OME
DEPARTMENT OF THE INTERIOR

APR 6 1980

APR 11 1980
REGION III
DENVER, COLORADO

Mr. Elliot H. Goldstein
[illegible] S. 40th Street
Boulder, Colorado

Re: Docket No. [illegible]-0017 (Vrgnion)
Jimtown Uranium Company
Victory, et al., Claims
Boulder County, Colorado

Dear Mr. Goldstein:

This is in response to your letter dated March 26, 1980, relating to the subject contract.

The contract, [illegible], Docket No. [illegible], to which you refer was rescinded because of failure to resolve litigation over property rights or furnish a performance bond. Subsequently a new application, Docket No. [illegible]-0017, was submitted to this agency. However, the applicant failed to submit essential data as requested and the application was considered withdrawn as of December 23, 1979. Neither of these dockets can be reinstated.

In view of this a new application must be submitted. We are enclosing the required forms to be completed if you wish to apply for Government aid in exploring the property. We require four copies of each of these forms and the supplementary information outlined in MMS Form 50. The Lease and Subrotation Agreements (MMS Form 52) should be signed by the owners of the claims, namely, E. F. Shanks, Pearl Brown, and William Tilley; also, a set should be signed by A. J. Burley and Clark H. Clark if Jimtown Uranium Company retains an interest in the property.

In submitting the information asked in MMS Form 50, you may omit answering items 3 (Physical Description) and 4 (Accessibility of Property) since we already have these data. We are enclosing extra copies of the forms mentioned above that may be retained for your and the signers' files.

4/11/80
Copy to [illegible]

To expedite processing the application, complete answers to the other items should be submitted. These should include a true copy of the agreement showing your rights to the property and the book and page numbers of the recording data of the claims, and in addition to the other items under 1. Financial Eligibility, a recent financial statement showing your assets and liabilities should be submitted. Also, if the proposed work is exploratory drilling, four copies each of bids from three contractors for such work are required.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

Enclosures

FMMurphy/gla/fw-4/5/60

cc: Dir, Read, File
Docket
Harold Kirkemo, USGS
GME Field Team, Reg, III (2)
w/2cc, incoming letters
Code 500
Chron.

ELLIOT H. GOLDSTEIN
Consulting Geologist
310 S. 40TH STREET
BOULDER, COLORADO
HILLCREST 2-6212

OME
DEPARTMENT OF THE INTERIOR
APR 11 1960
REGION III
DENVER, COLORADO

March 28, 1960

Director
Office of Mineral Exploration
Interior Building
Washington 25, D. C.

Re: DMEA Docket 4058
(OME 6017)

Dear Sir:

I have been negotiating with Jimtown Uranium Company, who made application in the past for the above exploratory loan, and I have entered an agreement with them subject to the obtaining of an exploration loan from your office. It is my understanding that the reason the previous OME loan application was not completed was because of pending litigation over the property. The adverse claimant lost his suit, and title to the property is now clear.

In answer to my inquiry concerning the marketing situation I have received a committment from Vitro Chemical Company. A copy of that letter committment is enclosed and is self-explanatory. In view of the uncertain market conditions within the uranium industry in recent years I felt that such a committment was necessary before any uranium exploration project could be considered. Because of this market condition, and in view of the limited committment on the part of Vitro Chemical Company, I feel it would not be prudent to conduct this uranium exploration without OME assistance, which is the motovation behind this letter.

I understand the previous contract on this project has been cancelled, because of inaction on the part of the applicant to supply your office with required information. Would it be possible to have the docket reinstated, and my supplying your office with any additional information necessary to complete the preparation of a contract? My reason for this suggestion is because of the time element involved in the preparation of a new application with the result that by the time a contract could be prepared, our August 1, 1960 ore committment would have expired.

If the Docket could be reinstated, and if I could supply the additional information you need to complete the contract considerable time could be saved. We would then have sufficient time to conduct the exploration, and avail ourselves of the ore committment we now have.

Sincerely yours,

Elliot Goldstein

EG/eg
Encl: Vitro Ore Committment

VITRO CHEMICAL COMPANY
A subsidiary of Vitro Corporation of America

600 West 33rd South Street - Salt Lake City 15, Utah - Ingersoll 7-5414

March 25, 1960

OME
DEPARTMENT OF THE INTERIOR
APR 11 19[illegible]
REGION III
DENVER, COLORADO

Mr. Elliot Goldstein
310 South 40th
Boulder, Colorado

Dear Mr. Goldstein:

This will confirm our recent telephone conversation whereby we agree to purchase a minimum of 3,000 tons of ore between April 1 and December 31, 1960 from your proposed development in the Jamestown, Colorado area. It will be necessary that you maintain a minimum monthly grade of 0.25% U_3O_8. Also, as I am sure you are aware, this ore must be amenable to our process. However, ores received in the past from the Jimtown Uranium Company were suitable for milling. On any ore purchased we will allow you $6.00 per wet ton to defray the cost of transportation.

This commitment will be effective provided that you commence to ship ore on or before August 1, 1960. In the event that no ore is shipped by that date, we reserve the right to reduce or cancel this tonnage commitment.

In the event that you are successful in discovering ore on this project, we would be interested in discussing purchase of considerable additional tonnages above the 3,000 tonnage minimum provided that the grade of ore is satisfactory.

I would appreciate your notifying me when you start driving the drift. I would like for Mr. Huntsman to visit your operation and discuss the project with you.

Very truly yours,

VITRO CHEMICAL COMPANY

/s/ R. B. Coleman

R. B. Coleman
Ore Buyer

RBD:jmb

COPY

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

OME
DEPARTMENT OF THE INTERIOR
JAN 8 1960
REGION III
DENVER, COLORADO

January 5, 1960

Memorandum

To: Allen S. Dakan, Chief
Division of Administrative Management

From: W. R. Griswold, Chief
Division of Minerals

Subject: Docket No. OME-6017 (Uranium)
Jimtown Uranium Company
Victory, et al., Claims
Boulder County, Colorado

In accordance with the Acting Director's letter of November 23, 1959, to the Applicant, kindly place this docket in the inactive file. This Division is considering the application withdrawn as of December 23, 1959, as stated in the subject letter.

FMMurphy/gla
1-5-60
cc to: Docket
OME Field Team, Region III (2)
Harold Kirkemo, USGS
Chron

1/8/60
Copy to
Hassler

March 16, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4058 (Uranium), Jimtown Uranium Company, Victory claim group, Boulder County, Colorado

Enclosed are the original and three copies of a joint engineering and geologic report on the subject docket.

The field examiners conclude that the property warrants additional exploration and they recommend 500 feet of combined crosscutting and drifting at an estimated total cost of $16,000.00. We concur in this recommendation.

The applicant has been requested to submit the correct recording data on the Lulu B and Gold Leaf claims, and when he submits this information, we will prepare the Owner's Consent to Lien in accordance with the request made by the Chairman of the Operating Committee in his letter dated November 21, 1955.

Nine extra copies of Figure 2 are attached for possible use in the contract.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures
HMC:ab
cc: Chair. Op. Comm. (4)
Docket 4058
Harshman
Mining Div.
Shaw
Everhart
Chron.

Bank

DMEA
Date Rec'd.
MAR 15 1956
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region III

Building 20
Denver Federal Center
Denver 2, Colorado
March 14, 1956

Summary Reports of Examination and Review of Examination Reports

Memorandum To Merrill 3-22-56

TRANSMITTED
MAR 16 1956

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

Subject: Examination Report, Jimtown Uranium Co., Boulder County, Colorado, Docket DMEA 4058

Enclosed are the original and 9 copies of a Joint Examination Report by R. U. King, Geologist and R. L. Bolmer, Mining Engineer, covering Docket DMEA 4058.

Jimtown Uranium Co. applied for exploration assistance in the amount of $14,600.00 to explore the Victory claim by 350 ft. of crosscut adit and 500 ft. of core drilling.

A field examination was made on 1/12/56 by R. U. King and R. L. Bolmer. The Company's open pit mining operations have exposed ore grade uranium mineralization to depths of 35 ft. below the surface over a length of approximately 60 ft. and for widths ranging from 10 to 20 feet. Approximately 400 tons of ore averaging about 0.2 percent U_3O_8 have been produced from the deposit since June 1955.

The examining team concluded that the property warrants additional exploration. The examining team recommends that deposit be explored by 500 feet of combined crosscutting and drifting at an estimated cost of $16,000.00.

It is recommended that a short-form contract be prepared for 500 feet of drifting and crosscutting at a unit cost of $30.00 per foot. Preparation of a portal site and establishement of a surface plant at a unit cost of $850.00 should be authorized by contract. 50 chemical assays for U_3O_8 at $3.00 each should also be authorized.

E. N. Harshman

E. N. Harshman
Member Field Team

John F. Shaw

John F. Shaw
Supervising Mining Engineer

cc 9
ENHarshman
DMEA 4058
Chron.
JFS/ch

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

TRANSMITTED

MAR 16 1956

DMEA A056

JUNCTION MINING COMPANY

A. J. Bailey and Clark E. Clark

Victory Claim Group

Boulder County, Colo.

Uranium

Joint Engineering and Geologic Report

By

R. V. King, Geologist
Geological Survey

R. L. Palmer, Mining Engineer
Bureau of Mines

March 12, 1956

DMEA 4056

JINTOWN URANIUM COMPANY
A. J. HESLEY AND CLARK H. CLARK
VICTORY CLAIM GROUP
BOULDER COUNTY, COLO.

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2. Map of Victory claim group, Boulder County, Colo. showing location and extent of proposed exploration (Jintown Uranium Co., DMEA 4056) 5

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DMEA 4058

JIMTOWN URANIUM COMPANY
A. J. Busley and Glenn R. Clark
Victory Claim Group
Boulder County, Colo.

INTRODUCTION AND SUMMARY

Jimtown Uranium Company, a partnership comprised of A. J. Busley of 1819 California St., Denver, Colo. and Glenn R. Clark of P. O. Box 214, Jamestown, Colo., made application for aid in a project of exploration for uranium on certain leased mining property located near Jamestown, Boulder County, Colo. The application was made pursuant to DMEA Order 1, under the Defense Production Act of 1950, as amended. It was submitted to the Defense Minerals Exploration Administration November 9, 1955 and assigned Docket No. DMEA 4058.

In its application, the company proposed to explore at greater depth a uranium deposit which it recently had discovered and partly uncovered on the surface of the Victory claim. The company's open pit mining operations on the deposit to date have exposed ore grade uranium mineralization to depths of 35 feet below the surface, over a length of some 60 feet, and for widths ranging from 10 to 20 feet. Approximately 400 tons of ore averaging about 0.2 percent U_3O_8 have been produced from the deposit since its discovery in June 1955. The specific project proposed by the company involved the establishment of a modest surface plant and the driving of a 350-foot crosscut adit so as to intersect the deposit at a depth of about 160 feet below the present pit workings. Some 500 feet of core drilling from the adit also was proposed. The total estimated cost of the proposed project was $14,600.00.

The company's application was reviewed by the DMEA commodity group in Washington, D. C. and, on November 21, 1955, it was referred to the

DMEA Field Team, Region III for a field examination and report on the property. The property was inspected January 12, 1954 by an examining team from the Bureau of Mines and Geological Survey. The inspection was made with Clark M. Clark, one of the applicant partners. The proposed exploration of the deposit subsequently was discussed with personnel of the Denver Exploration Branch, Atomic Energy Commission.

This report is based on the field examination of the property and upon data either furnished by the applicant or obtained from other sources. It is prepared for the purpose of aiding the DMEA Field Team and others concerned in evaluating the applicant's request for exploration assistance.

The examining team concluded from their inspection of the property and from other criteria that the deposit was significant and did warrant exploration. It further concluded that the proposed project, with minor exceptions, was both justified and feasible and did meet the general requirements for Government assistance. The modified exploration project, which the examining team considered warranted and is recommending in lieu of that specifically proposed by the applicant, is outlined in this report. The recommended project provides for exploration of the deposit by 300 feet of combined crosscutting and drifting. The total estimated cost of the recommended work is $16,000.00 of which the Government will participate at a maximum of $12,000.00.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The applicant's property rights are located in the SE 1/4 Sec. 19 and the NE 1/4 Section 30, T. 2 N., R. 71 W., 6th Principal Meridian, Central Mining District, Boulder County, Colo. The district lies on the eastern flank of the Front Range some 33 miles northwest of Denver (fig. 1). Jamestown, a community of about 150 population and the center

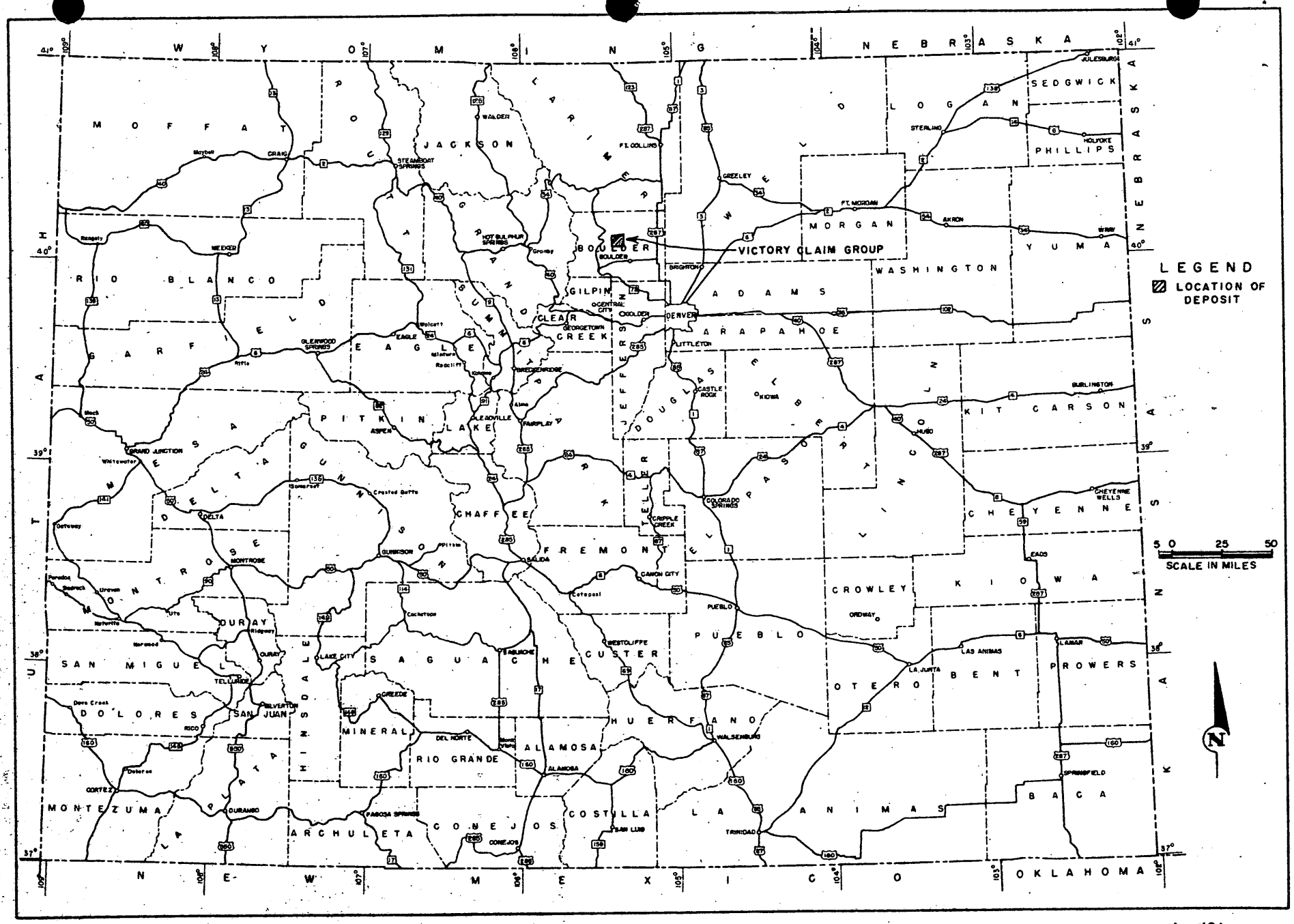

FIGURE 1 - INDEX MAP OF COLORADO SHOWING LOCATION OF VICTORY CLAIM GROUP (JIMTOWN URANIUM CO. DMEA 4058)

of the local mining activity in the district, is approximately one-half mile due west of the property. Boulder, Colo., a town of some 25,000 population and the nearest commercial center, is 9 miles southeast of the district.

The property is accessible via a county road that branches from State Highway 7, some 8 miles north of Boulder and follows Left Hand and James Creek Canyons westerly for a distance of 9 miles to Jamestown. The property lies on the lower southeastern slope of Golden Age Hill adjacent to both James Creek and the county road (fig. 2). Current mining operations are being carried out near the crest of a narrow ridge separating two tributary gullies of James Creek Canyon at a point about 450 feet northeast of the county road. The open pit mine is some 200 feet above creek level. An access road, that branches northerly from the county road at a point one-half mile east of Jamestown, extends about one-fourth mile up the steep eastern slope of Hill Gulch to the surface workings.

The topographic relief within the district is about 2,500 feet. The floor of James Creek Canyon adjacent to the property is at an elevation of 6,850 feet above sea level. The summit of Golden Age Hill rises to an altitude of 8,400 feet within a distance of less than one mile from the property. The mountainous terrain within the district is typical of that found at intermediate altitudes along the eastern flank of the Front Range. It is characterized by rounded mountain tops and flat ridges separated by narrow valleys and deep canyons. The drainage of the district is easterly into the South Platte River Basin through the St. Vrain River and its numerous smaller tributaries. The climate at lower elevations within the district generally permits year around

mining operations. Heavy snowfall can be expected at the higher elevations during the late winter and early spring months. The county road through James Creek Canyon is at lower elevations and is accessible all year.

The property is covered with second growth cedar, yellow pine, and red spruce, the latter of which is suitable for most mining purposes. Although power transmission lines pass through James Creek Canyon, they do not connect with this particular property. Their extension to the property for the purposes of the proposed project is not anticipated. The flow of water in the two side gulches is intermittent but an ample supply for mining needs can be pumped or hauled from James Creek. Mining labor generally can be obtained in or around Jamestown. Although some housing is available at the various camps throughout the area, most of the mining personnel live in Boulder and drive to and from the district.

Boulder is the closest shipping point to the property. It is served by the Union Pacific and Colorado & Southern Railroads. The current production from the property is trucked to Boulder for subsequent carlot rail shipment to the Vitro Chemical Company in Salt Lake City, Utah. The ore is sampled enroute by the Atomic Energy Commission at Murray, Utah. Under its 1955 fringe area contract with the Commission, the applicant was reimbursed for the freight charges providing the ore grade did not drop below 0.2 percent U_3O_8. The current freight rate is $7.01 per ton. A similar contract has been negotiated for the current year.

OWNERSHIP AND EXTENT

The applicant's property rights include the following three unpatented lode mining claims, the locations of which are on file in the records of Boulder County:

Name of claim	Location certificate recorded in book	at page
Victory lode mining claim	781	339
Lulu E. lode mining claim	320 (500)	227 (98)
Gold Leaf lode mining claim	320 (500)	229 (99)

The three contiguous claims comprise a surface area of approximately 35 acres. Their relative locations and extent are shown on figure 2. The presently exposed uranium deposit on the property and the current open pit mining operations on that deposit are located centrally on the Victory claim. All of the exploration proposed for the deposit will fall within the boundaries of this claim.

The claims are owned by E. Elmer Hughes and Pearl Brown, both of Jamestown, Colo. The owners, under a bond and lease agreement dated June 15, 1955, leased the property for a period of 5 years to Clark E. Clark of Jamestown, Colo. and A. J. Bailey of Denver, Colo. This agreement, a copy of which is attached to the application for exploration assistance, is on file in book 985 at pages 339-341 of the Boulder County records.

The lease calls for sliding scale royalty payments to the owners ranging from 5 to 15 percent of the value of all ores mined, shipped, or sold from the premises. It also provides for a payment by the lessees at the end of the first year of the sum of $5,000.00 less any royalties that may have been paid during that period. The owners agree to sell the property to the lessees for a sum of $30,000.00 less any royalties or other payments previously made under the terms of the lease.

The two lessees, Clark E. Clark and A. J. Bailey, comprise a partnership doing business as the Jimtown Uranium Company and, under that name, are applicants for exploration assistance at the property (Docket No. DMA 4058).

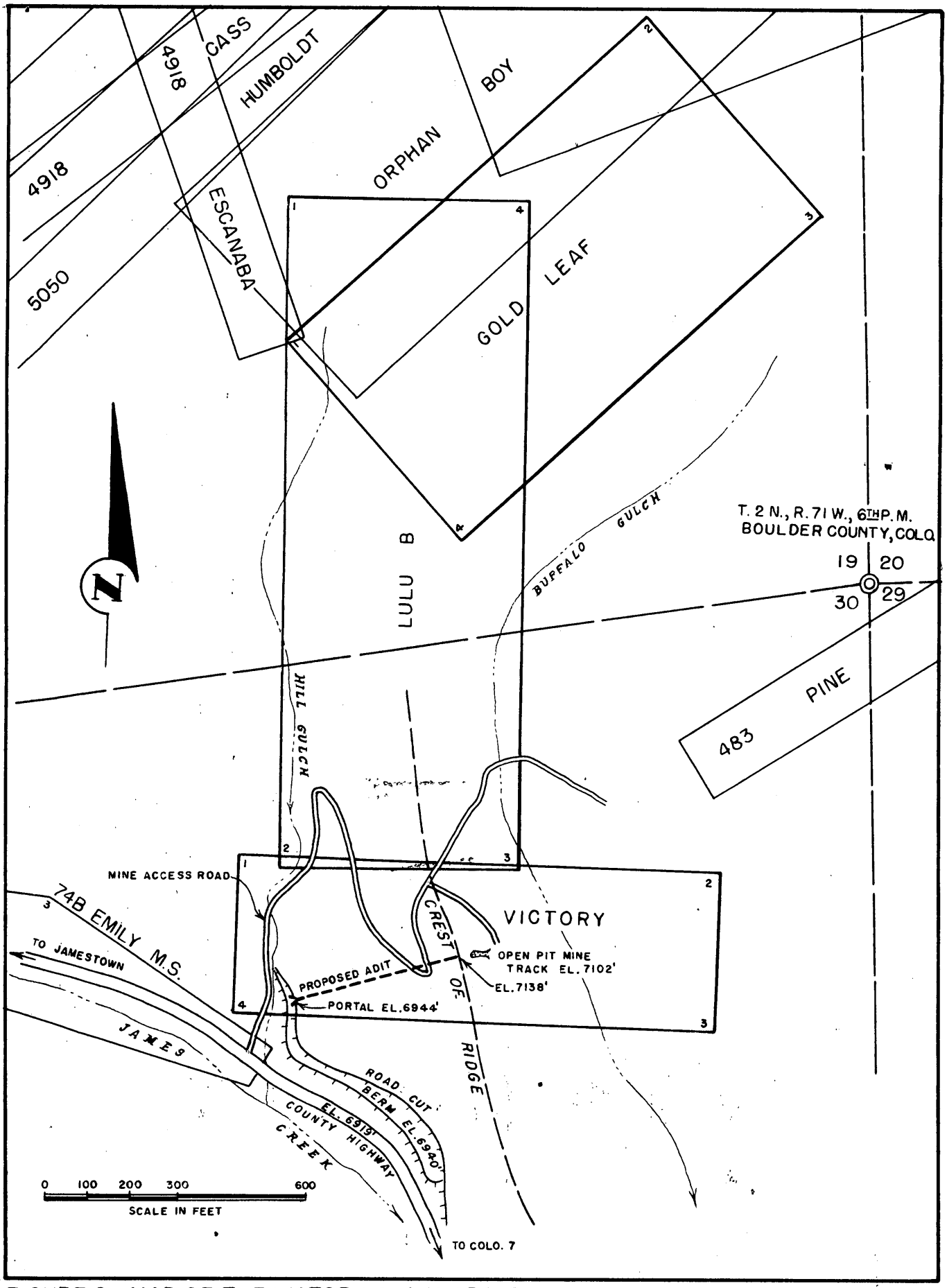

FIGURE 2 - MAP OF THE VICTORY CLAIM GROUP, BOULDER COUNTY, COLO., SHOWING LOCATION AND EXTENT OF PROPOSED EXPLORATION. (JIMTOWN URANIUM CO. DMEA 4058)

HISTORY AND PRODUCTION

The Lulu B. and Gold Leaf claims were located in the early twenties on pyritic gold veins. These veins were explored and developed to a small extent by adits and shallow shafts. A small tonnage of gold ore reportedly was produced as a result of this work. The claims later were prospected and explored for fluorspar. No significant discovery was made and no production of fluorspar is recorded.

The Victory claim was located for fluorspar during the late thirties. Although fluorspar float is abundant on the surface and is exposed in several brecciated zones that cross the claim, no minable concentrations were uncovered. Only a few truck loads of spar were produced.

Uranium was discovered on the Victory claim in mid-1955 by one of the applicant partners. Initially several shallow trenches and pits were excavated at the point of discovery. The deposit thus exposed appeared significant. An access road was extended to the discovery site and small scale surface mining operations were commenced. These operations have continued intermittently to the present time and currently are in progress.

An open cut was started some 70 feet east and about 36 feet below the crest of a narrow ridge separating Hill and Buffalo Gulches. On the date of inspection, this cut had been extended some 60 feet westerly into the ridge and had engulfed all of the earlier pits and trenches. The floor or track level of the cut was horizontal. The western breast of the cut was some 25 feet wide at the surface but narrowed to about 5 feet at track level.

According to the applicant, 4 carloads of ore aggregating approximately 200 tons and averaging 0.2 percent U_3O_8 were shipped from the

claim under the authority of a 1955 A.E.C. fringe area contract. An additional 4 carloads of ore, aggregating approximately the same tonnage but averaging slightly higher in grade, have been shipped under the current 1956 contract.

The history of discovery in the Jamestown district is summarized as follows:

1865	Gold discovered in district
1867	First gold mill constructed
1875	Gold-telluride ore discovered
1889	"Boom" period - lead carbonate ore discovered
1909	Fluorspar discovered in district
1916	First fluorspar mill constructed
1933	Some gold mines reopened due to rise in gold price
1942	Gold mines closed - interest turned to fluorspar

The estimated total output of the district to 1943 is as follows:

Gold telluride ore	$3,500,000
Pyritic gold ore	1,200,000
Lead-silver ore	1,000,000
Fluorspar	1,300,000
Total value	$7,000,000

The production of metals and fluorspar for the period 1901-43 is as follows:

Gold	57,615 oz.
Silver	290,985 oz.
Lead	963,931 lbs.
Copper	144,411 lbs.
Zinc	7,000 lbs.
Fluorspar	61,116 short tons (metallurgical grade)
	19,138 short tons (acid grade)

The presence of uranium in the deposits of the Jamestown district has been known since 1940 when uraninite was identified in cerite deposits in the northern part of the district. Uraninite associated with the fluorspar veins has been known since 1946, but only recently have uranium minerals been found in pyritic gold veins (Red Spence and Lady Bug mines) or in other types of deposits in economic quantity and grade. Torbernite in fracture and shear zones was discovered during 1954 in deposits one-half to one mile north of Jamestown.

GEOLOGY

The Jamestown district is at the northeastern end of the Front Range mineral belt. In the area of the proposed exploration, schist of the Idaho Springs formation occurs as remnants within the Precambrian Silver Plume granite batholith. A large stock of hornblende granodiorite of probable Tertiary age and a subsidiary stock of quartz monzonite porphyry that intruded the Precambrian rocks, crops out within one-fourth of a mile of the claims on the west and northwest. Porphyry dikes, which appear to be younger than the stocks are common in the area. The principal linear structures of the Precambrian rocks strike northeast and dip steeply south. The stocks appear to have been intruded from depth south of the district.

The major structures in the district consist of early Laramide faults, that trend northeastward across the Front Range and are nearly normal to the mineral belt. These faults are in part mineralized with quartz and finely divided hematite and in part are merely zones of intense brecciation. These early faults are believed to have been a major factor in the control of the localization of most of the ore deposits of the mineral belt. The Maxwell reef, a Laramide fault structure, trends northeastward across the district one-half mile west of the claims. Vein fissures are generally younger than the intrusive porphyritic rocks and the breccia reefs. In the Jamestown district the fissures are largely filled with lead-silver and fluorspar deposits. Another group of fissures contain pyritic gold and gold-telluride deposits.

ORE DEPOSITS

On the Victory claim prospecting has uncovered radioactive fluorspar breccia deposits and recently a disseminated deposit of secondary uranium minerals. The radioactive fluorspar deposits of the district contain

minute grains of uraninite and uranothorite sparsely disseminated throughout the spar and are not of commercial significance for uranium. The uranium deposit on the Victory claim consists of a poorly defined concentration of secondary uranium minerals in weathered and highly jointed Silver Plume granite near its contact with a body of schist.

The Silver Plume granite in the vicinity of the applicant's Victory claim is a gray, medium- to coarse-grained, biotite-muscovite granite. It is deeply weathered, weak jointed, and in places bleached and argillized by hydrothermal alteration.

A small lenticular body of quartz-biotite schist of the Idaho Spring formation lies in contact with the granite on the Victory claim. The contact of these two rocks strikes east and dips south at a steep angle.

Along this contact and in the granite on the south or hanging wall side, torbernite is concentrated along numerous joints and fracture planes. The mineral is, to a much smaller degree, disseminated in the granite and for a few feet also is visible in schist in the footwall. The applicant stated that the mineral autunite also is present in the deposit, but none was visible at the time of the examination. The deposit has been exposed in one pit (fig. 3) for about 50 feet in a westerly trend, and is as much as 20 feet wide. Mineral is exposed at the floor of the pit as well as in the face 20 to 30 feet higher.

Samples collected by A.E.C. personnel in mid-summer 1955, from the applicant's initial trenches on the outcrop of the deposit, contained from 0.1 to 0.3 percent U_3O_8. The location of three A.E.C. channel samples are shown on figure 3. On the date of examination by DMEA representatives, the western end of the pit contained from 50 to 75 tons of broken ore which mine personnel had started to load for shipment. This material recently had been blasted from a 15-foot bench in the western face of the pit at a height of

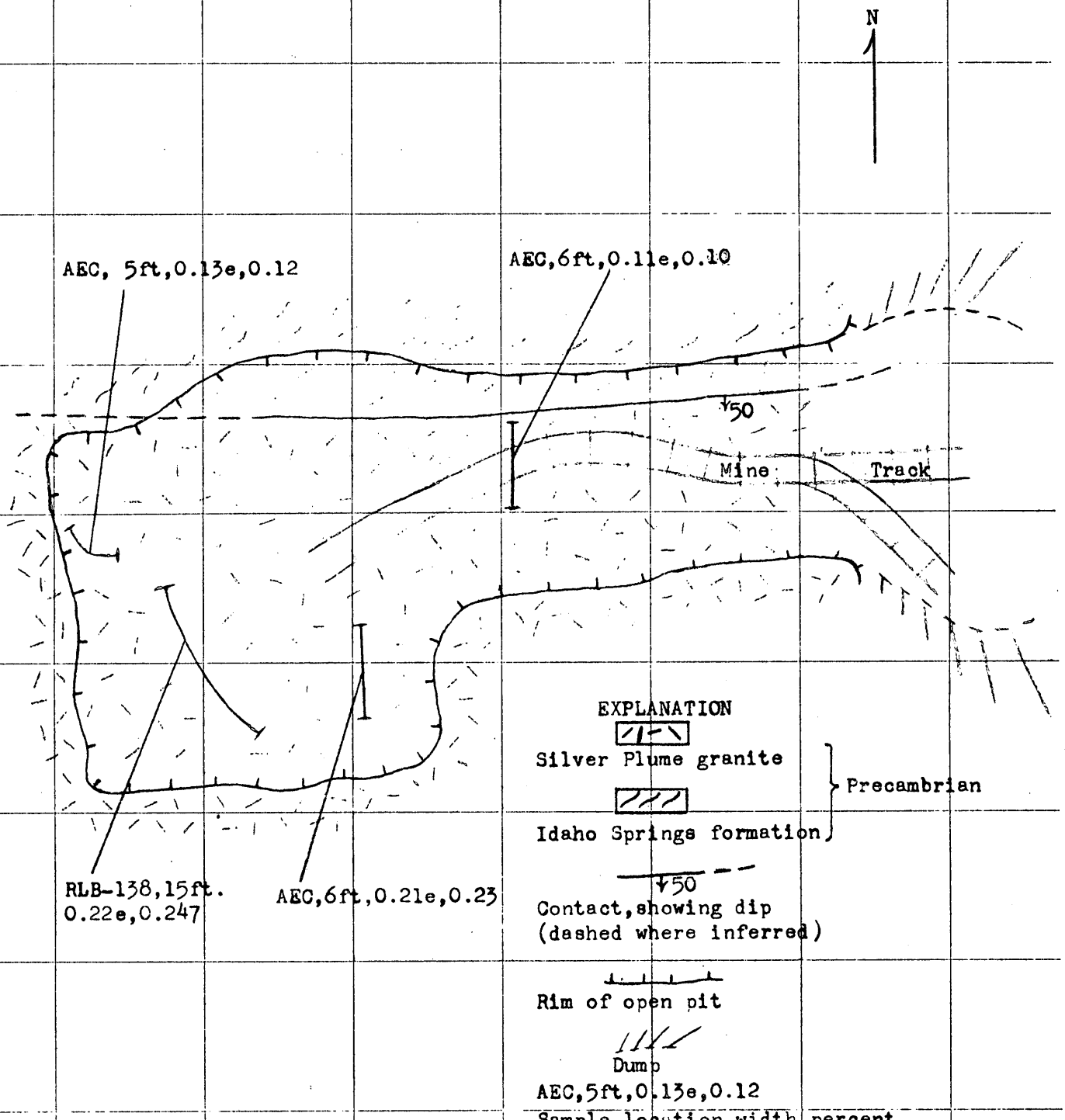

Figure 3.-- Geologic sketch map of open pit, showing location of samples, Jimtown Uranium Company, Boulder County, Colorado

10 5 0 10 Feet

R.U.King Feb.1956

20 to 30 feet above the track level. A representative grab sample of this broken material (HAB-136) assayed 0.22 percent eU_3O_8, 0.347 percent U_3O_8, 0.03 percent V_2O_5, and 0.2 percent CaO.

PRESENT STATUS OF THE PROPERTY

Exploration and Development

The uranium deposit on the Victory claim has had neither exploration nor development other than that resulting from the extension and enlargement of the open pit by current mining operations. The deposit was discovered by the applicants while prospecting the area with a geiger counter and subsequently was explored by them in several smaller surface pits and trenches. These initial exposures were enlarged in the subsequent mining of the deposit and since have lost their identity within the present open pit. The surface area surrounding the deposit since has been prospected extensively with detection equipment. Although a few other anomalies have been detected, no definite lateral extension or trend to the deposit has been indicated.

Mining Equipment and Other Facilities

The property has no facilities other than the open pit mine itself and the access road to the mine from the county highway. The pit has no improvements other than the mine track laid along its floor. The track extends about 30 feet easterly from the mouth of the cut into Buffalo Gulch. This latter section is supported by a wooden trestle and connects with a loading chute containing a fixed grizzly and screen. Originally, the crude ore was screened and sorted before shipment. Present practice is to dump the crude ore from the pit cars directly into trucks. A certain amount of waste rock is discarded from the truck. Some of the larger, lower grade rocks are segregated in the pit. These are loaded separately and transport to the waste dump. A side track from the mouth of the cut

follows the contour of the ridge to the waste dump. There is ample room for waste disposal in the gulch.

The mine is located near the crest of a north-south trending ridge. South of the mine, the crest of the ridge drops rapidly toward Jamse Creek Canyon. The county highway through the canyon crosses the southernmost end of the ridge and follows the contour along its lower southwestern slope. At the latter location, the road cut forms a nearly vertical bank some 60 to 70 feet in height. The county highway department later quarried road ballast from this bank. Their operation left a nearly horizontal berm along the bank 20 to 25 feet above the road level. The berm is from 20 to 50 feet in width and roughly parallels the highway. It follows the contour of the bank northwesterly and terminates just short of the mine access road near the mouth of Mill Gulch (Fig. 2).

The portal site of the crosscut adit proposed by the applicant is near the northwestern end of the highway berm. At this location, the berm is wide enough for a surface plant and, with only a minor amount of cleaning up and the installation of a culvert in the gulch bottom, will become accessible by automobile from the mine road. The county needs road material and has agreed to haul away all waste rock produced from the adit. The applicant proposes to construct a storage pocket and chute at the edge of the berm in order that such material may be loaded directly into trucks.

The mining equipment observed on the property during the examination, which would be adaptable for use in the proposed project, is listed below:

International 10-ton dump truck
1953 Ford 1/2-ton pickup truck
Jaeger 250, diesel-powered, portable air compressor
3- by 6-foot air receiver
Joy 45-lb. sinking drill with pneumatic feed leg
2 - S.S. Card 20 cu. ft. end-dump mine cars

In addition to the above items, the applicant also owns certain other mining equipment, not presently at the property, which can be used for the

proposed project.

PROJECT PROPOSALS WITH COSTS

The applicant proposes to drive a 350-foot crosscut adit easterly into the ridge so as to intersect the deposit some 160 feet below its present exposures in the open pit mine. Lateral exploration of the deposit from the adit level by means of 500 feet of core drilling also is proposed. The applicant estimates the total cost of such a project at $14,600.00.

The deposit thus far exposed appears significant both in grade and tonnage and its exploration at the moderate depth proposed by the applicant is considered warranted. The proposed easterly crosscut into the ridge is considered the most feasible method of attaining such depth.

A crosscut driven northerly into the ridge from the highway here in James Creek Canyon proper would be approximately 20 feet shorter and some 4 feet lower in elevation. The portal and the initial 190 feet of such an adit, however, would fall outside the applicant's property rights. Although a westerly crosscut into the ridge from Buffalo Gulch would be somewhat shorter, it would have to be driven at a considerably higher elevation. This gulch is narrow and steep and, for all intent and purpose, is inaccessible. Inasmuch as no definite strike or trend presently can be determined for the deposit, any adit driven into the ridge would have to be considered a crosscut.

Sinking to the desired depth from the surface would cost considerably more than the proposed crosscut. The mineralization in the surface pit is disseminated over an extensive area and neither the attitude of the deposit nor its structural control are apparent from present exposures. Considerable lateral exploration from a shaft probably would be needed

to keep sight of the structure or its limits of mineralization. The rock, at least near the surface, is highly altered and a shaft opening probably would be difficult to hold without excessive timber support.

The core drilling proposed by the applicant might prove desirable once the deposit has been exposed at depth. The conditions that will be encountered and the amount of drilling that may be justified, however, are unknown at present. Under such circumstances, the inclusion of a drilling program in the initial contract is not recommended.

The examining team considers that some lateral exploration of the deposit from the adit is justified and is recommending approximately 120 feet of drifting along the trend of the deposit or the strike of its controlling structure. Such lateral drifting probably would extend in both directions from the crosscut. Its actual extent would depend upon the conditions encountered. Any unwarranted, and therefore unexpended, drifting could be substituted, if justified by the conditions then encountered, for an equal footage of raising or an equivalent amount of core drilling. This latter work, however, need not be stipulated in the contract; it can be authorized by amendment if and when the need arises. Substitution of the recommended drifting in lieu of the proposed drilling was discussed with and is acceptable to the applicant.

A recent transit survey at the property determined that 380 feet of crosscut actually will be required to reach a point vertically below the crest of the ridge from the most feasible portal site on the highway bench. It also disclosed that the portal of the adit would be collared at an elevation 25 feet above the county highway, 158 feet below the floor of the open pit, and 194 feet below the crest of the ridge. This recent survey data is incorporated in figure 2.

A total of 500 feet of combined crosscutting and drifting is the maximum amount of project work that the examining team considered

justified on the basis of the present knowledge of the deposit. Variations in the attitude of the deposit may require a greater or lesser footage of crosscutting than is presently indicated and may either reduce or increase the amount of drifting allowable within the maximum aggregate total. Excessive variations in the indicated requirements are not anticipated. The deposit may be localized along the easterly trending, southerly dipping granite-schist contact and it is possible that the proposed easterly crosscut would intersect the deposit before reaching a point vertically below the crest of the ridge. In such event, the adit would be continued easterly to below the pit workings as a drift along the deposit.

The only other work considered pertinent to the project is the establishment of a small surface plant on the berm above the county highway and a few hours of bulldozer work to clear and level the berm for the needed surface installations and to make it accessible from the mine road.

The applicant's total estimated cost of the project was distributed to the various proposed operations as follows:

160
500
190
850

Description	Total Cost	Computed Unit Cost
Compressor bldg., tool and change room	$1,500.00	$1,500.00
16 hrs. of bulldozer work	160.00	10.00/hr.
500 feet of core drilling	3,000.00	6.00/foot
350 feet of crosscutting	9,940.00	28.40/foot

The above costs were discussed with the applicant. The compressor building that the applicant intended to erect was more elaborate than actually needed for exploration purposes. It was mutually agreed that a simple frame structure large enough to house the compressor, store miscellaneous tools and supplies, provide shop space for minor repairs, and serve as a change room for project personnel could be erected for a gross cost of approximately $750.00, or a net cost, after deducting the probable salvage value of the used lumber and hardware, of about $500.00. The applicant's

estimate of $160.00 for the rental of a bulldozer to level the plant site and to clean debris from the barn is accepted. Other work incidental to the preparation of the surface plant--the construction of a waste storage bin and chute at the edge of the highway barn, the extension of mine track to this bin, and the installation of the necessary plant equipment--is estimated to cost an additional $190.00.

Contract labor for driving drifts and crosscuts in the Jamestown district currently is being paid at a unit price of $12.00 per foot rather than the rate of $10.00 per foot as used in the applicant's estimate. The wage-hour board considers the advance under this type of contract as piece work and has ruled that all units of work completed during periods in excess of 40 hours per week must be paid at a rate of one and one-half times the contract price. On this basis, the overall labor costs under current contract rates for crosscutting and drifting would average $13.00 per foot.

S. H. Clark, one of the applicant partners, is an experienced mine operator and lessee in the district. He will supervise project operations as well as perform the necessary surface duties incidental to that work. A full-time supervisor-surfaceman is included in the estimated labor schedule at a rate of $400.00 per month.

The operator thinks that project work possibly can be carried out on a double shift. As this point is uncertain, the costs of crosscutting and drifting, as estimated below, are based on a single shift operation. The applicant expects to average about 5 feet of crosscutting or drifting per shift. At such a rate, the recommended 500 feet of crosscutting and drifting would be completed in 100 shifts or about 4 months overall time. The applicant's estimate is considered optimistic; it is doubtful that more than 100 feet of heading can be driven per month. An advance

of 100 feet per month is equivalent to an average of about 4 feet per shift and a total elapsed time for the recommended footage of 125 shifts or 5 months. The latter figures are used in the revised cost estimate.

The equipment, which is owned by the applicant and will be used in project operations, is listed below. The standard monthly depreciation rate of 1/60 of its value has been included in the cost estimate.

Item	Value
1953 Ford 1/2-ton pickup truck	$2,000.00
Jaeger 250 diesel-powered air compressor	5,000.00
3- by 6-foot air receiver	160.00
Ingersoll-Rand 45-lb. sinking drill, pneumatic feed leg	600.00
3-C.F. Gurd 20 cu. ft., end-dump mine cars	300.00
Coppus T-4 Ventair blower	250.00
Universal Air Trammer	1,650.00
Total	$9,960.00
Monthly depreciation:	166.00

In addition to the above owned equipment, the applicant intends to rent a mucking machine for the duration of project operations. The rental rate on such equipment currently is about $250.00 per month. The total cost of renting a mucker for the 5-month period probably would be cheaper than the initial purchase price of a second hand machine less its salvage value at the completion of the project.

The cost of the recommended 500 feet of combined crosscutting and drifting is estimated as follows:

Item of cost		Amount
Labor, supervision:	Contract labor at $13.00/ft.	$6,500.00
	Foreman-surfaceman at $400.00 per mo. for 5 mos.	2,000.00
Operating Materials, Supplies:	Timber	300.00
	Explosives	1,500.00
	Pipe*	250.00*
	Track*	600.00*

Item of cost		Amount
Operating Materials, Supplies: (Cont'd.)	Diesel fuel, gasoline, oil, grease	$500.00
	Drill steel, bits	570.00
	Small tools, misc. supplies	450.00
Operating Equipment:	Depreciation at $166.00/mo. for 5 mos.	830.00
	Rental at $250.00/mo. for 5 mos.	1,250.00
Miscellaneous:	Repairs to equipment	250.00
	Payroll taxes, liability insurance	425.00
	Gross total cost	$15,425.00
	(Less salvage value of unexpended materials*)	-425.00
	Net total cost	$15,000.00

Units to be completed: 500 feet
Net unit cost: $30.00 per foot

The modified exploration project and the revised cost estimate outlined below are recommended in lieu of the original program proposed by the applicant. The location of the recommended work is shown on fig. 2.

Summary of recommended project work with estimated costs

Description of work	Estimated Cost
1. Prepare site and establish surface plant on highway berm at mouth of Mill Gulch. (The unit of work comprises all of the necessary surface preparation and includes the following: leveling plant site and making berm accessible from mine road;(1) erecting suitable shelter for equipment, supplies and personnel;(2) installing needed equipment;(3) constructing waste bin at edge of berm; and extending mine track to waste bin.)(4)	$ 890.00
2. Drive a crosscut adit easterly from highway berm for a distance of approximately 380 feet so as to intersect the uranium deposit at a depth of some 156 feet below its present exposure in open pit mine. Explore deposit laterally from adit by means of 120 feet of drifting. (The stipulated distances are estimates only; the aggregate total footage of crosscutting and drifting, however, will not exceed a maximum of 500 ft.) All project headings will be driven to a 5- by 7-feet minimum cross section and timbered where necessary. (500 feet of combined crosscutting and drifting at $30.00 per foot)	$15,000.00
3. Sample and assay all occurrences of radioactive mineralization encountered along project headings. (50 chemical analyses for U_3O_8 at $3.00 each)	$ 150.00
Estimated total cost of project:	$16,000.00
Maximum Government Participation:	$12,000.00

CONCLUSIONS

Both the grade and extent of the deposit exposed thus far on the property are considered significant. Although no structural control is yet apparent, rock alteration is sufficiently intense to indicate continuity of the deposit to moderate depths below the surface. Exploration of the deposit at such depths is considered warranted.

A crosscut adit driven to the deposit from the surface site selected by the applicant appears to be the most feasible and economic means of attaining the warranted depth. Drifting, however, would appear a more feasible method of exploring the deposit laterally from the adit and would result in more useful and dependable information than the core drilling proposed initially by the applicant.

Except for the modifications outlined in this report, the exploration project proposed by the applicant is considered both technically and economically feasible. The property rights, as set forth in the application, are sufficient for the protection of the Government. The applicant is technically qualified to carry out the type of project proposed and is able to finance its share in the cost of such work. The proposed project otherwise appears to meet the general requirements and conditions for financial assistance under current DMEA policies.

RECOMMENDATIONS

The modified project outlined in this report, which provides for exploration of the deposit by means of 500 feet of combined crosscutting and drifting at an estimated total cost of $16,000.00 is recommended for approval.

A unit cost, short-form type of exploration project contract is suggested.