DMEA Form 1

DEFENSE MINERALS EXPLORATION ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMEA Docket No. 4832

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To:	700	Date	9-18-57
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To:	130	Date	10-23-57
To:	110	Date	10-23-57
To:	100	Date	10-23-57
To:	225	Date	10-23-57
To:	130	Date	1-28-58
To:	110	Date	1-29-58
To:	100	Date	1-29-58
To:	225	Date	1-29-58
To:		Date	
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To:		Date	
To:		Date	

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DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4832

Application
- [ ] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

Folders No._____: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

17963

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 16 1957

DATE	INITIALS	CODE

September 11, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Application ofr DMEA Aid (Uranium) Ohio Uranium and Mining Company (Copper Head, et al claims) San Juan County, Utah

Enclosed are the original and one copy of the subject application. One copy of the application is being forwarded to the Grand Junction Office, DMEA. One copy of the application is being retained in our file. Supplemental data was submitted only with the original copy of the application.

The Applicant proposes to explore a mineralized target area by 24,500 feet of core and non-core drilling at a total estimated project cost of $139,193.01.

To expedite the processing of the subject application at Region III level, we suggest that the Applicant be requested to submit additional copies of supplemental data before making field referral.

E. N. Harshman

E. N. Harshman
Acting Executive Officer

Form MF-103
Revised Feb. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1035.3
Approval expires June 30, 1958

RECEIVED SEP 16 1957 DMEA

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed)

Ohio Uranium & Mining Co., Inc.
34 So. Pleasant St.
Fairborn, Ohio

DMEA
DEPARTMENT OF THE INTERIOR
SEP 9 - 1957
REGION II
DENVER, COLORADO

APPLICANT NOT TO USE THIS BLOCK

Docket Number: DMEA-4832
Date Received: 9-16-57
Government Participation %:
Region: V
Division Code: 700

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [x]
- Partnership [ ]
- Other (Specify) [ ]

State in which firm is organized: Ohio

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
L. E. Augenstein	34 So. Pleasant St. Fairborn, Ohio	President
W. L. Parriman	400 Hillside Ave., Lockland, O.	Vice-President
C. W. Elliott	1534 Salem, Dayton, Ohio	Secretary
L. H. Moses	27 Oakley Place, Dayton, Ohio	Treasurer

Mineral(s) for which you wish to explore: Uranium

Estimated Cost of Project: $ 139,193.01

LOCATION OF PROPERTY

Name	County	State
See List	San Juan	Utah

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-I, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

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.

9-5-57
Dated

L. E. Augenstein
BY *(Signature)*

President
Title

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2*(a)*.

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations, if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *property boundaries* or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note* – If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

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)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.–DUP. SEC., WASH., D.C. 15539

HMC

DMEA
ARTMENT OF THE INTERIOR
SEP 9 - 1957
REGION III
DENVER, COLORADO

ATTACHMENTS

1. Criteria

1a. Geology Report

2. Maps; Roads; Grid Points.

3. D. M. E. A. (FM. 103-4EA)

4. Bids

5. Claim Data

6. Assays

7. Estimates (Summary)

8. Equipment Inventory, Values

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D M E A
RECEIVED SEP 16 1957

DATE	INITIALS	CODE

OHIO URANIUM AND MINING CO., INC.

FAIRBORN, OHIO

July 29, 1957

DMEA
DEPARTMENT OF THE INTERIOR
SEP 9 - 1957
REGION III
DENVER, COLORADO

Ohio Uranium and Mining Company
Fairborn, Ohio

Re: Survey of Uranium Outcrops and Mineralization From Colorado and Green River Junction to 10-1/2 Miles North, San Juan County, Utah

Gentlemen:-

This property being on the east side of the Green River, San Juan County, Utah, Townships 28, 29 and 29-1/2 South, Ranges 18 and 19 East, extending across to the Colorado River. The rock stratum of interest in exploration appears in an old stream channel in the basal member of the Cedar Mesa of the Cutler formation, possibly in the contact of the Cutler and Rico.

I observed visible uranium in a bluish-grey limestone and redish conglomerate, two to three feet thick. The uranium seems to be permeated throughout this member and has a high radiation count. This radiation count along the mentioned bluish-grey limestone of two to three feet thick varied at approximately fifteen feet intervals; the readings were .40 to 1.60% on the geiger counter and a background count of .25% readings. Also, I observed visible uranium ten to twelve feet above this rock stratum of interest in exploration in what might be called a bedding plane, of Arkose texture (quartz, feldspar, mica, etc.) The uranium appeared in the cracks and layers of the bedding plane.

Also, uranium was found, by microscope, dissiminated among the host rock stratas which leaves the writer to observe that from the outcropping indications, drilling would "intercept" a twelve-foot rock formation of interest in exploration. Drilling would be from 100 to 600 feet predicated on syncline elevations, and a southward trend of favorable ore bearing stratas.

As to the accessibility of the property from Moab, Utah, U. S. Highway #60 North for approximately ten miles to a junction of an improved, well maintained county road, referred to as "Dead Horse Point Junction". This county road runs in a south and west direction with the southern extremity known as Shafer's Trail. This road runs for a distance of approximately sixty miles. Beyond the county road, an access road has been built by the claim owners along the Green River to the property, a distance of approximately ten and one-half miles.

This report is a content of facts on the said property rather than the assumption to predicate the potentials in the unknown quantities behind what actually has been discovered on the surface.

As to mineralization in sight, as viewed along the horizontal outcropping, extends more than two hundred feet. The depth under the covering sandstone is, of course, as yet unconfirmed, but, from the nature of the geology and lithological trend, an inferred figure of 100 feet would not be out of proportion and using the limestone member mentioned above, a thickness of 2.5 feet.

Yours very truly,

W. J. Nault

W. J. Nault, Geologist

J. E. Patterson, Engineer

J. E. Patterson

JEP:pp

OHIO URANIUM & MINING CO., INC.

34 S. Pleasant St.
FAIRBORN, OHIO

DMEA
ARTMENT OF THE INTERIOR
SEP 9 - 1957
REGION III
DENVER, COLORADO

L. E. AUGENSTEIN, Pres.
L. PARRIMAN, V. Pres.
M. E. McCAULEY
G. R. PARRIMAN
G. ESSELMAN

C. W. ELLIOT, Sect.
L. H. MOSES, Treas.
H. L. ADAMS
R. A. SCHWIETERMAN
J. E. PATTERSON

OHIO URANIUM & MINING CO., INC. CLAIMS

SAN JUAN COUNTY,

UTAH

NAME	BOOK	PAGE	DATE	PLACE
"D-O" Claims	84	254-62	12-2-55	Monticello Recorder's Ofc.
Whistling Bill	84	263-69	11-30-55	Monticello Recorder's Ofc.
Sonja Lee	84	227-35	12-2-55	Monticello Recorder's Ofc.
Janice	84	236-44	12-2-55	Monticello Recorder's Ofc.
Cumile	84	247-53	12-2-55	Monticello Recorder's Ofc.
Maudine	100	403-15	4-8-56	Monticello Recorder's Ofc.
Ohio	148	501-13	12-15-56	Monticello Recorder's Ofc.
Copperhead	100	423-35	4-9-56	Monticello Recorder's Ofc.
Whistling Bill	182	308-14	7-1-57	Monticello Recorder's Ofc.

(99 Claims)

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DMEA
RECEIVED SEP 16 1957

DATE	INITIALS	CODE

OHIO URANIUM & MINING CO., INC.

34 S. Pleasant St.
FAIRBORN, OHIO

August 28, 1957

L. E. AUGENSTEIN, Pres.
L. PARRIMAN, V. Pres.
M. E. McCAULEY
G. R. PARRIMAN
G. ESSELMAN

C. W. ELLIOT, Sect.
L. H. MOSES, Treas.
H. L. ADAMS
R. A. SCHWIETERMAN
J. E. PATTERSON

DMEA
ARTMENT OF THE INTERIOR
SEP 9 - 1957
REGION III
DENVER, COLORADO

United States Department of the Interior
Defense Minerals Exploration Administration
Regional Office - 224 N. E. Custom House
Denver, Colorado

RE: Application for Aid in an Exploration Project of Undeveloped Property - Form MF-103, DMEA Order - 1.

Gentlemen:-

You will find attached (four each) application forms MF-103 as amended under Order One for DMEA participation in the cost of exploration for new, or undeveloped sources of strategic and critical metals and minerals.

The exploration estimated under this application is to be conducted from the surface, using sound recognized procedure, including geological and geochemical methods to obtain information in an area where more than favorable prospects appear to exist. This project will consist primarily of a drilling program, and road building designed to compose a period of 9.5 months (estimated) duration and will consist of test holes and core drilling. The area involved is approached by a secondary road which has already been completed from the southern tip of the White rim on the Colorado River in San Juan County, ten and one-half (10-1/2) miles and extending through the Cutler formation downward toward the Junction of the Green and Colorado Rivers to a point across a favorable plateau where drilling is proposed on an estimated survey. Our intention is to plan a grid survey where practicable, but in our quest for new ore bodies and to follow up extensions of known outcrop deposits, channels and potentials, it may be necessary in certain terrain to change grid points and follow favorable segments of the surface above.

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DMEA
RECEIVED SEP 16 1957

DATE	INITIALS	CODE

ROAD BUILDING

Road building, on a small scale, will be a continuous operation which must precede each exploration move. Drill sites must be prepared far in advance in order not to retard the drilling schedule. The main access road beginning at the White rim (USGS, pp. 2142B shown on map, North (Meridian) and extending eleven and half (11-1/2) miles South to the Janice claims, has been completed. It was designed however, as a secondary road and with the exception of surveying alignments, engineering standards were disregarded. Tangents were cut to a minimum; no berms provided as a protection against slides and for the first mile through special and rock, with seven switch-backs, an average grade of 26% was maintained. In this new proposal, it is estimated to lower five grades to 16% - to widen tangents and cut four berms; to provide drainage at serious points of erosion and place aggregates (shales and creek gravel) through rough rock cuts where protruding sharp stone enhances hazardous and expensive maintenance.

This application is submitted at a time when we are obliged to suspend exploration work only because of lack of funds to further explore properties where the geologic probability of making a significant discovery is quite favorable.

One year has gone into the planning, effort and expense of building roads into a most entractable area; and at a cost of $50,000.00. Ours is a closed corporation. We own all the properties involved and no shares have been issued outside the company.

In accordance with existing requirements, the following information is submitted for your consideration and necessary action in passing upon this application.

1. Property Rights:

(A) The property involved in this proposal consists of ninety-nine (99) claims more or less and is bounded on the West by the Green River and on the East by the Colorado River, located in Township 29-1/2 and 30 South, Range 18 East and 19 East, unsurveyed, is bounded on the North

by the "Stovall" claims owned by Southwestern Mining Company, Phoenix, Arizona and bounded on the South by the confluence of the Green and Colorado Rivers. The properties directly North of the Ohio Company claims will not be subject to any Government lien for royalty payments under this proposal.

(B) The land on which exploration is proposed consists of unpatented claims, known as:-

No. claims		
9	1 - The D-O Claims	)
9	2 - Janice Claims	)
9	3 - Cumile Claims	)
9	4 - Sonja Lee Claims	)
28	5 - Copperhead Claims	)
13	6 - Maudine Claims	)
13	7 - Ohio Claims	)
7	8 - Whistling Bill Claims	)
87		

All claims listed here are owned solely by the Ohio Uranium Co., Inc. There are no amended locations on record and no conveyances.

(C) The Janice Claims are bounded on the West by the "Don Claims" which are not subject to lien under this contract proposal. (A complete list of all claims, book and page, dates and place of recordings is attached hereto).

(D) There are no liens, mortages or other encumbrances against the properties nor the equipment.

2. Physical Description:

(A) The only exploration work previously conducted upon this property consisted of engineering survey alignment for road building, road construction, and plug drilling on or near the Green River on the Janice Claims and some road building across all claims from West to East in preparation for core drilling to explore inland possibilities from known outcrop deposits along exposed river escarpments.

After completing the access road, we moved in and spotted the drill rig on Janice No. 3 where a face outcrop showed favorable readings. This test site was 80 feet North of the river bank and mineralization was detected at 240 feet (Elevation at this point is 4.480'). Mineralization continued from 240'-264' and with a count of 0.14 U_3O_8 (T.D. 440'). The second test hole showed a count .18 from 243' to 250' (T.D. 380'). Test hole #3, 195' East and North, showed a favorable count from 246' to 309' (Babel, Radiometric Electronic Pick Up) assay showed 0.18 U_3O_8 (T.D. 460'). Attention was next focused on other face readings along the eastern bank of the Colorado

River, approximately three and one-half (3-1/2) miles East of #3. At this point, we encountered surface water trouble and fissures and was obliged to abandon the location when circulation could not be maintained. The primary reason for unusual physical conditions was due to the proximity of surface fractures near the decomposed river slides which invited unfavorable drilling conditions. We moved the next location West 450' inland (See location map) and a low count from plug samples was detected at 258' to 264' (T. D. 408'). This test, although somewhat discouraging was interesting to note any mineralization across so vast a territory. Test samples ran from 0.0401 to 0.0600. The geological formation of this area is the Rico, approximately 685' below the top of the "White rim" or Cutler, possibly in the contact of the Cutler and Rico formation, several favorable outcrop samples have been taken from the Coconino shale and conglomerate stratas, approximately 60' below the contact. Other favorable ore outcrops and good readings are to be found approximately 200' above river stage on the Green River side and extends far South in sections where outcrops are exposed between slides.

Exposed occurrences appear on the face of the D-O claims on the West side and on the Whistling Bill claims (See map). Other outcrops extend at intervals to the confluence of the rivers and samples have been taken from much of the area we propose to explore. (See copies of assay certificates).

3. Accessibility of Project:

(A) This project is accessible from Moab, through the Schaefer Trail road, approximately eighty (80) miles by road and thirty (30) minutes by air; is 16°-10' West of Meridian South. All types of vehicles may proceed in all seasons except when heavy snows make the canyon pass hazardous for two to three days after slides occur but the road is classed as - 'all weather'. After ascending over and down the Schaefer Trail, the road meanders around the White rim on the Colorado River approximately forty (40) miles South to the operators' first camp situated on the top mesa of the Cutler and approximately twelve (12) miles North of the River Junction. From here, a jeep (or four-wheel power) is necessary to complete the trip into the drilling site. Mr. James E. Patterson, engineer, will be available in Moab to accompany any DMEA representative into the project to examine the property.

(B) The nearest supply and shipping point is Moab, Utah, approximately eighty (80) miles by road. Skilled personnel would be required to live on the project. Drilling facilities and quarters for drilling crews to be furnished by contractor at the jobsite and at the contractor's expense.

4. The Exploration Project:

(A) The captions of work coming under this heading include: rotary plug drilling and core drilling, access roads and drilling sites, machinery and maintenance, equipment and supplies, labor, engineering and supervision.

In this estimate we propose to drill 140 test holes @ 350' (T. D.) 49,000' - 4-1/4" plug holes, 2-1/8" core (O. D.). Formation on which drillsites are located is 680' down from top of the White rim (Cutler), El. 4,520'. The ore body is found in the contact of the Cutler and the Rico formation. Very little prospecting and exploratory work has been done in this area and without any ore being shipped out. The property is located (See map) in Township 29-1/2 and 30 South, Range 18 and 19 East, is bounded on the East by the Colorado River, on the West by the Green River, on the North by Stovall Claims owned by the Southwestern Mining Company, Phoenix, Arizona and on the South by the confluence. North boundary line, Northeast corner of Janice No. 9, is 4.6 miles South by stadia and triangulation. 25° West of USGS pp 2 142 B, 1951. (See map).

(B) Access Roads - Approximately fifteen (15) miles of secondary access roads are to be built to drillsites which will consist primarily of bulldozer work in sand dunes and sage brush. Estimated eighty (80) days of cat work and a minimum of drilling-blasting of spacial and rock, no surfacing and no drainage structures are required. (See map of proposed alignment and physical scope).

(C) DMEA - contract: In the event an exploration contract is executed we (the operator) would have equipment in repair and ready to start within thirty (30) days and predicating an estimate of four test holes per week for two rigs would require 9.5 months of drilling. The road work would be in advance of all exploration moves and would be completed within the first four (4) months.

5. Experience of Operator:

When we started this venture over a year ago, we felt that we were equipped with resources and the knowledge to carry out a limited program of exploration. Our company members are professional business men of unquestionable character and of high integrity; consisting of doctors, lawyers, bankers, engineers, auditors, automotive dealers and merchants. We have as Supervisor of Exploration and Development, Mr. James E. Patterson, professional engineer , who has had thirty years experience as supervisor and

director of exploration drilling and district engineer for major oil companies throughout the States, Africa, Arabia and South America and six years with the United States Engineers as District Engineer in charge of major construction in all its phases, consisting of roads, bridges, airports and general erection. Another field man who has been with us for two years is Mr. G. R. Parriman, with many years experience in mechanical work, heavy equipment operator and welder, rotary driller and tool pusher.

(D) Operating Equipment:

(See List of Items, Estimated Cost and Specifications on separate sheet). This list includes all equipment to be provided by the applicant.

(E) Rehabilitation and Repairs:

Captions coming under this heading includes no repairs to buildings; only; repairs and maintenance of movable operating equipment which is to be used on the project.

Repairs and Maintenance - 9.5 months
Estimated - [redacted] 1,950.00

(F) New Buildings:

The fixed improvements under this caption comprises four small buildings to be installed for the exploration project. Wooden or fabricated buildings are recommended in lieu of tents and other portable quarters which become depleted in the process of operations due to high winds and heavy snows in this area. These buildings are estimated for project personnel such as operators, foreman, project manager and engineer.

<u>Specifications:</u>

Four each - 12'x16'x8'
2"x4" studs, 24" O. C. Celotex Wall Board, 1/2"x4'x8' Dim.
Comp. Roofs; Pitched, 4/12 - (Wy -2 ea. Wdo. Std) S. L. flooring - 2"x 4" floor beams, 16" O. C.

Materials at One Unit:

2 - 4x6 - 16 R. 64		5.75
3 - 2x6 - 12. 24		2.64
4 - 2x4 - 8		2.31
20 - 4'x8' 1/2" Cel.		54.60
28 - 2/4x8' studs		16.39
20 - 2/4-16 joists		23.43
11 - 2/4-16 rafters		11.77
200 - S. F 1/8-S. Lap		27.00
300 - (SF) Sheathing roof		33.00
3 rolls Slate roofing		15.75
14-4/8 Cel. Sheafing		35.84
2 - 4 lt. wdo. B sash		10.00
1 - Door (2-8/6-8) Wy, Hdw, Jamb.		16.80
Nails, Misc.		15.00
Sub-Total	$	270. 28
Labor (2 men, 3 days)		125. 00
Total - One Unit	$	395. 28
One Unit - $395.28 - Four Units		1 581.12
Less 10% on Materials ($1081.12)		108.11
		973.01
Labor		500.00
Grand Total	$	1 473.01

In submitting this application, we have tried to incorporate every caption or item of exploration related to and fully describe the physical scope as set forth in the terms and conditions of this procedure. We have included in the criteria every factor of importance which may be considered in passing upon this application.

Yours truly,

Prepared by:
James E. Patterson,
Engineer; Supervisor
Exploration-Development
Ohio Uranium & Mining Co., Inc.
Moab, Utah

Approved:
L. E. Augenstein, Pres.
Ohio Uranium & Mining Co., Inc.
Fairborn, Ohio

OHIO URANIUM & MINING CO., INC.

EQUIPMENT ON HAND	ESTIMATED VALUE	CONDITION
1 - Tractor (D-4 Cat)	5,000.00	Good
1 - Weapons Carrier - Power Wagon	500.00	Good
1 - Jeep (1950 Model)	1,000.00	Good
1 - Truck, 4x6 Army - 1945 Model Flat Bed, (4 wheel drive)	1,500.00	Good
1 - Welding Machine (Elec.) Comb. Light Plant	500.00	Good
1 - Light Plant - 30V (DC) (2000 Amp)	300.00	Good
Compressors:		
1 - 225 (CFM) Schramm	4,000.00	Good
1 - 125 (CFM) Ingersoll-Rand	3,500.00	Good
4 - Jack Hammers, Steel, Misc. Hose Pipe, etc.	2,000.00	Good
1000' - Drill Rig, HD, (U75) Joy- (Wy. Drill Stem, Core bbl. Tools; Truck Mounted	15,000.00	Good
1 - Wat. Pump, (HP) 1-1/2-2" F&M)	500.00	Good
(L.S. - Line Pipe - 1-1/2"x2" (Used) 900 Ft.	400.00	Fair
Camping Equipment - Beds, Tents, Stoves, etc.	200.00	Poor
Portable, Prospectors Drill (Small)	500.00	Good
Misc. - Air legs, Prosp. Equipment, Scintillator, Tools, etc.	1,500.00	Good
Babbel - 500' Probe (Electronic Pick Up)	600.00	Good
1 - 1-1/2" Briggs Straton Air-cooled Water Pump	200.00	Good
1 - Transit, Stadia, chains, Apurt.	800.00	Good
Total----------	$ 38,000.00	
Note: Less depreciation, 30%	$ 11,400.00	

(See Sheet 2 thru 6 for Schedule of Equipment, Captions of Work and Estimates of Cost).

Evaluated By: J. E. Patterson, Engineer; Supervisor, Exploration-Development, Moab District. Moab, Utah

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COST
(Operator's Contribution Equipment Rentals)

Estimate:	
D-4 Tractor;	
This unit to be used periodically, as needed on maintenance	$ 6,160.00
Est: 110 Days (880 hrs. @ $7.00)	
1 - Weapons Carrier	
Est: 8 months (service unit) 2000 hrs. @2.00	4,000.00
1 - Jeep (Power Wagon)	
Est. 9.5 months (to be used by Project Supervisor)	500.00
1 - Truck, H.D. 4x6 Army - General Heavy Hauling (4 wheel drive)	
Est. 7 months, 210 days @ 10.00	2,100.00
1 - Welding Machine (Electric) (Light Plant)	
Est: 6 months, 180 days @ 5.00	900.00
1 - Light Plant	
Est: 9.5 months @	300.00
1 - Compressor - 225 (CFM) Schramm	
Est: 9.5 months @ 275.00	2,612.50
1 - 125 (CFM) I.R.	
Est: 3 months @ 175.00	525.00
J. Hammers, Hose, Tools	
Est: 3 months @ 200.00	600.00
U75 Drill Rig; (H.D. 1000' Joy) D. Stem, Core Bbl, tools	
Est: 9.5 months @ 1000.00	9,500.00
Line Pipe; 1-1/2" & 2" (Used)	
900' @ .50	450.00
H.P. Water Pump	
9.5 months @ 50.00	475.00
Misc. Equipment, tools, welding equipment; Probes, Scintillators, transit (special equipment)	2,500.00
Sub-total Sheet 2	$ 30,622.50

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LABOR

Tractor Driver (For D-4 Cat) Est: 800 hrs. @ 2.00	$ 1,600.00
Truck Driver (For W. Carrier, P. Wagon) Est: 2000 hrs. @ 1.75	3,500.00
Truck Driver (For H D Truck) Est: 7 months , 1680 hrs @2.00	3,360.00
Welder Deisel Mechanic Est: 60 days, 480 @ 2.50	1,200.00
Jack Hammer Operator (Special and rock) Est. 90 days, 720 hrs. @2.00	1,440.00
Powder Man Est. 60 days, 480 hrs. @2.00	960.00
Rotary Driller Est. 9.5 months @ 600.00	5,700.00
1 - Helper 9.5 months @ 300.00	2,850.00
Laborers For placing culverts, Aggregates, Pipe lines, Pumps, Gen. Maintenance 2 men 80 days @1.50	2,160.00
Project Supervisor, Engineer 9.5 months @800.00	7,600.00
Sub-total Sheet 3	$ 30,370.00

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CONTRACT

1 - D-6 Cat. (Contract)

For road widening, and drill sites, 10.5 miles widening, 15 miles access to drill sites. Est. 70 days, 560 hrs. $ 11.00	$ 6,160.00

Contract Drilling

23,100' Plug drilling @1.75	40,425.00
1,400' Coring @ 3.50	4,200.00

Contract Buildings

4 Units (turnkey) in place @$1,473.01	1,473.01
Sub-total Sheet 4	$ 52,258.01

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MATERIALS

Explosives:		
2 tons - @ 430.00	$	860.00
Detonators (L.S)		180.00
Drill Bits		150.00
~~Core~~ Bits - 120 @ 45.00 (Plug Bits)		5,400.00
Gas, Fuels, 18,000 @ .29		4,220.00
Oils-Greases - L.S.		450.00
Culvert Pipe - 160' @ 4.00		640.00
Maintenance Parts, (L.S.)		1,950.00
Misc. Contingencies, 5%		692.50
Sub-total Sheet 5	$	14,542.50

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COST SHEET

RECAPITULATION:

*Sheet 1	Equipment Depreciation	$ 11,400.00
*Sheet 2	Equipment Rentals	30,622.50
xSheet 3	Labor and Engineering	30,370.00
xSheet 4	Contract	52,258.01
xSheet 5	Materials; Operating Expense	14,542.50
Sheet 6	Recapitulation:	
	*Operator's Contribution	42,022.50 - 30.2%
	xSponsor (DMEA)	97,170.51 - 69.8%
	Grand Total Cost of Project	$ 139,193.01

Respectfully submitted,

R. F. Weingenstein Pres.

Ohio Uranium & Mining Co., Inc.
34 South Pleasant St.
Fairborn, Ohio

Estimates, maps and criteria prepared in Moab District Office, Moab, Utah

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Swank Drilling & Exploration Co.

RILEY BLDG. - PHONES: OFFICE 3-4106: RES. 3-2795

P. O. BOX 638

MOAB, UTAH

August 28th.1957

DMEA
ARTMENT OF THE INTERIOR
SEP 9 - 1957
REGION III
DENVER, COLORADO

The Ohio Uranium & Mining Co
Box 997
Moab , Utah.

Dear Sirs:

Following is our bid on drilling approximately 23,000 feet, minimum 12,500, in the vacinity of the conflux of the Green and Colorado rivers.

Plug drilling per foot		$ 1.75
Coreing	" "	3.75
Stand by or waiting time	" hour	13.50

Ohio Uranium to furnish all roads and drill sights.

Any delay caused by Ohio Uranium either for probing or waiting on locations of drill sights will be $ 13.50 per hour.

This bid is based on a sixty hour work week.

We give the very best possible service we can render. Hoping to serve you in the future I am,

Very truly yours,

Jerry Swank

Swank Drilling & Expl. Co.

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MOAB DRILLING COMPANY

DIAMOND CORE DRILLING CONTRACTORS

BOX 387

MOAB, UTAH

TELEPHONE 3-4181

CHARLES A. STEEN
PRESIDENT

WILLIAM H. (BILL) LEWIS
GENERAL MANAGER

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DATE	INITIALS	CODE

August 29, 1957

Mr. J.E. Patterson
Ohio Uranium Company
P.O. Box 997
Moab, Utah

Dear Mr. Patterson,

The Moab Drilling Company is pleased to submit a bid on your proposed drilling program in San Juan County, Utah. As I understand it, the property is located two miles north of the confluance of the Green and the Colorado rivers, and a fairly good jeep road is on the claims.

A total of 24,000 feet is to be drilled, the holes ranging from 160 feet to 360 feet in depth. Also I believe you told me 4000' is to be cored. We would like to bid as follows:

Plug drilling	$2.50 / ft.
Core drilling	$4.00 / ft.
Moving: paved road	.75 / mile
dirt road	1.25 / mile
Stand-by time	18.00 / hr.

We will need at least seven days advance notice.

If you have any questions, I will be very glad to discuss it at your convenience.

Thank you very much for this opportunity.

W.H. Lewis

W.H. Lewis, General Manager
WL:g

JACK CATT DRILLING SUPPLY agrees to perform a drilling program for OHIO URANIUM COMPANY of Moab.

Work to be done in the Indian Creek Area. OR GREEN RIVER area.

Jack Catt

We the first party agree to plug drill to 250 feet, then core 8 to 12 feet, and then ream that and continue plug drilling to about 300 feet. With about 12 to 15 feet of coreing at around 300 feet depth--drilling to be done with air if possible. If not, then mud or water.

The contractor will operate the rig on a 24 hour-a-day basis if agreeable with second party, if not, on a 12 hour basis.

All roads and set-ups to be built by second party in a satisfactory manner. In case of rig delay on account of delay due to the second party not having roads or locations made, or waiting on engineers, rig time after first hour will be $15.00 an hour. Second party shall have road access to any water holes if needed.

PRICES on drilling to be as follows: Plugging to 250 ft. at $1.40 per ft.

Core - about 8 to 12 ft. $ 2.50 per FT.

Reaming core hole to continue drilling $ 1.00 per ft.

Continue plug drilling to about 300 ft. $ 1.45 per

Core the bottom of hole 12 to 15 ft. $ 2.50 per ft.

All work to be carried on in a workman like way by both parties. Contractor will furnish all drilling supplies and labor for drilling. Contractor will also have a camp and base of supply on or near the job.

Details of amount of work and operations to be made and agreed upon in a legitimate contract, signed and notarized by all concerned, if this tentative contract is approved.

Submitted by: Jack Catt 8-28-57.

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General contract subject to change with respect to depths, totals footage & type of rock.

DMEA
DEPARTMENT OF THE INTERIOR
SEP 9 - 1957
REGION III
DENVER, COLORADO

Copy for Ofelia Mr. Corp

I. DRILLING RATES:

For the convenience of the property owner, two drilling rates for drill holes 500 feet or less in depth have been established by the Moab Drilling Company. These rates and drilling rig stand-by time rates are as follows:

(1) Drilling Rate "A"

This rate is designed to cover the cost of drilling only, and does not include auxiliary services.

Plug drilling	$ 2.75 per foot
Diamond Core drilling	4.50 per foot

(2) Drilling Rate "B"

Drilling rate "B", including auxiliary services, is as follows:

Plug drilling	$2.75 per foot, plus $.50 per foot for services.
Diamond Core drilling	4.50 per foot, plus $.50 per foot for services.

The above mentioned auxiliary services include the following items:

(A) Supervision of drilling operations by a qualified field geologist.
(B) Logging of all core.
(C) Probing of holes
(D) Certified wet chemical analysis of uranium, calcium, and vanadium mineralization encountered.
(E) Preparation of a drill hole location map, surveyed by use of existing claim corners or on claim maps supplied by the owner, and ore reserve map if required.

(3) Drill Rig Stand-By Time

Drill rig stand-by time is charged at a rate of $12.50 per hour. Drill rig stand-by time charges are made when:

(A) Drill rigs are stopped for a period of time by the property owner. Such a request must be presented in writing to the field supervisor.
(B) If advance drill sites have not been designated by the property owner or his representative.
(C) When advance drill sites have not been prepared by the owner or his representative.

Provided the property is drilled according to drilling rate "B" and the drill site locations are prepared by the Moab Drilling Company equipment, the geologist in charge is responsible for the location and preparation of drill sites.

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II. EQUIPMENT MOVING:

Moving costs are based on the mileage to and from Moab, Utah. These costs are as follows:

One drilling rig and one water truck:	$	1.25 per mile
One tractor (D6) and one compressor:		.75 per mile.

III. LOCATION COSTS:

The use of the Moab Drilling tractor (D-6) and compressor to prepare drill sites is optional to the property owner. The cost of preparation of drilling locations vary with the local topography and such costs are based upon the hours required to prepare each location, including building of roads. The hourly rates are as follows:

One tractor (D-6) and operator:	$	12.00 per hour
One compressor and operator:		7.00 per hour

Tractor and compressor stand-by time is charged when:

(A) Work is stopped, before completion of contract or for other reasons, by the property owner or his representative.

(B) Advance site locations have not been designated by the property owner or his representative.

Provided drilling rate "B" is used, the geologist in charge is responsible for the designation and location of drilling sites.

IV. GEOLOGICAL SERVICES:

Geological services can be rendered by the Moab Drilling Company prior to the actual drilling operations. This service includes a comprehensive geologic survey of the property, including a geologic report, preparation of the claims map, and a proposed drilling program based on the proposed footage to be drilled.

The cost of pre-drilling geological services is one-hundred dollars per day. //

V. MISCELLANEOUS COSTS:

The following services and materials (subject to price change) are available if required:

Drill hole wash out	$	15.00 per hr.
Bran		2.50 per bag
Mud		2.30 per bag
Palcoseal		5.50 per bag
Dynamite		22.40 per box
Caps		2.12 per box
Fuse		11.85 per 1000 ft.
Lost Circulation		15.00 per hr. //

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VI. CORE RECOVERY:

Ninety-two percent (92%) of the total core recovery is guarenteed by the Moab Drilling Company.

Moab Drilling Co.

By. Wm. Lewis, Mgr.

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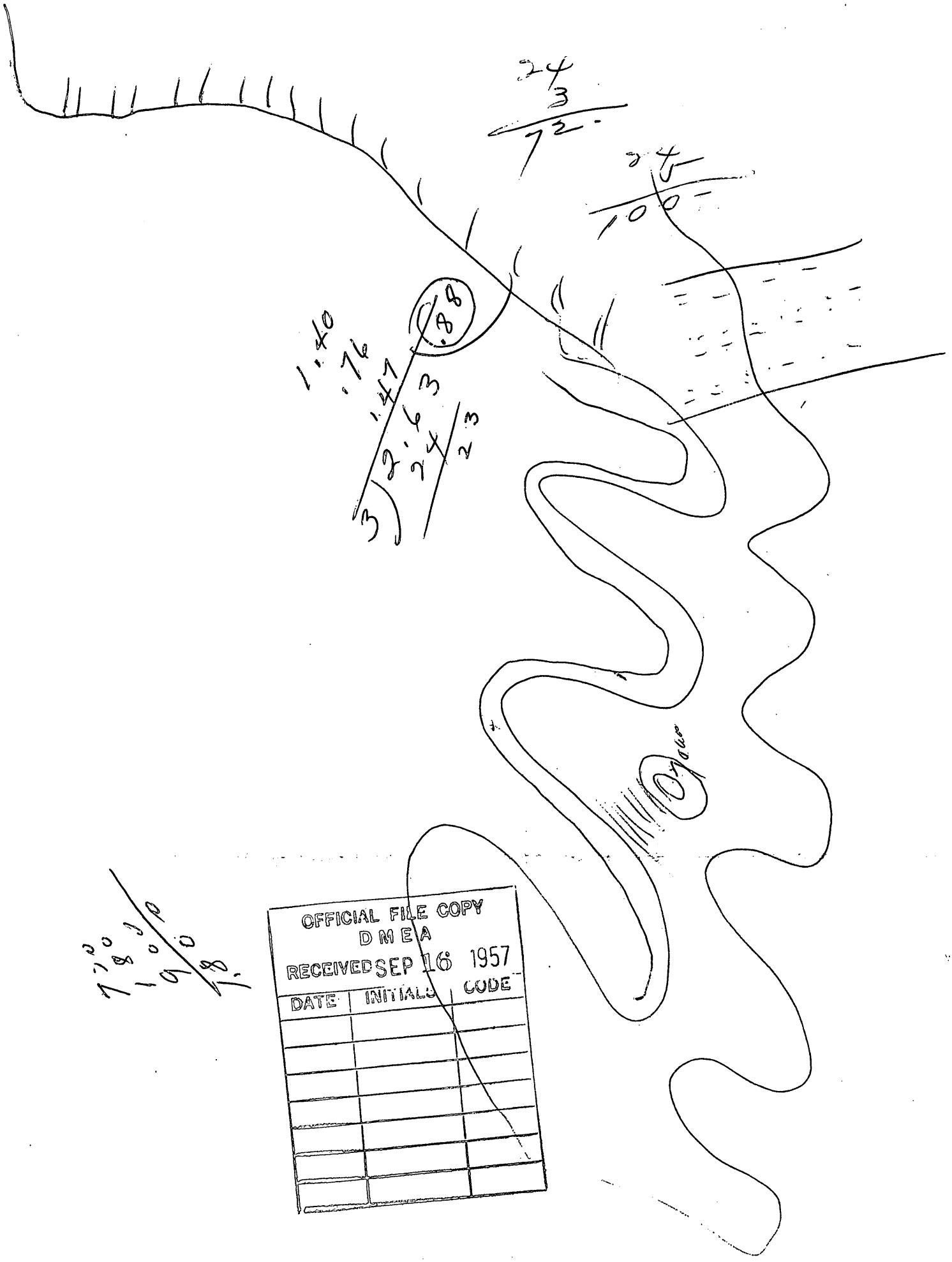
E.A.



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DATE	INITIALS	CODE

Ohio Uranium + Mining Co
345 S. Pleasant St.
Fairborn, Ohio.

Sirs:

In answer to your invitation to bid on est. 640 hrs. Cat work between Green + Colo. rivers.

I will furnish one D-6 Caterpillar, rated 66 hp. on drawbar, Transportation of said machine to and from project, fuels and camping facilities ~~Rate~~ 10.00 per hr.

James A. Scott
447 E 2nd So.
Moab Utah

Moab, Utah, 8-16, 1957

Ohio Uranium
Box 997

IN ACCOUNT WITH

CLARENCE ENGSTROM

DIRT CONTRACTOR — ROAD BUILDING

Phone ALpine 3-5692 Box 472

261 So. Tusher

A bid of $12 per hr.
on approx. 60 days
work of road building

Clarence Engstrom

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D.M.E.A.

Smith's Laboratory

CHEMIST AND ASSAYER

MOAB, UTAH

Ohio Uranium Co.

Dec. 15, 1954

Sample Description	% U_3O_8	% V_2O_5	%	%	%	%			
Sample a	0.031								
B	0.078	From 240'-275'				JANIC #3			
C	0.184	" 279-288'							
				Paid by OKA 207					

TOTAL CHARGES $ 9.00 Paid

J. Earl Smith

CHEMIST

6- Salt Cedar Claims.
8- Silver Slipper.

Ben E. Mast.
John A. Wegner.
James. E. Wegner.
} Partnership.

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Smith's Laboratory

CHEMIST AND ASSAYER

MOAB, UTAH

Ohio Uranium Co.

May 7, 1957

Sample Description	% U_3O_8	% V_2O_5	% $CaCO_3$	%	%	%			
White sand	0.406		9.90						
					Outcrop sample				
					~~DH~~ B - # 7				

TOTAL CHARGES $ 4.00

J. Earl Smith
CHEMIST

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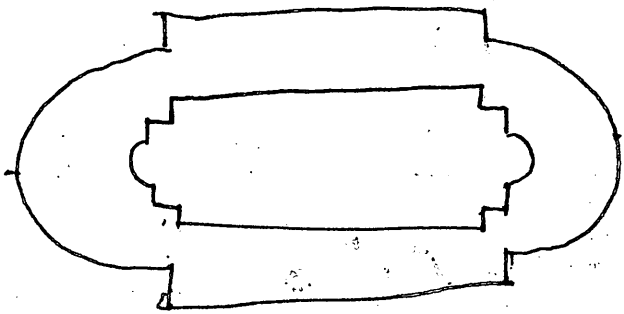
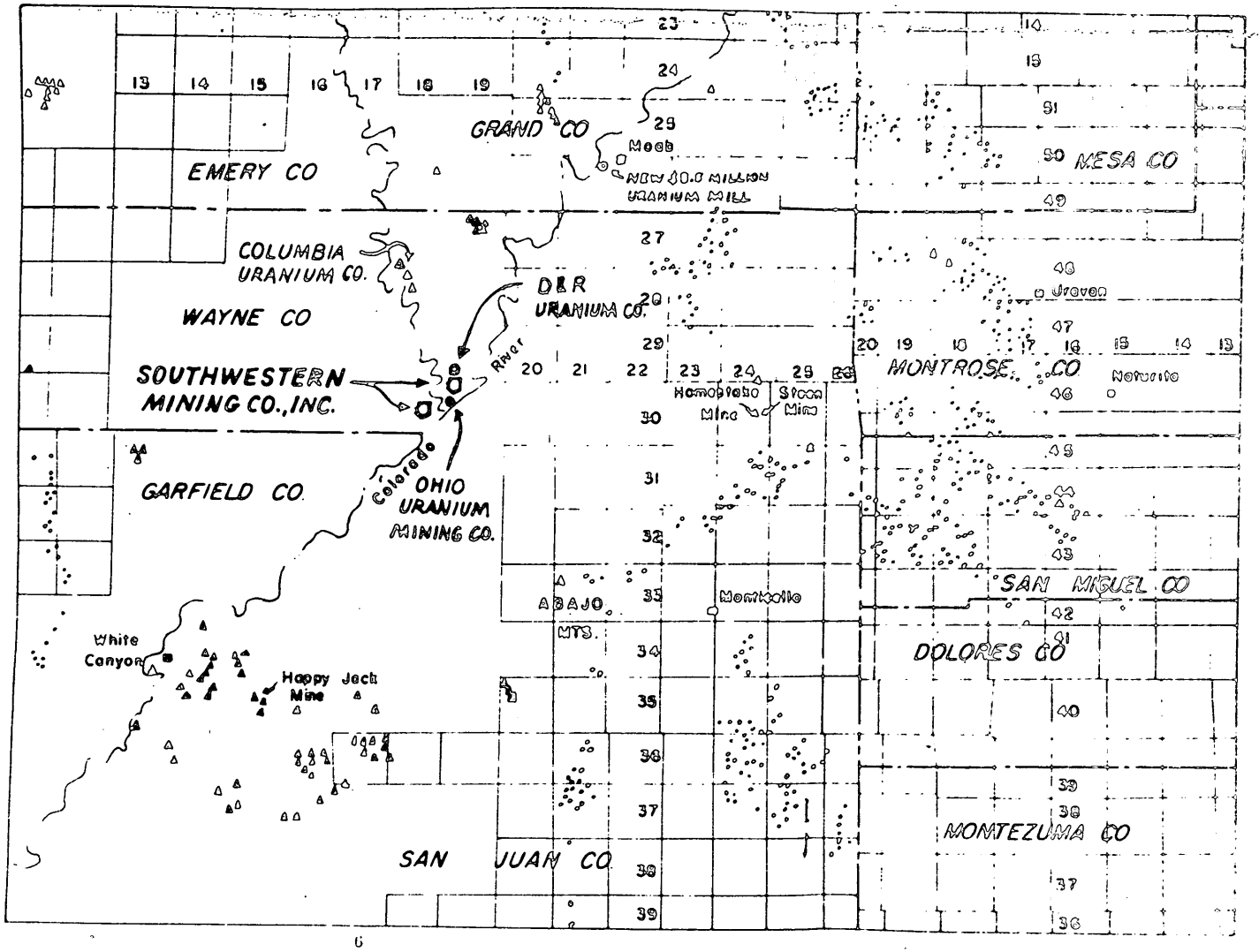
Exact Chronologic

super Cub, 9:00 Am,
(first flight 3 men)





SOUTHWESTERN MINING CO., INC.
ARIZONA

[illegible] INC.

COLORADO PLATEAU AREA
UTAH

N

0 3 6 12 24 miles

○ Uranium deposits Morrison fm.
△ Uranium deposits pre Morrison fm.
◎ Southwestern Mining Co., Inc. Claims

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OFFICIAL BUSINESS
S. 157 HOWARD ST.
Spokane 4, Wash.

SPOKANE, WASH.
AG 16 730PM
1957

Mr. George C. Selfridge
Chairman, Operating Committee
Defense Minerals Explor. Admin.
Department of the Interior
Washington 25, D. C.

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DMEA Form 7
(12-56)

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Date	Surname	Code
1-28	Murphy	700
1-28	[illegible]	700
1/29	[illegible]	130
"	[illegible]	110
"	[illegible]	100
1/29	[illegible]	130
1/29	[illegible]	120
1/30	[illegible]	220
		225

JAN 29 1958

Mr. L. E. Augenstein, President
Ohio Uranium and Mining Company, Inc.
34 South Pleasant Street
Fairborn, Ohio

Re: Docket No. DMEA-4832 (Uranium)
Copper Head, et al., Claims
San Juan County, Utah

Dear Mr. Augenstein:

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

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

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

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

Sincerely yours,

C. O. Mittendorf

Administrator

FMMurphy/izm 1-28-58
cc: Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224
DMEA FT Reg. 3 (2)

Docket

Murphy
Ellis

January 28, 1957

Summary of Proposed Project

Subject: Denial of application for exploration aid.

Docket No.: DMEA-4832

Commodity: Uranium

Amount of Application: $139,193.01

Applicant: Ohio Uranium & Mining Co., Inc.
34 South Pleasant Street
Fairborn, Ohio

Property Rights: Owner of unpatented lode mining claims Sonja Lee Nos. 1-7 inclusive, Janice Nos. 1-9 inclusive, Cumile Nos. 1-9 inclusive, D-O Nos. 1-7 inclusive, Whistling Bill Nos. 1-9 inclusive and Nos. 10-15 inclusive, Maudine Nos. 1-13 inclusive, Copperhead Nos. 1-25 inclusive, and Ohio Nos. 1-13 inclusive, in unsurvyed Townships 29½ and 30 S., R. 18 and 19 E., S.L.B.M., San Juan County, Utah.

Date of Application: September 5, 1957

Referred to Region III: October 23, 1957

Field Examination made: Nov. 19-20, 1957 by D.P. Elston, USGS, and H.F. Robertson, USBM, accompanied by Mr. J.E. Patterson, engineer and supervisor of exploration and development for the Applicant.

Field Team Report received: January 20, 1958

Work Proposed:

Drill 140 non-core and core holes to an average depth of 350 feet to test 80 of the 100 claims in the group.

Estimated Costs:

Independent Contracts

Bulldozing, 560 hrs. @ $11/hr.	$6,160.00	
Drilling non-core, 23,100 ft. @ $1.75/ft.	40,425.00	
Drilling, core, 1,400 ft. @ $3.50/ft.	4,200.00	
Sub-total		$50,785.00
Labor, supervision, consultants		30,370.00
Operating Materials and supplies		14,542.50
Operating equipment (depreciation & rental)		42,022.50
New Buildings		1,473.01
TOTAL		$139,193.01

Excerpts from Field Team Report:

The property covers rugged canyon topography bounded by the Green and Colorado Rivers from their confluence to a point about 2.5 miles to the north.

Rock exposed in the general area, in descending order, consist of the lower part of the Permian Cutler formation, the Rico formation of Pennsylvanian and Permian (?) age, and the upper part of the Hermosa formation of Pennsylvanian age.

The Shafer limestone is the top unit of the Rico formation. The limestone is underlain by a sandstone sequence that is about 40-80 feet thick. Anomalous radioactivity and sparse uranium minerals have been detected at and near the base of the sandstone sequence. The Rico formation ranges in thickness from 465 to 575 feet.

The Hermosa formation underlying the Rico is exposed to depths ranging from 250-900 feet along the river canyons. Weak radioactivity was noted in the upper limestone of the Hermosa formation.

Ten holes have been drilled on and near the subject property. Eight of these are reported to have been drilled deeply enough to test the sandstone and mudstone strata underlying the Shafer limestone. The Applicant reports that five of the eight holes penetrated mineralized rock. One hole, drilled during the field inspection, penetrated mineralized material in sandstone below the Shafer limestone. Two samples, taken by the examiners, of the drill hole cuttings from 265-267.5 feet and from 267.5 to 270 feet assayed 0.003% U_3O_8. This hole was near three other holes which the Applicant had reported as being mineralized.

The examiners did not observe any sedimentary features within or at the base of the upper sandstone sequence in the Rico outcrop that might be logical sites for the localization of significant uranium deposits.

Geological investigations of the general area have been made by the A.E.C., and although the uranium occurrences in the Rico formation on the property were known, the potential of these deposits was considered to be nil. The extensive work of the A.E.C. in the inter-river area resulted in an inferred uranium reserve estimate of only 8,000 tons of barely acceptable grade. The deposits are generally small and scattered.

The examiners and Field Team recommended that the application be denied.

Commodity Member's Comments:

In memoranda, dated January 22, 1958, James Paone, USBM, and W. P. Williams, USGS, concur in the Field Team's recommendation for denial.

Division of Rare & Miscellaneous Metals, F. M. Murphy, January 28, 1958.

The samples taken by the examiners indicate that in general the target sandstone strata is only weakly mineralized on the subject property.

The assay data submitted by the Applicant show the presence of some ore-grade material in the holes drilled, but data to evaluate the assays are largely lacking. The examiners conclude that, the mineralized rock penetrated by the drilling is spotty and erratic in occurrence as is that exposed on the outcrop.

The extensive work done by A.E.C. and private operators in the inter-river area indicates that, although a few small uranium ore deposits have been found, the general area is unfavorable geologically for deposits of signficant size and grade.

Conclusions and Recommendations:

The samples taken by the field examiners were from outcrops to the north and west of the subject property. However, the samples can be considered representative of the target zone on the Applicant's property.

In view of the general unfavorability of the area, this Division concurs in the Field Team's recommendation that application DMEA-4832 be denied. Application DMEA-4669 by D & R Uranium Corporation to explore its claims just north of the subject property, was denied without prejudice on May 28, 1957.

Ernest Wm. Ellis

Ernest Wm. Ellis, Director
Division of Rare and
Miscellaneous Metals

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DME
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DATE
24 C 220
11 Farm 400
Complete

IN REPLY REFER TO:

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

January 22, 1958

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 4832 (uranium), Ohio Uranium & Mining Company, Inc., Copperhead, et al claims, Inter-river area, San Juan County, Utah

The examining team report that geologic conditions on the applicant's property are not favorable for the presence of commercial-size ore deposits. Small, scattered uranium deposits have been known in the Cutler and Rico formations in the vicinity of the property for some time. The AEC and the U. S. Geological Survey have done considerable geologic mapping in the area.

The examining team took seven samples from the property. The highest assay from those samples runs only 0.087 U_3O_8.

East and northeast of the applicant's property many uranium prospects in the Cutler and Rico formations have been tested by drilling, without success. Eight drill holes on the property failed to discover ore.

The uranium production history of the Cutler-Rico formations is poor. The examining team found nothing to indicate that the situation is different on the applicant's property. I agree with the Field Team's recommendation for denial of the application.

W. P. Williams

W. P. Williams

OFFICIAL FILE COPY DMEA RECEIVED JAN 22 1958		
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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Washington 25, D. C.

Date January 22, 1958

DMEA Docket No. 4832
DMEA Contract No.
Commodity Uranium
Name of applicant Ohio Uranium & Mining Co., Inc.
Name of property Copperhead
Location of property San Juan County, Utah
Estimated cost of project $139,193

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: James Paone, Bureau of Mines Member
Uranium Commodity Committee

Subject: Review of Field Team Report
(Application, Field Team Report, etc.)

1. Date of subject document: 1/16/58. 2. Date received by reviewer: 1/20/58

3. Prior reports on this property known to reviewer: Yes ☐ No ☐

4. Prior reports on nearby properties known to reviewer: Yes ☐ No ☐

5. Information available on past production: Yes ☐ No ☐

6. Other pertinent factors known to reviewer: Yes ☐ No ☐

7. Explain items marked yes above:

8. Factors needing special consideration:
   a. Location ☐
   b. Ownership ☐
   c. Evidence of mineralization ☐
   d. Geology ☐
   e. Proposed exploration method ☐
   f. Alternate exploration method ☐
   g. Costs ☐
   h. _____ ☐

9. Action advised:
   a. Obtain information from applicant ☐
   b. Refer to Field Team ☐
   c. Denial ☒
   d. Agree with Field Team ☒
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐
   i. Consult with Mr. _____ at _____ AEC office

10. Remarks: (Use back of page if necessary)

ON-SITE EXAM.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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DATE		
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1/23	C	220
1/11	FMM	700

224 New Customhouse
Denver 2, Colorado

January 16, 1958

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 4832 (Uranium) Ohio Uranium & Mining Co., Inc. (Copperhead, et al claims) San Juan County, Utah - Joint Report of Examination

Enclosed are the original and two copies of a Joint Report of Examination on the subject property.

The field examiners believe that the possibility of finding a significant ore deposit on this property is exceedingly remote. They recommend that the application be denied. The Field Team concurs in this recommendation.

W H King
W. H. King
Executive Officer

ON-SITE EXAM.

1-22-58

MINERAL DEPOSITS
IN REPLY REFER TO:
DMEA
RECEIVED
13
JAN 12 1958
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
Grand Junction, Colorado

DMEA
DEPARTMENT OF THE INTERIOR
JAN 14 1958
REGION III
DENVER, COLORADO

January 10, 1958

Memorandum

To: W. H. King, Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman

From: J. William Hasler

Subject: Transmittal of joint report of examination on DMEA Docket No. 4832 (Uranium), Ohio Uranium and Mining Company, Inc., Copperhead, et al. claims, San Juan County, Utah.

TRANSMITTED
JAN 16 1957

The Ohio Uranium and Mining Co., Inc., 34 South Pleasant St., Fairborn, Ohio, applied September 9, 1957 for DMEA assistance for exploration of the Copperhead, et al. claims, located in the inter-river area, just north of the confluence of the Green and Colorado Rivers, San Juan County, Utah.

The applicant proposes to explore for uranium in the Rico formation of Permian age by means of non-core and core drilling. The project proposal consists of the drilling of 140 holes to an average depth of 350 feet. The proposed holes are on a grid pattern designed to test 80 of the approximately 100 claims of the property and an estimated total cost of the project is $139,193 with Government participation at 75 percent amounting to $104,395.

An examination was made on November 19-20, 1957 by an examining team consisting of H. F. Robertson, U. S. Bureau of Mines, and Donald P. Elston, U. S. Geological Survey accompanied by Mr. James E. Patterson, engineer, supervisor of exploration and development for the applicant corporation.

Anomalous radioactivity occurs at and near the base of a generally massive sandstone sequence, 30-80' thick, which underlies a limestone bed in the upper part of the Rico formation. The anomalous radioactivity is generally weak and although detectable for as much as a hundred or more feet along the outcrop, only small spots are moderately radioactive. Chemical analyses of samples obtained from the most radioactive parts of the outcrop indicate the low grade character of the mineralized rock.

Visible uranium minerals are quite sparse and generally occur on fracture surfaces but also occur quite locally within the sandstone. The anomalous radioactivity is not restricted to the reddish-brown, arkosic sandstone, rather, the strongest radioactivity occurs in mudstone and limestone

1-22-58

that directly underlies it. No sedimentary features were observed within or at the base of the sandstone that might be logical sites for the localization of significant uranium deposits, as in the Shinarump and Moss Back members of the Chinle formation. In addition, there is only sparse green mudstone at the base of the sandstone.

Drilling has disclosed the presence of as many as five anomalously radioactive to weakly mineralized intervals in a vertical range of about 280 feet. The assay data submitted by the applicant indicate the presence of some ore-grade material, but geological and engineering data necessary to evaluate the assays are largely lacking. It seems likely that the mineralized rock penetrated by the drilling is spotty and erratic in occurrence as is that exposed at the outcrop.

Geological investigations of the general area have been made by the A.E.C., and although the uranium occurrences in the Rico member on the property were known, the potential of these deposits as significant uranium producers was considered to be nil. In view of the above, it is recommended that the application for DMEA assistance in exploration be denied.

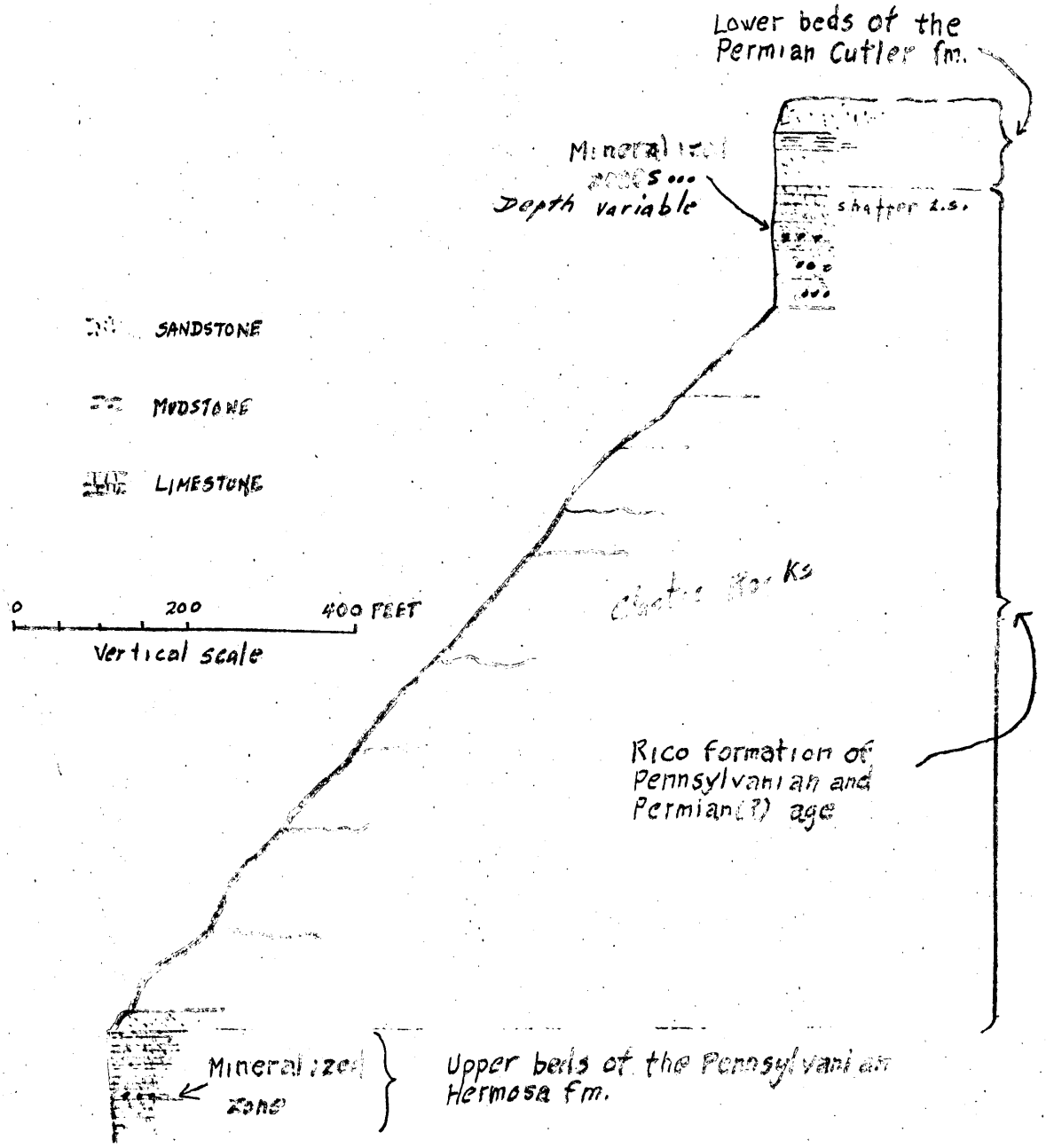
I concur with the conclusions and recommendations of the examining team. The Atomic Energy Commission was consulted for pertinent data on the inter-river area, including production and reserve information. Members of the Geological Survey who mapped and measured geologic sections in the area were consulted for supplementary data.

Enclosed are ten copies of figures 1 and 2 with the accompanying report of examination, as well as the applicant's brochure.

J. William Hasler

J. William Hasler,
Geologist

Enclosures
JWH/bh



Section - Lister River Area
San Juan County, Utah

Dockets DMEA 4669
" 4832

Fig. 1.

FOR UNITED STATES GOVERNMENT USE ONLY

DMEA
DEPARTMENT OF THE INTERIOR
JAN 14 1958
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

TRANSMITTED
JAN 16 1957

DMEA 4832

Ohio Uranium & Mining Co., Inc.

Copperhead, et al claims

San Juan County, Utah

RECEIVED JAN 20 1958
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220

Uranium

Joint Engineering and Geologic Report

by

D. P. Elston
U. S. Geological Survey

H. F. Robertson
U. S. Bureau of Mines

January 1958

1-22-58

DMEA 4832
OHIO URANIUM & MINING CO., INC.
COPPERHEAD ET AL. CLAIMS
SAN JUAN COUNTY, UTAH

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DMEA 4832
OHIO URANIUM & MINING CO., INC.
COPPERHEAD ET AL. CLAIMS
SAN JUAN COUNTY, UTAH

INTRODUCTION AND SUMMARY

The Ohio Uranium and Mining Co., Inc., 34 South Pleasant Street, Fairborn, Ohio, applied on September 9, 1957 for DMEA assistance in the exploration of the Copperhead, et al claims located in the inter-river area just north of the confluence of the Green and Colorado Rivers, San Juan County, Utah.

The applicant proposes to explore for uranium ore deposits in the Rico formation of Permian age by means of non-core and core drilling. The project proposal consists of the drilling of 140 holes to an average depth of 350 feet utilizing 23,100 feet of non-core drilling and 1,400 feet of core drilling. The proposed holes are on a grid pattern designed to test 80 of the approximately 100 claims of the property. The estimated total cost of the project is $139,193 with Government participation at 75 percent amounting to $104,395.

An examination was made on November 19-20, 1957 by an examining team consisting of H. F. Robertson, U. S. Bureau of Mines, and Donald P. Elston, U. S. Geological Survey accompanied by Mr. James E. Patterson, engineer, supervisor of exploration and development for the applicant corporation. Mr. Homer Durham, vice-president of D & R Uranium Corporation (DMEA 4669) guided the examining team to the outcrops of interest.

Denied

Anomalous radioactivity occurs at and near the base of a generally massive sandstone sequence, 30-80' thick, which underlies a limestone bed in the upper part of the Rico formation. The anomalous radioactivity is generally weak and although detectable for as much as a hundred or more feet along the outcrop, only small spots are moderately radioactive. Chemical analyses of samples obtained from the most radioactive parts of the outcrop indicate the low grade character of the mineralized rock (table 1). Visible uranium minerals are quite sparse and generally occur on fracture surfaces but also occur quite locally within the sandstone. The anomalous radioactivity is not restricted to the reddish-brown, arkosic sandstone, rather, the strongest radioactivity occurs in mudstone and limestone that directly underlies it. No sedimentary features were observed within or at the base of the sandstone that might be logical sites for the localization of significant uranium deposits, as in the Shinarump and Moss Back members of the Chinle formation. In addition, there is only sparse green mudstone at the base of the sandstone. Drilling has disclosed the presence of as many as five anomalously radioactive to weakly mineralized intervals in a vertical range of about 280 feet. The assay data submitted by the applicant indicate the presence of some ore-grade material, but geological and engineering data necessary to evaluate the assays are largely lacking. It seems likely that the mineralized rock penetrated by the drilling is spotty and erratic in occurrence as is that exposed at the outcrop.

Geological investigations of the general area have been made by the A.E.C., and although the uranium occurrences in the Rico member on the property were known, the potential of these deposits as significant uranium producers was considered to be nil.

In view of the above, it is recommended that the application for DMEA assistance in exploration be denied.

ACKNOWLEDGMENTS

The Atomic Energy Commission was consulted for pertinent data on the inter-river area, including production and reserve information. F. A. McKeown, C. C. Hawley, and P. P. Orkild of the U. S. Geological Survey, who mapped and measured sections in the area early in 1957, were consulted for supplementary data.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The groups of claims included in the subject application are located in an unsurveyed area but, by projection of established land lines, appear to lie in Townships 29½ and 30 South, Ranges 18 and 19 East, Salt Lake Base and Meridian, San Juan County, Utah. The property covers rugged canyon topography bounded by the Green and Colorado Rivers from their confluence to a point about 2½ miles to the north. Altitudes range from about 3,880 feet, at the river level, to about 4,800 feet on a resistant sandstone ledge in the Cutler formation. The terrain is cut by many deep, steep-walled canyons thus making road-building a very expensive and

difficult operation. The surface of the high areas behind the rim of the canyons cut by the rivers is relatively smoothly weathered sandstone partly covered with a thin, sandy soil cover which supports sparse vegetation.

A bulldozed access road, about 8 miles in length, winds from the Ohio Uranium Company camp on a bench about 900 feet above the river level to a second company camp. A fair access road, 30 miles in length, leads from the second camp to the Shafer trail, an all-weather road which, 40 miles to the northeast, connects with U. S. Highway 160 at a point nine miles north of Moab, Utah, and 24 miles south of the Denver and Rio Grande Western Railroad at Crescent Junction, Utah. Traveling time from the property to Moab is about five hours.

Labor, materials, and supplies can be obtained in Moab, Utah or Grand Junction, Colorado. The remoteness of the area would result in somewhat higher costs for work performed on the property.

HISTORY AND PRODUCTION

The area between the Green and Colorado Rivers has been prospected for uranium minerals since about 1951. Much of the more inaccessible outcrops along the rims and canyons, have been prospected by use of boats. The property, now owned by the Ohio Uranium Company, was located during 1955 on the basis of mineralized showings high on the river canyon walls.

The few known uranium deposits in the area are generally small and scattered. The extensive work of the A.E.C. in the inter-river area

resulted in an inferred uranium ore reserve estimate of only 8,000 tons of barely acceptable grade. The applicant's estimate of potential large, low-grade ore bodies underlying the claims is based on insufficient data.

There has been no production from the claims included in the application or from other properties within several miles of the subject claims. Small pods of uranium ore have been mined from the Moss Back member of the Triassic Chinle formation about nine miles north of the subject claims but these mines are quite small, one- or two-man operations, worked periodically to meet yearly assessment work requirements. Uranium deposits have been found in the Permian Cutler formation in the Indian Creek area, about ten miles to the east and northeast. These for the most part are small weakly mineralized areas that occur within local, bleached areas in the Cutler formation (Volgamore and deVergie, 1957).

OWNERSHIP AND EXTENT

The property consists of about 100 unpatented lode mining claims in the inter-river area in San Juan County, Utah. The group of claims is owned by the Ohio Uranium and Mining Company, Inc. Location notices are recorded at the office of the County Recorder in Monticello, Utah, as follows:

Name of claim	RECORDING DATA Date	Book	Page
Sonja Lee nos. 1-7 incl.	12-2-55	84	227-235 incl.
Janice nos. 1-9 incl.	12-2-55	84	236-244 incl.
Cumile nos. 1-9 incl.	12-2-55	84	245-253 incl.
D-O nos. 1-7 incl.	12-2-55	84	254-262 incl.
Whistling Bill nos. 1-9 incl.	11-30-55	84	263-269 incl.
Whistling Bill nos. 10-15 incl.	7-1-57	182	308-314 incl.
Maudine nos. 1-13 incl.	4-8-56	100	403-415 incl.
Copperhead nos. 1-25 incl.	4-9-56	100	423-435 incl.
Ohio nos. 1-13 incl.	12-15-56	148	501-513 incl.

No conflicting locations were noted during the field examination. However, the topography of the area is so rugged that a detailed check could not be made. Maps of claims in the immediate vicinity appear to indicate that the various locators have agreed on claim boundaries where overlaps occur. A detailed check of the records at the San Juan County Courthouse was not made since the field examination indicated that the area is generally unfavorable for significant deposits of uranium.

PRESENT STATUS

Exploration and Development

Ten drill holes, for the most part non-core, have been drilled on and near the subject property. Eight of these are reported to have been drilled deeply enough to test the sandstone and mudstone strata underlying the Shafer limestone. The applicant reports that five of the eight completed holes penetrated mineralized rock and anomalous radioactivity. Chemical assays of core from three holes (Janice nos. 1, 3, and DO test no. 1), of which the intercepts and thickness are not all known, indicate

the presence of uranium-vanadium minerals behind the outcrop (table 1). One hole, drilled during the field inspection, penetrated anomalous radioactivity in reddish sandy mudstone beneath brown and reddish brown sandstone beneath the Shafer limestone (samples 6, 7, table 1). OK

The applicant and others have thoroughly prospected outcrops in the vicinity of the subject property without finding more than a few hundred pounds of sub-ore-grade material. The shallow cuts made at a few points showing anomalous radioactivity did not indicate that the beds were more strongly mineralized at depth and no ore-grade material was stockpiled or shipped.

Mining Equipment and Other Facilities

At the time of the field examination, the applicant had many items of exploration equipment, accessories, and supplies on the property. However, the portable items were being transported back to Moab, Utah for storage. Other facilities such as tents, fuel tanks, and other field camp items were to be left in place.

Access roads have been constructed on the higher, relatively level parts of the claims. No attempt has been made to build an access road to the river level as this would require very expensive and difficult construction methods.

GEOLOGY

The property is in the southernmost part of the area between the Green and Colorado Rivers (fig. 1), just south of the D & R Uranium Corporation property examined under Docket DMEA 4669 (fig. 2). Strata exposed in the general area consist of the upper part of the Hermosa formation of Pennsylvanian age, the Rico formation of Pennsylvanian and Permian (?) age, and the lower part of the Cutler formation of Permian age. The structure on the claims consists of a simple, gently northward plunging anticlinal nose in which the beds dip about 2-3° northwestward and northward (McKnight, E. T., 1940, pl. 3).

The upper 250-900 feet of the Hermosa formation, exposed along the river canyons consists of fossiliferous bluish-gray limestone, interbedded with reddish shale, white to reddish sandstone and minor purplish-red arkose. The Hermosa formation is more massive and cliff-forming than the overlying Rico formation, and it weathers gray as contrasted to the overlying reddish colored slopes developed on the Rico.

The Rico formation, consisting of interbedded sandstone, shale, siltstone, and limestone, crops out in the middle part of the canyon walls and ranges in thickness from 465 feet (F. A. McKeown, D and R property, unpublished section) to 575 feet (John. B. Reeside, Jr., near the Slide; McKnight, E. T., 1940, p. 28). The sandstones are arkosic, locally conglomeratic and are reddish to brown and locally white in color. The lower two-thirds of the formation consists largely of fine to medium grained

clastic rocks which form steep, rubble covered slopes. The upper part consists of limestone with some interbedded limy sandstone and sandstone which forms sheer cliffs beneath the overlying resistant Cedar Mesa sandstone member of the Cutler formation.

The Rico formation is conformable and gradational with the underlying Hermosa formation; in turn it is conformably overlain by the Cutler formation. The upper contact is arbitrarily placed at the top of the uppermost fossiliferous limestone bed which regionally is not the same horizon. The Shafer lime of Prommel, the uppermost unit of the Rico formation at Shafer dome about 16 miles northeast of the property, is, in the vicinity of the junction of the Green and Colorado Rivers, about 30-50 feet below a fossiliferous sandy limestone and limey sandstone, that in turn is 10 to 25 feet below the top of the formation (McKnight, E. T., 1940, p. 27-28; McKeown, F. A., unpublished section). The base of the Shafer limestone, which is 30 to 42 feet thick in the area, is 111 to 123 feet below the top of the formation.

On the west and northwest part of the subject area, the Shafer limestone is underlain by a prominent sandstone sequence that is about 40-80 feet thick. The sandstone is dominantly medium grained, locally containing lenses of coarse and granule-sized material. The color varies from purplish to brown and, locally, greenish-gray. The bedding is massive to shaly, and the various strata are generally resistant to weathering. The sandstone sequence, although containing minor interbedded mudstone, forms sheer cliffs and steep slopes in conjunction with the overlying Shafer

limestone. Anomalous radioactivity and sparse uranium minerals have been detected at and near the base of the cliff-forming sandstone at widely scattered places along the outcrop.

Only the lower part of the Cutler formation crops out on the property. To the north and northeast the Cutler comprises Organ Rock tongue type red beds of arkose and arkosic sandstone. Most of the beds are muddy and the finer grained beds contain abundant mica. To the south of the property, the laterally equivalent Cedar Mesa member consists of thick-bedded, yellowish-white sandstone with high angle, large scale cross laminations. The property lies in the area where the arkosic red-bed facies is changing laterally to the Cedar Mesa sandstone facies. The strata in this area of lateral transition consist of yellowish-gray sandstone and red inter-beds of arkosic sandstone. The lower member of the Cutler formation in the general area aggregates about 825 feet in thickness (McKnight, E. T., 1940, p. 42) but on the claim, only 85 to about 200 feet, which are dominantly of the Cedar Mesa facies, are preserved.

ORE DEPOSITS

Anomalous radioactivity and, locally, some sparse uranium minerals have been detected in sandstone and at places in limestone and mudstone in the Rico formation. Quite locally, weak anomalous radioactivity also has been detected in limestone of the Hermosa formation. Although chemical assay data supplied by the applicant indicate some ore grade material, nothing was observed or sampled by the examining team that was indicative

? why not subject property

of the presence of uranium ore. Three mineralized outcrops in the Rico formation and one occurrence in the Hermosa formation on the D & R property were sampled. In addition mineralized outcrops were inspected and one sample #5 was collected from the Rico formation on the Maverick claims on the west side of the Green River (fig. 2). Anomalously radioactive drill hole cuttings from a hole drilled on one of the Janice claims also were sampled (samples 6, 7, table 1: see fig. 2 for location). Sample locations and anomalous radioactivity at the outcrop are shown on figure 2; table 1 lists the chemical assay results of samples collected by the examining team and by the applicant.

The anomalous radioactivity in the Rico formation is widely scattered, weak and spotty. Scintillometer values range from about 0.03 to as much locally as 0.44 mr/hr. The main occurrences are at and near the base of the sandstone sequence that directly underlies the Shafer limestone. At places, as in the tributary canyon on the west side of the Green River on the Maverick claims, the radioactivity occurs near the base and in the mudstone that directly underlies a brown weathering sandstone stratum that is about 35 feet thick. To the northeast on the D & R property, the sandstone sequence is thicker, and consists of brown and red weathering strata that locally inter-tongue with mudstone. The anomalous radioactivity at the base of the sandstone here apparently ranges from about 50-80 feet below the Shafer limestone in a variety of occurrences. These are (1) in a thin tongue of sandstone and in the mudstone that directly underlies it (locality 1), (2) at and near the base of a massive sandstone

(locality 2) and (3) in a thin limestone bed that is about one foot below the massive sandstone (locality 3). Howard F. Albee noted the relation of the anomalous radioactivity to the character of the rock that directly underlies the sandstone (report of examination, Docket DMEA 4669, p. 9-10). There is a lateral gradation from mudstone to marl to a thin bed of limestone at the base of the sandstone. Spotty radioactivity has been detected in the first and last. The anomalous radioactivity at individual occurrences is generally the most intense at or just beneath the base of the sandstone, decreasing in intensity upwards and laterally. The vertical range of detection is a few inches to perhaps ten feet with some intervening barren rock; the lateral extent of anomalous radioactivity is a few feet to several hundred feet.

The cause of the radioactivity is not readily apparent and quite sparse green and yellow uranium minerals (torbernite (?) and tyuyamunite (?)) only locally occur on protected surfaces and along fractures in mudstone, sandstone, and limestone. Quite locally, the yellow mineral is sparsely disseminated in the sandstone. The weakly mineralized rock is light brown and is not colored dark gray as are typical carnotite-bearing sandstone.

Data submitted by the applicant from holes drilled in the western part of their claims, indicates that radioactivity is not restricted to a single horizon in the Rico formation. Rather, as many as five anomalously radioactive to weakly mineralized intervals, occur in sandstone and shale in a vertical range of about 280 feet. The sampling and thickness reported,

and the lithologic descriptions are open to question as are the results of the applicant's radiometric evaluations of his hole probe data. The data are not interpretable for a detailed evaluation of the ground but are indicative at least of widespread erratically distributed anomalous radioactivity. From inspection of some barren core on the property, it is apparent that the ground has been subjected to almost complete oxidation and that uranium minerals present at depth will likely be in the form and distributed in the host rocks as they are at the outcrop.

None of the commonly used favorableness criteria such as channels at the base of sandstone units, green mudstone, or carbonaceous material were seen. The host sandstone in the vicinity of anomalous radioactivity is hematite and limonite stained and a trace of greenish colored mudstone is present within and at the base of the sandstone. Reddish-colored mudstone at the base of the sandstone is predominant.

A weakly radioactive outcrop of a prominent limestone bed in the upper part of the Hermosa formation, ranging from about 0.02 to 0.04 mr/hr was sampled during the course of the examination (locality 4). The limestone stratum is mostly thick-bedded and massive but where radioactive is somewhat thinner bedded. There are no visible uranium minerals and the occurrence is limited--one to four feet in thickness and ten to twenty feet in lateral extent.

Many uranium occurrences are known in the Cutler formation east of the Colorado River, east and northeast of the property (Volgamore and deVergie, 1957). Many have been tested by drilling but no significant deposits have been found.

PROPOSED EXPLORATION

The applicant proposes an exploration program consisting of 140 holes arranged in a more or less regular, rectangular grid pattern. The core and non-core drilling footage involved would total 24,500 feet and would explore for uranium in sandstone and limestone beds of the Pennsylvanian and Permian (?) Rico formation and the upper limestone beds of the Pennsylvanian Hermosa formation. The average depth of hole necessary to test the mineralized horizons is estimated to be 350 feet.

A brief summary of the estimated costs of the applicant's proposed project is as follows:

(a) Independent Contracts		
Drilling		
23,100 feet non-core at $1.75/ft.	$40,425.00	
1,400 feet core at $3.50/ft.	4,200.00	
Bulldozing		
560 hours at $11.00/hr.	6,160.00	
Sub-total		$50,785.00
(b) Labor, Supervision, Consultants		30,370.00
(c) Operating Materials and Supplies		14,542.50
(d) Operating Equipment (depreciation and rental)		42,022.50
(e) Initial Rehabilitation and Repairs		none
(f) New Buildings		1,473.01
Total estimated cost of project		$139,193.01

Government participation in the estimated cost of the project would be 75 percent of the total cost or $104,394.76. The program would be completed in an estimated 9.5 months.

The examining team does not consider the property worthy of further exploration with Government assistance and does not attempt to revise the applicant's proposed program.

CONCLUSIONS AND RECOMMENDATIONS

The samples collected and outcrops inspected during the field examination on the subject property do not support the applicant's belief that significant deposits of uranium ore can be discovered on the subject property. The findings of the examining team indicate that the ore grade material is more likely to be erratically distributed and occur mostly in thicknesses ranging from 2 inches to 1 foot.

The Atomic Energy Commission and the U.S. Geological Survey have done considerable geologic study and mapping in the inter-river area, and, although the uranium occurrences in the Cutler and Rico members were known, the potential of the area as a significant uranium producer is considered almost nil.

The property lies in such an extremely remote and topographically rugged area that it would be difficult to economically mine anything less than a large (100,000 tons or more), relatively continuous, high-grade deposit. All evidence, with the exception of certain chemical assays

reported by the applicant, indicate that the possibility of finding a significant ore deposit is exceedingly remote.

Basing their decision on the results from earlier studies and work, and on the actual field inspection, the examining team recommends that the subject application for DMEA assistance be denied.

Table 1.--Assay data from outcrop and drill hole samples. Outcrop samples collected by examining team, analyzed by U.S. Bureau of Mines Chemical Laboratory, Salt Lake City, Utah. Sample nos. correspond to location nos. on figure 2.

Sample	U_3O_8	eU_3O_8	V_2O_5	$CaCO_3$
1. Brown and red, arkosic, conglomeratic sandstone from prospect near wedge-edge of thin tongue of sandstone.	0.15	0.14	0.12	11.4
2. a. Brownish-red conglomeratic sandstone, base of cliff-forming sandstone.	0.036	0.05	0.11	26.0
b. More strongly radioactive hematitic "eye" at base of sandstone.	0.022	0.15	0.13	18.2
3. Sample across 1-1.5' gray, sandy, aphanitic limestone bed, 1' below cliff-forming sandstone; yellow uranium mineral on fractures.	0.087	0.09	0.02	57.1
4. Gray argillaceous limestone aphanitic and finely crystalline, thin to medium-bedded; 1' sample of more strongly radioactive part of 4' anomalously radioactive zone in upper ledge-forming limestone unit of Hermosa formation.	0.016	0.02	<0.001	47.1
5. Reddish-brown sandstone; base of cliff-forming sandstone.	0.015	0.06	0.02	16.0
6. Red mudstone underlying brown sandstone; sandy; weakly radioactive; drill hole cuttings, 265'-267.5'; on Janice No. 3 claim; S.W. part of property.	0.003	<0.01	0.01	7.9

not from subject property

Table 1. (con't.)

Sample	U_3O_8	eU_3O_8	V_2O_5	$CaCO_3$
7. Same as 6, depth 267.5-270'	<0.003	<0.01	0.01	7.1

Chemical assays of samples collected by applicant and submitted with application.

8. Gray rock (face) Whistling Bill No. 5	0.174		--	--
9. D-O claim (test no. 1)	0.247		2.61	5.25
10. Face, Janice No. 1	0.426		3.18	4.20
11. Janice No. 3 (Test No. 3) (no intercepts given)	0.188		0.63	16.10
12. Janice No. 3 (Test No. 3)				
A. 260'-263'	0.031			
B. 263'-268'	0.078			
C. 268'-276'	0.184			
13. Janice No. 1 (Test No. 1)	0.177		1.31	7.90

REFERENCES CITED

Baker, A. A., Geology of the Green River Desert--Cataract Canyon region, Emery, Wayne, and Garfield Counties, Utah; U.S. Geol. Survey Bull. 951, 1946.

McKnight, Edwin T., Geology of area between Green and Colorado Rivers, Grand and San Juan Counties, Utah; U. S. Geol. Survey Bull. 908, 1940.

Volgamore, John H., Jr. and deVergie, Paul C., Geology of uranium deposits of the Lockhart Canyon area, San Juan County, Utah: U.S.A.E.C. RME-93, January 1957.

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DECEMBER 1957
DOCKET 4832

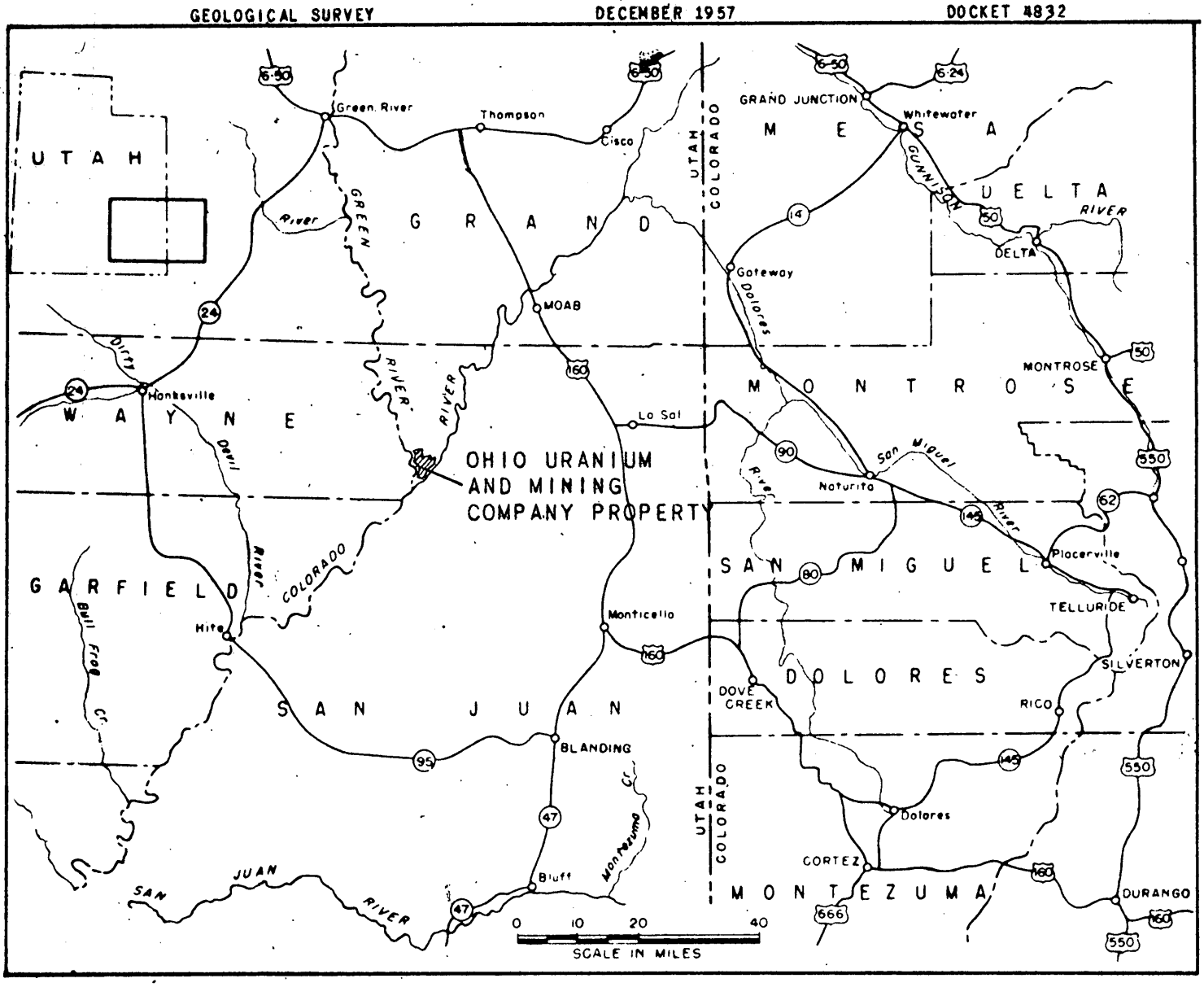


FIGURE 1.--LOCATION MAP; OHIO URANIUM AND MINING COMPANY, INTER-RIVER AREA, SAN JUAN COUNTY, UTAH.

1958
CODE

CENTRAL FILE CO.
DMEA
RECEIVED NOV 1 1957
DATE | INITIALS | CODE
11-1 | C | 220
11 | F MH | 700

224 New Customhouse
Denver 2, Colorado

October 29, 1957

Memorandum

To: J. W. Hasler
DMEA/G. Jct. Att: M. H. Salsbury W/brochure

From: DMEA Field Team, Region III

Subject: Docket DMEA 4832 (Uranium) Ohio Uranium and Mining Co., Inc. (Copper Head, et al., Claims) San Juan County, Utah

Enclosed is the following material relating to the subject docket:

1. Copy of application for Government assistance in exploration work under the DMEA program.
2. Memorandum of Review by James Paone, USBM.
3. Memorandum of Review by W. P. Williams, USGS.
4. Letter of transmittal of the foregoing to this office, dated October 23, 1957, from the Chairman, Operating Committee, DMEA.
5. Routing Control Sheet.

A field examination of the property and a joint report of findings and recommendations pertaining to the Applicant's work proposal are requested.

Please note the Chairman's comments relating to the excessive cost estimates of the proposed exploration project.

If the field examiners recommend Government participation in the proposed exploration program, please submit eleven extra copies of each map used in the joint report which show the land to be subordinated and the location and extent of recommended work, relative to property boundaries.

The Bureau of Mines' copy of the application should not be returned to this office, but is to be kept for the Examining Engineer's file. The Routing Control Sheet, however, is to be completed, detached from the application, and forwarded to the Executive Officer with the Joint Examination Report. The Survey's copy of the application is to be returned to Mr. Harshman's office.

E. N. Harshman

E. N. Harshman
Acting Executive Officer

Enclosures

EMC:eh

cc: Sec. Op. Comm. (2)
Harshman
DMEA/DFC
Docket
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/23	Murphy	700
10/23	Ellis	200
10/23	GCS	130
"	Johnson	110
"	Butterday	100
		~~JB~~
10/24	gb	220
		200

OCT 23 1957

Mr. E. H. Harshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4832 (Uranium)
Ohio Uranium and Mining Co., Inc.
Copper Head, et al., Claims
San Juan County, Colorado

Dear Mr. Harshman:

The captioned application is referred to Region III Field Team for investigation, a field examination if deemed advisable, and recommendations.

Enclosed are copies of memoranda, dated October 15 and 22, 1957, by James Faone, USDM, and W. P. Williams, USGS, respectively, relating to the application. Also enclosed for Field Team use are one copy of the application form and three copies of the supplemental data which the Applicant failed to submit with the application.

You will note that the Applicant's cost estimates for various items of the proposed project are excessive.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures

APPROVED:

Frank D. Lamb (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

FMMurphy/izm 10-23-57
cc: Mr. Murphy
Admr.'s Reading File
Operating Committee
THKiilsgaard, 5224

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/23	Murphy	700
10/23	Ellis	700
10/23	Jeffrey	130
"	Johnson	110
"	Mittendorf	100
		~~600~~
10/24	gb	900
		700
10/23	Lamb	(130)
10/23	Kielsgaard	(130)

OCT 23 1957

Mr. L. E. Augenstein, President
Ohio Uranium and Mining Co., Inc.
34 South Pleasant Street
Fairborn, Ohio

Re: Docket No. DMEA-4832 (Uranium)
Copper Head, et al., Claims
San Juan County, Utah

Dear Mr. Augenstein:

This is to acknowledge receipt of the additional information requested in Mr. Ellis' letter of September 19, 1957.

Your application is now being referred to Mr. E. N. Harshman, Acting Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado, for further consideration and possibly a field examination.

The Regional Office will contact you at an early date if additional information is required. ~~Any assistance you may give the members of the Field Team during the examination will be appreciated.~~

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FMMurphy/izm 10-23-57
cc: Mr. Murphy
Admr.'s Reading File
DMEA FT Reg. 3 (2)

8623

DMEA
RECEIVED OCT 22 19
INITIALS | CODE
10/22 C 220
10/22 FMM 700
Complete

IN REPLY REFER TO:

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

October 22, 1957

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 4832 (uranium), Ohio Uranium and Mining Company, Copper Head et al claims, San Juan County, Utah

The applicant proposes to explore for uranium ore deposits on a tract of about 99 mining claims. The property is located in the inter-river country at the confluence of the Green and Colorado Rivers.

The applicant proposes to do road-building and 24,500 feet of core and non-core drilling at a total estimated cost of $139,193.

From the applicant's description of the claims, it appears he wishes to seek for ore deposits near the base of the Cutler formation, possibly in the Cedar Mesa member. I do not recall any significant showings or production from such a zone in the general vicinity. I advise, however, referring the application to the Field Team, as they undoubtedly have later information about the area.

W. P. Williams

W. P. Williams

OFFICIAL FILE COPY DMEA RECEIVED OCT 16 1957		
DATE	INITIALS	CODE
10/16	C	220
Ellis "	Murphy	700

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

Date October 15, 1957

DMEA Docket No. 4832
DMEA Contract No.
Commodity Uranium
Name of applicant Copper Head et al claim
Name of property
Location of property San Juan County, Utah
Estimated cost of project $139,193.01

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: James Paone, Bureau of Mines Member JP
Uranium Commodity Committee

Subject: Review of Applications
(Application, Field Team Report, etc.)

1. Date of project document: 10/14/57 2. Date received by reviewer: 10/15/57

3. Prior reports on this property known to reviewer: Yes ☐ No ☐

4. Prior reports on nearby properties known to reviewer: Yes ☐ No ☐

5. Information available on past production: Yes ☐ No ☐

6. Other pertinent factors known to reviewer: Yes ☐ No ☐

7. Explain items marked yes above:

8. Factors meeting special consideration:
   a. Location ☐
   b. Ownership ☐
   c. Evidence of mineralization ☐
   d. Geology ☐
   e. Proposed exploration method ☐
   f. Alternate exploration method ☐
   g. Costs ☐
   h. _____ ☐

9. Action advised:
   a. Obtain information from applicant ☐
   b. Refer to Field Team ☒
   c. Denial ☐
   d. Agree with Field Team ☐
   e. Disagree with Field Team ☐
   f. Suggest alternate plan ☐
   g. Request another examination ☐
   h. Approval ☐
   i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary) ~~This is suggested that the applicant be requested to submit additional copies of supplemental data as requested by the Field Team~~

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-19	Murphy	700
"	Johnston	110
9-20	C	220
	(Uranium)	700

Mr. L. E. Augenstein, President
Ohio Uranium and Mining Co., Inc. SEP 19 1957
34 So. Pleasant Street
Fairborn, Ohio

Re: Docket No. DMEA-4832
Copper Head, et al., Claims
San Juan County, Utah

Dear Mr. Augenstein:

In submitting the above-referenced application only one copy of the supplementary information was attached to the four (4) copies of application form MF-103.

In order to process your application we will require three additional copies of the following:

1. Letter, dated July 29, 1957, by W. J. Nault and J. E. Patterson;
2. Recording data of claims;
3. Maps showing location of the claims, and the location of the proposed work;
4. Narrative relating to the proposed project and the cost estimates;
5. Copies of the four bids for drilling;
6. Copies of the two bids for the bulldozer work; and
7. Copies of the two assay certificates.

The additional copies are required because all applications are processed through the Bureau of Mines, Geological Survey, and our regional field office, who require a complete copy of each application.

In order to expedite the processing of the subject application, will you kindly submit the above-requested additional information as soon as possible.

Sincerely yours,

Ernest Wm. Ellis, Director
Division of Rare and Miscellaneous Metals

8623

FMMurphy/izm 9-19-57
cc: Mr. Murphy
Admr.'s Reading File
THKillsgaard, 5224
DMEA FT Reg. III (2)

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

September 18, 1957

Ohio Uranium & Mining Co., Inc.
34 So. Pleasant St.
Fairborn, Ohio

Gentlemen

Subject: DMEA-4832

Your application for exploration assistance, dated September 5, 1957 submitted to our office at Denver, Colorado has been assigned Docket Number DMEA-4832 and referred to the Rare & Miscellaneous Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

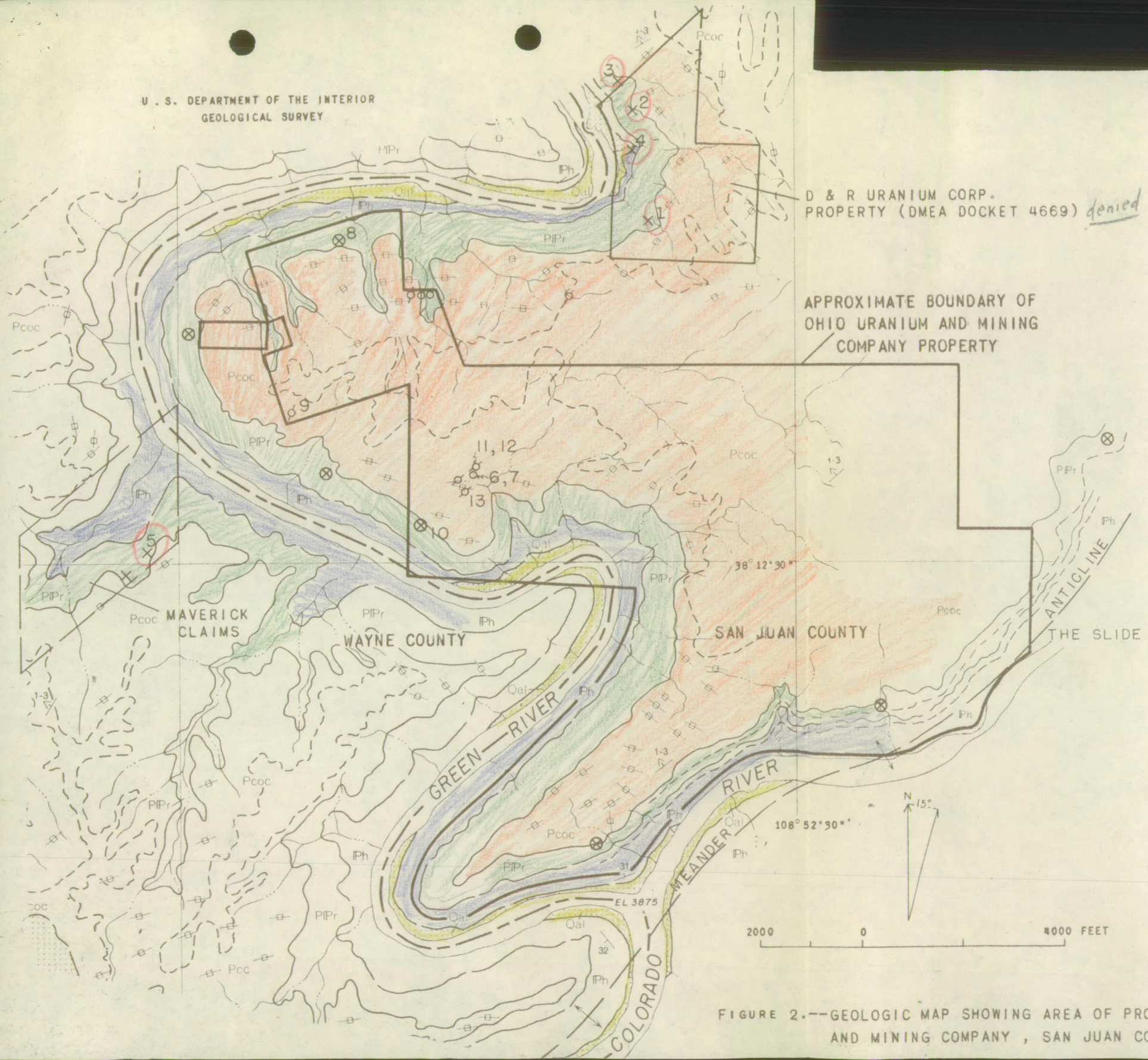
Allen S. Dakan, Director
Operations Control and
Statistics Division

Copy to:

Region III

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DECEMBER 1957 DOCKET 4832



EXPLANATION

Qal — QUATERNARY ALLUVIUM

Pcoc — PERMIAN CUTLER, ORGAN ROCK TONGUE and CEDAR MESA MEMBER, UNDIFF.

PIPr — PENNSYLVANIAN AND PERMIAN(?) RICO FORMATION

Ph — PENNSYLVANIAN HERMOSA FORMATION

FORMATION CONTACT

RESISTANT BED

1-3 — STRIKE AND DIP OF BEDS

STRIKE OF APPROXIMATELY VERTICAL JOINTS

× — POINT OF EXAMINATION OF OUTCROP

⊗ — ANOMALOUSLY RADIOACTIVE OUTCROP; LOCATED APPROXIMATELY FROM APPLICANTS MAP; NOT EXAMINED DURING FIELD INSPECTION

ø — mineralized (by applicant)

o — barren

DRILL HOLE (largely non-core)

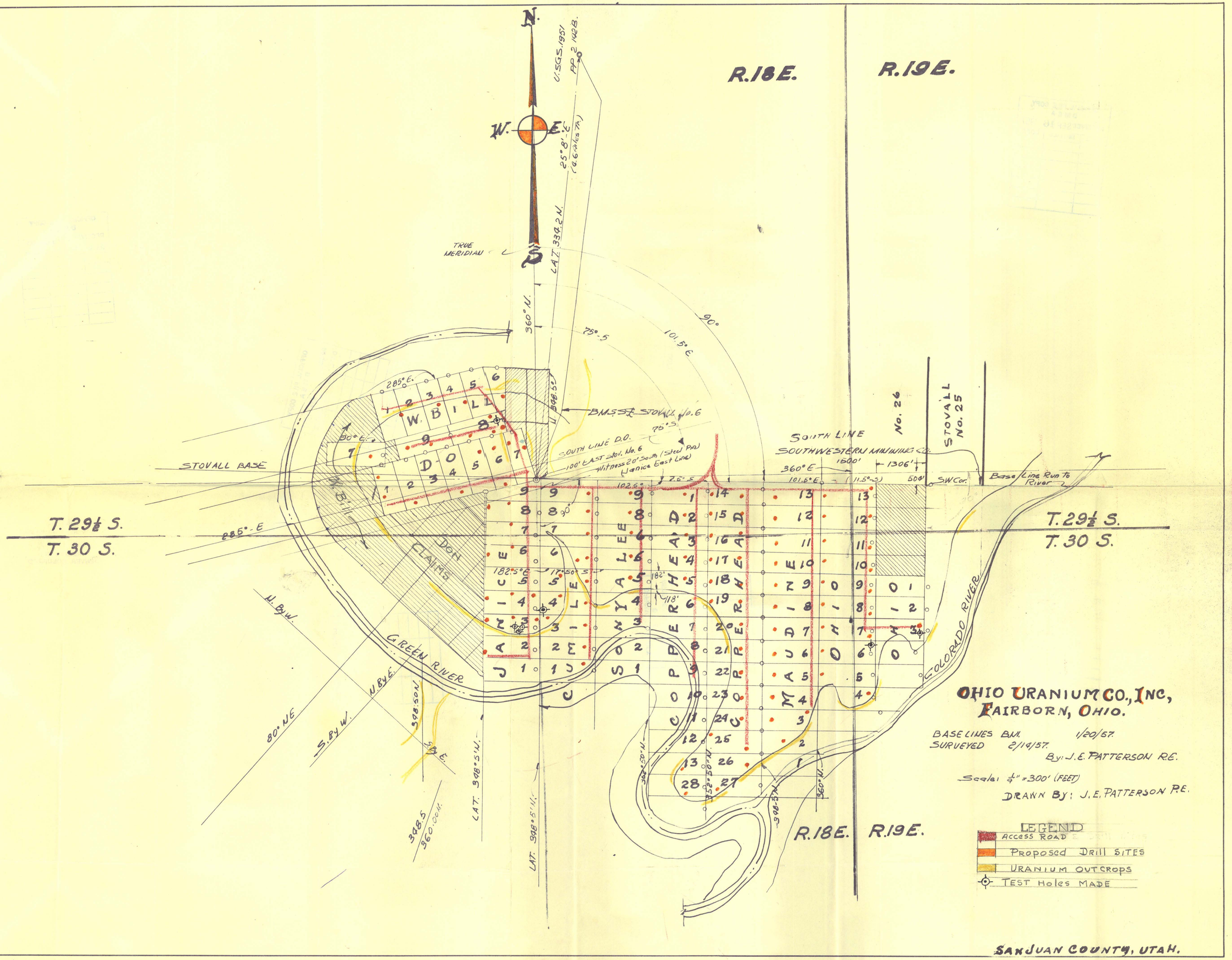
4 — SAMPLE NUMBER (see Table 1)

Note: BASE FROM U.S.G.S. PHOTOGEOLOGIC QUADRANGLE MAPS, CARLISLE 11 and 12.

FIGURE 2.--GEOLOGIC MAP SHOWING AREA OF PROPOSED EXPLORATION, OHIO URANIUM AND MINING COMPANY, SAN JUAN COUNTY, UTAH.

OFFICIAL FILE COPY
D M E A
RECEIVED JAN 20 1958

DATE	INITIALS	CODE


N.
W.
E.
S.
U.S.G.S. 1951
AP 2 1428.
25°8'-E
(4.6 miles Tr.)
TRUE MERIDIAN
L.A.T. 334.2 N.
360° N.
75°.5
101.5° E
90°
R.18E.
R.19E.
285° E.
W. B I L L
D O G
STOVALL BASE
BM. SE STOVALL No. 6
SOUTH LINE D.O.
100' EAST Stov. No. 6
Witness 20' South (Steel Pin)
(Janice East Line)
SOUTH LINE
SOUTHWESTERN MINING CO.
STOVALL No. 25
No. 26
360° E
1600'
1306'
500'
S.W. Cor.
Base Line Run To River
T. 29½ S.
T. 30 S.
DON CLAIMS
JACKSCREW
CALEY
SOPHYALEE
COPPERHEAD
COPPERE
MAUDE
MOHI
COLORADO RIVER
GREEN RIVER
N. By W.
N. By E.
80° NE
S. By W.
S. By E.
398.5 N.
LAT. 398° S.W.
LAT. 398° S.W.
398.5
360° C.O.M.
OHIO URANIUM CO., INC,
FAIRBORN, OHIO.
BASE LINES B.M. 1/20/57.
SURVEYED 2/14/57.
By: J.E. PATTERSON R.E.
Scale: ¼" = 300' (FEET)
DRAWN By: J.E. PATTERSON P.E.
LEGEND
Access Road
Proposed Drill Sites
Uranium Outcrops
Test Holes Made
SAN JUAN COUNTY, UTAH.