DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 3699

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Cys to USBM and USGS.

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Exploration

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

To:	700	Date	2/25/55
To:	Oper Com	Date	3-10-55
To:	Oper Com	Date	6-14-55
To:	Oper Com	Date	1-4-56
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Surname 700

Murphy
Ellis
Crawford
Kulsgaard
Hedges
Selfridge
Johnson

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

Mr. W. C. Kinnon
28 E. Catalina Avenue
Phoenix, Arizona

JUN 16 1955

Re: Docket No. DMEA-3699 (Uranium)
Copper Kid claims
Maricopa County, Arizona

Dear Mr. Kinnon:

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 judgement, 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,

Frank E. Johnson (for)

ACTING Administrator

FMurphy:am
6-7-55
cc to: Admr. Reading File
Docket
Code 700
Mr. Murphy
DMEA Field Team, Region III(2)
Oper Com

R.C.S.

Docket copy

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

June 7, 1955

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-3699

Commodity: Uranium

Applicant: W. C. Kinnon
28 E. Catalina Avenue
Phoenix, Arizona

Property: 6 unpatented lode mining claims (Copper Kid claims) located in Sec. 10, T.6 N., R.4 E., Maricopa County, Arizona

Date of Application: February 9, 1955

Referred to Field Team: March 11, 1955

Field Team Report Received: May 23, 1955

Amount of Application: $10,204.00

Work Proposed and Estimated Costs:

Stage I

Dewater and rehabilitate a shaft	$2,209.00

Stage II

Headframe	620.00
Sink shaft 100 feet	4,500.00
Drift and Crosscut 100 feet	2,800.00
10 chemical analyses	75.00
Total estimated cost	$10,204.00

Commodity Committee Members' Comments:

U. S. Geological Survey - R. D. Trace - May 26, 1955

Recommends that the application be denied.

U. S. Bureau of Mines - No comments

Mr. J. E. Crawford surnamed denial letter in lieu of comments.

Field Team Report of Examination:

The Copper Kid workings are in an E-NE-trending belt of pre-Cambrian Yavapai schist that ranges from 600 to 1200 feet in width and a length of about ten miles.

Copper, lead and iron sulfides, and very minor amounts of a uranium mineral (identified as urananite) occur in shear zones which are parallel to the planes of schistosity.

The deposit has been prospected by an inclined shaft, now flooded to within 40 feet of the surface and inaccessible below a point 28 feet from the surface; also, by a vertical shaft, caved at a point 20 feet below the collar and by several shallow pits and trenches.

Uranium occurs as thin seams and lenses of low-grade material dispersed along shear zones in schist. The Field Team concludes that significant deposits of uranium ore will not be found by exploration on the property and therefore recommends the application should be denied.

Rare and Miscellaneous Metals Division - F. M. Murphy

Because of the low-grade uranium mineralization noted by the Field Team examiners and because of the small size of the lenses where mineralization was found, we concur with the Field Team that the subject application should be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

Docket 700

Murphy
Ellis
Kielsgaard
Hedges
Martin

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

MAR 11 1955

Mr. W. C. Kinnon
28 E. Catalina Avenue
Phoenix, Arizona

Re: Docket No. DMEA-3699 (Uranium)
Copper Kid claims
Maricopa County, Arizona

Dear Mr. Kinnon:

The application for assistance in exploring your property in Maricopa County, Arizona, 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 for a field examination 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 (flw)

Administrator

FMMurphy:am
3-10-55
cc to: Admr. Reading File
Docket
Code 700
Mr. Murphy
DMEA Field Team, Region III(2)

Surname 700

Murphy
Ellis
Martin

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

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

MAR 11 1955

Re: Docket No. DMEA-3699 (Uranium)
W. C. Kinnon
Copper Kid claims
Maricopa County, Arizona

Dear Mr. Traver:

The captioned application is referred to Region III Field Team for investigation, a field examination, and recommendations. A copy of the application was retained by your office.

Enclosed are copies of memoranda from Mr. J. E. Crawford, dated March 3, and R. D. Trace, dated March 7, 1955, members of the Uranium Commodity Committee.

We note in the Applicant's answer to MF-103, Article 4, item (a), he states that - "The A.E.C., Phoenix office have undertaken to map the structure on the Copper Kid claim." Before scheduling the above-requested field examination, we suggest that you contact the A.E.C. in regard to the availability of data resulting from their work in the subject area.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

FMMurphy:am
3-10-55
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. Murphy

Case

3/8/55 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
MAR 8 - 1955

March 7, 1955

Re: DMEA-3699
W. C. Kinnon
Copper Kid group
Maricopa Co., Ariz.
$10,204 - Uranium

Memorandum

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

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

Subject: Review of application

I have no information on the claims other than that given in the application, and I don't get a clear picture of the geology from it.

The applicant has found uraninite, various copper sulfides, and some secondary uranium minerals in fractured metamorphic rocks. Several selected samples taken from a dump from an old incline shaft, contained from 1 to 5 percent U_3O_8.

The applicant states that the Commission's Phoenix sub office is studying the area. Mr. Hosted, therefore, may have some data.

In view of the known mineralization, I recommend that the application be referred to the Field Team, unless the Commission has considerable data available here.

RDTrace

R. D. Trace

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 8 - 1955

March 7, 1955

Re: DMEA-3699
W. C. Kinnon
Copper Kid group
Maricopa Co., Ariz.
$10,204 - Uranium

Memorandum

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

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

Subject: Review of application

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In view of the known mineralization, I recommend that the application be referred to the Field Team, unless the Commission has considerable data available here.

R. D. Trace

RDTrace:hlm
G-3/7/55

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

3/7/55 gla

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 4 - 1955

March 3, 1955

Memorandum

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

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3699, Copper Kid claims,
W. C. Kinnon, 28 E. Catalina Avenue,
Phoenix, Arizona

I have reviewed the application included in the subject docket and have discussed it with Joseph O. Hosted, representative of the Atomic Energy Commission.

We recommend that the application be referred to the Field Team for investigation and report, and that the Field Team be requested to discuss the application with Ernest E. Thurlow, Atomic Energy Commission, Salt Lake City, Utah.

John E. Crawford
John E. Crawford

Attachment

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

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Form Approved.
Budget Bureau No. 42-R10372.

refer to file

FEB 16 1955

BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant.

Docket No. 3699
Metal or Mineral Uranium
Date Received 2-25-55
Estimated Cost $10,204
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: W. C. Kinnon 20 E. Catalina Ave., Phoenix, Arizona

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract See sheet (2) attached

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

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

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. none

(*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. See sheets (2) none

(*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 reports, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. See sheets (2) and (3)

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See sheet (3)

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. See sheet (3)

16—66551-1

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

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

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

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. sheet (5)

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.). sheet (3) and (4)

(*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. sheet (4)

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

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

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

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

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper. cash will be available

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 February 9th, 195 5

W. C. Simon
(Applicant)

By

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

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

3. Applicant's property rights.- (a)

The property comprises six (6) unpatented lode mining claims in a group all of which are located in T. 6N., R. 4 E., section 10 and recorded in Maricopa County, State of Arizona as follows:

Copper Kid (amended)	Docket	1508	Page	591
Copper Kid No. 1	"	1467	"	280
Copper Kid No. 2 (amended)	"	1511	"	135
Copper Kid No. 3 (amended)	"	1523	"	580
Copper Kid No. 4	"	1508	"	592
Copper Kid No. 5	"	1517	"	460

The following is a copy of analyses received from the U. S. Atomic Energy Commission, Phoenix, Arizona, January 6, 1955 which analyses were made by the Bureau of Mines on a sample taken from this property.

"Sample No. F-0220, our No. UPP-673

Chemical analysis of this sample gave 0.77 percent U308 and a radiometric determination showed 1.113 percent equivalent U308. The excess radioactivity is due to an accumulation of decay products. The sample does not contain thorium as qualitative chemical and spectroscopic tests for the element were negative.

Microscopic examination reveals that this sample is composed essentially of barite, quartz, limonitic material with some calcite, hematite, clay, altered feldspars, manganese oxide coatings and small amounts of sooty uraninite, galena, covellite, chalcocite, pyrite, chalcopyrite; the green colored coatings were tentatively identified as brochantite.

The uraninite occurs as small intermittent veinlets closely associated with the sulfide mineralization. The limonitic grains and the brochantite contain trace amounts of uranium as determined by qualitative bead tests, but no descrete uranium minerals other than uraninite were detected.

The uraninite and sulfides occur around the nodules of barite. Many of the nodules-like forms of barite contain quartz veinlets in which sporadic grains of sulfide occur."

4. Physical description -(a) There is no mining operation upon the land other than that required by law for the discovery or location work. The existing mine workings consist of an incline shaft, a vertical shaft, a tunnel and numerous shallow prospect shafts and cuts. Apparently attaining the greatest depth the incline shaft dips 75 degrees north west and is open to a point 27' below the collar where a timber set collapsed. Water stands 12' below the scrambled timbers. From what can be observed by looking through the timbers the next timber set is in place and there has been no caving of the ground. From the size of the dump it is estimated that there is about 90 linear feet of workings. There is some evidence that a cross cut was driven northward from a level within the shaft and the material dumped separately at the surface. The shaft may be 60 to 70 feet deep.

The vertical shaft caved at the collar, is now about 20 feet deep and was probably 35 to 40 feet deep.

Approximately 600' north easterly from these shafts is the adit. The tunnel is driven on a northerly course cross cutting the formation. It is approximately 75" long and near the face a steep incline wins about 25' deep was sunk. The workings are in good condition for examination.

Located on the Copper Kid claim, these workings appear to be 30 to 40 years old except for the vertical shaft which may have been sunk about 20 years ago.

The A.E.C., Phoenix office have undertaken to map the structure on the Copper Kid claim.

(c) A discovery of uranium bearing minerals on the Copper Kid claim near the incline shaft and the presence of commercial quantities of uraninite in the dump is the prime reason for wishing to explore.

The property is on the south flank of a 3381' mountain at an elevation of about 2800' above sea level. Here an ancient complex of metamorphic beds prevails over an area several miles wide which extends north eastward many miles. Intrusive porphyritic rocks border the complex along the north west margin and intrusive granite along the south east. The complex consists principally of schist and shale some of the beds of which carry considerable primary quartz and chlorite. It is intruded by diabase, andesite and various acidic dike rocks. Quartz veins and veinlets are common as well as distinctive red jasper. A few of the shale beds are nearly black.

Structurally the most prominent feature is a strong fault about three fourths of a mile south of the discovery and workings. The fault strikes north west, dips south west at a low angle and has thrust a strong (and old) conglomerate bed northeastward over the sedimentary complex.

Near the fault the complex is twisted and broken and strikes south and southeast while toward the workings the beds curve north and finally north eastward. The uranium discovery lies within this curved area where a second group of fractures run nearly parallel to the folding and a third series of fractures seem to cut across the folding.

From the attached report of the Bureau of Mines UPP-673 the association of the uraninite with the metallic sulfide minerals and the accessory minerals will be noted. In another sample examined by the Arizona Bureau of Mines (No. 30745) uraninite was identified and also gummite and some meta-torbernite. This sample and several others were checked for thorium with the spectroscope with negative results. This was true on a sample where the heavy minerals had been concentrated by panning and the concentrate tested.

4. (c) (continued)

There are no prominent outcroppings near the discovery and much of the area is covered with caliche which in places is up to eight feet thick. This concentration of lime at the surface of the complex penetrates its upper reaches. It may have aided in leaching and removal of uranium minerals from the outcroppings. In general the more dense and compact outcroppings carry more radiation than the more porous brecciated heavily iron stained variety. This may be due to greater degree of leaching in the more porous beds. The out cropping over the known deposit at the incline shaft is about three times back ground. Many beds within an area of 400 acres give readings three to four times back ground.

The dump at the incline shaft contains some pieces of ore which will run 1 to 5% U_3O_8. A few tons of 0.5% U_3O_8 ore could probably be sorted from it. The original sample taken from the dump assayed 1.13% (e) and 0.77% U308 Chem.

Another sample from a "hot" part of the dump ran 0.146% (e) and another 4.8% (e) U308. A sample out from the incline shaft 25 feet below the collar near the footwall ran 0.24% U308 (e).

(d) The property is located about 30 miles north of Phoenix, Arizona the nearest shipping point. It is reached over 26 miles of paved road leading to Cave Creek, Arizona and then over 4 miles of county maintained dirt road.

(e) Man power, material and supplies are readily available from Phoenix markets. The Arizona Public Service Company serves the Cave Creek area with a power line. A power line serves the Sierra Vista Ranch located about one mile east of the mine workings.

A dependable spring at the Sierra Vista ranch and one about one half of a mile south of the workings indicates that water may be developed at relatively shallow depth.

5. The exploration project - (a) It is proposed to explore for uranium minerals.

(b) The uranium minerals in the dump came from the incline shaft apparently in the sinking operation. The ore was encountered about 25 feet below the collar and apparently continued on down to the bottom.

The work is proposed in two stages. First to rehabilitate the shaft by unwatering, mucking out and timbering for safe and thorough examination of the ground. Second, to sink, drift and cross cut to explore the mineralized structure. The attached sketch shows the shaft and work proposed.

(d) Applicant is a registered mining engineer, State of Arizona, with 25 years experience.

6. Estimate of costs.- (a) Independent contracts.

First stage contract:	Shaft collar set and false set timber	360.00
	Head frame, 20' high for extension to 40' high	500.00
	Shaft timbering repairs, wall sets, ladders etc., @ $6.00 per ft. @ 70'	420.00
	Shaft unwatering 31' @ 9.00 per foot	279.00
	Shaft mucking and hoisting @ $12.00 per ft. @ 20' -	240.00
	Drifts or cross cuts, mucking and timber repairing 20' @ 20.00 per foot -	400.00
	Total -	$2209.00

6. Estimate of costs- (a) Independent contracts. (continued)

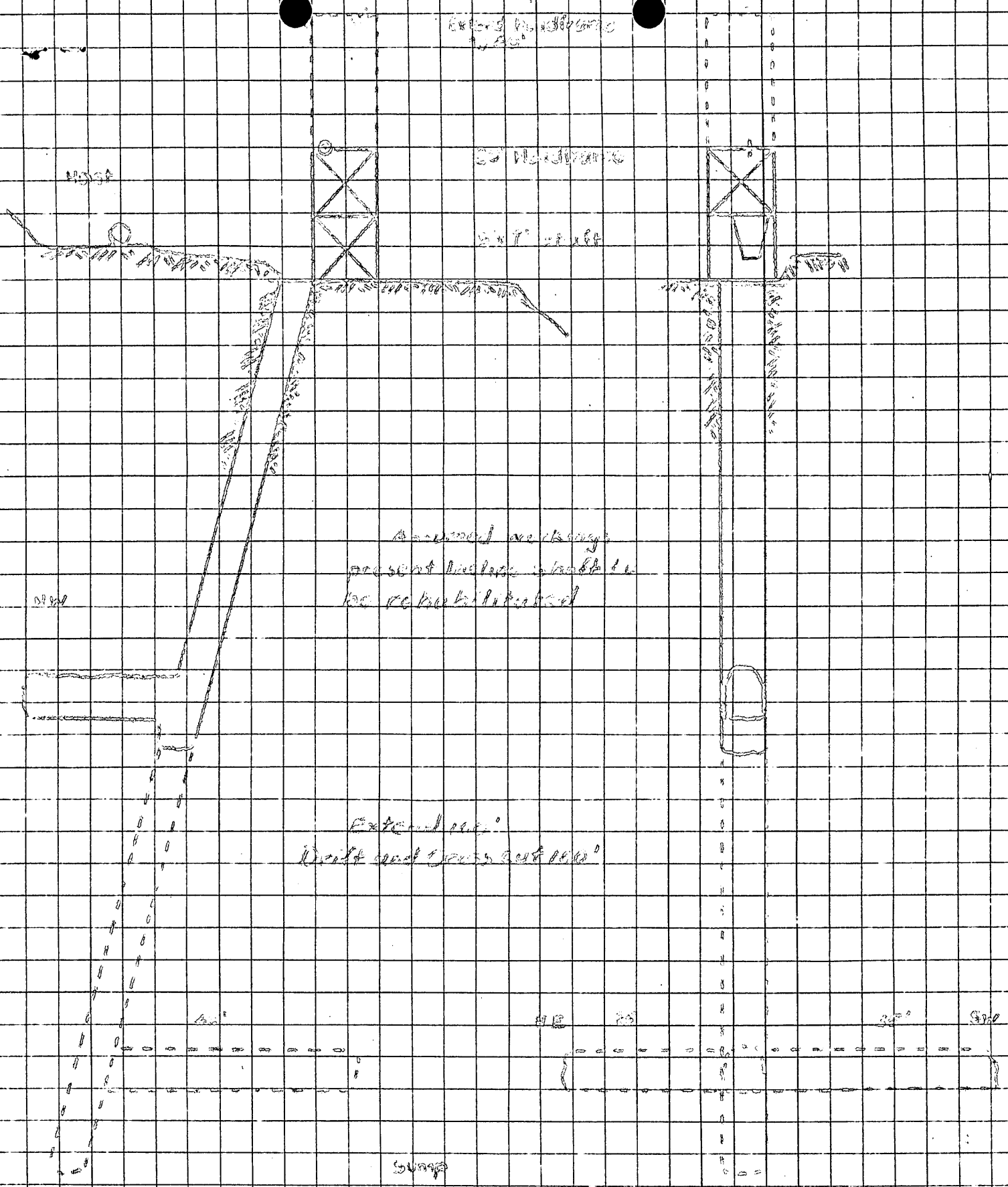
Second stage contract:

Shaft sinking 100' @ 45.00 per foot	4500.00
Drifting and cross cutting 100' @ 28.00 per foot	2800.00
Increase head frame to 40' high and provide hopper	620.00
Total	$ 7920.00

(g) 10 chemical uranium assays to check every tenth radiometric assay (A.E.C. free of charge) 10 U3O8 assays @ 7.50 ea. $75.00

Note: In the first stage contract estimating the cost of rehabilitation of the old shaft workings is difficult because the conditions to be encountered below the water level are unknown. The ground however as observed to water level and also in the tunnel is strong.

The second contract could be made contingent upon the first and would not be entered unless the showing of mineral warranted.



CONDEE KID CLAIM
PROPOSED WORK INCLINE SHAFT

February 25, 1955
Subject: DMEA 3699
Re: Exploration Assistance
Copper Kid claims

Mr. W. C. Kinnon
28 E. Catalina Avenue
Phoenix, Arizona

Dear Mr. Kinnon:

The receipt of your application dated February 9, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3699 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

February 25, 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 - 3699 W. C. Kinnon

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

February 21, 1955

Memorandum

To: Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: (Uranium) Application of W. C. Kinnon, Copper Kid claims, Maricopa County, Arizona

Enclosed are three copies of the subject application in the amount of $10,204.00.

The applicant's proposed work involves unwatering and rehabilitating a shaft of unknown depth.

One copy of the application is being retained in this office.

W. M. Traver

Enclosures

W. M. Traver

224 New Customhouse
Denver 2, Colorado

February 21, 1955

Memorandum

To: Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: (Uranium) Application of W. C. Kinnon, Copper Kid claims, Maricopa County, Arizona

Enclosed are three copies of the subject application in the amount of $10,204.00.

The applicant's proposed work involves unwatering and rehabilitating a shaft of unknown depth.

One copy of the application is being 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

DMEA
Data Rec'd
FEB 16 1955

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

BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant.

Docket No. 3699
Metal or Mineral Uranium
Date Received 2-25-55
Estimated Cost $10,204
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: U. C. Hinnon 20 E. Catalina Ave., Phoenix, Arizona

(*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 including land or interest in land which is not to be included in the exploration project contract See sheet (1) attached

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

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

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. none

(*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. See sheets (2) none

(*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. See sheets (2) and (3)

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. sheet (3)

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. sheet (3)

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you will explore uraninite and uranium minerals

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

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

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. shoot (5)

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.). shoot (3) and (4)

(*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. shoot (4)

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

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

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

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

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper. cash will be available

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 February 9th, 1955

W. C. Simon
(Applicant)

By

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

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

3. Applicant's property rights.- (a)

The property comprises six (6) unpatented lode mining claims in a group all of which are located in T. 6N., R. 4 E., section 10 and recorded in Maricopa County, State of Arizona as follows:

Copper Kid (amended)	Docket	1508	Page	591
Copper Kid No. 1	"	1467	"	280
Copper Kid No. 2 (amended)	"	1511	"	135
Copper Kid No. 3 (amended)	"	1523	"	580
Copper Kid No.4	"	1508	"	592
Copper Kid No. 5	"	1517	"	460

The following is a copy of analyses received from the U.S. Atomic Energy Commission, Phoenix, Arizona January 6, 1955 which analyses were made by the Bureau of Mines on a sample taken from this property.

"Sample No. F-0220, our No. UPP-673

Chemical analysis of this sample gave 0.77 percent U_3O_8 and a radiometric determination showed 1.113 percent equivalent U_3O_8. The excess radioactivity is due to an accumulation of decay products. The sample does not contain thorium as qualitative chemical and spectroscopic tests for the element were negative.

Microscopic examination reveals that this sample is composed essentially of barite, quartz, limonitic material with some calcite, hematite, clay, altered feldspars, manganese oxide coatings and small amounts of sooty uraninite, galena, covellite, chalcocite, pyrite, chalcopyrite; the green colored coatings were tentatively identified as brochantite.

The uraninite occurs as small intermittent veinlets closely associated with the sulfide mineralization. The limonitic grains and the brochantite contain trace amounts of uranium as determined by qualitative bead tests, but no descrete uranium minerals other than uraninite were detected.

The uraninite and sulfides occur around the nodules of barite. Many of the nodules-like forms of barite contain quartz veinlets in which sporadic grains of sulfide occur."

4. Physical description -(a) There is no mining operation upon the land other than that required by law for the discovery or location work. The existing mine workings consist of an incline shaft, a vertical shaft, a tunnel and numerous shallow prospect shafts and cuts. Apparently attaining the greatest depth the incline shaft dips 75 degrees north west and is open to a point 27' below the collar where a timber set collapsed. Water stands 12' below the scrambled timbers. From what can be observed by looking through the timbers the next timber set is in place and there has been no caving of the ground. From the size of the dump it is estimated that there is about 90 linear feet of workings. There is some evidence that a cross cut was driven northward from a level within the shaft and the material dumped seperately at the surface. The shaft may be 60 to 70 feet deep.

The vertical shaft caved at the collar, is now about 20 feet deep and was probably 35 to 40 feet deep.

Approximately 600' north easterly from these shafts is the adit. The tunnel is driven on a northerly course cross cutting the formation. It is approximately 75' long and near the face a steep incline winz about 25' deep was sunk. The workings are in good condition for examination.

Located on the Copper Kid claim, these workings appear to be 30 to 40 years old except for the vertical shaft which may have been sunk about 20 years ago.

The A.E.C., Phoenix office have undertaken to map the structure on the Copper Kid claim.

(c) A discovery of uranium bearing minerals on the Copper Kid claim near the incline shaft and the presence of commercial quantities of uraninite in the dump is the prime reason for wishing to explore.

The property is on the south flank of a 3381' mountain at an elevation of about 2800' above sea level. Here an ancient complex of metamorphic beds previals over an area several miles wide which extends north eastward many miles. Intrusive porphyritic rocks border the complex along the north west margin and intrusive granite along the south east. The complex consists principally of schist and shale some of the beds of which carry considerable primary quartz and chlorite. It is intruded by diabase, andesite and various acidic dike rocks. Quartz veins and veinlets are common as well as distinctive red jasper. A few of the shale beds are nearly black.

Structurally the most prominent feature is a strong fault about three fourths of a mile south of the discovery and workings. The fault strikes north west, dips south west at a low angle and has thrust a strong (and old) conglomerate bed northeastward over the sedimentary complex.

Near the fault the complex is twisted and broken and strikes south and southeast while toward the workings the beds curve north and finally north eastward. The uranium discovery lies within this curved area where a second group of fractures run nearly parallel to the folding and a third series of fractures seem to cut across the folding.

From the attached report of the Bureau of Mines UPP-673 the association of the uraninite with the metallic sulfide minerals and the accessory minerals will be noted. In another sample examined by the Arizona Bureau of Mines (No. 30745) uraninite was identified and also gummite and some meta-torbernite. This sample and several others were checked for thorium with the spectroscope with negative results. This was true on a sample where the heavy minerals had been concentrated by panning and the concentrate tested.

There are no prominent outcroppings near the discovery and much of the area is covered with caliche which in places is up to eight feet thick. This concentration

H.C.Kinnon

4. (c)(Continued)

of lime at the surface of the complex penetrates its upper reaches. It may have aided in leaching and removal of uranium minerals from the outcroppings. In general the more dense and compact outcroppings carry more radiation than the more porous brecciated heavily iron stained variety. This may be due to greater degree of leaching in the more porous beds. The out cropping over the known deposit at the incline shaft is about three times back ground. Many beds within an area of 400 acres give readings three to four times back ground.

The dump at the incline shaft contains some pieces of ore which will run 1 to 5% U_3O_8. A few tons of 0.5% U_3O_8 ore could probably be sorted from it. The origional sample taken from the dump assayed 1.13 % (e) and 0.77% U_3O_8 Chem.

Another sample from a "hot" part of the dump ran 0.146% (e) and another 4.8% (e) U_3O_8. A sample cut from the incline shaft 25 feet below the collar near the footwall ran 0.24% U_3O_8 (e).

(d) The property is located about 30 miles north of Phoenix, Arizona the nearest shipping point. It is reached over 26 miles of paved road leading to Cave Creek, Arizona and then over 4 miles of county maintained dirt road.

(e) Man power, material and supplies are readily available from Phoenix markets. The Arizona Public Service Company serves the Cave Creek area with a power line. A power line serves the Sierra Vista Ranch located about one mile east of the mine workings.

A dependable spring at the Sierra Vista ranch and one about onehalf of a mile south of the workings indicates that water may be developed at relatively shallow depth.

5. The exploration project - (a) It is proposed to explore for uranium minerals.

(b) The uranium minerals in the dump came from the incline shaft apparently in the sinking operation. The ore was encountered about 25 feet below the collar and apparently continued on down to the bottom.

The work is proposed in two stages. First to rehabilitate the shaft by unwatering, mucking out and timbering for safe and thorough examination of the ground. Second, to sink, drift and cross cut to explore the mineralized structure. The attached sketch shows the shaft and work proposed.

(d) Applicant is a registered mining engineer, State of Arizona, with 25 years experience.

6. Estimate of costs.- (a) Independent contracts.

First stage contract:

Shaft collar set and false set timber	360.00
Head frame, 20' high for extension to 40' high	500.00
Shaft timbering repairs, wall sets, ladders etc., @ $6.00 per foot @ 70'	420.00
Shaft unwatering 31' @ 9.00 per foot	279.00
Shaft mucking and hoisting @ $12.00 per ft. @ 20'	240.00
Drifts or cross cuts, mucking and timber repairing 20' @ 20.00 per foot	400.00
Total	$2209.00

6. Estimate of costs.-(a) Independent contracts. (continued)

Second stage contract:

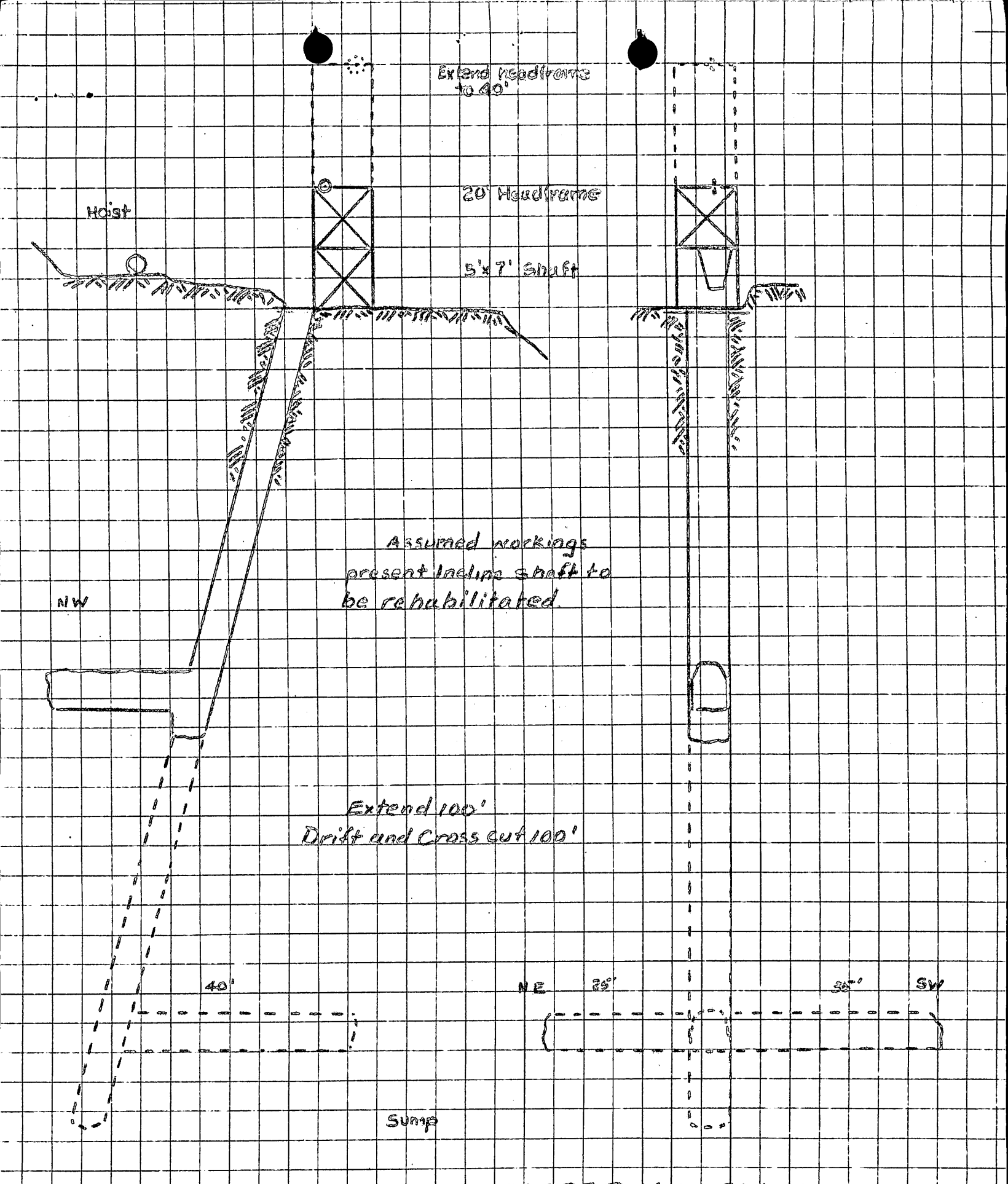
Shaft sinking 100' @ 45.00 per foot	4500.00
Drifting and cross cutting 100' @ 28.00 per foot	2800.00
Increase head frame to 40' high and provide hopper	620.00
Total	$ 7920.00

(g) 10 chemical uranium assays to check every tenth radiometric assay (A.E.C. free of charge) 10 U3O8 assays @ 7.50 ea. $75.00

Note: In the first stage contract estimating the cost of rehabilitation of the old shaft workings is difficult because the conditions to be encountered below the water level are unknown. The ground however as observed to water level and also in the tunnel is strong.

The second contract could be made contingent upon the first and would not be entered unless the showing of mineral warranted.

W. C. Kinnon



COPPER KID CLAIM
PROPOSED WORK INCLINE SHAFT

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 5-27

REFERRED TO:

1. 700
2. Mr. Murphy
3.
4. Docket

FOR:

---------- Action	---------- Recommendation
---------- Approval	---------- Record of ----------
---------- Comment	---------- Referring to ----------
---------- Conference	---------- Reply for signature of ----------
---------- Consideration	---------- Rewriting
---------- Filing	---------- Signature
---------- Instructions	---------- Suggestions
---------- Investigation	---------- Your information
---------- Initials	
---------- Mailing	
---------- Previous correspondence	

REMARKS: ----------

Check (X) before the items needing attention.

ROBERT E. ADAMS

Initials of sender.

GPO 16—63815-1

5/31/55 gfu

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 27 1955

May 26, 1955

Re: DMEA-3699
W. C. Kinnon
Copper Kid claims
Maricopa Co., Ariz.
$10,204 - Uranium

Memorandum

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

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

Subject: Review of Field Team report

The applicant proposes to dewater and rehabilitate a shaft of 70 to 100 feet in depth and, if warranted, sink 100 feet and drive 100 feet.

The uranium showings are low in grade, thin, and have only a limited distribution. The highest grade sample is 0.04 eU_3O_8 over a width of 1.1 feet.

I recommend that the application be denied.

RD Trace

R. D. Trace

IN REPLY REFER TO:

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

May 26, 1955

Re: DMEA-3099
W. C. Kinnon
Copper Kid claims
Maricopa Co., Ariz.
$10,204 - Uranium

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I recommend that the application be denied.

R. D. Trace

RDTrace:hlm
G-5/26/55

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.

May 26, 1955

Re: DMEA-3099
W. C. Kinman
Copper Kid claims
Maricopa Co., Ariz.
$10,204 - Uranium

Memorandum

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

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

Subject: Review of Field Team report

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I recommend that the application be denied.

R. D. Trace

RDTrace:hlm
G-5/26/55

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

IN REPLY REFER TO:

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

May 26, 1955

Re: DMEA-3699
W. C. Kinnon
Copper Kid claims
Maricopa Co., Ariz.
$10,204 - Uranium

Memorandum

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

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

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I recommend that the application be denied.

R. D. Trace

RDTrace:hlm
G-5/26/55

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

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 5/23/55

REFERRED TO:

1. ~~Operating Committee~~
2. ~~Miss Curtin~~
3.
4. 7 0 0

FOR: Mr. Murphy

---------- Action	---------- Recommendation
---------- Approval	---------- Record of ----------
---------- Comment	
---------- Conference	---------- Referring to ----------
---------- Consideration	
---------- Filing	---------- Reply for signature of ----------
---------- Instructions	
---------- Investigation	---------- Rewriting
---------- Initials	---------- Signature
---------- Mailing	---------- Suggestions
---------- Previous correspondence	---------- Your information

2nd copy report

REMARKS: Field Exam. Report

~~For Agenda 5/27/55~~

Check (X) before the items needing attention.

George C. Selfridge

Initials of sender.

GPO 16—63815-1

5/31/55 gla

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

224 New Customhouse
Denver 2, Colorado

May 18, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Report of Examination, DMEA Docket 3699 (Uranium), W. C. Kinnon, (Copper Kid claims), Maricopa County, Arizona

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

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

It is indicated in the Survey report that the two AEC geologists who are presently mapping the property were contacted and their unfinished map was used by the field examiners.

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
5-27-55
(date)

TRANSMITTED
MAY 18 1955

MAY

BUREAU OF MINES
Denver, Colo.

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region

From : Superintendent, Southwest Experiment Station

Subject : Report on Docket DMEA-3599, W. C. Kinnon's Copper Kid Uranium Claims, Cave Creek Mining District, Maricopa County, Ariz.

Enclosed are original and 10 copies of the section on Summary, Conclusions and Recommendations by Leonid Bryner of the Geological Survey and T. M. Romslo of the Bureau of Mines, and the section on Engineering by Romslo for the above report. A separate section on Geology will be submitted by the Survey.

Because uranium is present only in very small amounts and there seems little chance of making a significant discovery by additional exploratory work, the DMEA examiners have recommended that Government exploration assistance be denied the applicant. I concur with this recommendation.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W. M. Traver (10)
J. N. Faick (with report)
DMEA-3599 (with report)
RF

WRStorms:frj

5-27-55

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-3699, W. C. Kinnon's Copper Kid Uranium Claims

Maricopa County, Arizona

Leonid Bryner, Geologist
U. S. Geological Survey

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

May 1955

Reviewed by
DMEA OPERATING COMMITTEE
5-27-55
(date)

TRANSMITTED

MAY 18 1955

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By Leonid Bryner[1] and T. M. Romslo[2]

W. C. Kinnon applied to the Defense Minerals Exploration Administration in February 1955 for Governmental aid on a proposed exploratory project for uranium ores on the Copper Kid claims in Maricopa County, Ariz. The application, docketed as DMEA-3699, contained a proposed 2-stage project that involved dewatering and rehabilitation of a shallow shaft to determine if conditions were favorable for sinking the shaft an additional 100 feet; and 100 feet of crosscutting and drifting. Cost of the proposed program was estimated at $10,204.00.

The Copper Kid claims were explored for gold and silver probably before 1920 when the claims were known as the Pocahontas property. Field evidence indicates no ore was produced from the main workings. These comprise an inclined and a vertical shaft with estimated depths of 70 and 40 feet, respectively, and a 75-foot adit. Since 1920, activity probably has been confined to recent examinations of the claims by the Atomic Energy Commission and the applicant. At present the property is inactive and contains no buildings, nor mining and milling equipment.

The Copper Kid claims are in a belt of pre-Cambrian schist that strikes east-northeast and dips steeply to the northwest near the exploratory workings. Shear zones in the schist in the mine area

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1/ Geologist, Geological Survey
2/ Mining engineer, Bureau of Mines

are thin and discontinuous. Oxidation and hydrothermal alteration are most noticeable in or near two parallel shear zones, each about 1 foot wide, in the inclined shaft. Anomalous radioactivity was found only in one of these shear zones in the inclined shaft, and in a dump containing rock that probably came from the lower portion of this shaft. In the shaft the anomalous radioactivity is confined to a quartz veinlet associated with sulfides of base metals. The veinlet is 1 to 2 inches wide and about 1.5 feet in vertical extent. A sample taken by the examiners across the veinlet for 1.1 feet, the interval of anomalous radioactivity, gave 0.04 percent equivalent U_3O_8 by radiometric analysis. The radioactive dump rock assayed 0.02 percent equivalent U_3O_8. Another sample, taken from the highest grade material exposed in a discovery pit about 40 feet west of the inclined shaft, assayed a trace of equivalent U_3O_8. The uranium is present as small veinlets of uraninite in or near nodules of barite. It is associated with sulfides and oxides of lead, copper and iron, manganese oxide, and altered feldspars.

Denial of the requested assistance in exploration of the deposit is recommended because known uranium and base metal mineralization is present in meager amounts and there is no reason to believe significant reserves of the minerals exist.

DMEA-3699, W. C. KINNON'S COPPER KID URANIUM CLAIMS
MARICOPA COUNTY, ARIZONA

Engineering Report

By T. M. Romslo
Mining Engineer
U. S. Bureau of Mines

May 1955

Reviewed by
DMEA OPERATING COMMITTEE
5-27-55
(date)

DMEA-3699, W. C. KINNON'S COPPER KID URANIUM CLAIMS
MARICOPA COUNTY, ARIZONA

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ILLUSTRATIONS

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1	Location map	1
2	Claim map	(Not available)
3	Geologic map	(See Geologic report)

INTRODUCTION

W. C. Kinnon of Phoenix, Ariz. made application in February 1955 for Governmental aid in exploring the Copper Kid claims in Maricopa County, Ariz. for uranium ore. The application was made to the Defense Minerals Exploration Administration where it was docketed as DMEA-3699, reviewed by the Operating Committee, and sent to the Field Team, Region III, for a field investigation. It contained a proposed 2-stage exploratory project, costing an estimated total of $10,204.00. The proposed project called for dewatering and rehabilitation of a 70 to 100-foot deep shaft to determine if conditions warranted deepening the shaft an additional 100 feet; and 100 feet of drifts and crosscuts.

The field investigations were made on April 13 and 14, 1955 by L. Bryner, geologist, U. S. Geological Survey and T. M. Romslo, mining engineer, U. S. Bureau of Mines. The applicant accompanied the examining team during the first day of the investigations and assisted them in making the inclined shaft accessible to a depth of about 28 feet.

LOCATION AND ACCESSIBILITY

The Copper Kid claims are situated in sec. 10, T. 6 N., R. 4 E., Maricopa County, Ariz. (figure 1). They are about 2.5 air miles north of Cave Creek, a village at 26 miles north of Phoenix via the paved Phoenix-Cave Creek road. To reach the claims from Cave

Creek, follow the signed "Sierra Vista Ranch" graded road 4.0 miles to the junction with an unimproved road that branches to the left. From the junction to the inclined shaft via the unimproved road is about 0.4 mile of which the last 0.1 mile is presently impassable by automobile.

PHYSICAL FEATURES AND CLIMATE

The Cave Creek claims are situated near the foot of the south slope of an unnamed mountain that attains a peak altitude of 3,381 feet. They are in an area of moderately rugged topography at an average altitude of about 2,400 feet.

There are no permanent streams in the immediate vicinity of the property. Drainage is southwesterly to Cave Creek.

Vegetation and climate are characteristic of the lower altitudes of central Arizona.

HISTORY AND PRODUCTION

There is no readily available information about the early history of the Copper Kid claims. It is believed that some of the claims first may have been located and worked as the Pocahontas property prior to 1920 when several nearby mines produced significant amounts of gold, silver, and copper. Since then, activity probably has been confined to the excavation of a few shallow pits and trenches, and examinations of the property by both the applicant and the Atomic Energy Commission. This work was done during late 1954 and early 1955.

Field evidence indicates that no ore has been produced from the property.

PROPERTY AND OWNERSHIP

The Property comprises a group of 6 unpatented lode mining claims, the Copper Kid and Copper Kid No. 1 to 5. It is owned by the applicant, Mr. W. C. Kinnon, 28 S. Catalina Ave., Phoenix, Ariz.

An unsuccessful attempt was made to secure a claim map from the applicant.

PRESENT STATUS

The property is inactive and contains no buildings nor mining or milling equipment.

The principal workings comprise an inclined shaft, a vertical shaft, an adit, and several shallow pits and trenches (figure 3). The inclined shaft, about 6 feet by 8 feet in section, is believed to be about 70 feet deep. It is open to a collapsed timber at a depth of about 28 feet. Water stands at an estimated 12 feet below the timber. The vertical shaft, within a few tens of feet of the inclined shaft, is caved at its collar. It is now about 25 feet deep and probably was approximately 10 feet deeper. The adit, outside the area of proposed explorations, is accessible for its full length of about 75 feet. A winze near the face of the adit is about 10 feet deep.

DESCRIPTION OF THE DEPOSIT

The workings of the Copper Kid claims are in an east-northeast trending belt of pre-Cambrian schist that is 600 to 1,200 feet wide and about 10 miles long. Numerous readings for radioactivity were taken with El-Tronic Beta-Gamma Survey meter at rock outcrops and at all of the mine workings in and adjacent to the proposed

exploratory project. Significant radioactivity was found only at one small zone in the shaft and at a dump containing an estimated 30 tons of rock (figure 3). Field evidence indicates the dump rock came from the lower portion of the shaft.

The schist around the inclined shaft strikes east-northeast and dips steeply northwest. Minor crumpling and alteration of the schist is associated with several narrow shear zones that follow planes of schistosity. Other rocks in the immediate vicinity are patches of cemented gravel and a body of diabase(?) that crops out about 80 feet to the north of the shaft.

Significant radioactivity in the inclined shaft is concentrated in a quartz-galena veinlet that occurs in a 1-foot wide shear zone at the footwall of the shaft. The veinlet, 1 to 2 inches wide and about 1.5 feet in vertical extent, is exposed only in the west wall of the shaft at a depth of about 25 feet below the collar. Measurements at right angles to the veinlet showed no anomalous radioactivity beyond about 0.5 feet in either direction. Persistence of the veinlet below the accessible portion of the shaft is unknown.

The following are the assay resultsaof 3 samples taken by the examining team:

USBM No.	Length (feet)	Percent EU_3O_8	Description
11437	1.1	0.04	Chip sample that includes high-grade veinlet of inclined shaft.
11438	—	0.02	33 lbs. from walls of trench in dump from shaft.
11439	1.0	Tr	Highest grade material exposed by discovery shaft.

Pieces of the radioactive rock from the veinlet in the shaft (U.S.B.M. 11437) contain significant amounts of galena. Anomalous radioactivity in rock from the dump was found also with azurite, malachite, limonite, and manganese oxides. The Bureau of Mines made a microscopic examination of a specimen (F-0220, AEC; UPP-673, U.S.B.M.) submitted by the Atomic Energy Commission. It contained barite, quartz, calcite, limonite, hematite, clay, altered feldspar, manganese oxide coatings, a small amount of sooty uraninite, galena, covellite, chalcocite, pyrite, chalcopyrite, and a green mineral that possibly is brochantite. The uraninite occurs around nodules of barite as small veinlets that are closely associated with the sulfides. N o thorium was found, the excess radioactivity being due to an accumulation of radioactive products. The chemical analysis of this sample was 0.77 percent U_3O_8 and the radiometric determination was 1.13 percent equivalent U_3O_8. Based on information obtained from the applicant, the assays and microscopic analysis probably were made on selected high-grade material from the 1 to 2 inch wide veinlet in the shaft.

ORE RESERVES

The deposit contains no measurable ore reserves.

Indicated and inferred reserves are in the order of 1 to 5 tons of material containing less than 0.1 percent U_3O_8.

CONCLUSIONS AND RECOMMENDATION

Uranium mineralization and associated sulfides of base metals occur in very minor amounts in thin and discontinuous shear zones. There is no reason to believe that either the degree or extent of mineralization is of economic significance in zones of possible extension.

Denial of the requested assistance in the proposed exploration of the Copper Kid claims is recommended.

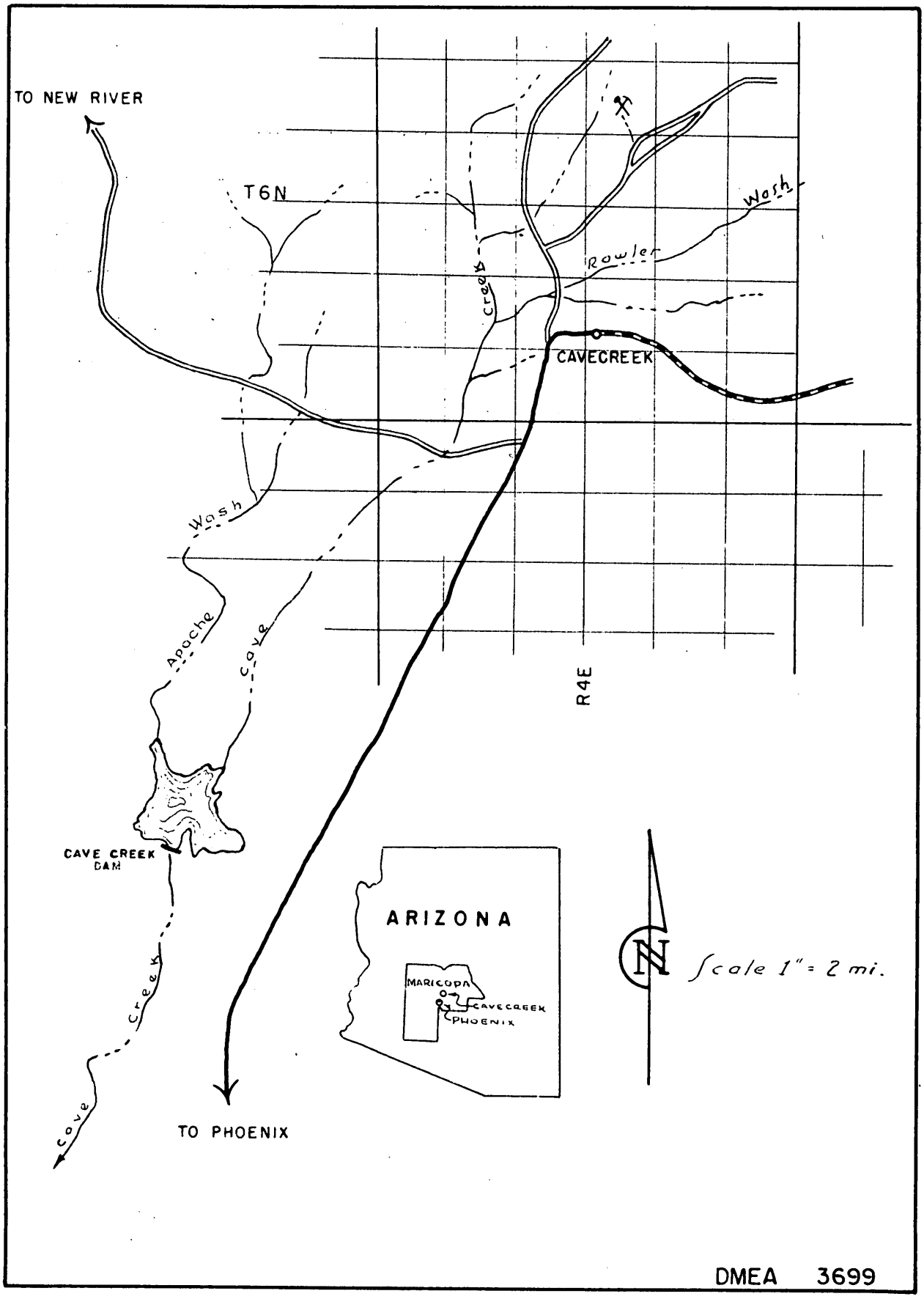

FIGURE 1 LOCATION MAP

W.C. KINNON, COPPER KID CLAIMS (URANIUM)

MARICOPA COUNTY, ARIZONA

IN REPLY REFER TO:

DMEA
Date Rec'd.

MAY 2 1955

BUREAU OF MINES
Denver, Colorado

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

April 29, 1955

TRANSMITTED
MAY 18 1955

Memorandum

To: Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3699 (Uranium), W. C. Kinnon, Copper Kid claims, Maricopa County, Arizona

Enclosed are the original and 9 copies of a geologic report by Leonid Bryner, U. S. Geological Survey, covering his examination of the subject property.

The Copper Kid claims are in an area of pre-Cambrian Yavapai schist 600 to 1,200 feet wide and 10 miles long, in part covered by later volcanic rocks, and intruded by diabase.

Copper, lead and iron sulfides and very minor amounts of a uranium mineral, identified by the U. S. Bureau of Mines as uraninite occur in shear zones which are parallel to the planes of schistosity.

The deposit has been prospected by an inclined shaft, now flooded to within 40 feet of the surface and inaccessible below a point 28 feet from the surface, by a vertical shaft, caved at a point 20 feet below the collar and by several shallow pits and trenches. These workings are shown on figure 3 accompanying the enclosed report.

Bryner concludes that uranium occurs as thin seams and lenses of low-grade material dispersed along shear zones in schist and that significant deposits of uranium ore will not be found by exploration on the property. He, therefore, recommends that the application for Government exploration assistance be denied.

I concur with this recommendation.

Coordination with the AEC is indicated in the introduction of the Bryner report although no positive statement to that effect is made. Conformation of this coordination may be required.

E. N. Harshman

E. N. Harshman
Member, Field Team

Reviewed by
DMEA OPERATING COMMITTEE
5-27-55
(date)

Enclosures
ENHarshman:arh

MINERAL DEPOSITS
DMEA
RECEIVED
APR 26 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Box 4126 University Station
Tucson, Arizona

April 26, 1955

MEMORANDUM

To: Mr. E. N. Harshman

From: J. N. Faick

Subject: DMEA 3699 (Uranium), W. C. Kinnon (Copper Kid Claims)
Maricopa County, Arizona

Enclosed are the original and ten copies of an examination report by Leonid Bryner on the above subject property. This report recommends denial of Government participation in exploration because geological conditions indicate that significant reserves of ore do not exist in the deposit. The report has my approval.

One copy of the application is returned herewith.

John N. Faick
John N. Faick

JNF:ms

cc - 10 to Mr. Harshman
1 to Mr. Storms

5-27-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Defense Minerals Administration
RECEIVED
MAY 23 1955

REGION III

GEOLOGY
EXAMINATION REPORT

DMEA 3699, Copper Kid Mine of W. C. Kinnon

Maricopa County, Arizona

(Uranium)

By
Leonid Bryner
Geologist
U. S. Geological Survey

April 25, 1955

Reviewed by
DMEA OPERATING COMMITTEE
5-27-55
(date)

RECEIVED
MAY 23 1973

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
FIELD TEAM REGION III

GEOLOGY
EXAMINATION REPORT
DMEA 3699, COPPER KID MINE OF W. C. KINNON
MARICOPA COUNTY, ARIZONA

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ILLUSTRATIONS

Fig. 1	LOCATION MAP	See Engineering Report
Fig. 2	CLAIM MAP (may not be available)	" " "
Fig. 3	GEOLOGIC AND ASSAY MAP	Following page 2

INTRODUCTION

In an application to the Defense Minerals Exploration Administration, dated February 9th, 1955, W. C. Kinnon requested government participation in a program estimated to cost $10,204, to explore for uranium on the Copper Kid claims, Maricopa County, Arizona.

The property is located in Sec. 10, T. 6 N., R. 4 E. It is 4 miles north of the village of Cave Creek, via a graded dirt road that leads to the Sierra Vista Ranch. Six unpatented claims belonging to W. C. Kinnon comprise the property.

The examination was made during April 13 and 14 by T. M. Romslo, of the U. S. Bureau of Mines, and by the writer. Kinnon accompanied the examiners during the first day.

The following report summarizes the geologic results of the examination. This examination consisted of a geologic reconnaissance of an area surrounding the workings, sketching by Brunton Survey of some of the pertinent geologic features in the immediate vicinity of the most radioactive ground, a radiometric survey of the inclined shaft, as well as of the mine area, and sampling some of the workings and dumps. The purpose of this work was to appraise the possibility of discovering a significant tonnage of uranium ore on the property. It is the conclusion of the examiners that a significant tonnage of uranium ore is not likely to exist on this property; therefore government participation in its exploration is not justified.

A preliminary reconnaissance report by AEC geologists M. L. Reynor and W. R. Ashwill evaluated the property as "possibly a small producer" and warranting further attention, if the shaft is opened and unwatered. Geologic mapping of the property by Reynor and Ashwill is in progress. The topographic base and the workings in figure 3 are from Reynor and Ashwill's uncompleted map. The writer wishes to thank these men for the use of their map.

The chief reference to the area that was found in the literature is an article by Alfred Strong Lewis, "Ore Deposits of Cave Creek Mining District of Arizona", Engineering and Mining Journal, vol. 110, No. 15, pp. 713-716, October 9, 1920.

GEOLOGY

General

The Copper Kid workings are in an E-NE-trending belt of pre-Cambrian Yavapai schist. In his reconnaissance map of the Cave Creek District Lewis indicates that this belt of "mineralized schist" is 600 to 1200 feet in width, and ten miles in length; for about three miles of its length it is covered by volcanics. Regarding the mineralization of this belt, Lewis (p. 716) only has this to say: "Very little copper is in evidence in the outcrops, but several location cuts exposed copper a few feet beneath the surface."

Copper Kid Mine

The main workings consist of two shallow, caved shafts (fig. 3) on the south flank of a ridge that trends E-NE. The schist around the workings exhibits E-NE foliation that dips steeply NW (fig. 3). It is covered in places by cemented Tertiary or Quaternary

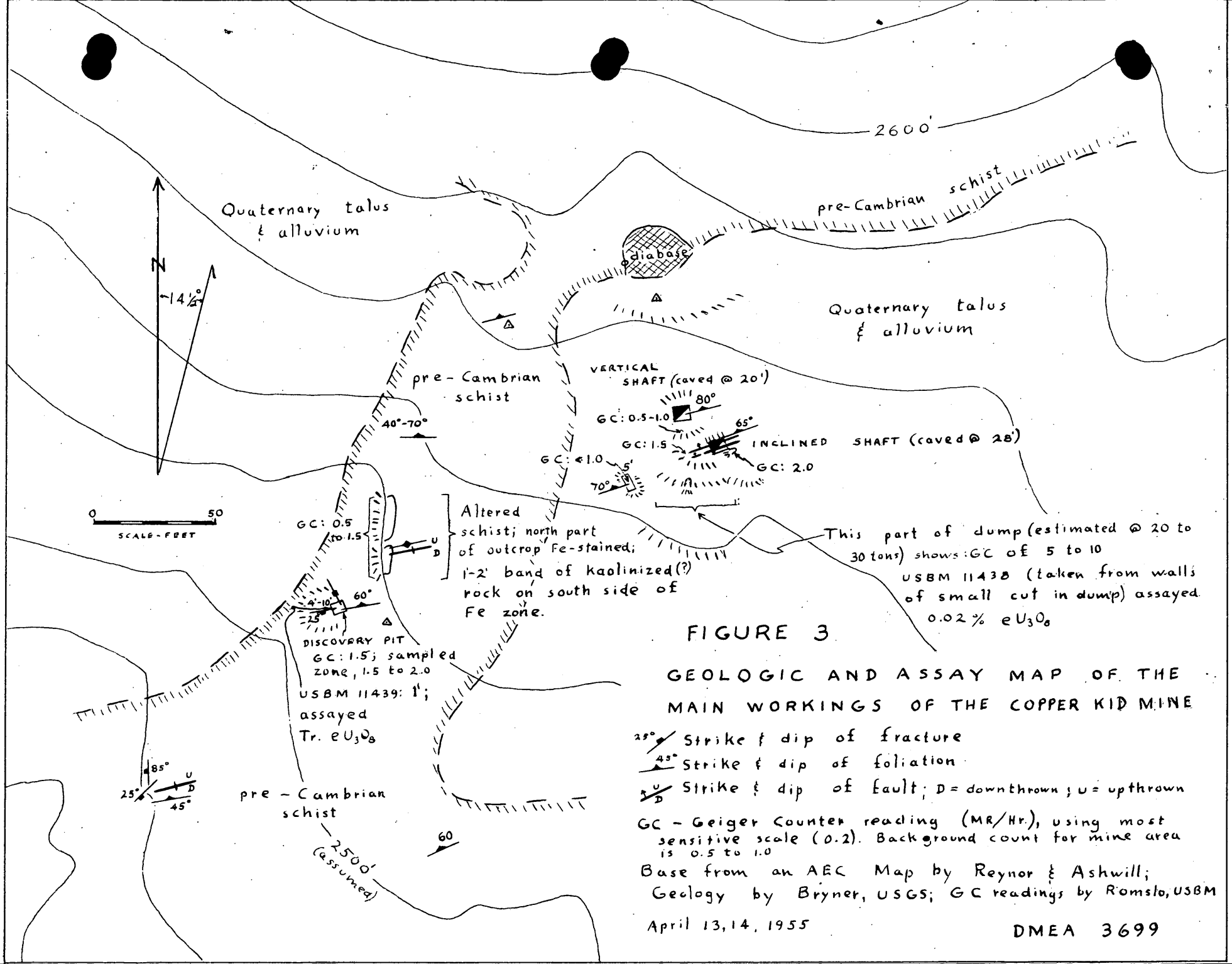

FIGURE 3

GEOLOGIC AND ASSAY MAP OF THE MAIN WORKINGS OF THE COPPER KID MINE

25° Strike & dip of fracture

45° Strike & dip of foliation

U D Strike & dip of fault; D = downthrown; U = upthrown

GC – Geiger Counter reading (MR/Hr.), using most sensitive scale (0.2). Background count for mine area is 0.5 to 1.0

Base from an AEC Map by Reynor & Ashwill; Geology by Bryner, USGS; GC readings by Romslo, USBM

April 13, 14, 1955

DMEA 3699

gravels. A body of igneous rock that is tentatively identified as a fine-grained diabase crops out eighty feet north of the inclined shaft. At the west edge of the diabase its contact with the schist is an almost vertical, north-trending plane that crosscuts the foliation of the schist. The other parts of this contact were covered by talus or gravel.

Near the mine there are several narrow shear zones which correspond in direction to the plane of schistosity. These shears are recognized by minor crumpling of beds and by alteration along them rather than by any evidence of offset. Probably the offset amounts to only a few feet.

The U. S. Bureau of Mines made a microscopic examination of a sample (F-0220, AEC; UPP-673, USBM) submitted by the applicant. The following minerals were recognized: barite, quartz, calcite, limonite, hematite, clay, altered feldspar, manganese oxide coatings, a small amount of sooty uraninite, galena, covellite, chalcocite, pyrite, chalcopyrite and a green mineral which possibly is brochantite. Uraninite as small veinlets is closely associated with the sulfides. The uraninite occurs around nodules of barite. The specimen did not contain thorium, the excess radioactivity being due to an accumulation of radioactive decay products.

Pieces of the most radioactive rock that could be found in the shaft (USBM 11437) contain a higher than average percentage of galena. This consistent association of higher radioactivity with

galena is quite striking. On the dump, however, higher radioactivity was found also with azurite, malachite, limonite and manganese oxide. The radioactive mineral that is associated with these metallic minerals was not recognized in any of the hand specimens that were examined. However, judging from the results of the above-mentioned microscopic analysis, the radioactive mineral probably is uraninite.

Water in the inclined shaft stands about 40 feet below the collar and, judging by the minerals found on the dump and in the shaft, oxidation probably extends about to that depth.

The alteration of the schist appears to consist of kaolinization, silicification and perhaps other processes. Silicification seems to have taken the form of a network of quartz veinlets in or near the shear zones. Oxidation as well as hydrothermal alteration is most noticeable in or near two parallel shear zones, each about one foot thick, in the inclined shaft. The only part of the deposit where radioactive rock was seen in place is the southerly of these two shear zones, called here the "footwall shear" because its footwall coincides with the footwall of the shaft. In the footwall shear radioactivity is concentrated in a quartz-galena veinlet one to two inches thick. This veinlet crops out in the west wall of the shaft, about 25 feet below the collar. It is about 1½ feet in vertical extent and is not present across the shaft in the east wall. Radioactivity declines to background intensity within about half a foot in either direction,

away from the veinlet and at right angles to it. The footwall shear zone, but not the included radioactive veinlet, persists upward to within about 10 feet of the collar of the shaft. Persistence at depth of the footwall shear is unknown since the shaft is inaccessible about 28 feet below the collar. A radiometric survey of the accessible upper 28 feet of the shaft indicates that parts of the footwall shear other than the radioactive veinlet as well as all of the adjacent shear zone show only a background count. Likewise on the surface the ground along the horizontal extensions of the shears shows no anomalous radioactivity.

The vertical shaft immediately north of the inclined shaft is caved at about 20 feet below the collar. But the dump from this shaft is non-radioactive, relatively unaltered schist.

PRODUCTION AND GRADE

There is no field evidence or record of production from this property, and it is reasonably certain that little or no ore was ever shipped from here. In the year 1919 when Lewis was studying the district there were no producing mines except the "Red Rover" about 10 miles north of the Copper Kid. The Copper Kid at that time was known as the Pocahontas. It apparently was a lead, copper, and perhaps silver prospect, but the grade of ore is unknown. However, its non-productivity, considered together with the intimate association in the deposit of lead and copper with uranium, suggests poverty in uranium as well as in base metals. No uranium ore has been shipped

from the mine. The assay results of samples taken on this field trip were as follows:

U.S.B.M. No.	Width (feet)	eU_3O_8 (percent)	Remarks
11437	1.1	0.04	Includes a relatively high grade veinlet 1" to 2" wide.
11438	-	0.02	Sample taken from the walls of a trench in dump from inclined shaft.
11439	1.0	Tr.	Highest grade material in discovery pit.

The low grade of the equivalent uranium values indicate that chemical assays would be superfluous.

The dump material where sample 11438 was taken probably is from the inclined shaft near the radioactive veinlet.

The select sample (F-0220) described on page 3, assayed 1.13 percent equivalent U_3O_8 and 0.77 percent chemical U_3O_8. This is the highest assay obtained from the property. But from a knowledge of the mode of occurrence of the ore, it is obvious that this sample cannot be even approximately representative of the grade of the deposit.

Radiometric observations on the property are shown in figure 3. They indicate that the only markedly anomalous radioactivity is in the inclined shaft, and here the radioactive zone is very limited.

EXPLORATION

The property was explored during its earlier history mainly by the two shafts. These probably did not penetrate much beyond 40 feet, the depth of the water in the inclined shaft, and apparently no appreciable amount of ore was discovered.

The discovery pit and the two trenches 40 feet northeast of them are on the westerly extension of the shear zones exposed in the inclined shaft, and at about the same elevation as the uraniferous seam in the inclined shaft. The lack of radioactivity in this pit and the trenches indicates that the radioactivity in the shear does not extend this far west. In fact, the 5-foot deep trench 40 feet west of the shaft also is on the trend of the uraniferous shear, but no anomalous radioactivity was detected in this trench. This trench, however, does not penetrate to the depth of the radioactive seam in the shaft.

The applicant proposes two stages of exploration as follows:

> "First, to rehabilitate the (inclined) shaft by unwatering, mucking out and timbering for safe and thorough examination of the ground. Second, to sink, drift and crosscut to explore the mineralized structure."

RESERVES

The indicated and inferred reserves in this deposit are on the order of 1 to 5 tons of ore averaging 0.04 percent U_3O_8. This estimate is based on a probable westerly extension of the uranium mineralization in the footwall shear. Probably there are other undiscovered uraniferous lenses of this type in the deposit but they are likely to be too small and low grade to justify exploration.

CONCLUSIONS AND RECOMMENDATIONS

The low grade, the thinness, and the discontinuity of the shear zones, together with the very limited distribution of the uranium

within the shears, as well as the very poor showing of the sulphide minerals associated with uranium, all indicate that a substantial tonnage of uranium ore probably does not exist in this deposit. It is recommended, therefore, that the exploration loan be denied.