cw

Surname Copy

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F.E. Knouse
Ellis
Yoder
Nelson
Selfridge

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

JUL 23 1956

Mr. Norman Ebbley
Vice President and General Manager
Mid-Continent Uranium Corporation
201 Uranium Center Building
Grand Junction, Colorado

Re: Docket No. DMEA-4167 (Uranium)
John Group of Claims
Grand County, Utah

Dear Mr. Ebbley:

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 ore on your property, indicates to us 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 Program and for bringing your property to our attention.

Sincerely yours,

Frank E. Johnson (for)

ACTING Administrator

FLKnouse/izm/ai 7-20-56 (7-19-56)
cc to: Docket
Code 700
Mr. Knouse
Admr.'s Reading File
Operating Committee
DMEA Field Team, Reg. III (2)
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

R.C.S.

Docket Copy
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I Clause

Summary of Proposed Project

July 19, 1956

Object: Denial of application for an exploration project.

Docket No.: DMEA-4167

Commodity: Uranium

Applicant: Mid-Continent Uranium Corporation
201 Uranium Center Bldg.
Grand Junction, Colorado

Property: Consists of 9 unpatented lode mining claims (known as the John claim group) as follows: John, Mark, Minnie, Lee, Maxine, Rose, Chance, McGill and Bandy, in section 1, T. 23 S., R. 21 E., S.L.M.&B., Grand County, Utah. Charles Steen has a 2/10% interest in the claims and the Applicant owns the remaining 8/10% interest.

Date of Application: January 30, 1956

Work Proposed:

First Proposal

Consisted of a two-stage program requiring a maximum of 27,000 feet of plug bit and 27,000 feet of core drilling in 270 holes on a minimum spacing of 200 feet centers at an estimated cost of $162,927.00. The objective being to explore the Salt Wash member of the Morrison formation for uranium bearing ore. The cost of this program was too high in comparison with the probable size of the ore bodies, and the Applicant submitted a revised program.

Second Proposal

Consisted of a three-stage program requiring a maximum of 17,785 feet of plug bit and 9,575 feet of core drilling in 152 holes at an estimated cost of $78,451.00. The first Stage I to consist of drilling 67 holes on N-S lines 400 feet apart across the property with holes spaced 200 feet apart. Stage 2 to follow and consists of 35 holes on 100 and 200 foot centers to further explore the most favorable channels as determined by Stage I drilling. Stage III would follow and consists of 50 holes to have a minimum spacing of 50 feet which would offset the mineralized holes. The overall cost per foot is estimated at $2.868 and the hole depth would range from 60 to 250 feet.

During 1952 & 53, the USGS drilled 58 holes in the John Group of claims. Twenty-eight of the holes were on 500-foot centers and 30 were on 50-to 100-footcenters. Seven of the holes indicated a small body of ore estimated by the

Applicant to contain 1636 tons in the upper horizon with an average grade of 0.104% U_3O_8 and 0.176% V_2O_5, and 2388 tons with an average grade of 0.41% U_3O_8 and 0.91% V_2O_5. This ore body has been developed by an inclined shaft and 375 feet of lateral workings which intersected six of the seven holes rated as ore holes by the Applicant. A total of 478 tons of ore averaging 0.33% U_3O_8 and 0.45% V_2O_5 were mined, and the examination indicates the ore reserves are mined out. Therefore, only about 12% of the reserves calculated by the Applicant was found or produced.

Cost of Proposed Work (second proposal)

Independent Contracts

17,785 feet of non-core drilling @ $1.85/ft.	$32,903.00	
9,575 feet of core drilling @ $2.75/ft.	26,332.00	
Standby time - 152 hrs. @ $12/hr.	1,680.00	
Tractor w/dozer time - 122 hrs. @ $12/hr.	1,368.00	
Sample analyses - 152 @ $5/sample	760.00	
Labor, Supervision, Consultants -		
1 Sampler		
1 Geologist		
1 Consultant (part time)		
Expenses for above men	7,826.00	
Operating Material and Supplies	1,754.00	
Operating Equipment	1,143.00	
Miscellaneous, accounting, insurance, taxes	987.00	
Contingencies (approximately 5%)	3,736.00	
Total Estimated Cost of Project		$78,451.00
Government Participation at 75%		$58,838.25

Field Team Report - June 26,1956
(Joint report by Carl H. Roach, USGS & C. H. Salsbury, USBM)

The John Group of claims is on the northeast flank of the Salt Valley anticline. Rocks cropping out near and on the property are of sedimentary origin and dip gently to the northeast. Only rocks of the Jurassic Morrison formation crop out on the John group of claims, the Brushy Basin member cropping out on the northern one third and east part of the Chance claim, and the Salt Wash member crops out on the remainder of the claims. The Salt Wash member is about 230 feet thick in the area. Most of the known uranium-vanadium deposits nearby and on these claims occur in the lower series of coalescing lenses of sandstone in the Salt Wash member and referred to as the "fourth sandstone" and is the drilling objective of the proposed program.

Most of the known ore deposits in the "Fourth Sandstone" are spacially related to channel "scours" or "lows" which occur at the base of the sandstone lens, and cut down into the underlying mudstone. The ore bodies, in many cases, apear to have been localized by festoon bedding, and as a result are rather small and occur in clusters. Experience in

drilling this type of environment has shown that one can expect a relative large number of drill holes to penetrate ore-grade material, but rarely will the production from the deposit equal the indicated reserves computed from the drilling results. This observation is proven by the mining of the indicated reserves computed from the results of USGS drilling on this property, and from the nearby Ringtail mine.

Therefore, it is concluded that the type of host rock underlying this group of claims is not favorable for the occurrence of a significant uranium deposit. The host rock is characterized by an abundance of festoon structures which have localized small pods of ore grade material at several different elevations. These ore layers do not usually extend between adjacent ore holes and consequently they contain only small reserves. Additional drilling on these claims probably would not discovery ore deposits of significant size and grade. Therefore exploration assistance should be denied.

Field Team concurs with examiners recommendations.

Comments of Commodity Specialists:

USGS, T. H. Kiilsgaard, July 13, 1956:

Concurswith recommendations of Field Team.

USBM, James Paone, July 11, 1956:

Concurs with recommendations of Field Team.

Rare & Misc. Metals Div., F. L. Knouse, July 19, 1956:

The mining of uranium ore deposits from this and other nearby properties, that were discovered by drilling indicates rather conclusively that, additional exploration drilling of the property may discover additional small disconnected deposits chiefly of the Festoon Structure variety, but the aggregate reserves of such deposits is not likely to add significant reserves for the National Defense Program. Therefore, it is recommended that the application for Government exploration assistance be denied.

Conclusions:

A review of all our information relating to the proposed project indicates that the probability of making a significant discovery by the Applicant's proposed exploration program is not sufficiently promising for Government participation. Therefore, the application should be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

K

7-17-56

IN REPLY REFER TO:

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

RECEIVED
JUL 16 1956

July 13, 1956

Memorandum

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

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team report, DMEA Docket 4167, Mid-Continent Uranium Corporation, San Juan County, Utah

In a well-prepared report, field examiners recommend denial of the cited application. They base their recommendations on 1) the fact that host rock underlying the John claims is not favorable for the occurrence of significant uranium ore bodies, 2) that the property has already been tested by 58 holes only 7 of which were mineralized and that subsequent mining operations have tested 6 of the 7 holes but actually found but very little ore, 3) that the ore bodies are very small and discontinuous and that they occur at different horizons, and 4) that reserves calculated from drill data on nearby properties have not proven up to expectations when mined.

Like the field examiners, I am inclined to believe that in the present instance the applicant has misinterpreted the available geologic data. Indications are that the property has been adequately tested and that Government participation in further exploration is unwarranted.

I concur with the Field Team and recommend denial of the application.

T. H. Kiilsgaard

Thor H. Kiilsgaard

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

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I concur with the Field Team and recommend denial of the application.

Thor H. Kiilsgaard

THKiilsgaard:jeh
G-7/13/56

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

IN REPLY REFER TO:

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

RECEIVED
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DMEA (3)✓
J. E. Crawford, 3641

7-13-56

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

RECEIVED
JUL 13 1956

July 11, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of Examination, DMEA Docket 4167 (Uranium), Mid-Continent Uranium Corporation, (John group of claims), San Juan County, Utah

I have reviewed the report of examination, DMEA Docket 4167, Mid-Continent Uranium Corporation, (John group of claims), San Juan County, Utah, dated June 26, 1956 and received in this office July 9. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The examining team concluded that the type of host rock underlying the subject claims is not favorable for the occurrence of signigicant uranium deposits and, consequently, denial of the application for exploration assistance is recommended.

We concur in the recommendation that the application for exploration assistance be denied.

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

James Paone

James Paone

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

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JUL 13 1956

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WASHINGTON 25, D. C.

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We concur in the recommendation that the application for exploration assistance be denied.

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

James Paone

7-10-56

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

RECEIVED
JUL 2 - 1956

June 29, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4167 (Uranium), Mid-Continent Uranium Corporation, (John group of claims), San Juan County, Utah

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

The field examiners concluded that the type of host rock underlying the John group of claims is not favorable for the occurrence of significant uranium deposits. The U. S. Geological Survey drilled 58 holes on the John group of claims during the course of its exploratory drilling in the Thompson Mining District. Additional exploratory drilling on the John group of claims would probably not discover a significant amount of uranium ore. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
7-9-56
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED
JUL 2 - 1956

IN REPLY REFER TO:
MINERAL DEPOSITS
DMEA
RECEIVED
JUN 15 1956
U. S. GEOLOGICAL SURVEY
DENVER, COLORADO
DMEA
Date Rec'd.

P. O. Box 360
Grand Junction, Colorado

June 14, 1956

Memorandum

JUN 27 1956
BUREAU OF MINES
Denver, Colorado
TRANSMITTED

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman
J. F. Shaw

From: J. William Hasler

JUN 29 1956

Subject: Transmittal of report of examination, DMEA docket 4167, Mid-Continent Uranium Corporation (John group of claims), Thompson Mining District, San Juan County, Utah

The Mid-Continent Uranium Corporation, Grand Junction, Colorado, applied for aid from the Defense Minerals Exploration Administration to explore for uranium on the John Group of claims, Grand County, Utah. The application was referred to the field and a field examination was made April 12, 1956, by C. H. Roach, U. S. Geological Survey and M. H. Salsbury, U. S. Bureau of Mines. C. M. Mobley represented the applicant.

The John group of claims is located on the northeast flank of the Salt Valley anticline in Grand County, Utah. The rocks of the Jurassic Morrison formation are the only rocks that crop out on this particular group of claims. The Morrison formation in the area is divided into two members, the upper member being the Brushy Basin, which is about 300 feet thick, and the Salt Wash member being about 230 feet thick in the vicinity of the John group of claims. Most of the uranium-vanadium deposits in the area occur in the lower series of coalescing lenses in the Salt Wash member. This series of lenses is known in the Yellow Cat area as the fourth sandstone unit of the Salt Wash member. The Brushy Basin member crops out on the northern one-third of the John group and the eastern part of the Chance claim. The Salt Wash member crops out on the rim of the group of claims. The estimated drilling depths necessary for the penetration of the fourth sandstone varies from about 150 to 200 feet. The uranium-vanadium ore deposits in the John group of claims are similar to the ore deposits in the Uranium Mineral Belt in southwestern Colorado, with the exception that in the Yellow Cat Mining District ore is produced from the Basal sandstone units of the Salt Wash; whereas, over most part of the Colorado Plateau deposits occur in the upper Salt Wash sandstone. The U. S. Geological Survey drilled 58 holes on the John group of claims during the course of its exploratory drilling in the Thompson Mining District. Of the 58 holes drilled, five penetrated material of ore grade. Fifteen holes penetrated material that was considered mineralized, but below ore grade, and the balance were barren. The applicant stated

Reviewed by
DMEA OPERATING COMMITTEE
7-9-56
(date)

that seven of the surveyed drill holes penetrated commercial ore on the John claim and blocked out an ore body of considerable size. A detailed examination of the workings in conjunction with the Survey drilling revealed that the mineralized material consisted of numerous small isolated masses of mineralized material which has been localized by numerous festoon surfaces. Further analyses of the drilling showed that the ore occurred in two separate layers and that the reserve estimates were much too high, in that the ore penetrated in one diamond drill hole does not necessarily continue to another hole, but has a tendency to thin and become sporadic. An examination of the workings substantiates this fact, in that much of the ore mined around known ore hole has been extracted and that very little reserves are left in the present John mine workings.

In his application the applicant documented the ore reserves obtained from drilling under DMEA docket 3360. Several other ore holes were drilled on their own account after the DMEA contract was terminated. A review of this drilling also indicates that the ore bodies are small and erratic. These ore bodies, reported by the applicant, have not been opened up and to date no attempt has been made by the Mid-Continent to mine from these ore bodies.

A recent DMEA contract with the Norbute Corporation, also near the John group of claims, has a similar history, in that the indicated and inferred reserves were not as large as previously supposed.

The Ringtail mine on the Norbure Corporation's property, has been closed down due to lack of ore reserves and DMEA drilling on this property discovered very little ore.

In summary, it is concluded that the type of host rock underlying the John group of claims is not favorable for the occurrence of significant uranium deposits. The host rock is characterized by an absence of small festoon structures which have localized small pods of ore-grade material in several different horizons. These ore layers usually do not extend between adjacent ore holes and, consequently, contain only small reserves. Additional exploratory drilling on the John group of claims would probably not discover ore deposits of significant size and grade.

It was pointed out to the applicant's representative in the field and later in an office conference, that the program as proposed by them was too costly in view of the probable tenor of the ore bodies. A revised program was submitted by the company for further consideration. It is still the opinion of the examining team that the chances of finding ore bodies of significant size and grade are not good and it is, therefore, recommended that DMEA assistance be denied. I concur with the conclusions and recommendations of the examining team.

DMEA 4167 6/14/56

The Atomic Energy Commission was consulted relative to the appraisal of this property.

Enclosed are 10 copies of the maps for inclusion in a joint engineering and geologic report, as well as the applicant's brochure.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

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

RECEIVED
JUL 2 - 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED
JUN 29 1956

DMEA 4167

Mid-Continent Uranium Corporation

John group of claims

Grand County, Utah

Uranium

Joint Engineering and Geologic Report

by

C. H. Salsbury
Bureau of Mines

Carl H. Roach
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
7-9-56
(date)

June 26, 1956

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DMEA 4167

RECEIVED
JUL 2 - 1956

MID-CONTINENT URANIUM CORPORATION
JOHN GROUP OF CLAIMS
GRAND COUNTY, UTAH

INTRODUCTION AND SUMMARY

The Mid-Continent Uranium Corporation, 215 N. Fifth Street, Grand Junction, Colorado, applied on February 2, 1956, for Defense Minerals Exploration Administration assistance to explore for uranium on the John group of claims in the Yellow Cat district of Grand County, Utah.

The property was visited on April 12, 1956, by a DMEA examining team in company with C. M. Mobley, representing the applicant.

The applicant originally proposed an extensive program of drilling 270 holes blanketing the property at an estimated cost of $162,927.00. Government participation at 75 percent would have been $122,195.25. It was pointed out to the applicant's representative in the field, and later in an office conference, that the program as proposed was too costly in view of the probable size and grade of inferred ore bodies. Later, a revised program calling for drilling a maximum of 152 holes in three stages for a total of 27,360 feet of plug bit and core drilling was submitted by the applicant. The total cost of the program was $78,451.00, and Government participation at 75 percent would be $58,838.25.

A study of the underground workings in the John mine and the chemical assay data obtained from drill core samples revealed that

the pods of ore-grade material are small and isolated and probably do not form large enough masses to be considered significant.

In justifying the proposed exploration, the applicant presented ore reserve data on the John mine area and on Utah School Section 2, T. 23 S., R. 21 E., west of the John claims which had been drilled under DMEA Docket 3360, contract Idm-E 723, and subsequently by the applicant. Ore reserve and production data from the Ringtail mine, adjoining the property on the north, were also cited. However, actual production from the John and Ringtail mines has been only a fraction of the estimated reserves, and it is probable that the major portion of the ore found to date by drilling has been mined. The ore reserves previously computed on drilling results probably are not realistic in the Yellow Cat area. The method used by the applicant in computing reserves on Utah school section 2 was analyzed but cannot be concurred with by the examining team.

A recent DMEA project at the Ringtail mine, DMEA Docket 3962, contract Idm-E 928, resulted in addition of a small tonnage to a previously known ore body, but results were largely negative and no new ore bodies were found. The results of the proposed exploration on the John claims would probably be similar.

It is concluded that there is little possibility of finding a significant and mineable ore reserve at the John claims.

Denial of the application under DMEA Docket 4167 is recommended.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The John group of nine claims, comprising about 184 acres, is in sec. 1, T. 23 S., R. 21 E., Salt Lake Meridian, in the Yellow Cat district, Thompson area, Grand County, Utah (fig. 1). The claims are reached by traveling 5 miles east from Thompson, Utah, on U. S. Highway 6-50, thence 12 miles south on a graveled access road into the Yellow Cat district. The property is about 87 miles west of Grand Junction, Colorado, the nearest major supply center.

Topographically, the area is one of moderate relief, and drilling areas are easily accessible. Vegetation is very sparse. Precipitation averages 8.5 inches per year and is unevenly distributed throughout the year. Winters are generally mild and summers are hot. Surface and underground operations are feasible during all seasons.

There are no unusual problems of supply, labor, power, or ore marketing.

HISTORY AND PRODUCTION

The history of the Yellow Cat district as a vanadium-radium producing region dates back to 1911, but production was small and intermittent until 1939 when vanadium production became important. Since 1948, the area has been mined for uranium although the ores have a high vanadium content. Effective August 22, 1951, the Atomic Energy Commission withdrew from mineral entry a block of six sections in the area of the subject claims. Exploration by drilling was

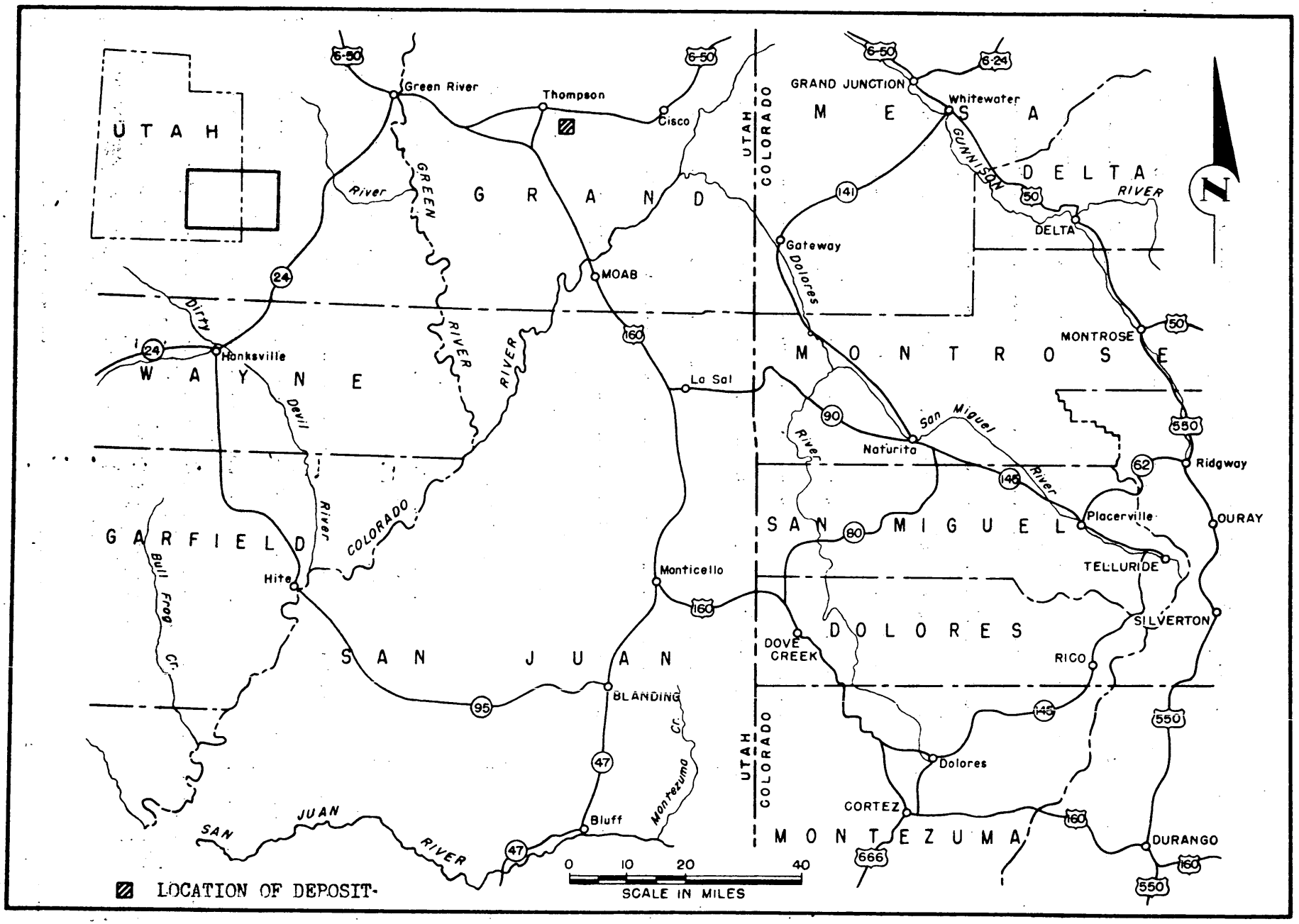

FIGURE 1 - LOCATION MAP, JOHN GROUP OF CLAIMS, MID-CONTINENT URANIUM CORPORATION, GRAND COUNTY, UTAH.
DMEA 4167

subsequently carried on by the Geological Survey from 1952 to 1954. During this period 58 holes were drilled on the John group of claims, and the operation at the John mine is based on the result of this drilling. According to AEC records, total production from the John mine through December 1955 was 478 tons averaging 0.33 percent U_3O_8 and 0.45 percent V_2O_5. The mine has not operated during 1956. It is necessary to operate a pumping plant to handle a small but consistent flow of water into the workings and prevent flooding. The mine was pumped out for the DMEA examination.

In 1954-55 the applicant conducted a Government assisted drilling project on Utah school section 2, T. 23 S., R. 21 E., Salt Lake meridian as of DMEA Docket 3360, contract Idm-E 723. A total of 17,792 feet was drilled in 72 holes at a cost of $46,314.00. School section 2 is immediately west of the John group and in the same Salt Wash channel trend. Three out of 72 DMEA holes penetrated material of ore grade and thickness, but no reserves could be computed. After termination of the DMEA project, the operator did additional work and estimated a reserve of at least 16,355 tons of ore averaging 0.21 percent U_3O_8 and 1.00 percent V_2O_5. However, analysis of the hole data does not verify the operator's reserve figures.

There has been considerable production from adjoining properties, notably the Ringtail and Blackstone mines one-half mile and 1 mile northeast, respectively, the Parco 23 open pit and shallow underground operation adjoining on the south, and the Allor 12 mine to the east. The Blackstone, Ringtail, and Parco ore bodies are in the 5,000-ton

class with major production probably completed. The Allor mine production is about 3,000 tons of good grade ore. Ore from the Parco 23 mine contained from 0.31 to 0.87 percent U_3O_8 and from 1.69 to 4.77 percent V_2O_5. Ringtail mine production had an average content of 0.24 percent U_3O_8 and 1.08 percent V_2O_5. Blackstone, Parco 23, and Allor mines are currently operating. The Ringtail mine has been recessed because of depletion of ore reserves.

OWNERSHIP AND EXTENT

The applicant, Mid-Continent Uranium Corporation, owns an undivided eight-tenths interest in the John group of claims (fig. 3). The claims are recorded at the Grand County Courthouse at Moab, Utah, as follows:

Claim name	Original location		Amended location	
	Book	Page	Book	Page
John	9K	5	15	330
Mark	9K	4	15	331
Minnie	9K	4	15	332
Lee	9K	4	15	333
Maxine	9K	4	15	334
Rose	9K	4	15	335
Chance	9K	3	15	336
McGill	9K	3	15	337
Bandy	9K	3	15	338

The claims were staked in May 1951 by Charles Steen who conveyed eight-tenths interest to Strategic Minerals Exploration Company. Great Western Uranium Corporation later purchased this interest from Strategic Minerals Exploration Company who retained a 10 percent overriding royalty in the eight-tenths interest. Norman Ebbley and Associates purchased the eight-tenths interest from Great Western and also acquired the royalty interest of the Strategic Minerals Exploration Company. Subsequently, Ebbley and Associates conveyed their interest to Mid-Continent Uranium Corporation which now has an undivided eight-tenths interest in the nine claims. Charles Steen has retained an undivided two-tenths interest.

Effective August 22, 1951, the Atomic Energy Commission withdrew from mineral entry sections 1 through 6, T. 23 S., R. 21 E., SLM. The original location of the subject claims antedates this withdrawal by about three months.

Location procedures appear to be satisfactory and the claims are probably valid. Location notices have apparently not been renewed since the original posting. Only one legible notice, for the Rose claim near the common south corner of sections 35 and 36, was found. South of the applicant's McGill and Bandy claims, Utah Alloy Ores, Inc., made a "floating" location, the Allor No. 14 claim. This claim has been shifted several times and its exact location is not known. The extent of conflict, if any, with the applicant's claims is undetermined.

A location notice for the Bouenus (?) Terra No. 13 claim, dated January 20, 1956, was found on the Mark claim. The extent of the conflict with the applicant's claims was not determined. The January 20, 1956, location date is two days after the restoration, under P.L.O. 1223, of ground previously withdrawn from mineral entry. This claim obviously has no validity as far as the applicant's property is concerned.

The applicant's representative stated that Charles A. Steen would sign an Owner's Consent to Lien.

PRESENT STATUS

Exploration and development

Geological Survey drilling in the Yellow Cat district during 1952 and 1953 included 58 holes on the John claim group and consisted of 4 wagon-drill holes and 54 core-drill holes (fig. 3). Twenty-eight of the holes were on 500-foot centers and 30 holes on 50- to 100-foot centers. Seven of the holes indicated a small ore body on the John claim, which has been developed by an inclined shaft and 375 feet of lateral work in the ore-bearing beds. The operation has been closed since January 1956.

With the exception of Geological Survey drilling, which netted largely negative results, no exploration or development has been performed on the remaining eight claims of the John group.

Mining and milling equipment and other facilities

Surface equipment consists of a gasoline-powered hoist, compressor, and a 40-ton ore bin. Existing buildings owned by the operator are a hoist shed, a compressor shed, and a one-room cabin.

Underground equipment consists of a reciprocating air-driven pump, air-driven sump pump, ore cars, and track. All drilling and miscellaneous mining equipment has been removed from the property for use elsewhere.

GEOLOGY

The John group of claims is on the northeast flank of the Salt Valley anticline in Grand County, Utah. The rocks cropping out near the property are sedimentary in origin and dip slightly to the northeast.

Rocks of the Jurassic Morrison formation are the only rocks that crop out on the John group of claims. The Morrison formation is divided into two members in the area being considered. The upper member is called the Brushy Basin member and is about 300 feet thick. The Brushy Basin member consists mainly of varicolored shales and mudstones with minor amounts of interbedded fine-grained sandstone and conglomerate. The Salt Wash member underlies the Brushy Basin member. The contact between the two members is gradational and very difficult to determine accurately. The Salt Wash member consists mainly of ledges of sandstone separated by layers of mudstone. The ledges of sandstone have considerable lateral continuity, but are actually

composed of a series of coalescing lenses of sandstone. Each individual lens of sandstone is partially surrounded by mudstone and, in places, the sandstone contains several mudstone layers or "splits" within the lens. The sandstone texture is fine- to medium-grained and is characterized by a "scour and fill" type of bedding, suggesting a fluviatile origin. Much organic material occurs in places, and the color of the sandstone varies from red through shades of brown and yellow to dark gray.

The Salt Wash member is about 230 feet thick in the vicinity of the John group of claims. Most of the known uranium-vanadium deposits in the area occur in the lower series of coalescing lenses of sandstone in the Salt Wash member. This series of lenses is referred to as the "fourth sandstone" and it is the primary drilling objective in the applicant's proposed exploration program.

The Brushy Basin member crops out on the northern one-third of the John group and on the eastern part of the Chance claim (fig. 3). The Salt Wash member crops out on the remainder of the group of claims. The estimated drill depths necessary to penetrate the "fourth sandstone" varies from about 60 to 250 feet.

ORE DEPOSITS

The John group of claims is in the Yellow Cat mining district, Grand County, Utah. The uranium-vanadium ore deposits in this district are very similar to the ore deposits in the Uravan Mineral Belt of southwestern Colorado, with the exception that in the Yellow

Cat district many small ore deposits occur in the basal sandstone of the Salt Wash; elsewhere most of the ore deposits occur in the upper Salt Wash sandstone layer. Most of the known ore deposits in the "fourth sandstone" are spacially related to channel "scours" or "lows" which occur at the base of the sandstone lens, and cut down into the underlying mudstone. These channel "scours" cause a local thickening of the "fourth sandstone" and it is near these thicker parts that the ore deposits are found. The ore bodies do not usually occur near the base of the channel, but tend to occur near the central part of the channel sediments, or far out over the flanks of the channel. The ore bodies, in many cases, appear to have been localized by festoon bedding, and as a result are rather small and occur in clusters. Experience in drilling this type of environment has shown that one can expect a relatively large number of drill holes to penetrate ore-grade material, but rarely will the production from the deposits equal the indicated reserves computed from the results of the drilling.

The Geological Survey drilled a total of 58 holes on the John group of claims (fig. 3). Of the 58 holes drilled, 5 holes penetrated material of ore grade and thickness by U. S. G. S. standards, and 15 holes penetrated mineralized material below ore grade.

The applicant states that 7 of the U. S. G. S. drill holes penetrated commercial ore on the John claim and had blocked out an ore body of considerable size. The examination of the underground workings in the John mine revealed that the mineralized material

consists of numerous small, isolated masses of mineralized material which has been localized by numerous festoon surfaces. In places, numerous bedding planes have localized mineralized material at several different horizons. Each mineralized layer is usually saturated with water and has very little lateral continuity. Figure 2 shows the elevation of the top of each mineralized layer discovered by each hole penetrating mineralized material on the John claim. It can readily be seen that the mineralized material occurs at numerous positions, vertically, within the "fourth sandstone" and that the individual mineralized layers do not correlate continuously between adjacent mineralized holes. Figure 2 also shows that three of the seven holes classified as ore holes by the applicant are actually only mineralized holes by U. S. G. S. standards. The chemical assay data for each of the seven holes rated as ore holes by the applicant are listed in table 1. It can be seen from table 1 that holes nos. 336, 537, and 554 are not ore holes by U. S. G. S. standards (i.e., mineralized material 1.0 foot or more thick and containing more than 0.10 percent eU_3O_8 or 1.0 percent V_2O_5 or both).

The applicant states in his application that the seven holes on the John claim had discovered two ore layers. The upper ore layer was encountered by holes nos. 111, 336, and 554 and was estimated by the applicant to contain 1,636.54 tons of ore with an average grade of 0.104 percent U_3O_8 and 0.176 percent V_2O_5. These reserve estimates are much too high in view of the fact that holes nos. 554 and 336 are not ore holes, and underground observation reveals that essentially

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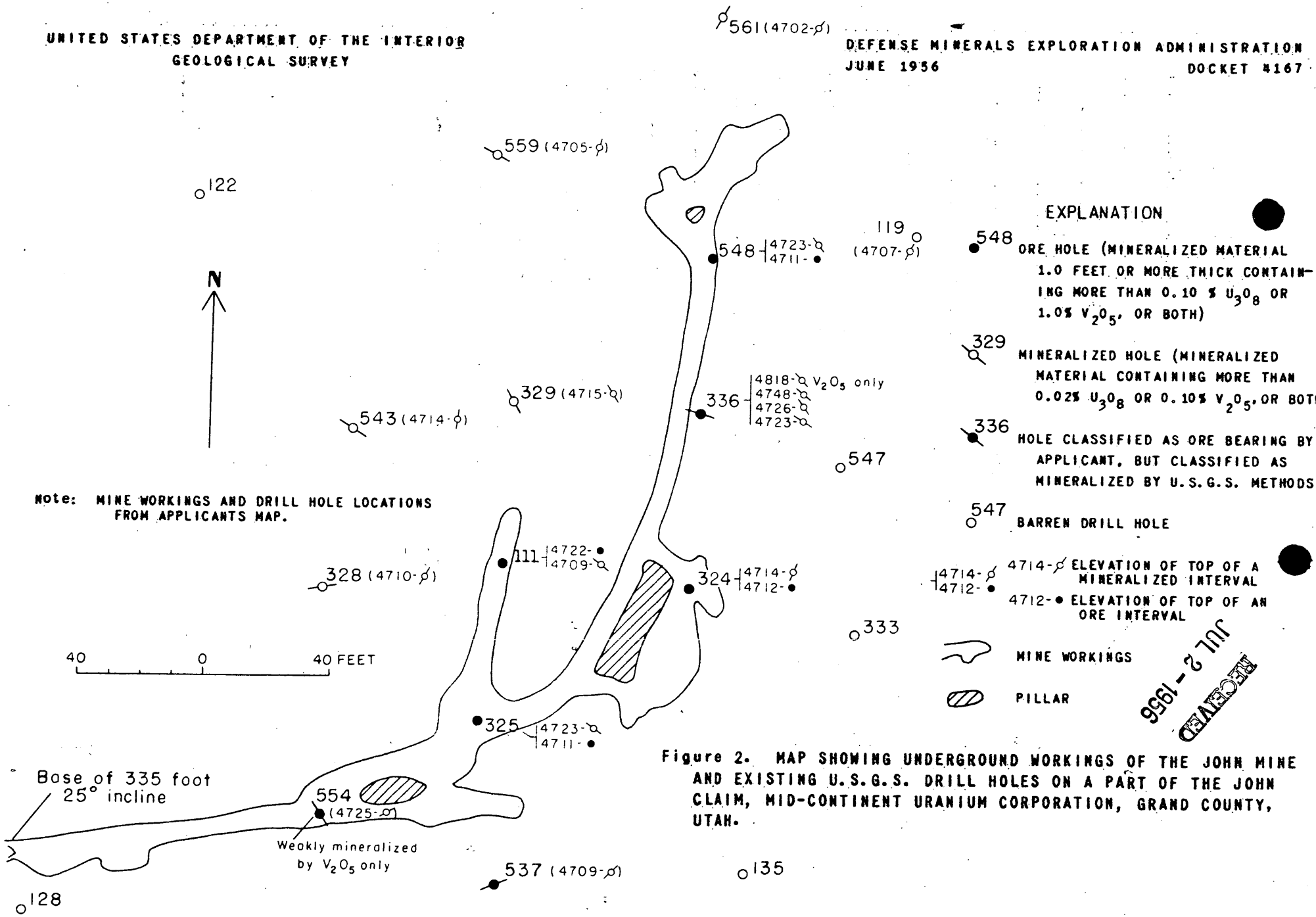
DEFENSE MINERALS EXPLORATION ADMINISTRATION
JUNE 1956
DOCKET 4167



Note: MINE WORKINGS AND DRILL HOLE LOCATIONS FROM APPLICANTS MAP.

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Figure 2. MAP SHOWING UNDERGROUND WORKINGS OF THE JOHN MINE AND EXISTING U.S.G.S. DRILL HOLES ON A PART OF THE JOHN CLAIM, MID-CONTINENT URANIUM CORPORATION, GRAND COUNTY, UTAH.

Table 1.--Chemical assay data for some ore and mineralized holes drilled by U.S.G.S. on the John claim, Mid-Continent Uranium Corporation, Grand County, Utah

Hole No.	Mineralized interval	Percent U_3O_8	Percent V_2O_5	Percent $CaCO_3$
111	146.8 - 147.8	0.12	0.10	3.6
	147.8 - 148.9	0.08	0.11	4.2
	148.9 - 149.7	0.11	< 0.1	3.2
	149.7 - 150.0	0.08	0.11	1.7
	160.2 - 161.0	0.05	< 0.1	3.8
324	152.6 - 153.2	3.00	9.53	8.8
	153.2 - 153.5	0.75	0.21	35.5
	153.5 - 153.9	0.05	0.16	13.2
	154.5 - 154.8	0.10	0.16	5.4
	154.8 - 154.9	0.07	< 0.10	4.2
	154.9 - 155.5	0.19	< 0.1	5.8
	155.5 - 156.5	0.67	< 0.1	3.9
	156.5 - 156.8	0.28	< 0.1	5.3
	156.8 - 157.7	0.15	0.12	5.9
	157.7 - 158.6	0.13	0.18	6.9
325	141.8 - 142.0	--	0.34	--
	146.1 - 146.7	0.04	0.14	1.2
	157.5 - 157.8			
	157.8 - 158.7	0.11	< 0.1	4.7
	158.7 - 159.0	0.02	0.13	4.4
325	159.0 - 159.6	0.46	0.13	16.7
	159.6 - 159.9	0.27	0.10	8.1
336	48.5 - 49.8	--	0.18	--
	140.6 - 141.5	0.02	0.46	1.5
	141.5 - 142.4	--	0.32	--
	142.4 - 143.1	--	0.11	--
537	161.3 - 161.9	0.034	0.25	2.8
548	140.0 - 140.3	0.66	0.17	2.6
	152.0 - 152.9	0.035	1.69	2.9
	152.9 - 153.6	0.85	3.92	1.0
554	144.8 - 145.8	--	0.21	--

no reserves remain around the workings that intersected hole no. 111 (fig. 2). In fact, the underground workings of the John mine intersected six of the seven holes rated by the applicant as ore holes without finding significant minable reserves. The underground observations indicate that all of the ore-grade material in this area is likely to be in very small isolated masses and will not constitute minable reserves.

The applicant has estimated that the lower ore layer, discovered by holes nos. 324, 325, 537, and 548 in the John mine contains about 2,388 tons of ore with an average grade of 0.41 percent U_3O_8 and 0.91 percent V_2O_5. Little ore was actually mined near the drill holes in question, and an underground examination shows that there are no minable reserves in sight in the vicinity of the drill holes.

ORE RESERVES

A total of 478 tons of ore that will average 0.33 percent U_3O_8 and 0.45 percent V_2O_5 has been produced from the John mine. This production has come from underground workings which have exposed and removed the reserves from around six of the seven holes rated as ore-bearing by the applicant. Underground examination of the John mine reveals that essentially no minable ore reserves are exposed in the workings. It is unlikely that minable reserves will be found that will extend more than about 10 feet from the discovery holes.

Numerous small ore deposits have been discovered adjacent to the subject property and the applicant has mentioned some of these

in an effort to make his property appear especially favorable. For example, the applicant states that after DMEA terminated the exploration contract on their adjacent property (sec. 2, T. 23 S., R. 21 E. - DMEA docket 3360) they continued drilling and discovered and blocked out two ore bodies. Ore body "A" in the applicant's report is estimated to contain 13,206 tons of indicated ore with a grade of 0.18 percent U_3O_8 and 1.0 percent V_2O_5. Ore body "B", also in the applicant's report, 600 feet east of ore body "A", is estimated to contain 4,523 tons of ore with an average grade of 0.17 percent U_3O_8 and 0.74 percent V_2O_5. The drill hole data for these two ore bodies were examined in detail. In the west ore body (ore body "A") two of the "ore holes" (98 and 116) contain only vanadium values that meet the grade cutoffs for ore by U.S.G.S. standards. The evaluation of the ore layer is very erratic and differences of elevation of 10 to 15 feet between adjacent ore holes on 50-foot centers are common. It is very unlikely that the ore layers penetrated by each of these drill holes will be continuous between the holes, as was assumed when computing the ore reserves.

The east ore body (ore body "B") shows the same features as those in ore body "A". Three of the "ore holes" (nos. 74, 101, and 103) in ore body "B" contain ore-grade values of vanadium only. The reserve estimates for both of these deposits are very optimistic, and it is unlikely that more than a fraction of the estimated reserves can be profitably removed from the area.

Another factor which leads to the conclusion that reserves in section 2 are much less extensive than claimed is the information now available on the Ringtail deposit to the north which occurs in a similar Salt Wash channel. The reserves at the Ringtail mine, computed by the operators on Geological Survey drilling data, totaled 17,974 tons of indicated ore averaging 0.22 percent U_3O_8 and 1.63 percent V_2O_5, and 9,987 tons of inferred ore averaging 0.22 percent U_3O_8 and 1.46 percent V_2O_5. This can be contrasted with actual production through March 1956 of 6,800 tons averaging about 0.22 percent U_3O_8 and 1.00 percent V_2O_5. The Ringtail mine has been shut down for several months because ore deposits developed by drilling have been exhausted except for a small reserve block 450 feet west of the shaft. A small tonnage was recently added to this reserve block as a result of drilling under DMEA 3962, contract Idm-E 928, and the mine is being reopened for lessee operation. However, addition of remaining tonnage to previous production is not expected to approach 18,000 tons of indicated ore originally estimated.

PROPOSED EXPLORATION

The applicant first proposed a two-stage program requiring a maximum of 27,000 feet of plug bit and 27,000 feet of core drilling in 270 holes on a minimum of 200-foot centers at an estimated cost of $162,927.00. The cost of this program was high in comparison with the probable size of ore bodies, and the applicant submitted a revised proposal calling for three stages of drilling requiring a maximum

of 17,785 feet of plug bit and 9,575 feet of core drilling in 152 holes at an estimated cost of $78,451.00. Government participation at 75 percent would be $58,838.25.

The first stage of drilling under the revised proposal would require 67 holes in a grid pattern on a spacing of 200 feet north and south and 400 feet east and west (fig. 3). It would be followed by a second stage of 35 holes on 100-foot and 200-foot centers to explore the more favorable portions of channel as determined in stage I. Stage III would require 50 holes with a minimum hole spacing of 50-foot offsetting from mineralized holes. The applicant proposes to use three drilling units capable of 80 feet per shift per unit, and time for completion of stage I is estimated at two months of 25 working days each. The over-all cost per foot of drilling is estimated at $2.868. Bids from three independent drilling contractors were submitted.

In view of the recommendations being made on the proposed project, no cost estimate has been prepared.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the type of host rock underlying the John group of claims is not favorable for the occurrence of significant uranium ore deposits. The host rock is characterized by an abundance of small festoon structures which have localized small pods of ore grade material at several different elevations.

These ore layers do not usually extend between adjacent ore holes, and consequently they contain only small reserves. Additional exploratory drilling on the John group of claims probably would not discover ore deposits of significant size and grade.

Therefore, it is recommended that DMEA assistance in the proposed exploration program under DMEA Docket 4167 be denied.

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JUNE 1956 DOCKET 4167

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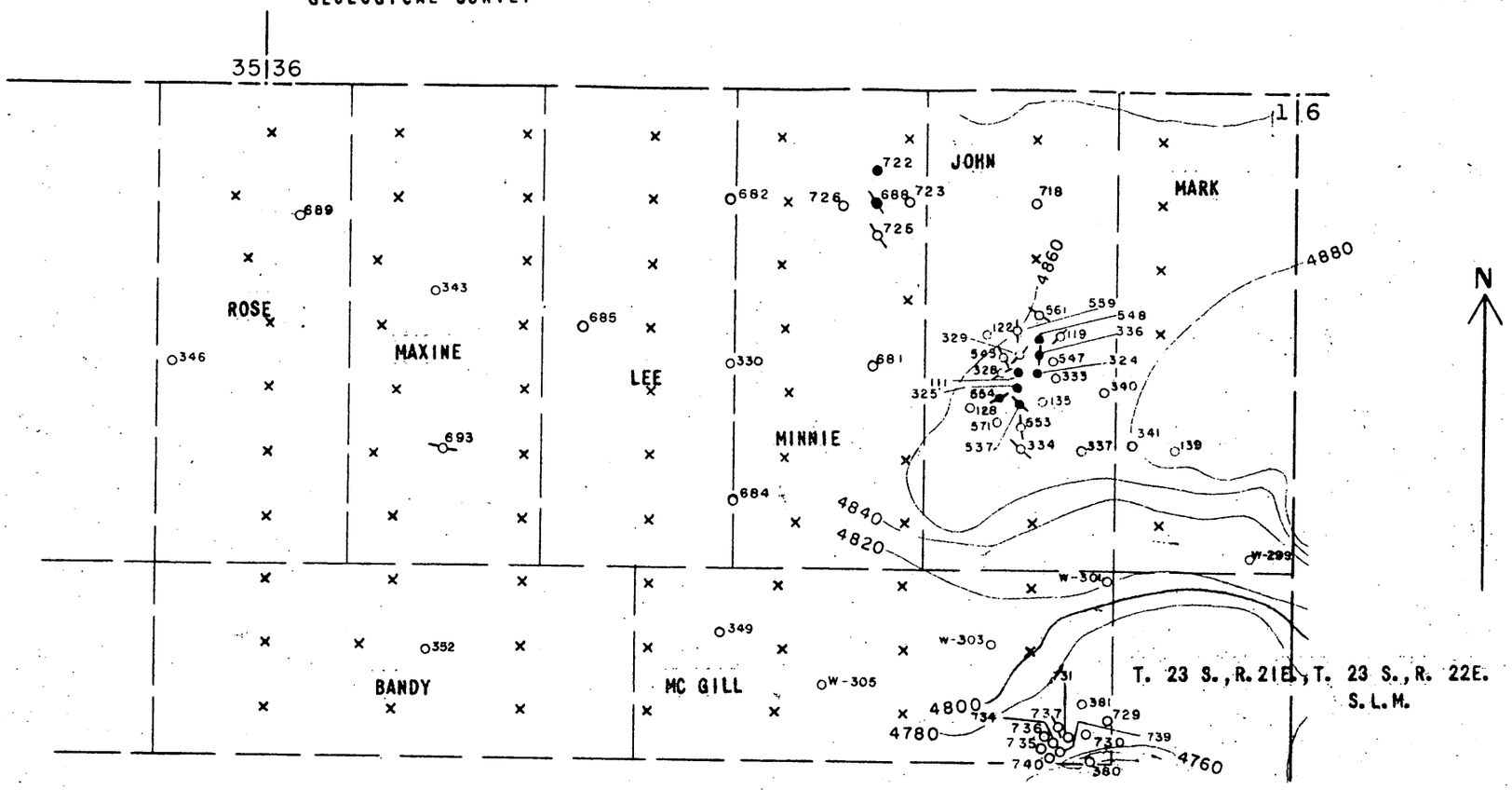

EXPLANATION

- 685 U.S.G.S. DIAMOND-DRILL HOLE
- W301 U.S.G.S. WAGON-DRILL HOLE
- 325 ORE HOLE (MINERALIZED MATERIAL 1.0 FEET OR MORE THICK CONTAINING MORE THAN 0.10% U_3O_8 OR 1.0% V_2O_5 OR BOTH)
- 334 MINERALIZED HOLE (MINERALIZED MATERIAL CONTAINING MORE THAN 0.02% U_3O_8 OR 0.10% V_2O_5, OR BOTH)
- 537 HOLE CLASSIFIED AS ORE BEARING BY APPLICANT BUT CLASSIFIED AS MINERALIZED BY U.S.G.S. METHODS
- 349 BARREN DRILL HOLE
- × PROPOSED STAGE I DRILL HOLE

Note: CLAIM BOUNDARIES AND HOLE LOCATIONS FROM APPLICANTS MAP.

500 0 1500 FEET

CONTOUR INTERVAL 20 FEET
DATUM IS ASSUMED

FIGURE 3. MAP SHOWING LOCATION OF EXISTING U.S.G.S DRILL HOLES, PROPOSED STAGE I DRILL HOLES AND JOHN GROUP OF CLAIMS, MID-CONTINENT URANIUM CORPORATION, GRAND COUNTY, UTAH.

7/2/56

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

June 29, 1956

224 New Customhouse
Denver 2, Colorado

RECEIVED
JUL 2 - 1956

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, Docket DMEA 4167 (Uranium), Mid-Continent Uranium Corporation, (John group of claims), San Juan County, Utah

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

The field examiners concluded that the type of host rock underlying the John group of claims is not favorable for the occurrence of significant uranium deposits. The U. S. Geological Survey drilled 58 holes on the John group of claims during the course of its exploratory drilling in the Thompson Mining District. Additional exploratory drilling on the John group of claims would probably not discover a significant amount of uranium ore. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Herzbrun

E. N. Herzbrun

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE

(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

IN REPLY REFER TO:
MINERAL DEPOSITS
DMEA
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JUN 15 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

RECEIVED
JUL 2 - 1956
DMEA

June 14, 1956

Date Rec'd.
JUN 27 1956
BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman
J. F. Shaw

TRANSMITTED
JUN 29 1956

From: J. William Hasler

Subject: Transmittal of report of examination, DMEA docket 4167, Mid-Continent Uranium Corporation (John group of claims), Thompson Mining District, San Juan County, Utah

The Mid-Continent Uranium Corporation, Grand Junction, Colorado, applied for aid from the Defense Minerals Exploration Administration to explore for uranium on the John Group of claims, Grand County, Utah. The application was referred to the field and a field examination was made April 12, 1956, by C. H. Roach, U. S. Geological Survey and M. H. Salsbury, U. S. Bureau of Mines. C. M. Mobley represented the applicant.

The John group of claims is located on the northeast flank of the Salt Valley anticline in Grand County, Utah. The rocks of the Jurassic Morrison formation are the only rocks that crop out on this particular group of claims. The Morrison formation in the area is divided into two members, the upper member being the Brushy Basin, which is about 300 feet thick, and the Salt Wash member being about 230 feet thick in the vicinity of the John group of claims. Most of the uranium-vanadium deposits in the area occur in the lower series of coalescing lenses in the Salt Wash member. This series of lenses is known in the Yellow Cat area as the fourth sandstone unit of the Salt Wash member. The Brushy Basin member crops out on the northern one-third of the John group and the eastern part of the Chance claim. The Salt Wash member crops out on the rim of the group of claims. The estimated drilling depths necessary for the penetration of the fourth sandstone varies from about 150 to 200 feet. The uranium-vanadium ore deposits in the John group of claims are similar to the ore deposits in the Uranium Mineral Belt in southwestern Colorado, with the exception that in the Yellow Cat Mining District ore is produced from the Basal sandstone units of the Salt Wash; whereas, over most part of the Colorado Plateau deposits occur in the upper Salt Wash sandstone. The U. S. Geological Survey drilled 58 holes on the John group of claims during the course of its exploratory drilling in the Thompson Mining District. Of the 58 holes drilled, five penetrated material of ore grade. Fifteen holes penetrated material that was considered mineralized, but below ore grade, and the balance were barren. The applicant stated

Reviewed by
DMEA OPERATING COMMITTEE

(date)

that seven of the surveyed drill holes penetrated commercial ore on the John claim and blocked out an ore body of considerable size. A detailed examination of the workings in conjunction with the Survey drilling revealed that the mineralized material consisted of numerous small isolated masses of mineralized material which has been localized by numerous festoon surfaces. Further analyses of the drilling showed that the ore occurred in two separate layers and that the reserve estimates were much too high, in that the ore penetrated in one diamond drill hole does not necessarily continue to another hole, but has a tendency to thin and become sporadic. An examination of the workings substantiates this fact, in that much of the ore mined around known ore hole has been extracted and that very little reserves are left in the present John mine workings.

In his application the applicant documented the ore reserves obtained from drilling under DMEA docket 3360. Several other ore holes were drilled on their own account after the DMEA contract was terminated. A review of this drilling also indicates that the ore bodies are small and erratic. These ore bodies, reported by the applicant, have not been opened up and to date no attempt has been made by the Mid-Continent to mine from these ore bodies.

A recent DMEA contract with the Norbute Corporation, also near the John group of claims, has a similar history, in that the indicated and inferred reserves were not as large as previously supposed.

The Ringtail mine on the Norbure Corporation's property, has been closed down due to lack of ore reserves and DMEA drilling on this property discovered very little ore.

In summary, it is concluded that the type of host rock underlying the John group of claims is not favorable for the occurrence of significant uranium deposits. The host rock is characterized by an absence of small festoon structures which have localized small pods of ore-grade material in several different horizons. These ore layers usually do not extend between adjacent ore holes and, consequently, contain only small reserves. Additional exploratory drilling on the John group of claims would probably not discover ore deposits of significant size and grade.

It was pointed out to the applicant's representative in the field and later in an office conference, that the program as proposed by them was too costly in view of the probable tenor of the ore bodies. A revised program was submitted by the company for further consideration. It is still the opinion of the examining team that the chances of finding ore bodies of significant size and grade are not good and it is, therefore, recommended that DMEA assistance be denied. I concur with the conclusions and recommendations of the examining team.

DMEA 4167 6/14/56

The Atomic Energy Commission was consulted relative to the appraisal of this property.

Enclosed are 10 copies of the maps for inclusion in a joint engineering and geologic report, as well as the applicant's brochure.

J. William Hasler
J. William Hasler,
Geologist

JWH/mlr

Enclosures

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

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JUL 2 - 1956

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED
JUN 29 1956

DMEA 4167

Mid-Continent Uranium Corporation

John group of claims

Grand County, Utah

Uranium

Joint Engineering and Geologic Report

Reviewed by
DMEA OPERATING COMMITTEE
(date)

by

C. H. Salsbury
Bureau of Mines

Carl H. Roach
Geological Survey

June 26, 1956

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ILLUSTRATIONS

Figure — Follows page

1. Location map, John group of claims, Mid-Continent Uranium Corporation, Grand County, Utah. DMEA 4167 3

2. Map showing underground workings of the John mine and existing U.S.G.S. drill holes on a part of the John claim, Mid-Continent Uranium Corporation, Grand County, Utah. 11

3. Map showing location of existing U.S.G.S. drill holes, proposed Stage I drill holes, and John group of claims, Mid-Continent Uranium Corporation, Grand County, Utah. 17

DMEA 4167

MID-CONTINENT URANIUM CORPORATION
JOHN GROUP OF CLAIMS
GRAND COUNTY, UTAH

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JUL 2 - 1956

INTRODUCTION AND SUMMARY

The Mid-Continent Uranium Corporation, 215 N. Fifth Street, Grand Junction, Colorado, applied on February 2, 1956, for Defense Minerals Exploration Administration assistance to explore for uranium on the John group of claims in the Yellow Cat district of Grand County, Utah.

The property was visited on April 12, 1956, by a DMEA examining team in company with C. M. Mobley, representing the applicant.

The applicant originally proposed an extensive program of drilling 270 holes blanketing the property at an estimated cost of $162,927.00. Government participation at 75 percent would have been $122,195.25. It was pointed out to the applicant's representative in the field, and later in an office conference, that the program as proposed was too costly in view of the probable size and grade of inferred ore bodies. Later, a revised program calling for drilling a maximum of 152 holes in three stages for a total of 27,360 feet of plug bit and core drilling was submitted by the applicant. The total cost of the program was $78,451.00, and Government participation at 75 percent would be $58,838.25.

A study of the underground workings in the John mine and the chemical assay data obtained from drill core samples revealed that

the pods of ore-grade material are small and isolated and probably do not form large enough masses to be considered significant.

In justifying the proposed exploration, the applicant presented ore reserve data on the John mine area and on Utah School Section 2, T. 23 S., R. 21 E., west of the John claims which had been drilled under DMEA Docket 3360, contract Idm-E 723, and subsequently by the applicant. Ore reserve and production data from the Ringtail mine, adjoining the property on the north, were also cited. However, actual production from the John and Ringtail mines has been only a fraction of the estimated reserves, and it is probable that the major portion of the ore found to date by drilling has been mined. The ore reserves previously computed on drilling results probably are not realistic in the Yellow Cat area. The method used by the applicant in computing reserves on Utah school section 2 was analyzed but cannot be concurred with by the examining team.

A recent DMEA project at the Ringtail mine, DMEA Docket 3962, contract Idm-E 928, resulted in addition of a small tonnage to a previously known ore body, but results were largely negative and no new ore bodies were found. The results of the proposed exploration on the John claims would probably be similar.

It is concluded that there is little possibility of finding a significant and mineable ore reserve at the John claims.

Denial of the application under DMEA Docket 4167 is recommended.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The John group of nine claims, comprising about 184 acres, is in sec. 1, T. 23 S., R. 21 E., Salt Lake Meridian, in the Yellow Cat district, Thompson area, Grand County, Utah (fig. 1). The claims are reached by traveling 5 miles east from Thompson, Utah, on U. S. Highway 6-50, thence 12 miles south on a graveled access road into the Yellow Cat district. The property is about 87 miles west of Grand Junction, Colorado, the nearest major supply center.

Topographically, the area is one of moderate relief, and drilling areas are easily accessible. Vegetation is very sparse. Precipitation averages 8.5 inches per year and is unevenly distributed throughout the year. Winters are generally mild and summers are hot. Surface and underground operations are feasible during all seasons.

There are no unusual problems of supply, labor, power, or ore marketing.

HISTORY AND PRODUCTION

The history of the Yellow Cat district as a vanadium-radium producing region dates back to 1911, but production was small and intermittent until 1939 when vanadium production became important. Since 1948, the area has been mined for uranium although the ores have a high vanadium content. Effective August 22, 1951, the Atomic Energy Commission withdrew from mineral entry a block of six sections in the area of the subject claims. Exploration by drilling was

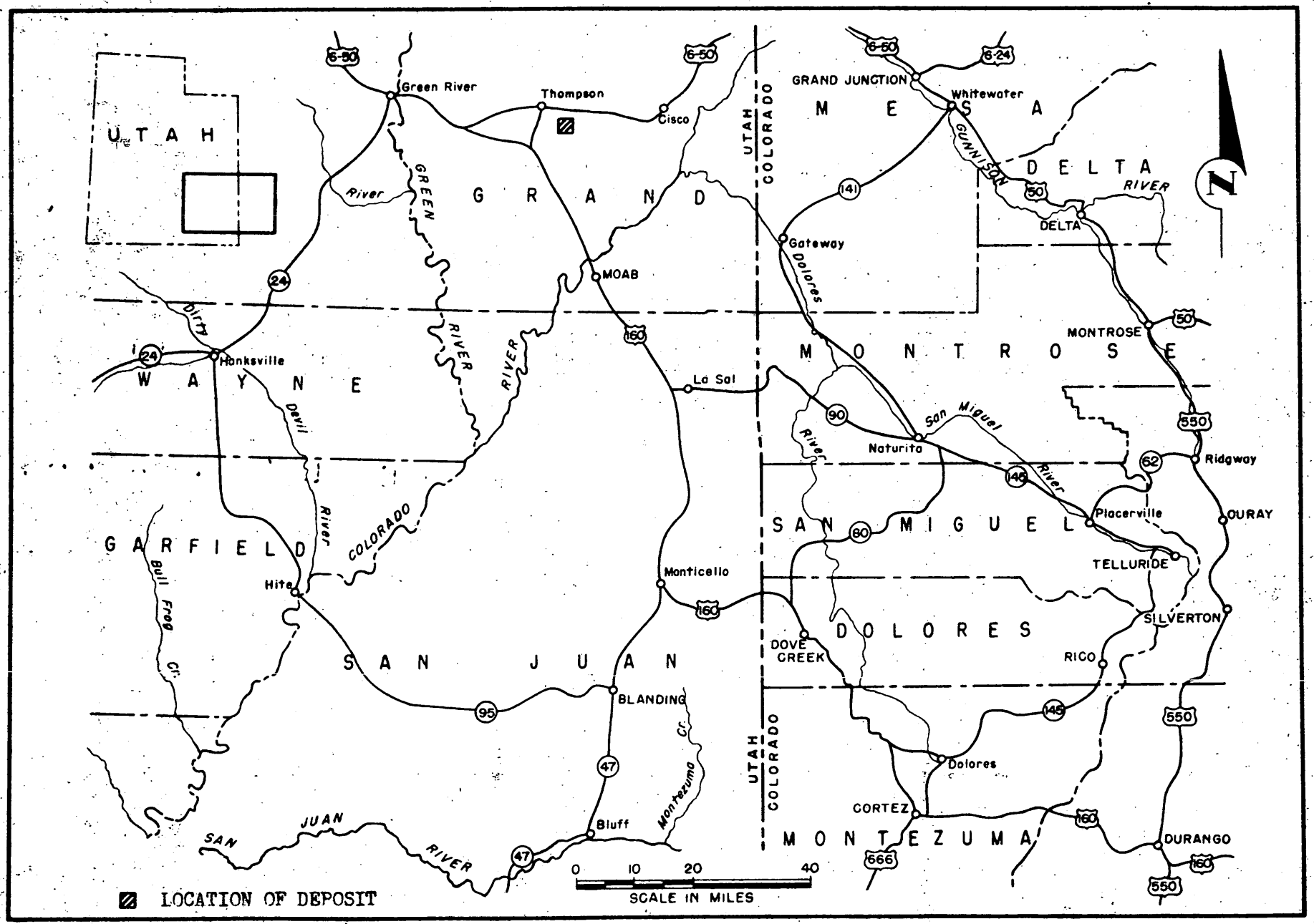

FIGURE 1 - LOCATION MAP, JOHN GROUP OF CLAIMS, MID-CONTINENT URANIUM CORPORATION, GRAND COUNTY, UTAH.
DMEA 4167

subsequently carried on by the Geological Survey from 1952 to 1954. During this period 58 holes were drilled on the John group of claims, and the operation at the John mine is based on the result of this drilling. According to AEC records, total production from the John mine through December 1955 was 478 tons averaging 0.33 percent U_3O_8 and 0.45 percent V_2O_5. The mine has not operated during 1956. It is necessary to operate a pumping plant to handle a small but consistent flow of water into the workings and prevent flooding. The mine was pumped out for the DMEA examination.

In 1954-55 the applicant conducted a Government assisted drilling project on Utah school section 2, T. 23 S., R. 21 E., Salt Lake meridian as of DMEA Docket 3360, contract Idm-E 723. A total of 17,792 feet was drilled in 72 holes at a cost of $46,314.00. School section 2 is immediately west of the John group and in the same Salt Wash channel trend. Three out of 72 DMEA holes penetrated material of ore grade and thickness, but no reserves could be computed. After termination of the DMEA project, the operator did additional work and estimated a reserve of at least 16,355 tons of ore averaging 0.21 percent U_3O_8 and 1.00 percent V_2O_5. However, analysis of the hole data does not verify the operator's reserve figures.

There has been considerable production from adjoining properties, notably the Ringtail and Blackstone mines one-half mile and 1 mile northeast, respectively, the Parco 23 open pit and shallow underground operation adjoining on the south, and the Allor 12 mine to the east. The Blackstone, Ringtail, and Parco ore bodies are in the 5,000-ton

class with major production probably completed. The Allor mine production is about 3,000 tons of good grade ore. Ore from the Parco 23 mine contained from 0.31 to 0.87 percent U_3O_8 and from 1.69 to 4.77 percent V_2O_5. Ringtail mine production had an average content of 0.24 percent U_3O_8 and 1.08 percent V_2O_5. Blackstone, Parco 23, and Allor mines are currently operating. The Ringtail mine has been recessed because of depletion of ore reserves.

OWNERSHIP AND EXTENT

The applicant, Mid-Continent Uranium Corporation, owns an undivided eight-tenths interest in the John group of claims (fig. 3). The claims are recorded at the Grand County Courthouse at Moab, Utah, as follows:

Claim name	Original location		Amended location	
	Book	Page	Book	Page
John	9K	5	15	330
Mark	9K	4	15	331
Minnie	9K	4	15	332
Lee	9K	4	15	333
Maxine	9K	4	15	334
Rose	9K	4	15	335
Chance	9K	3	15	336
McGill	9K	3	15	337
Bandy	9K	3	15	338

The claims were staked in May 1951 by Charles Steen who conveyed eight-tenths interest to Strategic Minerals Exploration Company. Great Western Uranium Corporation later purchased this interest from Strategic Minerals Exploration Company who retained a 10 percent overriding royalty in the eight-tenths interest. Norman Ebbley and Associates purchased the eight-tenths interest from Great Western and also acquired the royalty interest of the Strategic Minerals Exploration Company. Subsequently, Ebbley and Associates conveyed their interest to Mid-Continent Uranium Corporation which now has an undivided eight-tenths interest in the nine claims. Charles Steen has retained an undivided two-tenths interest.

Effective August 22, 1951, the Atomic Energy Commission withdrew from mineral entry sections 1 through 6, T. 23 S., R. 21 E., SLM. The original location of the subject claims antedates this withdrawal by about three months.

Location procedures appear to be satisfactory and the claims are probably valid. Location notices have apparently not been renewed since the original posting. Only one legible notice, for the Rose claim near the common south corner of sections 35 and 36, was found. South of the applicant's McGill and Bandy claims, Utah Alloy Ores, Inc., made a "floating" location, the Allor No. 14 claim. This claim has been shifted several times and its exact location is not known. The extent of conflict, if any, with the applicant's claims is undetermined.

A location notice for the Bouenus (?) Terra No. 13 claim, dated January 20, 1956, was found on the Mark claim. The extent of the conflict with the applicant's claims was not determined. The January 20, 1956, location date is two days after the restoration, under P.L.O. 1223, of ground previously withdrawn from mineral entry. This claim obviously has no validity as far as the applicant's property is concerned.

The applicant's representative stated that Charles A. Steen would sign an Owner's Consent to Lien.

PRESENT STATUS

Exploration and development

Geological Survey drilling in the Yellow Cat district during 1952 and 1953 included 58 holes on the John claim group and consisted of 4 wagon-drill holes and 54 core-drill holes (fig. 3). Twenty-eight of the holes were on 500-foot centers and 30 holes on 50- to 100-foot centers. Seven of the holes indicated a small ore body on the John claim, which has been developed by an inclined shaft and 375 feet of lateral work in the ore-bearing beds. The operation has been closed since January 1956.

With the exception of Geological Survey drilling, which netted largely negative results, no exploration or development has been performed on the remaining eight claims of the John group.

Mining and milling equipment and other facilities

Surface equipment consists of a gasoline-powered hoist, compressor, and a 40-ton ore bin. Existing buildings owned by the operator are a hoist shed, a compressor shed, and a one-room cabin.

Underground equipment consists of a reciprocating air-driven pump, air-driven sump pump, ore cars, and track. All drilling and miscellaneous mining equipment has been removed from the property for use elsewhere.

GEOLOGY

The John group of claims is on the northeast flank of the Salt Valley anticline in Grand County, Utah. The rocks cropping out near the property are sedimentary in origin and dip slightly to the northeast.

Rocks of the Jurassic Morrison formation are the only rocks that crop out on the John group of claims. The Morrison formation is divided into two members in the area being considered. The upper member is called the Brushy Basin member and is about 300 feet thick. The Brushy Basin member consists mainly of varicolored shales and mudstones with minor amounts of interbedded fine-grained sandstone and conglomerate. The Salt Wash member underlies the Brushy Basin member. The contact between the two members is gradational and very difficult to determine accurately. The Salt Wash member consists mainly of ledges of sandstone separated by layers of mudstone. The ledges of sandstone have considerable lateral continuity, but are actually

composed of a series of coalescing lenses of sandstone. Each individual lens of sandstone is partially surrounded by mudstone and, in places, the sandstone contains several mudstone layers or "splits" within the lens. The sandstone texture is fine- to medium-grained and is characterized by a "scour and fill" type of bedding, suggesting a fluviatile origin. Much organic material occurs in places, and the color of the sandstone varies from red through shades of brown and yellow to dark gray.

The Salt Wash member is about 230 feet thick in the vicinity of the John group of claims. Most of the known uranium-vanadium deposits in the area occur in the lower series of coalescing lenses of sandstone in the Salt Wash member. This series of lenses is referred to as the "fourth sandstone" and it is the primary drilling objective in the applicant's proposed exploration program.

The Brushy Basin member crops out on the northern one-third of the John group and on the eastern part of the Chance claim (fig. 3). The Salt Wash member crops out on the remainder of the group of claims. The estimated drill depths necessary to penetrate the "fourth sandstone" varies from about 60 to 250 feet.

ORE DEPOSITS

The John group of claims is in the Yellow Cat mining district, Grand County, Utah. The uranium-vanadium ore deposits in this district are very similar to the ore deposits in the Uravan Mineral Belt of southwestern Colorado, with the exception that in the Yellow

Cat district many small ore deposits occur in the basal sandstone of the Salt Wash; elsewhere most of the ore deposits occur in the upper Salt Wash sandstone layer. Most of the known ore deposits in the "fourth sandstone" are spacially related to channel "scours" or "lows" which occur at the base of the sandstone lens, and cut down into the underlying mudstone. These channel "scours" cause a local thickening of the "fourth sandstone" and it is near these thicker parts that the ore deposits are found. The ore bodies do not usually occur near the base of the channel, but tend to occur near the central part of the channel sediments, or far out over the flanks of the channel. The ore bodies, in many cases, appear to have been localized by festoon bedding, and as a result are rather small and occur in clusters. Experience in drilling this type of environment has shown that one can expect a relatively large number of drill holes to penetrate ore-grade material, but rarely will the production from the deposits equal the indicated reserves computed from the results of the drilling.

The Geological Survey drilled a total of 58 holes on the John group of claims (fig. 3). Of the 58 holes drilled, 5 holes penetrated material of ore grade and thickness by U. S. G. S. standards, and 15 holes penetrated mineralized material below ore grade.

The applicant states that 7 of the U. S. G. S. drill holes penetrated commercial ore on the John claim and had blocked out an ore body of considerable size. The examination of the underground workings in the John mine revealed that the mineralized material

consists of numerous small, isolated masses of mineralized material which has been localized by numerous festoon surfaces. In places, numerous bedding planes have localized mineralized material at several different horizons. Each mineralized layer is usually saturated with water and has very little lateral continuity. Figure 2 shows the elevation of the top of each mineralized layer discovered by each hole penetrating mineralized material on the John claim. It can readily be seen that the mineralized material occurs at numerous positions, vertically, within the "fourth sandstone" and that the individual mineralized layers do not correlate continuously between adjacent mineralized holes. Figure 2 also shows that three of the seven holes classified as ore holes by the applicant are actually only mineralized holes by U. S. G. S. standards. The chemical assay data for each of the seven holes rated as ore holes by the applicant are listed in table 1. It can be seen from table 1 that holes nos. 336, 537, and 554 are not ore holes by U. S. G. S. standards (i.e., mineralized material 1.0 foot or more thick and containing more than 0.10 percent eU_3O_8 or 1.0 percent V_2O_5 or both).

The applicant states in his application that the seven holes on the John claim had discovered two ore layers. The upper ore layer was encountered by holes nos. 111, 336, and 554 and was estimated by the applicant to contain 1,636.54 tons of ore with an average grade of 0.104 percent U_3O_8 and 0.176 percent V_2O_5. These reserve estimates are much too high in view of the fact that holes nos. 554 and 336 are not ore holes, and underground observation reveals that essentially

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
JUNE 1956
DOCKET 4167

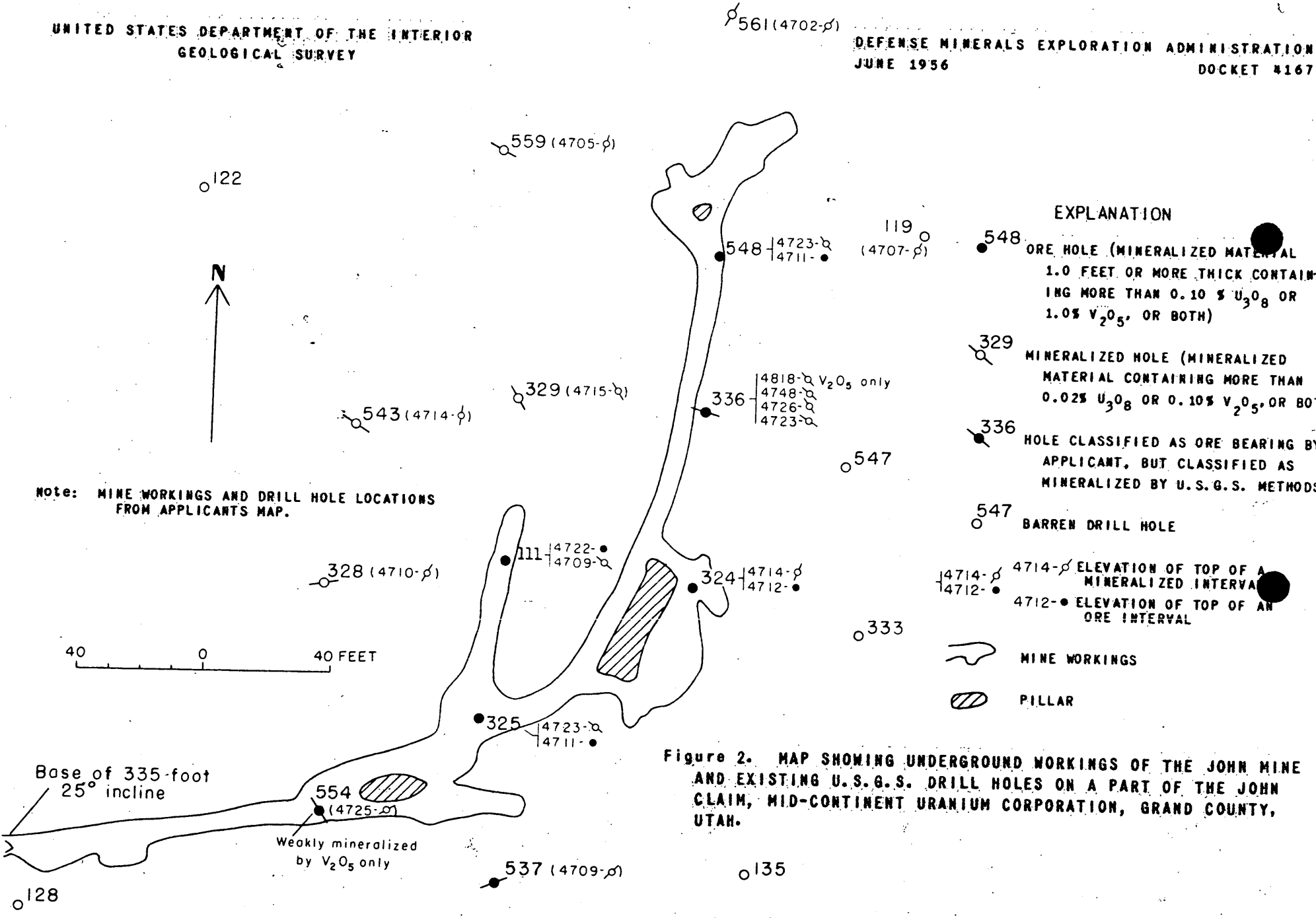

Figure 2. MAP SHOWING UNDERGROUND WORKINGS OF THE JOHN MINE AND EXISTING U.S.G.S. DRILL HOLES ON A PART OF THE JOHN CLAIM, MID-CONTINENT URANIUM CORPORATION, GRAND COUNTY, UTAH.

Table 1.--Chemical assay data for some ore and mineralized holes drilled by U.S.G.S. on the John claim, Mid-Continent Uranium Corporation, Grand County, Utah

Hole No.	Mineralized interval	Percent U_3O_8	Percent V_2O_5	Percent $CaCO_3$
111	146.8 - 147.8	0.12	0.10	3.6
	147.8 - 148.9	0.08	0.11	4.2
	148.9 - 149.7	0.11	< 0.1	3.2
	149.7 - 150.0	0.08	0.11	1.7
	160.2 - 161.0	0.05	< 0.1	3.8
324	152.6 - 153.2	3.00	9.53	8.8
	153.2 - 153.5	0.75	0.21	35.5
	153.5 - 153.9	0.05	0.16	13.2
	154.5 - 154.8	0.10	0.16	5.4
	154.8 - 154.9	0.07	< 0.10	4.2
	154.9 - 155.5	0.19	< 0.1	5.8
	155.5 - 156.5	0.67	< 0.1	3.9
	156.5 - 156.8	0.28	< 0.1	5.3
	156.8 - 157.7	0.15	0.12	5.9
	157.7 - 158.6	0.13	0.18	6.9
325	141.8 - 142.0	--	0.34	--
	146.1 - 146.7	0.04	0.14	1.2
	157.5 - 157.8			
	157.8 - 158.7	0.11	< 0.1	4.7
	158.7 - 159.0	0.02	0.13	4.4
325	159.0 - 159.6	0.46	0.13	16.7
	159.6 - 159.9	0.27	0.10	8.1
336	48.5 - 49.8	--	0.18	--
	140.6 - 141.5	0.02	0.46	1.5
	141.5 - 142.4	--	0.32	--
	142.4 - 143.1	--	0.11	--
537	161.3 - 161.9	0.034	0.25	2.8
548	140.0 - 140.3	0.66	0.17	2.6
	152.0 - 152.9	0.035	1.69	2.9
	152.9 - 153.6	0.85	3.92	1.0
554	144.8 - 145.8	--	0.21	--

no reserves remain around the workings that intersected hole no. 111 (fig. 2). In fact, the underground workings of the John mine intersected six of the seven holes rated by the applicant as ore holes without finding significant minable reserves. The underground observations indicate that all of the ore-grade material in this area is likely to be in very small isolated masses and will not constitute minable reserves.

The applicant has estimated that the lower ore layer, discovered by holes nos. 324, 325, 537, and 548 in the John mine contains about 2,388 tons of ore with an average grade of 0.41 percent U_3O_8 and 0.91 percent V_2O_5. Little ore was actually mined near the drill holes in question, and an underground examination shows that there are no minable reserves in sight in the vicinity of the drill holes.

ORE RESERVES

A total of 478 tons of ore that will average 0.33 percent U_3O_8 and 0.45 percent V_2O_5 has been produced from the John mine. This production has come from underground workings which have exposed and removed the reserves from around six of the seven holes rated as ore-bearing by the applicant. Underground examination of the John mine reveals that essentially no minable ore reserves are exposed in the workings. It is unlikely that minable reserves will be found that will extend more than about 10 feet from the discovery holes.

Numerous small ore deposits have been discovered adjacent to the subject property and the applicant has mentioned some of these

in an effort to make his property appear especially favorable. For example, the applicant states that after DMEA terminated the exploration contract on their adjacent property (sec. 2, T. 23 S., R. 21 E. - DMEA docket 3360) they continued drilling and discovered and blocked out two ore bodies. Ore body "A" in the applicant's report is estimated to contain 13,206 tons of indicated ore with a grade of 0.18 percent U_3O_8 and 1.0 percent V_2O_5. Ore body "B", also in the applicant's report, 600 feet east of ore body "A", is estimated to contain 4,523 tons of ore with an average grade of 0.17 percent U_3O_8 and 0.74 percent V_2O_5. The drill hole data for these two ore bodies were examined in detail. In the west ore body (ore body "A") two of the "ore holes" (98 and 116) contain only vanadium values that meet the grade cutoffs for ore by U.S.G.S. standards. The evaluation of the ore layer is very erratic and differences of elevation of 10 to 15 feet between adjacent ore holes on 50-foot centers are common. It is very unlikely that the ore layers penetrated by each of these drill holes will be continuous between the holes, as was assumed when computing the ore reserves.

The east ore body (ore body "B") shows the same features as those in ore body "A". Three of the "ore holes" (nos. 74, 101, and 103) in ore body "B" contain ore-grade values of vanadium only. The reserve estimates for both of these deposits are very optimistic, and it is unlikely that more than a fraction of the estimated reserves can be profitably removed from the area.

Another factor which leads to the conclusion that reserves in section 2 are much less extensive than claimed is the information now available on the Ringtail deposit to the north which occurs in a similar Salt Wash channel. The reserves at the Ringtail mine, computed by the operators on Geological Survey drilling data, totaled 17,974 tons of indicated ore averaging 0.22 percent U_3O_8 and 1.63 percent V_2O_5, and 9,987 tons of inferred ore averaging 0.22 percent U_3O_8 and 1.46 percent V_2O_5. This can be contrasted with actual production through March 1956 of 6,800 tons averaging about 0.22 percent U_3O_8 and 1.00 percent V_2O_5. The Ringtail mine has been shut down for several months because ore deposits developed by drilling have been exhausted except for a small reserve block 450 feet west of the shaft. A small tonnage was recently added to this reserve block as a result of drilling under DMEA 3962, contract Idm-E 928, and the mine is being reopened for lessee operation. However, addition of remaining tonnage to previous production is not expected to approach 18,000 tons of indicated ore originally estimated.

PROPOSED EXPLORATION

The applicant first proposed a two-stage program requiring a maximum of 27,000 feet of plug bit and 27,000 feet of core drilling in 270 holes on a minimum of 200-foot centers at an estimated cost of $162,927.00. The cost of this program was high in comparison with the probable size of ore bodies, and the applicant submitted a revised proposal calling for three stages of drilling requiring a maximum

of 17,785 feet of plug bit and 9,575 feet of core drilling in 152 holes at an estimated cost of $78,451.00. Government participation at 75 percent would be $58,838.25.

The first stage of drilling under the revised proposal would require 67 holes in a grid pattern on a spacing of 200 feet north and south and 400 feet east and west (fig. 3). It would be followed by a second stage of 35 holes on 100-foot and 200-foot centers to explore the more favorable portions of channel as determined in stage I. Stage III would require 50 holes with a minimum hole spacing of 50-foot offsetting from mineralized holes. The applicant proposes to use three drilling units capable of 80 feet per shift per unit, and time for completion of stage I is estimated at two months of 25 working days each. The over-all cost per foot of drilling is estimated at $2.868. Bids from three independent drilling contractors were submitted.

In view of the recommendations being made on the proposed project, no cost estimate has been prepared.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the type of host rock underlying the John group of claims is not favorable for the occurrence of significant uranium ore deposits. The host rock is characterized by an abundance of small festoon structures which have localized small pods of ore grade material at several different elevations.

These ore layers do not usually extend between adjacent ore holes, and consequently they contain only small reserves. Additional exploratory drilling on the John group of claims probably would not discover ore deposits of significant size and grade.

Therefore, it is recommended that DMEA assistance in the proposed exploration program under DMEA Docket 4167 be denied.

UNITED STATES DEPARTMENT OF THE INTERIOR
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JUNE 1956 DOCKET 4167

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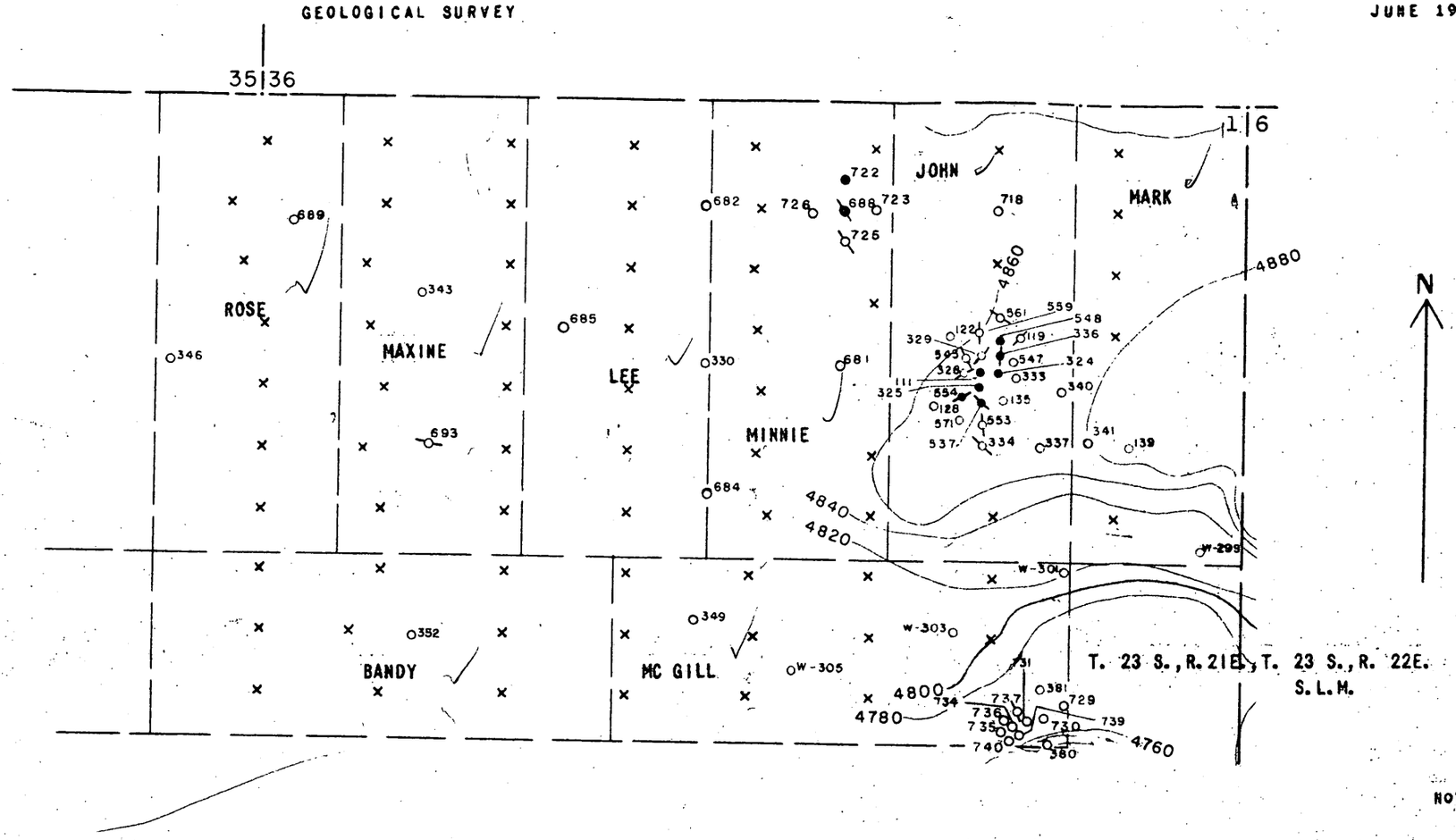

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EXPLANATION

- 685 — U.S.G.S. DIAMOND-DRILL HOLE
- W301 — U.S.G.S. WAGON-DRILL HOLE
- 325 — ORE HOLE (MINERALIZED MATERIAL 1.0 FEET OR MORE THICK CONTAINING MORE THAN 0.10% U_3O_8 OR 1.0% V_2O_5 OR BOTH)
- 334 — MINERALIZED HOLE (MINERALIZED MATERIAL CONTAINING MORE THAN 0.02% U_3O_8 OR 0.10% V_2O_5, OR BOTH)
- 537 — HOLE CLASSIFIED AS ORE BEARING BY APPLICANT BUT CLASSIFIED AS MINERALIZED BY U.S.G.S. METHODS
- 349 — BARREN DRILL HOLE
- × — PROPOSED STAGE I DRILL HOLE

Note: CLAIM BOUNDARIES AND HOLE LOCATIONS FROM APPLICANTS MAP.

500 0 1500 FEET

CONTOUR INTERVAL 20 FEET
DATUM IS ASSUMED

FIGURE 3. MAP SHOWING LOCATION OF EXISTING U.S.G.S DRILL HOLES, PROPOSED STAGE I DRILL HOLES AND JOHN GROUP OF CLAIMS, MID-CONTINENT URANIUM CORPORATION, GRAND COUNTY, UTAH.

6/22/56

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

RECEIVED
JUN 22 1956

June 20, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4167 (Uranium) Mid-Continent Uranium Corporation (John Group of claims), Grand County, Utah

Enclosed are two copies of additional information submitted by the Applicant. One of these copies has no map attached.

Mr. Harshman has a copy of this information complete with map which he has attached to the Survey's copy of the application.

Will you please place these two copies of additional information with the two copies of the brochure you have in the Washington Office.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

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

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DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

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JUN 22 1956
DMEA
Date Rec'd.
JUN 19 1956
BUREAU OF MINES
Denver, Colorado

May 11, 1956

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

Re: Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah
Revised Drilling Program and
Estimated Costs

Dear Mr. Traver:

On April 10, 1956, representatives of Mid-Continent Uranium Corp. met with the combined field teams of the U. S. Bureau of Mines and the U. S. Geological Survey on the John Group of claims in the Yellow Cat area to evaluate the drilling program as outlined in the Report submitted with the DMEA application. The examining team consisted of Mel Salsbury of the USBM, Carl Roach of the USGS, and C. M. Mobley, R. G. Walker, and R. N. Davis, of Mid-Continent Uranium Corp.

An examination of the ground in question was made at that time and a subsequent meeting was held in Grand Junction, Colorado, on April 25, 1956 to further discuss the drilling program. The combined field team agreed that exploration was feasible and warranted from a geological standpoint, but pointed out that a revised drilling program should be submitted.

Enclosed in quintuplicate are the revised Estimates of Cost and Figure 7 showing the location of the holes under the revised drilling program. Also included is one copy of the three lowest drilling bids received.

COPY

A summary of the three lowest bids are as follows:

		B. H. Mott & Sons, Inc.		Sprague & Henwood, Inc.		Minerals Engineering	
Core	Footage	Per ft.	Amount	Per ft.	Amount	per ft.	Amount
0-100	800	$ 2.50	$ 2,000.00	$ 3.00	$ 2,400.00	$ 2.45	$ 1,960.00
100-200	2,600	2.75	7,150.00	3.25	8,450.00	2.90	7,540.00
200-300	820	3.00	2,460.00	3.50	2,870.00	3.65	2,993.00
NON CORE							
0-100	5,900	1.80	10,620.00	1.60	9,440.00	1.95	11,505.00
100-200	1,940	2.00	3,880.00	1.60	3,104.00	2.15	4,171.00
Standby 67 hours		12.00	804.00	12.00	804.00	12.00	804.00
Totals			$26,914.00		$27,068.00		$28,973.00
Ave per ft.			2.23		2.24		2.40
Ave core per ft.			2.75		3.25		2.96
Ave no core per ft.			1.85		1.60		2.00

The revised Estimates of Cost of core and non-core drilling and standby time are based on the bid received by B. H. Mott & Sons, Inc.

The revised application is for $78,451.00 to be expended on an exploration project----Mid-Continent contributing 25 percent of this amount.

Yours very truly,

MID-CONTINENT URANIUM CORP.

Norman E. Ebbley

Norman E. Ebbley
General Manager

NEE/lg

COPY

MF-103 DMEA
6. Estimates of Costs: Revised

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah

May 11, 1956

RECEIVED
JUN 22 1956

(a) Independent Contracts:

It is contemplated to do all phases of the drilling under contract, including equipment, labor, water, power, fuel, etc., on an actual cost basis:

STAGE I: The pattern of holes as shown on the revised map, Fig. 7, consists of north-south fences of holes 400 feet apart. The holes in each fence are 200 feet apart. This stage consists of 67 holes averaging 180 feet deep. It is estimated that approximately 65 percent of the footage will be non-core and 35 percent core.

	Cost	Unit Cost Per Foot
Drilling, total 12,060 feet.		
Non-Core 7,840 feet @ $1.85/ft.	$14,504.00	$1.203
Core 4,220 feet @ 2.75/ft.	11,605.00	0.962
Standby time 67 hours @ $12.00/hr.	804.00	0.067
Bulldozer, D-6, 50 hours @ $12.00/hr.	600.00	0.050
Chemical assays, 67 @ $5.00 each	335.00	0.028

(b) Labor, supervision, consultants:

It is estimated 3 drilling units can accomplish an average of 240 feet per working day. State I footage then could be drilled in 50 working days or 2 months time, figuring 25 working days per month.

One sampler (2 months)	$900.00		
One Geologist (2 mo. incl. report)	1,300.00		
Expenses (100 man days @ $5.00/day)	500.00		
Consultant (15 days, intermittent)	750.00	3,450.00	0.286

MF-103 DMEA
6. Estimates of Cost: Revised

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah

May 11, 1956

			Cost	Unit Cost Per Foot
(c)	Operating material and supplies:			
	Fuel for 1/2 ton truck	$150.00		
	Core Boxes (150 @ $3.50 each)	525.00		
	Misc. drafting, office and report supplies	100.00	$ 775.00	$0.064
(d)	Operating equipment:			
	1/2 ton pickup truck ($150/mo)	300.00		
	Counter and probe unit ($62.50/mo.)	125.00	425.00	0.035
(g)	Miscellaneous:			
	Accounting	200.00		
	State & Fed. Unemploy. Ins., S. S. Tax, State Comp. Ins. (Total 8% of $2,950.00)	236.00	436.00	0.036
(h)	Contingencies:			
	Approximately 5% of Total		1,647.00	0.137
		TOTALS	$34,581.00	$2.868

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah
May 11, 1956

RECEIVED
JUN 22 1956

		Cost	Unit Cost Per Foot
	STAGE II: It is believed that an additonal 35 holes will be required to drill between the fences to explore the fourth sandstone channels that have been found during Stage I. Spacing of Stage II holes will be on 100-foot and 200-foot centers in the most favorable parts of the channels. Cost of Stage II drilling is estimated to be in proportion to the cost of Stage I drilling.		
(a)	Independent Contracts:		
	Drilling, total 6,300 feet.		
	Non-core 4,095 feet @ $1.85/ft.	$ 7,576.00	$1.203
	Core 2,205 feet @ 2.75/ft.	6,064.00	0.962
	Standby time, 35 hours @ $12.00/hr.	420.00	0.067
	Bulldozer, D-6, 26 hours @ $12.00/hr.	312.00	0.050
	Chemical assays, 35 @ $5.00 each	175.00	0.028
(b)	Labor, supervision, consultants:	1,802.00	0.286
(c)	Operating materials and supplies:	403.00	0.064
(d)	Operating equipment:	221.00	0.035
(g)	Miscellaneous:	227.00	0.036
(h)	Contingencies: (Approx. 5% of Total)	860.00	0.137
	TOTALS	$18,060.00	$2.868

MF-103 DMEA
6. Estimates of Cost: Revised

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah

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JUN 2 2 1956

May 11, 1956

		Cost	Unit Cost Per Foot
	STAGE III: An additional 50 holes will be required as 50-foot offsets around ore and mineralized holes found by the two previous Stages. Costs will be in proportion to the costs of Stage I drilling.		
(a)	Independent Contracts:		
	Drilling, total 9,000 feet.		
	Non-core 5,850 feet @ $1.85/ft.	$10,823.00	$1.203
	Core 3,150 feet @ 2.75/ft.	8,663.00	0.962
	Standby time, 50 hours @ $12.00/hr.	600.00	0.067
	Bulldozer, D-6, 38 hours @ $12.00/hr.	456.00	0.050
	Chemical assays, 50 @ $5.00 each	250.00	0.028
(b)	Labor, supervision, consultants:	2,574.00	0.286
(c)	Operating materials and supplies:	576.00	0.064
(d)	Operating equipment:	315.00	0.035
(g)	Miscellaneous:	324.00	0.036
(h)	Contingencies: (Approx. 5% of total)	1,229.00	0.137
	TOTALS	$25,810.00	$2.868

STAGE I	$34,581.00
STAGE II	18,060.00
STAGE III	25,810.00
Total	$78,451.00

Government's participation @ 75% = $58,838.25

Total unit price per foot $2.87

Total time required to complete all stages: 6 months

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APR 30 1956
MID-CONTINENT
URANIUM CORP.

MID-CONTINENT URANIUM CORP.

BID AND SCHEDULE OF UNIT PRICES FOR EXPLORATORY DRILLING

YELLOW CAT NO. 3 DRILLING PROJECT

JUN 22 1956

Mid-Continent Uranium Corp. owns an undivided 80% of the John Group of claims in the Yellow Cat area, Grand County, Utah, and hereafter will be referred to as the Company. The Company is applying for a Defense Minerals Exploration Administration loan to drill a minimum of 67 holes, totaling about 12,060 feet, and a maximum of 182 holes, totaling about 32,760 feet. It is understood that the quantities listed below are only estimated amounts to establish maximum allowable costs for the Company's DMEA application and they are in no way binding upon the Company or contractor. Please enter your bid unit prices for all items below.

CORE DRILLING (AX cores required)

2.96/ft

1. From Surface to 100 ft. Estimated amount: 800 ft. $ 2.45 per ft. $1,960.00
2. From 100 ft. to 200 ft. Estimated amount: 2,600 ft. $ 2.90 per ft. $7,540.00
3. From 200 ft. to 300 ft. Estimated amount: 820 ft. $ 3.65 per ft. $2,993.00

NON-CORE DRILLING (no cores required)

2.00/ft.

4. From Surface to 100 ft. Estimated amount: 5,900 ft. $ 1.95 per ft. $11,505.00
5. From 100 ft. to 200 ft. Estimated amount: 1,940 ft. $ 2.15 per ft. $4,171.00

12.00/hr

6. **DELAYS:** When delays are caused by the Company, the Contractor shall be paid therefor at the rate of $ 12.00 per hour, per drill. Estimated delay time: 67 hours. 804.00

$28,973.50

2.40/ft.

For further information, contact Mid-Continent Uranium Corp., 201 Uranium Center Building, Grand Junction, Colorado, telephone 3904. Address bids to same address. Bids will be opened at 10:00 A. M., May 1, 1956.

Minerals Engineering Company	By Edson Foster	4/30/56
Drilling Company	Signature of Bidder	Date

MID-CONTINENT URANIUM CORP.

RECEIVED MAY 1 1956 MID-CONTINENT URANIUM CORP.

BID AND SCHEDULE OF UNIT PRICES FOR EXPLORATORY DRILLING

YELLOW CAT NO. 3 DRILLING PROJECT

Mid-Continent Uranium Corp. owns an undivided 80% of the John Group of claims in the Yellow Cat area, Grand County, Utah, and hereafter will be referred to as the Company. The Company is applying for a Defense Minerals Exploration Administration loan to drill a minimum of 67 holes, totaling about 12,060 feet, and a maximum of 182 holes, totaling about 32,760 feet. It is understood that the quantities listed below are only estimated amounts to establish maximum allowable costs for the Company's DMEA application and they are in no way binding upon the Company or contractor. Please enter your bid unit prices for all items below.

JUN 2 2 1956

CORE DRILLING (AX cores required)

$2.75/ft.

1. From Surface to 100 ft. Estimated amount: 800 ft. $ 2.50 per ft. $2,000.00
2. From 100 ft. to 200 ft. Estimated amount: 2,600 ft. $ 2.75 per ft. 7,150.00
3. From 200 ft. to 300 ft. Estimated amount: 820 ft. $ 3.00 per ft. 2,460.00

NON-CORE DRILLING (no cores required)

$1.85/ft

4. From Surface to 100 ft. Estimated amount: 5,900 ft. $ 1.80 per ft. 10,620.00
5. From 100 ft. to 200 ft. Estimated amount: 1,940 ft. $ 2.00 per ft. 3,880.00

$12.00/hr.

6. **DELAYS:** When delays are caused by the Company, the Contractor shall be paid therefor at the rate of $ 12.00 per hour, per drill. Estimated delay time: 67 hours. 804.00

$26,914.00

$2.23/ft.

For further information, contact Mid-Continent Uranium Corp., 201 Uranium Center Building, Grand Junction, Colorado, telephone 3904. Address bids to same address. Bids will be opened at 10:00 A. M., May 1, 1956.

B.H. MOTT & SONS, INC. — Drilling Company

By John C. McElhaney — Signature of Bidder

April 30, 1956 — Date

MID-CONTINENT URANIUM CORP.

BID AND SCHEDULE OF UNIT PRICES FOR EXPLORATORY DRILL

YELLOW CAT NO. 3 DRILLING PROJECT

RECEIVED MAY 1 1956 MID-CONTINENT URANIUM CORP.

JUN 22 1956

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CORE DRILLING (AX cores required)

$3.25/ft

1. From Surface to 100 ft. Estimated amount: 800 ft. $ 3.00 per ft. $2,400.00
2. From 100 ft. to 200 ft. Estimated amount: 2,600 ft. $ 3.25 per ft. 8,450.00
3. From 200 ft. to 300 ft. Estimated amount: 820 ft. $ 3.50 per ft. 2,870.00

NON-CORE DRILLING (no cores required)

$1.60/ft

4. From Surface to 100 ft. Estimated amount: 5,900 ft. $ 1.60 per ft. 9,440.00
5. From 100 ft. to 200 ft. Estimated amount: 1,940 ft. $ 1.60 per ft. 3,104.00

$12.00/hr.

6. DELAYS: When delays are caused by the Company, the Contractor shall be paid therefor at the rate of $ 12.00 per hour, per drill. Estimated delay time: 67 hours. 804.00

$27,068.00

$2.24/ft

For further information, contact Mid-Continent Uranium Corp., 201 Uranium Center Building, Grand Junction, Colorado, telephone 3904. Address bids to same address. Bids will be opened at 10:00 A. M., May 1, 1956.

SPRAGUE & HENWOOD, INC. By [signature] 4/30/56

Drilling Company — Signature of Bidder — Date

DMEA
Date Rec'd
JUN 19 1956
BUREAU OF MINES
Denver, Colorado

May 11, 1956

RECEIVED
JUN 22 1956

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

Re: Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah
Revised Drilling Program and
Estimated Costs

Dear Mr. Traver:

On April 10, 1956, representatives of Mid-Continent Uranium Corp. met with the combined field teams of the U. S. Bureau of Mines and the U. S. Geological Survey on the John Group of claims in the Yellow Cat area to evaluate the drilling program as outlined in the Report submitted with the DMEA application. The examining team consisted of Mel Salsbury of the USBM, Carl Roach of the USGS, and C. M. Mobley, R. G. Walker, and R. N. Davis, of Mid-Continent Uranium Corp.

An examination of the ground in question was made at that time and a subsequent meeting was held in Grand Junction, Colorado, on April 25, 1956 to further discuss the drilling program. The combined field team agreed that exploration was feasible and warranted from a geological standpoint, but pointed out that a revised drilling program should be submitted.

Enclosed in quintuplicate are the revised Estimates of Cost and Figure 7 showing the location of the holes under the revised drilling program. Also included is one copy of the three lowest drilling bids received.

COPY

RECEIVED
JUN 22 1956

A summary of the three lowest bids are as follows:

		B. H. Mott & Sons, Inc.		Sprague & Henwood, Inc.		Minerals Engineerin	
Core	Footage	Per ft.	Amount	Per ft.	Amount	per ft.	Amount
0-100	800	$ 2.50	$ 2,000.00	$ 3.00	$ 2,400.00	$ 2.45	$ 1,960.00
100-200	2,600	2.75	7,150.00	3.25	8,450.00	2.90	7,540.00
200-300	820	3.00	2,460.00	3.50	2,870.00	3.65	2,993.00
NON CORE							
0-100	5,900	1.80	10,620.00	1.60	9,440.00	1.95	11,505.00
100-200	1,940	2.00	3,880.00	1.60	3,104.00	2.15	4,171.00
Standby 67 hours		12.00	804.00	12.00	804.00	12.00	804.00
	Totals		$26,914.00		$27,068.00		$28,973.00
Ave per ft.			2.23		2.24		2.40
Ave core per ft.			2.75		3.25		2.96
Ave no core per ft.			1.85		1.60		2.00

The revised Estimates of Cost of core and non-core drilling and standby time are based on the bid received by B. H. Mott & Sons, Inc.

The revised application is for $78,451.00 to be expended on an exploration project----Mid-Continent contributing 25 percent of this amount.

Yours very truly,

MID-CONTINENT URANIUM CORP.

Norman E. Ebbley

Norman E. Ebbley
General Manager

NEE/lg

COPY

MF-103 DMEA
6. Estimates of Costs: Revised

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah

RECEIVED
JUN 22 1956

May 11, 1956

(a) Independent Contracts:

It is contemplated to do all phases of the drilling under contract, including equipment, labor, water, power, fuel, etc. on an actual cost basis:

STAGE I: The pattern of holes as shown on the revised map, Fig. 7, consists of north-south fences of holes 400 feet apart. The holes in each fence are 200 feet apart. This stage consists of 67 holes averaging 180 feet deep. It is estimated that approximately 65 percent of the footage will be non-core and 35 percent core.

	Cost	Unit Cost Per Foot
Drilling, total 12,060 feet.		
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Bulldozer, D-6, 50 hours @ $12.00/hr.	600.00	0.050
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(b) Labor, supervision, consultants:

It is estimated 3 drilling units can accomplish an average of 240 feet per working day. State I footage then could be drilled in 50 working days or 2 months time, figuring 25 working days per month.

One sampler (2 months)	$900.00		
One Geologist (2 mo. incl. report)	1,300.00		
Expenses (100 man days @ $5.00/day)	500.00		
Consultant (15 days, intermittent)	750.00	3,450.00	0.286

MF-103 DMEA
6. Estimates of Cost: Revised

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah

RECEIVED
JUN 22 1956

May 11, 1956

			Cost	Unit Cost Per Foot
(c)	Operating material and supplies:			
	Fuel for 1/2 ton truck	$150.00		
	Core Boxes (150 @ $3.50 each)	525.00		
	Misc. drafting, office and report supplies	100.00	$ 775.00	$0.064
(d)	Operating equipment:			
	1/2 ton pickup truck ($150/mo)	300.00		
	Counter and probe unit ($62.50/mo.)	125.00	425.00	0.035
(g)	Miscellaneous:			
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	State & Fed. Unemploy. Ins., S. S. Tax, State Comp. Ins. (Total 8% of $2,950.00)	236.00	436.00	0.036
(h)	Contingencies:			
	Approximately 5% of Total		1,647.00	0.137
		TOTALS	$34,581.00	$2.868

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah
May 11, 1956

		Cost	Unit Cost Per Foot
	STAGE II: It is believed that an additonal 35 holes will be required to drill between the fences to explore the fourth sandstone channels that have been found during Stage I. Spacing of Stage II holes will be on 100-foot and 200-foot centers in the most favorable parts of the channels. Cost of Stage II drilling is estimated to be in proportion to the cost of Stage I drilling.		
(a)	Independent Contracts:		
	Drilling, total 6,300 feet.		
	Non-core 4,095 feet @ $1.85/ft.	$ 7,576.00	$1.203
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(b)	Labor, supervision, consultants:	1,802.00	0.286
(c)	Operating materials and supplies:	403.00	0.064
(d)	Operating equipment:	221.00	0.035
(g)	Miscellaneous:	227.00	0.036
(h)	Contingencies: (Approx. 5% of Total)	860.00	0.137
	TOTALS	$18,060.00	$2.868

MF-103 DMEA
6. Estimates of Cost: Revised

Mid-Continent Uranium Corporation
Docket No. DMEA 4167 (Uranium)
John Group of Claims
Grand County, Utah

May 11, 1956

		Cost	Unit Cost Per Foot
	STAGE III: An additional 50 holes will be required as 50-foot offsets around ore and mineralized holes found by the two previous Stages. Costs will be in proportion to the costs of Stage I drilling.		
(a)	Independent Contracts:		
	Drilling, total 9,000 feet.		
	Non-core 5,850 feet @ $1.85/ft.	$10,823.00	$1.203
	Core 3,150 feet @ 2.75/ft.	8,663.00	0.962
	Standby time, 50 hours @ $12.00/hr.	600.00	0.067
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(c)	Operating materials and supplies:	576.00	0.064
(d)	Operating equipment:	315.00	0.035
(g)	Miscellaneous:	324.00	0.036
(h)	Contingencies: (Approx. 5% of total)	1,229.00	0.137
	TOTALS	$25,810.00	$2.868

STAGE I	$34,581.00
STAGE II	18,060.00
STAGE III	25,810.00
Total	$78,451.00

Government's participation @ 75% = $58,838.25

Total unit price per foot $2.87

Total time required to complete all stages: 6 months

MID-CONTINENT URANIUM CORP.

RECEIVED
APR 30 1956
MID-CONTINENT
URANIUM CORP.

BID AND SCHEDULE OF UNIT PRICES FOR EXPLORATORY DRILLING

YELLOW CAT NO. 3 DRILLING PROJECT

RECEIVED
JUN 2 2 1956

Mid-Continent Uranium Corp. owns an undivided 80% of the John Group of claims in the Yellow Cat area, Grand County, Utah, and hereafter will be referred to as the Company. The Company is applying for a Defense Minerals Exploration Administration loan to drill a minimum of 67 holes, totaling about 12,060 feet, and a maximum of 182 holes, totaling about 32,760 feet. It is understood that the quantities listed below are only estimated amounts to establish maximum allowable costs for the Company's DMEA application and they are in no way binding upon the Company or contractor. Please enter your bid unit prices for all items below.

CORE DRILLING (AX cores required)

2.96/ft.

1. From Surface to 100 ft. Estimated amount: 800 ft. $ 2.45 per ft. $1,960.00
2. From 100 ft. to 200 ft. Estimated amount: 2,600 ft. $ 2.90 per ft. $7,540.00
3. From 200 ft. to 300 ft. Estimated amount: 820 ft. $ 3.65 per ft. $2,993.00

NON-CORE DRILLING (no cores required)

2.00/ft.

4. From Surface to 100 ft. Estimated amount: 5,900 ft. $ 1.95 per ft. $11,505.00
5. From 100 ft. to 200 ft. Estimated amount: 1,940 ft. $ 2.15 per ft. 4,171.00

12.00/hr

6. **DELAYS:** When delays are caused by the Company, the Contractor shall be paid therefor at the rate of $ 12.00 per hour, per drill. Estimated delay time: 67 hours. 804.00

$28,973.00

2.40/ft.

For further information, contact Mid-Continent Uranium Corp., 201 Uranium Center Building, Grand Junction, Colorado, telephone 3904. Address bids to same address. Bids will be opened at 10:00 A. M., May 1, 1956.

Minerals Engineering Company	By Edson Foster	4/30/56
Drilling Company	Signature of Bidder	Date

RECEIVED MAY 1 1956 MID-CONTINENT URANIUM CORP.

JUN 22 1956

MID-CONTINENT URANIUM CORP.

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3. From 200 ft. to 300 ft. Estimated amount: 820 ft. $ 3.00 per ft. 2,460.00

NON-CORE DRILLING (no cores required)

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6. **DELAYS:** When delays are caused by the Company, the Contractor shall be paid therefor at the rate of $ 12.00 per hour, per drill. Estimated delay time: 67 hours. 804.00 — $12.00/hr.

$26,914.00

$2.23/ft.

For further information, contact Mid-Continent Uranium Corp., 201 Uranium Center Building, Grand Junction, Colorado, telephone 3904. Address bids to same address. Bids will be opened at 10:00 A. M., May 1, 1956.

B.H. MOTT & SONS, INC. — Drilling Company

By John C. McElhaney — Signature of Bidder

April 30, 1956 — Date

MID-CONTINENT URANIUM CORP.

RECEIVED
MAY 1 1956
MID-CONTINENT
URANIUM CORP.

BID AND SCHEDULE OF UNIT PRICES FOR EXPLORATORY DRILLING

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RECEIVED
JUN 22 1956

CORE DRILLING (AX cores required)

*3.25/ft

1. From Surface to 100 ft. Estimated amount: 800 ft. $ 3.00 per ft. $2,400.00
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NON-CORE DRILLING (no cores required)

*1.60/ft

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*12.00/hr.

6. **DELAYS:** When delays are caused by the Company, the Contractor shall be paid therefor at the rate of $ 12.00 per hour, per drill. Estimated delay time: 67 hours. 804.00

$27,068.00

*2.24/ft

For further information, contact Mid-Continent Uranium Corp., 201 Uranium Center Building, Grand Junction, Colorado, telephone 3904. Address bids to same address. Bids will be opened at 10:00 A. M., May 1, 1956.

SPRAGUE & HENWOOD, INC. By [signature] 4/30/56

Drilling Company — Signature of Bidder — Date

RECEIVED
MAR 12 1956

March 7, 1956

Memorandum

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

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4167 (Uranium), Mid-Continent Uranium Corporation
John Group of claims, Grand County, Utah

The subject application in the amount of $163,000 was received in this office on March 7.

A field examination will be made and suitable report prepared by an engineer from the Denver or Grand Junction office.

John F. Shaw

cc: W. M. Traver (2)
E. H. Marshman
J. W. Emeler
M. H. Salsbury
J. F. Shaw
Sec. Op. Com. (2)

RECEIVED
MAR 12 1956

March 7, 1956

Memorandum

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

From: Superintendent, Denver Experiment Station, Reg. III

Subject: Docket DMEA 4167 (Uranium), Mid-Continent Uranium Corporation
John Group of claims, Grand County, Utah

The subject application in the amount of $163,000 was received in this office on March 7.

A field examination will be made and suitable report prepared by an engineer from the Denver or Grand Junction office.

John F. Shaw

cc: W. M. Traver (2)
R. M. Marchman
J. W. Hasler
M. H. Salsbury
J. F. Shaw
Sec. Op. Com (2)

3/9/56

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

RECEIVED
MAR - 9 1956

March 6, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (2) (With brochure)
J. W. Hasler

From: Field Team, Region III

Subject: Docket DMEA 4167 (Uranium), Mid-Continent Uranium Corporation, John Group of claims, Grand County, Utah

Enclosed is the subject application in the amount of $163,000.00. A field examination and suitable report are requested.

Your attention is directed to the attached copy of a letter from the Chairman of the Operating Committee dated March 2, 1956 and the memoranda of review of the application by W. F. Williams and James Paone.

DMEA Field Team, Region III

W. M. TRAVER

By W. M. Traver
Executive Officer

Enclosures

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Docket 4167
Chron.

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

March 6, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (2) (With brochure)
J. W. Hasler

From: Field Team, Region III

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DMEA Field Team, Region III

W. M. TRAVER

By W. M. Traver
Executive Officer

Enclosures

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Docket 4167
Chron.

Surname copy

700

F L Knouse
Elbis
Selfridge
H Johnson

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

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

MAR - 2 1956

Re: Docket No. DMEA-4167 (Uranium)
Mid-Continent Uranium Corporation
John Group of claims
Grand County, Utah

Dear Mr. Traver:

The captioned application is referred to your office for a field examination and report on the proposed project. A copy of the application was retained by your office.

Enclosed are copies of memoranda dated February 28, 1956, from Mr. W. P. Williams, USGS, and Mr. James Pacne, USBM, relating to the subject project.

If the Field Team recommends an exploration program as submitted or revised by the Applicant, we will require, in addition to the usual information, the following:

1. Bids from three contractors if drilling is to be done by an independent contractor.

2. The Applicant should be requested to furnish Consents to Lien signed by Charles A. and Minnie Lee Steen covering all the land to be included in the project.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GCS)

Enclosures

APPROVED:

/s/ Robert W. Geehan (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

FLKnouse/gla 2-29-56
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Knouse

R.C.

Surname copy 700

F.L. Knouse
Ellis
Kulsgaard
Gulson
Selfridge
Johnson
Mittenzwei

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

MAR - 2 1956

Mr. Norman Ebbley
Vice-President and General Manager
Mid-Continent Uranium Corp.
201 Uranium Center Building
Grand Junction, Colorado

Re: Docket No. DMEA-4167 (Uranium)
John Group of claims
Grand County, Utah

Dear Mr. Ebbley:

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

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

The Regional Office will contact you at the earliest opportunity in regard to your project.

Sincerely yours,

S. O. Mittenzwei

Administrator

FLKnouse/gla
2-29-56
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Knouse
DMEA Field Team, Region III (2)

P.C.G.

2-28-56 lgm

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

RECEIVED
FEB 28 1956

February 28, 1956

Memorandum

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

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

Subject: Application for assistance, DMEA Docket 4167, Mid-Continent Uranium Corporation, John group of claims, Grand County, Utah

I have reviewed the attached application of Mid-Continent Uranium Corporation, dated January 30 and received in this office February 20. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The Mid-Continent Uranium Corporation has applied for Federal assistance to explore the John group of claims in the Yellow Cat area, Thompson district, Grand County, Utah. The proposed exploration consists of a two-stage core and non-core drilling program at a total estimated cost of $162,927.

The implication was made by the Field Team that material may be contained in the application that has not yet been released by the U. S. Geological Survey for public information.

In view of the situation, careful examination and report by the Field Team of the subject application is recommended.

James Paone

James Paone

Attachment

700 2-29-56 lgm

IN REPLY REFER TO:

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

RECEIVED
FEB 28 1956

February 28, 1956

Memorandum

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

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

Subject: Review of application, DMEA 4167, Mid-Continent Uranium Corporation, John claim group, Thompson District, Grand County, Utah.

The applicant proposes to spend a total of $163,000.00 to explore for uranium in the fourth, from the top, sandstone of the Salt Wash member of the Morrison formation.

The subject property is located virtually adjacent to the site of DMEA 3360, Contract Idm-E723, Mid-Continent Uranium Corporation. Seventy-two holes were drilled under Idm-E723, only one of which was ore bearing, and four were mineralized. The contract was terminated by DMEA with hole No. 72; but the Operator continued drilling for his own account. The applicant asserts he drilled 69 additional holes on the site of DMEA 3360 and succeeded in discovering a total of 16,355 tons of 'proven' and indicated ore with an average grade slightly above 0.20 percent U_3O_8. Copies of assay certificates are submitted as evidence for the discovery.

The applicant claims that the belt, or channel, of favorable ground discovered on section 2 has an open east end and that the favorable ground will trend toward, and pass onto, the John claims in section 1 to the east.

According to the applicant, the U.S.G.S. drilled 58 holes on the John group, of which nine cut ore, and eleven were mineralized. The John mine, on the claims, has produced about 394 tons of ore in the period 1935 through 1955.

It appears that additional exploration drilling is warranted, especially on the Minnie and John claims because of the ore holes and known ore body that exist on those two claims. Because

the favorable channel is known to have an easterly trend it does not seem advisable to drill the remaining area on a 200-foot grid, as the applicant suggests. Perhaps a better arrangement of holes would be north-south lines of holes with the lines 500 to 600 feet apart with the holes 200 feet apart within the lines.

I recommend that the application be referred to the Field Team for field examination and recommendations.

W P Williams

W. P. Williams

IN REPLY REFER TO:

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

RECEIVED
FEB 28 1956

February 28, 1956

Memorandum

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

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

Subject: Review of application, DMEA 4167, Mid-Continent Uranium Corporation, John claim group, Thompson District, Grand County, Utah.

The applicant proposes to spend a total of $163,000.00 to explore for uranium in the fourth, from the top, sandstone of the Salt Wash member of the Morrison formation.

The subject property is located virtually adjacent to the site of DMEA 3360, Contract Idm-2723, Mid-Continent Uranium Corporation. Seventy-two holes were drilled under Idm-2723, only one of which was ore bearing, and four were mineralized. The contract was terminated by DMEA with hole No. 72; but the Operator continued drilling for his own account. The applicant asserts he drilled 69 additional holes on the site of DMEA 3360 and succeeded in discovering a total of 16,355 tons of 'proven' and indicated ore with an average grade slightly above 0.20 percent U_3O_8. Copies of assay certificates are submitted as evidence for the discovery.

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the favorable channel is known to have an easterly trend it does not seem advisable to drill the remaining area on a 200-foot grid, as the applicant suggests. Perhaps a better arrangement of holes would be north-south lines of holes with the lines 300 to 400 feet apart with the holes 200 feet apart within the lines.

I recommend that the application be referred to the Field Team for field examination and recommendations.

W. P. Williams

WPWilliams:iml
6-2/28/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA 93)
Docket file
J. M. Crawford, 3641
J. O. Hostad, 3210

FEB 20 1956 fm

RECEIVED
FEB 20 1956

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

February 16, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4167 (Uranium), Mid-Continent Uranium Corporation, John group of claims, Grand County, Utah - Review of Application in the Grand Junction Office

Enclosed are the original and three copies of a review of the subject application by J. William Hasler and M. H. Salsbury of the Grand Junction office recommending a field examination be made on this property.

The last paragraph of their review of the application may prove to be of special concern.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

MINERAL DEPOSITS
DMEA
RECEIVED
FEB 15 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
RECEIVED
FEB 20 1956

DMEA
Date Rec'd
FEB 16 1956

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

IN REPLY REFER TO:

BUREAU OF MINES
Denver, Colorado

February 14, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

DMEA-4167

From: J. William Hasler
M. H. Salsbury

Through: E. N. Harshman

Subject: Application for DMEA aid (uranium), Mid-Continent Uranium Corporation, the John group of claims, Grand County, Utah.

The Mid-Continent Uranium Corporation has applied to the DMEA for aid to explore the John group of claims in the Yellow Cat area, Thompson district, Grand County, Utah. The U. S. Geological Survey has done some drilling on this group of claims and the John mine has had some production from the fourth ore-bearing sandstone of the Salt Wash member of the Morrison formation. It is recommended that a field examination be made on this property.

The application prepared by the company is a well documented application. Mr. C. M. Mobley, geologist for Mid-Continent Uranium was project chief in this area for the Geological Survey just prior to going to work with Mid-Continent Uranium Corporation. The application reflects closely results of his work with the Geological Survey. We feel that in processing this application we should go over this report with a "fine-toothed comb", as it appears that some material used was obtained while he was on the Survey and some of it may be material that has not yet been released for public information; consequently, we may be somewhat slower in processing this application than some of the others.

J. William Hasler
J. William Hasler,
U. S. Geological Survey

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

JWH/mlr

February 9, 1956

Mid-Continent Uranium Corporation
201 Uranium Center Building,
Grand Junction, Colorado

Subject: DMEA-4167
Re: Exploration Assistance
John Group

Gentlemen:

The receipt of your application dated January 30, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4167 and referred to the Rare & Miscellaneous Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

February 9, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III.

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA - 4167 Mid-Continent Uranium Corporation

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

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

RECEIVED
FEB - 9 1956

February 6, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), Mid-Continent Uranium Corporation, the John group, Grand County, Utah

Enclosed are two copies of the subject application in the amount of $163,000.00. One copy has been forwarded to the Grand Junction office and one copy is being retained in our files.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

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

February 6, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

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DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

FEB 20 1956

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

RECEIVED
FEB 20 1956

February 16, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Chairman, Operating Committee, DMEA

From: Field Team, Region III

Subject: Docket DMEA 4167 (Uranium), Mid-Continent Uranium Corporation, John group of claims, Grand County, Utah - Review of Application in the Grand Junction Office

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The last paragraph of their review of the application may prove to be of special concern.

DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosures

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

DMEA
Date Rec'd.
FEB 16 1956
BUREAU OF MINES
Denver, Colorado

February 14, 1956

RECEIVED
FEB 20 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: J. William Hasler
M. H. Salsbury

Through: E. N. Harshman

Subject: Application for DMEA aid (uranium), Mid-Continent Uranium Corporation, the John group of claims, Grand County, Utah.

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The application prepared by the company is a well documented application. Mr. C. M. Mobley, geologist for Mid-Continent Uranium was project chief in this area for the Geological Survey just prior to going to work with Mid-Continent Uranium Corporation. The application reflects closely results of his work with the Geological Survey. We feel that in processing this application we should go over this report with a fine-toothed comb, as it appears that some material used was obtained while he was on the Survey and some of it may be material that has not yet been released for public information; consequently, we may be somewhat slower in processing this application than some of the others.

J. William Hasler
J. William Hasler,
U. S. Geological Survey

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

JWH/mlr

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

DMEA
Date Rec'd.
FEB 16 1956

BUREAU OF MINES
Denver, Colorado

February 14, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: J. William Hasler
M. H. Salsbury

Through: E. N. Harshman

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J. William Hasler
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U. S. Geological Survey

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

JWH/mlr

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

RECEIVED
FEB - 9 1956

February 6, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. W. Hasler

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), Mid-Continent Uranium Corporation, The John Group, Grand County, Utah

Enclosed is the subject application in the amount of $163,000.00. Will you please discuss this application with the Atomic Energy Commission and with the Bureau of Mines representative in the Grand Junction office and forward this office eight copies of your joint recommendations.

DMEA Field Team, Region III

W. M. TRAVER,
By W. M. Traver
Executive Officer

Enclosure

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Shaw (2)
Subject
Chron.

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

February 6, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. W. Hasler

From: Field Team, Region III

Subject: Application for DMEA Aid (Uranium), Mid-Continent Uranium Corporation, The John Group, Grand County, Utah

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DMEA Field Team, Region III

W. M. TRAVER,

By W. M. Traver
Executive Officer

Enclosure

HMC:ab

cc: Chair. Op. Comm. (2)
Harshman
Shaw (2)
Subject
Chron.

DMEA
Date Rec'd.
FEB 1 1956
BUREAU OF MINES
Denver, Colorado

RECEIVED
FEB - 3 1956

30 January 1956

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

Dear Mr. Traver,

Attached is an application in quintuplicate for financial assistance for an exploration project to determine the uranium potential of the John Group. The John Group comprises nine claims located in the Yellow Cat area, Thompson district, Grand County, Utah.

As part of the application there is attached five copies of a recent (February 1, 1956) report on Mid-Continent Uranium Corp. properties in the Thompson district. The proposed exploration project is to be confined entirely to the John Group. The remainder of the property discussed in the report will be drilled by Mid-Continent under an assessment work program.

Also included are five copies of Fig. 7, on a larger scale, showing U.S.G.S. drill-holes, mine workings and proposed exploration.

The application is for $163,000 to be expended on an exploration project - Mid-Continent contributing 25 percent of this amount.

Yours very truly,

MID-CONTINENT URANIUM CORP.

Norman E. Ebbley

Norman E. Ebbley, General Manager

NEE:gw

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Date Rec'd.
FEB 1 1956

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

RECEIVED
FEB - 9 1956
BUREAU OF MINES
Denver, Colorado

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

Not to be filled in by applicant

Docket No. 4167
Metal or Mineral Uranium
Date Received 2-9-56
Estimated Cost $163,000.00
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Mid-Continent Uranium Corporation
201 Uranium Center Building
Grand Junction, Colorado

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized. Refer to attached sheet, Page 1.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers. Refer to attached sheet, Page 1

(*d*) If a partnership, add to the above statement the names and addresses of all partners. Not applicable.

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Refer to attached Report, Page 28 and attached sheet, Page 2

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Refer to attached report, Page 28 and attached sheet, Page 2.

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

(*e*) If you own the land, describe any liens or encumbrances on it Refer to attached Report, Page 28 and attached sheet, Page 2

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Refer to attached Report, Page 28.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. Report, Page 28-34, attached sheet, Page 1

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. Report, Pages 32 & 33.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. Answered in detail in attached report, Pages 13, 28-37.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. Refer to attached Report, Pages 4 and 5.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. Refer to attached Report, Page 6

16—66551-1

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

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. Answered in detail in attached Report, Pages 28-37

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

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. Refer to attached sheets 4-15

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project: See Pages 35-37

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). See Report, Page 35.

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. See Report, Page 36

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. See Report, Page 36

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. See Report, Page 36

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. None

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. None

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. See Report, Page 36

(*h*) *Contingencies.*—Given an estimate of any necessary allowances for contingencies not included in the costs stated above. See Report, Page 37

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

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

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

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

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated January 30, 1956

MID-CONTINENT URANIUM CORP.
(Applicant)
201 Uranium Center, Grand Junction, Colo.

By [signature]

Norman Ebbley, Vice-President
General Manager

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

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FEB - 9 1956

MF - 103

Mid-Continent Uranium Corp.
201 Uranium Center Building
Grand Junction, Colorado

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1. (b) A corporation organized and existing under the laws of the State of Colorado.

2. (c) President, D. Lew Williams, Norwood, Colorado

Vice President and General Manager, Norman E. Ebbley, 201 Uranium Center Building Grand Junction, Colorado

Secretary-Treasurer, Mark D. Dunn, 728 Symes Building, Denver, Colorado

4. (a) Mine workings are accessible for examination.

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January 26, 1956

Mr. Norman E. Ebbley, General Manager
Mid-Continent Uranium Corp.
201 Uranium Center Building
Grand Junction, Colorado

Dear Sir:

Pursuant to your request, I have made an examination of title to certain mining claims situate, lying, and being in Section 1, T. 23 S., R. 21 E., S.L.M., Yellow Cat area, Thompson Mining District, Grand County, Utah, more particularly described as follows:

Name	Original Location Notice Recorded In		Amended Location Notice Recorded In	
	Book	Page	Book	Page
John	9K	5	15	330
Mark	9K	4	15	331
Minnie	9K	4	15	332
Lee	9K	4	15	333
Maxine	9K	4	15	334
Rose	9K	4	15	335
Chance	9K	3	15	336
McGill	9K	3	15	337
Bandy	9K	3	15	338

To aid me in examination of title, I was furnished with an Abstract of Title containing twenty-four entries and last certified to June 23, 1954 at 1:00 P.M. by the Grand County Abstract Company. In addition thereto, I have inspected the records of the county recorder of Grand County, Utah and have received certain information from Mr. Robert Taylor, registered mining engineer, who has physically inspected the above mentioned mining claims.

From said examination, I am of the opinion the possessory title in and to the above described unpatented mining claims is as follows:

Mid-Continent Uranium Corp.	8/10 per cent
Charles A. Steen and Minnie Lee Steen	2/10 per cent

Mr. Norman E. Ebbley January 26, 1956

Remarks:

1. The physical examination of the property by Mr. Robert Taylor reveals that the above described mining claims were and are properly located and each claim had an adequate discovery in compliance with both Utah and Federal law and that there are no conflicts on the ground with mining claims located by others.

2. There are no judgments or liens of record against the above described unpatented mining claims.

3. The above described unpatented mining claims have been certified for a production bonus by the U. S. Atomic Energy Commission.

Respectfully submitted,

McNICHOLS, DUNN & NEVANS

By Robert G. McIlhenny
Robert G. McIlhenny

RGM/lg

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FEB - 9 1956

NORMAN E. EBBLEY
Box 883
Grand Junction, Colorado

February, 1956

EXPERIENCE RECORD

January 1954 to the present time:

Vice-President and General Manager of Mid-Continent Uranium Corp. in joint charge of exploration, development, and mining operations with Robert Williams, a director of the corporation. This work consists of property examination and evaluation, exploratory drilling, sub-leasing supervision, report writing, development and mining of uranium ores. Vice-President and director of the Uranium Ore Producers Association.

January 1953 to January 1954:

Consulting Engineer for the Uranium Ore Producers Association, an organization of the independent operators in the uranium-vanadium fields in Colorado, Arizona, Utah, New Mexico, and South Dakota. This work consisted mainly of examination and mining consulting.

October 1951 to January 1953:

General Manager of the Skidmore Mining Company. This organization mined uranium-vanadium ore in the Colorado Plateau area. During this period the production rate was increased from an average of 200 tons to an excess of 1,000 tons per month. The General Manager was directly responsible for all phases of the operation and had from 30 to 35 men working under him. In addition he was responsible for all examination and exploration work on properties under lease or option to purchase by the Skidmore Mining Company.

March 1949 to October 1951:

General Manager of the Camp Bird Mine (for King Lease, Inc.) at Ouray, Colorado. The operation consisted of breaking between 250 and 300 tons per day in mining lead, zinc, copper, silver, and gold ore. The mining method installed was a combination of shrinkage stopes and mechanical loading from draw points. The mine operated a 150-ton per day concentrator. The Manager was directly responsible for all phases of the underground and milling operations. Both phases of the operation employed from 60 to 100 men.

November 1947 to March 1949:

Mining Engineer for the U. S. Geological Survey in charge of exploration on the Colorado Plateau Project. Responsible for all physical phases of the diamond drilling exploration and prepared estimates of ore reserves based on drilling and sampling data and prepared technical reports covering the project. Supervised subordinate professional, clerical and sub-professional personnel and worked without assistance in certain assignments of specialized scientific and technical difficulty. Rating P-5.

Norman E. Ebbley
Box 883
Grand Junction, Colorado

March 1942 to July 1947:

Various duties of a Bureau of Mines project engineer. Sampling of old properties, investigation of old mine shafts in the Leadville, Colorado area, supervision of diamond and churn drilling operation, retimbering and maintenance of Leadville Drainage Tunnel, report writing and mapping. Four years in Alaska and two and one-half in Colorado. P-4 rating.

November 1938 to March 1942:

Geologist, mining engineer, and construction foreman for the various properties owned and operated by the Day Mines, Inc., Wallace, Idaho. In charge of general outside construction work, road construction, sewer line construction, building construction, etc. In charge of diamond drill procedure, underground mapping and geology.

June 1937 to November 1938 (Overlap job):

Acquired leases on various mining properties and subletting to other operators in Shoshone County, Idaho. In full charge of all operations.

September 1936 to November 1937 (Overlap job):

Had mining drift contract for 3,000 feet of tunnel and drift from the Callahan Lead Zinc Company on their Vulcan Tunnel job at Wallace, Idaho.

June 1936 to September 1936 (Overlap job):

Engineer in charge of drilling and estimating on placer gold prospects at Wallace, Idaho for the Day Mines, Inc.

1936 to 1938 (Overlap job):

Shoshone County Engineer (elective job).

March 1934 to June 1936:

Mining Engineer and geologist for the Nabesna Gold Mining Company in Alaska. Also did the diamond drill work at the mine as well as part time shifter.

November 1933 to March 1934:

Flood control engineer surveying and estimating flood damage in Shoshone County, Idaho.

NORMAN E. EBBLEY
Box 883
Grand Junction, Colorado

1930 to 1933:

During the summers of this period worked in the placer field in Alaska. Work consisted of churn-drilling, estimating and common laborer. Finished college spring of 1933. During these years I served at times as a qualified blacksmith, electric-arc and acetylene welder, explosive engineer, bulldozer and shovel operator.

Graduate of the University of Washington, Seattle, Washington, with Bachelor of Science degrees in Mining Engineering and Geology. Registered Professional Engineer in the state of Colorado since 1948.

ROBERT E. WILLIAMS
201 Texas Avenue
Grand Junction, Colorado

February, 1956

EXPERIENCE RECORD

January 1955 to the present time:

Director and General Superintendent for Mid-Continent Uranium Corp., Grand Junction, Colorado

November 1953 to January 1955:

General Manager for the Four Corners Uranium Corporation, in charge of the McKee properties in the Bull Canyon area. This operation produced approximately 1,000 tons of uranium ore per month. A drilling exploration program was carried out; the first contract being for 130,000 feet.

January 1951 to November 1953:

Manager in charge of the McKee uranium mines under a leasing program.

1948 through 1950:

Operated a sawmill in the Norwood area for self.

1947 to first of 1948:

Operated the Columbus Mine in Silverton, Colorado under lease. Lead, zinc, silver, gold, copper property.

1945 through 1946:

Operated sawmill in the Norwood area for self.

1937 through 1944:

Worked for the Telluride Mines Company as shift boss.

Year 1936:

Leased from the Golden Cycle Corporation at Cripple Creek, Colorado.

Year 1935:

Leased at the Smuggler-Union Mine at Telluride, Colorado.

Year 1934:

Contract mining at the Pride of the West Mine at Silverton, Colorado.

1932 and 1933:

Leased from the Telluride Mines Company, at Telluride, Colorado.

STEPHEN L. R. McNICHOLS
728 Symes Building
Denver 2, Colorado

February, 1956

EXPERIENCE RECORD

Mr. McNichols, Director, also a founder of Mid-Continent Uranium Corp., is a former State Senator and the present Lieutenant Governor of the State of Colorado. He is also the senior partner in the Denver law firm of McNichols, Dunn and Nevans. As an attorney, he is thoroughly familiar with mine taxation, production and the economic problems connected with the uranium industry since he has been actively engaged in this field for the past several years. Mr. McNichols is General Counsel for the Uranium Ore Producers Association and a member of the Western Governors' Mineral Advisory Council.

D. LEW WILLIAMS
Norwood
Colorado

February, 1956

EXPERIENCE RECORD

At the present, son Roger Williams operates the applicant's ranching interests, while the applicant is confining his activities entirely to uranium mining.

1954 to the present time:

President, director, and one of the original founders of Mid-Continent Uranium Corp.

1948 to the present time:

Director and one of the original organizers of the Uranium Ore Producers Association.

1942 to the present time:

Director of the Southwestern Water Conservation Board.

1938 to 1955:

Elected to the State Senate in 1938, and held this post until 1955.

1936 to the present time:

Staked and purchased uranium mining claims in the Bull Canyon area in 1936 and has operated these properties until the present time.

1933 to 1953:

President of the Farmers Water Development Company.

1932 to 1936:

Elected County Commissioner in 1932, Montrose County. Was in charge of road construction in western Montrose County. Built State Highway 141 from Uravan north to Mesa County line, as well as many of the mine roads in Montrose County.

1928 to 1954:

Director of the National Farm Loan Association.

1919 to 1932:

First Staked and mined uranium-vanadium claims in 1919. Mined intermittently along with ranching and sawmill work until 1932.

ROY E. HALL
Chama
New Mexico

February, 1956

EXPERIENCE RECORD

December 1955 to the Present Time:

Mid-Continent Uranium Corporation
Grand Junction, Colorado
Mining Engineer

July 1955 to December 1955

Greater Minerals Corporation
Georgetown, Colorado
General Manager of Grizzly Mine and Commonwealth Mill

September 1954 to July 1955

Rocky Mountain Uranium Corporation
Mine Superintendent of Green Dragon and Little Susan Mines, Emery County, Utah

June 1954 to September 1954

Slade and Watson, Contractors
Monticello, Utah
Superintendent of Uranium Mine

February 1953 to June 1954

Private Surveying and Ranch Operation
Chama, New Mexico

November 1952 to February 1953

Skidmore Mining Company
Dove Creek, Colorado
Mining Engineer & Geologist

October 1951 to November 1952

Private Surveying and Ranch Operation
Chama, New Mexico

July 1951 to October 1951

Chama Land Cattle Company
Chama, New Mexico
Survey of Game Preserve, Airport, and Reservoirs

June 1949 to July 1951

King Lease, Inc.,
Ouray, Colorado
Engineer

September 1948 to May 1949

Idarado Mining Company
Ouray, Colorado
Engineer and Shift Boss

March 1948 to August 1948

Sociedad Empresa De Estano de Araca
Viloco, Bolivia
Mill Superintendent

May 1947 to March 1948

Pride of West Operations
Silverton, Colorado
Mine Manager

February 1946 to May 1947

W. C. Kruger and Associates
Santa Fe, New Mexico
Surveyor and Field Engineer

August 1945 to February 1946

New Mexico Public Service Commission
Santa Fe, New Mexico
Safety Engineer

July 1945 to August 1945

G. D. Macy
Santa Fe, New Mexico
Civil Engineer

July 1944 to July 1945

W. C. Kruger
Los Alamos, New Mexico
Surveyor and Field Engineer

ROY E. HALL
Chama
New Mexico

Experience Record
Continued

April 1944 to July 1944

James H. Russell
Santa Fe, New Mexico
Mining Engineer

September 1942 to March 1944

U. S. Navy, Ensign

April 1942 to September 1942

Chas. De Leuw & Company
Sioux Ordinance Depot
Sidney, Nebraska
Assistant Engineer

October 1941 to April 1942

Banner Mining Company
Lordsburg, New Mexico
Mine and Safety Engineer

June 1938 to August 1941

Compania Minera De Oruro
Oruro, Bolivia
Mine Manager

March 1937 to June 1938

Sociedad Empresa De Estano de Araca
Viloco, Bolivia
Chief Engineer

January 1937 to March 1937

Nevada Consolidated Copper Corp.
Hurley, New Mexico
Flotation Operator

October 1936 to January 1937

New Mexico State Highway Department
Santa Fe, New Mexico
Surveyor

ROY E. HALL
Chama
New Mexico

Experience Record
Continued

April 1936 to June 1936

United States Vanadium Corporation
Uravan, Colorado
Surveyor

June 1935 to October 1935

H. N. D. Land Company
Chama, New Mexico
Surveyor

Graduate of Colorado School of Mines, 1935, E. M. Degree

COY M. MOBLEY
2813 North Avenue
Grand Junction, Colorado

February, 1956

EXPERIENCE RECORD

May 1955 to the present time:

Geologist, Mid-Continent Uranium Corp., Grand Junction, Colorado. Work consists of property examination and evaluation, report writing, mine mapping, surveying, calculating ore reserves, logging diamond drill core, sampling core for uranium-vanadium ore, planning exploratory drilling programs and evaluating drilling results.

July 1951 to May 1955

Geologist, U. S. Geological Survey, Mineral Deposits Branch, Grand Junction, Colorado. Work consisted of sampling and logging cuttings on a wagon drill, selection of drill sites on areas containing selenium-indicator plants, mine mapping, surveying, writing monthly geologic reports, logging diamond-drill core, sampling core for uranium-vanadium ore, calculating ore reserves, planning exploratory drilling programs and evaluating drilling results. Project chief for two years, in charge of three geologists.

April 1951 to July 1951:

Geologist, U. S. Geological Survey, Ground Water Branch, Tacoma, Washington. Work consisted of sampling water from wells in Spokane County and making hardness, chloride, alkalinity and electrical conductivity tests of the water samples.

February 1951 to April 1951:

Worked as service station operator, Tacoma, Washington.

February 1947 to February 1951:

Graduated from College of Puget Sound, Tacoma, Washington, February, 1951 with Bachelor of Science degree, Geology major.

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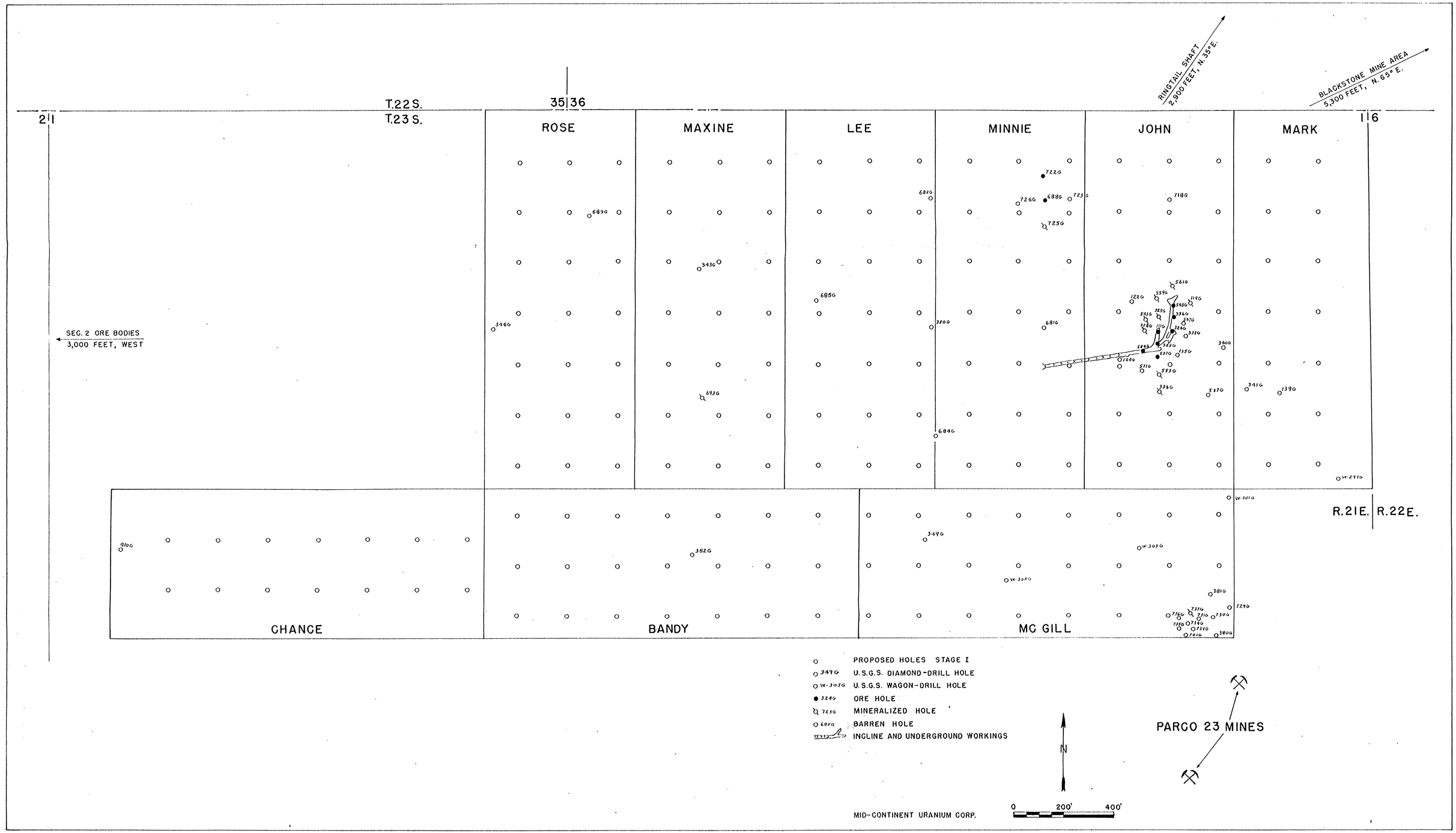

FIG. 7 JOHN GROUP, SHOWING PROPOSED EXPLORATION, YELLOW CAT AREA, UTAH

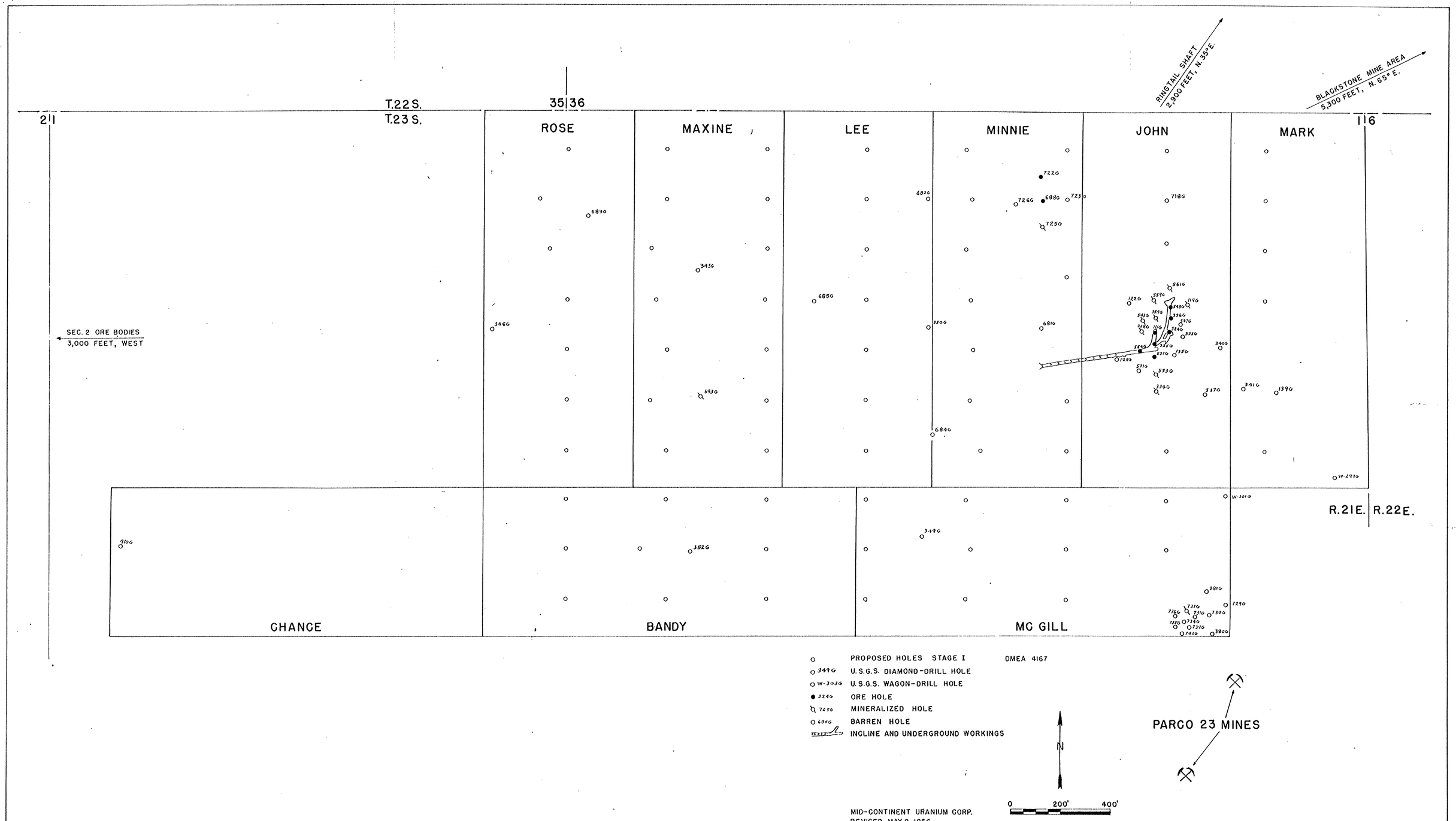

FIG. 7 JOHN GROUP, SHOWING PROPOSED EXPLORATION, YELLOW CAT AREA, UTAH