UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

WASHINGTON 25, D. C.

October 1, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention, 200

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3440 (Copper-Molybdenum)
Colorado Mining Corporation, Routt County, Colorado

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

W. H. King
W. H. King

E. N. Hausman
for A. H. Koschmann

Reviewed by
DMEA OPERATING COMMITTEE
10-18-54
(date)

COPY

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

224 New Customhouse
Denver 2, Colorado

October 1, 1954

Colorado Mining Corporation
74 Trinity Place
New York, N.Y.

Re: Docket DMEA 3440

Gentlemen:

Reference is made to your application for Government aid on your 34 patented lode mining claims located in Routt County, Colorado.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of copper and molybdenum 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
W. H. King
Field Team, Region IV

/s/ E. N. HARSHMAN
for A. H. Koschmann
Field Team, Region IV

HMC:dm
cc Docket
Administrator
AHKoschmann
WMTraver
Chron

Reviewed by
DMEA OPERATING COMMITTEE
10-18-54

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

October 1, 1954

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket 3440 (Copper-Molybdenum), Colorado Mining Corp., Routt County, Colorado.

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

The applicant requested $48,400.00 for core drilling and rehabilitation of an 830 foot adit.

The examining engineer concludes that significant amounts of copper and molybdenum would not be found by core drilling or other exploratory methods.

We concur in the engineer examiner's recommendation that the application be denied.

W. H. King

Reviewed by
DMEA OPERATING COMMITTEE
10-18-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
September 28, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: DMEA 3440 (Copper-molybdenum), Colorado Mining Corp. (Foch, Copper Mask 1, 2, 3, and 5, Old Ben, Copperfield, and Marion E claims), Routt County, Colo.

Enclosed are the original and eight copies of a "Summary, Conclusions, and Recommendations" by Glen Walker, Bureau of Mines, and E. N. Harshman, Geological Survey, and of Glen Walker's engineering report on the subject loan application.

Walker concludes that copper-molybdenum sulfides are found in only minor amounts associated with small lenticular masses of pegmatite-like quartz and feldspar in pre-Cambrian metamorphic host rock on the Colorado Mining Corp. claims. These small lenticular masses would be difficult to discover by core drilling or other exploratory methods, and if discovered, they would probably not be of commercial importance. He recommends denial of the loan application.

I concur with his conclusions and recommendations.

The brochure furnished with your instructions by memorandum of August 2, 1954, to make a field examination and submit a report are also enclosed, along with two prints of maps furnished this office by one of the applicant's representatives, W. I. Hoklas.

W. M. Traver

W. M. Traver

enclosures

WMT/kp

cc/8
DMEA 3440
Chron

Reviewed by
DMEA OPERATING COMMITTEE
10-18-54
(date)

IN REPLY REFER TO:

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

September 21, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3440, Colorado Mining Corporation, Routt County, Colorado

Enclosed are 9 copies of a geologic report by E. N. Harshman of the U. S. Geological Survey covering the above docket.

It has been recommended that the application of the Colorado Mining Company for exploration assistance be denied.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

Reviewed by
DMEA OPERATING COMMITTEE
10-18-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 3440, Foch, Copper Mask Nos. 1, 2, 3, and 5, Old Ben, Copperfield, and Marion E Claims

Colorado Mining Corp.

Routt County, Colo.

Copper-Molybdenum

Glen Walker, Mining Engineer
Bureau of Mines

E. N. Harshman, Geologist
Geological Survey

September 24, 1954

Reviewed by
DMEA OPERATING COMMITTEE

10-18-54
(date)

DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5, OLD BEN, COPPERFIELD, AND MARION E CLAIMS COLORADO MINING CORP. ROUTT COUNTY, COLO.

Summary, Conclusions, and Recommendations

By Glen Walker
Mining Engineer
Bureau of Mines

E. N. Harshman
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE

10-18-54
(date)

DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5,
OLD BEN, COPPERFIELD, AND MARION E CLAIMS
COLORADO MINING CORP.
ROUTT COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Glen Walker and E. N. Harshman

A portion of the old Farwell Mountain Copper Co. claims, now owned by the Colorado Mining Corp., located in the Hahn's Peak mining district of Routt County, Colo., was examined on August 26, 1954, by a Region IV, Defense Minerals Exploration Administration examining team. Three of the applicant's representatives accompanied the examining team.

Government-assisted exploration was requested at an estimated cost of $48,400.00--Government participation, 50 percent or $24,200.00--for rehabilitating an 830-foot adit and core drilling 6,600 feet of holes from various points on the property.

Examination of county records indicates the present claimant, Colorado Mining Corp., has a legal claim to the property involved.

Copper and molybdenum sulfides are found in minor amounts associated with small lenticular masses of pegmatite-like quartz and feldspar in a pre-Cambrian metamorphic host rock. The size, shape, and discontinuity of this type deposit makes for unproductive exploration by any method. The considerable amount of previous unrewarding work on the property clearly indicates the probable futility of further exploration. Because of the physical characteristics of the deposits, it cannot be denied that new ones will be discovered by

drilling; but it is strongly felt that finding a significant amount of ore that can be economically extracted is doubtful.

Denial of the application is recommended.

COLORADO MINING CORPORATION

ROUTT COUNTY, COLORADO

DMEA DOCKET 3440

Geologic Report

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

Reviewed by
DMEA OPERATING COMMITTEE

10-18-54
(date)

COLORADO MINING CORPORATION
ROUTT COUNTY, COLORADO

INTRODUCTION

The Colorado Mining Corporation, 74 Trinity Place, New York, New York, has applied for DMEA assistance to explore for copper and molybdenum ore on 8 of 34 patented claims owned by them. They propose to rehabilitate 830 feet of adit, and to drill 6600 feet of core holes from the surface and from points in the adit. Their estimated cost of the project, including assaying, supervision, accounting, compensation, taxes, and insurance, is $48,400.00. The adit was rehabilitated prior to the field examination and the estimated cost can be reduced by $3,000.00.

The property, formerly owned by the Farwell Mountain Copper Company, consists of 34 patented mining claims in the Hahns Peak mining district, T. 9 and 10 N., R. 85 W., 6th P.M., Routt County, Colorado. About 5-1/2 miles of fair dirt road connects the property with the village of Hahns Peak.

An examination of the surface and underground workings was made on August 26, 1954, in company with Glen Walker, U. S. Bureau of Mines, George Schreiber, General Manager, Colorado Mining Company, John Tamm, mine foreman, and W. I. Hoklas, engineer.

It is concluded that a few tons of copper ore containing some molybdenum have been found on the claims and that some additional ore might be found by the proposed exploration. However the close association of the ore minerals with small, pegmatite-like, lenticular masses of quartz and feldspar in pre-Cambrian rocks makes it appear unlikely that either copper or molybdenum ore will be found in significant amounts. It is therefore recommended that the request for exploration assistance be denied.

GEOLOGY AND ORE DEPOSITS

The Hahns Peak mining district is in a belt of disturbed rocks between a pre-Cambrian metamorphic complex forming the core of the Park range to the east and a sedimentary province extending some distance to the west.

The metamorphic complex consists of schist, gneiss, gneissic granite, and related intrusive rocks. It appears similar to the Idaho Springs formation of the Front Range Mineral Belt.

The sedimentary series consists of sandstones, shales, and conglomerates ranging in age from Carboniferous to Tertiary. The continental and marine sedimentary series includes the Wasatch, Fort Union, Lance, Mesaverde, and Morrison formations, the Mancos shale, the Dakota sandstone, and undivided Permian red-beds. The sedimentary rocks have been intruded by dikes, sills, and stocks of fine grained igneous rocks, generally porphyritic.

Folding and faulting of the sedimentary and metamorphic rocks is pronounced. The obvious structural feature is a northerly trending anticlinal fold east of Hahns Peak area that elevated the pre-Cambrian rocks of the Park Range. The entire sedimentary series appears to have been involved in this folding. Considerable disturbance of the sedimentary rocks was caused by the intrusion of the numerous dikes, sills, and stocks of "porphyry."

The Farwell Mountain copper deposits are in pre-Cambrian metamorphic rocks and associated intrusives. The age of these deposits cannot be determined definitely but their similarity to other deposits regarded as pre-Cambrian in age suggests that they too are pre-Cambrian.

The deposits are not well exposed on the surface because of thick overburden and most of the old adits, pits, and shafts are caved. A 797-foot long crosscut (figure 1) driven about 400 feet below the highest surface workings was rehabilitated by the applicant company; it was sampled and mapped during this examination.

As exposed in the crosscut, the host rocks for the copper-molybdenum deposits are gneissic granites, schists, and probably felsitic porphyry. The rocks have a distinct linearity, striking N. 50 - 70° W. and dipping vertically to steeply north. Chalcopyrite, molybdenite, and secondary copper sulfides and oxides are associated with lenticular pegmatitic "veins" which in most places are concordant with the metamorphic rocks. Chalcopyrite, secondary copper minerals, and to a lesser extent, molybdenite are disseminated throughout the quartz and feldspar of the pegmatitic "veins," but molybdenite is somewhat concentrated in the selvages of the pegmatitic "veins" particularly where the selvages are composed of biotite or other iron-rich minerals.

The maximum dimensions of the lenticular pegmatitic "veins" are not exposed either on the surface or in the crosscut. Several of the 20 or more lenses exposed in the adit do not extend from one wall to the other and it is conduded that their lateral extent is not over a few tens of feet. A 40-foot drift on one of the widest "veins" exposed in the 797 foot crosscut, proved this lens to have a strike length of 15 feet and a maximum thickness of 3 feet; its vertical extent is not known but it appears to be less than 15 feet.

Samples of ore collected near some of the caved surface workings, and assumed to have come from them, contain primary copper sulfides, copper oxides, and sparse secondary copper minerals. Ore in the crosscut is com-

posed principally of primary copper sulfides. The occurrence of primary sulfide minerals in shallow surface workings indicates that erosion has kept pace with oxidation of the deposits and suggests that no extensive zone of supergene enrichment will be found below the present outcrops.

A correlation of the "veins" exposed in the crosscut with "veins" reported to have been exposed in the old surface workings has been made on the geologic section submitted with the application for exploration assistance. Although lenticular pegmatitic pods may occur along certain zones in the metamorphic rocks, they do not appear to form continuous bodies and the correlations made on the geologic section are in large part speculative.

SAMPLES AND ORE RESERVES

Twelve samples of pegmatitic vein material were taken at the time of examination. The results of analyses by the U. S. Bureau of Mines laboratories, Salt Lake City, follow:

Sample No.	Description	%Cu	%Mo	oz.Au	oz.Ag
G.W. 15	Grab sample of ore pile at collar of McCormick shaft (caved)	0.86	0.01	<0.005	0.2
G.W. 16	4" cut of pegmatitic "vein" in dozer cut near McCormick shaft	0.96	<0.01	<0.005	<0.1
G.W. 17	Grab sample of ore pile at portal (caved) of Old Ben workings	1.47	0.03	<0.005	0.2
G.W. 18*	6" cut of pegmatitic zone with some sulfides	<0.05	<0.01	<0.005	<0.1
G.W. 19*	6'6" cut across shear zone containing quartz pods and some sulfides	<0.05	<0.01	<0.005	<0.1

Sample No.	Description	%Cu	%Mo	oz.Au	oz.Ag
G.W. 20*	6" cut across quartz lens	<0.05	0.01	<0.005	<0.1
G.W. 21*	4" cut across quartz stringer in shearzone	0.19	0.30	<0.005	<0.1
G.W. 22*	6" cut across silicified material containing sulfides	<0.05	0.19	<0.005	<0.1
G.W. 23*	3' cut across lens of quartz containing sulfides along footwall	0.66	0.27	<0.005	<0.1
G.W. 24*	14" cut across quartz and feldspar in shear zone; some sulfides	<0.05	<0.01	<0.005	<0.1
G.W. 25*	13" cut across sulfide bearing quartz and feldspar lens	<0.05	<0.01	<0.005	<0.1
G.W. 26*	Composit of 2 18" cuts across lenticular quartz pods	<0.05	0.05	0.03	<0.1

* for location see figure 1.

There are no known reserves of copper and molybdenum ore on the Colorado Mining Company property.

CONCLUSIONS AND RECOMMENDATIONS

The deposits of copper and molybdenum sulfides on the Colorado Mining Company's property in the Hahn's Peak area are characteristic of pre-Cambrian deposits described elsewhere in Colorado and Wyoming. Almost without exception, exploration of such deposits has proven them to be discontinuous, lenticular, pod-like bodies of small dimensions and unless secondarily enriched, of moderate to low grade. Production of ore from such deposits has not been profitable.

The proposed program of exploring the property by 6600 feet of diamond drilling may well lead tothe discovery of small ore lenses in the

vicinity of the crosscut. However, the discovery of significant deposits of either copper or molybdenum is improbable and it is therefore recommended that the application of the Colorado Mining Company for exploration assistance, DMEA Docket 3440, be denied.

REFERENCE

George, R. D., and Crawford R. D., the Hahns Peak region, Routt County, Colorado: Colorado Geol. Survey First Report, 1908

DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5, OLD BEN, COPPERFIELD, AND MARION E CLAIMS COLORADO MINING CORP. ROUTT COUNTY, COLO.

Engineering Report

By Glen Walker
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

10-18-54
(date)

DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5, OLD BEN, COPPERFIELD, AND MARION E CLAIMS COLORADO MINING CORP. ROUTT COUNTY, COLO.

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ILLUSTRATIONS

Figure — Follows page

1. Location map, Colorado Mining Corp., Routt County, Colo..... 2
2. Claim map showing sample locations, Colorado Mining Corp., Routt County, Colo..... 4

DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5, OLD BEN, COPPERFIELD, AND MARION E CLAIMS COLORADO MINING CORP. ROUTT COUNTY, COLO.

ENGINEERING REPORT

By Glen Walker

INTRODUCTION

The following patented mining claims, owned by Colorado Mining Corp., 74 Trinity Place, New York, N. Y., were examined on August 27, 1954, by a Defense Minerals Exploration Administration examining team:

	Survey Number
Foch	
Copper Mask No. 1	20429
Copper Mask No. 2	20429
Copper Mask No. 3	20429
Copper Mask No. 5	20429
Old Ben	19037
Copperfield	19037
Marion E	19037

The owner and applicant requested Government assistance in exploring for copper and molybdenum deposits by diamond core drilling 6,600 feet from both surface and underground setups at an estimated cost of $48,400.00--Government participation, 50 percent or $24,200.00.

ACKNOWLEDGEMENTS

George Schreiber, W. I. Hoklas, and John Tamm, manager, engineer, and foreman, respectively, for the corporation accompanied and guided the examining team during the examination. First Report, 1908, of the

Colorado Geological Survey by R. D. George and R. D. Crawford gave a great deal of geologic information on the district.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property is located in sec. 11, T. 10 N., R. 85 W., Routt County, Colo. (fig. 1). Steamboat Springs, county seat, rail point, and on paved highway U. S. 40, is 31 miles south of the claims. It can be reached by travel over about 25 miles of good, county-maintained, gravel road and 6 miles of newly graded dirt road. The land is on the southwest side of Farwell Mountain in the Hahn's Peak area.

The relief is quite rugged, differences in elevation being several hundred feet.

Spruce and pine timber of sizes suitable for mine use is readily available on the property. Water, adequate for a small mining operation or a single core drill, can be obtained from a branch of Beaver Creek passing the portal of the adit.

Power for any type activity must be supplied by internal combustion engines as electric service is unavailable.

Climate in this area is marked by heavy falls of snow and winter temperatures of -40° and colder. The summers are of short duration and cool. Year-round operation would normally entail heavy equipment for removal of snow from the adit to the county road, approximately 6 miles.

LABOR AND LIVING CONDITIONS

The village of Hahn's Peak, on the county road at a distance of about 6 miles from the property, has possibly a half dozen families

continuity, and ore mineral distribution. No ore veins 8 feet wide were noted, as stated in the Hewitt report accompanying the application. The largest single deposit sampled was less than 4 feet wide and, originally, probably did not exceed 15 feet in length; its vertical dimension appeared less than the length. The widest shear zone noted was 10 feet and contained two mineralized pegmatite lenses each about 1-1/2 feet thick.

R. D. George and R. D. Crawford of the Colorado Geological Survey in "First Report, 1908" state, on page 226, in reference to this property, "The ores are usually in lenses and stringers of very irregular width and value. . . . No commercial ore bodies had been reached when the prospects were visited." To date, no ore bodies have been encountered upon which a mine could be predicated. A blue print accompanying the application, representing a plan and section of the crosscut adit, indicates a production of 60 tons. This quantity would have had to have shown extremely high values to have defrayed the cost of sinking 584 feet and driving 2,212 feet of horizontal excavations, as reported. From the large and extensive amount of exploratory work conducted and the unpromising results obtained, it appears that further efforts would be exceptionally fortuitous if a significant discovery resulted. The claims owned, crosscut adit, and location of samples are shown on figure 2.

MINEABLE RESERVES

The nature of the deposits precludes a worth-while estimate of ore reserves. The following assay results on samples taken (fig. 2) indicates the erratic mineral content:

Sample No.	Width inches	-ozs.per ton- Au	Ag	---percent--- Cu	Mo
GW-15	grab	<0.005	0.2	0.86	0.01
GW-16	4	<0.005	<0.1	0.96	<0.01
GW-17	grab	<0.005	0.2	1.47	0.03
GW-18	6	<0.005	<0.1	<0.05	<0.01
GW-19	66 (shear)	<0.005	<0.1	<0.05	<0.01
GW-20	6	<0.005	<0.1	<0.05	0.01
GW-21	4	<0.005	<0.1	0.19	0.30
GW-22	6	<0.005	<0.1	<0.05	0.19
GW-23	36	<0.005	<0.1	0.66	0.27
GW-24	14	<0.005	<0.1	<0.05	<0.01
GW-25	13	<0.005	<0.1	<0.05	<0.01
GW-26	composite 2-18"	<0.03	<0.1	<0.05	0.05

< less than

PRESENT STATUS

The 797-foot crosscut adit has very recently been rehabilitated, particularly at its portal. The old reports state it was driven 830 feet, but apparently some 30 feet of the hillside was removed before the present portal was timbered. There are three new trenches or cuts made by a bulldozer on the surface purported to be on the McCormick and Old Ben veins. In only one of these trenches had there been any ore minerals encountered and this deposit was only a few inches thick.

The only equipment on the property, other than small hand tools, arrived in the late afternoon of the day on which the examination was conducted. It included a 150-c.f.m. air compressor V-belted to a Buda diesel engine, a drifter drill machine, and some drill steel and bits.

PROJECT PROPOSALS, WITH COSTS

The applicant proposed the following:

Cleaning and retimbering 830 feet of tunnel		
4 men at $20.00 per day for 20 days	$1,600.00	
Timber, 10,000 feet at $60.00/M	600.00	
Hardware and supplies	300.00	
Supervision	500.00	
		$ 3,000.00
Diamond drilling (contract)		
3 holes, horizontally, 1,100 feet at $6.00/foot		6,600.00
Supervision		600.00
3 holes drilled -30°(same setup), 1,300 feet at $6.00		7,800.00
Supervision		600.00
3 holes at station "5" up, 600 feet at $6.00		3,600.00
Supervision		400.00
3 holes at station "5" down, 600 feet at $6.00		3,600.00
Supervision		400.00
10 holes at 150-foot intervals -30° along outcrop line of Old Ben vein, 2,000 feet at $6.00		12,000.00
Supervision		1,000.00
5 holes at 150-foot intervals at -20° from surface to intersect same veins as those cut from station "5", 1,000 feet at $6.00		6,000.00
Supervision		500.00
Miscellaneous		
Assaying		1,000.00
Accounting		500.00
Workmen's Compensation Insurance		350.00
Employer's liability insurance		350.00
Payroll tax		100.00
Grand Total		$48,400.00

It should be pointed out that in the application $3,000.00 was allotted for rehabilitating the "tunnel" but was not included in the total, perhaps the reason being that the "tunnel" work was completed before the application.

For reasons expressed in "Description of the Deposits," it is suggested that the Government do not participate in any exploratory expenditures on this property.

CONCLUSIONS

The type and general characteristics of the deposits as observed both on the surface and underground and noted earlier obviates any consideration of exploration on the Colorado Mining Corp. claims.

RECOMMENDATIONS

It is recommended that the request for Government-assisted exploration be denied.

/fkp

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

224 New Customhouse
Denver 2, Colorado

October 1, 1954

Colorado Mining Corporation
74 Trinity Place
New York, N.Y.

Re: Docket DMEA 3440

Gentlemen:

Reference is made to your application for Government aid on your 34 patented lode mining claims located in Routt County, Colorado.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of copper and molybdenum 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
Field Team, Region IV

for E. N. Hawkmann
A. H. Koschmann
Field Team, Region IV

HMC:dm
cc Docket
Administrator
AHKoschmann
WMTraver
Chron

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

224 New Customhouse
Denver 2, Colorado

October 1, 1954

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention, 200

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3440 (Copper-Molybdenum)
Colorado Mining Corporation, Routt County, Colorado

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

W. H. King

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E. H. Haschmann

for A. H. Koschmann

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

October 1 1954

Memorandum

To: DMEA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination, DMEA Docket 3440 (Copper-Molybdenum), Colorado Mining Corp., Routt County, Colorado.

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

The applicant requested $48,400.00 for core drilling and rehabilitation of an 330 foot adit.

The examining engineer concludes that significant amounts of copper and molybdenum would not be found by core drilling or other exploratory methods.

We concur in the engineer examiner's recommendation that the application be denied.

W. H. King

W. H. King

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
September 23, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

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

Subject: DMEA 3440 (Copper-molybdenum), Colorado Mining Corp. (Foch, Copper Mask 1, 2, 3, and 5, Old Ben, Copperfield, and Marion 2 claims), Routt County, Colo.

Enclosed are the original and eight copies of a "Summary, Conclusions, and Recommendations" by Glen Walker, Bureau of Mines, and E. N. Harshman, Geological Survey, and of Glen Walker's engineering report on the subject loan application.

Walker concludes that copper-molybdenum sulfides are found in only minor amounts associated with small lenticular masses of pegmatite-like quartz and feldspar in pre-Cambrian metamorphic host rock on the Colorado Mining Corp. claims. These small lenticular masses would be difficult to discover by core drilling or other exploratory methods, and if discovered, they would probably not be of commercial importance. He recommends denial of the loan application.

I concur with his conclusions and recommendations.

The brochure furnished with your instructions by memorandum of August 2, 1954, to make a field examination and submit a report are also enclosed, along with two prints of maps furnished this office by one of the applicant's representatives, W. I. Koklas.

W. M. Traver

W. M. Traver

enclosures

WMT/kp

cc/ 8
DMEA 3440
Chron

IN REPLY REFER TO:

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

September 21, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3440, Colorado Mining Corporation, Routt County, Colorado

Enclosed are 9 copies of a geologic report by E. N. Harshman of the U. S. Geological Survey covering the above docket.

It has been recommended that the application of the Colorado Mining Company for exploration assistance be denied.

A. H. Koschmann
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 3440, Foch, Copper Mask Nos. 1, 2, 3, and 5, Old Ben, Copperfield, and Marion E Claims

Colorado Mining Corp.

Routt County, Colo.

Copper-Molybdenum

Glen Walker, Mining Engineer
Bureau of Mines

E. N. Harshman, Geologist
Geological Survey

September 24, 1954

DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5, OLD BEN, COPPERFIELD, AND MARION E CLAIMS COLORADO MINING CORP. ROUTT COUNTY, COLO.

Summary, Conclusions, and Recommendations

By Glen Walker
Mining Engineer
Bureau of Mines

E. N. Harshman
Geologist
Geological Survey

DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5,
OLD MEN, COPPERFIELD, AND MARION E CLAIMS
COLORADO MINING CORP.
ROUTT COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Glen Walker and E. N. Harshman

A portion of the old Farwell Mountain Copper Co. claims, now owned by the Colorado Mining Corp., located in the Hahn's Peak mining district of Routt County, Colo., was examined on August 26, 1954, by a Region IV, Defense Minerals Exploration Administration examining team. Three of the applicant's representatives accompanied the examining team.

Government-assisted exploration was requested at an estimated cost of $48,400.00--Government participation, 50 percent or $24,200.00--for rehabilitating an 830-foot adit and core drilling 6,600 feet of holes from various points on the property.

Examination of county records indicates the present claimant, Colorado Mining Corp., has a legal claim to the property involved.

Copper and molybdenum sulfides are found in minor amounts associated with small lenticular masses of pegmatite-like quartz and feldspar in a pre-Cambrian metamorphic host rock. The size, shape, and discontinuity of this type deposit makes for unproductive exploration by any method. The considerable amount of previous unrewarding work on the property clearly indicates the probable futility of further exploration. Because of the physical characteristics of the deposits, it cannot be denied that new ones will be discovered by

drilling; but it is strongly felt that finding a significant amount of ore that can be economically extracted is doubtful.

Denial of the application is recommended.

COLORADO MINING CORPORATION

ROUTT COUNTY, COLORADO

DMEA DOCKET 3440

Geologic Report

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

COLORADO MINING CORPORATION
ROUTT COUNTY, COLORADO

INTRODUCTION

The Colorado Mining Corporation, 74 Trinity Place, New York, New York, has applied for DMEA assistance to explore for copper and molybdenum ore on 8 of 34 patented claims owned by them. They propose to rehabilitate 830 feet of adit, and to drill 6600 feet of core holes from the surface and from points in the adit. Their estimated cost of the project, including assaying, supervision, accounting, compensation, taxes, and insurance, is $48,400.00. The adit was rehabilitated prior to the field examination and the estimated cost can be reduced by $3,000.00.

The property, formerly owned by the Farwell Mountain Copper Company, consists of 34 patented mining claims in the Nahna Peak mining district, T. 9 and 10 N., R. 85 W., 6th P.M., Routt County, Colorado. About 5-1/2 miles of fair dirt road connects the property withthe village of Nahna Peak.

An examination of the surface and underground workings was made on August 25, 1954, in company with Glen Walker, U. S. Bureau of Mines, George Schreiber, General Manager, Colorado Mining Company, John Tann, mine foreman, and W. I. Hokins, engineer.

It is concluded that a few tons of copper ore containing some molybdenum have been found on the claims and that some additional ore might be found by the proposed exploration. However the close association of the ore minerals with small, pegmatite-like, lenticular masses of quartz and feldspar in pre-Cambrian rocks makes it appear unlikely that either copper or molybdenum ore will be found in significant amounts. It is therefore recommended that the request for exploration assistance be denied.

GEOLOGY AND ORE DEPOSITS

The Mahoe Peak mining district is in a belt of disturbed rocks between a pre-Cambrian metamorphic complex forming the core of the Park range to the east and a sedimentary province extending some distance to the west.

The metamorphic complex consists of schist, gneiss, gneissic granite, and related intrusive rocks. It appears similar to the Idaho Springs formation of the Front Range Mineral Belt.

The sedimentary series consists of sandstones, shales, and conglomerates ranging in age from Carboniferous to Tertiary. The continental and marine sedimentary series includes the Wasatch, Fort Union, Lance, Mesaverde, and Morrison formations, the Mancos shale, the Dakota sandstone, and undivided Permian redbeds. The sedimentary rocks have been intruded by dikes, sills, and stocks of fine grained igneous rocks, generally porphyritic.

Folding and faulting of the sedimentary and metamorphic rocks is pronounced. The obvious structural feature is a northerly trending anticlinal fold east of Mahoe Peak area that elevated the pre-Cambrian rocks of the Park Range. The entire sedimentary series appears to have been involved in this folding. Considerable disturbance of the sedimentary rocks was caused by the intrusion of the numerous dikes, sills, and stocks of "porphyry."

The Farwell Mountain copper deposits are in pre-Cambrian metamorphic rocks and associated intrusives. The age of these deposits cannot be determined definitely but their similarity to other deposits regarded as pre-Cambrian in age suggests that they too are pre-Cambrian.

The deposits are not well exposed on the surface because of thick overburden and most of the old adits, pits, and shafts are caved. A 797-foot long crosscut (figure 1) driven about 400 feet below the highest surface workings was rehabilitated by the applicant company; it was sampled and mapped during this examination.

As exposed in the crosscut, the host rocks for the copper-molybdenum deposits are gneissic granites, schists, and probably felsitic porphyry. The rocks have a distinct linearity, striking N. 50 - 70° W. and dipping vertically to steeply north. Chalcopyrite, molybdenite, and secondary copper sulfides and oxides are associated with lenticular pegmatitic "veins" which in most places are concordant with the metamorphic rocks. Chalcopyrite, secondary copper minerals, and to a lesser extent, molybdenite are disseminated throughout the quartz and feldspar of the pegmatitic "veins," but molybdenite is somewhat concentrated in the selvages of the pegmatitic "veins" particularly where the selvages are composed of biotite or other iron-rich minerals.

The maximum dimensions of the lenticular pegmatitic "veins" are not exposed either on the surface or in the crosscut. Several of the 20 or more lenses exposed in the adit do not extend from one wall to the other and it is concluded that their lateral extent is not over a few tens of feet. A 40-foot drift on one of the widest "veins" exposed in the 797 foot crosscut, proved this lens to have a strike length of 15 feet and a maximum thickness of 3 feet; its vertical extent is not known but it appears to be less than 15 feet.

Samples of ore collected near some of the caved surface workings, and assumed to have come from them, contain primary copper sulfides, copper oxides, and sparse secondary copper minerals. Ore in the crosscut is com-

posed principally of primary copper sulfides. The occurrence of primary sulfide minerals in shallow surface workings indicates that erosion has kept pace with oxidation of the deposits and suggests that no extensive zone of supergene enrichment will be found below the present outcrops.

A correlation of the "veins" exposed in the crosscut with "veins" reported to have been exposed in the old surface workings has been made on the geologic section submitted with the application for exploration assistance. Although lenticular pegmatitic pods may occur along certain zones in the metamorphic rocks, they do not appear to form continuous bodies and the correlations made on the geologic section are in large part speculative.

SAMPLES AND ORE RESERVES

Twelve samples of pegmatitic vein material were taken at the time of examination. The results of analyses by the U. S. Bureau of Mines laboratories, Salt Lake City, follow:

Sample No.	Description	Cu	Sn	oz./ton	oz./ton
G.W. 15	Grab sample of ore pile at collar of McCormick shaft (caved)	0.86	0.01	<0.005	0.2
G.W. 16	4" cut of pegmatitic "vein" in dozer cut near McCormick shaft	0.96	<0.01	<0.005	<0.1
G.W. 17	Grab sample of ore pile at portal (caved) of Old Ben workings	1.47	0.03	<0.005	0.2
G.W. 18*	6" cut of pegmatitic zone without sulfides	<0.05	<0.01	<0.005	<0.1
G.W. 19*	5'6" cut across shear zone containing quartz pods and some sulfides	<0.05	<0.01	<0.005	<0.1

Sample No.	Description	%Cu	%Mo	oz.Au	oz.Ag
G.W. 20*	6" cut across quartz lens	<0.05	0.01	<0.005	<0.1
G.W. 21*	4" cut across quartz stringer in shearzone	0.19	0.30	<0.005	<0.1
G.W. 22*	6" cut across silicified material containing sulfides	<0.05	0.19	<0.005	<0.1
G.W. 23*	3' cut across lens of quartz containing sulfides along footwall	0.66	0.27	<0.005	<0.1
G.W. 24*	14" cut across quartz and feldspar in shear zone; some sulfides	<0.05	<0.01	<0.005	<0.1
G.W. 25*	13" cut across sulfide bearing quartz and feldspar lens	<0.05	<0.01	<0.005	<0.1
G.W. 26*	Composit of 2 18" cuts across lenticular quartz pods	<0.05	0.05	0.03	<0.1

* for location see figure 1.

There are no known reserves of copper and molybdenum ore on the Colorado Mining Company property.

CONCLUSIONS AND RECOMMENDATIONS

The deposits of copper and molybdenum sulfides on the Colorado Mining Company's property in the Nahu's Peak area are characteristic of pre-Cambrian deposits described elsewhere in Colorado and Wyoming. Almost without exception, exploration of such deposits has proven them to be discontinuous, lenticular, pod-like bodies of small dimensions and unless secondarily enriched, of moderate to low grade. Production of ore from such deposits has not been profitable.

The proposed program of exploring the property by 6000 feet of diamond drilling may well lead tothe discovery of small ore lenses in the

vicinity of the crosscut. However, the discovery of significant deposits of either copper or molybdenum is improbable and it is therefore recommended that the application of the Colorado Mining Company for exploration assistance, DMEA Docket 3440, be denied.

REFERENCE

George, R. D., and Crawford R. D., the Mahana Peak region, Routt County, Colorado: Colorado Geol. Survey First Report, 1908

DMGA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5, OLD BEN, COPPERFIELD, AND MARION M CLAIMS COLORADO MINING CORP. ROUTT COUNTY, COLO.

Engineering Report

By Glen Walker
Mining Engineer
Bureau of Mines

DMRA 3440

FOSH, COPPER MASK NOS. 1, 2, 3, and 5, OLD BEN, COPPERFIELD, AND MARION E CLAIMS COLORADO MINING CORP. ROUTT COUNTY, COLO.

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DMEA 3440

FOCH, COPPER MASK NOS. 1, 2, 3, and 5,
OLD BEN, COPPERFIELD, AND MARION E CLAIMS
COLORADO MINING CORP.
ROUTT COUNTY, COLO.

ENGINEERING REPORT

By Glen Walker

INTRODUCTION

The following patented mining claims, owned by Colorado Mining Corp., 74 Trinity Place, New York, N. Y., were examined on August 27, 1954, by a Defense Minerals Exploration Administration examining team:

	Survey Number
Foch	
Copper Mask No. 1	20429
Copper Mask No. 2	20429
Copper Mask No. 3	20429
Copper Mask No. 5	20429
Old Ben	19037
Copperfield	19037
Marion E	19037

The owner and applicant requested Government assistance in exploring for copper and molybdenum deposits by diamond core drilling 6,600 feet from both surface and underground setups at an estimated cost of $48,400.00--Government participation, 50 percent or $24,200.00.

ACKNOWLEDGEMENTS

George Schreiber, W. I. Koklas, and John Tamm, manager, engineer, and foreman, respectively, for the corporation accompanied and guided the examining team during the examination. First Report, 1908, of the

Colorado Geological Survey by R. D. George and R. D. Crawford gave a great deal of geologic information on the district.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property is located in sec. 11, T. 10 N., R. 85 W., Routt County, Colo. (fig. 1). Steamboat Springs, county seat, rail point, and on paved highway U. S. 40, is 31 miles south of the claims. It can be reached by travel over about 25 miles of good, county-maintained, gravel road and 6 miles of newly graded dirt road. The land is on the southwest side of Farwell Mountain in the Hahn's Peak area.

The relief is quite rugged, differences in elevation being several hundred feet.

Spruce and pine timber of sizes suitable for mine use is readily available on the property. Water, adequate for a small mining operation or a single core drill, can be obtained from a branch of Beaver Creek passing the portal of the adit.

Power for any type activity must be supplied by internal combustion engines as electric service is unavailable.

Climate in this area is marked by heavy falls of snow and winter temperatures of -40° and colder. The summers are of short duration and cool. Year-round operation would normally entail heavy equipment for removal of snow from the adit to the county road, approximately 6 miles.

LABOR AND LIVING CONDITIONS

The village of Hahn's Peak, on the county road at a distance of about 6 miles from the property, has possibly a half dozen families

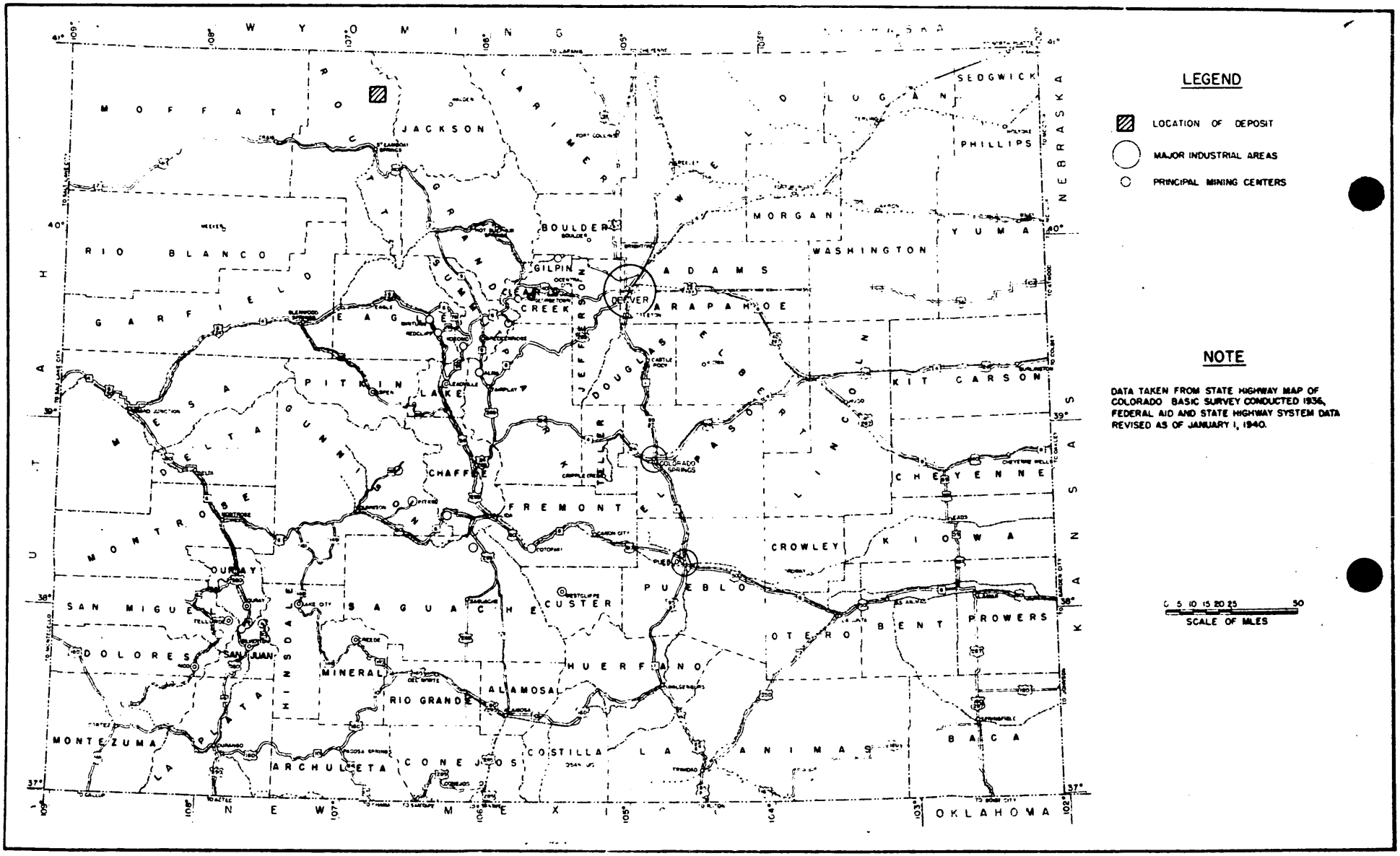

FIGURE 1 - LOCATION MAP, COLORADO MINING CORP., ROUTT COUNTY, COLO. (DMEA 3440)

and could accommodate perhaps a like number more. Although no specific inquiries were made, it appears that experienced miners would be difficult to locate in the immediate area as the principal industry is ranching. However, the applicant's proposal indicates that practically all labor would be furnished by a subcontractor.

HISTORY, PRODUCTION, AND OWNERSHIP

Most of the claims were located in 1909 and patented about 1911; one, the Foch, was patented in the 1930's. A hurried examination of the county records indicated the applicant has a legal claim; however, the 1953 taxes had not been paid.

The records show that the property has been in control of Canadians the major portion of its existence. It is reported that because of the difficulty in transferring funds from Canada to this country, the prospecting has been very intermittent. From the condition of most of the openings, it appears they were excavated quite some time ago. It was only this summer that the portal of the main crosscut adit was rehabilitated. No production for the property is recorded by the Region IV Statistical Branch, Bureau of Mines.

DESCRIPTION OF THE DEPOSITS

The deposits of ore-bearing minerals noted were of the pegmatite type in schist, containing principally glassy quartz and a pink feldspar with minor amounts of the copper and molybdenum minerals. This type of deposit is distinguished by its erratic nature with respect to size, shape, attitude, continuity, and mineral content. All deposits observed were entirely inadequate regarding size,

continuity, and ore mineral distribution. No ore veins 8 feet wide were noted, as stated in the Hewitt report accompanying the application. The largest single deposit sampled was less than 4 feet wide and, originally, probably did not exceed 15 feet in length; its vertical dimension appeared less than the length. The widest shear zone noted was 10 feet and contained two mineralized pegmatite lenses each about 1-1/2 feet thick.

R. D. George and R. D. Crawford of the Colorado Geological Survey in "First Report, 1908" state, on page 226, in reference to this property, "The ores are usually in lenses and stringers of very irregular width and value. . . . No commercial ore bodies had been reached when the prospects were visited." To date, no ore bodies have been encountered upon which a mine could be predicated. A blue print accompanying the application, representing a plan and section of the crosscut adit, indicates a production of 60 tons. This quantity would have had to have shown extremely high values to have defrayed the cost of sinking 584 feet and driving 2,212 feet of horizontal exploration, as reported. From the large and extensive amount of exploratory work conducted and the unpromising results obtained, it appears that further efforts would be exceptionally fortuitous if a significant discovery resulted. The claims owned, crosscut adit, and location of samples are shown on figure 2.

MINERABLE RESERVES

The nature of the deposits precludes a worth-while estimate of ore reserves. The following assay results on samples taken (fig. 2) indicates the erratic mineral content:

Sample No.	Width inches	-ozs.per ton- Au	Ag	---percent--- Cu	Mo
GW-15	grab	<0.005	0.2	0.86	0.01
GW-16	4	<0.005	<0.1	0.96	<0.01
GW-17	grab	<0.005	0.2	1.47	0.03
GW-18	6	<0.005	<0.1	<0.05	<0.01
GW-19	66 (shear)	<0.005	<0.1	<0.05	<0.01
GW-20	6	<0.005	<0.1	<0.05	0.01
GW-21	4	<0.005	<0.1	0.19	0.30
GW-22	6	<0.005	<0.1	<0.05	0.19
GW-23	36	<0.005	<0.1	0.66	0.27
GW-24	14	<0.005	<0.1	<0.05	<0.01
GW-25	13	<0.005	<0.1	<0.05	<0.01
GW-26	composite 2-18"	<0.03	<0.1	<0.05	0.05

< less than

PRESENT STATUS

The 737-foot crosscut adit has very recently been rehabilitated, particularly at its portal. The old reports state it was driven 830 feet, but apparently some 30 feet of the hillside was removed before the present portal was timbered. There are three new trenches or cuts made by a bulldozer on the surface purported to be on the McCormick and Old Ben veins. In only one of these trenches had there been any ore minerals encountered and this deposit was only a few inches thick.

The only equipment on the property, other than small hand tools, arrived in the late afternoon of the day on which the examination was conducted. It included a 150-c.f.m. air compressor V-belted to a Buda diesel engine, a drifter drill machine, and some drill steel and bits.

PROJECT PROPOSALS, WITH COSTS

The applicant proposed the following:

Cleaning and retimbering 830 feet of tunnel		
4 men at $80.00 per day for 20 days	$1,600.00	
Timber, 10,000 feet at $60.00/M	600.00	
Hardware and supplies	300.00	
Supervision	500.00	
		$ 3,000.00
Diamond drilling (contract)		
3 holes, horizontally, 1,100 feet at $6.00/foot		6,600.00
Supervision		600.00
3 holes drilled -30°(same setup), 1,300 feet at $6.00		7,800.00
Supervision		600.00
3 holes at station "5" up, 600 feet at $6.00		3,600.00
Supervision		400.00
3 holes at station "5" down, 600 feet at $6.00		3,600.00
Supervision		400.00
10 holes at 150-foot intervals -30° along outcrop line of Old Ben vein, 2,000 feet at $6.00		12,000.00
Supervision		1,000.00
5 holes at 150-foot intervals at -20° from surface to intersect same veins as those cut from station "5", 1,000 feet at $6.00		6,000.00
Supervision		500.00
Miscellaneous		
Assaying		1,000.00
Accounting		500.00
Workmen's Compensation Insurance		350.00
Employer's liability insurance		350.00
Payroll tax		100.00
Grand Total		$48,400.00

It should be pointed out that in the application $3,000.00 was allotted for rehabilitating the "tunnel" but was not included in the total, perhaps the reason being that the "tunnel" work was completed before the application.

For reasons expressed in "Description of the Deposits," it is suggested that the Government do not participate in any exploratory expenditures on this property.

CONCLUSIONS

The type and general characteristics of the deposits as observed both on the surface and underground and noted earlier obviates any consideration of exploration on the Colorado Mining Corp. claims.

RECOMMENDATIONS

It is recommended that the request for Government-assisted exploration be denied.

/fkp

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

224 New Customhouse
Denver 2, Colorado

August 6, 1954.

Memorandum

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

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

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

Colorado Mining Corp. (Copper-Molybdenum)
74 Trinity Place
New York, N. Y.

Joe I. Morrison (Uranium)
Blanding
Utah

John F. Shaw
For W. H. King

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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. 3440
Metal or Mineral Copper & Moly.
Date Received
Estimated Cost $48,400
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: Colorado Mining Corp.
74 Trinity Place
New York, N. Y.

(*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. (See detail)

(*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

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

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

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

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

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

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

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

(*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. (See detail)

(*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. (See detail)

(See detail)

16—66551-1

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

(*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. See detail

(*c*) The work will start within 6 days and be completed within 4 months from the date of an exploration project contract. weather permitting.

(*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. See detail

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 see detail

(*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.). See detail.

(*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. See detail

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

(*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. See detail.

(*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. See detail.

(*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. See detail

(*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)? Yes

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

[X] 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 July 31, 1954

COLORADO MINING CORP.
(Applicant)

By George E. Roberts
George E. Roberts, Comptroller

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

John M. Schlesinger — President & Director
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Montreal, P.Q., Canada

Azamat Guirey — Vice-President & Director
370 Park Avenue
New York, N. Y.

Melville Boyd — Secretary-Treas. & Director
Orange, New Jersey

3(a) APPLICANT'S PROPERTY RIGHTS

The property formerly known as Farwell Mountain Copper Co., is now the property of Colorado Mining Corp., a Delaware corporation. It consists of 34 patented claims, located in T. 9 N. and T. 10 N, R. 85 W., in Routt County, Colorado, on what is known as Farwell Mountain. The claims of particular interest in the proposed exploration are:

Foch	
Copper Mask #1	20429
Copper Mask #2	20429
Copper Mask #3	20429
Copper Mask #5	20429
Old Ben	19037
Copperfield	19037
Marion E	19037

3(b)

Colorado Mining Corp. of Delaware
74 Trinity Place, New York, N. Y.

4(a) PHYSICAL DESCRIPTION

Property was originally opened and veins exposed by opencuts and shafts, to a maximum depth of 93', all of which are now caved. At a later date and as recently as 1929, Tunnel #2 was driven from a point on the Foch claim in a northeasterly direction, to cut a series of parallel veins. The tunnel was driven 830' and intersected 14 veins ranging in widths up to 8 ft. The portal of tunnel is now caved.

A 6 mile road has been constructed from the town of Hahn's Peak to the portal of tunnel #2. Clearing of caved material at tunnel portal is now in progress.

Our interest lies in retimbering tunnel, preparatory to a diamond drill campaign from tunnel as well as from surface.

4(b) Any early production would have been small because of excessive transportation costs. With the railroad now at Steamboat Springs the property is only 30 miles from rail, over a good surfaced truck road. The only available data is contained in the attached report by Prof. E. A. Hewitt.

4(c) The rocks of the area are mostly pre-cambrian, granite, gneiss and schist, some cambrian quartzite and a large flow of gray porphyry. The vein system here to be explored lies in the gray porphyry. The vein filling is largely quartz, containing all of the copper minerals from shalcocite to malachite, with some gold and silver. Veins are reported to be nearly vertical plus some cross fissuring. The reason for exploring is the data contained in Hewitt report, made when mines were open; The greatly improved transportation conditions, improved milling practices and improved metal prices.

4(d) From the railroad at Steamboat Springs there is a good surfaced road to the town of Hahn's Peak 25 miles distant. Colorado Mining Corp. has recently constructed a 6-mile road from Hahn's Peak to tunnel #2, under "Special Use Permit" on Routt National Forest, with suitable drainage at a cost of $7,000.00 About 3 miles of road is still to be constructed, from tunnel #2, to the old surface workings, where surface diamond drilling is contemplated rather than reclaiming old caved shafts. Living conditions are suitable at Hahn's Peak, 6 miles from mine.

4(e) Suitable manpower is available at Steamboat, nearby Oak Creek, Leadville and other mining areas. Materials, supplies and equipment are available locally as well as in Denver and Leadville. Water is plentiful and cheap coal is mined nearby. Diesel fuel and gasoline are also available at normal rates.

5(a). EXPLORATION PROJECT

The minerals to be explored are copper and molybdenum. There are some copper oxides at surface, but oxidation is not extensive. Sulfide minerals are largely chalcopyrite and chalcocite.

5(b) Proposed work: The program calls for recovering the portal of #2 tunnel, cleaning and retimbering where necessary; making a diamond drilling contract with Boyles Bros. on a basis, wherein they furnish all equipment, compressors, drilling equipment, pipe, vent tube, everything necessary to drill 3000' from #2 Tunnel. Thereafter, to purchase from Boyles Bros. any equipment required for operations in tunnel.

Also, to construct 4½ miles of road, from tunnel #2 to the old surface workings above. Thereafter to contract surface drilling with Boyles Bros., to explore for additional ore, by drilling 2700' of holes from surface.

5(c) Work to start: Immediately, upon approval of loan and to be completed in October, before the snows if possible.

5(d) Colorado Mining Corporation is an operating company. Colorado operations are in charge of George F. Schreiber, BS-EM 1914, Michigan College of Mines, 40 years' experience in iron, coal, gold, silver, lead, zinc and copper mining. Last 30 years largely in Leadville and Alma districts of Colorado.

6. ESTIMATE OF COSTS

Cleaning and retimbering 830' of tunnel

4 men @ $20.00 for 20 days	$1600.00	
Timbering 10,000' @ $60.00	600.00	
Hardware and Supplies	300.00	
Supervision	500.00	
	3000.00	$3000.00

DIAMOND DRILLING CONTRACT - BOYLES BROS.

Project A

3 holes (1-2-3) drilled horizontally as per section:

#1 - 350'
#2 - 500'
#3 - 250'
1100' @ $6.00 $6600.00
Supervision 600.00 $7200.00

Project A-1

3 holes (4-5-6) drilled down as per section at greatest angle possible:

-30 degrees #4 - 400'
#5 - 600'
#6 - 300'
1300' @ $6.00 7800.00
Supervision 600.00 8400.00

Project B

3 holes (7-8-9) at greatest plus angle possible--as per section--from Station "5" to explore group of veins--3 holes--200' = 600' @ $6.00 3600.00

Supervision 400.00 4000.00

Project B-1

3 holes (10-11-12) at greatest minus angle possible--as per section from Station "5" to explore veins at greater depth following outcome Project B.

3 holes--200' = 600' @ $6.00 3600.00
Supervision 400.00 4000.00

Project C

10 holes at 150' intervals at 30° to intersect Old Ben Vein to explore for reported copper ore
10 holes (13 thru 22) - 200' = 2000' @ $6.00 12000.00
Supervision 1000.00 13000.00

36600.00

SURFACE DRILLING (Cont'd)

Balance Forward - - - - - - - - - - - - -		36600.00
Project D		
5 holes @ 150' intervals at 20° to intersect same group of veins at Project B & B-1		
5 holes--23 thru 27--200' = 1000' @ $6.00	$6000.00	
Supervision	500.00	
		6500.00
		43100.00

6(a) Independent Contractors

Boyles Bros., Leadville, Colorado

6(b) Labor, supervision

2 timbermen	@ $ 20.00	per day
2 miners	@ 18.00	" "
Supervision	750.00	per mo.

6(c) Operating materials & supplies

Water is plentiful
Power & fuel furnished by drill contractor, Boyles Bros.
Pipe & vent tube furnished by drill contractor, Boyles Bros.
Timber furnished locally @ $60.00 per M

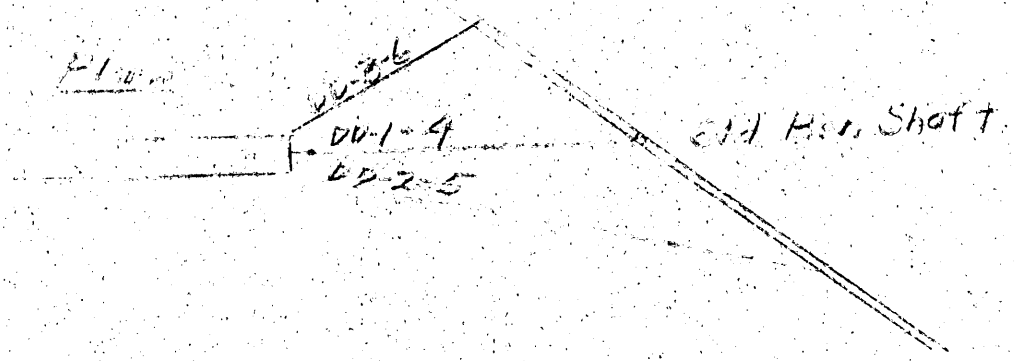
43,100.00

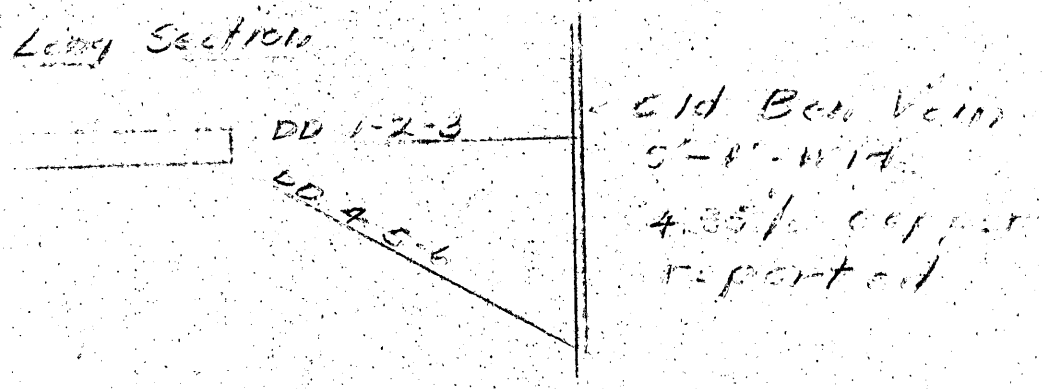
6(g) Miscellaneous

Assaying	1,000.00	
Accounting	500.00	
Workmen's Compensation	350.00	
Employers Liability Ins.	350.00	
Payroll Taxes	100.00	
	2,300.00	2,300.00
		45,400.00

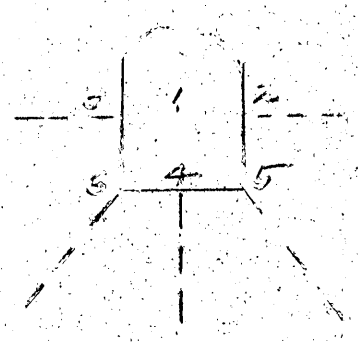
Colorado Mining Corp.

Sketch of proposed drilling at breast of #2 tunnel to explore Old Ben vein, as shown on map #1.





X- Section



Proposed Section

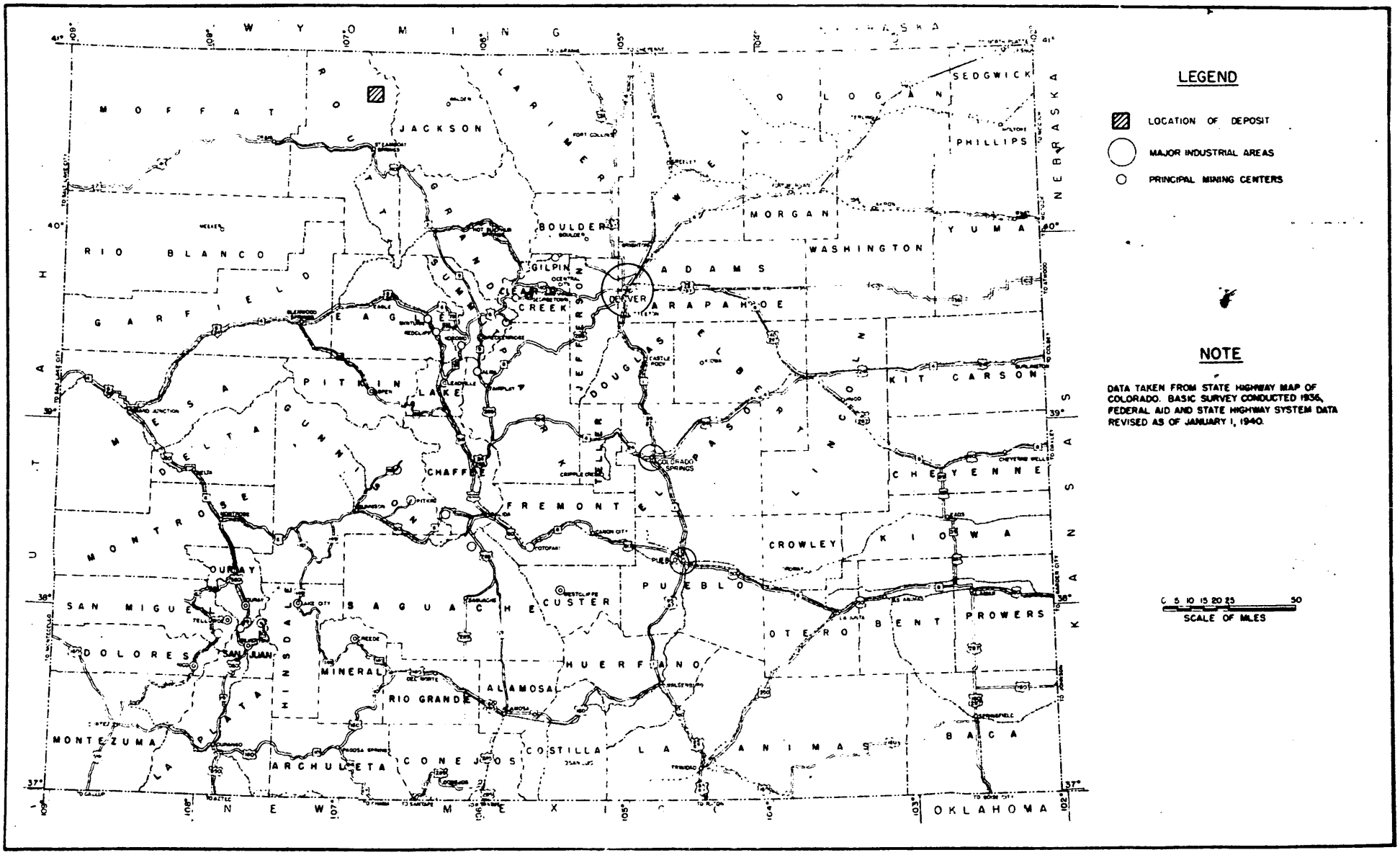


FIGURE 1 - LOCATION MAP, COLORADO MINING CORP., ROUTT COUNTY, COLO. (DMEA 3440)

and could accommodate perhaps a like number more. Although no specific inquiries were made, it appears that experienced miners would be difficult to locate in the immediate area as the principal industry is ranching. However, the applicant's proposal indicates that practically all labor would be furnished by a subcontractor.

HISTORY, PRODUCTION, AND OWNERSHIP

Most of the claims were located in 1909 and patented about 1911; one, the Foch, was patented in the 1930's. A hurried examination of the county records indicated the applicant has a legal claim; however, the 1953 taxes had not been paid.

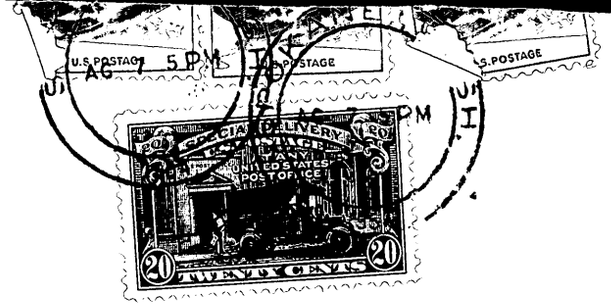
The records show that the property has been in control of Canadians the major portion of its existence. It is reported that because of the difficulty in transferring funds from Canada to this country, the prospecting has been very intermittent. From the condition of most of the openings, it appears they were excavated quite some time ago. It was only this summer that the portal of the main crosscut adit was rehabilitated. No production for the property is recorded by the Region IV Statistical Branch, Bureau of Mines.

DESCRIPTION OF THE DEPOSITS

The deposits of ore-bearing minerals noted were of the pegmatite type in schist, containing principally glassy quartz and a pink feldspar with minor amounts of the copper and molybdenum minerals. This type of deposit is distinguished by its erratic nature with respect to size, shape, attitude, continuity, and mineral content. All deposits observed were entirely inadequate regarding size,

SPOKANE 2, WASHINGTON

AIR MAIL



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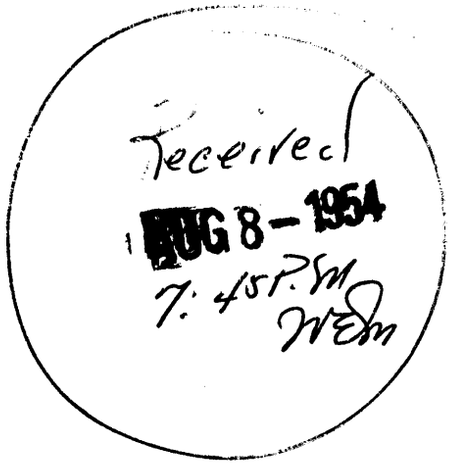

Mr. Jay L. Chambers, Chief
Contract Administration and Audit Division
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

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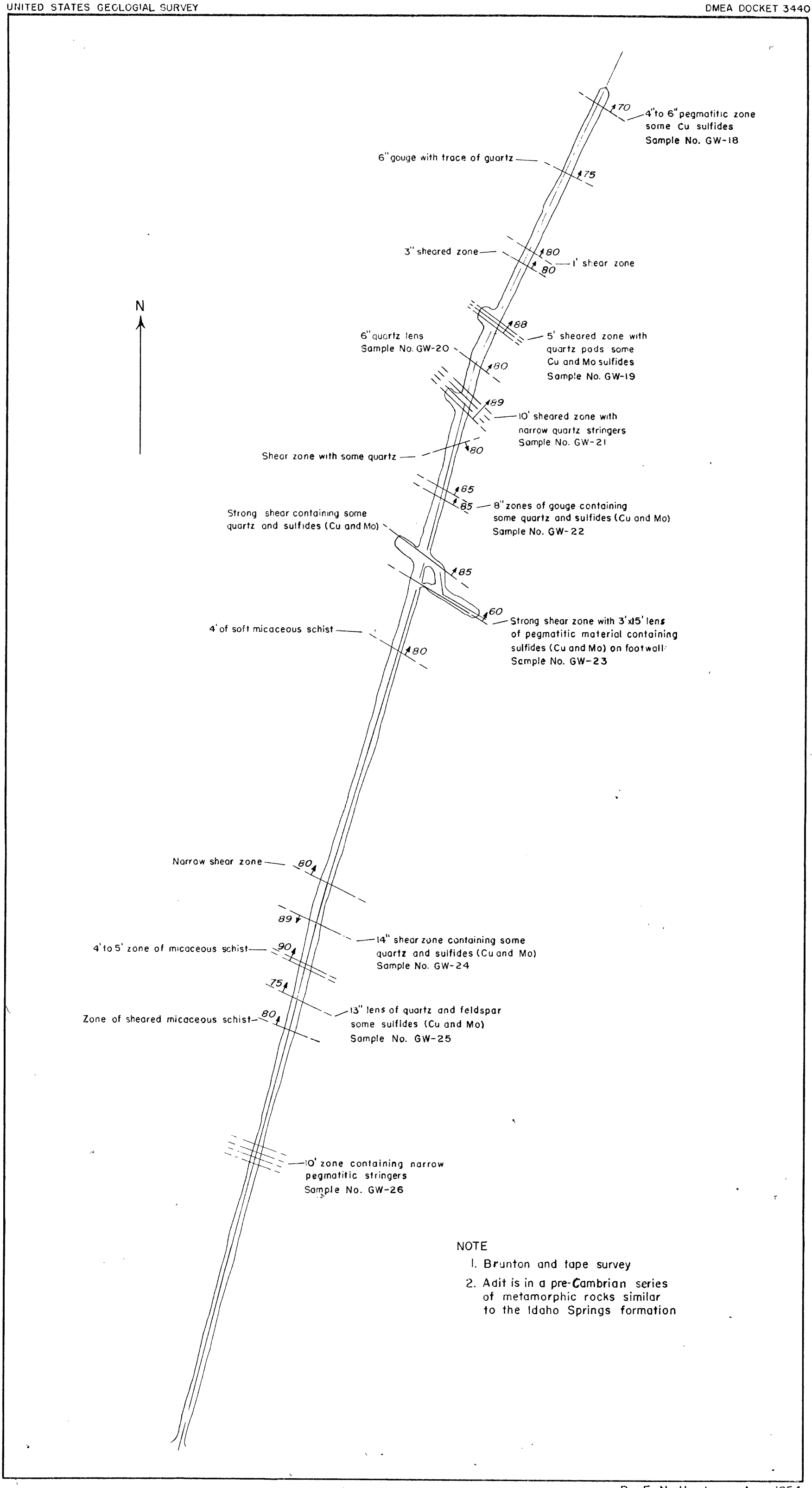


By E. N. Harshman, Aug. 1954

FIGURE 1.- GEOLOGIC MAP OF NUMBER 2 TUNNEL, FARWELL MOUNTAIN CLAIMS
COLORADO MINING CORPORATION, ROUTT COUNTY, COLORADO

50 0 100 150 200 Feet

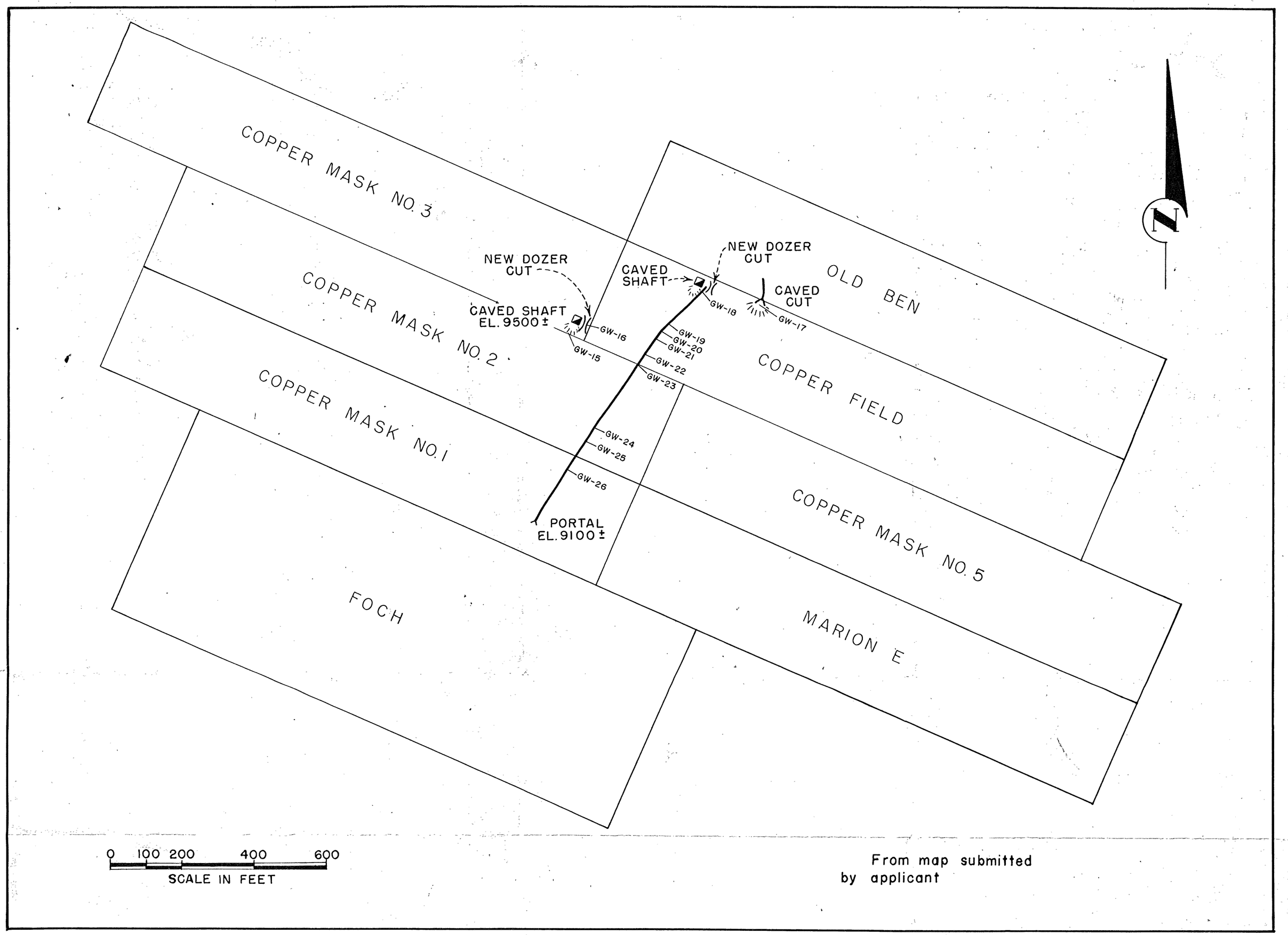
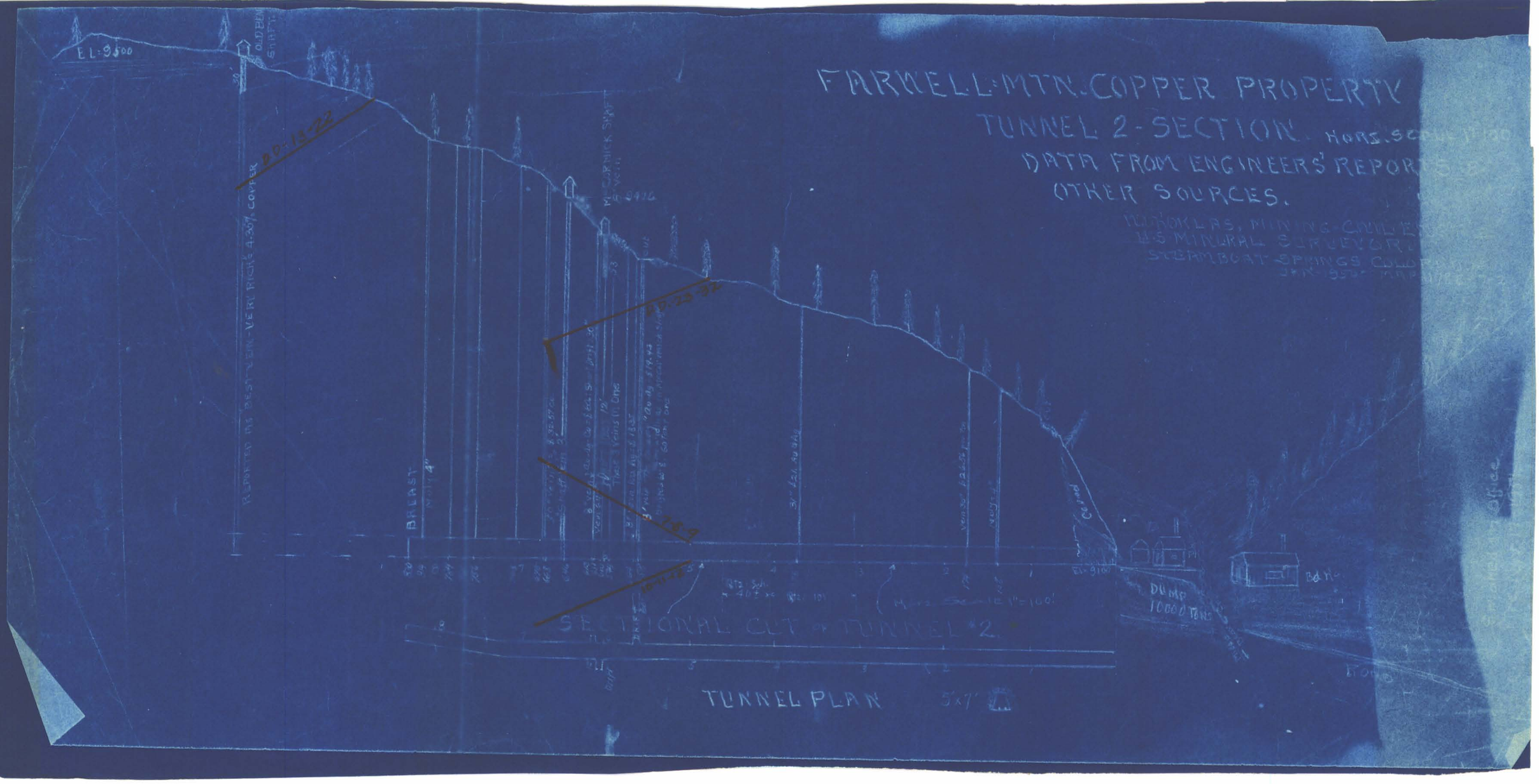


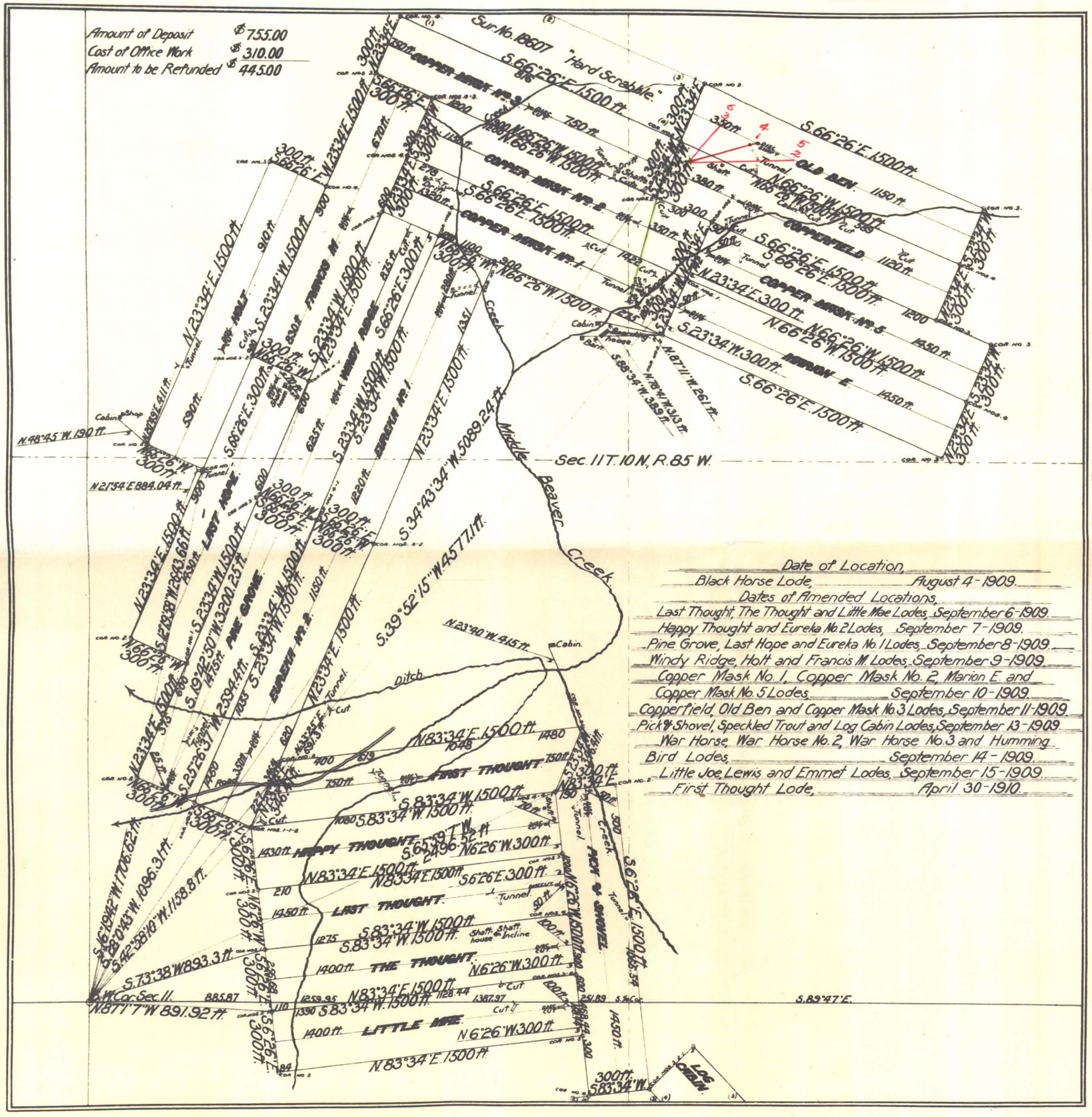
FIGURE 2 - CLAIM MAP SHOWING SAMPLE LOCATIONS, COLORADO MINING CORP., ROUTT COUNTY, COLO. (DMEA 3440)


FARWELL-MTN. COPPER PROPERTY
TUNNEL 2 - SECTION
DATA FROM ENGINEERS' REPORTS
OTHER SOURCES.
EL. 9500
OLD BIG SHAFT
REPORTED AS BETTER VERY RICH 4.50% COPPER
D.D. 13-22
MC CORMICK SHAFT
D.D. 23-32
BALLAST
SECTIONAL CUT - TUNNEL #2
TUNNEL PLAN 5x7'
DUMP
10000 TONS
BARN
ROAD

PLAT No. 1.

Tunnel
D.D. Hole

Amount of Deposit $755.00
Cost of Office Work $310.00
Amount to be Refunded $445.00



Date of Location,
Black Horse Lode, August 4-1909.
Dates of Amended Locations,
Last Thought, The Thought and Little Mae Lodes, September 6-1909.
Happy Thought and Eureka No. 2 Lodes, September 7-1909.
Pine Grove, Last Hope and Eureka No. 1 Lodes, September 8-1909.
Windy Ridge, Holt and Francis M. Lodes, September 9-1909.
Copper Mask No. 1, Copper Mask No. 2, Marion E. and Copper Mask No. 5 Lodes, September 10-1909.
Copperfield, Old Ben and Copper Mask No. 3 Lodes, September 11-1909.
Pick & Shovel, Speckled Trout and Log Cabin Lodes, September 13-1909.
War Horse, War Horse No. 2, War Horse No. 3 and Humming Bird Lodes, September 14-1909.
Little Joe, Lewis and Emmet Lodes, September 15-1909.
First Thought Lode, April 30-1910.

Received S.G.O. April 14-1910. May 16-1910.

H.D.K.
S.S.
L.L.
M.R.L.
M.R.L.

Claim located 190

Mineral Survey No. 19037

L.O.T. No.

Garfield Land District.

PLAT

OF THE CLAIM OF

THE FARWELL MOUNTAIN COPPER COMPANY,

KNOWN AS THE

LAST THOUGHT, THE THOUGHT, LITTLE MAE, HAPPY THOUGHT, FIRST THOUGHT, EUREKA 2, PINE GROVE, LAST HOPE, EUREKA No. 1, WINDY RIDGE, HOLT, FRANCIS M., COPPER MASK No. 1, COPPER MASK No. 2, MARION E., COPPER MASK No. 5, COPPERFIELD, OLD BEN, COPPER MASK No. 3, PICK & SHOVEL, SPECKLED TROUT, LOG CABIN, WAR HORSE, WAR HORSE No. 2, WAR HORSE No. 3, BLACK HORSE, HUMMING BIRD, LITTLE JOE, LEWIS AND EMMET LODES,

IN HAHNS PEAK MINING DISTRICT,
ROUTT COUNTY, COLORADO.
Containing an Area of 309.237 Acres.
Scale of 400 Feet to the inch.
Variation 15°17' East.
SURVEYED May 16 1910, BY
Geo. B. McFadden, U.S. Mineral Surveyor,

The Original Field Notes of the Survey of the Mining Claim of The Farwell Mountain Copper Company, known as the Last Thought, The Thought, Little Mae, Happy Thought, First Thought, Eureka 2, Pine Grove, Last Hope, Eureka No. 1, Windy Ridge, Holt, Francis M., Copper Mask No. 1, Copper Mask No. 2, Marion E., Copper Mask No. 5, Copperfield, Old Ben, Copper Mask No. 3, Pick & Shovel, Speckled Trout, Log Cabin, War Horse, War Horse No. 2, War Horse No. 3, Black Horse, Humming Bird, Little Joe, Lewis and Emmet Lodes, from which this plat has been made under my direction, have been examined and approved, and are on file in this Office; and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimant or its grantors, for the benefit of each of the locations embraced in said improvements consist of forty-eight cuts, twenty tunnels, ten shafts, two shaft-houses, two drifts and an incline, as appears by the affidavit of the mineral surveyor, that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office, Denver, Colorado, June 30, 1910.

Tim McOconnor
U.S. Surveyor General for Colorado.