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Surname 700

Ching
Ellis
Kiilsgaard
Hedges
Selfridge
Johnson

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

JUN 28 1955

Mr. Herbert T. Young
Vice-President
Champa Mining Company
214-216 First National Bank Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-3747 (Uranium)
Peabody Mine
Clear Creek County, Colorado

Dear Mr. Young:

Your application for aid in an exploration project and other information available to us in Washington concerning your above-named property have been reviewed.

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

Careful study of all our information, although noting a small amount of uranium mineralization on your property, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

C. O. Mitcendorf

Administrator

MChing:am
6-23-55
cc to: Admr. Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
Code 700 Mr. Ching DMEA Field Team, Region III(2)

R.C.S.

(Docket Copy) 700

Ching
Ellis

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

June 23, 1955

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-3747

Commodity: Uranium

Applicant: Champa Mining Company - A Delaware Corporation
214-216 First National Bank Building
Denver, Colorado

Property: 7 unpatented and 1 patented lode mining claims, consisting of the Westwind, Westwind Extension, Southwind, Russell, Johnson, Little Mac, Mac Gregor and George Peabody, located in Sec. 35, T.3 S., R.74 W., 6th P.M.&B., Clear Creek County, Colorado

Date of Application: March 22, 1955

Amount of Application: $48,924.00

Work Proposed: Bulldozer work on road, vein, and portal sites.
Drift 200 feet on the Peabody vein in an easterly direction on the 150-foot level.
Drift 900 feet on the Peabody vein in a westerly direction on the 300 level.

Estimated Cost:

88 hours bulldozer work @ $10.50/hr.	$924.00
1,200 ft. drifting @ $34.00/ft.	40,800.00
Supervision and consultants	7,200.00
Total	$48,924.00
Government participation @ 75%	$36,693.00

Field Team Report: May 24, 1955. M. H. Salsbury, U.S.B.M.
E. N. Harshman, U.S.G.S.

At the Peabody mine a weak shear zone in Precambrian Silver Plume granite was exposed in a 41-foot shaft and two short levels off that shaft. Torbernite,

dumontite, and sooty pitchblende, in very minor amounts, were identified in silicified wall rock and along fractures in the shear zone. Although rather high grade pieces of float were found in the area, vein material in place was narrow, poorly defined, and low grade.

There has been no recorded production of uranium from the Peabody mine. The examining team saw only small scattered torbernite crystals underground, and did not find any uranium minerals in existing surface cuts. Underground samples taken by the AEC prior to the examination and those taken by the examining team were relatively low grade and represented uranium-bearing material of less than a foot width.

It is concluded that exploration along the one known shear zone, will not lead to the discovery of significant amounts of uranium ore, either in the oxidized zone or in the zone of primary sulfides. It is recommended that the application for exploration assistance be denied.

Commodity Committee Members' Comments:

Geological Survey - R. D. Trace - June 17, 1955

The vein apparently is a weak structure, and it is narrow and low in grade of non-float uranium-bearing rock. The possibility of finding primary ore grade material appears poor. Concurs with the Field Team regarding denial of the application.

Bureau of Mines - John E. Crawford - June 23, 1955

Discussed the proposed project with the AEC representative in Washington. Concurs with the Field Team recommendation that the project be denied.

Rare and Miscellaneous Metals Division - Michael Ching June 22, 1955

The vein is weak and poorly defined compared with those at the nearby Jo Reynolds and Bellevue-Hudson mines where small tonnages of high grade pitchblende were reportedly found. The latter properties cannot be considered uranium producers of any significance nor can similar properties such as the Kirk and German-Belcher mines in neighboring Gilpin County, where DMEA projects were either unsuccessful or denied. Experience with these properties have shown that uranium mineralization is more apt to decrease than to increase with depth.

Conclusions and recommendations:

The chances of finding significant deposits of uranium ore by the proposed underground drifting at the Peabody mine are poor. It is recommended that the subject application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

6/24/55 gla

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

June 23, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4445

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 3747, Champa Mining Company, Peabody Mine, Clear Creek County, Colorado.

I have reviewed the Field Team report of examination, Champa Mining Company, DMEA Docket 3747; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We concur in the recommendation of the Field Team that the application be denied.

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

John E. Crawford
John E. Crawford

RECEIVED
JUN 24 1955

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

June 23, 1955

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Uranium Commodity Committee, Room 4445

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JUN 24 1955

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

June 23, 1955

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We concur in the recommendation of the Field Team that the application be denied.

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

John E. Crawford

RECEIVED
JUN 24 1955

6/20/55-gla

IN REPLY REFER TO:

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

RECEIVED
JUN 17 1955

June 17, 1955

Re: DMEA-3747
Champa Mining Co.
Robineau Mine
Clear Creek Co., Colo.
$48,924 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: R. D. Trace, U. S. Geological Survey

Subject: Review of Field Team report

I concur with the Field Team report and recommend that the application be denied.

The vein apparently is a weak structure, and it is narrow and low in grade of non-float uranium-bearing rock. The possibility of finding primary ore grade material appears poor.

RDTrace

R. D. Trace

IN REPLY REFER TO:

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

RECEIVED
JUN 17 1955

June 17, 1955

Re: DMEA-3747
Champa Mining Co.
Robinson Mine
Clear Creek Co., Colo.
$48,924 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: R. D. Trace, U. S. Geological Survey

Subject: Review of Field Team report

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The vein apparently is a weak structure, and it is narrow and low in grade of non-float uranium-bearing rock. The possibility of finding primary ore grade material appears poor.

R. D. Trace

RDTrace:hlm
G-6/17/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641 Interior
J. O. Hosted, 3210 GSA

IN REPLY REFER TO:

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

RECEIVED
JUN 17 1955

June 17, 1955

Re: DMEA-3747
Chenga Mining Co.
Robinson Mine
Clear Creek Co., Colo.
346,924 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: R. B. Trace, U. S. Geological Survey

Subject: Review of Field Team report

I concur with the Field Team report and recommend that the application be denied.

The vein apparently is a weak structure, and it is narrow and low in grade of non-float uranium-bearing rock. The possibility of finding primary ore grade material appears poor.

R. B. Trace

RBTrace:hlm
G-6/17/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641 Interior
J. O. Hosted, 3210 GSA

IN REPLY REFER TO:

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

RECEIVED
JUN 18 ---

June 17, 1955

Re: DMEA-3747
Champa Mining Co.
Robinson Mine
Clear Creek Co., Colo.
$48,000 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: R. D. Trace, U. S. Geological Survey

Subject: Review of Field Team report

I concur with the Field Team report and recommend that the application be denied.

The vein apparently is a weak structure, and it is narrow and low in grade of non-flint uranium-bearing rock. The possibility of finding primary ore grade material appears poor.

R. D. Trace

RDTrace:hlm
G-6/17/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641 Interior
J. O. Kosted, 3210 GSA

6/14/55 gh

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

RECEIVED
JUN 10 1955

224 New Customhouse
Denver 2, Colorado

June 3, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA-3747 (Uranium), Champa Mining Company, (Peabody mine), Clear Creek County, Colorado

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

We concur in the recommendation of the field examiners that the application be denied.

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-13-55
(date)

DMEA
Date Rec'd
MAY 27

TRANSMITTED
JUN - 3 1955

BUREAU OF MINES
Colorado

Region III

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado

May 27, 1955

RECEIVED

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw, Supervising Mining Engineer

Subject: Engineering and Geologic Report, Docket No. DMEA 3747, Peabody Mine, Champa Mining Company (Uranium), Clear Creek County, Colorado

Enclosed are the original and 11 copies of a joint geologic and engineering report prepared by E. N. Harshman, geologist, U. S. Geological Survey, and M. H. Salsbury, mining engineer, U. S. Bureau of Mines, covering Docket No. DMEA 3747.

The Champa Mining Company applied for exploration assistance to explore the Peabody group of claims. The application consisted of bulldozing for an access road and portal sites and 1200 feet of underground drifting at an estimated cost of $48,924.00.

A field examination was made on May 13, 1955, by E. N. Harshman, geologist, and M. H. Salsbury, mining engineer. The examining team concluded that there was little possibility of finding a significant amount of uranium ore as a result of the proposed exploration. It is recommended that the application be denied.

John F. Shaw

John F. Shaw

Enclosures

cc: 11 w/orig
DMEA 3747
Chron

JFS/mh

Reviewed by
DMEA OPERATING COMMITTEE
6-13-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3747

Peabody Mine

Champa Mining Company

Clear Creek County, Colorado

Uranium

M. H. Salsbury, Mining Engineer
Bureau of Mines

E. N. Harshman, Geologist
Geological Survey

May 24, 1955

Reviewed by
DMEA OPERATING COMMITTEE
6-13-55
(date)

CHAMPA MINING COMPANY

PEABODY MINE

CLEAR CREEK COUNTY, COLORADO

DMEA Docket 3747

E. N. Harshman
U. S. Geological Survey

M. H. Salsbury
U. S. Bureau of Mines

Geologic and Engineering Report

Reviewed by
DMEA OPERATING COMMITTEE
6-13-55
(date)

DMEA 3747
CHAMPA MINING COMPANY
PEABODY MINE
CLEAR CREEK COUNTY, COLORADO

RECEIVED
JUN 10 1975

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ILLUSTRATIONS

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1. Location map, Peabody group of claims, Champa Mining Company, Clear Creek County, Colorado, DMEA 3747 2

2. Surface and Underground Geologic Maps - Peabody Mine, Clear Creek County, Colorado 5

TRANSMITTED
JUN - 3 1955

DMEA 3747
CHAMPA MINING COMPANY
PEABODY MINE
CLEAR CREEK COUNTY, COLORADO

RECEIVED
JUN 10 1955

SUMMARY AND CONCLUSIONS

At the Peabody mine a weak shear zone in Precambrian Silver Plume granite has been exposed in a 41-foot deep shaft and two short levels from that shaft. Torbernite, dumontite, and sooty pitchblende, in very minor amounts, have been identified in silicified wall rock and along fractures in the shear zone. Although rather high grade pieces of float were found in the area, vein material in place has been narrow and low grade. It is concluded that exploration along the one known shear zone will not lead to the discovery of significant amounts of uranium ore, and it is recommended that the application for exploration assistance, DMEA Docket 3747, be denied.

INTRODUCTION

The Champa Mining Company, 214-216 First National Bank Bldg., Denver, Colorado, has made application for Government assistance under the Defense Minerals Exploration Administration to explore for uranium the Peabody group of claims. A program consisting of bulldozing for an access road and portal sites, and 1,200 feet of underground exploration by drifting, to be done in two stages, has been proposed at an estimated cost of $48,924.00, in which Government participation at 75 percent would be $36,693.00.

A field examination was made on May 13, 1955, by E. N. Harshman of the Geological Survey, and M. H. Salsbury of the Bureau of Mines. Herbert T. Young, Vice-president and engineer for the applicant company, accompanied the examining team.

ACKNOWLEDGMENTS

Raymond Derzay and Frank Kuehnel of the Atomic Energy Commission, which has carried on surface exploration on the property, were consulted. Two reports by the A.E.C., one of them furnished by the applicant, and a later report in the A.E.C. files, were available. Reports made in conjunction with DMEA applications on nearby properties, the Jo Reynolds, DMEA 1446X, and the Bellvue-Hudson, DMEA 3197, were also available. The general area is described in Professional Paper 94, of the Geological Survey, but there is no specific mention of the Peabody or Robineau Mine.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Peabody Lode Claim and adjoining located claims are in sec. 35, T. 37 S., R. 74 W., Montana Mining District, Clear Creek County, Colorado (fig. 1). They are on a ridge at an elevation of about 10,500 feet overlooking the valley of Clear Creek to the west. The nearest town is Lawson, Colorado, 49 miles from Denver, Colorado, which is the nearest distribution center. The mine is reached from Lawson by traveling 4.1 miles over an access road, the last 2.8 miles of which is a trail barely passable by jeep.

The region is one of cool summers and moderate winters. Average precipitation is low, but there may be severe storms of short duration in any season. The altitude of the mine would make it difficult of access in a severe winter, and extensive preparations would have to be made for year-around operation.

Transportation in the area is by truck and bus lines connecting to Denver. Uranium ores produced in the region have been shipped by rail from Golden, Colorado, 35 miles from the mine, to the Vitro

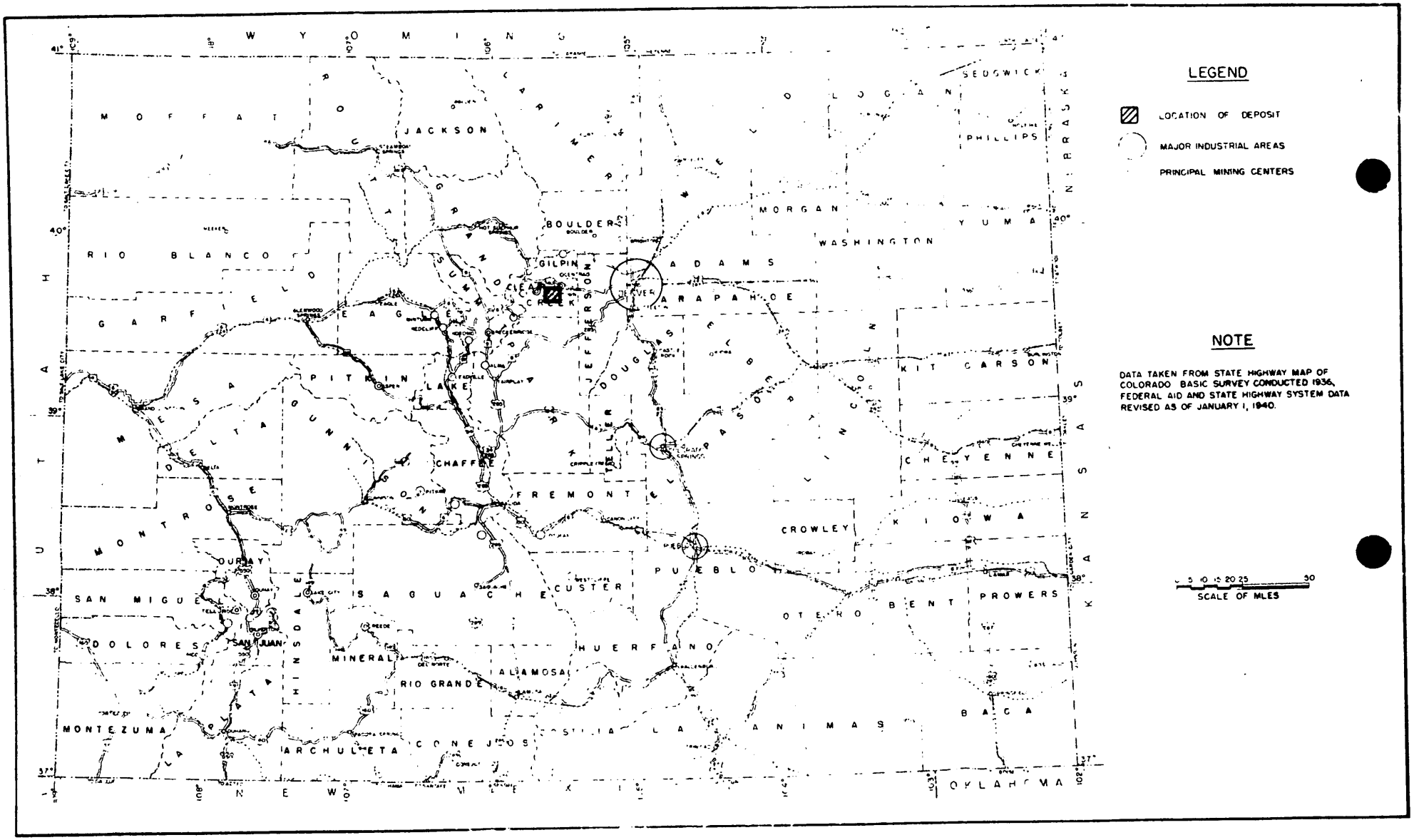


FIGURE 1 - LOCATION MAP, PEABODY GROUP OF CLAIMS, CHAMPA MINING COMPANY, CLEAR CREEK COUNTY, COLO. DMEA 3747

Chemical Co. at Salt Lake City, Utah. A haulage allowance to the railhead and the rail freight are allowed by the Atomic Energy Commission on shipments which meet specifications.

Power is available at the Jo Reynolds mine from the lines of the Public Service Company of Colorado. Power needs for the proposed work would undoubtedly be met by gasoline or diesel powered equipment. Timber and water are available on the property. Water might have to be hauled from Silver Creek at certain seasons.

There is a limited supply of mine labor in the area. The applicant has in its employ a small crew which would be transferred to the project when necessary.

HISTORY, PRODUCTION AND OWNERSHIP

The history of the area dates from 1865 with discovery of lead-silver ore at the Jo Reynolds mine to the northeast. Not much work was done until the '70's, but operations at the Jo Reynolds, American Sisters, Bellevue-Hudson and other mines have been carried on intermittently since that time. The Peabody mine, sometimes called the Robineau mine, dates from the 1880's, when shallow exploration by shafts was accomplished. No worthwhile ore was found, and little more was done prior to a surface project undertaken by the Atomic Energy Commission in November, 1953, on an anomaly discovered during reconnaissance of the area.

There has been moderate production of lead and silver from mines in the area, but early records are not complete. The production of the Jo Reynolds mine is estimated at about $1,500,000. The recorded production from 1902 to 1950 is 50,800 tons of ore with a recovered

metal content of 0.02 ounces gold and 7.0 ounces silver per ton, 1.4 percent lead and 1.0 percent zinc. Production from other mines nearby has been less significant.

Pitchblende was identified at the Jo Reynolds mine as early as 1886. It was later discovered in the Bellvue-Hudson vein. Shipment of a few tons of high grade pitchblende is reported in 1919.

There has been no recorded production from the Peabody mine. A small shipment of sacked high-grade silver ore is reported to have been made in the early days.

The George Peabody Lode claim, survey No. 1843, a patented claim, and the Little Mac and MacGreggor lodes, locations, are owned by L. G. Robineau and Gordon MacGreggor Robineau, a minor. Six other adjoining claims have been located by or for the applicants. The recording data on located claims are listed in the application as follows:

Claim	Recorded in Clear Creek County Courthouse, Georgetown, Colo.	
	Book	Page
West Wind	245	515
West Wind Extension	245	129
South Wind	245	130
Russell	245	130
Johnson	245	515
Little Mac	205	344
MacGreggor	205	345

A check of the courthouse records was not made.

The claims owned by the Robineaus were leased to Paul P. Robinson of Idaho Springs, Colorado, with an option to purchase, and Robinson has assigned this bond and lease, with the permission of the owners, to Russell P. Johnson, acting for the Champa Mining Company, to which corporation it has been finally assigned. The original lease and bond

to Robinson calls for a purchase price of $10,000.00 to be made before the expiration date, three years from October 17, 1953. Robinson's agreement with Johnson calls for assignment of the lease and option for $22,500.00 in cash, on which an escrow payment of $2,500.00 has been made, plus $22,500.00 in stock, or an additional $15,000.00 cash in lieu of stock, at Robinson's election. It appears that Johnson and the Champa Mining Company are obligated to make the payment of $10,000.00 to the original owner as well in order to acquire title. The time for exercise of Johnson's option from Robinson has been extended to June 29, 1955, when presumably a cash payment must be made. The final stock or cash payment is due January 15, 1956.

The owners of the property have executed a consent to lien dated March 22, 1955, but Robinson has not done so.

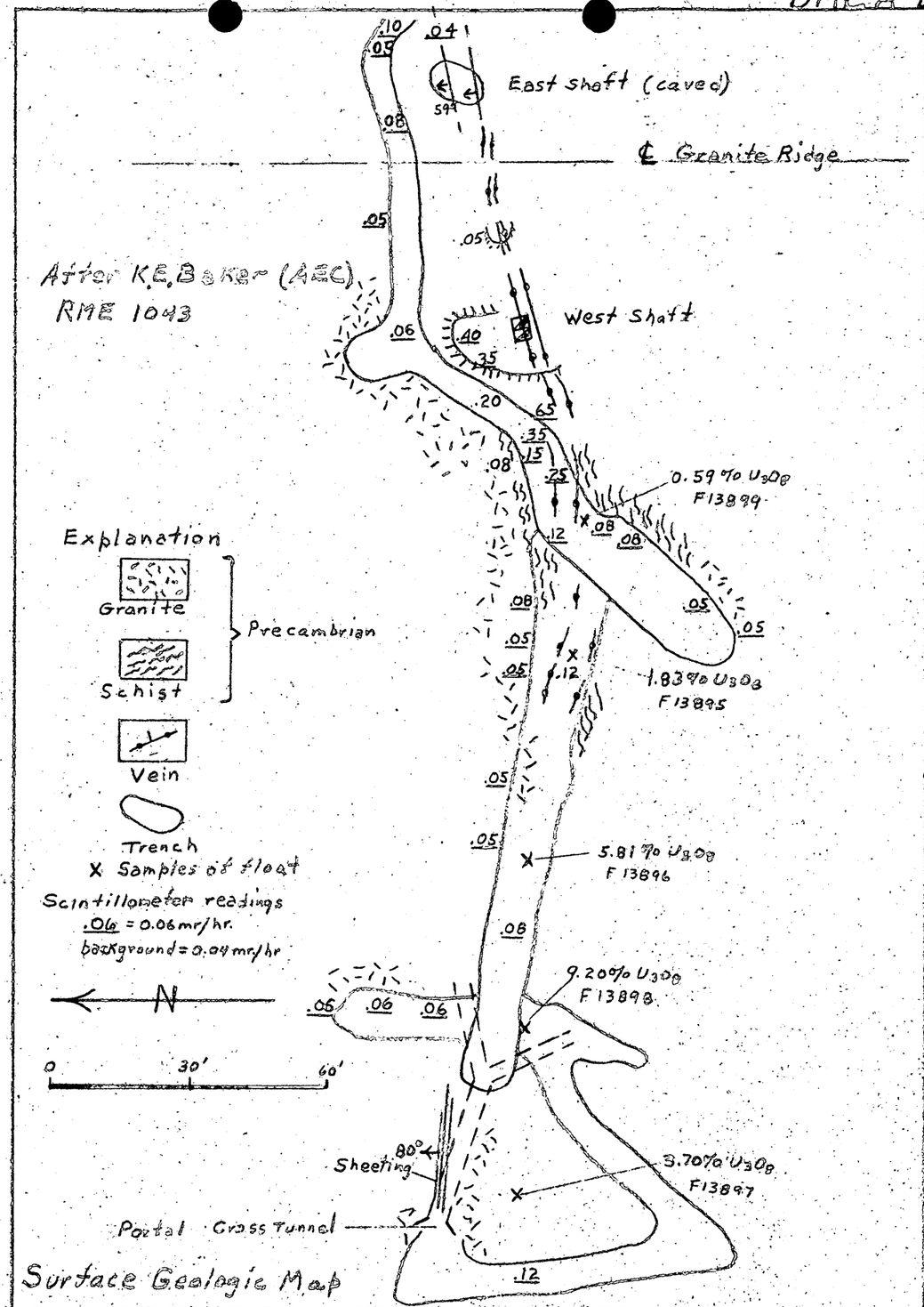
GEOLOGY

The property is underlain by Silver Plume biotite granite and quartz-biotite schist of the Idaho Springs formation. Both rocks are Precambrian in age and are cut by narrow pegmatite dikes. In the vicinity of the mine workings small roof pendants of schist are present in the granite.

The workings from the west shaft (fig. 2) are in a coarse-grained biotite granite or granite porphyry with a few small inclusions of biotite schist. One narrow pegmatite dike is exposed in the short 23-foot level from the west shaft.

Torbernite, dumontite, and sooty pitchblende have been identified from a poorly defined shear zone exposed in the underground workings from the west shaft. Silver is present in an unknown form; pyrite and galena may have been present along the Peabody "vein" before oxidization.

DMEA Docket 3747



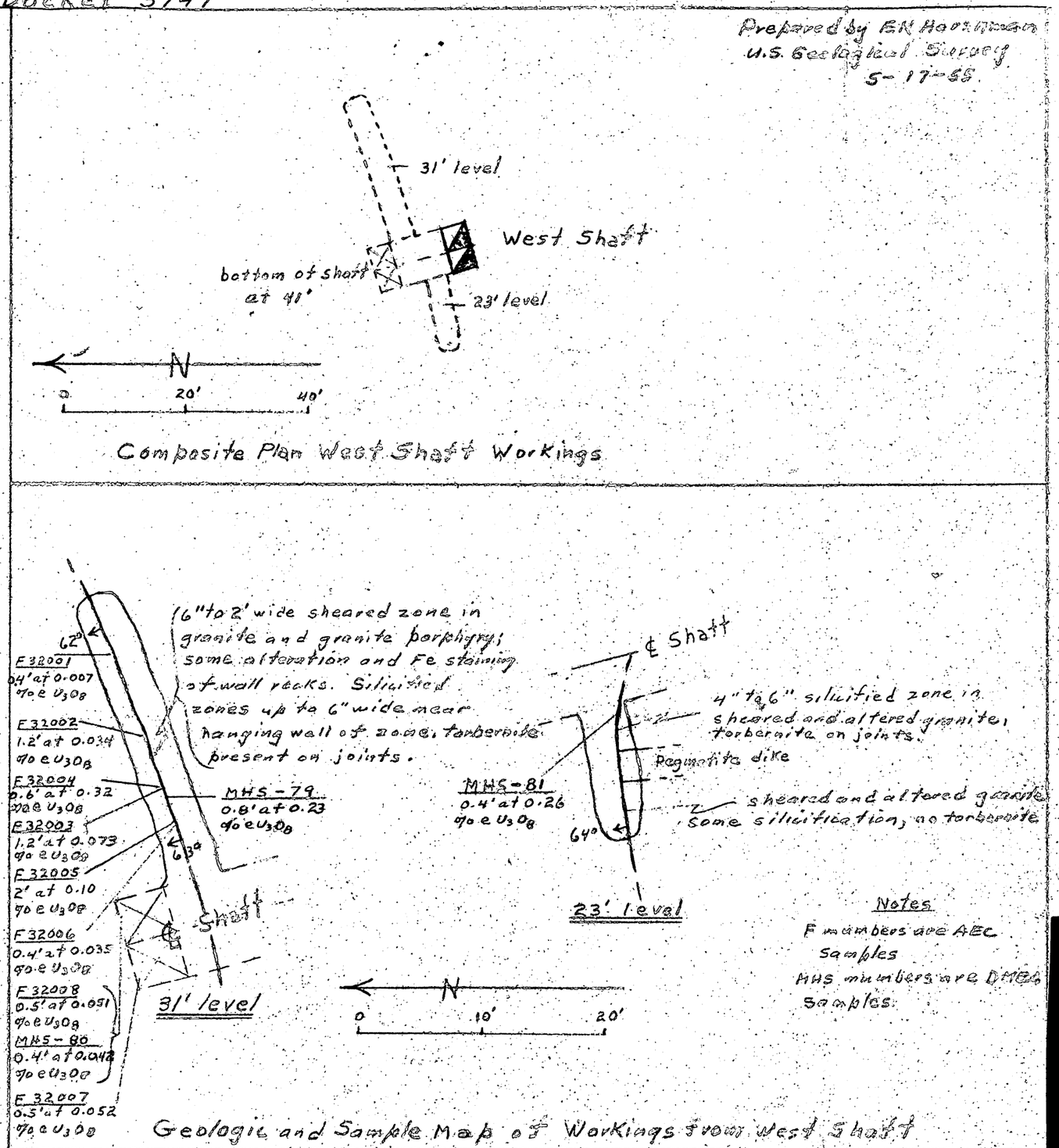


Fig. 2 Surface and Underground Geologic Maps – Peabody Mine, Clear Creek County, Colorado

The Peabody "vein", or more properly shear zone, ranges from 2 inches to 2 feet in width and is a somewhat indefinite structure with many small splits branching into the foot and hanging walls. It strikes about N. 75° E. and dips 60° to 65° north. Some gouge and breccia are present along the zone and gray quartz has been introduced, particularly along the hanging wall of the structure. The quartz and associated uranium minerals were apparently deposited in lenticular masses up to 15 feet long and 10 inches wide. Subsequent oxidation, leaching, and redeposition has dispersed minor amounts of secondary uranium minerals along joints and fractures in the shear zone.

Moderate hydrothermal alteration of the wall rocks was noted throughout the underground workings, and supergene alteration has occurred to a depth of at least 41 feet below the surface, the lowest mine workings.

DESCRIPTION OF THE DEPOSITS

The significant ore deposits in this region are in well defined fissure veins in silicified shear zones occupying faults in the pre-Cambrian complex of the Idaho Springs formation. Such veins are found in the Jo Reynolds, Bellevue-Hudson, and other mines, and contain pyrite, quartz, galena, sphalerite and a minor amount of pitchblende in a gangue of altered and silicified wall rock. Descriptions of various exposures in the Bellevue Rochester tunnel are found on pages 6 and 7 of A.E.C. Report RMO-640.

The exposure in the accessible underground workings of the Peabody mine bears little resemblance to these veins. The mineralization occurs in an 18-inch shear zone which parallels the general strike of the veins of the area, but the vein, if it can be called that, is narrow and

poorly defined with a maximum width of about 12 inches, decreasing to a seam in the faces of two short drifts. No visible lead or zinc minerals or pyrite were found in the highly oxidized vein matter. Presumably they would be found at depth. Samples showing a high silver content have been obtained from the workings. The A.E.C. reports the presence of the uranium minerals torbernite and kasolite, and one specimen of sooty pitchblende, enclosed by kasolite, in float found on the hillside west of the Cabin shaft before the trenching was done. The examining team saw only small scattered torbernite crystals underground, and did not find any uranium minerals in the surface cuts.

SAMPLES AND ORE RESERVES

On figure 2 are plotted all described samples taken by the A.E.C. and the DMEA examining team. With the exception of five samples of float found on the surface west of the Cabin shaft and taken before trench excavation by the A.E.C., all samples are relatively low grade and without exception represent uranium-bearing material less than a foot wide. Work by the A.E.C. has shown a very close check between equivalent uranium and chemical uranium assays. Therefore, many of the A.E.C. samples and all of the DMEA samples were assayed only for equivalent uranium. None of the material represented by the cut samples is considered to be ore, and no ore reserves can be calculated.

Following are descriptions of samples taken by the examining team:

Sample No.	Width Cut feet	Location	Description	eU_3O_8 percent
MHS-79	0.9	31-foot level	Cut across vein in bottom 7 feet E. of shaft. Count of 1.0 MR/hr.	0.23
MHS-80	0.4	sump	Cut across vein in bottom at 41 feet below shaft collar. Count of 1.0 MR/hr.	0.042
MHS-81	0.4	23-foot level	Cut across vein in back at W. edge of shaft. Count of 1.0 - 1.2 MR/hr. Few torbernite crystals visible	0.26

Background count is generally high, both in the surface and underground workings. The count noted in the open cut could not be localized at any particular point. Underground, background was 0.25 to 0.30 MR/hr. Radon gas in the workings may account for some of it.

The applicant has submitted a list of samples taken at various times. A few show a uranium content as high as 3.0 percent, with 67 ounces silver per ton, but only general locations and no sample widths are specified. The high grade samples were probably selected specimens in very narrow widths, as they do not check the samples taken underground by the DMEA team and the A.E.C.

PRESENT STATUS

Exploration and Development

The property has been developed by two shafts, one reported to be 100 feet deep but inaccessible, and the Cabin (or West) shaft, 41 feet deep with two short levels, which has been cleaned out and was accessible (figure 2).

The surface project of the A.E.C. is a bulldozer trench running westerly from the crest of the ridge near the shaft 250 feet down the hill, with several lateral cuts along its length (figure 2). The Bedrock surface was not reached except at one point 25 feet west of the shaft where Young sank a shallow pit below the bottom of the trench and located a silicified shear zone in place which gives a slightly increased count. It appears to line up with the vein in the shaft and indicates that the vein outcrop to the west is probably south of the A.E.C. trench.

The Cross tunnel, 350 feet down the hill west of the Cabin shaft, was driven in sheared altered granite. No evidence of uranium mineralization could be found in this tunnel which is now partly caved.

The 100-foot East shaft is now caved, but the presence of a north-dipping shear zone, probably the Peabody "vein", was noted at the collar. No abnormal radioactivity was noted in the immediate vicinity of this shaft.

Mining and Milling and Other Facilities

There are no usable buildings or equipment on the property. The applicant has underground mining equipment which is now in use at a lead-zinc property nearby, which it is planned to move to the Peabody mine.

PROJECT PROPOSALS WITH COSTS

The applicant proposes the following exploration:

Bulldozing 88 hours to complete road and for portal sites at $10.50 per hour	$924.00
1,200 feet of 5-foot by 7-foot drift in two adit tunnels an estimated 300 and 900 feet long at 110 feet and 260 feet, respectively, below the bottom of the Cabin shaft, 1,200 feet at $34.00 per foot	40,800.00

Supervision and technical services 18 months at $400.00 per month	$7,200.00
Total estimated cost	$48,924.00
Government participation at 75 percent	$36,693.00

The cost figures presented are reasonable, although the 18 months estimated for completion would mean an average monthly advance of only 50 feet.

A DMEA project is not being recommended either on the applicant's proposal or a modification of it. If exploration were justified, the proposal to drive tunnels on the vein has doubtful merit, because locating a tunnel portal site on the outcrop of such a weak structure would be difficult without tracing it all the way from the shaft. There are probably other structures in the immediate area which resemble the Peabody shear zone and could easily be mistaken for it.

The better plan would probably be to work through the Cabin shaft.

PROPOSED FINANCING

The applicant states that they are financially able to furnish their share of the cost of the proposed project.

CONCLUSIONS

The Peabody shear zone is a weak structure along which minor amounts of uranium minerals, probably pitchblende, together with pyrite now altered to iron oxide, and galena now removed by supergene alteration were deposited in short, lenticular, silicified zones in fractured and brecciated granite. The possibility of finding significant amounts of uranium ore, either in the oxidized zone or in the zone of primary sulfides, appears remote.

In the original A.E.C. report by Marvin C. Chase, RME-1043, made before the Cabin shaft workings were accessible, recommended rehabilitation and a small amount of sinking and drifting.

A brief undated supplemental report in the files of the Denver Exploration Branch, written after the workings in the Cabin shaft were made accessible, reaches substantially the same conclusions as outlined in this DMEA report.

RECOMMENDATIONS

Denial of the application for exploration assistance, DMEA 3747, is recommended.

/mh

5/6/55 gla

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

224 New Customhouse
Denver 2, Colorado

May 2, 1955

Memorandum

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

From: DMEA Field Team, Region III

Subject: DMEA-3747 (Uranium), Champa Mining Company, (Peabody mine), Clear Creek County, Colorado

Enclosed are copies of the subject application in the amount of $48,924.00, its transmittal by the Chairman of the Operating Committee, and memoranda from R. D. Trace, USGS, and John E. Crawford, USBM, members of the Uranium Commodity Committee to E. W. Ellis.

Both members of the Uranium Commodity Committee recommend referral to the field for examination and report. Trace mentions the possibility of higher grade uranium mineralization being found at depth. The Denver Exploration Branch office of the AEC should be consulted for verification of factual data contained in the accompanying report.

In accordance with the request contained in the letter from the Chairman of the Operating Committee make a field examination and submit covering reports. If a contract is recommended the Region III office will obtain new form Owner's Consent to Lien, but it would expedite processing if the examiners would determine whether or not Champa Mining Company exercised its option to purchase Robinson's Mining Lease and Option and if they would instruct them to furnish evidence to that effect.

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

W. M. TRAVER
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

WMT:sr

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

224 New Customhouse
Denver 2, Colorado

May 2, 1955

Memorandum

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

W. M. TRAVER
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

WMT:sr

Surname copy

Ching
Ellis
Kilsgaard
Hedges
Selfridge
Johnson

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

APR 2 6 1955

Mr. Herbert T. Young
Vice-President
Champa Mining Company
214-216 First National Bank Building
Denver, Colorado

Re: Docket No. DMEA-3747 (Uranium)
Peabody Mine
Clear Creek County, Colorado

Dear Mr. Young:

The application for assistance in exploring your property in Clear Creek County, Colorado, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred to the Executive Officer of Region III at the following address:

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

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

C. O. Mittendorf (Ch)

Administrator

MChing/gla
4-22-55
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

R.C.

Surname copy

Ching
Ellis
Selfridge
Johnson

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

APR 26 1955

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

Re: Docket No. DMEA-3747 (Uranium)
Champa Mining Company
Peabody Mine
Clear Creek County, Colorado

Dear Mr. Traver:

The subject application is being referred to you for investigation, a field examination if warranted, and recommendation. A copy of the application has been retained by your office.

Enclosed are two copies each of comments and recommendations by R. D. Trace and John E. Crawford of the Uranium Commodity Committee, dated April 5 and April 18, 1955, respectively.

We note that the Owner's Consent to Lien attached to the application was made out on a form revised on July 1, 1954, and only conformed copies were made available to this office. In the event a contract is recommended by the Field Team, the Applicant should be requested to supply signed copies (6) of the new form revised on March 24, 1955. It should also be determined whether or not Champa Mining Company exercised its option to purchase the Mining Lease and Option held by Paul P. Robinson. If such option was exercised, evidence should be furnished that the written consent of the owners was given.

Sincerely yours,

George C. Selfridge (857)

Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges (857)

Member, Bureau of Mines

Thor H. Kiilsgaard 857

Member, Geological Survey

MChing/gla
4-22-55
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Ching

R.C.S.

4/19/55 gh

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

April 18, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3747, Champa Mining Company,
Clear Creek County, Colorado

I have reviewed the attached application of the Champa Mining Company, DMEA Docket 3747, and have discussed it with Joseph O. Hosted, representative of the Atomic Energy Commission.

We suggest that the application be referred to the Field Team for examination and report, and that the Field Team be requested to discuss the application with C. C. Towle, Atomic Energy Commission, Denver, Colorado. Atomic Energy Commission personnel have examined this property and others in the vicinity. Their advice should be of assistance to the Field Team in evaluating the application.

Please note that the Champa Mining Company has attached to the application an "official use only" copy of an AEC report entitled Preliminary Reconnaissance for Uranium at the Robineau Mine, Clear Creek County, Colorado.

John E. Crawford
John E. Crawford

Attachment

Copy to: Division of Minerals
Branch of Rare & Precious Metals
J. O. Hosted (2)
J. E. Crawford (2)

4/6/55 gla

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 1955

April 5, 1955

Re: DMEA-3747
Champa Mining Co.
Robineau Mine
Clear Creek Co., Colo.
$48,924 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: R. D. Trace, U. S. Geological Survey

Subject: Review of application

"The (Robineau) vein material is granite and schist that have been sheared and highly silicified over a width of 18 inches." The vein strikes approximately west and dips from 60° to 80° north. The common uranium minerals in the vein are torbernite and dumontite. Pitchblende has been found also. The uranium mineralization in the vein is very spotty.

Previous exploration on the property include two shallow shafts, one short adit, and some bulldozer work (by AEC).

The applicant proposes to (1) continue bulldozer work in order to trace the surface extent of the vein, and (2) drive two adits to cut under the West shaft at depths of 150 and 300 feet.

From the available data, the near surface (and leached) part of the vein does not appear to contain minable quantities of uranium. Apparently, the operator wants to look at the vein where higher grade (and primary) mineralization might be expected.

Because of the known mineralization and a possibility that higher grades might be found at depth, I recommend that the application be referred to the Field Team.

R. D. Trace

R. D. Trace

IN REPLY REFER TO:

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

RECEIVED
APR 8 1955

April 5, 1955

Re: DMEA-3747
Chuzan Mining Co.
Robinson Mine
Clear Creek Co., Colo.
$48,924 - Uranium

Memorandum

To: E. W. Ellis, Defense Minerals Exploration Administration

From: R. D. Trace, U. S. Geological Survey

Subject: Review of application

"The (Robinson) vein material is granite and schist that have been sheared and highly silicified over a width of 18 inches." The vein strikes approximately west and dips from 60° to 80° north. The common uranium minerals in the vein are torbernite and autunite. Pitchblende has been found also. The uranium mineralization in the vein is very spotty.

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Because of the known mineralization and a possibility that higher grades might be found at depth, I recommend that the application be referred to the Field Team.

R. D. Trace

RDTrace:hlm
G-4/5/55
Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641 Interior

April 4, 1955
Subject: DMEA 3747
Re: Exploration Assistance
Peabody Mine

Champa Mining Company
214-216 First National Bank Bldg.
Denver 2, Colorado

Gentlemen:

The receipt of your application dated March 22, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3747 and referred to the Rare and Miscellaneous Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

April 4, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA - 3747 Champa Mining Company

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

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

224 New Customhouse
Denver 2, Colorado

March 29, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Champa Mining Company, Montana Mining District, Clear Creek County, Colorado

Enclosed are the original and two copies of the subject application for Government assistance to explore the applicant's property for uranium at an estimated cost of $48,924.00.

One copy of the application has been retained in this office.

W. M. Traver

Enclosures

W. M. Traver

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

224 New Customhouse
Denver 2, Colorado

March 29, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Champa Mining Company, Montana Mining District, Clear Creek County, Colorado

Enclosed are the original and two copies of the subject application for Government assistance to explore the applicant's property for uranium at an estimated cost of $48,924.00.

One copy of the application has been retained in this office.

W. M. TRAVER

Enclosures

W. M. Traver

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Defense Minerals Administration
RECEIVED
APR - 1 1955

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. 3747
Metal or Mineral Uranium
Date Received 4-1-55
Estimated Cost $48,924
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: CHAMPA MINING COMPANY
214-216 First National Bank Building
Denver, Colorado
A Corporation Incorporated in the State of Delaware

(*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

(*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.

DMEA
Date Rec'd
16—66551-1
MAR 28 1955
BUREAU OF MINES
Denver, Colorado

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 22 March, 1955

CHAMPA MINING COMPANY
(Applicant)

By S/ Herbert T. Young

Vice President

Herbert T. Young

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

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

1. Champa Mining Company
   214-216 First National Bank Building
   Denver 2, Colorado

   b. A Delaware Corporation

   c. Russell P. Johnson, President & Director
      3 Ivy Lane
      Denver, Colorado

      Yale H. Lewis, Vice President & Director
      721 Grape
      Denver, Colorado

      Herbert T. Young, Vice President & Director
      Box 1012
      Idaho Springs, Colorado

      M. D. Scruggs, Secretary-Treasurer & Director
      2890 Raleigh
      Denver, Colorado

      J. Edward Johnson, Director
      Republic National Bank Building
      Dallas, Texas

   d. Not a partnership

3. Applicants Property Rights

   a. Legal discription of land. See Plat No. 2

      George Peabody Lode Claim, U. S. Patent No. 1843
      West Wind Lode Claim (Location)
      West Wind Extension Lode Claim (Location)
      South Wind Lode Claim (Location)
      Russell Lode Claim (Location
      Johnson Lode Claim (Location)
      Little Mac Lode Claim (Location)
      MacGregger Lode Claim (Location)

      Montana Mining District, Clear Creek County, Colorado (See Plat No. 1)

3. Applicants Property Rights - Continued

a. Continued

The group of claims makes up a solid block of ground of approximately 127 acres. The location claims have been surveyed and location worked checked by the firm of Watrous & Anderson, Consulting Engineers and Geologists of Denver, Colorado.

(See Plat No. 2)

Title opinions have been obtained by Champa Mining Company and are available.

b. The property is now known as the Peabody Mine but has been called the Robineau Mine in some reports.

c. Sole owners of the Westwind, Westwind Extension, Southwind, Johnson and Russell Lode Claims. Purchaser under contract of the George Peabody Patented Lode Claim and the Little Mac and MacGreggor Unpatented Lode Claims.

d. See enclosed copy of contract on George Peabody, Little Mac and MacGreggor Lode Claims

e. None except the contract under Section 3-d

f.

Westwind	Book	245	Page	515
Westwind Extension	"	245	"	129
Southwind	"	245	"	130
Russell	"	245	"	130
Johnson	"	245	"	515
Little Mac	"	205	"	344
MacGreggor	"	205	"	345

4. Physical description:

a. The present workings on the Peabody property consist of two shafts, one tunnel and a number of small prospect pits and location holes. The two shafts are on a ridge about 70 feet apart. The east shaft is completely caved but is estimated to have been about 30 feet deep. The west shaft is about 40 feet deep and has two drifts off the shaft on the vein. The east drift is 24 feet long and the west drift about 12 feet. The floor of the west drift is 25 feet from surface and the floor of the east drift is 32 feet from surface. A small stope has been cut in the back of the east drift next to the shaft.

The portal of the "Cross" tunnel is on the west slope of the ridge about 125 feet vertically below and 350 feet west of the west Peabody shaft. From the portal it runs S. 80° E. a distance of 50 feet where it splits into two headings both about 30 feet long.

4. Physical description - Continued

a. Continued

Present surface and underground workings at the Peabody Mine were made in the 1880's to explore for silver ore. Surface exploration was started in November 1953 by the A.E.C. to gather information about the extent of the uranium mineralization near the area of the Peabody shaft. Approximately 1.5 miles of access road was built to the property and exploration work was done on the west slope of the ridge along a zone of radio active float that is 350 feet long and 3-10 feet wide. A trench was bulldozed along the strike of the float zone and three trenches bulldozed across the float zone. Anomalous radio activity was found in the rubble throughout the cuts but no vein was exposed at that time. The work did lead to the conclusion that the uranium float had come from the Peabody vein. Nothing was found in the west shaft due to it being caved in and inaccessable at that time. The dump was very radioactive and good specimens of torbenite were found.

(See A.E.C. Report)

In the summer of 1954 the west shaft and drifts were cleared out and the vein checked and sampled. Three and one half miles of gravel road was blocked out with the help of the Clear Creek County Road Department and equipment. Due to snow and bad weather the work was stopped but a few more days work will finish a good mine road. Trenching through the dump west of the shaft uncovered the vein and the vein was trenched down the side of the ridge for about one hundred feet. Several places along this trench showed uranium minerals from the vein in place and it is considered likely that more trenching along the vein will result in enlarging the area of known uranium mineralization.

b. There is no current production and no known past production. It is impossible to estimate any ore reserves until more development work is done.

c. Geologic Features:

The Peabody group of claims is in an area of Silver Plume biotite granite, Idaho Springs quartz biotite schist and small pre-cambrian granite pegmatite dikes. In the area around the Peabody shaft the predominant rock formation is the Silver Plume granite with smaller formations of Idaho Springs schist cutting through it in a general northeast-southwest direction.

The Peabody vein appears to have formed along the contact or shear zone between these two formations with a strike of about north 70° east and dipping to the northwest. The vein is a quartz fissure or shear zone vein with an average width of about sixteen inches. Where the vein is exposed in the present workings it is highly leached and considerable faulting has taken place.

4. Physical description - Continued

c. Continued

Minerals found in the vein are the secondary uranium minerals torbonite, dumontite and kasolite with a little of what is thought to be the primary ore mineral pitchblende or sooty pitchblende. Assays show the presence of silver in the vein but the silver mineral has not been determined. A great many samples have been taken from the Peabody property with results ranging from .03% U3 O8 to 9% U3 O8. The highest assays have been from float samples and it is thought that these samples of float originated from the Peabody vein west of the shaft where the vein has not been uncovered yet. Samples taken from the vein in the shaft and the drifts of the west shaft workings show results up to 3.08% U3 O8. Considerable variation in assay results has been noted and may be due to the extreme leaching of the oxidized zone that the shaft is in. It has been noted that the higher assay results come from the least altered or leached areas of the vein. Copies of all the available assay reports that the company has (about forty) show an average uranium content of .88% U3 O8. These assays were taken by A.E.C. field man or other qualified mining engineers or geologists. These assay returns were from samples taken of the vein, country rock and float samples.

torbernite?

Other areas on the Peabody property show indications of uranium but little exploration work has been done. One granite outcrop shows readings up to twenty times background count on a scintillometer for a distance of around a thousand feet. A prospect pit about a thousand feet west of the Peabody shaft and along the general strike of the Peabody vein shows uranium mineralization and increased background count in the area.

At least two adjoining mining properties on the same ridge as the Peabody property but at a lower elevation have found high grade uranium ore on veins in the same vein system as the Peabody vein. The Bellevue Hudson Mine to the north of the Peabody property had a streak of uranium that assayed 28% U3 O8. No development work has been done there according to reports because of litigation. The Joe Reynolds Mine to the east of the Peabody shipped uranium ore(pitchblende)to France in 1919 that assayed 72% U3O8.

(See attached A.E.C. Report)

Our reasons for wishing to explore and develop the Peabody property are based on our geological study of the property, favorable consulting engineers and geological reports and good surface exposures of uranium mineralization.

(See attached reports)

4. Physical description - Continued

c. Continued

The area around the Peabody shaft shows a fairly large amount of Uranium mineralization considering the small amount of development work done, the extreme leaching and the broken up nature of the vein that close to the surface. Uncovering the vein for a distance 100 feet west of the shaft has enlarged the known area of uranium mineralization and continued work along the vein is expected to produce more favorable indications of uranium ore deposits. The A.E.C. field men have expressed their opinion that some of the higher grade float samples were different from samples taken around the present workings and that they may have come from some place on the Peabody vein not yet uncovered.

Since all the present samples have come from the surface or oxide zone it is expected that development work in the sulphide zone will lead to larger deposit of higher grade uranium ore. The high grade uranium ore found on the adjoining properties came from the sulphide zone and at a lower elevation in the vein system. One fairly well accepted theory on the deeper sulphide zone deposits of pitchblend is that they are hydrothermal in nature being deposited from hot aqueous solutions(or gasses) representing residium from crystallization of igneous rocks or magmas. From these basic deposits circulating ground water probably carried and deposited the secondary minerals in the oxide zone. On the basis of this theory and other geological information it is expected that development work in the sulphide zone will result in the finding of commercial bodies of uranium ore.

d. A gravel road from highway 6 & 40 west of Lawson, Colorado to the area of the Peabody shaft has been blocked out and with a few days additional work will make a good mine road suitable for taking equipment to the property and hauling ore from the mine. The road was blocked out with the help and equipment of the Clear Creek County Road Department who will finish the job in the spring at a very reasonable cost.

The nearest shipping points are Golden, Colorado, 39 miles and Denver, Colorado, 42½ miles.

e. Skilled mining labor is scarce in this area but we have contracted to do the proposed exploration work with one of the best mining contractors in that part of Colorado. He has a sufficient labor force and will assume the responsibility of keeping the necessary manpower.

2. The necessary mining materials, supplies and equipment are available in immediate area or within a distance of 40 miles(Denver)

3. Water and power are available in the immediate area.

5. The exploration project

a. The mineral we wish to explore for is uranium.

b. The proposed exploration work on the Peabody property is outlined as follows. (See Plats 2 & 3)

1. Complete or finish the present road to the property. (Estimated five days bulldozer work)

2. Finish tracing and testing the Peabody vein west of the shaft to the proposed portal site. (Estimated two days bulldozer work)

3. Level up proposed portal site for necessary buildings, etc. (Estimated one day bulldozer work)

4. Drive a standard 5' by 7' tunnel east on the Peabody vein a distance of 300 feet to cut the area of the Peabody shaft 150 feet below the surface and 110 feet below the bottom of the shaft.

5. Trace the Peabody vein east of the shaft and level an area suitable for a portal site. (Estimated three days bulldozer work)

6. Drive a standard 5' by 7' tunnel west on the Peabody vein a distance of 900 feet to cut the area of the Peabody shaft 300 feet below the surface and 260 feet below the bottom of the shaft.

In planning the proposed exploration work the possibility of sinking the present shaft was considered but decided against due to the high cost of shaft work and repairing the present shaft which is in very poor shape. It was felt that a better and more complete program of exploration could be carried out by tunnel methods. The proposed exploration work was planned with the assistance of Watrous and Anderson, Consulting Engineers and Geologists of Denver.

The tunnel on the 300 feet level was proposed to be driven from the east side of the ridge because of rocky surface features and the necessary high cost of road building to it. The present portal site is on or close to the road built last fall.

When the 300 feet of tunnel on the 150 feet level is completed a great deal more information about the Peabody vein should be available and may show the desirability of changing the overall developement plan. Personnel of the Champa Mining Company will cooperate closely with the officials of the D.M.E.A. in trying to plan the best and most economical method of exploration as the work progresses and more information is available.

c. The work will start within 30 days and be completed within eighteen months. Actual working time for the job is estimated at less than twelve months but allowance has been made for the high elevation and snow conditions.

5. The exploration project - Continued

d. 1. The supervisory work for Champa Mining Company will be in charge of Herbert T. Young, Mining Geologist, graduate of the University of Illinois, who has eight years mining experience operating and developing his own mines in Colorado.

2. The contractor for the tunnel work, Edwin R. Johnson of Lawson, Colorado has had better than twenty years mining experience in all types of mining. He is considered one of the best mining operators in Colorado.

Some of the places and companies that he has worked for are listed below:

Minnesota Mines, Inc.
Six years.
Drift and shaft contracting - Wages as shaft boss.

Lombard Mines, Inc.
One year.
Shaft boss.

Phelips Dodge Mining Company
One year.
Shaft work - Shaft boss.

W. L. W. Mining Company
Contracted 1200 feet of tunnel

Brooks Young Mining Company
Contracted 1000 feet of drift, tunnel, cross out and raises.

Ressurection Mining Company
Contracted drift stope and winze work.

Gold Creast Mine
Contracted 500 feet of cross cut

Atlantic Pacific Mine
Contracted 900 feet of drift and 300 feet of raises

McDowell Mining Company
Wages - Worked on 1400 feet of cross cut

Grand Lake (Big Thompson Project Water Tunnel)

Royal Arm Mine
Contracted 400 feet of tunnel)

Capital Price Mine
Mine Forman - Exploration work.

Lupton Mining Company
Wages

6. Estimate of Costs:

a. Independent Contracts

1. Bulldozer work contracted with Clear Creek County Road Department.

88 hours at $10.50 per hour — $ 924.00

2. Twelve hundred feet of 5' by 7' tunnel work contracted with Edwin R. Johnson of Lawson, Colorado. Contractor to supply everything necessary to complete the job and will retain title to everything used except the rail and pipe installed underground.

1200 feet at $34.00 per foot — 40,800.00

b. Labor, Supervision, Consultants

Champa Mining Company will supervise the overall exploration work through Herbert T. Young, Mining Geologist in charge of production for the company at the rate of $20.00 per day for time devoted exclusively and directly to the performance of the work.

Total amount allowed for this supervision not to exceed $400.00 per month. $400.00 per month for 18 months. — 7,200.00

c. Operating materials and supplies covered under 6-a[2] Independent contracts.

d. Operating equipment covered under 6-a(2) Independent contracts.

e. Rehabilitation and repairs - — None

f. New buildings, improvements, installations-

Covered under 6-a Independent contracts.

g. Miscellaneous — None

h. Contingencies — None

TOTAL ESTIMATE OF COSTS — $48,924.00

7. a. Yes

b. Money

The Champa Mining Company is financially able to pay their full share of the cost of the proposed exploration work and if the application is approved will meet the terms of any contract between them and the D.M.E.A.

Enclosures:

1. Plat #1
   Plat #2
   Plat #3

2. Copy of Atomic Energy Commission Report

3. Copies of legal documents showing control of the Peabody property not owned outright by Champa Mining Company.

Bureau of Land Management
RECEIVED
APR - 1 1955

MINING LEASE AND OPTION

THIS INDENTURE, Made this 17th day of October, A. D. 1953, between L. G. Robineau for his own account, and L. G. Robineau and Lucy Robineau acting for and on the behalf of Gordon MacGreggor Robineau, a minor, as parties of the first part, and Paul P. Robinson, of the second part, WITNESSETH, that the said parties of the first part, for and in consideration of the rents, covenants and agreements hereinafter expressed to be paid, kept and performed by the said party of the second part, have leased, let and demised, and by these presents do lease, let and demise unto the said party of the second part, the following described premises, situate, lying and being in the Montana Mining District in the County of Clear Creek and State of Colorado, to wit:

> George Peabody Lode Mining Claim U. S. Mineral Survey No. 1843; The Little Mac Lode Mining Claim and the MacGreggor Lode Mining Claim, both possessory claims.

An undivided one half interest in and to the above claims on behalf of Gordon MacGreggor Robineau, the minor, as devisee, under the terms of a certain will from Harry John Harris, now in the process of being probated, and the said one half interest as herein specified shall be subject to the completion of probate of said will.

TO HAVE AND TO HOLD THE SAME, for the purpose of mining, for the term of three years from the date hereof, unless sooner terminated under any of the provisions herein contained, with no power to assign this lease or any interest thereunder, or to sublet the whole or any part of said premises except upon the written consent of the parties of the first part.

And the said party of the second part, for and in consideration of the leasing of said premises, covenants and agrees with said parties of the first part to commence work on said premises within twenty days from date hereof, and thereafter to work same continuously, in a thorough and workmanlike manner, employing at least two men underground, and working at least forty shifts

each calendar month; work on roadways, approaches to mine and outside development by bulldozer, shall count in proportionate share to man shifts as per cost of bulldozer work.

IT IS FURTHER AGREED that in the event the weather conditions are such that it is impossible to get to the mine during any calendar month, these shifts shall be waived during that month.

Leasee agrees to keep the same securely timbered, drained and clear of loose rock and rubbish; to keep accurate accounts, and to render quarterly statements to the said parties of the first part, their agent or attorney, showing the amount and character of work done, and to pay to the said parties of the first part, their agent or attorney, as rental for said premises royalty upon all ore taken and sold therefrom as follows, to wit:

To pay said Lessor as royalty, twelve and one half per cent (12½%) of the net mill returns of all ores mined from said claims by Leasee of One Hundred Dollars ($100.00) or less in value, and Fifteen per cent (15%) on all ores over One Hundred Dollars ($100.00) in value, such payment to be made by delivery of such ore with all convenient speed in lots as mined to some mill or regular ore buyer and leaving with such mill or ore buyer the percentage of mill returns aforesaid for delivery to Lessor. For the purpose of this contract, "net mill returns" shall mean such sums as shall be paid for the values in the ore after deducting all charges for carriage in any form, assays and mill charges. Should the uranium oxide content of ore mined and the volume thereof be sufficient to qualify for a bonus from the government, Lessor shall be entitled to receive fifteen per cent (15%) as his share of such bonus. Development allowances and transportation allowances, as set forth by the government for the development and transportation of uranium, are to be retained by the Leasee as Leasee's sole property. When Leasee is awarded transportation allowances on uranium ore, as set forth by the government, such sums paid for the transportation of uranium ore by the government shall be deducted from the total carriage

charges to arrive at an adjusted carriage charge to be used in calculating the net mill returns of uranium ore.

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

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

the heirs, executors, administrators, successors and lawful assigns of the respective parties hereto.

IT IS FURTHER UNDERSTOOD AND AGREED the said party of the second part shall have an option to purchase said premises during the life of this agreement for the sum of Ten Thousand Dollars ($10,000.00). And it is further agreed that upon exercising of this option by the party of the second part and upon payment by the party of the second part to the parties of the first part of the sum of Ten Thousand Dollars ($10,000.00), the said second party shall be entitled to a satisfactory Mining Deed to the premises above described, At the time of the exercising of said option, it is further agreed that the said party of the second part may deduct from the Ten Thousand Dollar ($10,000.00) purchase price herein, the amount of royalties heretofore paid.

In the event of the failure of the party of the second part to exercise this option, or cancellation or surrender of this agreement, then royalties paid shall be treated and considered as a rental.

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

Gordon MacGreggor Robineau

By _____
L. G. Robineau

and _____
Lucy Robineau
Parents and Natural Guardians of
Gordon MacGreggor Robineau,
a minor

_____
L. G. Robineau for his own
account

FIRST PARTIES

_____
Paul P. Robinson

SECOND PARTY

APR - 1 1955

AGREEMENT OF OPTION

In consideration of the payment of Two Thousand Five Hundred Dollars ($2,500.00) to Paul P. Robinson, hereinafter referred to as optionor, by one Russell P. Johnson, hereinafter referred to as optionee, to be handled in compliance with the provisions later set out herein, the said Paul P. Robinson hereby grants to Russell P. Johnson an option for a period of Thirty (30) days, ending September 2, 1954, for the purchase of that certain lease and option executed the seventeenth(17) day of October, 1953, by L. G. Robineau for his own account and L. G. Robineau and Lucy Robineau, acting for and on behalf of Gordon Robineau, a minor, for the purchase price subject to the terms and conditions hereafter set forth; a copy of said lease is attached hereto and by reference made a part hereof.

1. The option payment of Two Thousand Five Hundred Dollars ($2,500.00) to be escrowed for a period ending ten (10) days after September 2, 1954, in which time the said optionee herein will clean out, or cause to be cleaned out, what is known as the Peabody Shaft on said property, subject however to the provisions contained in paragraph 7 hereof.

2. That the said optionee shall, after completing the cleaning out of said shaft, have a ten (10) day period of time, in other words, until September 13, 1954, in which to elect as to whether he shall proceed under the terms of the option for the purchase of the lease and property.

3. Should the optionee herein elect to purchase said property and lease under the terms hereof, then he shall, within ninety(90) days from September 13, 1954, pay to the said Paul P. Robinson the sum of Twwnty Thousand Dollars ($20,000.00) in cash, as a payment on said propertyy. That on or before June 30, 1955, he shall make to the said Paul P. Robinson a further and final payment of Twenty-two Thousand Five Hundred Dollars ($22,500.00) in stock in a corporation that will be organized to operate said property, or pay to the said Paul P. Robinson on or before June 30, 1955, the sum of Fifteen Thousand Dollars ($15,000.00) in cash.

4. The said optionor, Paul P. Robinson, shall have the election

as to whether he takes cash or stock for said final payment. It is to be further understood that in the event Paul P. Robinson elects to take stock, it shall be issued to him promptly upon the organization of the corporation or any time after the ninety (90) days period above provided for.

5. It is further to be understood that in the event the optionee herein elects on or before September 13, 1954, not to comply with the terms of this option, and drop his rights hereunder, that the sum of two Thousand Five Hundred Dollars ($2,500.00), now escrowed shall be immediately turned over to Paul P. Robinson as his sole property.

6. It is further understood that any claims that the optionee hereto shall have against the property shall be released to Paul P. Robinson and that all bills for cleaning out of said shaft will be promptly paid by the optionee herein.

7. It is to be further understood that in the event of unavoidable accidents or a disaster beyond the control of said optionee, and it shall take a period of more than thirty (30) days to open said shaft that only additional time necessary to complete the cleaning out of the shaft will be granted and not to exceed an additional thirty (30) days; and a like period of thirty (30) days shall be granted and/or extended optionee for performance under all provisions of this contract where a time for performance is set forth.

8. It is to be further understood that in the event the said optionee hereunder elects to proceed under the terms of the option and pay for the said lease and property that the optionor herein shall be allowed the period of ninety (90) days in which to clear away certain estate matters and other title matters that may be found necessary, and in the event additional time is required for this purpose, the time of payments shall be extended to that date.

9. It is further understood that in all operations conducted hereunder by the optionee, he shall comply with the terms of that certain lease from L. G. Robineau hereinbefore referred to.

10. That in the event the optionee here elects to proceed under the terms of said option to purchase said lease and property, and the title to said property is found to be satisfactory, then the Two Thousand Five Hundred Dollars ($2,500.00) escrowed herein shall be released to the said Paul P. Robinson.

11. Any production of ore, either in the process of cleaning out the shaft or during the time required in the process of clearing the title, or keeping the lease in effect, shall remain as the property of Paul P. Robinson until the payment of Twenty Thousand Dollars ($20,000.00) in cash herein called for, has been made, and the proceeds of all such ore or production shall be kept in a separate fund in a bank, or by some escrow agent agreeable to both optionor and optionee, and shall be credited upon the purchase price upon exercise of the option

12. It is further understood and agreed that time is the essence hereof, and that this agreement shall be binding upon the heirs, executors, administrators and assigns of the parties hereto.

Executed at Idaho Springs, Colorado this 11thday of August, 1954.

S/ Paul P. Robinson
Paul P. Robinson

Approved as to terms and accepted:

S/ Russell P. Johnson
Russell P. Johnson

EXTENSION AGREEMENT

THIS MEMORANDUM OF AGREEMENT, Made this day between Paul P. Robinson, optionor in a certain contract between himself and Russell P. Johnson, dated August 11, 1954, with reference to the George Peabody Mining Claim, in Clear Creek County, Colorado, party of the first part, and Russell P. Johnson, optionee in said contract, party of the second part, WITNESSETH:

WHEREAS, delays in the exercise of the option granted to the second party by said contract have occurred by mutual agreement, and second party is to be not in default in the exercise of his option as of this date.

NOW, THEREFORE, IT IS AGREED: That the optionee, Russell P. Johnson, may have to and until the 1st day of April, 1955, in which to exercise the option granted to him to purchase the lease and option held by said Paul P. Robinson on the above mentioned mining claim, and all payments under said option contract are hereby extended accordingly. The escrow holder shall continue to hold the check for $2500.00, mentioned in said option contract, until said date. Said option contract shall remain in full force and effect inall other respects.

Executed in duplicate this 12 day of January, 1955.

S/ Paul P. Robinson
Paul P. Robinson

Russell P. Johnson

EXTENSION AGREEMENT

THIS AGREEMENT, Made this day between PAUL P. ROBINSON, Optionor in a certain contract between himself and Russell P. Johnson, dated August 11, 1954, with reference to the George Peabody mining claim in Clear Creek County, Colorado, and RUSSELL P. JOHNSON, Optionee in said contract;

WHEREAS, Delays in the exercise of the option granted to Russell P. Johnson in the above mentioned contract have occurred, which delays were unavoidable and,

WHEREAS, The parties hereto by an Extension Agreement dated January 12, 1955, agreed that optionee was not in default in the exercise of his option as of that date and,

WHEREAS, Under said Extension Agreement of January 12, 1955, the parties hereto agreed that the time for exercise of said option should be extended to April 1, 1955 and,

WHEREAS, It is the desire of the parties to clarify and make certain the times within which payments are to be made by optionee as extended in said Extension Agreement of January 12, 1955.

IT IS, THEREFORE, AGREED: That the optionee, Russell P. Johnson, may have to and until the first day of April, 1955, in which to exercise the option granted to him to purchase the lease and option held by said Paul P. Robinson on the above mentioned mining claim, and the escrow holder shall continue to hold the check for $2,500.00 mentioned in said option contract until said date. In the event that said option is exercised, Russell P. Johnson shall pay to the said Paul P. Robinson the sum of $20,000.00 on or before June 29, 1955, and a further final payment of $22,500.00 par value in stock in a corporation organized to operate

said property, or, at the election of the said Paul P. Robinson, to pay to the said Paul P. Robinson on or before January 15, 1956, the sum of $15,000.00 in cash.

Except as herein modified, said option agreement of August 11, 1954, shall remain in full force and effect.

Executed in duplicate this 24th day of March, 1955.

S/ Paul P. Robinson

PAUL P. ROBINSON

RUSSELL P. JOHNSON

OPTION ASSIGNMENT

WHEREAS on October 17, 1953, L. G. ROBINEAU, as an individual, and L. G. ROBINEAU and LUCY ROBINEAU, acting for and in behalf of GORDON MacGREGGOR ROBINEAU, a minor, entered into a "MINING LEASE AND OPTION AGREEMENT" granting unto PAUL P. ROBINSON, for a term of three (3) years, a leasehold estate in and to the following described premises located in the Montana Mining District, Clear Creek County, Colorado; to wit:

George Peabody Lode Mining Claim,
United States Minerals Survey Number 1843;
Little Mac Mining Claims,
MacGreggor Lode Mining Claims, Possessory claims;

subject to a reserved royalty of twelve and one-half per cent (12½%) of the net mill returns of all ores mined from said claims in value of $100.00 or less and fifteen per cent (15%) on all ores in value of more than $100.00, including bonuses paid by agents of the United States government but excluding development and haulage allowances; and,

WHEREAS said PAUL P. ROBINSON also was granted by said above mentioned insturment an option to purchase the above mentioned properties during the term of said lease for the sum of $10,000.00; and,

WHEREAS said PAUL P. ROBINSON by an "AGREEMENT OF OPTION" dated August 11, 1954, and by "EXTENSION AGREEMENT" dated January 12, 1955, did grant unto RUSSELL P. JOHNSON an option for a period of time to and until April 1, 1955, to purchase all of his right, title and interest in and to the above mentioned properties which exists by virtue of the above mentioned "LEASE AND OPTION AGREEMENT" and assignments thereof as above set forth; and,

WHEREAS it is the desire of RUSSELL P. JOHNSON to assign all of his right, title and interest in said properties as above mentioned unto CHAMPA MINING COMPANY, a Delaware corporation; and,

WHEREAS said CHAMPA MINING COMPANY desires to acquire said interest;

NOW, THEREFORE, for and in consideration of the sum of Ten

Dollars ($10.00) and other good and valuable considerations and the mutual covenants herein below contained, RUSSELL P. JOHNSON, hereinafter referred to as party of the first part, does hereby assign, bargain, sell, transfer and convey unto CHAMPA MINING COMPANY, a Delaware corporation, hereinafter referred to as party of the second part, all of his right, title and interest in and to the above described properties; and does hereby assign, sell and set over unto said party of the second part all of his right, title and interest in that certain "AGREEMENT OF OPTION" and "EXTENSION AGREEMENT" as above mentioned;

TO HAVE AND TO HOLD the same for the term of said "AGREEMENT OF OPTION" and "EXTENSION AGREEMENT" above mentioned subject to the following covenants and conditions:

In the event that party of the second part elects to exercise the option herein assigned, said party of the second part hereby expressly assumes the payment to PAUL P. ROBINSON of the sum of $20,000.00 in cash, as expressed in Paragraph 3 of the above mentioned "AGREEMENT OF OPTION", and further agrees to perform the other covenants contained in said "AGREEMENT OF OPTION", provided, however, that said party of the first part hereby agrees to pay to PAUL P. ROBINSON the said "final payment" expressed in Paragraph 3 of said "AGREEMENT OF OPTION" of $22,500.00 in stock of the corporation organized to operate said properties, or the sum of $15,000.00 in cash.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and affixed their seals this first day of February, 1955.

S/ Russell P. Johnson
Russell P. Johnson
Party of the first part

CHAMPA MINING COMPANY,
Party of the second part

By S/ Russell P. Johnson
President

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

Subscribed and sworn to before me this first day of February, 1955, by RUSSELL P. JOHNSON.

S/ Dolores Parmeley
Notary Public

My commission expires November 12, 1958

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

On this first day of February, 1955, personally appeared before me Russell P. Johnson who, being duly sworn, did state that he is the President of CHAMPA MINING COMPANY, a Delaware corporation, and that the above instrument was signed in behalf of said corporation, and that said corporation executed the same.

S/ Dolores Parmeley
Notary Public

My commission expires November 12, 1958

6/10/5-5 gla

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

RECEIVED JUN 10 1955

224 New Customhouse
Denver 2, Colorado

June 3, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA-3747 (Uranium), Champa Mining Company, (Peabody mine), Clear Creek County, Colorado

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

We concur in the recommendation of the field examiners that the application be denied.

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

DMEA
Date Rec.

MAY 27 1955

TRANSMITTED

JUN -3 1955

BUREAU OF MINES
Denver, Colorado

Region III

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado

May 27, 1955

RECEIVED
JUN 10 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw, Supervising Mining Engineer

Subject: Engineering and Geologic Report, Docket No. DMEA 3747, Peabody Mine, Champa Mining Company (Uranium), Clear Creek County, Colorado

Enclosed are the original and 11 copies of a joint geologic and engineering report prepared by E. N. Harshman, geologist, U. S. Geological Survey, and M. H. Salsbury, mining engineer, U. S. Bureau of Mines, covering Docket No. DMEA 3747.

The Champa Mining Company applied for exploration assistance to explore the Peabody group of claims. The application consisted of bulldozing for an access road and portal sites and 1200 feet of underground drifting at an estimated cost of $48,924.00.

A field examination was made on May 13, 1955, by E. N. Harshman, geologist, and M. H. Salsbury, mining engineer. The examining team concluded that there was little possibility of finding a significant amount of uranium ore as a result of the proposed exploration. It is recommended that the application be denied.

John F. Shaw

John F. Shaw

Enclosures

cc: 11 w/orig
DMEA 3747
Chron

JFS/mh

RECEIVED
JUN 10 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3747

Peabody Mine

Champa Mining Company

Clear Creek County, Colorado

Uranium

M. H. Salsbury, Mining Engineer
Bureau of Mines

E. N. Harshman, Geologist
Geological Survey

May 24, 1955

CHAMPA MINING COMPANY

FRANCEY MINE

CLEAR CREEK COUNTY, COLORADO

BMRA Docket 3747

E. H. Harshman
U. S. Geological Survey

M. K. Salsbury
U. S. Bureau of Mines

Geologic and Engineering Report

DMEA 3747
CHAMPA MINING COMPANY
PEABODY MINE
CLEAR CREEK COUNTY, COLORADO

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JUN - 3 1955

DMEA 3747
CHAMPA MINING COMPANY
PEABODY MINE
CLEAR CREEK COUNTY, COLORADO

RECEIVED
JUN 3 1955

SUMMARY AND CONCLUSIONS

At the Peabody mine a weak shear zone in Precambrian Silver Plume granite has been exposed in a 41-foot deep shaft and two short levels from that shaft. Torbernite, dumontite, and sooty pitchblende, in very minor amounts, have been identified in silicified wall rock and along fractures in the shear zone. Although rather high grade pieces of float were found in the area, vein material in place has been narrow and low grade. It is concluded that exploration along the one known shear zone will not lead to the discovery of significant amounts of uranium ore, and it is recommended that the application for exploration assistance, DMEA Docket 3747, be denied.

INTRODUCTION

The Champa Mining Company, 814-816 First National Bank Bldg., Denver, Colorado, has made application for Government assistance under the Defense Minerals Exploration Administration to explore for uranium the Peabody group of claims. A program consisting of bulldozing for an access road and portal sites, and 1,800 feet of underground exploration by drifting, to be done in two stages, has been proposed at an estimated cost of $48,924.00, in which Government participation at 75 percent would be $36,693.00.

A field examination was made on May 13, 1955, by E. N. Harshman of the Geological Survey, and M. K. Salsbury of the Bureau of Mines. Herbert T. Young, Vice-president and engineer for the applicant company, accompanied the examining team.

ACKNOWLEDGEMENTS

Raymond Berney and Frank Kuchnal of the Atomic Energy Commission, which has carried on surface exploration on the property, were consulted. Two reports by the A.E.C., one of them furnished by the applicant, and a later report in the A.E.C. files, were available. Reports made in conjunction with DMEA applications on nearby properties, the Jo Reynolds, DMEA 1466X, and the Sullivan-Hudson, DMEA 3197, were also available. The general area is described in Professional Paper 94, of the Geological Survey, but there is no specific mention of the Peabody or Robinson Mine.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Peabody Lode Claim and adjoining located claims are in sec. 35, T. 3S S., R. 74 W., Montana Mining District, Clear Creek County, Colorado (fig. 1). They are on a ridge at an elevation of about 10,500 feet overlooking the valley of Clear Creek to the west. The nearest town is Lawson, Colorado, 49 miles from Denver, Colorado, which is the nearest distribution center. The mine is reached from Lawson by traveling 4.1 miles over an access road, the last 2.8 miles of which is a trail barely passable by jeep.

The region is one of cool summers and moderate winters. Average precipitation is low, but there may be severe storms of short duration in any season. The altitude of the mine would make it difficult of access in a severe winter, and extensive preparations would have to be made for year-around operation.

Transportation in the area is by truck and bus lines connecting to Denver. Uranium ores produced in the region have been shipped by rail from Golden, Colorado, 35 miles from the mine, to the Vitro

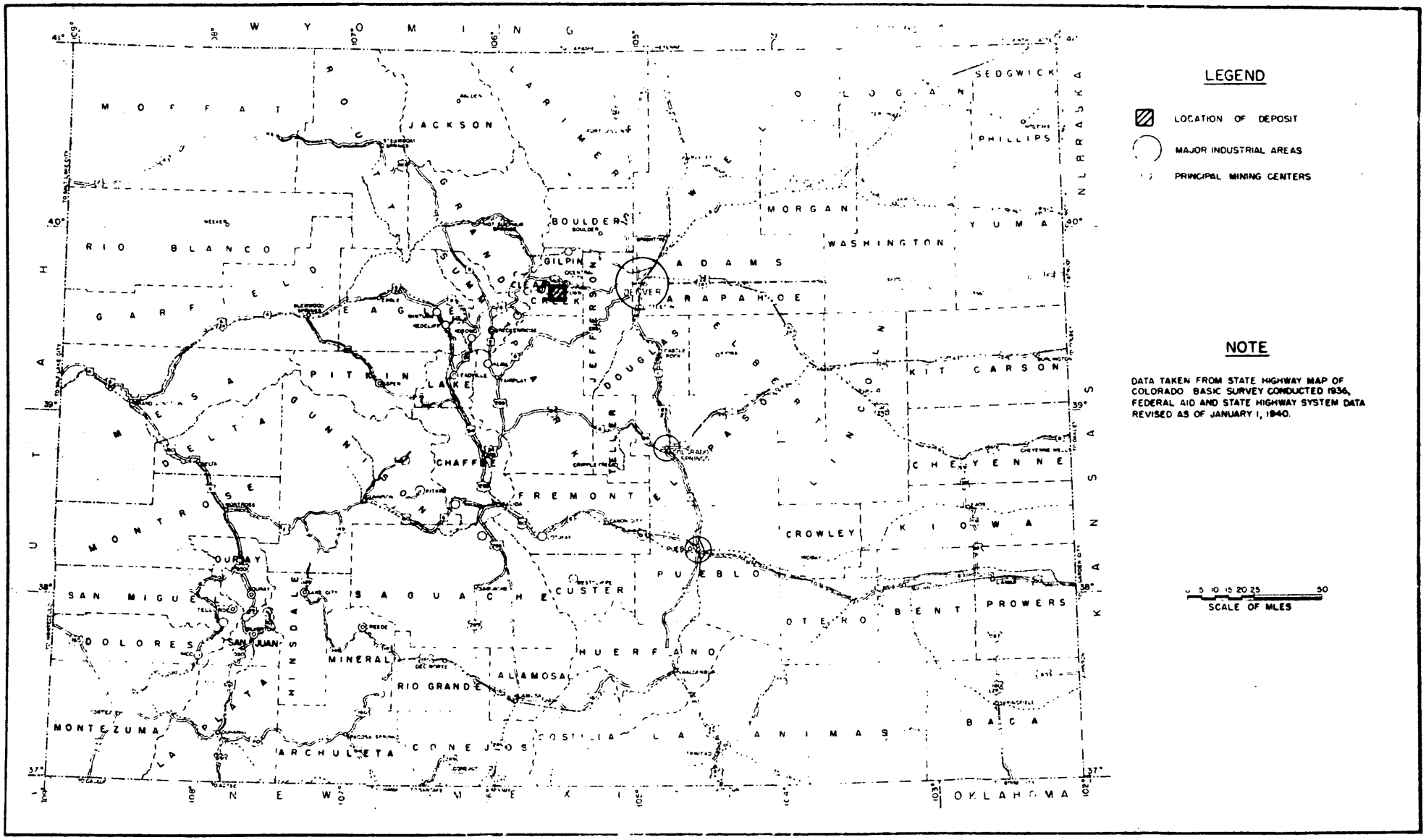


FIGURE 1 - LOCATION MAP, PEABODY GROUP OF CLAIMS, CHAMPA MINING COMPANY, CLEAR CREEK COUNTY, COLO. DMEA 3747

Chemical Co. at Salt Lake City, Utah. A haulage allowance to the railhead and the rail freight are allowed by the Atomic Energy Commission on shipments which meet specifications.

Power is available at the Jo Reynolds mine from the lines of the Public Service Company of Colorado. Power needs for the proposed work would undoubtedly be met by gasoline or diesel powered equipment. Timber and water are available on the property. Water might have to be hauled from Silver Creek at certain seasons.

There is a limited supply of mine labor in the area. The applicant has in its employ a small crew which would be transferred to the project when necessary.

HISTORY, PRODUCTION AND OWNERSHIP

The history of the area dates from 1865 with discovery of lead-silver ore at the Jo Reynolds mine to the northeast. Not much work was done until the '70's, but operations at the Jo Reynolds, American Sisters, Bellevue-Hanson and other mines have been carried on intermittently since that time. The Peabody mine, sometimes called the Robinson mine, dates from the 1880's, when shallow exploration by shafts was accomplished. No worthwhile ore was found, and little more was done prior to a surface project undertaken by the Atomic Energy Commission in November, 1953, on an anomaly discovered during reconnaissance of the area.

There has been moderate production of lead and silver from mines in the area, but early records are not complete. The production of the Jo Reynolds mine is estimated at about $1,500,000. The recorded production from 1908 to 1950 is 50,000 tons of ore with a recovered

metal content of 0.02 ounces gold and 7.0 ounces silver per ton, 1.4 percent lead and 1.0 percent zinc. Production from other mines nearby has been less significant.

Pitchblende was identified at the Jo Reynolds mine as early as 1896. It was later discovered in the Ballvue-Hudson vein. Shipment of a few tons of high grade pitchblende is reported in 1919.

There has been no recorded production from the Peabody mine. A small shipment of sacked high-grade silver ore is reported to have been made in the early days.

The George Peabody Lode claim, survey No. 1843, a patented claim, and the Little Mac and MacGregger Lodes, locations, are owned by L. G. Robinson and Gordon MacGregger Robinson, a minor. Six other adjoining claims have been located by or for the applicants. The recording data on located claims are listed in the application as follows:

Claim	Recorded in Clear Creek County Courthouse, Georgetown, Colo.	
	Book	Page
West Wind	245	515
West Wind Extension	245	129
South Wind	245	130
Russell	245	130
Johnson	245	515
Little Mac	205	344
MacGregger	205	345

A check of the courthouse records was not made.

The claims owned by the Robinsons were leased to Paul F. Robinson of Idaho Springs, Colorado, with an option to purchase, and Robinson has assigned this bond and lease, with the permission of the owners, to Russell F. Johnson, acting for the Champa Mining Company, to which corporation it has been finally assigned. The original lease and bond

to Robinson calls for a purchase price of $10,000.00 to be made before the expiration date, three years from October 17, 1953. Robinson's agreement with Johnson calls for assignment of the lease and option for $22,500.00 in cash, on which an escrow payment of $2,500.00 has been made, plus $22,500.00 in stock, or an additional $15,000.00 cash in lieu of stock, at Robinson's election. It appears that Johnson and the Champa Mining Company are obligated to make the payment of $10,000.00 to the original owner as well in order to acquire title. The time for exercise of Johnson's option from Robinson has been extended to June 29, 1955, when presumably a cash payment must be made. The final stock or cash payment is due January 15, 1956.

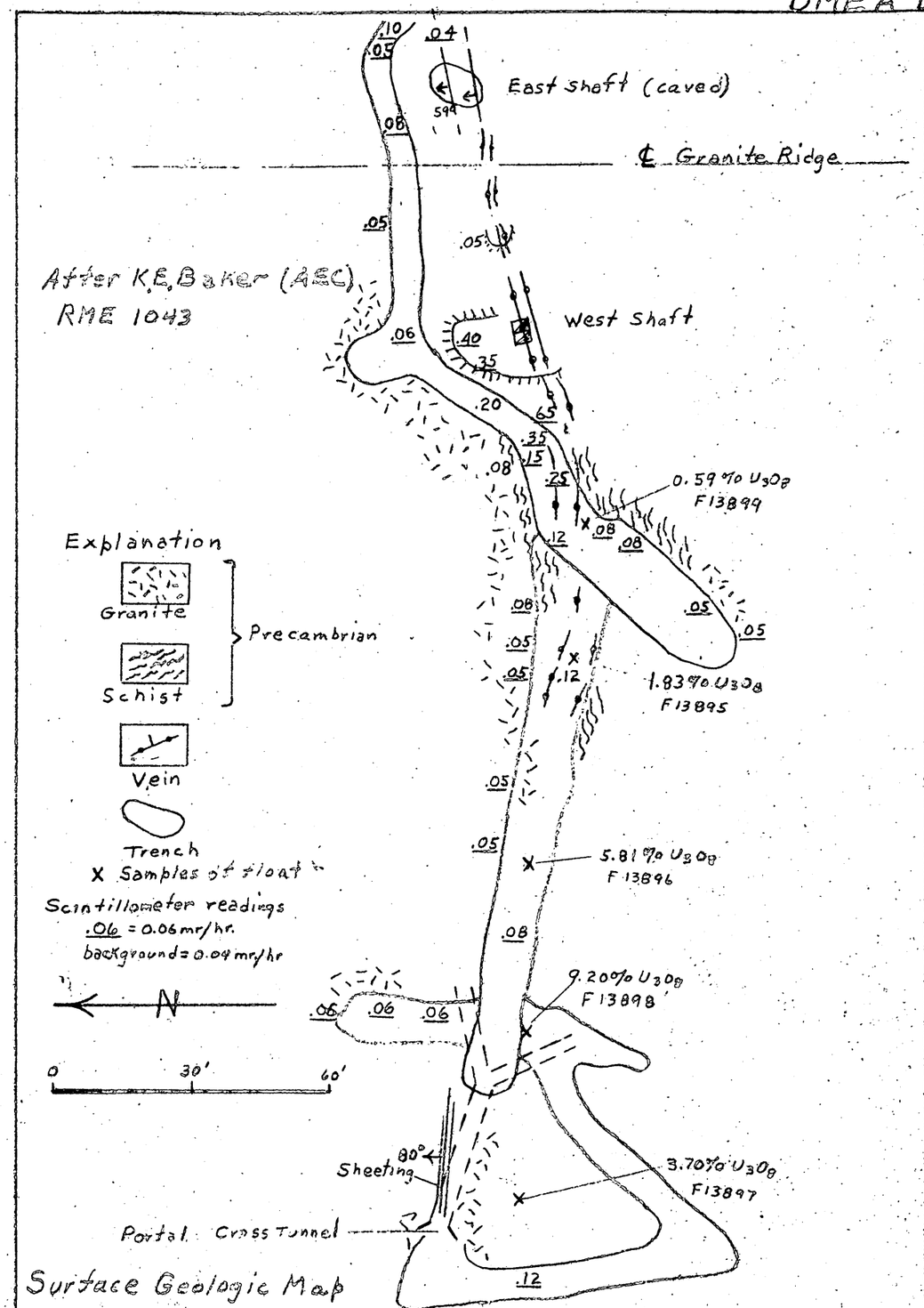
The owners of the property have executed a consent to lien dated March 22, 1955, but Robinson has not done so.

GEOLOGY

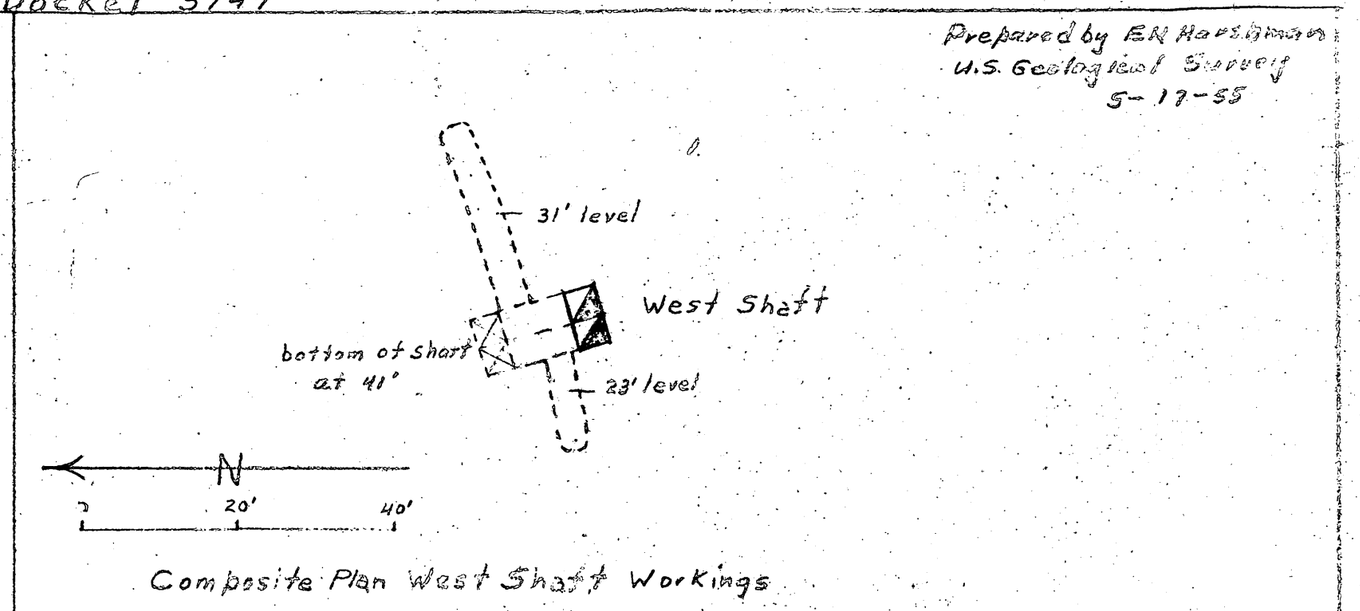
The property is underlain by Silver Plume biotite granite and quartz-biotite schist of the Idaho Springs formation. Both rocks are Precambrian in age and are cut by narrow pegmatite dikes. In the vicinity of the mine workings small roof pendants of schist are present in the granite.

The workings from the west shaft (fig. 2) are in a coarse-grained biotite granite or granite porphyry with a few small inclusions of biotite schist. One narrow pegmatite dike is exposed in the short 23-foot level from the west shaft.

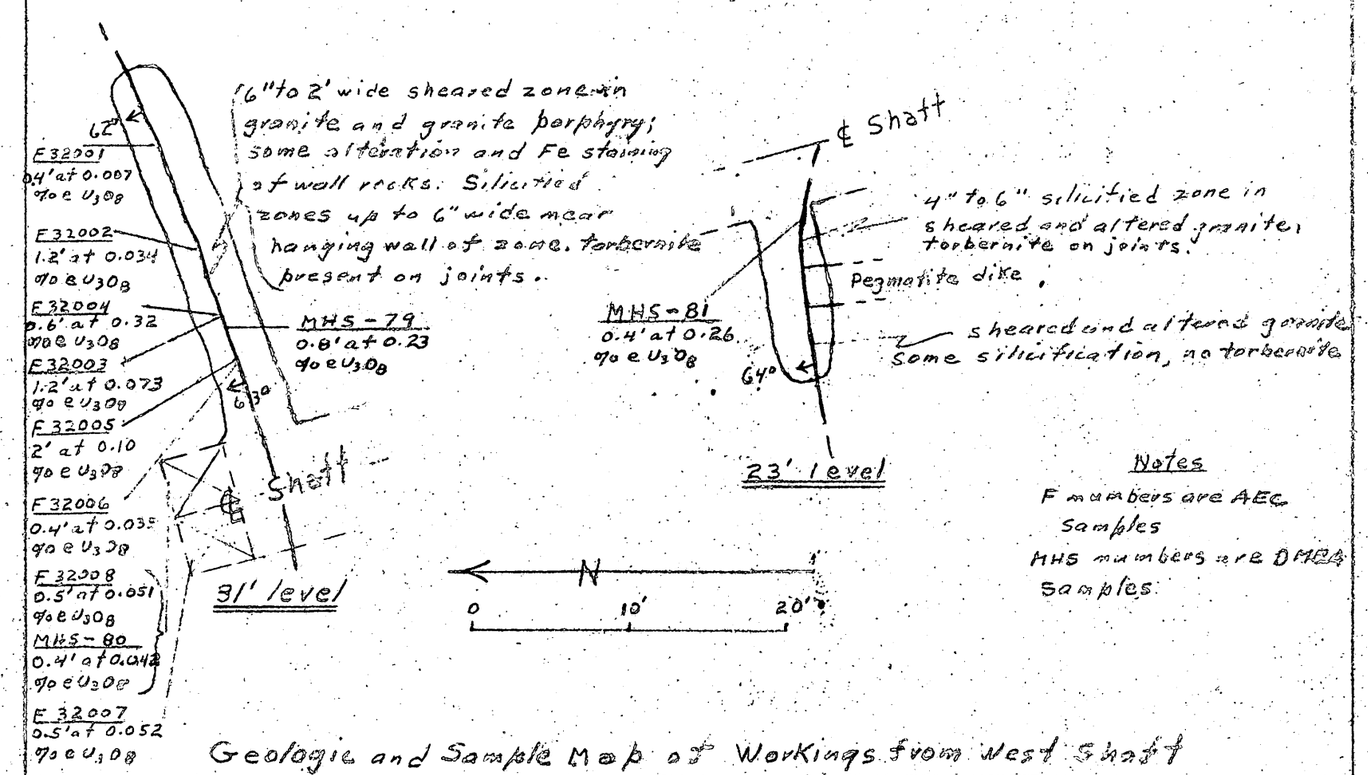
Torbernite, dumontite, and sooty pitchblende have been identified from a poorly defined shear zone exposed in the underground workings from the west shaft. Silver is present in an unknown form; pyrite and galena may have been present along the Peabody "vein" before oxidization.



Surface Geologic Map



Composite Plan West Shaft Workings



Geologic and Sample Map of Workings from West Shaft

Fig. 2 Surface and Underground Geologic Maps - Peabody Mine, Clear Creek County, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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MF-203
(Revised July 1, 1954)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of COLORADO, County of Clear Creek, described as follows:1/

George Peabody Lode Mining Claim U. S. Mineral Survey No. 1043
Little Mac Lode Mining Claim, as recorded in book 205 Page 344
MacGregor Lode Mining Claim, as recorded in book 205 Page 345
both possessory claims.

which is the subject of a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ The Ohanga Mining Company, a Delaware Corporation, with operating offices at 1st National Bank Building, Denver, Colorado

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

(OVER)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions None

Dated this 22nd day of March, 1955.

The Estate of Gordon MacGregor Robineau, a minor [Seal]

By S/ Frank L. Jones [Seal]
Guardian

Dated - 3/19/55 .... S/ L. G. Robineau [Seal]
L. G. Robineau

The Peabody "vein", or more properly shear zone, ranges from 2 inches to 2 feet in width and is a somewhat indefinite structure with many small splits branching into the foot and hanging walls. It strikes about N. 75° E. and dips 60° to 65° north. Some gouge and breccia are present along the zone and gray quartz has been introduced, particularly along the hanging wall of the structure. The quartz and associated uranium minerals were apparently deposited in lenticular masses up to 15 feet long and 10 inches wide. Subsequent oxidation, leaching, and redeposition has dispersed minor amounts of secondary uranium minerals along joints and fractures in the shear zone.

Moderate hydrothermal alteration of the wall rocks was noted throughout the underground workings, and supergene alteration has occurred to a depth of at least 41 feet below the surface, the lowest mine workings.

DESCRIPTION OF THE DEPOSITS

The significant ore deposits in this region are in well defined fissure veins in silicified shear zones occupying faults in the pre-Cambrian complex of the Idaho Springs formation. Such veins are found in the Jo Reynolds, Bellevue-Hudson, and other mines, and contain pyrite, quartz, galena, sphalerite and a minor amount of pitchblende in a gangue of altered and silicified wall rock. Descriptions of various exposures in the Bellevue Rochester tunnel are found on pages 6 and 7 of A.E.C. Report RMO-640.

The exposure in the accessible underground workings of the Peabody mine bears little resemblance to these veins. The mineralization occurs in an 18-inch shear zone which parallels the general strike of the veins of the area, but the vein, if it can be called that, is narrow and

poorly defined with a maximum width of about 12 inches, decreasing to a seam in the faces of two short drifts. No visible lead or zinc minerals or pyrite were found in the highly oxidized vein matter. Presumably they would be found at depth. Samples showing a high silver content have been obtained from the workings. The A.E.C. reports the presence of the uranium minerals torberite and kasolite, and one specimen of sooty pitchblende, enclosed by kasolite, in float found on the hillside west of the Cabin shaft before the trenching was done. The examining team saw only small scattered torberite crystals underground, and did not find any uranium minerals in the surface cuts.

SAMPLES AND ORE RESERVES

On figure 2 are plotted all described samples taken by the A.E.C. and the DMRM examining team. With the exception of five samples of float found on the surface west of the Cabin shaft and taken before trench excavation by the A.E.C., all samples are relatively low grade and without exception represent uranium-bearing material less than a foot wide. Work by the A.E.C. has shown a very close check between equivalent uranium and chemical uranium assays. Therefore, many of the A.E.C. samples and all of the DMRM samples were assayed only for equivalent uranium. None of the material represented by the cut samples is considered to be ore, and no ore reserves can be calculated.

Following are descriptions of samples taken by the examining team:

Sample No.	Width Cut feet	Location	Description	eU_3O_8 percent
[illegible]-79	0.9	31-foot level	Cut across vein in bottom 7 feet E. of shaft. Count of 1.0 MR/hr.	0.23
[illegible]-80	0.4	sump	Cut across vein in bottom at 41 feet below shaft collar. Count of 1.6 MR/hr.	0.042
[illegible]-81	0.4	23-foot level	Cut across vein in back at W. edge of shaft. Count of 1.0 - 1.2 MR/hr. Few torbernite crystals visible	0.25

Background count is generally high, both in the surface and underground workings. The count noted in the open cut could not be localized at any particular point. Underground, background was 0.25 to 0.30 MR/hr. Radon gas in the workings may account for some of it.

The applicant has submitted a list of samples taken at various times. A few show a uranium content as high as 3.0 percent, with 67 ounces silver per ton, but only general locations and no sample widths are specified. The high grade samples were probably selected specimens in very narrow widths, as they do not check the samples taken underground by the DMA team and the A.E.C.

PRESENT STATUS

Exploration and Development

The property has been developed by two shafts, one reported to be 100 feet deep but inaccessible, and the Cabin (or West) shaft, 41 feet deep with two short levels, which has been cleaned out and was accessible (figure 2).

The surface project of the A.E.C. is a bulldozer trench running westerly from the crest of the ridge near the shaft 250 feet down the hill, with several lateral cuts along its length (figure 2). The Bedrock surface was not reached except at one point 25 feet west of the shaft where Young sank a shallow pit below the bottom of the trench and located a silicified shear zone in place which gives a slightly increased count. It appears to line up with the vein in the shaft and indicates that the vein outcrop to the west is probably south of the A.E.C. trench.

The Cross tunnel, 350 feet down the hill west of the Cabin shaft, was driven in sheared altered granite. No evidence of uranium mineralization could be found in this tunnel which is now partly caved.

The 100-foot East shaft is now caved, but the presence of a north-dipping shear zone, probably the Peabody "vein", was noted at the collar. No abnormal radioactivity was noted in the immediate vicinity of this shaft.

Mining and Milling and Other Facilities

There are no usable buildings or equipment on the property. The applicant has underground mining equipment which is now in use at a lead-zinc property nearby, which it is planned to move to the Peabody mine.

PROJECT PROPOSALS WITH COSTS

The applicant proposes the following exploration:

Bulldozing 88 hours to complete road and for portal sites at $10.50 per hour	$924.00
1,200 feet of 5-foot by 7-foot drift in two adit tunnels an estimated 300 and 900 feet long at 110 feet and 260 feet, respectively, below the bottom of the Cabin shaft, 1,200 feet at $34.00 per foot	40,800.00

Supervision and technical services 18 months at $400.00 per month	$7,200.00
Total estimated cost	$48,924.00
Government participation at 75 percent	$36,693.00

The cost figures presented are reasonable, although the 18 months estimated for completion would mean an average monthly advance of only 50 feet.

A DMEA project is not being recommended either on the applicant's proposal or a modification of it. If exploration were justified, the proposal to drive tunnels on the vein has doubtful merit, because locating a tunnel portal site on the outcrop of such a weak structure would be difficult without tracing it all the way from the shaft. There are probably other structures in the immediate area which resemble the Peabody shear zone and could easily be mistaken for it.

The better plan would probably be to work through the Cabin shaft.

PROPOSED FINANCING

The applicant states that they are financially able to furnish their share of the cost of the proposed project.

CONCLUSIONS

The Peabody shear zone is a weak structure along which minor amounts of uranium minerals, probably pitchblende, together with pyrite now altered to iron oxide, and galena now removed by supergene alteration were deposited in short, lenticular, silicified zones in fractured and brecciated granite. The possibility of finding significant amounts of uranium ore, either in the oxidized zone or in the zone of primary sulfides, appears remote.

In the original A.E.C. report by Marvin C. Chase, RME-1043, made before the Cabin shaft workings were accessible, recommended rehabilitation and a small amount of sinking and drifting.

A brief undated supplemental report in the files of the Denver Exploration Branch, written after the workings in the Cabin shaft were made accessible, reaches substantially the same conclusions as outlined in this DMEA report.

RECOMMENDATIONS

Denial of the application for exploration assistance, DMEA 3747, is recommended.

/mh

STATE OF COLORADO)
) ss.
County of Clear Creek)

In The County Court

IN THE MATTER OF THE ESTATE OF)
GORDON MacGREGGOR ROBINEAU)
Also known as)
MACK ROBINEAU)
Minor)

Civil Action No. 4876

ORDER

This matter coming on to be heard upon the petition of Frank L. Jones for consent of this court for an order authorizing him to execute owner's consent to lien, for a D. M. E. A. loan upon the property of the minor's estate in connection with the lease, heretofore approved, to Paul P. Robinson and assigned to the Champa Mining Company.

The court having heard the evidence and being familiar with the circumstances believes that said consent should be granted.

IT IS THEREFORE ORDERED, ADJUDGED, AND DECREED, by the court that Frank L. Jones, as guardian of the estate of Gordon MacGreggor Robineau, be and is hereby authorized to execute owner's consent to lien in favor of the United States government under a D. M. E. A. loan in connection with the operation of the property known as the

George Peabody Lode Mining Claim U. S. Mineral Survey No. 1843

Little Mac Lode Mining Claim, as recorded in book 205 Page 344

MacGreggor Lode Mining Claim, as recorded in book 205 page 345

both possessory claims.

Done in open court at Georgetown, Colorado this 22nd day of March, A. D. 1955

By the Court

(Official Seal)

S/ William E. Walthers.
Judge

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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MF-203
(Revised July 1, 1954)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Colorado, County of Clear Creek, described as follows:1/

George Peabody Lode Mining Claim U. S. Mineral Survey No. 1043
Little Pat Lode Mining Claim, as recorded in book 205 Page 344
Pathfinder Lode Mining Claim, as recorded in book 205 Page 345
both possessory claims.

which is the subject of a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ The Cargo Mining Company, a Delaware Corporation, with operating offices at 1st National Bank Building, Denver, Colorado

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Insert the name of the Operator as it will appear in the exploration project contract.

3/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

(OVER)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions None

Dated this 22nd day of March, 195 5.

The Estate of Gordon Macgregor Robinson, a minor [Seal]

By S/ Frank L. Jones [Seal]
Guardian

Dated - 3/10/55 .... S/ L. O. Robinson [Seal]
L. O. Robinson

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STATE OF COLORADO)
) ss.
County of Clear Creek)

In The County Court

IN THE MATTER OF THE ESTATE OF)
GORDON MacGREGGOR ROBINEAU)
Also known as
MACK ROBINEAU
Minor

Civil Action No. 4876

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IT IS THEREFORE ORDERED, ADJUDGED, AND DECREED, by the court that Frank L. Jones, as guardian of the estate of Gordon MacGreggor Robineau, be and is hereby authorized to execute owner's consent to lien in favor of the United States government under a D. M. E. A. loan in connection with the operation of the property known as the

George Peabody Lode Mining Claim U. S. Mineral Survey No. 1843

Little Mac Lode Mining Claim, as recorded in book 205 Page 344

MacGreggor Lode Mining Claim, as recorded in book 205 page 345

both possessory claims.

Done in open court at Georgetown, Colorado this 22nd day of March, A. D. 1955

By the Court

(Official Seal)

S/ William E. Walthers.
Judge

DEPARTMENT OF THE INTERIOR
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(OVER)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions None

Dated this 22nd day of March, 1955.

The Estate of Gordon MacGreggor Robineau, a minor [Seal]

By S/ Frank L. Jones [Seal]
Guardian

Dated - 3/19/55 .... S/ L. G. Robineau [Seal]
L. G. Robineau

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George Peabody Lode Mining Claim U. S. Mineral Survey No. 1843

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MacGreggor Lode Mining Claim, as recorded in book 205 page 345

both possessory claims.

Done in open court at Georgetown, Colorado this 22nd day of March, A. D. 1955

By the Court

(Official Seal)

S/ William E. Walthers.
Judge

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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. 3747
Metal or Mineral Uranium
Date Received 4-1-55
Estimated Cost $48,924
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: CHAMPA MINING COMPANY
211-216 First National Bank Building
Denver, Colorado
A Corporation Incorporated in the State of Delaware

(*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

(*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.

DMEA
Date Rec'd.
16—66551-1
MAR 28 1955
BUREAU OF MINES
Denver, Colorado

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 22 March, 1955

CHAMPA MINING COMPANY
(Applicant)

By S/ Herbert T. Young

Vice President

Herbert T. Young

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

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

1. Champa Mining Company
   214-216 First National Bank Building
   Denver 2, Colorado

   b. A Delaware Corporation

   c. Russell P. Johnson, President & Director
      3 Ivy Lane
      Denver, Colorado

      Yale M. Lewis, Vice President & Director
      721 Grape
      Denver, Colorado

      Herbert T. Young, Vice President & Director
      Box 1012
      Idaho Springs, Colorado

      M. D. Scruggs, Secretary-Treasurer & Director
      2890 Raleigh
      Denver, Colorado

      J. Edward Johnson, Director
      Republic National Bank Building
      Dallas, Texas

   d. Not a partnership

3. Applicants Property Rights

   a. Legal discription of land. See Plat No. 2

      George Peabody Lode Claim, U. S. Patent No. 1843
      West Wind Lode Claim (Location)
      West wind Extension Lode Claim (Location)
      South Wind Lode Claim (Location)
      Russell Lode Claim (Location
      Johnson Lode Claim (Location)
      Little Mac Lode Claim (Location)
      MacGregger Lode Claim (Location)

      Montana Mining District, Clear Creek County, Colorado (See Plat No. 1)

3. Applicants Property Rights - Continued

a. Continued

The group of claims makes up a solid block of ground of approximately 127 acres. The location claims have been surveyed and location worked checked by the firm of Watrous & Anderson, Consulting Engineers and Geologists of Denver, Colorado.

(See Plat No. 2)

Title opinions have been obtained by Champa Mining Company and are available.

b. The property is now known as the Peabody Mine but has been called the Robineau Mine in some reports.

c. Sole owners of the Westwind, Westwind Extension, Southwind, Johnson and Russell Lode Claims. Purchaser under contract of the George Peabody Patented Lode Claim and the Little Mac and MacGregger Unpatented Lode Claims.

d. See enclosed copy of contract on George Peabody, Little Mac and MacGeggor Lode Claims

e. None except the contract under Section 3-d

f.

Westwind	Book	245	Page	515
Westwind Extension	"	245	"	129
Southwind	"	245	"	130
Russell	"	245	"	130
Johnson	"	245	"	515
Little Mac	"	205	"	344
MacGreggor	"	205	"	345

4. Physical description:

a. The present workings on the Peabody property consist of two shafts, one tunnel and a number of small prospect pits and location holes. The two shafts are on a ridge about 70 feet apart. The east shaft is completely caved but is estimated to have been about 30 feet deep. The west shaft is about 40 feet deep and has two drifts off the shaft on the vein. The east drift is 24 feet long and the west drift about 12 feet. The floor of the west drift is 25 feet from surface and the floor of the east drift is 32 feet from surface. A small stope has been cut in the back of the east drift next to the shaft.

The portal of the "Cross" tunnel is on the west slope of the ridge about 125 feet vertically below and 350 feet west of the west Peabody shaft. From the portal it runs S. 80° E. a distance of 50 feet where it splits into two headings both about 30 feet long.

4. Physical description - Continued

a. Continued

Present surface and underground workings at the Peabody Mine were made in the 1880's to explore for silver ore. Surface exploration was started in November 1953 by the A.E.C. to gather information about the extent of the uranium mineralization near the area of the Peabody shaft. Approximately 1.5 miles of access road was built to the property and exploration work was done on the west slope of the ridge along a zone of radio active float that is 350 feet long and 3-10 feet wide. A trench was bulldozed along the strike of the float zone and three trenches bulldozed across the float zone. Anomalous radio activity was found in the rubble throughout the cuts but no vein was exposed at that time. The work did lead to the conclusion that the uranium float had come from the Peabody vein. Nothing was found in the west shaft due to it being caved in and inaccessable at that time. The dump was very radioactive and good specimens of torbonite were found.

(See A.E.C. Report)

In the summer of 1954 the west shaft and drifts were cleared out and the vein checked and sampled. Three and one half miles of gravel road was blocked out with the help of the Clear Creek County Road Department and equipment. Due to snow and bad weather the work was stopped but a few more days work will finish a good mine road. Trenching through the dump west of the shaft uncovered the vein and the vein was trenched down the side of the ridge for about one hundred feet. Several places along this trench showed uranium minerals from the vein in place and it is considered likely that more trenching along the vein will result in enlarging the area of known uranium mineralization.

b. There is no current production and no known past production. It is impossible to estimate any ore reserves until more development work is done.

c. Geologic Features:

The Peabody group of claims is in an area of Silver Plume biotite granite, Idaho Springs quartz biotite schist and small pre-cambrian granite pegmatite dikes. In the area around the Peabody shaft the predominant rock formation is the Silver Plume granite with smaller formations of Idaho Springs schist cutting through it in a general northeast-southwest direction.

The Peabody vein appears to have formed along the contact or shear zone between these two formations with a strike of about north 70° east and dipping to the northwest. The vein is a quartz fissure or shear zone vein with an average width of about sixteen inches. Where the vein is exposed in the present workings it is highly leached and considerable faulting has taken place.

4. Physical description - Continued

c. Continued

Minerals found in the vein are the secondary uranium minerals torbenite, dumontite and kasolite with a little of what is thought to be the primary ore mineral pitchblende or sooty pitchblende. Assays show the presence of silver in the vein but the silver mineral has not been determined. A great many samples have been taken from the Peabody property with results ranging from .03% U_3O_8 to 9% U_3O_8. The highest assays have been from float samples and it is thought that these samples of float originated from the Peabody vein west of the shaft where the vein has not been uncovered yet. Samples taken from the vein in the shaft and the drifts of the west shaft workings show results up to 3.08% U_3O_8. Considerable variation in assay results has been noted and may be due to the extreme leaching of the oxidized zone that the shaft is in. It has been noted that the higher assay results come from the least altered or leached areas of the vein. Copies of all the available assay reports that the company has (about forty) show an average uranium content of .88% U_3O_8. These assays were taken by A.E.C. field man or other qualified mining engineers or geologists. These assay returns were from samples taken of the vein, country rock and float samples.

Other areas on the Peabody property show indications of uranium but little exploration work has been done. One granite outcrop shows readings up to twenty times background count on a scintillometer for a distance of areund a thousand feet. A prospect pit about a thousand feet west of the Peabody shaft and along the general strike of the Peabody vein shows uranium mineralization and increased background count in the area.

At least two adjoining mining properties on the same ridge as the Peabody property but at a lower elevation have found high grade uranium ore on veins in the same vein system as the Peabody vein. The Bellevue Hudson Mine to the north of the Peabody property had a streak of uranium that assayed 28% U_3O_8. No development work has been done there according to reports because of litigation. The Joe Reynolds Mine to the east of the Peabody shipped uranium ore(pitchblende)to France in 1919 that assayed 72% U_3O_8.

(See attached A.E.C. Report)

Our reasons for wishing to explore and develop the Peabody property are based on our geological study of the property, favorable consulting engineers and geological reports and good surface exposures of uranium mineralization.

(See attached reports)

4. Physical description - Continued

c. Continued

The area around the Peabody shaft shows a fairly large amount of Uranium mineralization considering the small amount of development work done, the extreme leaching and the broken up nature of the vein that close to the surface. Uncovering the vein for a distance 100 feet west of the shaft has enlarged the known area of uranium mineralization and continued work along the vein is expected to produce more favorable indications of uranium ore deposits. The A.E.C. field men have expressed their opinion that some of the higher grade float samples were different from samples taken around the present workings and that they may have come from some place on the Peabody vein not yet uncovered.

Since all the present samples have come from the surface or oxide zone it is expected that development work in the sulphide zone will lead to larger deposit of higher grade uranium ore. The high grade uranium ore found on the adjoining properties came from the sulphide zone and at a lower elevation in the vein system. One fairly well accepted theory on the deeper sulphide zone deposits of pitchblend is that they are hydrothermal in nature being deposited from hot aqueous solutions(or gasses) representing residium from crystallization of igneous rocks or magmas. From these basic deposits circulating ground water probably carried and deposited the secondary minerals in the oxide zone. On the basis of this theory and other geological information it is expected that development work in the sulphide zone will result in the finding of commercial bodies of uranium ore.

d. A gravel road from highway 6 & 40 west of Lawson, Colorado to the area of the Peabody shaft has been blocked out and with a few days additional work will make a good mine road suitable for taking equipment to the property and hauling ore from the mine. The road was blocked out with the help and equipment of the Clear Creek County Road Department who will finish the job in the spring at a very reasonable cost.

The nearest shipping points are Golden, Colorado, 39 miles and Denver, Colorado, 42½ miles.

e. Skilled mining labor is scarce in this area but we have contracted to do the proposed exploration work with one of the best mining contracters in that part of Colorado. He has a sufficient labor force and will assume the responsibility of keeping the necessary manpower.

2. The necessary mining materials, supplies and equipment are available in immediate area or within a distance of 40 miles(Denver)

3. Water and power are available in the immediate area.

5. The exploration project

a. The mineral we wish to explore for is uranium.

b. The proposed exploration work on the Peabody property is outlined as follows. (See Plats 2 & 3)

1. Complete or finish the present road to the property. (Estimated five days bulldozer work)

2. Finish tracing and testing the Peabody vein west of the shaft to the proposed portal site. (Estimated two days bulldozer work)

3. Level up proposed portal site for necessary buildings, etc. (Estimated one day bulldozer work)

4. Drive a standard 5' by 7' tunnel east on the Peabody vein a distance of 300 feet to cut the area of the Peabody shaft 150 feet below the surface and 110 feet below the bottom of the shaft.

5. Trace the Peabody vein east of the shaft and level an area suitable for a portal site. (Estimated three days bulldozer work)

6. Drive a standard 5' by 7' tunnel west on the Peabody vein a distance of 900 feet to cut the area of the Peabody shaft 300 feet below the surface and 260 feet below the bottom of the shaft.

In planning the proposed exploration work the possibility of sinking the present shaft was considered but decided against due to the high cost of shaft work and repairing the present shaft which is in very poor shape. It was felt that a better and more complete program of exploration could be carried out by tunnel methods. The proposed exploration work was planned with the assistance of Watrous and Anderson, Consulting Engineers and Geologists of Denver.

The tunnel on the 300 feet level was proposed to be driven from the east side of the ridge because of rocky surface features and the necessary high cost of road building to it. The present portal site is on or close to the road built last fall.

When the 300 feet of tunnel on the 150 feet level is completed a great deal more information about the Peabody vein should be available and may show the desirability of changing the overall developement plan. Personnel of the Champa Mining Company will cooperate closely with the officials of the D.M.E.A. in trying to plan the best and most economical method of exploration as the work progresses and more information is available.

c. The work will start within 30 days and be completed within eighteen months. Actual working time for the job is estimated at less than twelve months but allowance has been made for the high elevation and snow conditions.

5. The exploration project - Continued

d. 1. The supervisory work for Champa Mining Company will be in charge of Herbert T. Young, Mining Geologist, graduate of the University of Illinois, who has eight years mining experience operating and developing his own mines in Colorado.

2. The contractor for the tunnel work, Edwin R. Johnson of Lawson, Colorado has had better than twenty years mining experience in all types of mining. He is considered one of the best mining operators in Colorado.

Some of the places and companies that he has worked for are listed below:

Minnesota Mines, Inc.
Six years.
Drift and shaft contracting - Wages as shaft boss.

Lombard Mines, Inc.
One year.
Shaft boss.

Phelips Dodge Mining Company
One year.
Shaft work - Shaft boss.

W. L. W. Mining Company
Contracted 1200 feet of tunnel

Brooks Young Mining Company
Contracted 1000 feet of drift, tunnel, cross out and raises.

Ressurection Mining Company
Contracted drift stope and winze work.

Gold Creast Mine
Contracted 500 feet of cross cut

Atlantic Pacific Mine
Contracted 900 feet of drift and 300 feet of raises

McDowell Mining Company
Wages - Worked on 1400 feet of cross cut

Grand Lake (Big Thompson Project Water Tunnel)

Royal Arm Mine
Contracted 400 feet of tunnel)

Capital Price Mine
Mine Forman - Exploration work.

Lupton Mining Company
Wages

6. Estimate of Costs:

a. Independent Contracts

1. Bulldozer work contracted with Clear Creek County Road Department.

88 hours at $10.50 per hour — $ 924.00

2. Twelve hundred feet of 5' by 7' tunnel work contracted with Edwin R. Johnson of Lawson, Colorado. Contractor to supply everything necessary to complete the job and will retain title to everything used except the rail and pipe installed underground.

1200 feet at $34.00 per foot — 40,000.00

b. Labor, Supervision, Consultants

Champa Mining Company will supervise the overall exploration work through Herbert T. Young, Mining Geologist in charge of production for the company at the rate of $20.00 per day for time devoted exclusively and directly to the performance of the work.

Total amount allowed for this supervision not to exceed $400.00 per month. $400.00 per month for 18 months. — 7,200.00

c. Operating materials and supplies covered under 6-a[2] Independent contracts.

d. Operating equipment covered under 6-a(2) Independent contracts.

e. Rehabilitation and repairs - — None

f. New buildings, improvements, installations-

Covered under 6-a Independent contracts.

g. Miscellaneous — None

h. Contingencies — None

TOTAL ESTIMATE OF COSTS — $48,924.00

7. a. Yes

b. Money

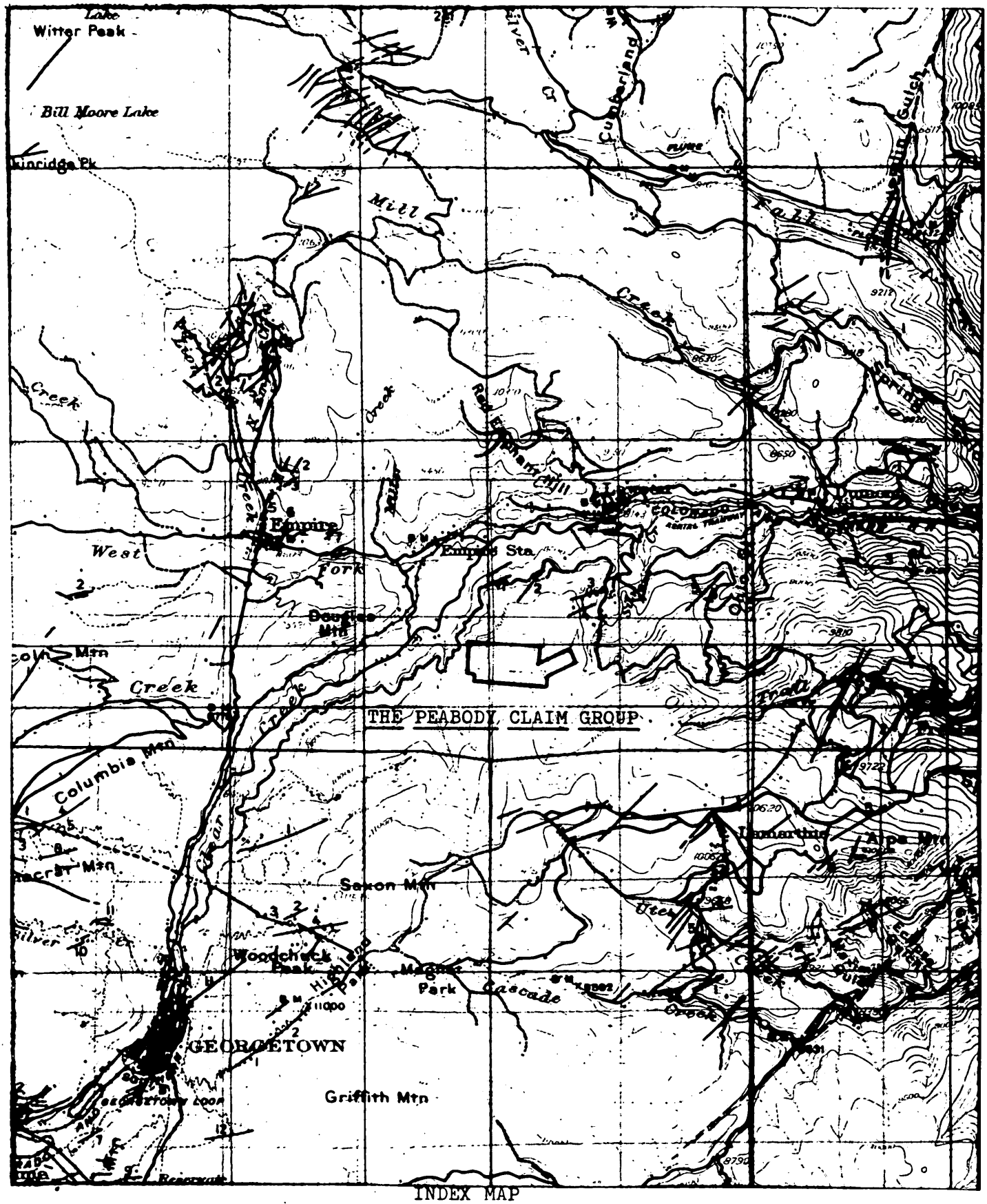
The Champa Mining Company is financially able to pay their full share of the cost of the proposed exploration work and if the application is approved will meet the terms of any contract between them and the D.M.E.A.

Enclosures:

1. Plat #1
   Plat #2
   Plat #3

2. Copy of Atomic Energy Commission Report

3. Copies of legal documents showing control of the Peabody property not owned outright by Champa Mining Company.

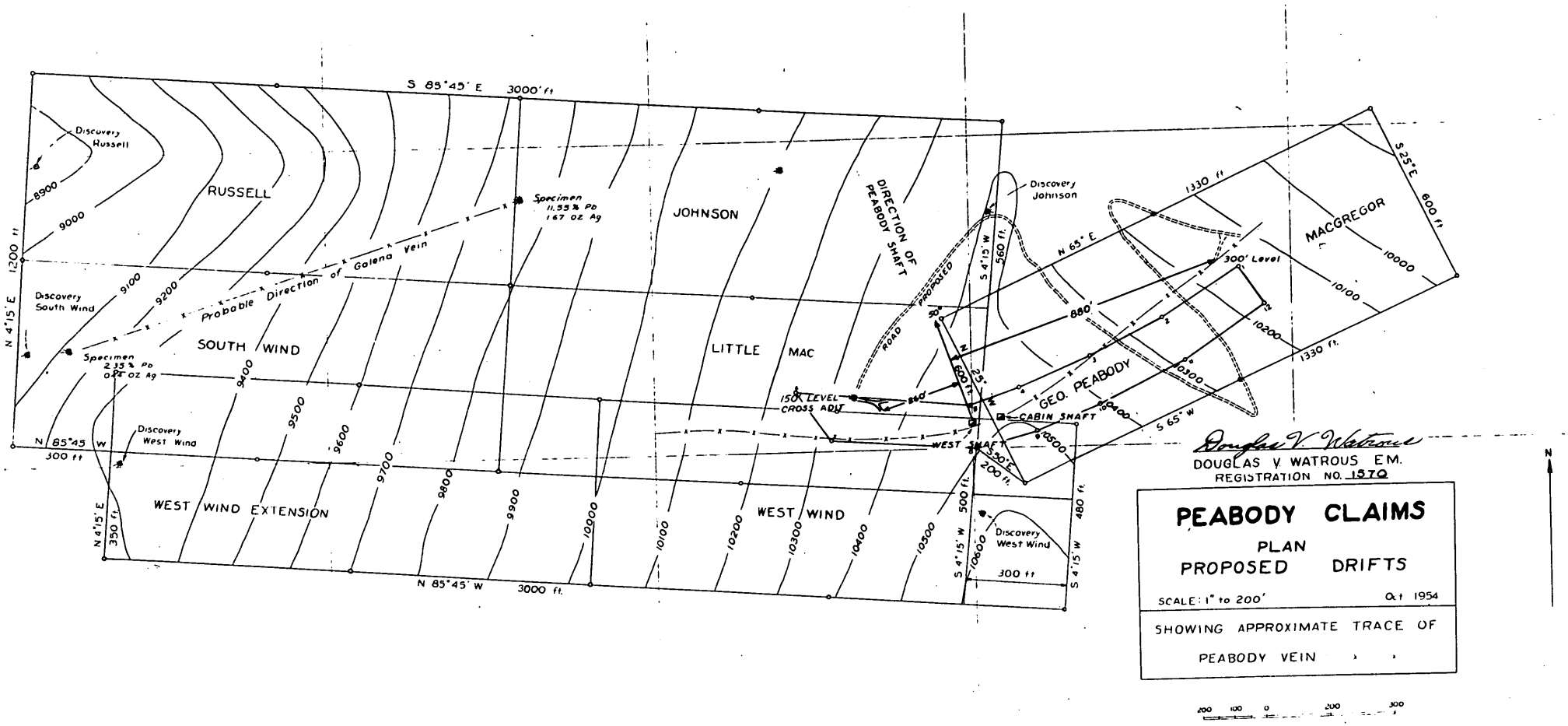


INDEX MAP
OF
PEABODY CLAIM GROUP

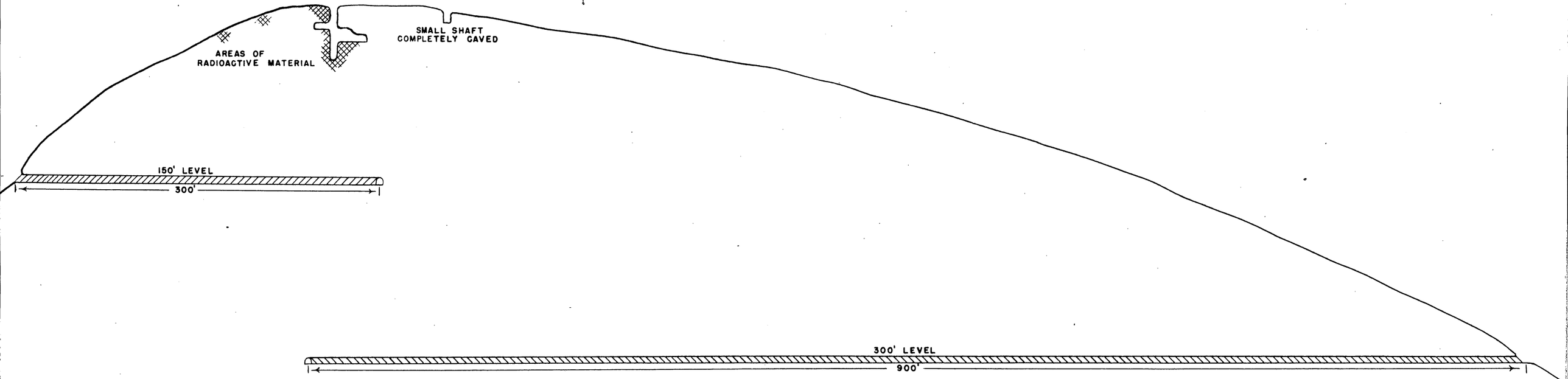
Veins indicated immediately to the North of the Peabody Claims: 1. Bellevue-Hudson, 2. Millington, 3. American Sisters, 4. Jo Reynolds, 5. Blue Ridge, 6. Senator

From U.S.G.S. Professional Paper 223

Plat No. I


S 85°45' E 3000' ft
N 85°45' W 3000 ft.
N 4°15' E 1200 ft
N 4°15' E 350 ft.
S 4°15' W 560 ft.
S 4°15' W 500 ft.
S 4°15' W 480 ft.
S 25° E 800 ft
S 50° E 200 ft.
S 65° W
N 65° E
1330 ft
1330 ft.
880'
300' Level
RUSSELL
JOHNSON
LITTLE MAC
MACGREGOR
SOUTH WIND
WEST WIND EXTENSION
WEST WIND
GEO. PEABODY
DIRECTION OF PEABODY SHAFT
PROPOSED ROAD
Discovery Russell
Discovery South Wind
Discovery West Wind
Discovery Johnson
Discovery West Wind
Specimen 11.55 % Pb 1.67 OZ Ag
Specimen 2.35 % Pb 0.21 OZ Ag
Probable Direction of Galena Vein
150' LEVEL CROSS ADIT
CABIN SHAFT
WEST SHAFT
300 ft
8900
9000
9100
9200
9400
9500
9600
9700
9800
9900
10000
10100
10200
10300
10400
10500
10600
10100
10200
10300
10400
10500
Douglas V. Watrous
DOUGLAS V. WATROUS E.M.
REGISTRATION NO. 1570
PEABODY CLAIMS
PLAN
PROPOSED DRIFTS
SCALE: 1" to 200'
Oct 1954
SHOWING APPROXIMATE TRACE OF
PEABODY VEIN
200 100 0 200 300
N

Plat No. II



Plat No. III

CROSS SECTION
OF
PEABODY MINE
SHOWING PROPOSED
DEVELOPMENT WORK
SCALE 1"=60'

OFFICIAL USE ONLY

TO : P. L. Merritt, Assistant Director
Division of Raw Materials, New York

March 31, 1954

FROM : C. C. Towle, Chief, Denver Exploration
Branch, Denver

SUBJECT: TRANSMITTAL OF REPORT - RME-1043

SYMBOL : DEB:CCT

Transmitted herewith are four copies of a report by Marvin C. Chase entitled, "Preliminary Reconnaissance for Uranium at the Robineau Mine, Clear Creek County, Colorado", dated March 29, 1954.

Enclosures: Report (4)

CC: J. C. Johnson
E. R. Gordon
S. P. Wimpfen
E. E. Thurlow
C. C. Towle
~~Paul Melanson~~
S. R. Steinhauser
L. D. Jarrard
T. W. Oster
J. W. King
E. W. Grutt
H. D. Wolfe
L. P. Barrett
T. B. Nolan
A. Butler

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OFFICIAL USE ONLY

U. S. ATOMIC ENERGY COMMISSION
DIVISION OF RAW MATERIALS
DENVER EXPLORATION BRANCH

RME-1043

PRELIMINARY RECONNAISSANCE FOR URANIUM AT THE ROBINEAU MINE CLEAR CREEK COUNTY, COLORADO

By

Marvin C. Chase

Denver, Colorado
March 29, 1954

OFFICIAL USE ONLY

PRELIMINARY RECONNAISSANCE FOR
URANIUM AT THE ROBINEAU MINE
CLEAR CREEK COUNTY, COLORADO

Distribution	Copy
A.E.C., Washington (J. C. Johnson)	1
A.E.C., New York (P. L. Merritt)	4
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A.E.C., Grand Junction (GJ - S.P. Wimpfen)	1
A.E.C., Salt Lake (E.E. Thurlow)	1
A.E.C., Denver (C. C. Towle)	6
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U.S.G.S., Denver (A. Butler)	1

RME-1043

PRELIMINARY RECONNAISSANCE FOR URANIUM AT THE ROBINEAU MINE CLEAR CREEK COUNTY, COLORADO

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PRELIMINARY RECONNAISSANCE FOR URANIUM AT THE ROBINEAU MINE CLEAR CREEK COUNTY, COLORADO

ABSTRACT

The Robineau Mine is in the Lamartine mining district of Clear Creek County, Colorado. The Robineau vein was formed by silicification of the country rock along an 18-inch shear zone that cuts the pre-Cambrian Silver Plume granite and roof pendants of the Idaho Springs schist. Some of the fractures and vugs in the vein are lined with kasolite and torbernite, and one hand specimen contains sooty pitchblende. Bulldozer trenches were cut across a radioactive zone 3 to 10 feet wide and 350 feet long. This work revealed the size and position of the vein, and plans for further exploration have been made.

INTRODUCTION

In November, 1953 trenches were bulldozed across a zone at the Robineau Mine where there is float of uranium ore. This work was discontinued on November 23, 1953 because of heavy snows, but AEC geologists had accomplished geologic mapping, radiometric traversing, and sampling of the surface exposures in the mine area.

Location and topography

The Robineau Mine, which is in sec. 35, T.3S., R. 74 W. of Clear Creek County, can be reached from Idaho Springs, Colorado by ~~the~~ following the Spring Gulch road northwest for 6 miles to the Mollie Bawn Mine, turning right on an unimproved road, and driving north for 3 miles (see fig. 1). The mine is in mountainous terrain of early maturity at an altitude of about 10,000 feet on the crest of a ridge between the valleys of Silver and Clear Creeks.

History and production

The robineau claims consist of one patented claim, the George Peabody, and two unpatented claims, the MacGregor and the Little Mac. The Robineau Mine is owned by L. G. Robineau and J. H. Harris of Dumont, Colorado, and it is leased to Paul P. Robinson of Idaho Springs, Colorado.

The west shaft on the Robineau property was sunk in the 1880's and the east shaft may also have been sunk during this period. According to the mine owner, 16 sacks of high-grade silver ore were produced at this time, but no other production is known.

From USGS. Quad. Maps

FIGURE-1
INDEX MAP SHOWING LOCATION OF THE ROBINEAU MINE
CLEAR CREEK CO., COLORADO

Guillotte states that in 1919 the nearby Jo Reynolds mine produced eight tons of pitchblende that assayed 72% U_3O_8. This ore was sold in France for $80,000 by the owner, R. B. Morton1/

Previous reports

Torbernite from the Robineau Claims was reported in June of 1950.2/ Professional Papers No. 944 3/and 223 4/discuss the geology of the area, but they do not mention the Robineau property although uranium minerals are named as having been found at other mines nearby.

MINE DEVELOPMENT

Underground workings at the Robineau Mine were made in the early 1880's to explore for silver ore. Surface exploration was begun in November of 1953 to gather information as to the extent of uranium mineralization at the mine.

Underground workings

The workings of the Robineau Mine consist of two shallow shafts, one tunnel, and a number of small prospect pits (see fig. 2). The two shafts are on the crest of a ridge, and about 70 feet apart. The east shaft is caved at the collar and cannot be entered, but is reported to be about 30 feet deep. The west shaft is reported to be 40 feet deep with a 30 foot drift near the bottom:; it is accessable for 20 feet, below which it is caved. The portal of Cross tunnel is on the west slope of the ridge about 125 feet vertically below and about 350 feet west of the west shaft. From the portal it runs

---

1/ Guillotte, G. B., some Deposits of Gilpin County, Colo., Union Mines Development Corp.,/Typescrip report/ P. 6, 1944.

2/ King, R. U., and Granger, H. C., Torbernite Occurrence at the Robineau Claims, Clear Creek County, Colorado, U. S. Geological Survey Report TEIR 24, 1950/

3/ Spurr, J. E., Garry, G. H., and Ball, S. H., Economic Geology of the Georgetown Quadrangle, Colorado, U. S. Geological Survey Prof. Paper 63, 1908.

4/ Bastin, E. S., and Hill, J. M., Economic Geology of Gilpin County, and Adjacent Parts of Clear Creek and Boulder Counties, Colorado, U. S. Geological Survey Prof.Paper 94, 1917.

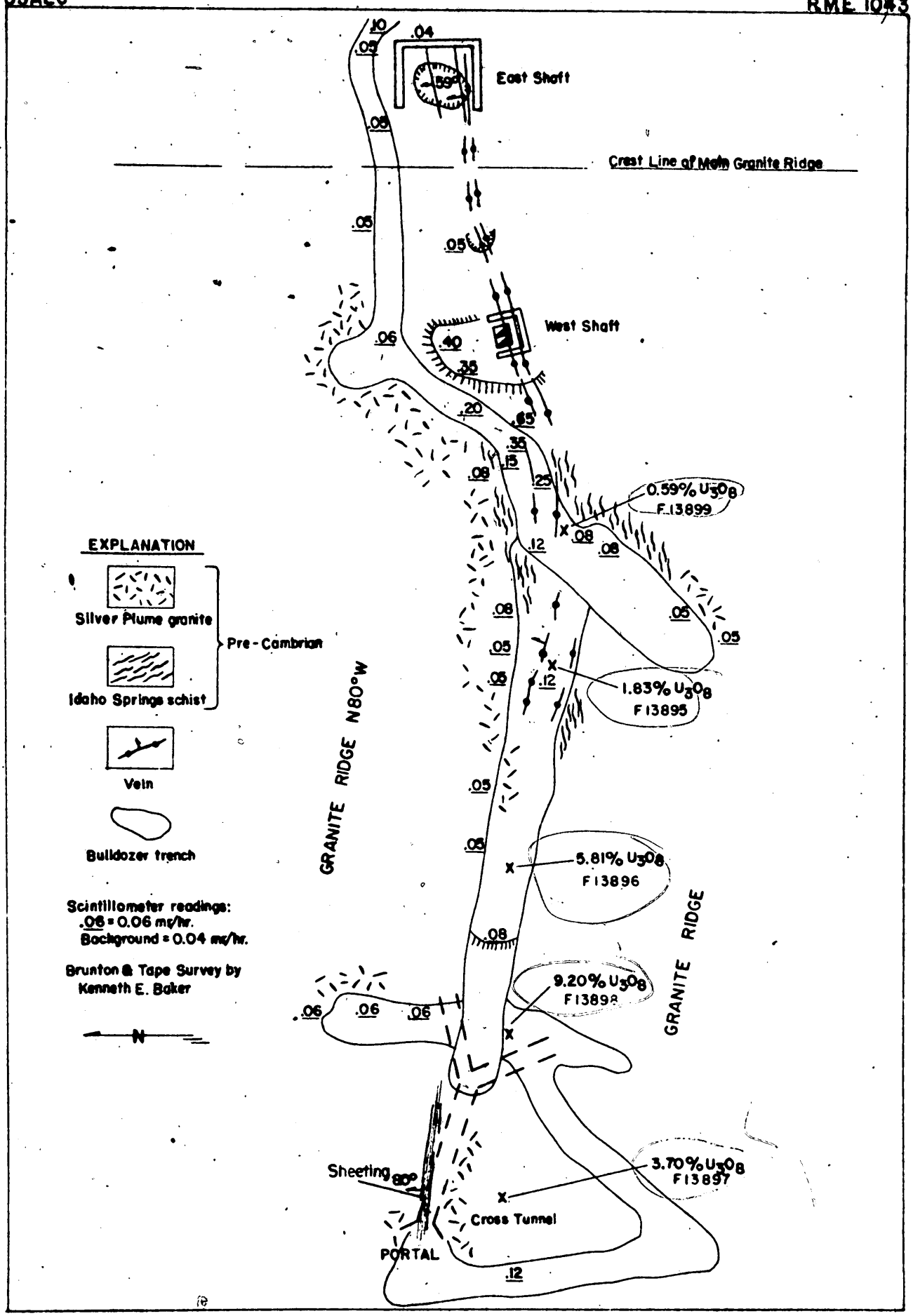

FIG. 2 - SURFACE GEOLOGIC MAP OF ROBINEAU MINE AREA
CLEAR CREEK CO., COLO.
Scale: 1" = 50'

S. 80° E. for a distance of 50 feet where it splits into two headings; each is accessible for another 30 feet, the remainder being caved.

/

Surface exploration

Approximately 1.5 miles of access road for trucks was built, and exploration work was done on the west slope of the ridge along a zone of radioactive float that is 350 feet long and 3 to 10 feet wide. One trench was bulldozed along the strike of the float-zone near the top of the ridge where the overburden was not as deep as at most places, and three trenches 7 feet deep and 70 feet long were bulldozed across the strike of the zone of float. After these cuts were inspected, they were joined to make a crude road between the west shaft and Cross tunnel.

Anomalous radioactivity was found in the rubble in all of the cuts, but it was not sufficient to warrant sampling. The bulldozing did not satisfactorily expose the vein because of huge boulders, and hand-trenching, which was interrupted by heavy snows, must still be done to permit sampling of the vein in place. The bulldozing did lead to confirmation of the belief that the radioactive float came from the Robineau vein. It also revealed that the higher-grade float originated in the portion of the vein near the west shaft.

GENERAL GEOLOGY

The Robineau claims are underlain by quartz-biotite schist of the Idaho Springs formation and by the Silver Plume biotite granite which intrudes it, and both are cut by small dikes of pre-Cambrian granite pegmatite. These dikes are not in contact with the veins, and they have no abnormal radioactivity. Only small roof pendants of the schist remain along the crest of the granite ridge in which the Robineau shafts were sunk. At places the Robineau vein lies along or near the contact between one of these schist remnants and the granite.

The Cross tunnel is in a highly fractured zone of the Silver Plume granite. Although there is some mineralization on the sheeting planes of the granite, no definite vein was cut (see fig. 2).

The Jo Reynolds, the American Sisters, and the Bellevue-Rochester mines lie east of the Robineau Mine and expose veins that have the same general strike as the Robineau vein. All of these veins contain some pitchblende.

MINERAL DEPOSITS

Although the Robineau Mine has produced some silver most of the ore is believed to be more valuable for its uranium content, and the following discussion pertains primarily to the uranium.

Vein structure

At the collar of the east shaft the Robineau vein cuts fractured granite of fine to medium grain; the general strike of the vein is N. 78°W. and its dip is 60°N. Near the west shaft the vein is deflected to follow the contact between a schist remnant and the granite. Numerous splits characterize the Robineau vein and the other veins nearby, and much of the best ore mined was taken from these splits.

Vein mineralization

The vein material is granite and schist that have been sheared and highly silicified over a width of 18 inches. The only uranium minerals common in the deposit are torbernite and dumontite (a variety of kasolite). The kasolite is a non-fluorescent dull yellow mineral that crystallized as minute rosettes on the walls of vugs and fractures. In one hand-specimen kasolite encloses sooty pitchblende. Torbernite forms small plates on fracture surfaces, many of which have an earlier coating of brown and black iron oxides.

The same vein material that contains the uranium minerals also contains a silver mineral tentatively identified as pyrargyrite, but no other sulphides were found.

Radioactivity

A Radiation Precision Scintillator Model 111 registered a background of 0.05 MR/hr. in the mine area, a radioactivity of 0.1 MR/hr. at the east shaft, and readings of 0.35 to 0.40 MR/hr. at the dump of the west shaft. Several prospect pits gave readings of 0.10 to 0.15 MR/hr., and the radioactive zone above the Robineau vein gave readings that varied from 0.08 to 0.65 MR/hr. Although the Cross tunnel does not follow a vein or any other strong structure, radioactivity up to 0.25 MR/hr. was recorded; inasmuch as no uranium mineralization was seen in the tunnel it is thought that the radioactivity was due to radon.

Assay data

Prior to bulldozing, selected samples of float having a minimum dimension of 3 to 4 inches were taken at intervals along the radioactive zone. Assays were as follows:

Sample No.	% eU_3O_8	% U_3O_8	Ag oz/ton
F-13895	1.53	1.83	not run
F-13896	5.07	5.81	not run
F-13897	3.30	3.70	13.86
F-13898	8.14	9.20	86.25
F-13899	0.48	0.59	61.46

In October of 1950, before the west shaft caved, personnel of Consolidated Caribou Silver Mines, Inc. took two samples at the face of the drift that extends from the shaft, and the results of the assays wer given to the Atomic Energy Commission. One was a channel sample taken from the vein on the left side of the heading across a 10-inch zone stained by iron oxide; it assayed 0.12 percent U_3O_8. The other was a 30-inch channel sample taken at the center of the brest across a zone of sheared granite and schist; it assayed 0.27 percent U_3O_8.

The assay data is not sufficient to justify the calculating of any ore reserves.

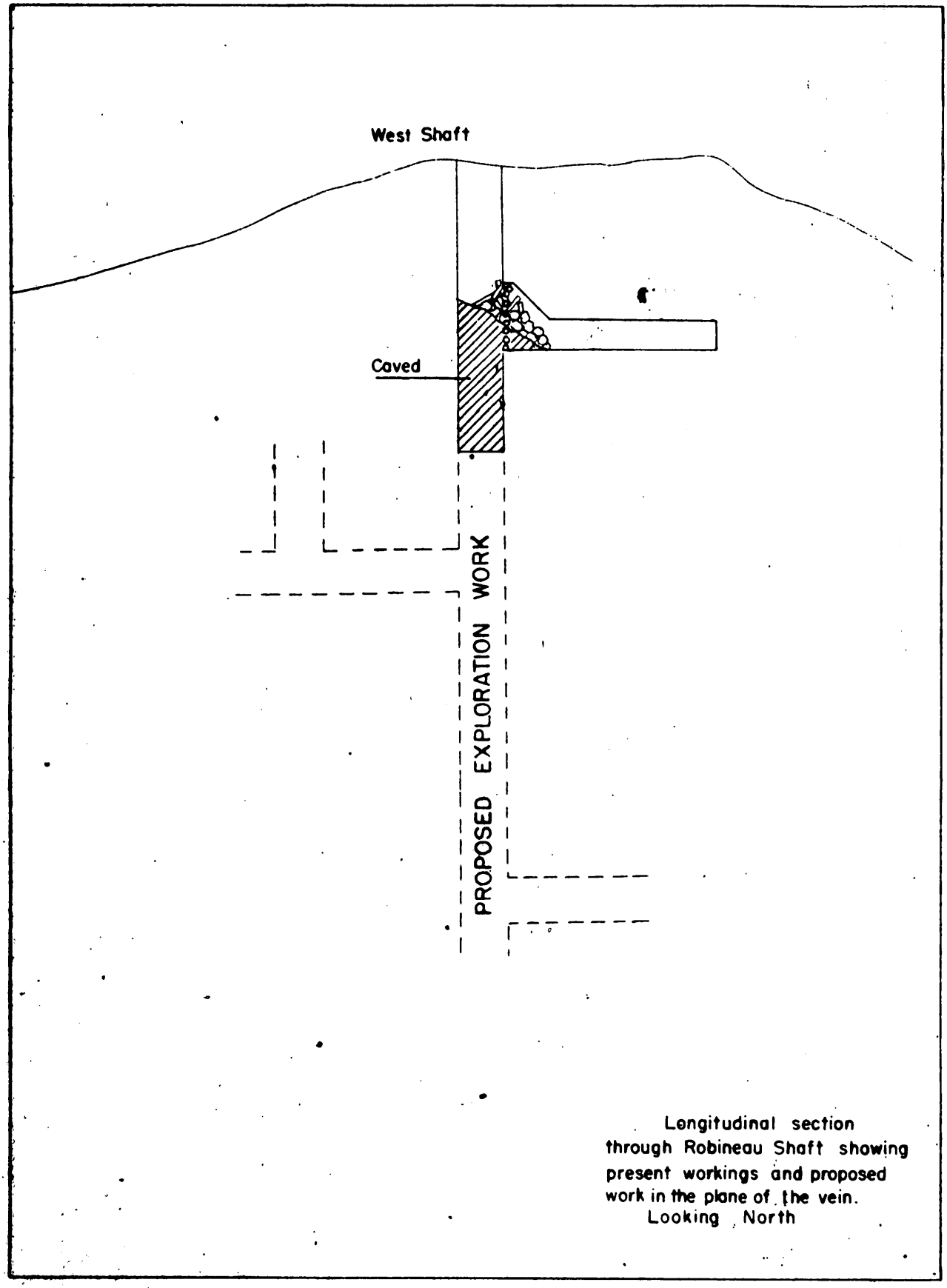

FIG.3 – SECTION OF WEST SHAFT SHOWING PROPOSED EXPLORATION
Clear Creek Co., Colo.
Scale 1" = 20'

MINING LEASE AND OPTION

RECEIVED
APR 1 1953

THIS INDENTURE, made this 17th day of October, A. D. 1953, between L. G. Robineau for his own account, and L. G. Robineau and Lucy Robineau acting for and on the behalf of Gordon MacGreggor Robineau, a minor, as parties of the first part, and Paul P. Robinson, of the second part, WITNESSETH, that the said parties of the first part, for and in consideration of the rents, covenants and agreements hereinafter expressed to be paid, kept and performed by the said party of the second part, have leased, let and demised, and by these presents do lease, let and demise unto the said party of the second part, the following described premises, situate, lying and being in the Montana Mining District in the County of Clear Creek and State of Colorado, to wit:

> George Peabody Lode Mining Claim U. S. Mineral Survey No. 1843; The Little Mac Lode Mining Claim and the MacGreggor Lode Mining Claim, both possessory claims.

An undivided one half interest in and to the above claims on behalf of Gordon MacGreggor Robineau, the minor, as devisee, under the terms of a certain will from Harry John Harris, now in the process of being probated, and the said one half interest as herein specified shall be subject to the completion of probate of said will.

TO HAVE AND TO HOLD THE SAME, for the purpose of mining, for the term of three years from the date hereof, unless sooner terminated under any of the provisions herein contained, with no power to assign this lease or any interest thereunder, or to sublet the whole or any part of said premises except upon the written consent of the parties of the first part.

And the said party of the second part, for and in consideration of the leasing of said premises, covenants and agrees with said parties of the first part to commence work on said premises within twenty days from date hereof, and thereafter to work same continuously, in a thorough and workmanlike manner, employing at least two men underground, and working at least forty shifts

each calendar month; work on roadways, approaches to mine and outside development by bulldozer, shall count in proportionate share to man shifts as per cost of bulldozer work.

IT IS FURTHER AGREED that in the event the weather conditions are such that it is impossible to get to the mine during any calendar month, these shifts shall be waived during that month.

Leasee agrees to keep the same securely timbered, drained and clear of loose rock and rubbish; to keep accurate accounts, and to render quarterly statements to the said parties of the first part, their agent or attorney, showing the amount and character of work done, and to pay to the said parties of the first part, their agent or attorney, as rental for said premises royalty upon all ore taken and sold therefrom as follows, to wit:

To pay said Lessor as royalty, twelve and one half per cent (12½%) of the net mill returns of all ores mined from said claims by Leasee of One Hundred Dollars ($100.00) or less in value, and Fifteen per cent (15%) on all ores over One Hundred Dollars ($100.00) in value, such payment to be made by delivery of such ore with all convenient speed in lots as mined to some mill or regular ore buyer and leaving with such mill or ore buyer the percentage of mill returns aforesaid for delivery to Lessor. For the purpose of this contract, "net mill returns" shall mean such sums as shall be paid for the values in the ore after deducting all charges for carriage in any form, assays and mill charges. Should the uranium oxide content of ore mined and the volume thereof be sufficient to qualify for a bonus from the government, Lessor shall be entitled to receive fifteen per cent (15%) as his share of such bonus. Development allowances and transportation allowances, as set forth by the government for the development and transportation of uranium, are to be retained by the Leasee as Leasee's sole property. When Leasee is awarded transportation allowances on uranium ore, as set forth by the government, such sums paid for the transportation of uranium ore by the government shall be deducted from the total carriage

charges to arrive at an adjusted carriage charge to be used in calculating the net mill returns of uranium ore.

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

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

the heirs, executors, administrators, successors and lawful assigns of the respective parties hereto.

IT IS FURTHER UNDERSTOOD AND AGREED the said party of the second part shall have an option to purchase said premises during the life of this agreement for the sum of Ten Thousand Dollars ($10,000.00). And it is further agreed that upon exercising of this option by the party of the second part and upon payment by the party of the second part to the parties of the first part of the sum of Ten Thousand Dollars ($10,000.00), the said second party shall be entitled to a satisfactory mining deed to the premises above described, at the time of the exercising of said option, it is further agreed that the said party of the second part may deduct from the Ten Thousand Dollar ($10,000.00) purchase price herein, the amount of royalties heretofore paid.

In the event of the failure of the party of the second part to exercise this option, or cancellation or surrender of this agreement, then royalties paid shall be treated and considered as a rental.

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

Gordon MacGreggor Robineau

By _____
L. G. Robineau

and _____
Lucy Robineau
Parents and Natural Guardians of
Gordon MacGreggor Robineau,
a minor.

_____
L. G. Robineau for his own
account
FIRST PARTIES

_____
Paul P. Robinson

SECOND PARTY

AGREEMENT OF OPTION

In consideration of the payment of Two Thousand Five Hundred Dollars ($2,500.00) to Paul P. Robinson, hereinafter referred to as optionor, by one Russell P. Johnson, hereinafter referred to as optionee, to be handled in compliance with the provisions later set out herein, the said Paul P. Robinson hereby grants to Russell P. Johnson an option for a period of Thirty (30) days, ending September 2, 1954, for the purchase of that certain lease and option executed the seventeenth(17) day of October, 1953, by L. G. Robineau for his own account and L. G. Robineau and Lucy Robineau, acting for and on behalf of Gordon Robineau, a minor, for the purchase price subject to the terms and conditions hereafter set forth; a copy of said lease is attached hereto and by reference made a part hereof.

1. The option payment of Two Thousand Five Hundred Dollars ($2,500.00) to be escrowed for a period ending ten (10) days after September 2, 1954, in which time the said optionee herein will clean out, or cause to be cleaned out, what is known as the Peabody Shaft on said property, subject however to the provisions contained in paragraph 7 hereof.

2. That the said optionee shall, after completing the cleaning out of said shaft, have a ten (10) day period of time, in other words, until September 13, 1954, in which to elect as to whether he shall proceed under the terms of the option for the purchase of the lease and property.

3. Should the optionee herein elect to purchase said property and lease under the terms hereof, then he shall, within ninety(90) days from September 13, 1954, pay to the said Paul P. Robinson the sum of Twenty Thousand Dollars ($20,000.00) in cash, as a payment on said property. That on or before June 30, 1955, he shall make to the said Paul P. Robinson a further and final payment of Twenty-two Thousand Five Hundred Dollars ($22,500.00) in stock in a corporation that will be organized to operate said property, or pay to the said Paul P. Robinson on or before June 30, 1955, the sum of Fifteen Thousand Dollars ($15,000.00) in cash.

4. The said optionor, Paul P. Robinson, shall have the election

as to whether he takes cash or stock for said final payment. It is to be further understood that in the event Paul P. Robinson elects to take stock, it shall be issued to him promptly upon the organization of the corporation or any time after the ninety (90) days period above provided for.

5. It is further to be understood that in the event the optionee herein elects on or before september 13, 1954, not to comply with the terms of this option, and drop his rights hereunder, that the sum of two Thousand Five Hundred Dollars ($2,500.00), now escrowed shall be immediately turned over to Paul P. Robinson as his sole property.

6. It is further understood that any claims that the optionee hereto shall have against the property shall be released to Paul P. Robinson and that all bills for cleaning out of said shaft will be promptly paid by the optionee herein.

7. It is to be further understood that in the event of unavoidable accidents or a disaster beyond the control of said optionee, and it shall take a period of more than thirty (30) days to open said shaft that only additional time necessary to complete the cleaning out of the shaft will be granted and not to exceed an additional thirty (30) days; and a like period of thirty (30) days shall be granted and/or extended optionee for performance under all provisions of this contract where a time for performance is set forth.

8. It is to be further understood that in the event the said optionee hereunder elects to proceed under the terms of the option and pay for the said lease and property that the optionor herein shall be allowed the period of ninety (90) days in which to clear away certain estate matters and other title matters that may be found necessary, and in the event additional time is required for this purpose, the time of payments shall be extended to that date.

9. It is further understood that in all operations conducted hereunder by the optionee, he shall comply with the terms of that certain lease from L. G. Robineau hereinbefore referred to.

10. That in the event the optionee here elects to proceed under the terms of said option to purchase said lease and property, and the title to said property is found to be satisfactory, then the Two Thousand Five Hundred Dollars ($2,500.00) escrowed herein shall be released to the said Paul P. Robinson.

11. Any production of ore, either in the process of cleaning out the shaft or during the time required in the process of clearing the title, or keeping the lease in effect, shall remain as the property of Paul P. Robinson until the payment of Twenty Thousand Dollars ($20,000.00) in cash herein called for, has been made, and the proceeds of all such ore or production shall be kept in a separate fund in a bank, or by some escrow agent agreeable to both optionor and optionee, and shall be credited upon the purchase price upon exercise of the option.

12. It is further understood and agreed that time is the essence hereof, and that this agreement shall be binding upon the heirs, executors, administrators and assigns of the parties hereto.

Executed at Idaho Springs, Colorado this 11th day of August, 1954.

S/ Paul P. Robinson
Paul P. Robinson

Approved as to terms and
accepted:

S/ Russell P. Johnson
Russell P. Johnson

EXTENSION AGREEMENT

THIS MEMORANDUM OF AGREEMENT, Made this day between Paul P. Robinson, optionor in a certain contract between himself and Russell P. Johnson, dated August 11, 1954, with reference to the George Peabody Mining Claim, in Clear Creek County, Colorado party of the first part, and Russell P. Johnson, optionee in said contract, party of the second part, WITNESSETH:

WHEREAS, delays in the exercise of the option granted to the second party by said contract have occurred by mutual agreement, and second party is to be not in default in the exercise of his option as of this date.

NOW, THEREFORE, IT IS AGREED: That the optionee, Russell P. Johnson, may have to and until the 1st day of April, 1955, in which to exercise the option granted to him to purchase the lease and option held by said Paul P. Robinson on the above mentioned mining claim, and all payments under said option contract are hereby extended accordingly. The escrow holder shall continue to hold the check for $2500.00, mentioned in said option contract, until said date. Said option contract shall remain in full force and effect in all other respects.

Executed in duplicate this 12 day of January, 1955.

S/ Paul P. Robinson
Paul P. Robinson

Russell P. Johnson

EXTENSION AGREEMENT

THIS AGREEMENT, Made this day between PAUL P. ROBINSON, Optionor in a certain contract between himself and Russell P. Johnson, dated August 11, 1954, with reference to the George Peabody mining claim in Clear Creek County, Colorado, and RUSSELL P. JOHNSON, Optionee in said contract;

WHEREAS, Delays in the exercise of the option granted to Russell P. Johnson in the above mentioned contract have occurred, which delays were unavoidable and,

WHEREAS, The parties hereto by an Extension Agreement dated January 12, 1955, agreed that optionee was not in default in the exercise of his option as of that date and,

WHEREAS, Under said Extension Agreement of January 12, 1955, the parties hereto agreed that the time for exercise of said option should be extended to April 1, 1955 and,

WHEREAS, It is the desire of the parties to clarify and make certain the times within which payments are to be made by optionee as extended in said Extension Agreement of January 12, 1955.

IT IS, THEREFORE, AGREED: That the optionee, Russell P. Johnson, may have to and until the first day of April, 1955, in which to exercise the option granted to him to purchase the lease and option held by said Paul P. Robinson on the above mentioned mining claim, and the escrow holder shall continue to hold the check for $2,500.00 mentioned in said option contract until said date. In the event that said option is exercised, Russell P. Johnson shall pay to the said Paul P. Robinson the sum of $20,000.00

on or before June 29, 1955, and a further final payment of $22,500.00 par value in stock in a corporation organized to operate

said property, or, at the election of the said Paul P. Robinson, to pay to the said Paul P. Robinson on or before January 15, 1956, the sum of $15,000.00 in cash.

Except as herein modified, said option agreement of August 11, 1954, shall remain in full force and effect.

Executed in duplicate this 24th day of March, 1955.

S/ Paul P. Robinson

PAUL P. ROBINSON

RUSSELL P. JOHNSON

OPTION ASSIGNMENT

WHEREAS on October 17, 1953, L. G. ROBINEAU, as an individual, and L. G. ROBINEAU and LUCY ROBINEAU, acting for and in behalf of GORDON MacGREGGOR ROBINEAU, a minor, entered into a "MINING LEASE AND OPTION AGREEMENT" granting unto PAUL P. ROBINSON, for a term of three (3) years, a leasehold estate in and to the following described premises located in the Montana Mining District, Clear Creek County, Colorado; to wit:

George Peabody Lode Mining Claim,
United States Minerals Survey Number 1843;
Little Mac Mining Claims,
MacGreggor Lode Mining Claims, Possessory claims;

subject to a reserved royalty of twelve and one-half per cent (12½%) of the net mill returns of all ores mined from said claims in value of $100.00 or less and fifteen per cent (15%) on all ores in value of more than $100.00, including bonuses paid by agents of the United States government but excluding development and haulage allowances; and,

WHEREAS said PAUL P. ROBINSON also was granted by said above mentioned insturment an option to purchase the above mentioned properties during the term of said lease for the sum of $10,000.00; and,

WHEREAS said PAUL P. ROBINSON by an "AGREEMENT OF OPTION" dated August 11, 1954, and by "EXTENSION AGREEMENT" dated January 12, 1955, did grant unto RUSSELL P. JOHNSON an option for a period of time to and until April 1, 1955, to purchase all of his right, title and interest in and to the above mentioned properties which exists by virtue of the above mentioned "LEASE AND OPTION AGREEMENT" and assignments thereof as above set forth; and,

WHEREAS it is the desire of RUSSELL P. JOHNSON to assign all of his right, title and interest in said properties as above mentioned unto CHAMPA MINING COMPANY, a Delaware corporation; and,

WHEREAS said CHAMPA MINING COMPANY desires to acquire said interest;

NOW, THEREFORE, for and in consideration of the sum of Ten

Dollars ($10.00) and other good and valuable considerations and the mutual covenants herein below contained, RUSSELL P. JOHNSON, hereinafter referred to as party of the first part, does hereby assign, bargain, sell, transfer and convey unto CHAMPA MINING COMPANY, a Delaware corporation, hereinafter referred to as party of the second part, all of his right, title and interest in and to the above described properties; and does hereby assign, sell and set over unto said party of the second part all of his right, title and interest in that certain "AGREEMENT OF OPTION" and "EXTENSION AGREEMENT" as above mentioned;

TO HAVE AND TO HOLD the same for the term of said "AGREEMENT OF OPTION" and "EXTENSION AGREEMENT" above mentioned subject to the following covenants and conditions:

In the event that party of the second part elects to exercise the option herein assigned, said party of the second part hereby expressly assumes the payment to PAUL P. ROBINSON of the sum of $20,000.00 in cash, as expressed in Paragraph 3 of the above mentioned "AGREEMENT OF OPTION", and further agrees to perform the other covenants contained in said "AGREEMENT OF OPTION", provided, however, that said party of the first part hereby agrees to pay to PAUL P. ROBINSON the said "final payment" expressed in Paragraph 3 of said "AGREEMENT OF OPTION" of $22,500.00 in stock of the copporation organized to operate said properties, or the sum of $15,000.00 in cash.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and affixed their seals this first day of February, 1955.

S/ Russell P. Johnson
Russell P. Johnson
Party of the first part

CHAMPA MINING COMPANY,
Party of the second part

By S/ Russell P. Johnson
President

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

Subscribed and sworn to before me this first day of February, 1955, by RUSSELL P. JOHNSON.

S/ Dolores Parmeley
Notary Public

My commission expires November 12, 1958

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

On this first day of February, 1955, personally appeared before me Russell P. Johnson, who, being duly sworn, did state that he is the President of CHAMPA MINING COMPANY, a Delaware corporation, and that the above instrument was signed in behalf of said corporation, and that said corporation executed the same.

S/ Dolores Parmeley
Notary Public

My commission expires November 12, 1958

TO : P. L. Merritt, Assistant Director
Division of Raw Materials, New York

March 31, 1954

FROM : C. C. Towle, Chief, Denver Exploration
Branch, Denver

SUBJECT: TRANSMITTAL OF REPORT - RME-1043

SYMBOL : DEB:CCT

Transmitted herewith are four copies of a report by Marvin C. Chase entitled, "Preliminary Reconnaissance for Uranium at the Robineau Mine, Clear Creek County, Colorado", dated March 29, 1954.

Enclosures: Report (4)

CC: J. C. Johnson
E. R. Gordon
S. P. Wimpfen
E. E. Thurlow
C. C. Towle
~~Paul Melanson~~
S. R. Steinhauser
L. D. Jarrard
T. W. Oster
J. W. King
E. W. Grutt
H. D. Wolfe
L. P. Barrett
T. B. Nolan
A. Butler

OFFICIAL USE ONLY

U. S. ATOMIC ENERGY COMMISSION
DIVISION OF RAW MATERIALS
DENVER EXPLORATION BRANCH

RME-1043

PRELIMINARY RECONNAISSANCE FOR URANIUM AT THE ROBINEAU MINE CLEAR CREEK COUNTY, COLORADO

By

Marvin C. Chase

Denver, Colorado
March 29, 1954

OFFICIAL USE ONLY

PRELIMINARY RECONNAISSANCE FOR
URANIUM AT THE ROBINEAU MINE
CLEAR CREEK COUNTY, COLORADO

Distribution	Copy
A.E.C., Washington (J. C. Johnson)	1
A.E.C., New York (P. L. Merritt)	4
A.E.C., Grand Junction (GJ-ED - E. R. Gordon)	1
A.E.C., Grand Junction (GJ - S.P. Wimpfen)	1
A.E.C., Salt Lake (E.E. Thurlow)	1
A.E.C., Denver (C. C. Towle)	6
~~A.E.C., Grants (Paul Melancon)~~	~~1~~
A.E.C., Richfield Sub-Office (S. R. Steinhauser)	1
A.E.C., Butte Sub-Office (L. D. Jarrard)	1
A.E.C., Phoenix Sub-Office (T.W. Oster)	1
A.E.C., Hot Springs Sub-Office (J.W. King)	1
A.E.C., Douglas Sub-Office (E. W. Grutt)	1
A.E.C., Albuquerque Sub-Office (H. D. Wolfe)	1
A.E.C., Ishpeming Sub-Office (L. P. Barrett)	1
U.S.G.S., Washington (T. B. Nolan)	1
U.S.G.S., Denver (A. Butler)	1

PRELIMINARY RECONNAISSANCE FOR URANIUM AT THE ROBINEAU MINE CLEAR CREEK COUNTY, COLORADO

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PRELIMINARY RECONNAISSANCE FOR URANIUM AT THE ROBINEAU MINE CLEAR CREEK COUNTY, COLORADO

ABSTRACT

The Robineau Mine is in the Lapartine mining district of Clear Creek County, Colorado. The Robineau vein was formed by silicification of the country rock along an 18-inch shear zone that cuts the pre-Cambrian Silver Plume granite and roof pendants of the Idaho Springs schist. Some of the fractures and vugs in the vein are lined with kasolite and torbernite, and one hand specimen contains sooty pitchblende. Bulldozer trenches were cut across a radioactive zone 3 to 10 feet wide and 350 feet long. This work revealed the size and position of the vein, and plans for further exploration have been made.

INTRODUCTION

In November, 1953 trenches were bulldozed across a zone at the Robineau Mine where there is float of uranium ore. This work was discontinued on November 23, 1953 because of heavy snows, but AEC geologists had accomplished geologic mapping, radiometric traversing, and sampling of the surface exposures in the mine area.

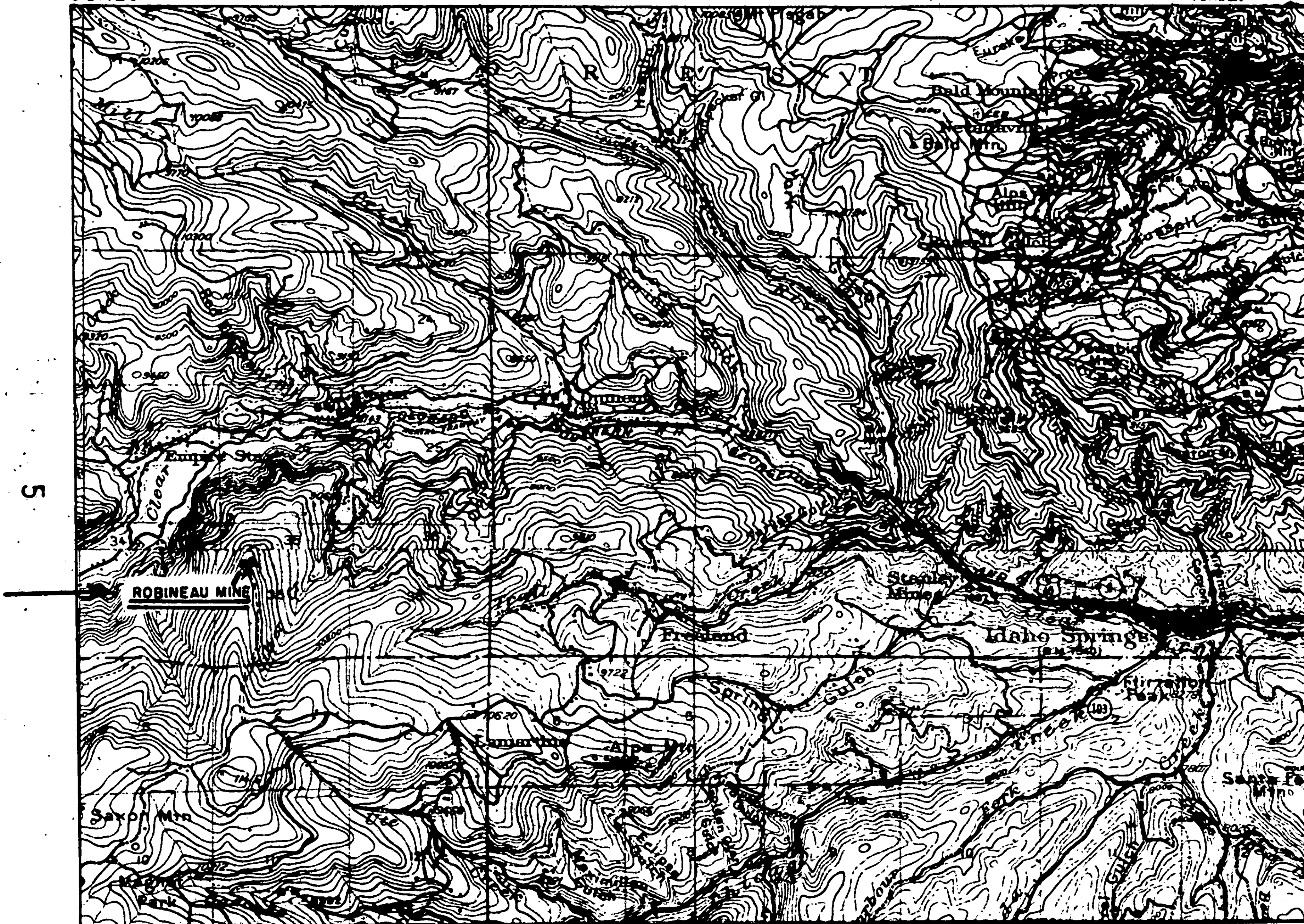
Location and topography

The Robineau Mine, which is in sec. 35, T.3S., R. 74 W. of Clear Creek County, can be reached from Idaho Springs, Colorado by the following the Spring Gulch road northwest for 6 miles to the Mollie Bawn Mine, turning right on an unimproved road, and driving north for 3 miles (see fig. 1). The mine is in mountainous terrain of early maturity at an altitude of about 10,000 feet on the crest of a ridge between the valleys of Silver and Clear Creeks.

History and production

The robineau claims consist of one patented claim, the George Peabody, and two unpatented claims, the MacGregor and the Little Mac. The Robineau Mine is owned by L. G. Robineau and J. H. Harris of Dumont, Colorado, and it is leased to Paul P; Robinson of Idaho Springs, Colorado.

The west shaft on the Robineau property was sunk in the 1880's and the east shaft may also have been sunk during this period. According to the mine owner, 16 sacks of high-grade silver ore were produced at this time, but no other production is known.



From USGS. Quad. Maps

FIGURE-1
INDEX MAP SHOWING LOCATION OF THE ROBINEAU MINE
CLEAR CREEK CO., COLORADO

Guillotte states that in 1919 the nearby Jo Reynolds mine produced eight tons of pitchblende that assayed 72% U_3O_8. This ore was sold in France for $80,000 by the owner, R. B. Morton1/

Previous reports

Torbernite from the Robineau Claims was reported in June of 1950.2/ Professional Papers No. 944 3/and 223 4/discuss the geology of the area, but they do not mention the Robineau property although uranium minerals are named as having been found at other mines nearby.

MINE DEVELOPMENT

Underground workings at the Robineau Mine were made in the early 1880's to explore for silver ore. Surface exploration was begun in November of 1953 to gather information as to the extent of uranium mineralization at the mine.

Underground workings

The workings of the Robineau Mine consist of two shallow shafts, one tunnel, and a number of small prospect pits (see fig. 2). The two shafts are on the crest of a ridge, and about 70 feet apart. The east shaft is caved at the collar and cannot be entered, but is reported to be about 30 feet deep. The west shaft is reported to be 40 feet deep with a 30 foot drift near the bottom;; it is accessable for 20 feet, below which it is caved. The portal of Cross tunnel is on the west slope of the ridge about 125 feet vertically below and about 350 feet west of the west shaft. From the portal it runs

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1/ Guillotte, G. B., some Deposits of Gilpin County, Colo., Union Mines Development Corp.,/Typescrip report/ P. 6, 1944.

2/ King, R. U., and Granger, H. C., Torbernite Occurrence at the Robineau Claims, Clear Creek County, Colorado, U. S. Geological Survey Report TEIR 24, 1950/

3/ Spurr, J. E., Garry, G. H., and Ball, S. H., Economic Geology of the Georgetown Quadrangle, Colorado, U. S. Geological Survey Prof. Paper 63, 1908.

4/ Bastin, E. S., and Hill, J. M., Economic Geology of Gilpin County, and Adjacent Parts of Clear Creek and Boulder Counties, Colorado, U. S. Geological Survey Prof.Paper 94, 1917.

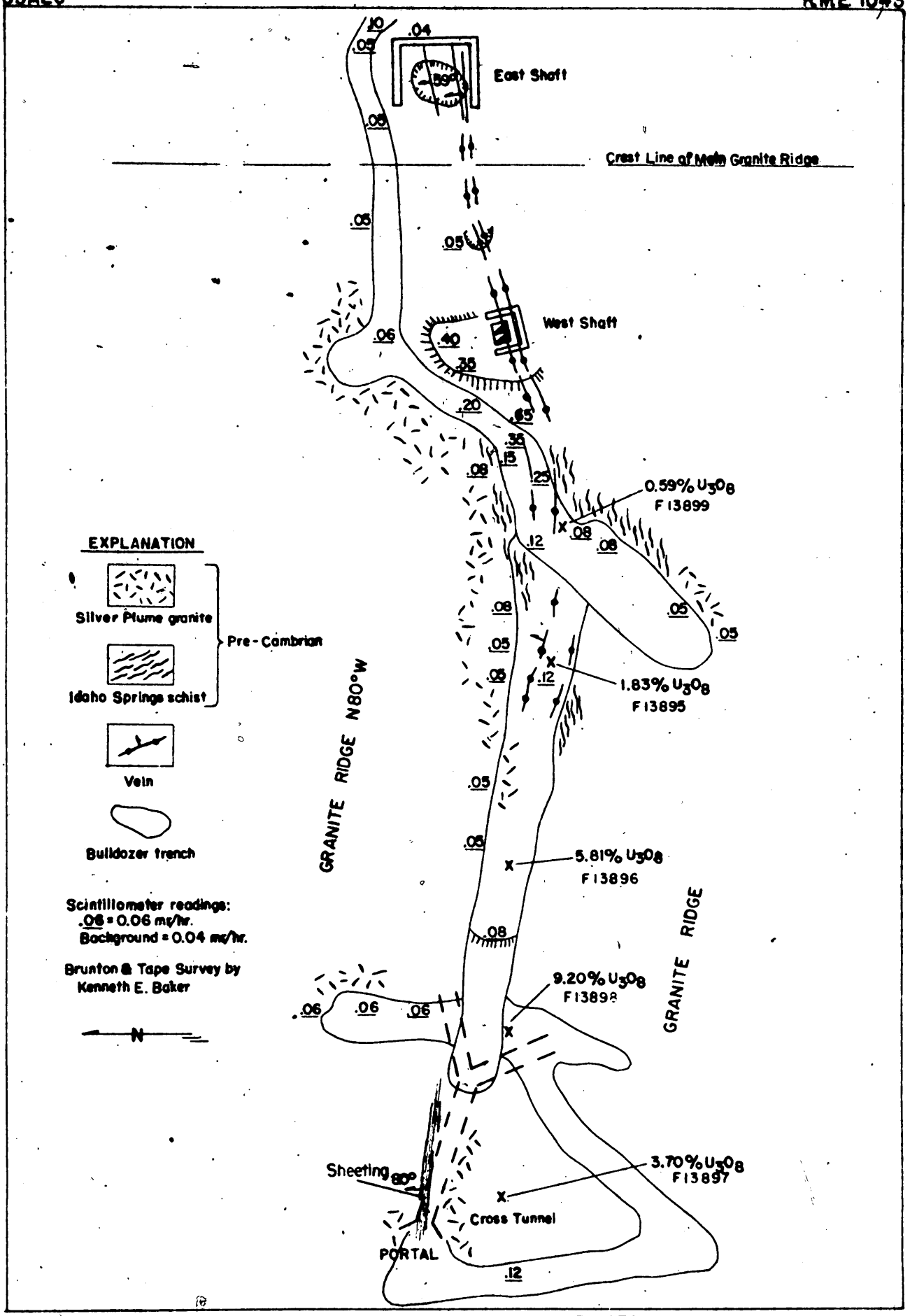

FIG. 2 - SURFACE GEOLOGIC MAP OF ROBINEAU MINE AREA
CLEAR CREEK CO., COLO.
Scale: 1" = 50'

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S. 80° E. for a distance of 50 feet where it splits into two headings; each is accessible for another 30 feet, the remainder being caved.

/

Surface exploration

Approximately 1.5 miles of access road for trucks was built, and exploration work was done on the west slope of the ridge along a zone of radioactive float that is 350 feet long and 3 to 10 feet wide. One trench was bulldozed along the strike of the float-zone near the top of the ridge where the overburden was not as deep as at most places, and three trenches 7 feet deep and 70 feet long were bulldozed across the strike of the zone of float. After these cuts were inspected, they were joined to make a crude road between the west shaft and Cross tunnel.

Anomalous radioactivity was found in the rubble in all of the cuts, but it was not sufficient to warrant sampling. The bulldozing did not satisfactorily expose the vein because of huge boulders, and hand-trenching, which was interrupted by heavy snows, must still be done to permit sampling of the vein in place. The bulldozing did lead to confirmation of the belief that the radioactive float came from the Robineau vein. It also revealed that the higher-grade float originated in the portion of the vein near the west shaft.

GENERAL GEOLOGY

The Robineau claims are underlain by quartz-biotite schist of the Idaho Springs formation and by the Silver Plume biotite granite which intrudes it, and both are cut by small dikes of pre-Cambrian granite pegmatite. These dikes are not in contact with the veins, and they have no abnormal radioactivity. Only small roof pendants of the schist remain along the crest of the granite ridge in which the Robineau shafts were sunk. At places the Robineau vein lies along or near the contact between one of these schist remnants and the granite.

The Cross tunnel is in a highly fractured zone of the Silver Plume granite. Although there is some mineralization on the sheeting planes of the granite, no definite vein was cut (see fig. 2).

The Jo Reynolds, the American Sisters, and the Bellevue-Rochester mines lie east of the Robineau Mine and expose veins that have the same general strike as the Robineau vein. All of these veins contain some pitchblende.

MINERAL DEPOSITS

Although the Robineau Mine has produced some silver most of the ore is believed to be more valuable for its uranium content, and the following discussion pertains primarily to the uranium.

Vein structure

At the collar of the east shaft the Robineau vein cuts fractured granite of fine to medium grain; the general strike of the vein is N. 78°W. and its dip is 60°N. Near the west shaft the vein is deflected to follow the contact between a schist remnant and the granite. Numerous splits characterize the Robineau vein and the other veins nearby, and much of the best ore mined was taken from these splits.

Vein mineralization

The vein material is granite and schist that have been sheared and highly silicified over a width of 18 inches. The only uranium minerals common in the deposit are torbernite and dumontite (a variety of kasolite). The kasolite is a non-fluorescent dull yellow mineral that crystallized as minute rosettes on the walls of vugs and fractures. In one hand-specimen kasolite encloses sooty pitchblende. Torbernite forms small plates on fracture surfaces, many of which have an earlier coating of brown and black iron oxides.

The same vein material that contains the uranium minerals also contains a silver mineral tentatively identified as pyrargyrite, but no other sulphides were found.

Radioactivity

A Radiation Precision Scintillator Model 111 registered a background of 0.05 MR/hr. in the mine area, a radioactivity of 0.1 MR/hr. at the east shaft, and readings of 0.35 to 0.40 MR/hr. at the dump of the west shaft. Several prospect pits gave readings of 0.10 to 0.15 MR/hr., and the radioactive zone above the Robineau vein gave readings that varied from 0.08 to 0.65 MR/hr. Although the Cross tunnel does not follow a vein or any other strong structure, radioactivity up to 0.25 MR/hr. was recorded; inasmuch as no uranium mineralization was seen in the tunnel it is thought that the radioactivity was due to radon.

Assay data

Prior to bulldozing, selected samples of float having a minimum dimension of 3 to 4 inches were taken at intervals along the radioactive zone. Assays were as follows:

Sample No.	% eU_3O_8	% U_3O_8	Ag oz/ton
F-13895	1.53	1.83	not run
F-13896	5.07	5.81	not run
F-13897	3.30	3.70	13.86
F-13898	8.14	9.20	86.25
F-13899	0.48	0.59	61.46

In October of 1950, before the west shaft caved, personnel of Consolidated Caribou Silver Mines, Inc. took two samples at the face of the drift that extends from the shaft, and the results of the assays wer given to the Atomic Energy Commission. One was a channel sample taken from the vein on the left side of the heading across a 10-inch zone stained by iron oxide; it assayed 0.12 percent U_3O_8. The other was a 30-insh channel sample taken at the center of the brest across a zone of sheared granite and schist; it assayed 0.27 percent U_3O_8.

The assay data is not sufficient to justify the calculating of any ore reserves.

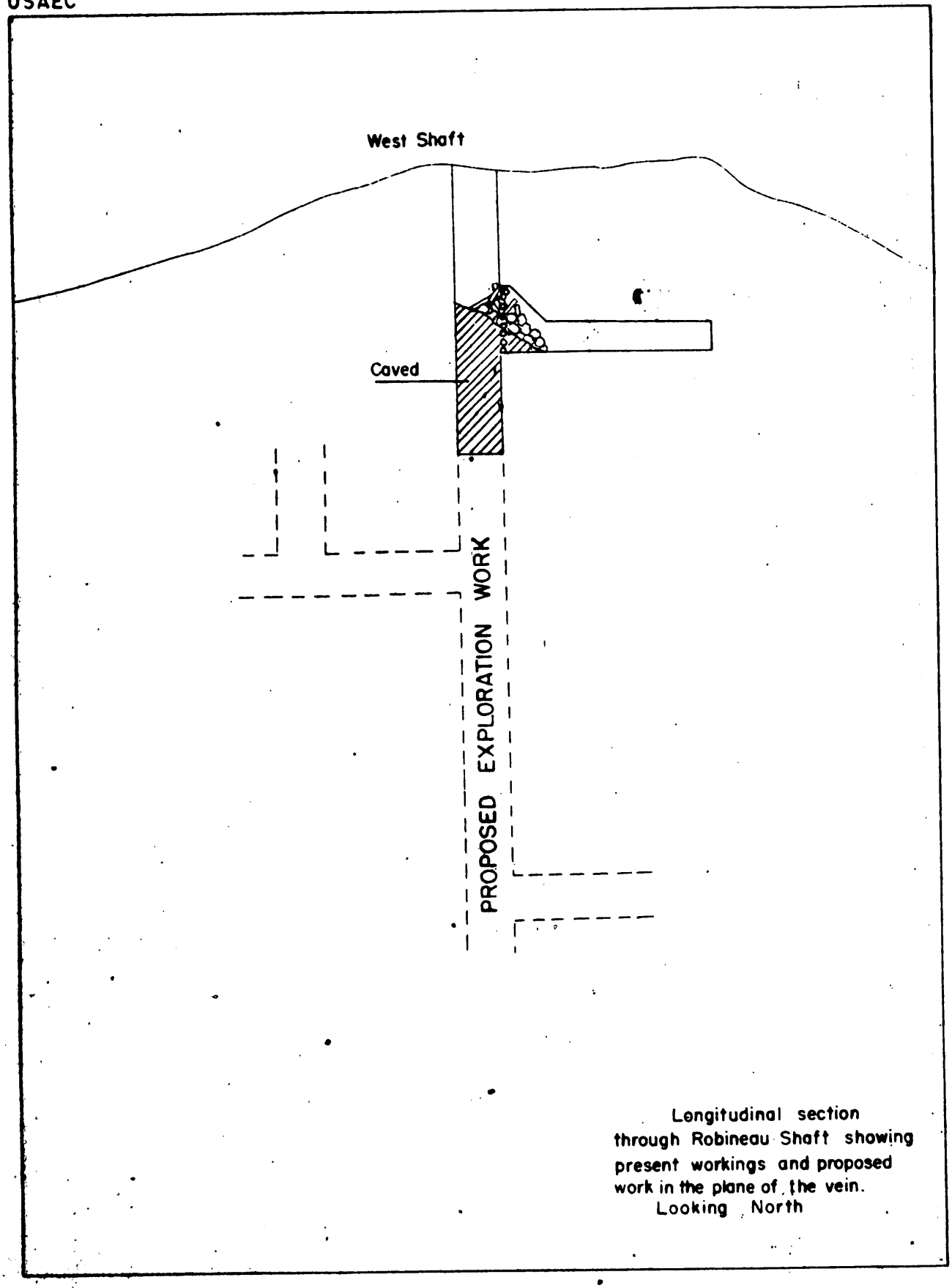
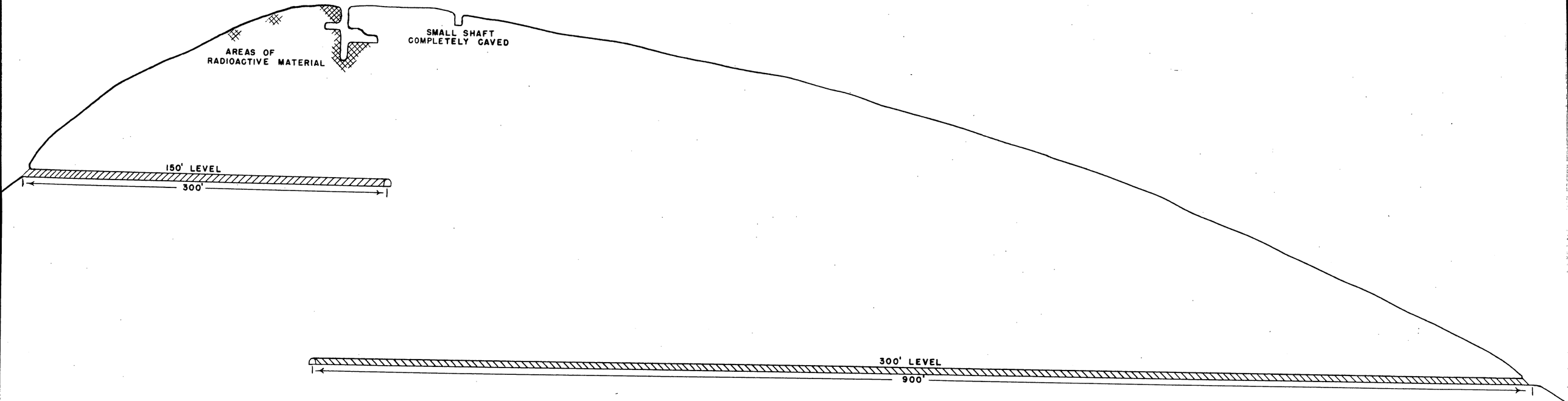
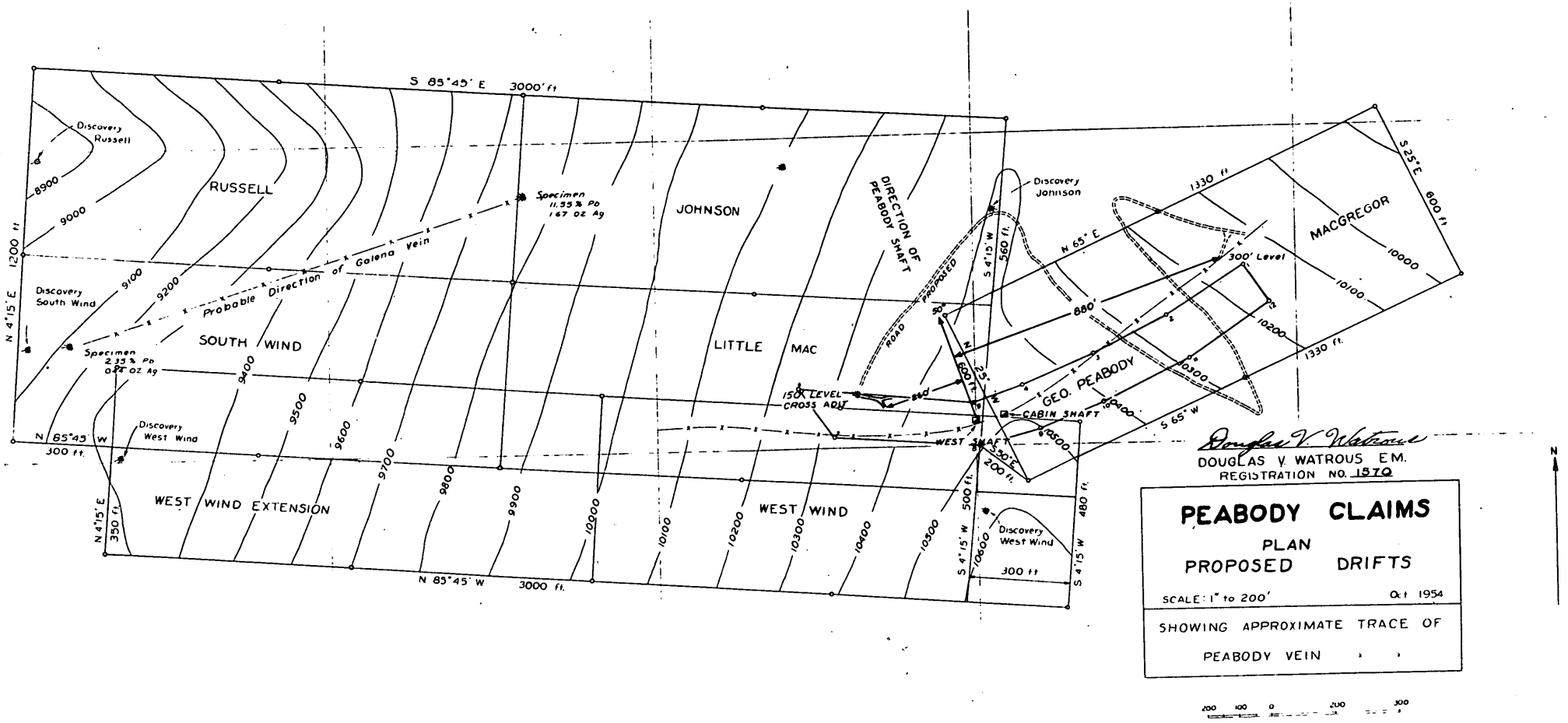


FIG.3.– SECTION OF WEST SHAFT SHOWING PROPOSED EXPLORATION
Clear Creek Co., Colo.
Scale 1" = 20'

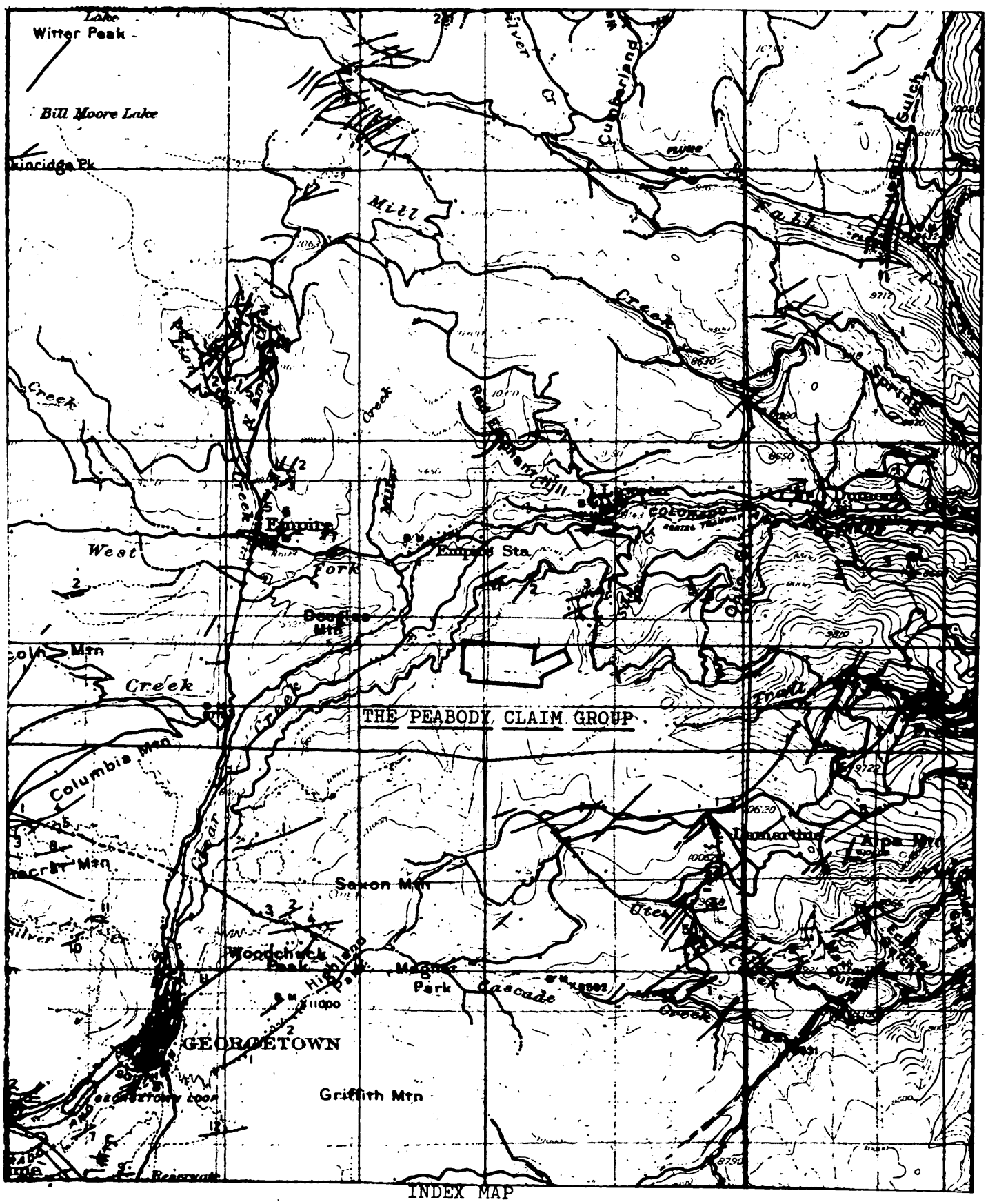


Plat No. III

CROSS SECTION
OF
PEABODY MINE
SHOWING PROPOSED
DEVELOPMENT WORK
SCALE 1"=60'


PEABODY CLAIMS
PLAN
PROPOSED DRIFTS
SCALE: 1" to 200'
Oct 1954
SHOWING APPROXIMATE TRACE OF
PEABODY VEIN
DOUGLAS V. WATROUS E.M.
REGISTRATION NO. 1570
RUSSELL
SOUTH WIND
WEST WIND EXTENSION
WEST WIND
JOHNSON
LITTLE MAC
MACGREGOR
GEO. PEABODY
DIRECTION OF PEABODY SHAFT
PROPOSED ROAD
Discovery Russell
Discovery South Wind
Discovery West Wind
Discovery Johnson
Specimen 11.55% Pb 1.67 oz Ag
Specimen 2.35% Pb 0.82 oz Ag
Probable Direction of Galena Vein
150' LEVEL CROSS ADIT
CABIN SHAFT
WEST SHAFT
300' Level
S 85°45' E 3000' ft
N 85°45' W 3000 ft.
N 4°15' E 1200 ft
N 4°15' E 350 ft.
N 85°45' W 300 ft.
S 4°15' W 560 ft.
S 4°15' W 500 ft.
S 4°15' W 480 ft.
S 4°15' W 300 ft
N 65° E
S 65° W
S 25° E 800 ft
1330 ft
880'
600 ft.
200 ft.
9000
9100
9200
9400
9500
9600
9700
9800
9900
10000
10100
10200
10300
10400
10500
10600
N

Plat No. II



INDEX MAP
OF
PEABODY CLAIM GROUP

Veins indicated immediately to the North of the Peabody Claims: 1. Bellevue-Hudson, 2. Millington, 3. American Sisters, 4. Jo Reynolds, 5. Blue Ridge, 6. Senator

From U.S.G.S. Professional Paper 223

Plat No. I

DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OFFICIAL BUSINESS

~~221 NEW CUSTOMHOUSE~~
~~DENVER 2, COLORADO~~

DENVER, COLO.
MAR 28 7 PM
55

Maps + Report

Defense Minerals Exploration Administration
U.S. Dept. of the Interior
Interior Bldg.
Washington 25, D.C.

maps + Report