open cut to the shaft.

Where exposed in the workings, the fissure is filled by clay seams and breccia that vary in width from one-half inch to two feet. Ferberite occurs in the clay gouge as small scattered streaks a foot or so long up to one inch thick, and as fillings between breccia fragments. The wall rock is granite, slightly silicified along the vein, and more or less weathered within a foot or less of the vein walls.

Stoping is reported from the open cut and the caved portions of the adit on the 50-foot level but production figures are not available. The applicants have mined about 24 tons of ore yielding 116 units of WO_3 from two small stopes on the 100-foot level. One stope is about six feet long and twenty feet high while the other is about thirty feet long and twenty feet high at the manway. Northeast of the larger stope no ferberite was seen in the vein which pinches and almost dies out at the breast.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the chance of making a significant discovery of tungsten ore in this mine is poor and that the principal result of the proposed program will be the possible development of a small known ore body for mining at a lower horizon.

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, and FRANK TONKINSON
BOULDER COUNTY, COLO.

Engineering Report

By Carl Belser
Mining Engineer
Bureau of Mines

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, and FRANK TONKINSON
BOULDER COUNTY, COLO.

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ILLUSTRATIONS

Figure		Follows page
1.	Location map, Fraction lode, Alfred Hauck, E. E. Simms, and Frank Tonkinson, Boulder County, Colo.	2
2.	Composite plan showing surface features, underground workings, and proposed exploration, Fraction Claim, Boulder County, Colorado	*

*See figure with geologic report.

DMEA 3502

FRACTION LODE
ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON
BOULDER COUNTY, COLO.

ENGINEERING REPORT

By Carl Belser

INTRODUCTION

Alfred Hauck, 435 Francis Street, Longmont, Colo., E. E. Simms, Route 3, Box 363, Longmont, Colo., and Frank Tonkinson, 319 Pratt St, Longmont, Colo., on September 23, 1954, submitted an application to the Defense Minerals Exploration Administration for aid in an exploration project on the Fraction Lode Mining Claim, located in Gordon Gulch, Sugar Loaf mining district, Boulder County, Colo. The application, DMEA 3502, requested aid in sinking the Fraction shaft an additional 100 feet and drifting 200 feet on the vein on a level to be established at that depth at an estimated cost of $21,676.00 of which the government's participation (75 percent for tungsten) would be $16,257.00. The project is designed to explore at greater depth tungsten-bearing deposits which have been worked near the surface, on the 50 foot level, and on the 100 foot level.

A field investigation of the application was made by a Region IV Examining Team on October 8, 1954.

ACKNOWLEDGMENTS

The applicants, Alfred Hauck, E. E. Simms, and Frank Tonkinson, accompanied the examining team.

D. R. MacLaren, geologist, was assigned to make the examination as the Geological Survey member of the examining team.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Fraction lode mining claim is located in the Sugar Loaf mining district in secs. 34 and 35, T. 1N., R.72W., sixth principal meridian, Boulder County, Colo. (fig.1).

The Fraction shaft is on the north side of Gordon Gulch about 50 feet above the bottom of the gulch at an altitude of approximately 7,580 feet. A short access road connects the shaft with the county road in Gordon Gulch from whence the Wolf Tongue custom mill is 7 miles distant and Boulder, the nearest supply point and rail head, is 14 miles to the east. Growths of pine and spruce timber occur on or near the property and native timber and lumber can be purchased in Nederland. Water for mine purposes can be obtained from Gordon Gulch, but water for domestic use is hauled from Boulder.

Miners can be employed in Nederland and Boulder. Local housing is not available but accommodations can be obtained in Boulder and Nederland. The applicants have a small building which will house thee or four men during the workweek. Service lines of The Public Service Company of Colorado are nearby.

Annual rainfall is about 18 inches. Although the winters are somewhat severe, the county roads are kept open and interruptions to year-around operations would be few.

HISTORY AND PRODUCTION

Ferberite was first produced in Boulder County in 1900 and the first tungsten mill was located a few hundred yards above the Fraction lode in Gordon Gulch. The Fraction lode was discovered during World War I when a small shaft was sunk on ore at the bottom of the

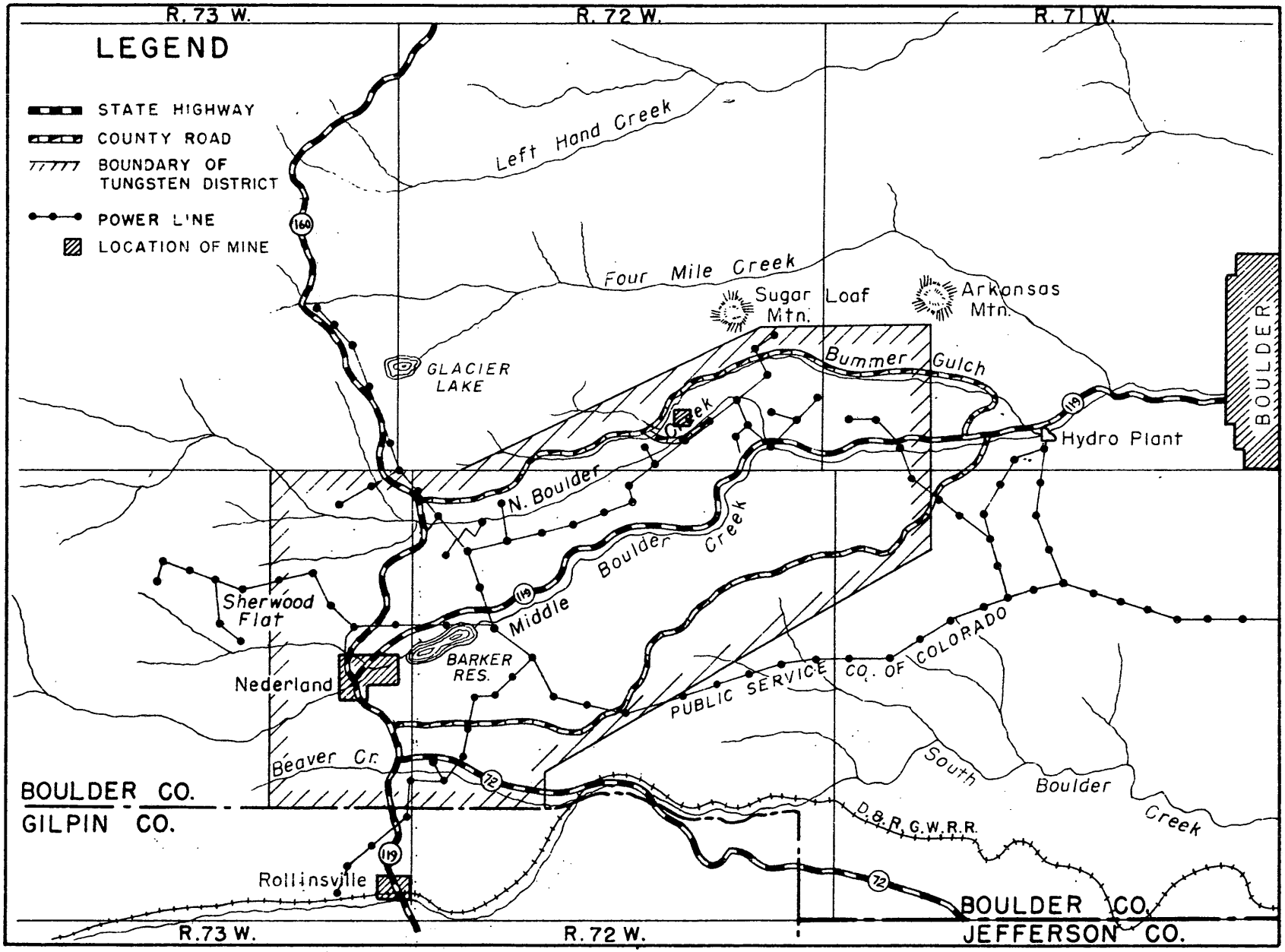

FIGURE 1 - LOCATION MAP, FRACTION LODE, ALFRED HAUCK, E. E. SIMMS, AND FRANK TONKINSON, BOULDER COUNTY, COLO. (DMEA 3502)

hill and an adit driven northeasterly into the hill. Ore was produced from both the shaft and the tunnel but no record of the production is available. The claim was patented in 1923 and has been idle most of the time until 1951 when the applicants sank the shaft to the 100 foot level. Since then this level was driven 100 feet northeast and 24.716 tons of ore containing 116.61 units of tungsten were mined and shipped.

OWNERSHIP AND EXTENT

The property consists of the Fraction lode, survey No. 20251, 1,500 feet by 519.08 feet, from which small portions of the Annie Hughes lode and the Gordon Gulch placer have been exempted. The discovery lode, from which all production has been made, appears to pass through the side line of the Fraction claim near corner 3 of the Annie Hughes, making a strike length of about 200 feet for the Fraction vein on the Fraction claim. Ownership of the Fraction lode is vested in the names of the applicants.

DESCRIPTION OF DEPOSITS

The ore occurs as ferberite in lenticular deposits associated with quartz, clay, and altered country rock. The vein has an average strike of about N. 30° E. and a dip of 85° SE. The country rock is shattered granite and gneissic. The vein, which is probably an extension of the Hillside, has two and possibly three ore shoots on the Fraction claim. One ore lens occurs on surface just south of the Fraction end line and may pitch into the Fraction with depth. The other two ore lenses are short distances southwest and northeast of the Fraction shaft. The ore lens southwest of the shaft was mined through an adit (50-foot level) and is not accessible at the present

time. The vein, where exposed, is from 2 to 18 inches wide. The ore deposit northeast of the shaft extends for 53 feet along the strike on the 100 foot level and may strengthen with depth as it does not appear to have been mined on the 50-foot level.

MINEABLE ORE RESERVES

There are no mineable ore reserves on the property. Ore totaling 24.716 tons mined from the ore shoot on the northeast side of the shaft averaged 4.7 percent WO_3. It is inferred that all three ore lenses will continue downward for at least another 100 feet of depth.

PRESENT STATUS

Exploration and Development

All the mine workings are shown on figure 2 with the geological report. The ore deposits are developed by a 160 foot tunnel, (50 foot level) a 100 foot shaft, and a 100 foot drift from the 100 foot level of the shaft.

Mining and Milling Equipment and Other Facilities

A short access road connects the property with a good county road. A one-room frame house and a hoist house are located on the property. Mining equipment consists of the following:

	ITEM	APPLICANTS' VALUATION
1	Single Stage Ingersoll-Rand Compressor	$ 800.00
1	Buda motor (50-hp)	400.00
1	Ingersoll-Rand pump No. 25 air	300.00
1	125-gallon bailer	100.00
2	Mine cars	75.00
1	Dolly (bucket truck)	10.00
1	Cooling tank	25.00
2	Mine buckets	25.00
1	6 inch blower, 100 feet of 6 inch air pipe, 6 hp gas engine	185.00

(Continued)

ITEM		APPLICANTS' VALUATION
1	Gardner-Denver jackhammer	$ 100.00
1	Atlas drill, jack leg, and steel	800.00
1	Steel stoper leg	100.00
1	Oiler and hose	110.00
90	Feet Air hose	100.00
1	Air receiver	150.00
1	Water line 3/4 inch -125 feet long	25.00
1	Water trap	5.00
1	Hoist - homemade	200.00
1	Shive wheel	10.00
200-feet 5/8 inch cable		35.00
1-1/2 tons rails		150.00
110-feet, 1-1/4 inch pipe		40.00
40	feet water hose	15.00
		$3,760.00

There is no milling equipment on the property. There is an operating custom mill located at Nederland.

PROJECT PROPOSALS, WITH COSTS

The applicant proposed to sink the Fraction shaft an additional 100 feet, drift 120 feet northeast, and 80 feet southwest on the 200-foot level, at a total cost of $21,676.00. Government participation (75 percent for tungsten) $16,257.00.

The estimated cost of this work follows:

Independent Contracts:
None

Labor and Supervision:		
Supervisor at $2.25 an hour, miners and muckers at $2.00- 10 months		$ 12,000.00
Operating Material and Supplies:		
2-1/2 tons powder at $480.00	$ 1,200.00	
Fuse	200.00	
Caps	100.00	
Carbide	15.00	
Trackspikes	25.00	
Oil and grease	52.00	
Gas	500.00	
Total		2,092.00

Operating Equipment:		
To be purchased		
2 inch pipe and rails	$ 400.00	
Rental		
Rental of equipment listed under mine equipment	3,000.00	
Total		$ 3,400.00
Initial Rehabilitation and Repairs:		
Repairs to tipple, build ore chute and storage bin		1,500.00
New Buildings, Improvements, etc:		
Timber shaft		1,500.00
Miscellaneous:		
Repairs to equipment	450.00	
Payroll Taxes	434.00	
Liability insurance	300.00	
		1,184.00
Total estimated cost of project		$ 21,676.00

ESTIMATED COST

Sinking (100 feet -5 month time required)

Independent Contracts:		
None		
Labor and Supervision:		
Labor:		
220 shifts at $14.00	3,080.00	
Supervision:		
(Includes hoistman--topman)		
5 months at $400.00	2,000.00	
Total Labor and Supervision		5,080.00
Operating Materials and Supplies:		
Timber		
Ladders, stulls, wallplates, skids, platforms, lagging	530.00	
Explosives, caps, fuse	625.00	
Carbide	13.00	
Oil and grease	26.00	
Gasoline	250.00	
Total Supplies		1,444.00

Operating Equipment:			
To be purchased			
100 feet 2 inch pipe	$ 90.00		
Rental (from operator)			
Rental of equipment listed under "Mining Equipment" 5/60 of $3,760.00	313.00		
Total operating equipment		$	403.00
Initial Rehabilitation and Repairs:			
None			
New Buildings, Improvements, etc.:			
New head frame			400.00
Miscellaneous:			
Repairs to equipment	50.00		
Payroll Taxes $1.50/$100.00	77.33		
Liability insurance $2.95/$100.00	152.07		
Bookkeeping $15.00 month	75.00		
Total miscellaneous			354.40
Total		$	7,681.40
Cost per foot shaft sinking	$ 76.81		

Drifting

From experience in the area the drifting will cost about $32.00 a foot.

Recapitulation of Project Costs

100 feet of shaft sinking at $77.00 a foot	7,700.00
200 feet of drifting at $32.00 a foot	6,400.00
Total	$14,100.00

Retimbering of the upper 50 feet of the shaft and the construction of the ore chute and storage bin requested by the applicants and $2,374.00 of excess rental, making a total of $4,974.00, were not considered in the above estimate.

Government participation in tungsten exploration is 75 percent or, in this case, $10,575.00.

CONCLUSIONS

The Fraction vein is probably the extension north of the Hillside

vein, and further northeast it should junction with the Anie Hughes vein in the main ore shoot of the Annie Hughes. This junction appears to be about 120 feet from the breast of the 100-foot level in the Fraction shaft. The ore deposits on the Fraction are not large but should continue downward for at least 100 feet. However, as ore was mined from both of the Fraction ore shoots above, the applicants' proposal is considered to be more in the nature of development than exploration.

RECOMMENDATIONS

It is recommended that the application be denied.

/dj

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

SEP 27 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. 3502
Metal or Mineral TUNGSTEN
Date Received
Estimated Cost $21,676
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: Alfred Hauck, 435 Francis Street, Longmont, Colorado
E. E. Simms, Route 2, Box 362, Longmont, Colorado
Frank Tonkinson, 319 Pratt St., Longmont, Colorado
Joint venture

(*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 schedules attached

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

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

(*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 .....

.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated September, 1954

Alfred Hauck
(Applicant)

By E. E. Simms

Frank Thorkamson

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

Alfred Hauck, 435 Francis St. Longmont
E. E. Simms, Route 3, Box 363 "
Frank Tonkinson, 319 Pratt St. "
Colorado

3. Applicants' property rights:

(a) The legal description of the land which operators wish to explore is as follows:

"Survey No. 20251, embracing a portion of Sections 34 and 35 in Township 1 North of Range 72 West of the 6th P. M., in the Sugar Loaf Mining District, Boulder County, Colorado, and bounded, described and platted as follows: Beginning at corner No. 1, a gneiss stone 6x13x24 inches, marked F-1-20251, in mound of stone, from which the west quarter corner of Section 35 in Township 1 North of Range 72 West of the 6th P. M., bears south fifty-three degrees thirteen minutes west five hundred twenty-five and twenty-eight hundredths feed distant;

Thence, first course, south sixty-eight degrees fifty-eight minutes west one thousand five hundred feet to corner No. 2, a cross (X) at corner point and F-2-20251 marked on top of boulder 1x2x1½ feet above ground;

Thence, second course, north sixty-four degrees thirty-six minutes west thirty-seven and eighty-three hundredths feet intersect line 5 - 6 of Survey No. 17198, the Gordon Gulch placer claim, at south fifty-four degrees fifty-five minutes east one hundred seventy-nine and seventee-hundredths feet from corner No. 5; four hundred fourteen and four-hundredths feet to a point from which discovery shaft bears north sixty-eight degrees fifty-eight minutes east two hundred sixty-nine feet distant; four hundred ninty-three and thirty-eight hundredths feet intersect line 4 - 5 of said Survey No. 17198, at north seventy degrees forty-six minutes west two hundred eighty and fifty-five hundredths feet from corner No. 5; five hundred nineteen and eight-hundredths feet to corner No. 3, a cross (X) at corner point and F 3-20251 marked on top of rock in place 3x4x4 feet.

Thence, third course, north sixty-eight degrees fifty-eight minutes east thirty-three and sixty-three-hundredths feet intersect line 3 - 4 of Survey No. 13676, the Annie Hughes lode claim, at south seventyfour degrees fifty-eight minutes west three hundred fifty-six and thirty-two hundredths feet from corner No. 3; one thousand fiftyfour and nineteen-hundredths feet intersect line 2 - 3 of said Survey No. 13676, at north sixty-five degrees forty-six minutes east six hundred sixty-seven and twenty-three-hundredths feet from Corner No. 3; one thousand five hundred feet to corner No. 4, a spar stone 4x11x24 inches, marked F - 4-20251, in mound of stone;

Thence, fourth course, south sixty-four degrees thirty-six minutes east five hundred nineteen and eight-hundredths feet to corner No. 1, the place of beginning, expressly excepting and excluding from these presents all that portion of the ground hereinabove described, embraced in said mining claims or Surveys Nos. 13676 and 17198, and also all that portion of the Fraction vein or lode, and of all veins, lodes and ledges, throughout their entire depth, the tops or apexes of which lie inside of such excluded gound; Survey No. 20251 extending one thousand five hundred feet in length along said Fraction vein or lode; the premises herein granted, containing twelve acres and three hundred fifty-seven thousandths of an

acre.

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3. (Continued)
(b) The mine name by which the property is known is "The Fraction lode Mining claim".

(c) Operators are the owners of the above described land.
(d) Not applicable.
(e) There are no liens against the land.
(f) Not applicable.

4. Physical description:

(a) The parties have been carrying on exploration operations upon this land since 1951. The operation work and existing mine workings consist of a shaft 100 feet deep and a drift of 100 feet at the 100 foot level, and a stope 40 feet high. These mine workings are accessible for examination purposes.

(b) The production record from the property operated by the parties is as follows:

July 31, 1952,	gross	weight	2845	lbs.	Unit W03	13,6625
Oct. 14, 1952,	"	"	2720	"	"	6.7325
June 15, 1953,	"	"	929	"	Tungsten Acid	222.46
July 29, 1953	"	"	22090	"	"	600.91
Mar. 2, 1954	"	"	9150	"	"	234.91
May 31, 1954	"	"	10650	"	"	306.99
Sept. 1, 1954	"	"	1048	"	"	551.09

(c) The premises owned and operated by the parties is located approximately 600 feet north of the Hillside Mine, which is now operating and has produced over 2000 units in the past two years. The premises operated by the parties is located north of Peewee Mountain and is on the same structure as the Hillside Mine. The shaft on the parties' premises is located about 200 feet from the east line of the Annie Hughes mine which is the west boundary of the Fraction Mine owned by the parties, and about 350 feet from the east line of the Pennsylvanie claim, both of which have been heavy producers in the past but are not now operating.

The ore occurs in fissure veins dipping approximately 80% from the 100 foot level worked by the parties.

(d) The project is accessible by well maintained roads. The premises are located approximately seven miles from the Hetzer Mill at Nederland, Colorado, and about four and a half miles from the old Teel Mill on the Sugar Loaf road. The premises are located approximately fourteen miles west of Boulder, Colo.

(e) Man power, materials, supplies and equipment are readily available. The premises can be served from the Public Service Company power lines.

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Colorado

5. The exploration project:

(a) The mineral for which the parties wish to explore is tungsten.
(b) The parties propose to sink the existing shaft an additional one hundred feet to the 200 foot level and from that level to drive a drift 125 feet north and also to drive a drift from the 200 foot level 75 feet south; also to make a raise from the north drift 100 feet to provide air and circulation.

(c) The work will start within thirty days and be completed within ten (10) months from the date of an exploration project contract.

(d) Alfred Hauck has had approximately fifteen years of hardrock mining experience in the area in which the premises of the parties is located.

E. E. Simms has had approximately ten (10) years of mining experience.

Frank Tonkinson has had approximately four (4) years in the operation of hoists and compressors in mining operations.

6. Estimate of costs:

A detailed estimate of the costs of the proposed work is as follows:

(a) Independent contractors - none

(b) Labor, supervision, consultants:

Supervisor @ $2.25 per hour		
Machine man @ $2.00 per hour		
Mucker @ $2.00 per hour		
Total estimated labor for 10 months		$12,000.00

(c) Operating materials and supplies:

2½ Tons powder @ $480.00	1200.00	
Fuse	200.00	
Caps	100.00	
Lamp carbide	15.00	
Truck spikes	25.00	
Oil and grease	52.00	
Gas	500.00	2,092.00

(d) Operating equipment:

Operating equipment proposed to be purchased is:		
2" air pipe and rails	400.00	

(Operators own the following equipment which will be furnished in connection with the proposed work:

6. (Continued) (d)

Ingersoll-Rand compresser	$ 800.00
Buda Motor (50 H P)	400.00
Ingersoll-Rand pump #25 air	300.00
125 gal. bailer	100.00
2 track cars	75.00
Dolly	10.00
Cooling tank	25.00
2 Mine buckets	25.00
6" Blower, 100' -6" air pipe with 6 HP gas engine	185.00
Gardner-Penner jack hammer	100.00
Atlas drill & jack leg and drills	800.00
Steel stoper leg	100.00
Oiler and hose	110.00
90' air hose	100.00
Air receiver	150.00
125' 3/4" water line pipe	25.00
Water trap	5.00
Hoist - homemade	200.00
Shivwheel	10.00
200' 5/8" cable	35.00
1½ tons of rails	150.00
110' 1¼" pipe	40.00
40' water hose	15.00
	3768.00

The estimated use allowance on the above equipment for ten months at $300.00 per month 3000.00

62.67 depreciation

Total operating equipment $3400.00

(e) Rehabilitation and repairs:
The estimated cost of necessary repairs to existing installations now owned by operators and which will be devoted to the exploration project is as follows:

Repairs to tipple and construction of ore shute and storage bin 1500.00

(f) New buildings, improvements and installations:
The estimated cost of fixed improvements to be installed for the benefit of the exploration project is as follows:

Timber shaft 1500.00

(g) Miscellaneous:

The estimated cost of repairs and maintenance of operating equipment, employers' liability insurance and payroll taxes, is as follows:

Repairs and maintenance of equipment --	450.00	
Payroll taxes	434.00	
Employers' liability insurance	300.00	1184.00

Total estimated costs of proposed work - - - - - - - - - $ 21,676.00

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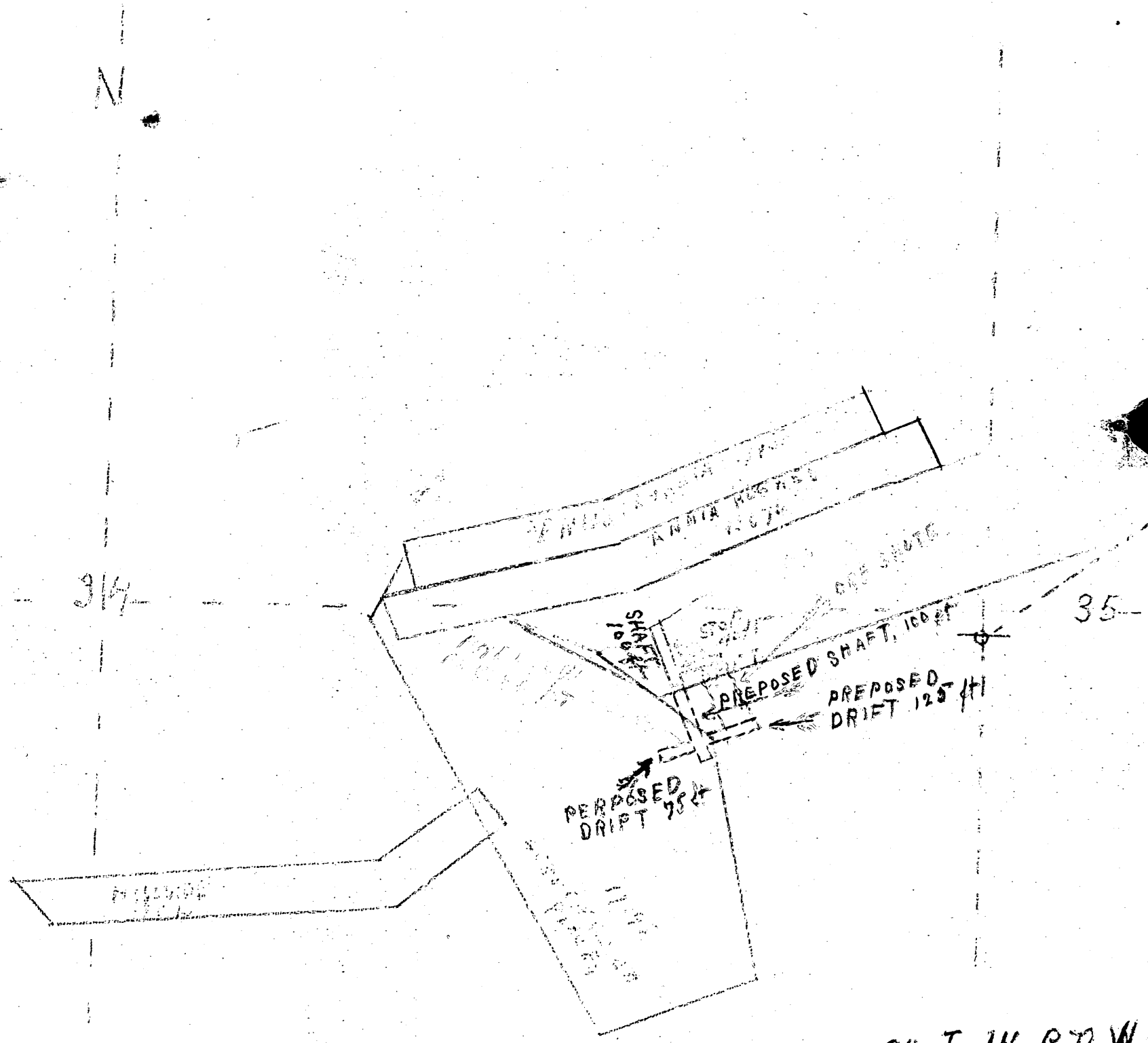
7. Operators propose to furnish their share of the cost of the proposed project as follows:

(a) By use of the operating equipment now owned by them and used in their mining operations.

(b) By use of wages earned by each of them.

(c) By use of the proceeds of production from the mining operations.



SEC, 34 T. 1N. R. 72 W

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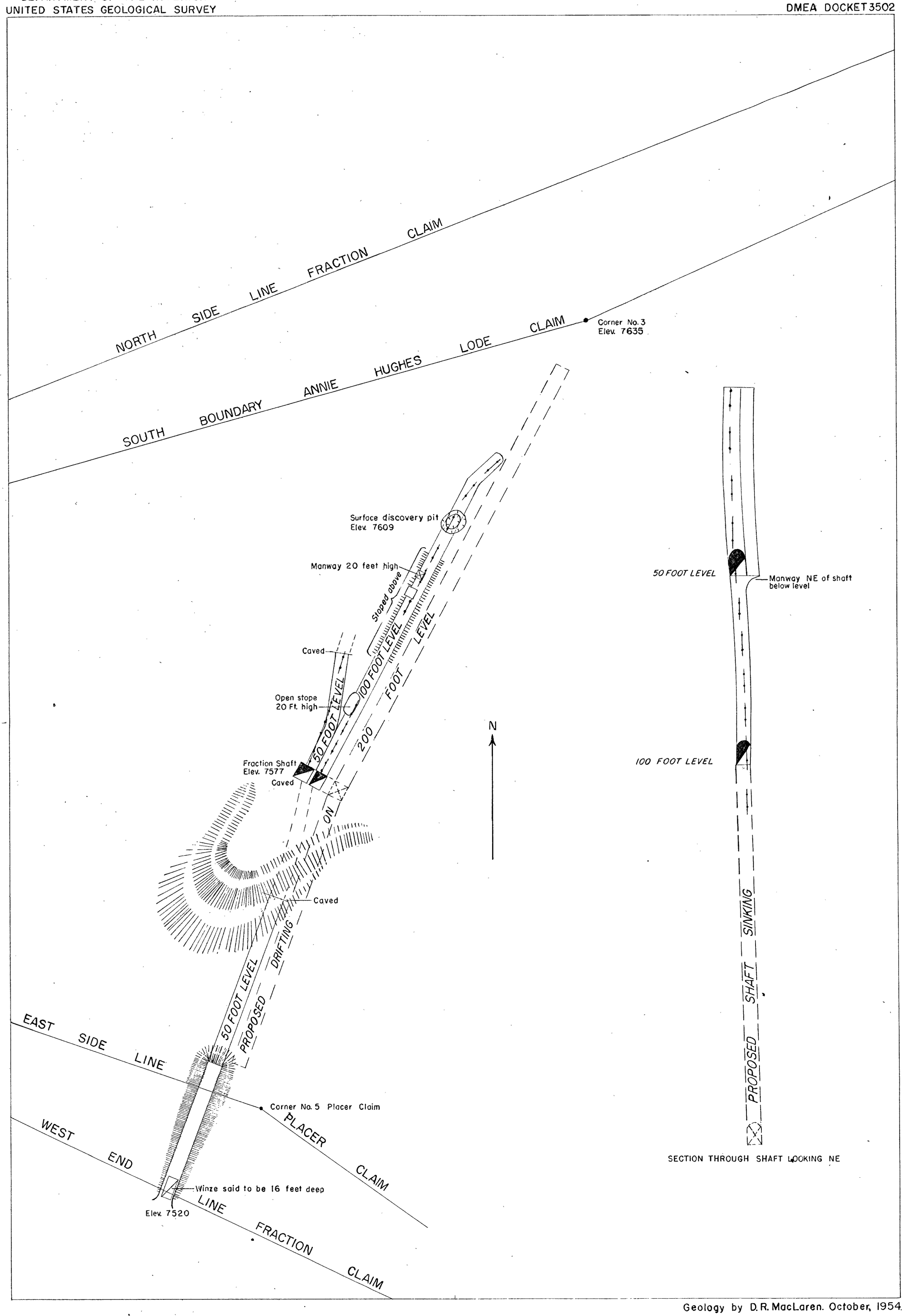

Geology by D. R. MacLaren. October, 1954.

FIGURE 1.- COMPOSITE PLAN SHOWING SURFACE FEATURES, UNDERGROUND WORKINGS AND PROPOSED EXPLORATION. FRACTION CLAIM, BOULDER COUNTY, COLORADO

20 10 0 20 Feet