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

RECEIVED
NOV 5 1953

November 4, 1953

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4640

From: H. D. Keiser, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination, DMEA Docket 3164, Midland Uranium, Inc., Blue Chief Mesa Claims, Grand County, Utah

I have reviewed the subject report and discussed it with Joseph O. Hosted, representative of theAtomic Energy Commission.

I concur with the Field Team in denial of the application involved under the subject docket.

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

H D Keiser

H. D. Keiser

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

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Signed

H. D. Keiser

HDKeiser:et

Copy to: Rare and Precious Metals Branch
Minerals Division
H. D. Keiser
F i l e s

STANDARD FORM NO. 64

# Office Memorandum • UNITED STATES GOVERNMENT

TO : E. Wm. Ellis, DMEA Member, Uranium Commodity Committee

DATE: November 3, 1953

FROM : Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

SUBJECT: Final Field Team Report, DMEA Docket 3164 (Uranium), Midland Uranium Inc., applicant, Salt Lake City, Utah; Holiday, Crescent, and other claim groups, Blue Chief Mesa, Sec. 25, T. 23 S., R. 24 E., and Secs. 30-31, T. 23 S., R. 25 E., Thompsons district, Grand County, Utah

The Field Team report concerning results of examination of the property identified above has been reviewed. The application was discussed by the Field Team with personnel of the Grand Junction Operations Office, Atomic Energy Commission. The application was denied by the Field Team in Region IV.

## Proposal

The applicant proposed to explore ore-bearing sandstone of the Morrison formation by 18,000 feet of drilling according to a poorly defined plan at a total cost of $24,800.

## Comment

Examination by the Field Team showed that the most promising showings of uranium minerals are confined to favorable zones of small extent, not more than 10,000 square feet in area in remnants of the local principal ore-bearing sandstone stratum of the Morrison formation. Uranium minerals are concentrated mostly near fossil logs in amounts ranging from a few hundred pounds to a few tons. No ore has been shipped from the property. A small amount of wagon drilling by the applicant has not revealed any promising mineralized ground.

## Recommendation

In view of the probable small size of any deposits that may be present and the unfavorable results of the applicant's own drilling, the examiners concluded the chances were small of finding appreciable amounts of ore by further exploration and recommended denial of the application. I concur.

CC: E. Wm. Ellis (2)

Arthur P. Butler, Jr.

E. Wm. Ellis, DMEA Member, Uranium Commodity Committee

November 3, 1953

Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

Final Field Team Report, DMEA Docket 3164 (Uranium), Midland Uranium Inc., applicant, Salt Lake City, Utah; Holiday, Crescent, and other claim groups, Blue Chief Mesa, Sec. 25, T. 23 S., R. 24 E., and Secs. 30-31, T. 23 S., R. 25 E., Thompsons district, Grand County, Utah

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## Recommendation

In view of the probable small size of any deposits that may be present and the unfavorable results of the applicant's own drilling, the examiners concluded the chances were small of finding appreciable amounts of ore by further exploration and recommended denial of the application. I concur.

CC: E. Wm. Ellis (2)

E. Wm. Ellis, DMEA Member, Uranium Commodity Committee

November 3, 1953

Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

Final Field Team Report, DMEA Docket 3164 (Uranium), Midland Uranium Inc., applicant, Salt Lake City, Utah; Holiday, Crescent, and other claim groups, Blue Chief Mesa, Sec. 25, T. 23 S., R. 24 E., and Secs. 30-31, T. 23 S., R. 25 E., Thompsons district, Grand County, Utah

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Proposal

The applicant proposed to explore ore-bearing sandstone of the Morrison formation by 18,000 feet of drilling according to a poorly defined plan at a total cost of $24,500.

Comment

Examination by the Field Team showed that the most promising showings of uranium minerals are confined to favorable zones of small extent, not more than 10,000 square feet in area in remnants of the local principal ore-bearing sandstone stratum of the Morrison formation. Uranium minerals are concentrated mostly near fossil logs in amounts ranging from a few hundred pounds to a few tons. No ore has been shipped from the property. A small amount of wagon drilling by the applicant has not revealed any promising mineralized ground.

Recommendation

In view of the probable small size of any deposits that may be present and the unfavorable results of the applicant's own drilling, the examiners concluded the chances were small of finding appreciable amounts of ore by further exploration and recommended denial of the application. I concur.

CC: E. Wm. Ellis (2)

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

224 New Customhouse
Denver 2, Colorado

October 19, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Report of Examination - DMEA Docket 3164 (Uranium), Midland Uranium, Inc., Blue Chief Mesa Claims, Grand County, Utah.

Enclosed are four copies of the Report of Examination on the subject docket, a copy of the letter of denial to the applicant, and two copies of Form 3b.

John F. Shaw
John F. Shaw
For W. H. King

E. M. Hawkman
for A. H. Koschmann

Enclosures

DENIED

Reviewed by
DMEA OPERATING COMMITTEE
10-26-53
(date)

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

DEPARTMENT OF THE INTERIOR
Division of Mineral Resources
Mail
OCT 22 1953

224 New Customhouse
Denver 2, Colorado

October 19, 1953.

Mr. Thomas A. Short, President
Midland Uranium, Inc.
504 Felt Building
Salt Lake City, Utah

Re: Docket DMEA-3154

Dear Mr. Short:

Reference is made to your application for Government aid on the Blue Chief Mesa Claims.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves of Uranium is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

John F. Shaw
John F. Shaw
For W. H. King
Field Team, Region IV

HMC:cwm

cc: Docket
Administrator, DMEA
WMTraver
AHKoschmann
ERGordon
RPFischer

E. N. Karshman
E. N. Karshman
For A. H. Koschmann
Field Team, Region IV

Reviewed by
DMEA OPERATING COMMITTEE
10-26-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

October 19, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Engineering Report of Examination - DMEA Docket 3164 (Uranium), Midland Uranium, Inc., Blue Chief Mesa Claims, Grand County, Utah.

Enclosed are eleven copies of the Engineering Report of Examination on the subject docket.

The applicant requested $24,802.34 to explore the Blue Chief Mesa claims by 18,000 feet of wagon drilling.

The examining team does not believe that the property has enough merit to justify Government participation in an exploration project and recommends denial of the application.

We concur in this recommendation.

John F. Shaw
John F. Shaw
For W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-26-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
October 7, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMRA 3164 (Uranium) Blue Chief Mesa claims, Midland Uranium, Inc., Grand County, Utah

Enclosed are the original and ten copies of the "Summary, Conclusions, and Recommendations," by Carl Balser and C. H. Mobley, and of Balser's engineering report on the subject docket.

Balser concludes that the Blue Chief Mesa claims are in a not too favorable area where production has been limited and from small leases. Their discovery would require drilling on a very closely spaced drill pattern with results unlikely to justify the costs. He recommends denial of the loan application and I approve.

The applicants' request was poorly drawn up, the maps inaccurate, the exploration proposal vague, and unsupported by designation of sites for drill holes or drifting.

The brochure furnished by the Region IV Field Team, with their memorandum of September 11, 1953, instructing that a suitable report be prepared, is returned.

W. M. Traver

W. M. Traver

enclosures

cc 10
DMRA 3164
DMRA Chron.

WMT/pam

Reviewed by
DMRA OPERATING COMMITTEE
10-26-53
(Date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

October 13, 1953

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3164, Midland Uranium, Inc., Blue Chief Mesa group, Grand County, Utah

Enclosed are 11 copies of the geologic report by C. M. Nobley of the U. S. Geological Survey covering the above docket.

It has been recommended that the loan be denied.

A. H. Koschmann
A. H. Koschmann
Sypervising Geologist
Colorado-Wyoming

Enclosures (11)

Reviewed by
DMEA OPERATING COMMITTEE
10-26-53
(date)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P. O. Box 360
GRAND JUNCTION, COLORADO

October 9, 1953

Memorandum

To: A. H. Koschmann, DMEA Field Team, Region IV

From: R. P. Fischer, Acting Supervisor, Colorado Plateau District

Subject: DMEA 3164, Midland Uranium, Inc., Blue Chief Mesa group, Grand County, Utah

Transmitted herewith are eleven copies of a geologic report on the Blue Chief Mesa group of claims, Grand County, Utah. Midland Uranium, Inc., lessee, applied for government assistance to do 18,000 feet of drilling, at an estimated cost of $24,800, to explore for uranium ore.

The attached report was prepared by C.M. Mobley and is based on a joint field examination on September 23 and 24 with Carl Belser, USBM, and I. R. Johnston, representing the applicant. AEC personnel could not be present at the examination, but the application was discussed with the Grand Junction office, which is in general concurrence with the conclusions and recommendation.

On the basis of the field examination and the small production record of the general area, it is concluded that the chances of finding significant deposits of uranium are negligible, and it is recommended that the application be denied. I concur.

R. P. Fischer

R. P. Fischer
Acting District Supervisor

Enclosures 11

RPF/mlr

Reviewed by
DMEA OPERATING COMMITTEE
10-26-53
(date)

U. S. DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Region IV
C. R. 1303

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

# DMEA 3164, Blue Chief Mesa Claims

## Midland Uranium, Inc.

## Grand County, Utah

Uranium

Carl Belser, Mining Engineer
Bureau of Mines

Coy M. Mobley, Geologist
Geological Survey

October 1, 1953

Reviewed by
DMEA OPERATING COMMITTEE
10-26-53
(date)

DMEA 3164

# BLUE CHIEF MESA CLAIMS
# MIDLAND URANIUM, INC.
# GRAND COUNTY, UTAH

## Summary, Conclusions, and Recommendations

By Carl Belser
Mining Engineer
Bureau of Mines

Coy M. Mobley
Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE

10-26-53
(date)

DMEA 3164

BLUE CHIEF MESA CLAIMS
MIDLAND URANIUM, INC.
GRAND COUNTY, UTAH

## SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Carl Belser and Coy M. Mobley

Midland Uranium, Inc., Thomas A. Short, president, 2662 Imperial Avenue, Salt Lake City, Utah, has applied for a Defense Minerals Exploration Administration loan of $24,802.34 to explore the Blue Chief Mesa claims by 18,000 feet of wagon drilling, 400 feet of core drilling, and 100 feet of drifting.

A field investigation was made on September 23-24, 1953, by an examining team from the Geological Survey and the Bureau of Mines. Ivan R. Johnston, vice-president of Midland Uranium, Inc., accompanied the examining team and the findings of the examining team were discussed with him.

The exposed rocks on the Blue Chief Mesa claims are essentially flat-dipping (about 7° to the northeast) and consist chiefly of shales, mudstones, and sandstones of the lower three "rims" of the Salt Wash member of the Morrison (Upper Jurassic) formation. The mesa drops off abruptly on all sides, over cliffs of Entrada sandstone to the canyons below. On top of the mesa the surface is cut by several ravines which cut through the Morrison formation into the underlying Summerville. Locally the uranium ore generally occurs in the sandstones of all three "rims" of the Salt Wash member.

The sandstones vary from a few feet to 30 or more feet in thickness and in the vicinity of uranium mineralization are light brown in color

and heavily stained with limonite in contact with varying thicknesses of gray-green mudstone. The sandstones in barren or unfavorable ground are commonly white or have a pronounced reddish cast, and the contacting mudstones are red to red-brown. Fossil plant material is relatively abundant in both the barren and uranium mineralized sandstones and is not expected to be a reliable guide to ore deposits.

Ore shipments have not been made from the property and total known production amounts to only about 300 pounds which was produced in mining out a small "tree." Production from the entire mesa has been small.

The applicant drilled 14 wagon-drill holes in two of the more promising areas and the best showing was 18 inches thick and contained only 0.08 percent $U_3O_8$. Several miles of barren sandstone "rims" are exposed along the sides of the ravines. Ore deposits appear to be small, and, in general, low-grade. The applicants' proposed project was vague and the maps submitted were inaccurate.

The examining team does not believe that the property has enough merit to justify Government participation in an exploration project and recommends denial of the application.

UNITED STATES DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

# DMEA 3164, Midland Uranium, Inc., Blue Chief Mesa group of claims, Thompsons district, Grand County, Utah

Uranium

Geologic report

C. M. Mobley, Geologist
U. S. Geological Survey

October 9, 1953

Reviewed by
DMEA OPERATING COMMITTEE
10-26-53
(date)

DMEA 3164
MIDLAND URANIUM, INC., BLUE CHIEF MESA GROUP OF CLAIMS
THOMPSONS DISTRICT, GRAND COUNTY, UTAH

## INTRODUCTION AND SUMMARY

Midland Uranium, Inc., of Salt Lake City, Utah, has a lease and option on the Blue Chief Mesa group of claims, Thompsons district, Grand County, Utah (fig. 1). They have applied (Docket 3164) to the Defense Minerals Exploration Administration for a loan to explore for uranium.

The claims were examined on September 23 and 24, 1953, in company with Carl Belser, engineer, U. S. Bureau of Mines, and I.R. Johnston, Vice-President of Midland Uranium, Inc. Mr. L. E. Busey, one of the lessors, of the Blue Chief Mesa group of claims, accompanied the party on September 24, 1953.

Midland Uranium, Inc., proposed to do 18,000 feet of wagon drilling and 400 feet of diamond drilling, 100 feet of drifting, and a small amount of bulldozer work to prepare drill sites and to repair the roads. No definite plan of drilling was proposed by the applicant. Page 5, item 5(b) of the application states, "We propose to explore by drilling all likely ore-bearing formations found on the Blue Chief Mesa group of claims". Total cost was estimated to be $24,800.

As a result of the field examination, it is recommended that the Government not enter into a contract with the applicant to do the proposed exploration. This was agreed upon by Carl Belser, and was acceptable to I. R. Johnston.

Only isolated remnants of the ore-bearing sandstone are present on the Blue Chief Mesa group of claims. Of the three small favorable areas, two have been wagon drilled without finding any minable ore. The ore bodies to be expected in this area are probably less than 5 tons each.

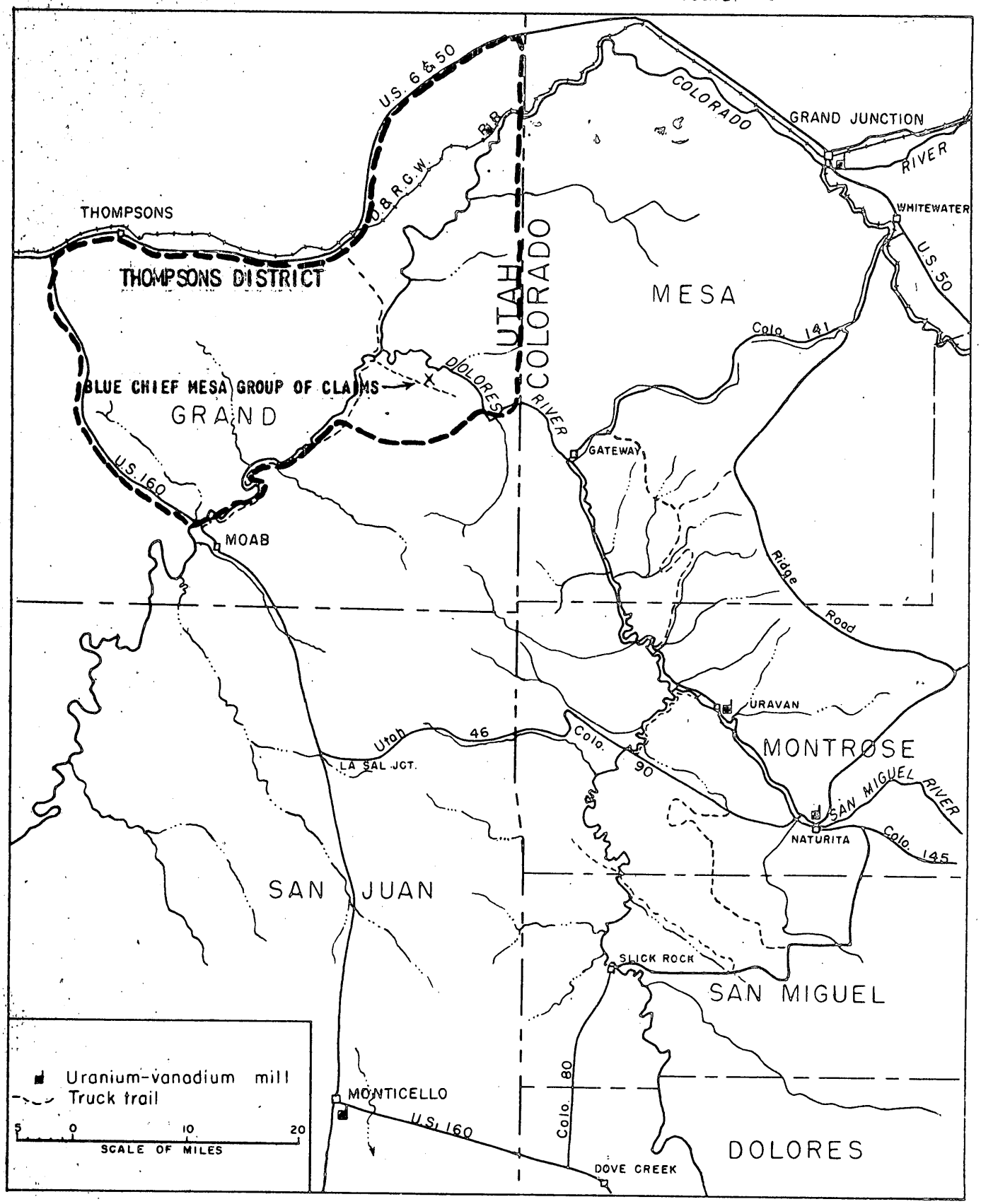


Figure 1. INDEX MAP OF PART OF THE COLORADO PLATEAU SHOWING THE APPROXIMATE LOCATION OF THE BLUE CHIEF MESA GROUP OF CLAIMS, THOMPSONS DISTRICT, GRAND COUNTY, UTAH

## GEOLOGY

The exposed rocks on the Blue Chief Mesa group of claims consist of the Salt Wash member of the Jurassic Morrison formation. The Salt Wash member here is about 125 feet thick, and consists of three or more massive light-brown to light-gray sandstone beds or lenses, which range from a few feet to more than 40 feet in thickness and are more than 400 feet wide. These lenses are separated by red-brown mudstone beds up to 50 feet thick. The gray-green mudstone present under some of the sandstone lenses ranges from a few inches to more than 3 feet in thickness. The exposed rocks strike about N. 60° W., and dip 5° to 7° NE. Numerous joints in the area strike about N. 55° to 65° W. and dip almost vertically.

In this area, all of the known deposits of minable grades are in the next to lowest sandstone bed of the Salt Wash member, but no deposits of minable thickness have yet been found on the applicant's claims. This bed is called the "ore-bearing sandstone".

The ore-bearing sandstone is present only as remnants, erosion having removed it from most of the area. There is no recorded production in AEC files from the Blue Chief Mesa group of claims.

According to the criteria developed by the U. S. Geological Survey _/, only small particles of the remnants of the ore-bearing

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_/ Weir, D. B., Geologic guides to prospecting for carnotite deposits on the Colorado Plateau: U. S. Geol. Survey Bull. 988-B, 1952.

---

sandstone on Blue Chief Mesa can be classed as favorable for uranium deposits. On the basis of outcrop examination, favorable sandstone lies on the southeastern part of the Holiday No. 6 claim and the central parts of the Crescent and Holiday No. 1 claims. The remaining sandstone is classed as unfavorable.

The favorable sandstone consists of a lens of light-brown sandstone, 10 to 40 feet thick and a bout 300 feet wide, underlain in places by gray-green mudstone more than 3 feet thick. Abundant carbonaceous material and limonite stain are present in the sandstone. The unfavorable sandstone consists of beds of light-gray sandstone, 2 to 10 feet thick, underlain by red-brown mudstone.

## ORE DEPOSITS

Two deposits were noted on the Crescent claim (fig. 2). One deposit consists of a fossil log, trending NW, about 12 inches in diameter. The center 6 inches is silicified. Abundant calcite, limonite stain, and carbonaceous material are present. The log has been mined for about 10 feet and about 100 pounds of ore has been stockpiled nearby. The grade of the ore is estimated to average about 0.50 percent $U_3O_8$ and 3.0 percent $V_2O_5$. The other deposit is on the surface in gray-green mudstone. No ore has been mined from this deposit. The ore was sampled by Midland Uranium, Inc., and assayed 0.116 percent $U_3O_8$ and 0.21 percent $V_2O_5$. A fossil log similar to that on the Crescent claims was observed on the Holiday No. 6 claim.

Wagon drilling has been done on the favorable ground on the Crescent and Holiday No. 1 claims. Some mineralized material was found, but it was too low in grade or too thin to be considered economic.

Three small surface showings of ore were examined on ground not controlled by the applicant, but near the Blue Chief Mesa claims. All these deposits contain abundant calcite, limonite stain, carbonaceous material, and silicified fossil logs. Probably no ore has been shipped from these deposits. The grade of the ore is estimated to average about 0.20 percent $U_3O_8$ and 2.0 percent $V_2O_5$.

## PROPOSED EXPLORATION

The applicant has proposed exploration by both wagon and diamond drilling. No definite plan of drilling was submitted. Page 5, item 5(b) of application states, "We propose to explore by drilling all likely ore-bearing formations found on the Blue Chief Mesa group of claims".

Numerous errors were noted on both maps submitted by the applicant. None of the claim corners found in the field were marked, so it was almost impossible to locate the deposits and favorable ground on the maps.

## CONCLUSIONS AND RECOMMENDATIONS

The uranium deposits on the Blue Chief Mesa group of claims are in the next to the lowest sandstone bed of the Salt Wash member of the Jurassic Morrison formation. This bed is called the ore-bearing sandstone. On the Holiday No. 6 and Crescent claims the mineralized material is associated with partly silicified fossil logs. Approximately 100 pounds of ore have been mined from this fossil log. This material is estimated to average 0.50 percent $U_3O_8$ and 3.0 percent $V_2O_5$. A surface showing on the Crescent claim is in gray-green mudstone. No reserves are present in any of the workings. The ore bodies to be expected in this area are probably less than 5 tons each.

Only isolated remnants of the ore-bearing sandstone are present in the area. Of the three small favorable areas, two have been wagon-drilled without finding any minable ore.

Therefore, it is recommended that the Government not enter into a contract with the applicant to do the proposed exploration.

DMEA 3164

# BLUE CHIEF MESA CLAIMS
# MIDLAND URANIUM, INC.
# GRAND COUNTY, UTAH

Engineering Report

By Carl Belser
Mining Engineer
Bureau of Mines

DMEA 3164

# BLUE CHIEF MESA CLAIMS
# MIDLAND URANIUM, INC.
# GRAND COUNTY, UTAH

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## ILLUSTRATIONS


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| 2. Map of Blue Chief Mesa claims, Midland Uranium, Inc., Grand County, Utah | 3 |

DMEA 3164

# BLUE CHIEF MESA CLAIMS
# MIDLAND URANIUM, INC.
# GRAND COUNTY, UTAH

## ENGINEERING REPORT

By Carl Belser

## INTRODUCTION

Midland Uranium, Inc., W. J. Kinick, Jr., chairman of the board, 1961 Texas Street, Salt Lake City, Utah; Thomas A. Short, president, 2662 Imperial Avenue, Salt Lake City, Utah; and Ivan R. Johnston, vice-president, Moab, Utah; submitted an application to the Defense Minerals Exploration Administration for aid in an exploration project on the Blue Chief Mesa claims located in Grand County, Utah. The application, DMEA 3164, requested aid in completing 18,000 lineal feet of wagon drilling, 400 lineal feet of core drilling, and 100 feet of drifting at an estimated cost of $24,802.34, of which the Government's participation (90 percent for uranium) would be $22,322.11. This proposed exploration was to test the ore horizons in the Morrison formation. A definite drilling program was not submitted with the application.

A joint field investigation was made of the Blue Chief Mesa claims by a Geological Survey-Bureau of Mines examining team on September 23-24, 1953.

## ACKNOWLEDGMENTS

Ivan R. Johnston, vice-president of Midland Uranium, Inc., was present during the examination and L. E. Busey, who located the claims, was present during the last day of the examination and gave valuable aid in clarifying an inaccurate claim map.

R. P. Fischer, Acting District Supervisor, Geological Survey, Grand Junction, Colo., assigned Coy M. Mobley, geologist, to make the examination as the Geological Survey member of the examining team.

## LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Blue Chief Mesa claims are in sec. 25, T. 23 S., R. 24 E., Salt Lake principal meridian, and secs. 30 and 31, T. 23 S., R. 25 E., Salt Lake principal meridian, Grand County, Utah (fig. 1).

The claims cover most of the middle portion of Blue Chief Mesa. The mesa drops off abruptly on all sides, over cliffs of Entrada sandstone, to the canyons below. The top of the mesa slopes about 7° to the northeast and is cut by several steep-sided ravines. The altitude at the claims averages about 6,000 feet. Annual rainfall is low and the climate is semi-arid. Winters are somewhat rugged, but mining operations can be carried on the year around with short interruptions during the more severe storms. Water suitable for mining purposes can be hauled 2 miles from a point near the canyon road. Water for domestic purposes can be obtained from Moab or Grand Junction.

Native timber, in the immediate vicinity of the mine, is small but could be used for mine timbers. Native timber and lumber can be purchased at Moab. A poor secondary road, 14 miles in length, connects with State Highway 128, 30 miles northeast of Moab and 12 miles south of Cisco, Utah, on U. S. Highway 50.

The nearest supply point and railhead is Cisco. An ore purchase depot is located at Thompsons, Utah, 45 miles from Blue Chief Mesa. Labor is obtainable from Moab and from Grand Junction, Colo., 82 miles away.

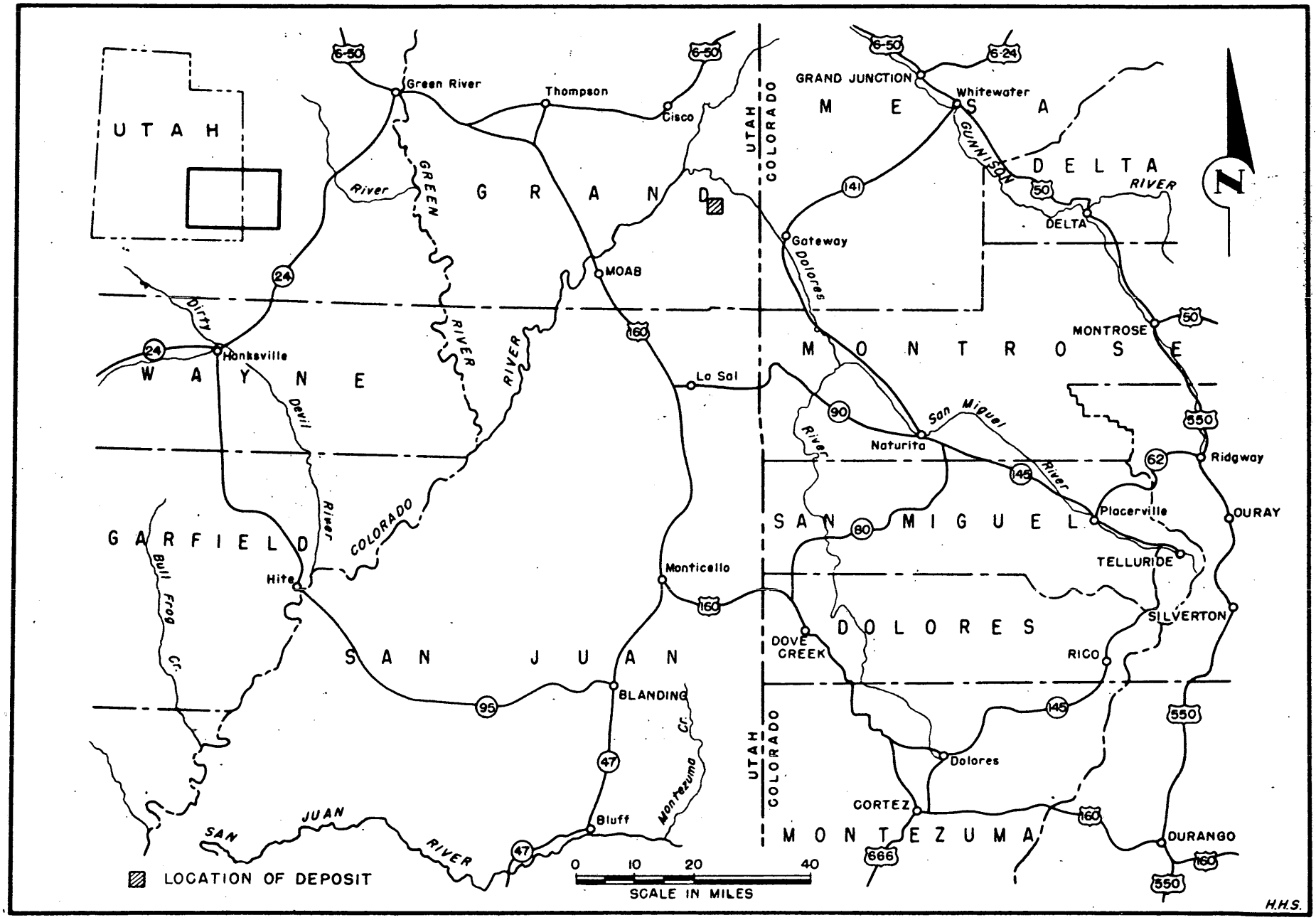



FIGURE 1. - LOCATION MAP, BLUE CHIEF MESA CLAIMS, MIDLAND URANIUM, INC., GRAND COUNTY, UTAH (DMEA 3154)

At the present time there are no accommodations for miners near the property.

## HISTORY AND PRODUCTION

On the southmost tip of Blue Chief Mesa and about 1 mile from the applicants' claims is the Blue Chief copper mine which was operated intermittently over a long period of time and is said to have produced over $5,000.00 in high-grade copper-silver ore. One-half mile southwest of the claims, the Shoeman tunnel in sec. 36 is reported to have produced several thousand dollars worth of uranium from a "tree" during World War I. A little high-grade radium-bearing ore was packed off the mesa during the early 1900's. In sec. 25, where most of the Blue Chief Mesa claims are situated, the Sand Flat claim was located in 1939 and relocated in 1940. The Blue Chief Mesa claims were located by L. E. Busey and O. B. Douglas in December 1952. In the spring of 1953, an access road was completed to the top of the mesa from the canyon below. As far as can be ascertained no shipments of uranium ore have been made from any of the three sections in which the Blue Chief Mesa claims are located.

## OWNERSHIP AND EXTENT

The property consists of 26 unpatented mining claims comprising approximately 500 acres. These claims, shown on figure 2, are situated in an unorganized mining district and are recorded in the records of the County Recorder of Grand County, Utah, as follows:

| Claim | Book | Page | Claim | Book | Page |
|---|---|---|---|---|---|
| Crescent | 9-N | 171 | Holiday No. 5 | 9-N | 179 |
| Crescent No. 1 | 9-N | 172 | Holiday No. 6 | 9-N | - |
| Crescent No. 2 | 9-N | 173 | Holiday No. 7 | 9-N | 180 |
| Crescent No. 3 | 9-N | 193 | Holiday No. 10 | 3-F | 181 |
| Crescent No. 4 | 9-N | 194 | Holiday No. 11 | 9-N | 182 |
| Crescent No. 5 | 9-N | 195 | Holiday No. 12 | 9-N | 198 |
| Crescent No. 6 | 9-N | 196 | Holiday No. 13 | 9-N | 199 |
| Crescent No. 7 | 9-N | 197 | Holiday No. 14 | 9-N | 200 |
| Holiday | 9-N | 174 | Holiday No. 15 | 9-N | 201 |
| Holiday No. 1 | 9-N | 175 | Holiday No. 16 | 9-N | 202 |
| Holiday No. 2 | 9-N | 176 | Holiday No. 17 | 9-N | 203 |
| Holiday No. 3 | 9-N | 177 | Blue Dot | - | - |
| Holiday No. 4 | 9-N | 178 | Blue Dot No. 1 | - | - |

The eight Crescent claims are owned by O. B. Douglas and L. E. Busey, the sixteen Holiday claims by L. E. Busey, and the two Blue Dot claims were taken up later by Midland Uranium, Inc.

A lease and option on 69 mining claims were granted to Midland Uranium, Inc., in August 1953, by John A. Johnson, Dora McCarty, M. E. Busey, L. A. Busey, L. E. Busey, L. I. Branon, Hazel Branon, O. G. Roberts, Wilma Roberts, M. W. DeMoss, Mrs. M. W. DeMoss, Ted Dowell, Mrs. Ted Dowell, O. B. Douglas, Ollie Fluke, and Heath Fluke. Among the 69 claims were the Crescent and Holiday groups. The agreement called for a $2,000.00 down payment and ten additional payments totaling $87,250.00 to be paid by July 1, 1954.

Forty-five of the 69 claims are in the applicants' Squaw Park, Seven Mile Mesa, or Cisco groups and do not apply to this application.

The Blue Chief Mesa claims need to be resurveyed, as conflicts were noted with the Red Bird No. 1, Red Bird No. 2, Big Tree, and possibly the Sun Down claims. The applicants state that there are no liens or encumbrances on the property.

## DESCRIPTION OF DEPOSITS

A strong east-west fault cuts through the mesa a short distance to the south of the claims. The north side of the fault has been raised. The formations dip about 7° to the northeast. South of the fault the Brushy Basin or Upper member of the Morrison formation is exposed and all four rims of the Salt Wash member are present. North of the fault, in the vicinity of the Blue Chief Mesa claims, the highest exposure is the third rim of the Salt Wash formation. This exposure occurs on the Crescent, Holiday, and Holiday No. 1, 2, 3, 4, 6, 12, 13, and 17 claims (fig. 2). The Salt Wash formation is cut by a number of north-easterly striking ravines which expose the Summerville and, in places, the Entrada formation.

North of the fault small surface deposits showing uranium mineralization have been prospected presumably in the second rim on the Sand Flat claim and in the School Section near the north line of sec. 26 (fig. 2). Surface deposits in the third rim occur on the Crescent and on the Sun Down (not shown on map) claims. Some wagon drilling has been done in the vicinity of each of these surface deposits but the uranium mineralization appears to be small and no ore has been shipped. The third rim on the Holiday No. 1 claim contains sandstones and mudstones of the type generally associated with uranium mineralization.

A small mineralized "tree" has been mined from the third rim of the Salt Wash member where it was exposed by a ravine on the west side of the Crescent claim. The ore, about 300 pounds countering from 0.40 to 2.0 percent, has been piled near the portal of a 10-foot-long adit which was driven on the "tree." Directly across the ravine from this "tree" is a small partly mineralized tree. All other "trees" noticed

were silicified but did not contain uranium ore. The largest of these is at the discovery on the Big Tree claim and, as exposed, is 4 feet in diameter and 40 feet long (fig. 2).

## MINEABLE ORE RESERVES

There are no measurable ore reserves. The small "tree" on the Crescent claim appears to be completely mined out and the drilling on the Crescent surface deposit and on the Holiday No. 1 claim did not disclose uranium ore of a shipping grade, the best showing being only 18 inches of 0.08 percent $U_3O_8$.

No estimate can be made of inferred ore, which may exist, probably in small lenses, on any of the 26 claims.

## PRESENT STATUS

### Exploration and Development

The property has been explored only by 700 feet of wagon drilling on the Crescent and Holiday No. 1 claims and a 10-foot-long adit on the Crescent claim. No discovery shafts or adits have been made and the property has not been adequately surveyed or mapped.

### Mining and Milling Equipment and Other Facilities

There is no mining or milling equipment on the property. The nearest mill site is at Dewey and the nearest ore depot at Thompsons.

## PROPOSED EXPLORATION

The applicant proposed to explore the claims by 18,000 feet of wagon drilling, 400 feet of core drilling, and 100 feet of drifting at the following stated costs:

## Estimate of Costs

| | | |
|---|---|---|
| (a) | 18,000 lineal feet wagon drilling at $0.75 | $13,500.00 |
| | 400 lineal feet core drilling at $3.00 | 1,200.00 |
| | 14 days D-6 bulldozer at $80.00 | 1,120.00 |
| | 100 lineal feet drifting at $17.00 | 1,700.00 |
| (b) | 18 days supervision - operating vice-president at $25.00, plus $6.00 living expense | 558.00 |
| | 75 days supervising engineer at $25.00, plus $6.00 living expense | 2,325.00 |
| | 5 days consulting geologist at $50.00, plus $8.00 living expense | 320.00 |
| | 50 assays at $4.00 | 200.00 |
| (c) | Fuel for Jeep vehicle - estimate, 3,000 miles travel, consumption 10 miles per gallon - 300 gallons at $0.32 | 96.00 |
| | Oil changes, grease, etc. | 10.00 |
| (d) | Detectron Geiger counter and probes | 325.00 |
| | Brunton compass | 28.34 |
| | Transit, Philadelphia rod, chain stakes, and miscellaneous surveying equipment - 1 month rental at $50.00 | 50.00 |
| | 4-wheel drive Willys Jeep | 850.00 |
| (f) | Trailer having quarters for Midland personnel | 500.00 |
| (g) | Employer's Liability Insurance | 300.00 ? |
| | Health-Accident Insurance Policies | 120.00 ? |
| | Ivan R. Johnston and John E. Gonyer accounting costs - 8 months at $50.00 per month | 400.00 |
| (h) | Estimate contingency allowance | 1,200.00 |
| | | $24,802.34 |

On the Blue Chief Mesa claims the only feasible drilling sites appear to be in the areas where the third rim has not been eroded and also in the lower rims on the Crescent No. 4, Holiday No. 16, and Blue Dot claims. Accurate mapping would be necessary before an intelligent drilling

program could be proposed and, because little is known of the area, any preliminary project contemplated should include less wagon drilling and no drifting.

The applicants' estimates of costs are not realistic nor do they indicate where they proposed to do the exploratory drilling. It is the examining engineer's opinion that if drilling were justified, the claims could be adequately tested for about half the amount requested in the loan application.

## CONCLUSIONS

The Blue Chief Mesa claims are in an unproven area where production has been very limited and known ore lenses small. The Salt Wash member of the Morrison formation is exposed for several miles by the ravines traversing the property. With the exception of the one small tree, mentioned under "Description of Deposits," no uranium mineralization of shipping grade has been found to date. All available information indicates that any ore lenses found would be small and, in general, low grade. Unless drill holes were placed on close centers, ore lenses would probably be missed entirely. The examining team does not believe the property has enough potential merit to justify Government participation in an exploration project.

## RECOMMENDATIONS

It is recommended that the application be denied.

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

224 New Customhouse
Denver 2, Colorado

September 11, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMA Form 3a and MF-103 and supporting data pertaining to the following application for Government assistance in exploration work:

Midland Uranium, Inc.
504 Felt Building
Salt Lake City, Utah

W. H. King

W. H. King

Enclosures

MF-103
(Revised April 1952)

# UNITED STATES DEPARTMENT OF THE INTERIOR
## DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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

*Not to be filled in by applicant*

Docket No. DMEA-3164
Metal or Mineral
Date Received 9-14-53
Estimated Cost
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: MIDLAND URANIUM, Inc.
504 Felt Building, (See attached papers)
Salt Lake City, Utah

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it (See attached papers)

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

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

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

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

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

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

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

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

(*c*) The work will start within 10 days and be completed within 12 months from the date of an exploration project contract.

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

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

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

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

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

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

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

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

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

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

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

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

[x] Money [x] Use of equipment owned by you [x] 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 September 9, 1953

MIDLAND URANIUM, INC.
(Applicant)

By Thomas A. Short

Thomas A. Short
President

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

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

MIDLAND URANIUM, INC.,
504 Felt Building,
Salt Lake City, Utah.

Sept. 9, 1953.

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

1. (a) Incorporated in the State of Utah.

(b) Chairman of the Board:
W. J. Kinick, Jr.,
1961 Texas Street,
Salt Lake City, Utah.

President and Board Member:
Thomas A. Short,
2662 Imperial Avenue,
Salt Lake City, Utah.

Vice-President and Board Member:
Ivan R. Johnston,
P.O.Box 427, Moab, Utah.

Secretary-Treasurer and Board Member:
R. G. Allen,
555 West 4th North,
Salt Lake City, Utah.

Board Member:
John E. Gonyer,
451 East 4500 South,
Murray, Utah.

3. (a) (See purchase agreement)

(b) The property is not known by any mine name.

(c) Our corporation is purchasing the claims on Blue Chief Mesa under the terms of the attached lease purchase agreement.

(d) (Lease Purchase Agreement attached)

(e) There are no liens or encumbrances of any of the land.

(f) The book and page number for each recorded location notice is shown on the attached lease purchase agreement. (Claims not applying on the loan request are noted, "Do not apply"). In addition, the following claims located on Blue Chief Mesa are owned by Midland Uranium, Inc., and are to be included in this application:

Blue Dot
Blue Dot #1

MIDLAND URANIUM, INC.,
504 Felt Building,
Salt Lake City, Utah.

4. (a) Exploration is now being carried out by wagon drilling on Crescent and Holiday #1 claims. The operation is being conducted by Midland Uranium, Inc. To date approximately 700 lineal feet of formation has been drilled and probed to an average depth of 65 feet. All drill holes were carried through the gray sandstone. The ground selected for this drilling is thought to be favorable on the basis of geologic conditions and the presence of carbonized plant remains.

Carnotite bearing sandstone was encountered in one drill hole at a depth of 50 feet below the surface elevation. The deposit was found to be approximately 18 inches in thickness and probing showed the ore to be of low grade, geigering 0.08%. Other drill holes showed traces of ore of varying thickness, but less than 18 inches. The depths the ore bearing sandstone was encountered varied from 43 to 54 feet below the surface elevation. The other holes upon being probed showed the ore to be of low grade, below 0.1%. No assays were made on these holes, due to the low grade of the ore, as shown by geiger counter; therefore the vanadium content is not known.

A surface showing on the Crescent claim was sampled and assayed at 0.116% $U_3O_8$ and 0.21% $V_2O_5$. The assay report is attached. It is intended to further explore this surface showing.

A body of carnotite ore geigering 0.40% to 0.60%, located 300 feet east of "Blue Dot" mining claim, has only 12 to 18 inches of over-burden. No exploration has been carried out due to temporary inaccessibility. It is intended to explore this claim in the near future. The trend of exposed ore indicates possibility of ore bearing channel running into our property. The outcrop ore is now being assayed to determine the exact $U_3O_8$ and $V_2O_5$.

(b) Mining was carried out on Blue Chief Mesa during the First World War. High grade ore from outcroppings was packed off by burro as no roads were in existence. This production during this period is not known.

Shortly before our purchase of the Blue Chief claims some mining had been done on outcropping of the Crescent group. The production is not known but believed to be small. Showings still remain in the outcropping as they were only partially mined. The ore and small trees exposed geiger at over 2.0% $U_3O_8$.

Approximately one quarter mile from the claims under purchase by our corporation a mineralized tree was removed from a mine known as the Shoeman Tunnel. The value of this tree was several thousand dollars.

Exploration is being carried out on claims adjoining our property by the EMP Mining Company, Grand Junction, Colo., and some ore bearing sandstone has been found in varying depths. The information given by their drilling crew is that ore bearing sandstone in some holes is 10 feet in thickness. We have no interest in the drilling last described and have not been able to collaborate the state-

ments of the drilling crew.

Copper and silver have been mined from time to time on the fault zone on the south end of Blue Chief Mesa. This fault is approximately one-half mile south of the Midland claims. The production is not known.

(c) 1. A copy of the preliminary geological report is furnished for the Utah State Security Commission, and, in addition, maps and sketches of the Blue Chief Mesa area are attached.

2. The property being explored is in the Morrison formation and the deposits are bedded sedementary.

3. It should be noted that exploratory drilling on other property about 100 feet from the boundary of the Crescent group has shown water above the ore bearing sandstone. The water has a 20 foot head at a depth of 60 feet.

4. Our reason for wishing to explore the Blue Chief Mesa claims is to determine if commercial bodies of ore exist on this property.

(d) 1. Roads are sufficient for use by all types of vehicles with the exception of one-half mile that requires vehicles of four wheel drive at the present time. Approximately four days of bulldozer work will make access road adequate for all types of traffic.

The main access road to the base of the mesa is unsurfaced road, suitable for two lane traffic.

2. (a) Thompson, Utah, is the closest shipping distance, 45 miles from Blue Chief Mesa.

(b) The closest residence point is Dewey, Utah, 14 miles.

(c) The closest supply point is Cisco, Utah, 26 miles. The other are as follows: Moab, 44 miles; Thompson, 45 miles, Grand Junction, Colorado, 82 miles.

(e) 1. Manpower is available in sufficient quantities at Moab and Grand Junction.

2. Supplies, material and equipment of necessary quantity are available at Moab, Utah, and Grand Junction, Colorado.

3. Water is available in sufficient quantity on Blue Chief Mesa. Exploratory drilling on other property about 100 feet from the boundary of the Midland property indicates a good supply of water at a depth of 60 feet with a 20 foot head.

5(a) Uranium ore.

(b) We propose to explore by drilling all likely ore bearing formations found on the Blue Chief Mesa group of claims. Drilling will be carried to a sufficient depth (approximately 85 feet) to

penetrate the lower ore bearing sandstone formation known to exist in this area. Where significant ore showings are found, exploratory drifting may be carried out.

It is intended that the exploratory program will be carried out using geologic guidance and in accordance with the numerical rating method as described in Geological Survey Bulletin 988-B

(c) The work will start within 10 days and be completed within 10 months from the date of exploration project contract.

(d) Mr. Ivan R. Johnston, Vice-President of Operations of Midland Uranium, Inc., will be in complete charge of the exploratory program. He is exceptionally well qualified to direct this operation. Mr. Johnston is at present Manager of Mining and Production for the Big Seven Company, in addition to being part owner. The following is a chronological record of Mr. Johnston's experience:

Aug. 1953 to Present. In charge of driving of incline shaft to body of ore at 112 feet in depth, Alor #12 Claim, Yellow Cat Mesa. Over one million dollars of carnotite ore has been blocked out on this claim.

March 1953 to Present. In charge of mining operation, Parko #23 Claim, Yellow Cat Mesa. To date, $27,000. in carnotite ore has been removed from this mine.

March 1952 to March 1953. In charge of mining operation at Slick Rock area. Production exceeded 200 tons per month of carnotite ore, assaying an average of 0.30% $U_3O_8$.

April 1951 to March 1952. Prospect mining at Cottonwood, Shay Mountains. The formation is Shinarup and approximately 50 tons of commercial ore was shipped. Prospect mining was also carried out in the Morrison formation at Brown's Hole, near the La Sal Mountains. Approximately 50 tons of ore was shipped from this prospect mine.

Mr. Johnston has been mining since 1937 and is familiar with the geology of the Colorado Plateau. Prior to 1951 he was engaged in mining in the Slick Rock area, by Gypsum Valley and Seven Mile Canyon.

Mr. John E. Gonyer, Board Member, is a graduate civil engineer, who has had extensive experience in both wagon and diamond drilling. He is also a qualified surveyor and has an excellent knowledge of mining and geology. It is intended that Mr. Gonyer will supervise the drilling crews employed.

6. (a) It is proposed that independent contractors be utilized for the exploratory program. The estimated costs are as follows:

| | |
|---|---|
| Wagon drilling | $0.75 per foot |
| Diamond core drilling | 3.00 per foot |
| Bulldozing, D-6 | 10.00 per hour |
| Drifting | 17.00 per foot |

A body of ore geigering 0.40% to 0.60%, located 300 feet east of "Blue Dot" mining claim, has only 12"-18" of overburden.

MIDLAND URANIUM, INC.,
504 Felt Building,
Salt Lake City, Utah.

6. **Estimate of Costs:**

| | | |
|---|---|---|
| (a) | 18,000 lineal feet Wagon drilling @ 0.75 | $13,500.00 |
| | 400 " " Core drilling @ 3.00 | 1,200.00 |
| | 14 days--D-6 Dozer @ $80.00 | 1,120.00 |
| | 100 lineal feet Drifting @ $17.00 | 1,700.00 |
| (b) | 18 days Supervision--Operating Vice-President @ $25.00, plus $6.00 living expense | 558.00 |
| | 75 days supervising Engineer @ $25.00, plus $6.00 living expense | 2,325.00 |
| | 5 days Consulting Geologist @ $50.00, plus $8.00 living expense | 320.00 |
| | 50 Assays @ $4.00 | 200.00 |
| (c) | Fuel for Jeep vehicle--estimate, 3000 miles travel, consumption 10 miles per gallon--300 Gal. @ .32 | 96.00 |
| | Oil changes, grease, etc. | 10.00 |
| (d) | Detectron Geiger counter and probes | 325.00 |
| | Brunson compass | 28.34 |
| | Transit, Philadelphia Rod, chain stakes and misc. surveying equipment--1 month rental @ $50.00 | 50.00 |
| | 4 Wheel Drive Willys Jeep | 850.00 |
| (f) | Trailer having quarters for Midland personnel | 500.00 |
| (g) | Employers Liability Insurance | 300.00 ? |
| | Health--Accident Insurance Policies | 120.00 ? |
| | Ivan R. Johnston & John E. Gonyer Accounting Costs--8 months @ $50.00 per month | 400.00 |
| (h) | Estimate contingency allowance | 1,200.00 |
| | Total | 24,802.34 |

7. (a) Yes.

(b) We will furnish our share of the cost with money, use of equipment owned by us and supervision labor. Our company is prepared to furnish cash for any difference between ten percent of the total loan, our share of the cost and the amount allowed by the Government for use of our equipment furnishing of the 20 days operating supervision.

SMITH'S LABORATORY

CHEMIST AND ASSAYER

MOAB, UTAH

Midland Uranium Company
c/o Bud Johnston

August 25, 1953

| Sample Description | % $U_3O_8$ | % $V_2O_5$ |
|---|---|---|
| Shale | 0.116 | 0.21 |

TOTAL CHARGES $4.00

J. Earl Smith
Chemist

# LEASE AND OPTION

THIS AGREEMENT made and entered into this ____ day of August, 1953, between L. E. Busey (unmarried), O. G. Roberts and wife, Lester Brannon and wife, Ollie B. Douglas (all of Hotchkiss, Colorado), Larry A. Busey (unmarried), Mary E. Busey, Dora McCarty (all of Grand Junction, Colorado,) and John A. Johnson of Somerset, Colorado, Merl De Moss and wife, Ted Dowell and wife (all of Hotchkiss, Colorado), Heath Fluke and Ollie Fluke of Moab, Utah, all constituting the party of the first part, and Midland Uranium, Inc., a Utah corporation in process of formation at Salt Lake City, Utah, second party.

WITNESSETH:

In consideration of the two thousand dollars paid to first party by second party, at the time of the signing of this agreement, and of the terms and conditions herein stated to be kept and performed by the parties respectively, it is hereby agreed:

I.

First party hereby sells to second party the option to purchase upon the terms and conditions hereinafter set forth the following named unpatented mining claims situated in an unorganized mining district in Grand County, Utah, with recording numbers where available in the office of the County Recorder of Grand County, Utah, as shown opposite each claim:

| Name of Claim | Book | Page |
|---|---|---|
| Arenite #10 | 9-L | 294 |
| Flag | 9-L | 353 |
| Flag #1 | 9-L | 344 |
| (In the foregoing three claims one-third interest is owned by L. E. Busey, one-third by Merl De Moss and one-third by Ted Dowell.) | | |
| Cuesta #3 | 9-L | 246 |
| Cuesta #4 | 9-L | 165 |
| Cuesta #5 | 9-L | 165 |
| Cuesta #6 | 9-L | 167 |
| Stamp #24 | | |
| Stanp #25 | | |
| Stamp #26 | | |
| (The foregoing Cuesta and Stamp claims are owned by L EL Busey one-half interest, O. G. Roberts one-fourth interest, and Lester Brannon one-fourth interest) | | |
| Bluebird #7. | 9-0 | 230-337 |
| (This claim is now owned by Heath and Ollie Fluke and their interests are being transferred to L. E. Busey) | | |

| Name of Claim | Book | Page |
|---|---|---|
| Apache | 9-N | 386 |
| (This claim is owned by Mary E. Busey and Dora McCarty) | | |
| Apache #1 | 9-N | 387 |
| (This claim is owned by Larry A. Busey) | | |
| Robin #2 | 9-O | 1 to 4 |
| (This claim is owned by John A. Johnson) | | |
| Do not apply Mistake | 9-M | 155 |
| (Ollie B. Douglas and L. E. Busey each own a one-half interest in this claim) | | |
| Bluebird | 9-O | 230 |
| Bluebird #1 | 9-O | 231 |
| Bluebird #2 | 9-O | 232 |
| Bluebird #3 | 9-O | 232 |
| Bluebird #4 | 9-O | 234 |
| Bluebird #5 | 9-O | 235 |
| Bluebird #6 | 9-O | 236 |
| (In all of the foregoing Bluebird claims Ollie D. Douglas owns a one-half interest and L. E. Busey a one-half interest) | | |
| Mesa #5 | 9-O | 228 |
| Do not apply Crescent | 9-N | 171 |
| Crescent #1 | 9-N | 172 |
| Crescent #2 | 9-N | 173 |
| Crescent #3 | 9-N | 193 |
| Crescent #4 | 9-N | 194 |
| Crescent #5 | 9-N | 195 |
| Crescent #6 | 9-N | 196 |
| Crescent #7 | 9-N | 197 |
| (The foregoing Mesa and Crescent claims are owned by Ollie B. Douglas one-half interest and L. E. Busey one-half interest) | | |
| The following claims owned by Mr. L. E. Busey alone: | | |
| Do not apply Mistake #1 | 9-N | 162 |
| Mistake #2 | 9-N | 163 |
| Holiday | 9-N | 174 |
| Holiday #1 | 9-N | 175 |
| Holiday #2 | 9-N | 176 |
| Holiday #3 | 9-N | 177 |
| Holiday #4 | 9-N | 178 |
| Do not apply Holiday #5 | 9-N | 179 |
| Holiday #6 | 9-N | |
| Do not apply Holiday #7 | 9-N | 180 |
| Holiday #10 | 3-F | 181 |
| Holiday #11 | 9-N | 182 |
| Holiday #12 | 9-N | 198 |
| Holiday #13 | 9-N | 199 |
| Holiday #14 | 9-N | 200 |
| Holiday #15 | 9-N | 201 |
| Holiday #16 | 9-N | 202 |
| Holiday #17 | 9-N | 203 |
| Dome | 9-N | 328 |
| Dome #1 | 9-N | 329 |
| Dome #2 | 9-N | 330 |
| Do not apply Dome #3 | 9-N | |
| Dome #4 | 9-N | 332 |
| Dome #5 | 9-N | 333 |
| Dome #6 | 9-N | 334 |
| Dome #7 | 9-N | 335 |
| Dome #8 | 9-N | 390 |
| Dome #9 | 9-N | 391 |

| Name of Claim | Book | Page |
|---|---|---|
| Bluebird #8 | 9-0 | 463 |
| Bluebird #9 | 9-0 | 464 |
| Bluebird #10 | 9-0 | 465 |
| Bluebird #11 | 9-0 | 466 |
| Robin | 9-0 | 1 |
| Robin #1 | 90 | 2 |
| Robin #3 | 90 | 4 |
| Mesa | 9-N | 388 |
| Mesa #1 | 9-N | 389 |
| Bluebird #12 | | |

Do not apply

All of the foregoing claims are owned by L. E. Busey except as indicated in the foregoing description wherein it appears that other parties in some instances own portions of said claims with him.

2.

The purchase price which is to be paid from the date of this agreement to the escrow holder hereinafter named for the account of the first party is $87,250,00 payable as follows:

$2,000.00 down
2,000.00 on September 2, 1953
3,000.00 on October 12, 1953
10,000.00 on December 1, 1953
10,000.00 on January 1, 1954
10,000.00 on February 1, 1954
10,000.00 on March 1, 1954
10,000.00 on April 1, 1954
10,000.00 on May 1, 1954
10,000.00 on June 1, 1954
10,250.00 on July 1, 1954

3.

The purchase price shall be reduced by the amount of payment presently made and of all royalties paid up to the time the option is exercised.

4

This option is dependent upon compliance by the second party wigh all of the terms and conditions of the lease provisions included in this agreement.

5.

During the time this agreement is in effect first party dhes hereby demise, lease and let to second party for the purpose of carrying on mining operations and of extracting and shipping ores and minerals therefrom, all of the prope ty described in paragraph 1 hereof upon the following terms and conditions, to-wit:

a.

Second party will go into and hold possession of the leased premises and do and perform all work required by the laws of the United States and the laws of Utah with respect to annual assessment; and the second party may in its sole discretion explore, develop and mine said premises with a view to the making of a profitable mining ope ation; all such work shall be done in good minerlike fashion, properly securing the ground wherever necessary.

b.

All ores and minerals extracted by the second party from the demised premises shall be shipped and sold by the second party to such mills, smelters or purchasers as may from time to time be agreed upon, the same to be sold on the highest competitive bid therefor.

c.

Until payment of the purchaserprice provided for herein second party will pay to the escrow holder for the account of the first party a royalty of ten percent (10%) of the amount received by second party for ores produced by it, based upon net mill or smelter returns, which shall mean the gross returns (including therein all premium or bonus payments made by the United States government or any of its agencies) less freight, treatment, assaying and sampling charges. Second party will instruct the ore purchaser to pay to the escrow holder for the account of the first party ten percentum (10%) of the said net returns, each payment to be accompanied by a copy of the return sheet, and will forthwith after receipt of premium or bonus payments pay first party's share of same to the escrow holder for the account of the first party. It is understood that although there are several people constituting the first party, all payments may be made to the escrow holder for the benefit of the first party, and that the first parties have themselves notified the escrow holder of their various interests in said claims and how the money shall be divided among

them.

d.

Second party shall be solely responsible for all labor, material, supplies and equipment furnished for its operations and shall keep the demised premises free and clear of encumbrances and mechanic's liens.

e.

Second party will indemnify and save harmless first party of and from all liability, cost and expense that may arise out of damage or injury to persons or property occurring in the operations of second party under this agreement, but second party shall be notified of the commencement of any suit and shall have the right to defend the same.

f.

Second party will keep posted in conspicuous places on said premises notices to inform all parties having interest therein of the obligation of second party under the two preceding paragraphs, and will comply with the laws of the Utah concerning posting such notices and filing affidavits.

g.

First party by its agents may at all reasonable times enter upon and into the demised premises for the purpose of inspection, surveying and sampling.

6.

Upon the termination of this lease in any manner second party shall have the right of removal of all equipment, machinery, tools and supplies placed on the demised premises by it, such right of removal to be exercised within ninety (90) days after such termination, but no track or timbering shall be removed.

7.

Contemporaneously with the execution of this agreement the first party will execute and deposit in escrow with the First State Bank of Hotchkiss, Colorado, a good and sufficient deed naming second

party as grantee, said deed to be delivered to the sec nd party upon full payment of the purchase price of the above claims and compliance otherwise with the provisions of this agreement.

8.

Time is of the essence of this agreement and if second party fails to keep and pe form the conditions herein stated to be by it kept and performed, then at the option of the first party this agreement may be terminated, provided that first party shall first serve upon second party a thirty (30) day written notice setting forth the default or omission complained of, and if such default or omission is not remedied within said period, then this agreement shall become null and void; and in such event the first party shall rdtain as liquidated damages all monies he etofore paid by second party, and the escrow holder shall return to first party the deed herein provided for.

9.

Second party may relinquish its rights under this agreement by serving upon first party a thirty (30) day written notice of its intention to do so and returning the demised premises to first party and paying to first party all accrued obligations for royalty; and in such event at the end of the thirty (30) day notice period all obligations of second party under this agreement concerning future payments and the like shall cease.

10.

This agreement shall in all things be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

WITNESS the due execution hereof the day and year first above written.

(SIGNED) John A. Johnson

Dora McCarty

Mary E. Busey

Larry A. Busey

L. E. Busey

Lester L. Branom

Hazel Branom, wife

O. G. Roberts

Wilma Roberts

Merle W. DeMoss

Mrs. Merle De Moss

Ted Dowell

Mrs. Ted Dowell

Ollie P. Dowglass

Ollie Fluke

Heath Fluke
FIRST PARTY

MIDLAND URANIUM INC

By Ivan R. Johnston
Vice Pres.
SECOND PARTY

ATTEST:

(SIGNED) Richard G. Allen
Sec.

Exhibit "C"

Moab, Utah
September 2, 1953.

Midland Uranium, Inc.,
Salt Lake City, Utah.

Gentlemen:

After completing my inspection of the four groups of Uranium claims, now owned by the Midland Uranium, Inc., located in Grand County, Utah, I make the following report: in order to make as clear and understandable a report as possible, and to avoid confusion among the four groups, I have found it necessary to inspect each group separately as to their respective possibilities for uranium. I have made no attempt to separate one claim from the rest by name or number, but inspected each group as a whole. These claims are all in the Morrison Formation, a sedimentary Uranium bearing sandstone, and is the formation where most of the Uranium produced in the Colorado Plateau is found.

These four groups of claims have an excellent location geologically, with Polar Mesa, a large ore producer since the early nineteen hundreds, lying about three miles southeast of Seven Mile Mesa.

Yellow Cat Dome, another large ore producer since the early nineteen hundreds, lying about two miles west of the Squaw Park claims.

Beginning with the group of claims on Seven Mile Mesa, your property, I have found them very promising as to ore possibilities; an abundance of mineralized areas along with trees, carbon and fossils where formations were exposed. Small outcroppings of commercial ore was geigered. One claim having a drill hole, that geigered four feet of fair grade ore, further drilling will be necessary to determine the extent and quality of this ore body. The lack of proper roads has retarded the development and exploration of this Mesa. A road now on Seven Mile Mesa can be traveled by pickup or Jeep, and with a small amount of work could be traversed with any kind of a vehicle.

The Blue Chief Mesa group of claims, also yours, has an excellent chance of producing large bodies of ores This Mesa is highly mineralized; Copper and Silver have been mined in the past, in a fault zone on the south end. Small outcroppings of commercial ore, with mineralized trees geigering as high as two percent, are exposed on the rim faces, carbon and fossils are also present. High grade ore was mined and packed off this Mesa by burro, in the early days of Uranium mining. One old mine, known as the old Shoemen Tunnel, was taken out of a Uranium tree, worth several thousand dollars. Drilling that has been done, on adjoining claims looks very promising, with one fair sized ore body being found. Like Seven Mile Mesa, lack of roads has retarded the exploration of this Mesa. It has been only the last few months that a Jeep road was made on it, but with the roads that are there now, and a few hours work with a bulldozer, will make it passable for any kind of travel.

r

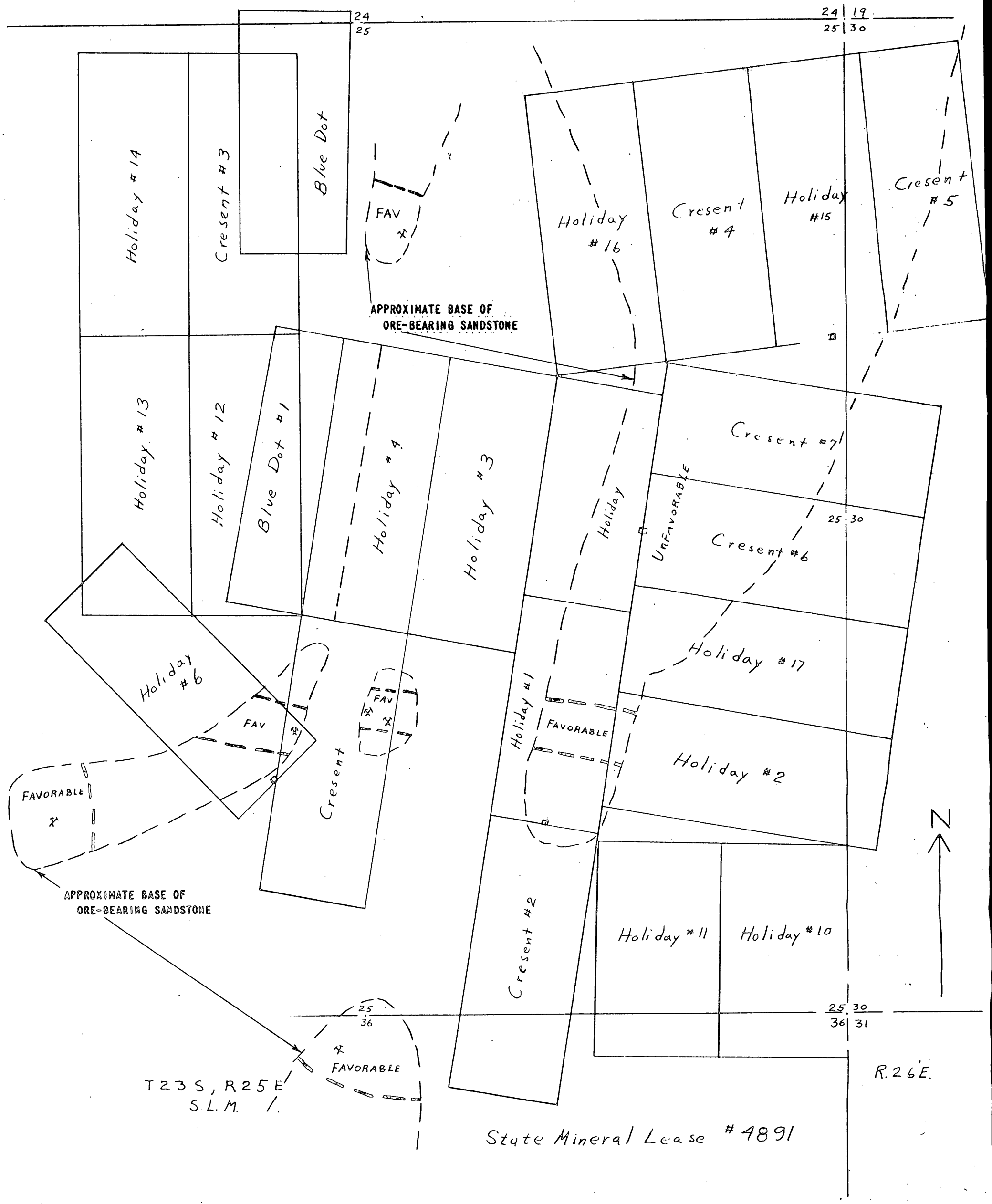
The Squaw Park group of claims, also yours, lying on the west side of the Colorado River; are very good prospects considering the short distance between them and the Yellow Cat Mine, a big producer. Considerable tonnage of ore has been shipped from the area lying just west of them, known as the Squaw Park or the Owl Draw claims. Small amounts of ore have been shipped from the adjoining claims; some drilling has been done on one claim in this group, and a body of low grade ore, two hundred and ten feet long by fifty feet wide, and from six to twenty eight inches in thickness, has been found at a depth of forty seven feet. I believe that further drilling and exploration on these claims will prove some of them to be good producers of Uranium. The road to this group of claims can be traveled by most cars or trucks. Considering these groups of claims geologically, lying in the same belt and formation as Polar Mesa, and Yellow Cat and in between them, it is my opinion that the Midland Uranium, Inc., has some of the best possibilities of finding large bodies of Uranium ore in this area.

The thirty two claims lying east of Cisco, along the Colorado River, are also in the Morrison formation. No mining or drilling has ever been done in this area, except for a small mineralized tree or two taken from the surface some years ago. The exposures or rim faces in this area are very limited. The Morrison formation and the surrounding area geologically bear a striking similarity to the Yellow Cat mining area. Mineralization is quite extensive, especially iron. Small traces of Vanadium and Uranium are present in surface formation, with Copper and carbonized vegetation. It is my opinion that drilling is the only way to prove the worth of these claims. The possibilities of finding Uranium in the deeper formations look very promising to me.

Ivan R. Johnston
Mgr. of Production & Mining
Big Seven Co.

## Equipment that Will be Required

| | |
|---|---|
| Compressor | $4,000.00 |
| Drill Steel | 150.00 |
| Jack Tank | 50.00 |
| Receiver tank | 50.00 |
| Jack hammer | 350.00 |
| Jack leg | 250.00 |
| Pipe,1 inch & 2 inch | 100.00 |
| Hoses | 100.00 |
| Mine track 16 lbs | 160.00 per ton |
| Mine cars | 350.00 |
| Hoist | 950.00 to $4,000.00 |
| Scraper bucket | 250.00 |
| Loader | 3,000.00 |
| Air fans vent tubes | 250.00 |
| Picks, shovels, etc. | 150.00 |
| Welding outfit | 150.00 |
| Misc. | 250.00 |




EXPLANATION

| | |
|---|---|
| — — — | APPROXIMATE BASE OF ORE-BEARING SANDSTONE |
| ▬ ▬ ▬ | BOUNDARY OF FAVORABLE AND UNFAVORABLE GROUND |
| ⚒ | PROSPECT PIT |
| 24/25 \| 19/30 | LAND SECTION CORNER FOUND IN FIELD |
| 25 \| 30 | LAND ¼ CORNER FOUND IN FIELD |
| □ | DISCOVERY MONUMENT FOUND IN FIELD |

BASE FROM APPLICANTS CLAIM MAP (NUMEROUS ERRORS WHICH HAVE NOT BEEN CORRECTED, WERE NOTED ON THIS MAP DURING THE FIELD EXAMINATION)

Figure 2. SKETCH MAP OF THE BLUE CHIEF MESA GROUP OF CLAIMS, THOMPSONS DISTRICT, GRAND COUNTY, UTAH

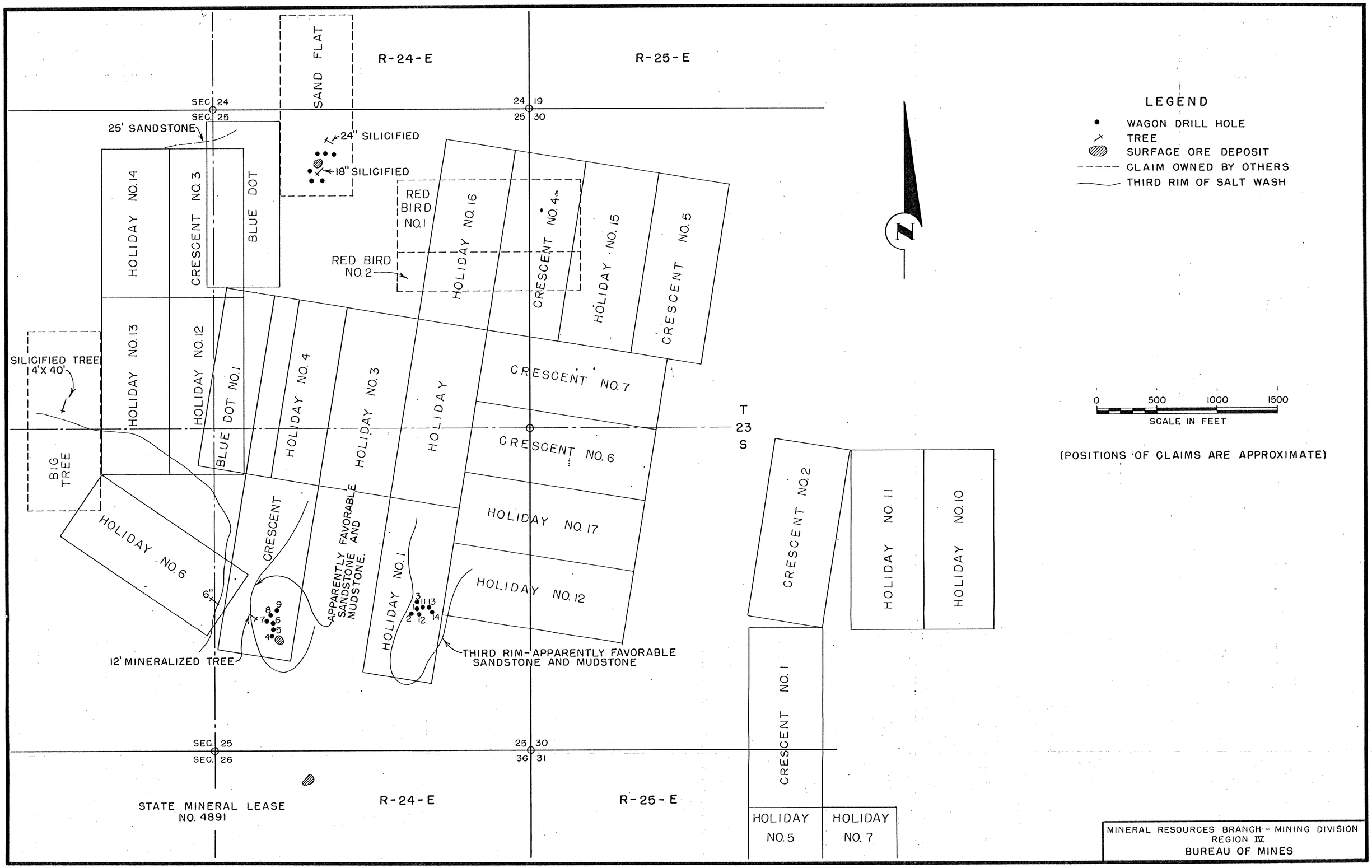
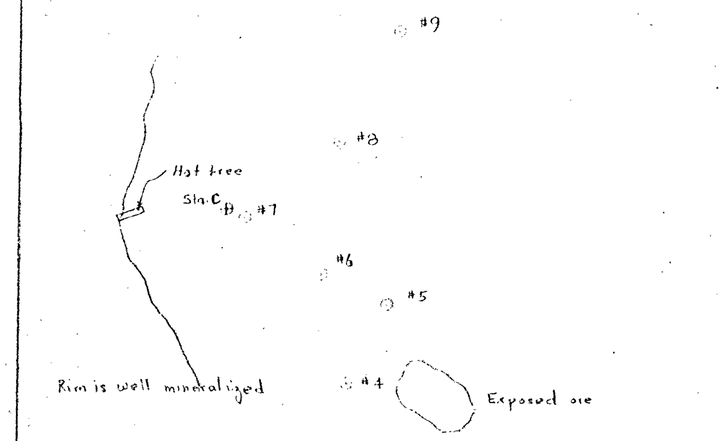
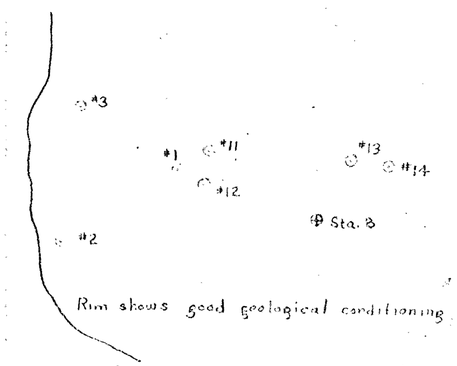



FIGURE 2 - MAP OF BLUE CHIEF MESA CLAIMS, MIDLAND URANIUM INC., GRAND COUNTY, UTAH (DMEA 3164)




Note. Sta C, 290' N of S. end line, 355' E of W. boundary

CRESENT




Note: Sta. B, 580' N of S. end line, 235' E of W boundary

HOLIDAY No. 1

MIDLAND URANIUM INC.

| | | |
|---|---|---|
| SCALE: 1" = 50' | APPROVED BY: | DRAWN BY J.S.C. |
| DATE: 7/6/53 | | REVISED |

Location of Exploratory Borings

DRAWING NUMBER 102

ED ON NO. 1000H CLEARPRINT

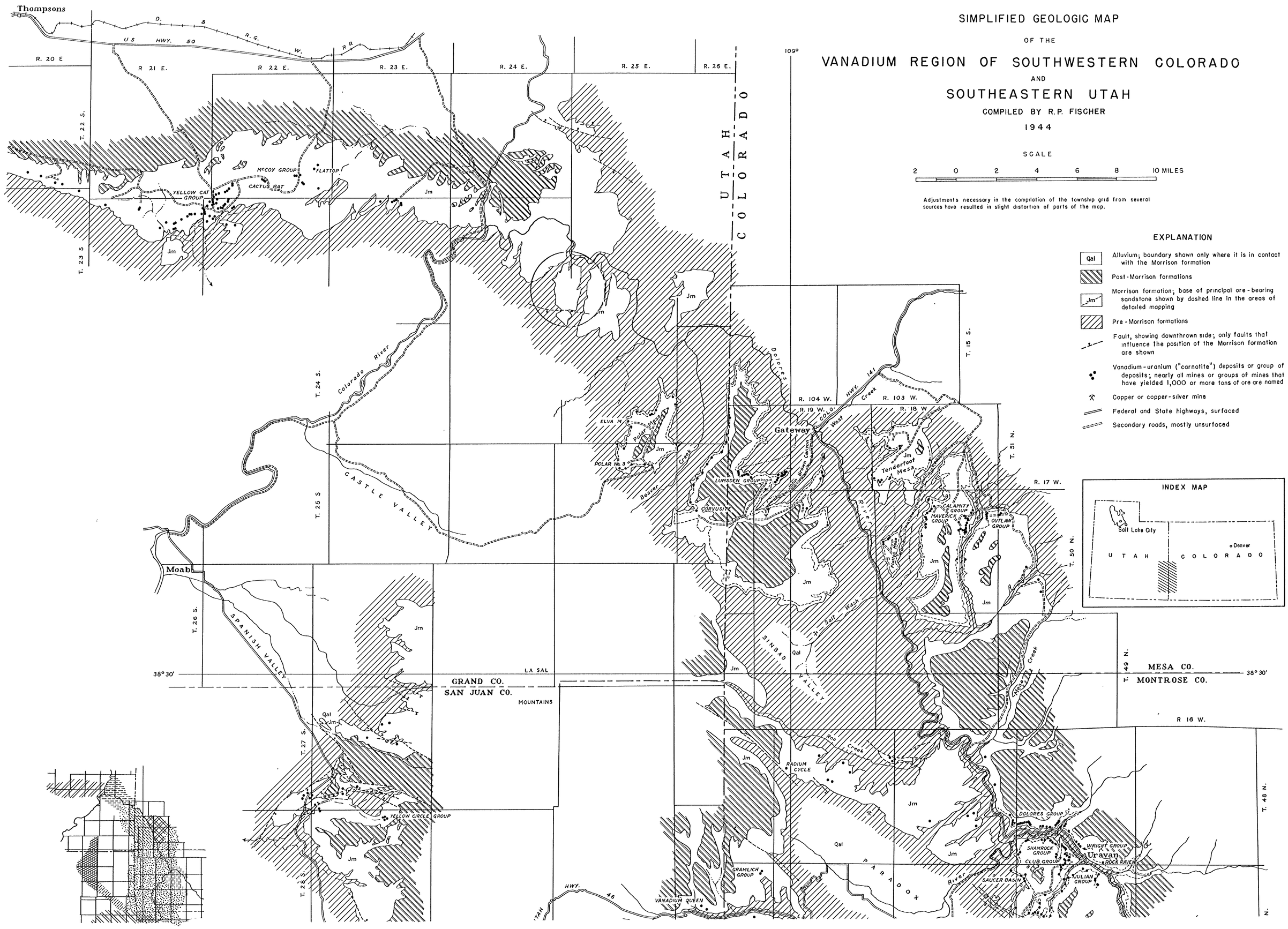
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

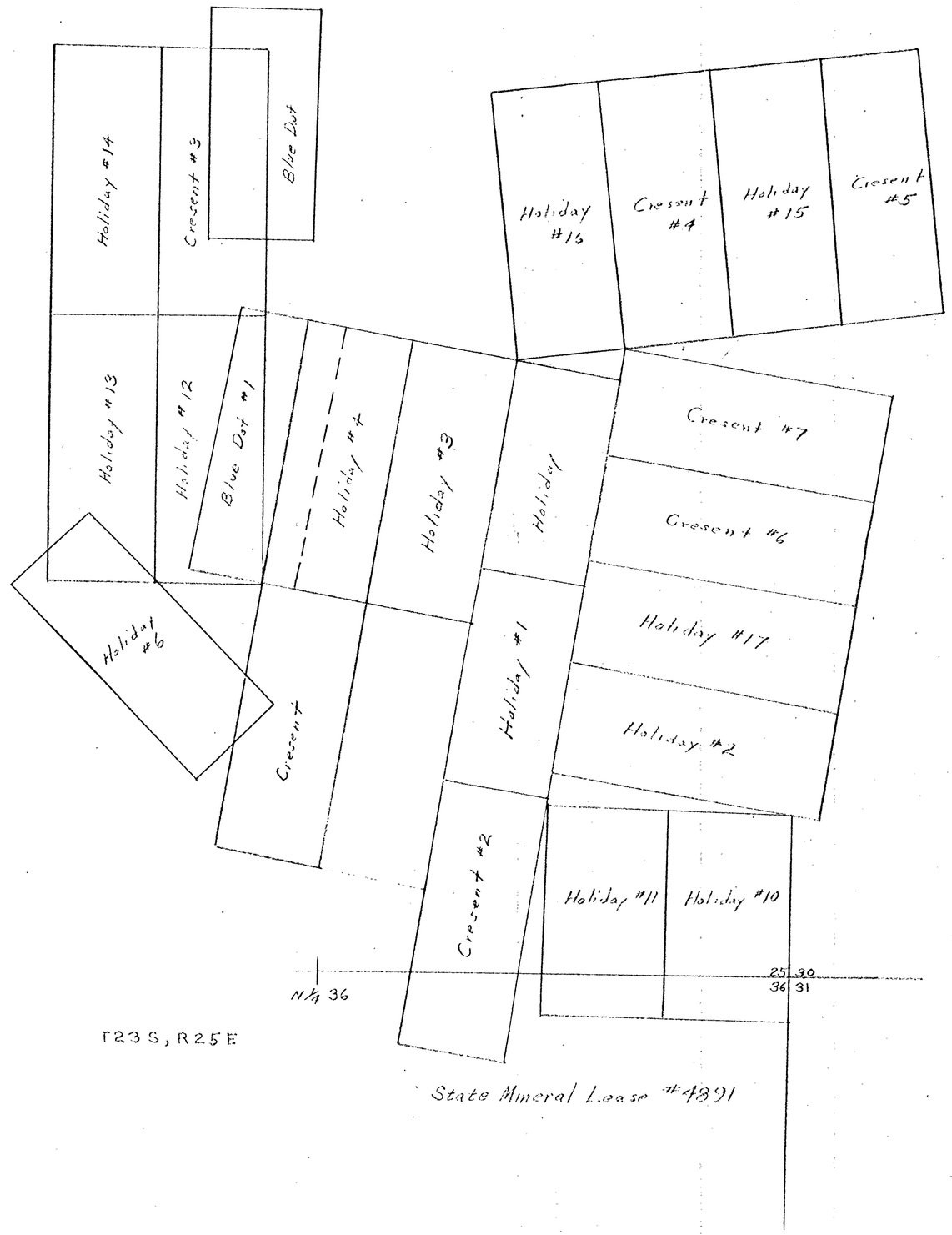
STRATEGIC MINERALS INVESTIGATIONS
PRELIMINARY MAP 3-226

# SIMPLIFIED GEOLOGIC MAP
OF THE
# VANADIUM REGION OF SOUTHWESTERN COLORADO
AND
# SOUTHEASTERN UTAH

COMPILED BY R.P. FISCHER

1944






MIDLAND URANIUM INC.

| | | |
|---|---|---|
| SCALE: 1" = 500' | APPROVED BY: | DRAWN BY J.E.G. |
| DATE: 9/6/53 | | REVISED |

Blue Chief Mesa Mining Claims

DRAWING NUMBER 101

ED ON NO. 100CH CLEARPRINT