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Ching
Ellis
Kiilsgaard
Guhen
Selfridge

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

Woodlot Mines
c/o Mr. Allen B. Sorensen
P. O. Box 100
Provo, Utah

JUN 16 1955

Re: Docket No. DMEA-3690 (Uranium)
Woodlot-Devil's Furnace Claims
Garfield County, Utah

Gentlemen:

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

Projects approved by the Defense Minerals Exploration Administration must, in its 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 indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

Frank E. Johnson

ACTING Administrator

MChing:am
6-13-55
cc to: Admr. Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3641
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
Code 700
Mr. Ching
DMEA Field Team, Region III(2)

R.C.S.

(Docket Copy) 700

Chiung Ellis

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WASHINGTON 25, D. C.

June 13, 1955

Summary of Proposed Project

Object: Denial of application for an exploration project

Docket No.: DMEA-3690

Commodity: Uranium

Applicant: Woodlot Mines, A Partnership
P. O. Box 100
Provo, Utah

Property: 64 unpatented mining claims known as the Woodlot-Devil's Furnace Claims situated in unsurveyed T.33 S., R. 6 E., S.L.B.&M., Garfield County, Utah. Applicant is the Lessee.

Date of Application: February 14, 1955

Amount of Application: $66,356.06

Work Proposed: Drill 78 wagon-drill holes totaling 9425 feet, and 84 diamond-drill holes totaling 18,150 feet to test the basal portions of the Shinarump formation and uppermost portions of the Moenkopi formation. The lower 100 feet of the diamond-drill holes are to be cored and the upper portions plug drilled. Estimated cost of the work follows:

Independent contract drilling	$57,856.25
Bulldoze assess roads and drill sites	1,740.00
Supervision and consultants	3,600.00
Contingencies	3,159.81
Total	$66,356.06
Government participation @ 75%	$49,767.05

Field Team Report: W. E. Young, U.S.B.M., and E.S. Davidson, U.S.G.S., transmitted by Field Team May 24, 1955.

The claims are located a considerable distance back from the rim outcrop of the favorable Shinarump

formation. There are no exposures of this formation and no known uranium mineralization on the property. No exposures have been made through drilling or mining operations and no specific targets are known.

Ore deposits of the area generally occur in sandstone-filled ancient channels cut in the top of the Moenkopi formation. Three minor channels trend toward the subject property from the eastern rim. Uraniferous material found in the channels is low grade, spotty, and confined to the lower 1 - 2 feet of the Shinarump. None of the channels look promising. The Black Widow mine, about 8,000 feet east of the property, is located on a different channel system and produced 325 tons of 0.14% U_3O_8 ore. This production has a maximum value of $7,000 as compared with production of over $30,000 reported by the Applicant.

In view of the foregoing conditions any drilling on the subject property would be of a "wildcat" nature. Denial of the application is recommended.

Commodity Committee Members' Comments:

Geological Survey - N. E. Nelson - June 7, 1955

The claims are undoubtedly underlain in part by the Shinarump formation, in which deposits of uranium have been found, but no ore is known to exist in the claims and what might be considered indications are too poor to warrant even wildcat drilling. Agrees with the Field Team's conclusions and recommendation of denial.

Bureau of Mines - John E. Crawford - June 10, 1955

Discussed proposed project with Washington representative of AEC and agrees with Field Team that the application should be denied.

Rare and Miscellaneous Metals Division - Michael Ching - June 10,1955

While the potential ore-bearing Shinarump formation very probably underlies the subject property there are no exposures of it. Ancient channels trending toward the property were poorly mineralized and unpromising. The nearest property from which commercial production has been made is some 8,000 feet to the east and the production from this mine amounted to only 325 tons of 0.14% U_3O_8 ore. There are insufficient

factors of a favorable nature to justify an exploration project.

Conclusions and Recommendations:

Aside from the likely presence of the Shinarump formation on the property at comparatively shallow depths there are no favorable geological factors that can be used to establish specific target areas. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

6/13/55 gfa

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

June 10, 1955

Memorandum

RECEIVED
JUN 13 1955

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

From: John E. Crawford, Bureau of Mines Member
Uranium Commodity Committee

Subject: Report of Examination - DMEA Docket 3690 - Woodlot Mines, Garfield County, Utah

I have reviewed the Field Team report of examination, DMEA Docket 3690, Woodlot Mines, and have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We agree with the Field Team that the application of Woodlot Mines should be denied. This substantiates the recommendations made in my memorandum of March 1 upon review of the application prior to its being forwarded to the field for study.

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

John E Crawford
John E. Crawford

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

June 10, 1955

Memorandum

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

RECEIVED
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BUREAU OF MINES
WASHINGTON 25, D. C.

June 10, 1955

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

John E. Crawford

6/7/55 gla

IN REPLY REFER TO:

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

RECEIVED
JUN - 7 1955

June 7, 1955

Re: DMEA-3690
Woodlot Mines
Garfield Co., Utah
$66,356.06 - Uranium

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report

This report recommends denial of the application which calls for 27,575 feet of wagon and diamond drilling at an estimated cost of $66,356.06.

The claims are undoubtedly underlain in part by the Shinarump formation, in which many deposits of uranium have been found, but no ore is known to exist in the claims and what might be considered indications are too poor to warrant even wildcat drilling.

I agree with the conclusions of the Field Team and the recommendation of denial.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
JUN - 7 1955

June 7, 1955

Re: DMEA-3690
Woodlot Mines
Garfield Co., Utah
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I agree with the conclusions of the Field Team and the recommendation of denial.

N. E. Nelson

N. E. Nelson

NENelson:hlm
G-6/7/55

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

IN REPLY REFER TO:

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

RECEIVED
JUN - 7 1955

June 7, 1955

Re: DMEA-3690
Woodlot Mines
Garfield Co., Utah
$66,356.06 - Uranium

Memorandum

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

From: H. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report

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I agree with the conclusions of the Field Team and the recommendation of denial.

H. E. Nelson

H. E. Nelson

HENelson:hlm
G-6/7/55

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

IN REPLY REFER TO:

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

RECEIVED
JUN - 7 1955

June 7, 1955

Re: DMEA-3690
Woodlot Mines
Garfield Co., Utah
$66,356.06 - Uranium

Memorandum

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I agree with the conclusions of the Field Team and the recommendation of denial.

N. E. Nelson

N. E. Nelson

NENelson:hlm
G-6/7/55

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

6/7/55 gla

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

RECEIVED
JUN - 3 1955

224 New Customhouse
Denver 2, Colorado

May 31, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3690 (Uranium), Woodlot Mines, Garfield County, Utah

Attached are the original and three copies of the Summary, Conclusions and Recommendations on the subject docket.

Four copies of the Report of Examination were forwarded your office on May 25, 1955. Will you please attach one copy of the Summary, Conclusions and Recommendations to each of your reports.

W. M. Traver

W. M. Traver

Enclosures

RECEIVED
JUN - 3 1955

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By E. S. Davidson and W. E. Young

Woodlot Mines, lessee of the Woodlot and Vulcan-Devil's Furnace claims in the Circle Cliffs area, Garfield County, Utah, has applied for DMEA assistance in exploration under docket No. DMEA-3690. The applicant has requested funds totaling $66,356.06 to conduct diamond drilling and wagon drilling on the two property groups comprising 54 unpatented lode claims. The proposed project area was examined by DMEA personnel April 7, 1955.

The applicant's property covers a southwesterly dipping area of Upper Triassic beds, including the Shinarump, Chinle and Wingate sandstone formations. Most of the uranium mineralization in the Circle Cliffs area occurs in the Shinarump conglomerate and Moenkopi formations, within a few feet of their contact. The base of the Shinarump is not exposed on the applicant's property, but is discernible on the Jack Little and other properties a short distance to the east. Evidence of channels cut in the Moenkopi formation is visible in the cliff exposures. At least three channels are present in the general area of the Woodlot claims and appear to strike into the property. Uranium mineralization in the channels, where exposed on adjoining property, is low grade and erratic in distribution.

RECEIVED
JUN - 3 1955

No uranium mineralization has been found on the Woodlot property. The area is undoubtedly underlain, in part, by the Shinarump conglomerate, but the base of this formation is not discernible at any point on the property. The direction of probable channeling on the Woodlot property has not been established; thus no well-defined exploratory targets are known. The proposed work is considered wildcat exploration, and recommendation is made that the request for DMEA assistance be denied.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 31 1955

224 New Customhouse
Denver 2, Colorado

May 24, 1955

Memorandum

To: Chairman of the Operating Committee

From: Field Team, Region III

Subject: Report of Examination, Docket DMEA-3690 (Uranium), Woodlot Mines, Garfield County, Utah

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

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

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-3-55
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 1, UTAH

DMEA
Date Rec'd.
MAY 3 1955
BUREAU OF MINES
Denver, Colorado

TRANSMITTED
MAY 24 1955

May 2, 1955

Memorandum

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

From: Stephen R. Wilson

Subject: Docket No. DMEA-3690 (Uranium), Woodlot Mines, Garfield County, Utah

Enclosed are the original and 10 copies of an engineering report covering examination of property of the Woodlot Mines, Garfield County, Utah. W. E. Young made the examination and prepared the report. A separate section, Summary, Conclusions and Recommendations, will be transmitted after receipt of a copy of the geologic report. A copy of the brochure is attached.

The Woodlot property is located on the northwest edge of the Circle Cliffs. Mineralization in the area occurs at the base of the Shinarump formation. The base of the Shinarump does not outcrop on the applicant's property, but is present a short distance to the east. Evidence of channeling is apparent in escarpments near the property. Inasmuch as the direction of channeling on the Woodlot property has not been established and there is no known uranium mineralization, the examiners recommend that the loan request be denied. I concur in this recommendation.

The Woodlot property has been discussed with members of the Atomic Energy Commission.

Stephen R. Wilson
Stephen R. Wilson

Enclosure

Reviewed by
DMEA OPERATING COMMITTEE
6-3-55
(date)

OF THE INTERIOR
Records Administration
RECEIVED
JAN 31 1955

WOODLOT MINES
GARFIELD COUNTY, UTAH
DMEA-3690
Uranium

Engineering Report

By W. E. Young
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
6-3-55
(date)

WOODLOT MINES
GARFIELD COUNTY, UTAH

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ILLUSTRATIONS

Fig. 1 Location map, Woodlot Mines, Garfield County, Utah

SUMMARY

A field examination of the Woodlot-Devil's Furnace groups of uranium claims, Garfield County, Utah, was made in compliance with a request of the DMEA Field Team, Region III. The claims are located on the dip slope of the Shinarump formation, a considerable distance back from the rim outcrop. At no point on the claims does the basal part of the Shinarump formation outcrop, and there is no known uranium mineralization on the property. No drilling or mining operations have been conducted to date.

The applicant has requested a loan of $66,356.06 to explore the claims. The proposed work consists of wagon drilling and diamond drilling.

It is recommended that the loan be denied because of lack of information regarding specific target areas.

INTRODUCTION

Property of Woodlot Mines was examined April 7, 1955, by a geologist of the Geological Survey and an engineer of the Bureau of Mines. The examination was made at the request of the Regional Field Team to determine the advisability of granting a Government assistance loan. Paul D. Proctor and Leroy Ewell, company representatives, accompanied the examining team to the property.

The applicant proposes to explore the property by wagon drilling and diamond drilling. Two groups of claims are involved, the Woodlot, comprising 10 claims, and the Vulcan-Devil's Furnace, comprising 54 claims. The groups are a little more than a mile apart. Thirty-two wagon drill holes are proposed on the Woodlot group and 46 are proposed on the Vulcan-Devil's Furnace group. Ten diamond drill holes are proposed on the Woodlot group and 74 are proposed on the Vulcan-Devil's Furnace group. The total estimated cost of the program is $66,356.06.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The properties are located at the northwest end of the Circle Cliffs area in unsurveyed T. 33 S., R. 6 E., S.L.B. and M., Garfield County, Utah. The area is accessible from Torrey, Utah, via Fruita, Capitol Reef, Notam, and then south 30 miles to the Burr Trail. From the top of the Burr Trail, several unimproved roads lead indirectly to the area, a distance of approximately 20 miles. The nearest shipping points are Green River, Utah, approximately 130 miles, and Marysvale, Utah, approximately 140 miles.

The claims cover the dip slope of a hard, ledge-making sandstone. An erosional escarpment of Wingate sandstone roughly parallels the west ends of the claims.

There is no established camp at the property. Water must be hauled for a distance of 15 miles.

OWNERSHIP, HISTORY AND PRODUCTION

The claims are held under lease by a list of 29 partners. Lessors are S. G. Sargis, J. K. Hayes and Sherwood Green. The property under consideration consists of two groups comprising 64 unpatented lode mining claims. The claims were located in 1954. No mining or drilling operations have been conducted on the property. There has been no production.

The applicant is considered capable of completing the proposed work.

DESCRIPTION OF THE DEPOSITS

The property is situated on the northwest edge of the Circle Cliffs area. The claims cover gently southwest-dipping lower Triassic beds which include the Shinarump and Chinle formations. There is a high escarpment of Jurassic Wingate sandstone along the west edge of the claims. At no place on the property is the base of the Shinarump exposed. The base of the Shinarump and underlying Moenkopi are discernible on the Jack Little property in Wolverine Draw, a short distance to the east. East of the Little property a bold escarpment exposing the Moenkopi extends almost the complete length of the claims. Evidence of channeling into the Moenkopi can be seen in the cliff exposures. The Olsen property, on which mineralization is exposed, appears to be on a channel striking into the Woodlot groups of claims. The only other property in the immediate vicinity from which production has been reported is the Black Widow, east of the Jack Little mine.

PROPOSED EXPLORATION

The applicant proposes to explore the property by wagon drilling and diamond drilling. A total of 162 holes, aggregating 27,575 feet, is proposed. A well-prepared estimate submitted with the application places the total cost of the project at $66,356.06. A geologic plan map, with sections, showing proposed locations of drill holes, also accompanies the application. As stated in the application, the drilling is designed to test the ore potential of the basal Shinarump and to provide geologic information with regard to channel development.

CONCLUSIONS AND RECOMMENDATIONS

There is no known uranium mineralization on property of Woodlot Mines. The area is undoubtedly underlain by the Shinarump formation, but at no point on the property does the basal part of the formation outcrop. Evidence of channeling is apparent in escarpments near the property. Because the direction of this channeling has not been established and because there is no known uranium mineralization on the property, the type of work proposed is considered wildcat exploration. No well-defined targets are known in the area. It is recommended that the loan be denied because of the above conclusions.

IN REPLY REFER TO:

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

DMEA
Date Rec'd
MAY 23 1955

Minerals Administration
RECEIVED
MAY 31 1955
BUREAU OF MINES
Denver, Colorado

May 20, 1955

TRANSMITTED
MAY 24 1955

Memorandum

To: Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3690 (Uranium), Woodlot mines, Devil's Furnace, Vulcan and Woodlot claims, Circle Cliffs district, Garfield County, Utah

Enclosed are 10 copies of a geologic report by E. S. Davidson, U. S. Geological Survey, covering his examination of the above subject property.

Davidson describes the geologic conditions on the property and concludes that, although the ore-bearing horizon does not outcrop, any uranium mineralization present will be spotty and low grade. He recommends denial of the application for exploration assistance.

I concur with this recommendation.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

Reviewed by
DMEA OPERATING COMMITTEE
6-3-55
(date)

MAY 20 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

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

April 26, 1955

TRANSMITTED
MAY 24 1955

Memorandum

To: E. N. Harshman

From: W. P. Williams

Subject: DMEA 3690, Woodlot mines, Devil's Furnace, Vulcan and Woodlot claims, Circle Cliffs district, Garfield County, Utah

Transmitted herewith are eleven copies of a geologic report by E. S. Davidson covering a field examination of above referenced property.

Uranium deposits in the vicinity of the Woodlot property are of low grade, small size, and are widely scattered. After study of the geology of the Woodlot property, Davidson concludes that there is small chance of finding a significant uranium ore deposit. I concur with Davidson's recommendation that the application for DMEA assistance be denied.

Mr. D. A. Grundy, AEC geologist in the Circle Cliffs area, was consulted with regard to evaluation of the property.

We are returning herewith the brochure covering this application.

W P Williams

W. P. Williams
Geologist

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-3-55
(date)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 31 1955

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3690, Woodlot mines, Devil's Furnace, Vulcan, and Woodlot claims, Circle Cliffs district, Garfield County, Utah

Uranium

Geologic Report

by

E. S. Davidson
U. S. Geological Survey

April 1955

Reviewed by
DMEA OPERATING COMMITTEE
6-3-55
(date)

DMEA 3690

INTRODUCTION

The Woodlot mines partnership, P. O. Box 100, Provo, Utah, has applied (DMEA Docket No. 3690) to the Defense Mineral Exploration Administration for assistance to explore for uranium ore on the Woodlot and Devil's Furnace-Vulcan claims (fig. 3). These claims are located in Garfield County, Utah, about 25 miles west of Escalante, Utah (figs. 1 and 2). The applicant proposes 27,575 feet of combined diamond-core and wagon drilling at an estimated total cost of $66,356.06 to explore the Shinarump conglomerate underlying the claims. The applicant is a lessee.

The property was examined on April 7, 1955, by a Region III examining team comprising W. Young of the U. S. Bureau of Mines, and E. S. Davidson and T. E. Mullens of the U. S. Geological Survey. The Field Team was accompanied by a representative of the applicant, Roy Ewell, and the applicant's geological consultant, Paul Dean Proctor of Provo, Utah.

Any ore that might be mined at the present time would be trucked to Marysvale, Utah, a distance of approximately 175 miles, 75 miles of which is over unimproved gravel and dirt roads. These roads are passable all year although some snow removal would be required during February and March.

GEOLOGY

Rock units

Rocks cropping out on the Woodlot and Devils Furnace-Vulcan claims are the Chinle formation, the underlying Shinarump conglomerate and the overlying Wingate sandstone, all of upper Triassic age (fig. 3).

Shinarump conglomerate

The Shinarump conglomerate is a crossbedded medium-grained white sandstone. It is composed mainly of quartz grains, but minor amounts of carbonaceous fragments, feldspar grains and assorted heavy minerals are present. The cement is a white clay-like material and the sandstone is moderately friable. The sandstone ranges from 30 to 70 feet thick and contains uraniferous material in the vicinity of the report area.

Chinle formation

The Chinle formation, conformably overlying the Shinarump conglomerate consists of variegated mudstone and shale with a few interbeds of sandstone near the base and limestone in the upper part. The Chinle is about 450 feet thick in the vicinity of the claims. It is not known to contain any significantly radioactive material on the claims.

Wingate sandstone

The Wingate sandstone is a crossbedded fine- to very fine-grained sandstone which overlies the Chinle formation. The Wingate is about 300 feet thick and does not contain significantly radioactive material on the claim.

Structure

The claims are on the southwest flank of the Circle Cliffs anticline. Dips range from 4 to about 6 degrees southwest. Faults, where they exist, have small relative movement and are minor in importance.

Economic geology

Most of the uranium ore produced from the Circle Cliffs area has been mined from the Shinarump conglomerate and the Moenkopi formation, within a few feet of their contact. The highest grade material is generally found on the contact between these two units. Neither the base nor the Shinarump conglomerate is exposed on the applicants claims. Uraninite is the most common primary mineral; various uraniferous copper phosphates and sulfates are present in weathered material. Nearly all the ore mined is more copper-rich in the weathered material, and chalcopyrite(?) and pyrite are common associates of the unweathered uranium ore. About the only large-scale factor common to all of the deposits mined to date is their occurrence in a sandstone-filled paleochannel incised in the top of the Moenkopi formation. The thickness of sandstone above the channel base does not appear to be important, as deposits are found in all ranges of sandstone thickness, from 20 feet to over 100 feet. This observation of thickness may be faulty inasmuch as no large deposits have yet been found in the area.

At least three minor paleochannels in the Moenkopi formation cross the area covered by the applicants claims (fig. 3). These channels range from 500 to 1,000 feet wide but none are more than 20 to 30 feet deep. The northernmost channel which probably underlies the Woodlot group of claims (fig. 3) has a small prospect hole on the rim (Glen Rae claims). The uraniferous material in the Glen Rae prospect is low grade and is confined to the lower foot of the Shinarump conglomerate. It does not look very promising. The southernmost channel is prospected by the Lone B mine (see DMEA application 3588 for more complete description) and probably is present under the central Devil's Furnace-Vulcan claims. Uraniferous material in the Lone B mine is confined to the lower 2 feet of the Shinarump and is very spotty in distribution. Again, this prospect, and therefore the channel, is not very encouraging. The other channel lies between the two just described, and outcrops on the rim about 4,500 feet north of the Lone B mine. It will probably lie under the northern part of the Devil's Furnace-Vulcan claim. This central channel is more indefinite than the other two and no prospect pits have been dug. It probably does not contain any significant amount of uraniferous material where exposed.

The Black Widowmine, located approximately 8,000 feet west of the Devils Furnace-Vulcan claims, is located on a different channel system (fig. 3) and produced 325 tons of 0.14 percent U_3O_8 for a value not exceeding $7,000, including all allowances. This differs considerably from the "Production of over $30,000 to date" in item 5 of the applicants report. The ore bodies developed to the north may or may not have the amount of ore claimed in the applicant's report. They were drilled by a Salt Lake City individual and I would guess that the estimates are high.

ORE RESERVES AND PRODUCTION

The property has no calculable ore reserves nor has any production been made. As noted above, the ore horizon does not outcrop and is not exposed on the applicant's claims.

PROPOSED EXPLORATION

The applicant proposes 27,575 feet of combined diamond-core and wagon drilling at a total estimated cost of $66,356.06. The proposed hole locations are spaced about 300 feet apart on lines crossing the direction of the three major channels in the area.

CONCLUSION AND RECOMMENDATIONS

No mineable ore bodies are known to be present anywhere near the applicant's property. The uraniferous material present has a very spotty distribution. It is evident that any drilling on the Woodlot or Devil's Furnace-Vulcan claim is of a "wildcat" nature; therefore, the examining team recommends that the loan be denied because of the nature of the risk. Mr. D. A. Grundy, AEC geologist in the Circle Cliffs area, concurs with the examining teams's recommendation.

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3690

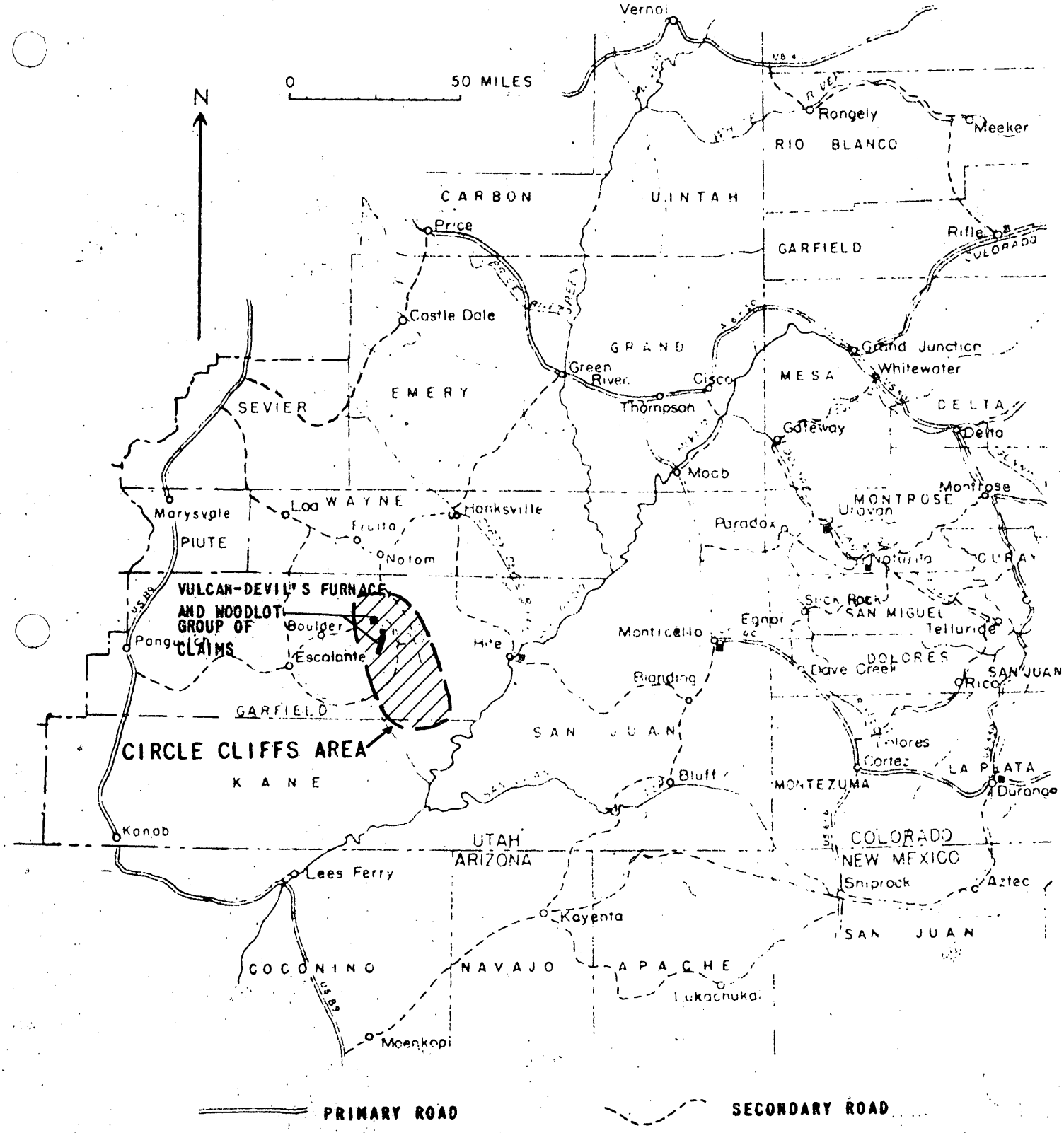

Figure 1. INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF WOODLOT MINES, VULCAN DEVIL'S FURNACE, AND WOODLOT GROUP OF CLAIMS, CIRCLE CLIFFS AREA GARFIELD AND KANE COUNTIES, UTAH

Surname 700

Ching
Ellis
Hedges
Selfridge
Newcomb
Yeffman

[redacted]
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

MAR 7 - 1955

Mr. Allen B. Sorensen
Woodlot Mines
P. O. Box 100
Provo, Utah

Re: Docket No. DMEA-3690 (Uranium)
Woodlot-Devil's Furnace Claims
Garfield County, Utah

Dear Mr. Sorensen:

The application for assistance in exploring the subject property in Garfield County, Utah, 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 to the Executive Officer of Region III at the following address:

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

The Regional Office will contact you in regard to your project if additional information is required.

Sincerely yours,

C. O. Mittendorf (fwy

Administrator

MChing:am
3-4-55
cc to: Admr. Reading File
Docket
Code 700
DMEA Field Team, Region III(2)

cal

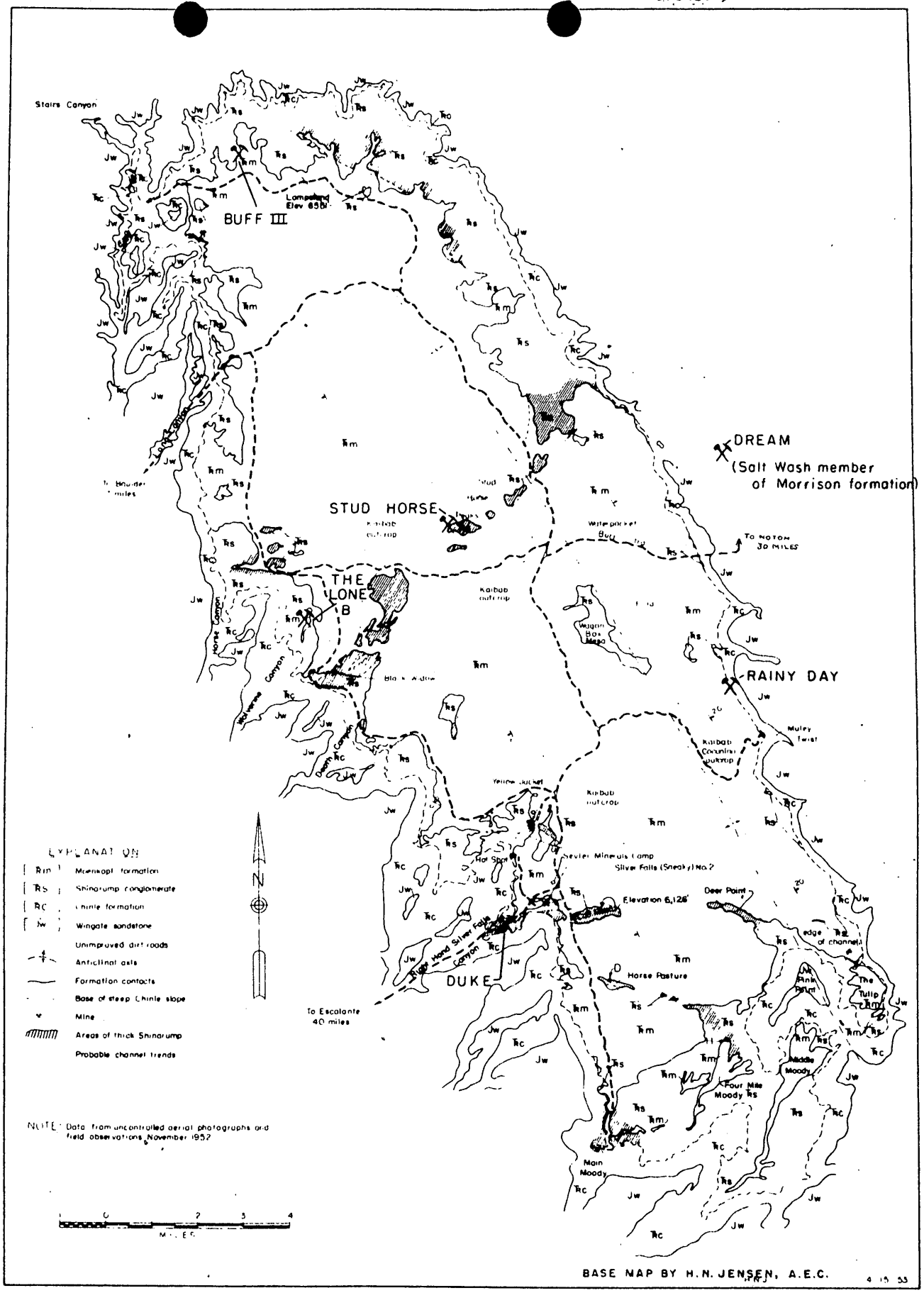

Figure 2. Areal geology of Circle Cliffs, Garfield County, Utah

Surname. 700

Ching
Ellis
Selfridge
Johnson
Montandon

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

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

MAR 7 - 1955

Re: Docket No. DMEA-3690 (Uranium)
Woodlot Mines
Woodlot-Devil's Furnace Claims
Garfield County, Utah

Dear Mr. Traver:

The subject application is being referred to you for investigation, a field examination if warranted, and a report and recommendation. A copy of the application is already in your files.

Enclosed are two copies each of comments and recommendations by John E. Crawford and R. D. Trace of the Uranium Commodity Committee, dated March 1 and March 2, 1955, respectively.

Your attention is called to the following deficiencies in the application which should be corrected in the event a contract is recommended by the Field Team:

1. The copy of the lease does not appear to be a true copy as Article 6 does not appear to be complete. Allen B. Sorenson and Melvin Crader are shown as Attorneys in Fact for the Lessers instead of for the Lessees, and they hold a power of attorney from only 20 of the 29 partners. Signed or photostatic copies of the lease should be furnished by the Applicant.

2. If the partnership is to be represented by one or two attorneys, copies of the power of attorney signed by all 29 partners should be submitted.

3. The Owner's Consent to Lien was not executed by the same persons represented as Lessors in the lease.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

MChing:am
3-4-55
cc to: Adm. Reading File
Operating Committee
Docket

Messrs. J.E.Crawford,Rm 3641
T.Kiilsgaard,Rm.5224
J.O.Hosted,3210,GSA
Code 700
Mr. Ching

Enclosures

APPROVED:

J. H. Hedges
Member, Bureau of Mines

E. L. Newcomb
Member, Geological Survey

3/2/55 gla

IN REPLY REFER TO:

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

March 2, 1955

Re: DMEA-3690
Woodlot Mines
Devil's Furnace &
Woodlot claims
Circle Cliffs area
Garfield Co., Utah

Memorandum

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

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

Subject: Review of application

The Geological Survey has completed one field season's work in the Circle Cliffs Area but, except for a brief summary in TEI-490, I have no information here except what is given in the application.

The application is well written and a modified version of the proposed project may have merit. The only data missing from the application are probably not available to the applicant -- that is, some idea of the grade, thickness, and size of nearby ore bodies, and therefore targets. The thickness of the Jack Little deposit is described as "ranges to over one foot" -- which is rather thin.

I recommend a Field Team examination of the area. The two important factors are 1) size and grade of expected targets and 2) confirmation of the channel trends indicated by the applicant.

RDTrace

R. D. Trace

IN REPLY REFER TO:

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

March 2, 1955

Re: DMEA-3690
Woodlot Mines
Devil's Furnace &
Woodlot claims
Circle Cliffs area
Garfield Co., Utah

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I recommend a Field Team examination of the area. The two important factors are 1) size and grade of expected targets and 2) confirmation of the channel trends indicated by the applicant.

R. B. Trace

RB/Trace:hlm
G-3/2/55

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

3/2/55 gla

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

March 1, 1955

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 1 - 1955

Memorandum

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

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Application, Docket No. 3690, Woodlot Mines,
P. O. Box 100, Provo, Utah

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

We agree that the attached application of Woodlot Mines be denied. There is no justification for an exploration-development program on the property held by the Woodlot Mines. The application gives no indications of uranium mineralization on property held by the company. The fact that operating uranium mines are located on nearby claims and that the geology of the area is generally favorable is not sufficient cause for granting exploration assistance.

A copy of the application is attached.

John E. Crawford
John E. Crawford

Attachment

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

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

224 New Customhouse
Denver 2, Colorado

February 18, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Woodlot Mines (Partnership), Devil's Furnace and Vulcan claim group, Garfield County, Utah

Enclosed are three copies of the subject application for Government assistance to explore the applicant's property at an estimated cost of $66,356.06.

One copy of the application has been retained in this office.

W. M. Traver

W. M. Traver

Encls.

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

224 New Customhouse
Denver 2, Colorado

February 18, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Woodlot Mines (Partnership), Devil's Furnace and Vulcan claim group, Garfield County, Utah

Enclosed are three copies of the subject application for Government assistance to explore the applicant's property at an estimated cost of $66,356.06.

One copy of the application has been retained in this office.

W. M. Traver

W. M. Traver

Encls.

February 21, 1955
Subject: DMEA 3690
Re: Exploration Assistance
Devil's Furnace-Vulcan
and Woodlot Claims

Woodlot Mines
Attention: Mr. Allen B. Sorensen
P. O. Box 100
Provo, Utah

Dear Mr. Sorensen:

The receipt of your application dated February 14, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3690 and referred to the Rare and Miscellaneous Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

February 21, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

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

DMEA - 3690 Woodlot Mines

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

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved
Budget Bureau No. 42-R1035.2.
Date Rec'd.

FEB 1[illegible]5

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

BUREAU OF MINES
Denver, Colorado

Docket No. 3690
Metal or Mineral Uranium
Date Received 2-21-55
Estimated Cost $66,356.06
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:

Woodlot Mines, A Partnership
P. O. Box 100
Provo, 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. See Attached.

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.

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

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

(*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. See attached.

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

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

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

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

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

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

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

See attached.

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

(*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. See attached.

(*c*) The work will start within 90 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. See attached.

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.). See attached.

(*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 attached.

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

(*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 attached.

(*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. See attached.

(*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. See attached.

(*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 attached.

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

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 February 14, 1955

Woodlot Mines, A Partnership
(Applicant)

By Allen B. Sorensen
Allen B. Sorensen
Partner and Attorney in Fact

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

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

Defense Minerals Administration
RECEIVED
FEB 21 1955

1 (d) Names and Addresses of all Partners:

Name	Address
Sam Sargis ✓	845 California Street, San Francisco, Calif.
Lyon McKinney	P. O. Box 575, Chowchilla, California
Sherwood Green ✓	P. O. Box 1019, Madera, California
A. E. Lentz ✓	220 So. 1st East, Provo, Utah
J. K. Hayes ✓	190 So. 3rd East, Provo, Utah
Allen B. Sorensen	517 East Center, Provo, Utah
J. E. Kirkman	P. O. Box 298, Madera, California
Vera McKinney	P. O. Box 575, Chowchilla, California
Melvin Crader	P. O. Box 152, Chowchilla, California
R. S. Whitmore	3035 Farris St., Fresno, California
Arnold Sallaberry	Rte. 1 Box 246 A, Madera, California
Dorothy M. Boies	P. O. Box 787, Chowchilla, California
D. G. Jones	1126 Water St., Santa Cruz, California
Lester E. Braun	145 No. 11th St., Chowchilla, California
John Holiday	118 Doralee Way, San Jose, California
James V. Demaio	1735 Sherman, Apt. 210, Denver, Colorado
R. O. Bollinger	P. O. Box 281, Chowchilla, California
Jack Mac Arthur	2820 Grant Street, Concord, California
Jay S. Milner	155 First Avenue, Salt Lake City, Utah
Jessie Schofield	1632 Deardorff Lane, Concord, California
L. F. Black	1310 North 9th East, Provo, Utah
A. E. Terry	38 South 6th East, Provo, Utah
Mrs. Kiba Roberts	515 Lexington Ave., Fort Smith Arkansas
Velma Bearntsen	1110 So. Waldron Road, Fort Smith, Arkansas
✓Paul Sorensen	517 East Center Street, Provo, Utah
O. A. Clemmer	Box 133, Vista, California
Ray Clemmer	Rte. 1 Box 40, Chowchilla, California
Elden Brady	Bridgeland, Utah
Francis N. Mortenson	344 South 3d East St., American Fork, Utah

29 Partners

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

3. Applicants Property Rights.

(a) Sixty-four (64) unpatented mining claims located in the Circle Cliffs, Garfield County, Utah. (See maps accompanying this application). Location and recording data required by Item 3 (f) is given herewith. It should be noted that the claims identified as Vulcan No.'s 1 to 48 inclusive, include the same area as those identified by Devil's Furnace No.'s 1 to 48. The location of the Vulcan claims was made out of caution in view of the fact that the claims known as Devil's Furnace No.'s 1 to 48 were made prior to August 13, 1954, and there is a possibility of a conflict with an oil and gas lease prior to the effective date of Public Law 585, 83rd Congress 2nd Session. References to the book and page where the location notices are recorded are to the records of the Garfield County Recorder, Panguitch, Utah.

Name of Claim	Notice of Location Recorded Book	Page	Name of Claim	Notice of Location Recorded Book	Page
Devil's Furnace 1	34	205	Devil's Furnace 28	34	232
Devil's Furnace 2	34	206	Devil's Furnace 29	34	233
Devil's Furnace 3	34	207	Devil's Furnace 30	34	234
Devil's Furnace 4	34	208	Devil's Furnace 31	34	235
Devil's Furnace 5	34	209	Devil's Furnace 32	34	236
Devil's Furnace 6	34	210	Devil's Furnace 33	34	237
Devil's Furnace 7	34	211	Devil's Furnace 34	34	238
Devil's Furnace 8	34	212	Devil's Furnace 35	34	239
Devil's Furnace 9	34	213	Devil's Furnace 36	34	240
Devil's Furnace 10	34	214	Devil's Furnace 37	34	241
Devil's Furnace 11	34	215	Devil's Furnace 39	34	243
Devil's Furnace 12	34	216	Devil's Furnace 41	34	245
Devil's Furnace 13	34	217	Devil's Furnace 43	34	247
Devil's Furnace 14	34	218	Devil's Furnace 45	34	249
Devil's Furnace 15	34	219	Devil's Furnace 47	34	251
Devil's Furnace 16	34	220	Devil's Furnace 49	47	423
Devil's Furnace 17	34	221	Devil's Furnace 50	47	424
Devil's Furnace 18	34	222	Devil's Furnace 51	47	425
Devil's Furnace 19	34	223	Devil's Furnace 52	47	426
Devil's Furnace 20	34	224	Devil's Furnace 53	47	427
Devil's Furnace 21	34	225	Devil's Furnace 54	47	428
Devil's Furnace 22	34	226	Devil's Furnace 55	47	429
Devil's Furnace 23	34	227	Devil's Furnace 56	47	430
Devil's Furnace 24	34	228	Devil's Furnace 57	47	431
Devil's Furnace 25	34	229	Devil's Furnace 58	47	432
Devil's Furnace 26	34	230	Devil's Furnace 59	50	108
Devil's Furnace 27	34	231	Devil's Furnace 60	50	109
Vulcan 1	50	110	Vulcan 7	50	116
Vulcan 2	50	111	Vulcan 8	50	117
Vulcan 3	50	112	Vulcan 9	50	118
Vulcan 4	50	113	Vulcan 10	50	119
Vulcan 5	50	114	Vulcan 11	50	120
Vulcan 6	50	115	Vulcan 12	50	121

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

3. Applicants Property Rights, continued

Name of Claim	Notice of Location Recorded Book	Page	Name of Claim	Notice of Location Recorded Book	Page
Vulcan 13	50	122	Vulcan 29	50	138
Vulcan 14	50	123	Vulcan 30	50	139
Vulcan 15	50	124	Vulcan 31	50	140
Vulcan 16	50	125	Vulcan 32	50	141
Vulcan 17	50	126	Vulcan 33	50	142
Vulcan 18	50	127	Vulcan 34	50	143
Vulcan 19	50	128	Vulcan 35	50	144
Vulcan 20	50	129	Vulcan 36	50	145
Vulcan 21	50	130	Vulcan 37	50	146
Vulcan 22	50	131	Vulcan 39	50	148
Vulcan 23	50	132	Vulcan 41	50	150
Vulcan 24	50	133	Vulcan 43	50	152
Vulcan 25	50	134	Vulcan 45	50	154
Vulcan 26	50	135	Vulcan 47	50	156
Vulcan 27	50	136			
Vulcan 28	50	137			
Woodlot 1	31	57	Woodlot 6	31	62
Woodlot 2	31	58	Woodlot 7	31	63
Woodlot 3	31	59	Woodlot 8	31	64
Woodlot 4	31	60	Woodlot 9	31	65
Woodlot 5	31	61	Woodlot 10	31	66

Amended Notice of Location

Devil's Furnace 1	48	434	Devil's Furnace 22	48	455
Devil's Furnace 2	48	435	Devil's Furnace 23	48	456
Devil's Furnace 3	48	436	Devil's Furnace 24	48	457
Devil's Furnace 4	48	437	Devil's Furnace 25	48	458
Devil's Furnace 5	48	438	Devil's Furnace 26	48	459
Devil's Furnace 6	48	439	Devil's Furnace 27	48	460
Devil's Furnace 7	48	440	Devil's Furnace 28	48	461
Devil's Furnace 8	48	441	Devil's Furnace 29	48	462
Devil's Furnace 9	48	442	Devil's Furnace 30	48	463
Devil's Furnace 10	48	443	Devil's Furnace 31	48	464
Devil's Furnace 11	48	444	Devil's Furnace 32	48	465
Devil's Furnace 12	48	445	Devil's Furnace 33	48	466
Devil's Furnace 13	48	446	Devil's Furnace 34	48	467
Devil's Furnace 14	48	447	Devil's Furnace 35	48	468
Devil's Furnace 15	48	448	Devil's Furnace 36	48	469
Devil's Furnace 16	48	449	Devil's Furnace 37	48	470
Devil's Furnace 17	48	450	Devil's Furnace 39	48	472
Devil's Furnace 18	48	451	Devil's Furnace 41	48	474
Devil's Furnace 19	48	452	Devil's Furnace 43	48	476
Devil's Furnace 20	48	453	Devil's Furnace 45	48	478
Devil's Furnace 21	48	454	Devil's Furnace 47	48	480
Woodlot 1	48	492	Woodlot 6	48	497
Woodlot 2	48	493	Woodlot 7	48	498
Woodlot 3	48	494	Woodlot 8	48	499
Woodlot 4	48	495	Woodlot 9	48	500
Woodlot 5	48	496	Woodlot 10	48	501

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

3. Applicants Property Rights, continued

NOTE: A possible title conflict exists on portions of the following claims:

Devil's Furnace (Vulcan) No.'s 38, 40, 42, 44, 46 and 48

and the area where this possible conflict exists is excluded from the proposed exploration project.

(b) None

(c) and (d) Woodlot Mines is lessee of the above described properties. A copy of the lease is attached to this sheet.

(e) There are no liens or encumbrances on the property.

3(d). Applicants Property Rights (continued)

DEPARTMENT OF THE INTERIOR
Library
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L E A S E

This lease agreement executed this 15th day of December, 1954, by and among Samson Uranium, a partnership, hereinafter called the Lessor, and Melvin Crader, per power of attorney for fourteen (14) principals, and Allen B. Sorensen, per power of attorney for six (6) principals, which two groups of principals are severally participating as lessees, hereinafter called the Lessees:

1. The Lessor hereby leases to the lessees certain unsurveyed and unpatented mining claims listed on Exhibit A attached hereto and made a part hereof, for the purpose of exploring said claims by drilling or otherwise for the purpose of discovering uranium, vanadium or other mineral ore bodies in commercial quantities.

2. The consideration for this lease shall be that the Lessees shall enter upon the mining claims and proceed to explore the same with reasonable diligence, but in no event shall the lessees be required to expend on such exploration more than the sum of Twenty-Five Thousand Dollars ($25,000.00), or the total of contributions actually made by the several lessees, whichever sum is smaller.

3. Should an ore body or ore bodies of commercial grade, as determined by the lessors, be discovered from said exploration, then the lessors and lessees shall mine said ore bodies, or lease the same, or sell the same on such terms as shall, at that time, be determined by the lessors and lessees.

4. Forty-nine per cent (49%) of the net proceeds received from the mining or leasing or sale of the subject claims shall be paid to the lessees. Each lessee shall be paid from the said forty-nine per cent (49%) of the net proceeds, a sum which shall be that proportion of the forty-nine per cent (49%) of the net proceeds as the amount that the lessee has contributed toward the joint venture bears to the entire amount contributed by all lessees to the joint venture. All payments made pursuant to this paragraph shall be made directly to the lessees, without regard to appointments by the lessees of their attorneys in fact.

5. No time limit is placed upon this agreement intentionally, it being the intent of the parties hereto that exploration, including road work, drilling, and geologic examination of the properties shall proceed as expeditiously as possible with due regard to sound geologic exploration practices and to sound fiscal practices such as geologic exploration. No party hereto shall be held liable by any other party hereto for errors of judgment.

3(d). Applicants Property Rights (continued)

and they do not represent that there is no interest in the claims or a part thereof paramount to their title. The joint venture hereby assumes all responsibility for assessment work and all other future acts required to maintain or perfect title.

7. For purposes of convenience, this joint venture shall be known as Woodlot Mines.

SAMSON URANIUM

By /s/ S. G. Sargis
S. G. Sargis

/s/ J. K. Hayes
J. K. Hayes

/s/ Sherwood Green
Sherwood Green

LESSORS

/s/ Allen B. Sorensen
Allen B. Sorensen

/s/ Melvin Crader
Melvin Crader

ATTORNEYS IN FACT FOR LESSORS ?

EXHIBIT A

CLAIMS FOR WOODLOT MINES

Devil's Furnace - Vulcan Claims:

Nos. 1-36, inclusive, 37, 39, 41, 43, 45, and 47.

Devil's Furnace Claims:

Nos. 49 to 60, inclusive.

Woodlot Claims:

Nos. 1 to 10, inclusive.

MF-203
(Revised July 1, 1954)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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FEB 21 1955

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Utah, County of

Garfield, described as follows: 1/

Devil's Furnace - Vulcan Claims:

No.'s 1-36, inclusive, 37, 39, 41, 43, 45, and 47.

Devil's Furnace Claims:

No.'s 49 to 60, inclusive.

Woodlot Claims:

No.'s 1 to 10, inclusive.

which is the subject to a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and 2/

Woodlot Mines, a Partnership

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

MF-203
(Revised July 1, 1954)
OWNERS CONSENT TO LIEN, (continued)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions: None

Dated this 14th day of February, 1955.

S. G. Sargis (Seal)
S. G. Sargis

J. K. Hayes (Seal)
J. K. Hayes

Allen B. Sorensen (Seal)
Allen B. Sorensen

A. E. Lentz (Seal)
A. E. Lentz

4. Physical Description.

(a). To the present time no mining operations have been attempted on the property. However, a few hundred feet east on the Jack Little property, and farther east and south production has been made from theBlack Widow mine. The entire area of the claim is readily accessible by jeep. No underground workings are present.

(b). There has been no past production from the property. Ore reserves are not known.

(c). The geologic setting is simple. Very gently west dipping Triassic rocks crop out in the claim areas. The Moenkopi shales comprise the lowermost formation exposed and from steep to gentle slopes in canyon areas. The ledge-forming Shinarump formation lies directly on the Moenkopi and makes conspicuous cliffs wherever the two are exposed together. Lower and Upper Chinle shales and sandstones cover the Shinarump formation on the west. Jurassic (?) Wingate sandstones form bold escarpments in the extreme northwest and southwest portions of the Vulcan claim group.

Known mineralization in the area occurs as uranium-mineral impregnations and possible replacements of the basal sandstone formation and the uppermost portions of the Moenkopi shales. The mineralization is commonly accompanied by a bleaching of the darker shales in the vicinity of the ore-bodies. Deposits tend to resemble uranium deposits elsewhere in the Shinarump formation, but are unique in their occurrence not only in the sandstones but also in the underlying shales and siltstones in the uppermost Moenkopi formation. Since the base of the ore-carrying bed is not exposed in the claims area it is not possible, without exploration, to describe the position, shape, or type of possible ore-bodies.

The rather common occurrence of uranium mineralization associated with Shinarump stream channels or their marginal portions, the presence of nearby ore-bodies of this type, conspicuous bleaching of the shales in outcrops to the east, and finally the trend of the steep inclination of the fore-set type sandstone beds from known ore-zones W-S-W toward and through the claim areas suggest a good possibility for hidden mineralization within the claim boundaries. (See figure 1). Shallow drilling appears to be the most likely method of exploring these possibilities.

(d). The properties are readily accessible by good dirt graded roads from Green River via Cainville, Notom Ranch, and the Old Burr Trail, or from Torrey via Capitol Reef, Notom Ranch and then as above. Torrey is approximately 70 miles and Hanksville, Utah about the same. Escalante, Torrey, and Green River act as supply and resident centers for the area.

4. Physical Description (continued)

(e) Availability of manpower is good, especially during the winter months. All needed materials for exploration work can be obtained from the above towns. Since the proposed program is mainly drilling in character, the contractor would be required to furnish practically all of the needed equipment, supplies, materials, and manpower for the project. Power supply would have to be generated at the exploration sites. The nearest good source for water for both drinking and equipment lies approximately 15 miles north in the Circle Cliffs area. This spring is accessible by road and supplies almost all of the mining groups in the central and northern portions of the Circle Cliffs.

5. The Exploration Project.

(a). The minerals sought in the exploration are uranium-bearing. These probably include autunnite, torbernite, but mainly pitchblende.

(b). The proposed exploration program is shown on the accompanying map. Objectives of the program are to test the basal portions of the Shinarump formation and uppermost Moenkopi shales and silts for uranium mineralization in areas considered favorable for hidden ore-bodies. This is to be accomplished by drilling.

The ore potential of the area is based on several factors: (1) Known ore-bodies of relatively large size occur in nearby areas in the formation of the same age. These have been blocked out by drilling in the Circle Cliffs area. (2) Favorable trend of ancient stream channels from known ore-bodies toward property controlled by the company. (3) Alteration zones usually associated with mineralization in the Moenkopi shales and siltstones are well developed east of the claim areas. (4) ~~Shallow~~ Drilling depths to the target ore-horison are shallow and exploration can be easily accomplished when the equipment is on the ground.

As further support, and in more detail, the Jack Little property lies approximately 1900 feet east of the northern portion of the Vulcan claims. Here a mineralized zone approximately 500 feet wide and to 5 feet thick occurs at the base of the Shinarump formation in an old stream channel. The ancient stream channel appears to bear N 78 West and should cross the Devil's Furnace claim group. The higher-grade mineralization exposed ranges to over one foot in thickness and over 200 feet wide, and occurs in a bleached shale zone. Probable uraninite, some chalcopyrite, marcasite, and the secondary autunite and torbernite are present in association with carbonized wood. The Black Widow mine has a similar geologic setting and lies approximately one mile east of the Vulcan claims. Production of over $30,000 to date is reported. A hidden ore-body has also been

5 (b). The Exploration Project (continued)

drilled approximately 1000 feet North of the Woodlot claims. Here the ore occurs at the base of the Chinle and is associated with carbonaceous material. Another ore zone is reported to have been outlined by drilling some 3000 feet north of the Woodlot claims. The company estimates $500,000 in ore blocked out. This figure has not been confirmed. Approximately 1700 feet east of the Woodlot claims the Olsen prospect shows a 2-5 inch and locally one foot thick high-grade uranium bearing zone in the lower Shinarump sandstones. Other more well-known properties in the vicinity are the Rocky Mountain Uranium Company 10 miles easterly where ore reserves are estimated at $1,000,000. The channel in which the ore occurs is reported as 30-40 feet wide and to 14 feet thick. Geologic conditions are very similar to the Jack Little property just east of the Vulcan claims. The Acme Uranium Company adjacent to the Rocky Mountain property is also reported to contain large ore reserves. Other properties include the Stud Horse Buttes to five feet thick, the LaSal ore body to 10 feet thick, and the numerous other holdings in the area which are yet to be explored.

In the Woodlot and northern Vulcan claims the ore-bearing base lies within 100 feet of the present surface. This suggests that a relatively inexpensive wagon-drilling exploration program could be initiated here. Further south in the Vulcan claims the Shinarump formation is covered by Lower Chinle shales and sandstones. The type of material is not too amenable to wagon drilling and it will be necessary to use either plug or diamond drill bits. Costs of the holes in the southern area will probably more than double the wagon drilling costs.

In order to accomplish the greatest amount of exploration with the least amount of expenditure, and yet properly test the ore-bearing beds, a grid spacing of 300 feet between holes at approximately right angles to known Triassic stream directions is proposed. A line of holes at right angles west 600 feet with 300 foot spacing and set midway between the other holes will permit a narrow enough spacing to pick up any of the larger size ore-bodies in the areas of greatest interest. (See map and cross-sections). All holes are planned to cut the Shinarump formation and uppermost Moenkopi shales. Depths will range from approximately 60 feet in the northernmost area to those approximating 250 feet in the south. If an ore-body is penetrated in the drilling program, the exploration program will be modified, spacing of the bore holes dropped to 75 feet on the grid system, and the ore-body outlined.

The greatest concentration of drilling is outlined for the Woodlot and northern portion of the Vulcan-Devil's Furnace group since these areas have the most favorable indications of uranium mineralization on the nearby cliff faces of the Shinarump formation. (See cross-section D-D' and map). Only one line of drill holes is proposed in the southern part of the Vulcan-Devil's Furnace group

5 (b). The Exploration Project (continued)

to test the ore-potential. This is based on lack of geologic data because of distance from known outcrops of the ore-bearing horizon. However, these holes are placed on the regular grid system, and are adjusted to it to take advantage of the most favorable topographic conditions. Any future drilling in this area can utilize the established grid. It will be noted (see map) that a line of diamond drill core holes is proposed throughout the length of the claims. This permits not only the testing of the ore-potential of the beds, but will give basic geologic information on channel-development, thickness of units within the ore-bearing beds, and other valuable data. If the same data can be obtained through less expensive drifting methods, or if ore is found exclusively at the base of the formation, then the drill type can be modified to meet the known conditions.

Estimate of costs for the planned drilling program are included on the following sheet.

(d). It is contemplated that the proposed exploration project will be conducted entirely by contract. Several of the partners are professionally trained, experienced and employed in geology and mining operations, namely, S. G. Sargis, J. K. Hayes, Jack MacArthur, J. S. Milner, and Paul M. Sorensen. Their consultation services are available to the applicant.

It is contemplated that the partnership will employ the services of Dr. Paul Dean Proctor, consulting geologist who prepared the geological data for this application, as circumstances require.

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

6. Estimate of Costs

(a) Drill Program: Costs estimated below are based on various bids by contractors for an exploration program as heretofore outlined. Estimates of the Minerals Engineering Company of Grand Junction, Colorado are taken as representative.

WOODLOT CLAIMS

Type of Drilling	Number of Holes	Average Depth	Total Footage	Av.Cost/ Foot	Total Cost
Wagon Drilling	32	100	3200	$ .95	$3040.00
Diamond Drilling*	10	150	500 (Plug)	2.35	1175.00
			1000 (Bx)	2.75	2750.00
			Subtotal		$6965.00
Vulcan-Devil's Furnace Claims					
Wagon Drilling	27	125	3375	$ .95	$ 3106.25
	19	150	2850	1.35	3847.50
Diamond Drilling*	74	125	9250 (Plug)	2.35	21737.50
		100	7400 (Bx)	3.00	22200.00
			Subtotal		$ 50891.25
			Total Drilling		$ 57856.25
Road Building and Drill Site Preparation 145 hours at $12.00/hour					$ 1740.00
			Grand Total Drilling		$ 59596.25

(b). Supervision, engineering and geological consultants during period of drilling contract, 3 months at $1200.00 per month including expenses. $ 3600.00

(c), (d), (e), (f) and (g) None

(h). Contingencies 5% of total $ 3159.81

Grand Total Estimated Cost for Exploration Program $ 66356.06

*See text for possible modification.

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

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7. (a) Yes.

(b) There is on deposit in the State Bank of Provo, 75 North University Avenue, Provo, Utah, to the account of Woodlot Mines, the sum of Twenty-three thousand dollars ($23,000.00) to be used for the proposed project.

6-6-55
Am

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

RECEIVED
JUN - 3 1955

224 New Customhouse
Denver 2, Colorado

May 31, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3690 (Uranium), Woodlot Mines, Garfield County, Utah

Attached are the original and three copies of the Summary, Conclusions and Recommendations on the subject docket.

Four copies of the Report of Examination were forwarded your office on May 25, 1955. Will you please attach one copy of the Summary, Conclusions and Recommendations to each of your reports.

W. M. Traver

W. M. Traver

Enclosures

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

RECEIVED
JUN - 3 1955

By E. S. Davidson and W. E. Young

Woodlot Mines, lessee of the Woodlot and Vulcan-Devil's Furnace claims in the Circle Cliffs area, Garfield County, Utah, has applied for DMEA assistance in exploration under docket No. DMEA-[illegible]. The applicant has requested funds totaling $[illegible],[illegible].00 to conduct diamond drilling and wagon drilling on the two property groups comprising 54 unpatented lode claims. The proposed project area was examined by DMEA personnel April 7, 1955.

The applicant's property covers a southwesterly dipping area of Upper Triassic beds, including the Shinarump, Chinle and Wingate sandstone formations. Most of the uranium mineralization in the Circle Cliffs area occurs in the Shinarump conglomerate and Moenkopi formations, within a few feet of their contact. The base of the Shinarump is not exposed on the applicant's property, but is discernible on the Jack Little and other properties a short distance to the east. Evidence of channels cut in the Moenkopi formation is visible in the cliff exposures. At least three channels are present in the general area of the Woodlot claims and appear to strike into the property. Uranium mineralization in the channels, where exposed on adjoining property, is low grade and erratic in distribution.

No uranium mineralization has been found on the Woodlot property. The area is undoubtedly underlain, in part, by the Ehinarump conglomerate, but the base of this formation is not discernible at any point on the property. The direction of probable channeling on the Woodlot property has not been established; thus no well-defined exploratory targets are known. The proposed work is considered wildcat exploration, and recommendation is made that the request for DMEA assistance be denied.

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

224 New Customhouse
Denver 2, Colorado

May 24, 1955

Memorandum

To: Chairman of the Operating Committee

From: Field Team, Region III

Subject: Report of Examination, Docket DMEA-3690 (Uranium), Woodlot Mines, Garfield County, Utah

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

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

W. M. Traver

E. N. Harshman

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 1, UTAH

DMEA
Date Rec'd
MAY 3 1955
BUREAU OF MINES
Denver, Colorado

TRANSMITTED
MAY 24 1955

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
MAY 31 1955

May 2, 1955

Memorandum

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

From: Stephen R. Wilson

Subject: Docket No. DMEA-3890 (Uranium), Woodlot Mines, Garfield County, Utah

Enclosed are the original and 10 copies of an engineering report covering examination of property of the Woodlot Mines, Garfield County, Utah. W. E. Young made the examination and prepared the report. A separate section, Summary, Conclusions and Recommendations, will be transmitted after receipt of a copy of the geologic report. A copy of the brochure is attached.

The Woodlot property is located on the northwest edge of the Circle Cliffs. Mineralization in the area occurs at the base of the Shinarump formation. The base of the Shinarump does not outcrop on the applicant's property, but is present a short distance to the east. Evidence of channeling is apparent in escarpments near the property. Inasmuch as the direction of channeling on the Woodlot property has not been established and there is no known uranium mineralization, the examiners recommend that the loan request be denied. I concur in this recommendation.

The Woodlot property has been discussed with members of the Atomic Energy Commission.

Stephen R. Wilson
Stephen R. Wilson

Enclosure

WOODLAY MINE
GARFIELD COUNTY, UTAH
DOA-3000
Uranium

Engineering Report

By W. K. Young
Mining Engineer
Bureau of Mines

WOODLET MINES
GARFIELD COUNTY, UTAH

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Ownership, history and production	4
Description of the deposits	4
Proposed exploration	5
Conclusions and recommendations	5

ILLUSTRATIONS

Fig. 1 Location map, Woodlet Mines, Garfield County, Utah

SUMMARY

A field examination of the Woodlet-Revil's Bureau group of uranium claims, Garfield County, Utah, was made in compliance with a request of the EMMA Field Team, Region III. The claims are located on the dip slope of the Shinarump formation, a considerable distance back from the rim outcrop. At no point on the claims does the basal part of the Shinarump formation outcrop, and there is no known uranium mineralization on the property. No drilling or mining operations have been conducted to date.

The applicant has requested a loan of $[illegible] to explore the claims. The proposed work consists of vugen drilling and diamond drilling.

It is recommended that the loan be denied because of lack of information regarding specific target areas.

INTRODUCTION

Property of Woodlet Mines was examined April 7, 1955, by a geologist of the Geological Survey and an engineer of the Bureau of Mines. The examination was made at the request of the Regional Field Team to determine the advisability of granting a Government assistance loan. Paul R. Foster and Leroy Revil, company representatives, accompanied the examining team to the property.

The applicant proposes to explore the property by vapor drilling and diamond drilling. Two groups of claims are involved, the Wendlet, comprising 39 claims, and the Volcano-Devil's Furnace, comprising 34 claims. The groups are a little more than a mile apart. Thirty-two vapor drill holes are proposed on the Wendlet group and 68 are proposed on the Volcano-Devil's Furnace group. Ten diamond drill holes are proposed on the Wendlet group and 74 are proposed on the Volcano-Devil's Furnace group. The total estimated cost of the program is $[illegible].00.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The properties are located at the northeast end of the Circle Cliffs area in unsurveyed T. 28 S., R. 6 E., S.L.B. and M., Garfield County, Utah. The area is accessible from Torrey, Utah, via Bruin, Capitol Reef, Notom, and then south 28 miles to the Burr Trail. From the top of the Burr Trail, several unimproved roads lead indirectly to the area, a distance of approximately 20 miles. The nearest shipping points are Green River, Utah, approximately 150 miles, and Marysvale, Utah, approximately 140 miles.

The claims cover the dip slope of a hard, ledge-making sandstone. An erosional escarpment of Wingate sandstone roughly parallels the west ends of the claims.

There is no established camp at the property. Water must be hauled for a distance of 10 miles.

OWNERSHIP, HISTORY AND PRODUCTION

The claims are held under lease by a list of 30 partners. Lessors are S. G. Sargis, J. K. Hayes and Sherwood Green. The property under consideration consists of two groups comprising 64 unpatented lode mining claims. The claims were located in 1964. No mining or drilling operations have been conducted on the property. There has been no production.

The applicant is considered capable of completing the proposed work.

DESCRIPTION OF THE DEPOSITS

The property is situated on the northwest edge of the Circle Cliffs area. The claims cover gently southwest-dipping lower Triassic beds which include the Shinarump and Chinle formations. There is a high escarpment of Jurassic Wingate sandstone along the west edge of the claims. At no place on the property is the base of the Shinarump exposed. The base of the Shinarump and underlying Moenkopi are discernible on the Jack Little property in Wolverine Draw, a short distance to the east. East of the Little property a bold escarpment exposing the Moenkopi extends almost the complete length of the claims. Evidence of channeling into the Moenkopi can be seen in the cliff exposures. The Olsen property, on which mineralization is exposed, appears to be on a channel striking into the Woodlet groups of claims. The only other property in the immediate vicinity from which production has been reported is the Black Widow, east of the Jack Little mine.

PROPOSED EXPLORATION

The applicant proposes to explore the property by vagon drilling and diamond drilling. A total of 163 holes, aggregating 27,375 feet, is proposed. A well-prepared estimate submitted with the application places the total cost of the project at $[illegible],[illegible].00. A geologic plan map, with sections, showing proposed locations of drill holes, also accompanies the application. As stated in the application, the drilling is designed to test the ore potential of the basal Shinarump and to provide geologic information with regard to channel development.

CONCLUSIONS AND RECOMMENDATIONS

There is no known uranium mineralization on property of Woodlot Mines. The area is undoubtedly underlain by the Shinarump formation, but at no point on the property does the basal part of the formation outcrop. Evidence of channeling is apparent in outcroppings near the property. Because the direction of this channeling has not been established and because there is no known uranium mineralization on the property, the type of work proposed is considered wildcat exploration. No well-defined targets are known in the area. It is recommended that the loan be denied because of the above conclusions.

Defense Minerals Administration
RECEIVED
MAY 31 1955

IN REPLY REFER TO:
DMEA
Date Rec'd.
MAY 23 1955

BUREAU OF MINES
Denver, Colorado

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

May 20, 1955

TRANSMITTED

MAY 24 1955

Memorandum

To: Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3690 (Uranium), Woodlot mines, Devil's Furnace, Vulcan and Woodlot claims, Circle Cliffs district, Garfield County, Utah

Enclosed are 10 copies of a geologic report by E. S. Davidson, U. S. Geological Survey, covering his examination of the above subject property.

Davidson describes the geologic conditions on the property and concludes that, although the ore-bearing horizon does not outcrop, any uranium mineralization present will be spotty and low grade. He recommends denial of the application for exploration assistance.

I concur with this recommendation.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

DEPARTMENT OF THE INTERIOR MINERAL DEPOSITS
Potash Minerals Section DMEA
RECEIVED
MAY 31 1955 MAY 20 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

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

April 26, 1955

TRANSMITTED
MAY 24 1955

Memorandum

To: E. N. Harshman

From: W. P. Williams

Subject: DMEA 3690, Woodlot mines, Devil's Furnace, Vulcan and Woodlot claims, Circle Cliffs district, Garfield County, Utah

Transmitted herewith are eleven copies of a geologic report by E. S. Davidson covering a field examination of above referenced property.

Uranium deposits in the vicinity of the Woodlot property are of low grade, small size, and are widely scattered. After study of the geology of the Woodlot property, Davidson concludes that there is small chance of finding a significant uranium ore deposit. I concur with Davidson's recommendation that the application for DMEA assistance be denied.

Mr. D. A. Grundy, AEC geologist in the Circle Cliffs area, was consulted with regard to evaluation of the property.

We are returning herewith the brochure covering this application.

W P Williams

W. P. Williams
Geologist

Enclosures

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3690, Woodlot mines, Devil's Furnace, Vulcan, and Woodlot claims, Circle Cliffs district, Garfield County, Utah

Uranium

Geologic Report

by

E. S. Davidson
U. S. Geological Survey

April 1955

OF THE INTERIOR
Minerals Administration
RECEIVED
MAY 31 1955

DMEA 3690

INTRODUCTION

The Woodlot mines partnership, P. O. Box 100, Provo, Utah, has applied (DMEA Docket No. 3690) to the Defense Mineral Exploration Administration for assistance to explore for uranium ore on the Woodlot and Devil's Furnace-Vulcan claims (fig. 3). These claims are located in Garfield County, Utah, about 25 miles west of Escalante, Utah (figs. 1 and 2). The applicant proposes 27,575 feet of combined diamond-core and wagon drilling at an estimated total cost of $66,356.06 to explore the Shinarump conglomerate underlying the claims. The applicant is a lessee.

The property was examined on April 7, 1955, by a Region III examining team comprising W. Young of the U. S. Bureau of Mines, and E. S. Davidson and T. E. Mullens of the U. S. Geological Survey. The Field Team was accompanied by a representative of the applicant, Roy Ewell, and the applicant's geological consultant, Paul Dean Proctor of Provo, Utah.

Any ore that might be mined at the present time would be trucked to Marysvale, Utah, a distance of approximately 175 miles, 75 miles of which is over unimproved gravel and dirt roads. These roads are passable all year although some snow removal would be required during February and March.

GEOLOGY

Rock units

Rocks cropping out on the Woodlot and Devils Furnace-Vulcan claims are the Chinle formation, the underlying Shinarump conglomerate and the overlying Wingate sandstone, all of upper Triassic age (fig. 3).

Shinarump conglomerate

The Shinarump conglomerate is a crossbedded medium-grained white sandstone. It is composed mainly of quartz grains, but minor amounts of carbonaceous fragments, feldspar grains and assorted heavy minerals are present. The cement is a white clay-like material and the sandstone is moderately friable. The sandstone ranges from 30 to 70 feet thick and contains uraniferous material in the vicinity of the report area.

Chinle formation

The Chinle formation, conformably overlying the Shinarump conglomerate consists of variegated mudstone and shale with a few interbeds of sandstone near the base and limestone in the upper part. The Chinle is about 450 feet thick in the vicinity of the claims. It is not known to contain any significantly radioactive material on the claims.

Wingate sandstone

The Wingate sandstone is a crossbedded fine- to very fine-grained sandstone which overlies the Chinle formation. The Wingate is about 300 feet thick and does not contain significantly radioactive material on the claim.

Structure

The claims are on the southwest flank of the Circle Cliffs anticline. Dips range from 4 to about 6 degrees southwest. Faults, where they exist, have small relative movement and are minor in importance.

Economic geology

Most of the uranium ore produced from the Circle Cliffs area has been mined from the Shinarump conglomerate and the Moenkopi formation, within a few feet of their contact. The highest grade material is generally found on the contact between these two units. Neither the base nor the Shinarump conglomerate is exposed on the applicants claims. Uraninite is the most common primary mineral; various uraniferous copper phosphates and sulfates are present in weathered material. Nearly all the ore mined is more copper-rich in the weathered material, and chalcopyrite(?) and pyrite are common associates of the unweathered uranium ore. About the only large-scale factor common to all of the deposits mined to date is their occurrence in a sandstone-filled paleochannel incised in the top of the Moenkopi formation. The thickness of sandstone above the channel base does not appear to be important, as deposits are found in all ranges of sandstone thickness, from 20 feet to over 100 feet. This observation of thickness may be faulty inasmuch as no large deposits have yet been found in the area.

At least three minor paleochannels in the Moenkopi formation cross the area covered by the applicants claims (fig. 3). These channels range from 500 to 1,000 feet wide but none are more than 20 to 30 feet deep. The northernmost channel which probably underlies the Woodlot group of claims (fig. 3) has a small prospect hole on the rim (Glen Rae claims). The uraniferous material in the Glen Rae prospect is low grade and is confined to the lower foot of the Shinarump conglomerate. It does not look very promising. The southernmost channel is prospected by the Lone B mine (see DMEA application 3588 for more complete description) and probably is present under the central Devil's Furnace-Vulcan claims. Uraniferous material in the Lone B mine is confined to the lower 2 feet of the Shinarump and is very spotty in distribution. Again, this prospect, and therefore the channel, is not very encouraging. The other channel lies between the two just described, and outcrops on the rim about 4,500 feet north of the Lone B mine. It will probably lie under the northern part of the Devil's Furnace-Vulcan claim. This central channel is more indefinite than the other two and no prospect pits have been dug. It probably does not contain any significant amount of uraniferous material where exposed.

The Black Widowmine, located approximately 8,000 feet ~~west~~ east of the Devils Furnace-Vulcan claims, is located on a different channel system (fig. 3) and produced 325 tons of 0.14 percent U_3O_8 for a value not exceeding $7,000, including all allowances. This differs considerably from the "Production of over $30,000 to date" in item 5 of the applicants report. The ore bodies developed to the north may or may not have the amount of ore claimed in the applicant's report. They were drilled by a Salt Lake City individual and I would guess that the estimates are high.

ORE RESERVES AND PRODUCTION

The property has no calculable ore reserves nor has any production been made. As noted above, the ore horizon does not outcrop and is not exposed on the applicant's claims.

PROPOSED EXPLORATION

The applicant proposes 27,575 feet of combined diamond-core and wagon drilling at a total estimated cost of $66,356.06. The proposed hole locations are spaced about 300 feet apart on lines crossing the direction of the three major channels in the area.

CONCLUSION AND RECOMMENDATIONS

No mineable ore bodies are known to be present anywhere near the applicant's property. The uraniferous material present has a very spotty distribution. It is evident that any drilling on the Woodlot or Devil's Furnace-Vulcan claim is of a "wildcat" nature; therefore, the examining team recommends that the loan be denied because of the nature of the risk. Mr. D. A. Grundy, AEC geologist in the Circle Cliffs area, concurs with the examining teams's recommendation.

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3690

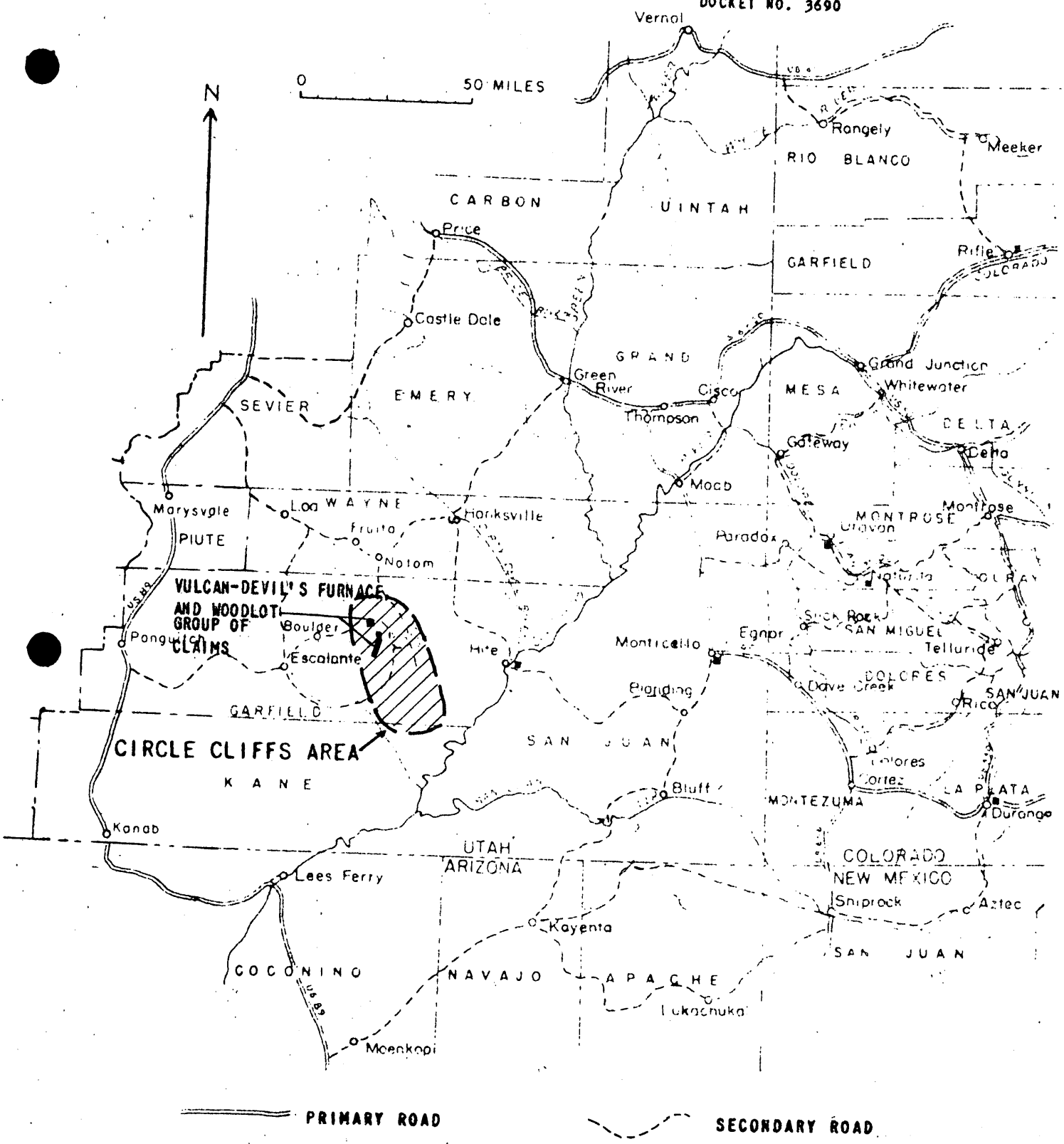


Figure 1. INDEX MAP OF PART OF COLORADO PLATEAU SHOWING LOCATION OF WOODLOT MINES, VULCAN DEVIL'S FURNACE, AND WOODLOT GROUP OF CLAIMS, CIRCLE CLIFFS AREA GARFIELD AND KANE COUNTIES, UTAH

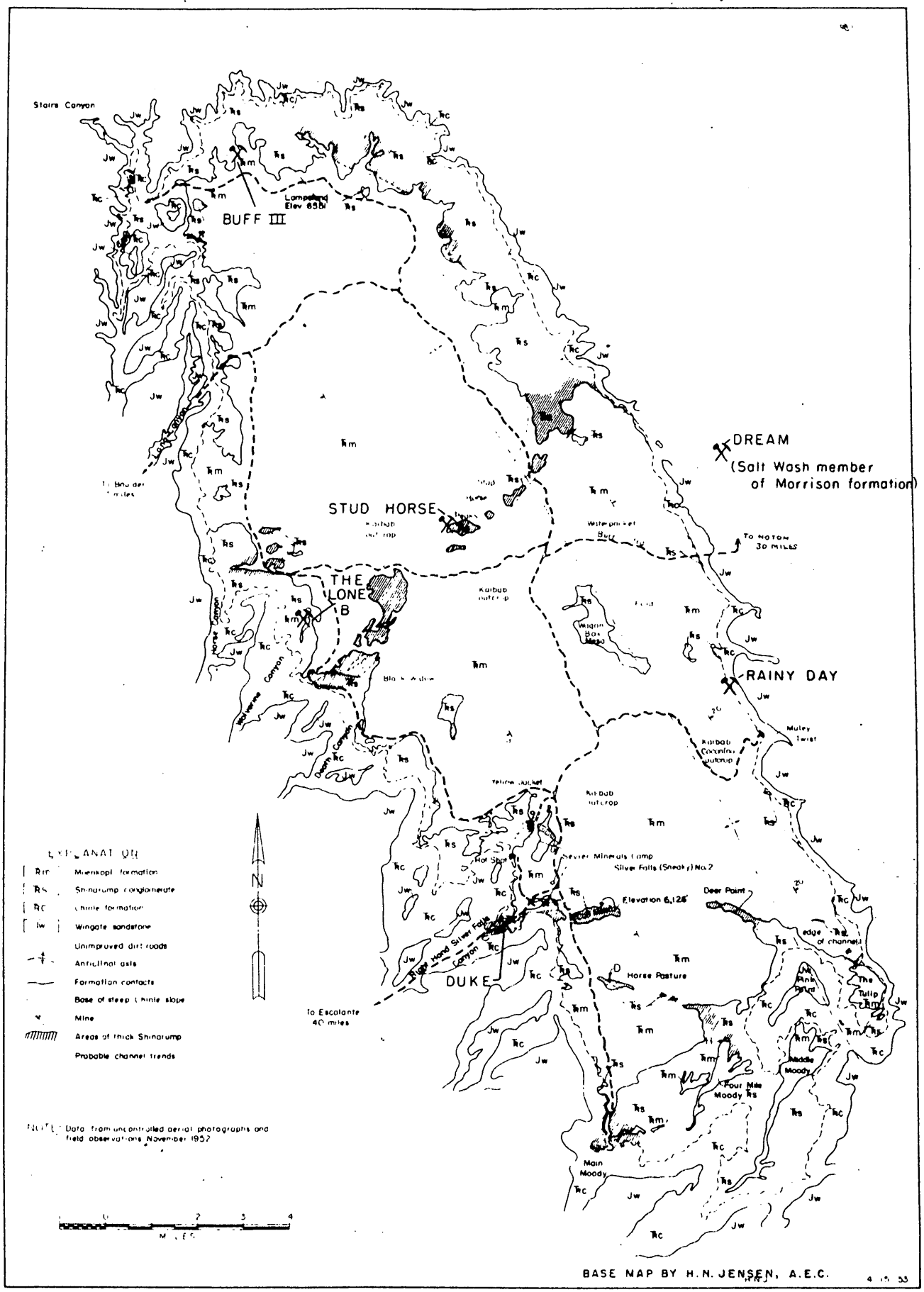
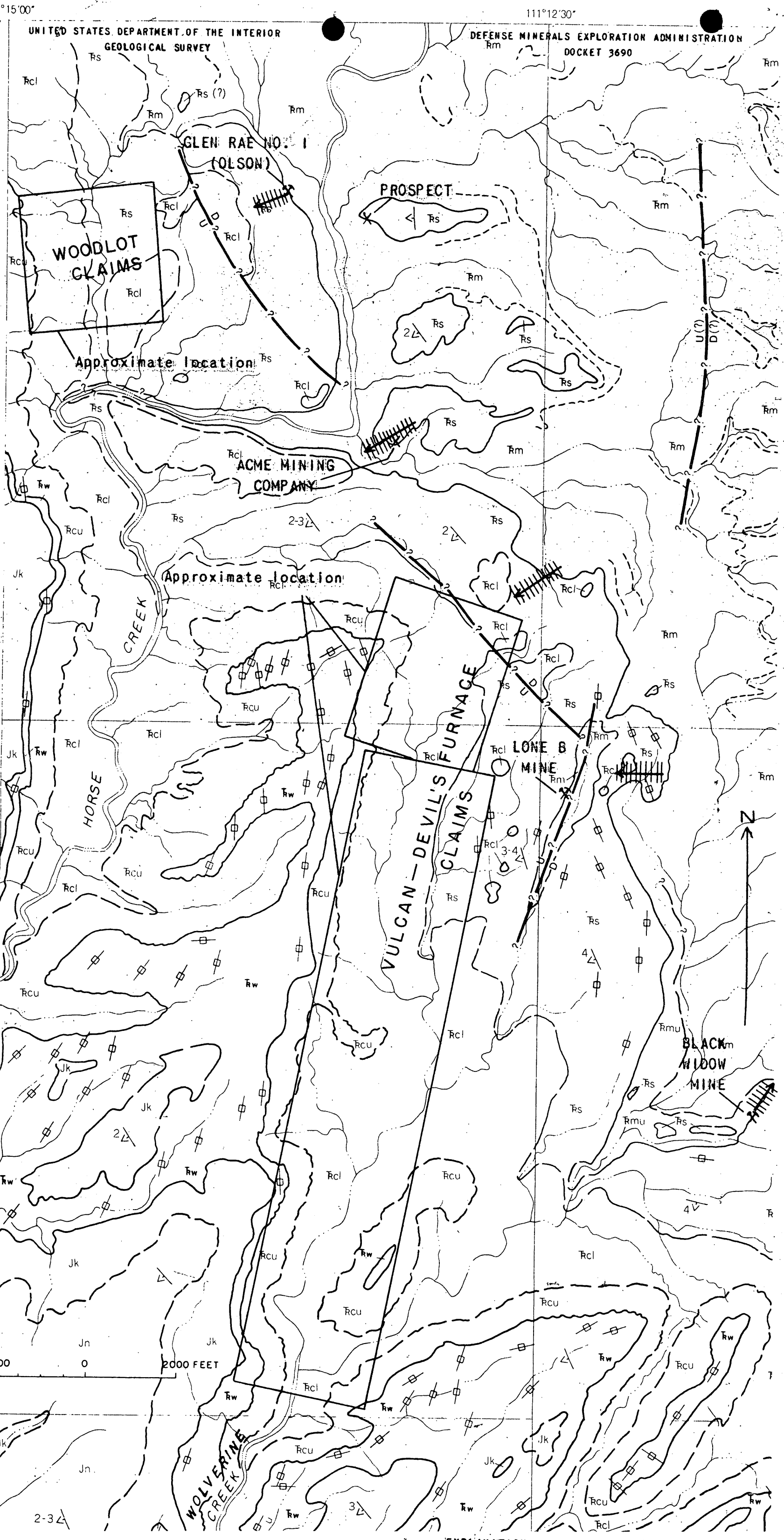


Figure 2. Areal geology of Circle Cliffs, Garfield County, Utah



Note: BASE AND GEOLOGY FROM U.S. GEOLOGICAL SURVEY PHOTOGEOLOGIC QUADRANGLE MAP CIRCLE CLIFFS 7

Figure 3. GEOLOGIC MAP SHOWING VULCAN-DEVIL'S FURNACE, AND WOODLOT GROUP OF CLAIMS, WOODLOT MINES, CIRCLE CLIFFS AREA, GARFIELD AND KANE COUNTIES, UTAH

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

FEB 13 1955

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. 3690
Metal or Mineral Uranium
Date Received 2-21-55
Estimated Cost $66,356.06
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:

Woodlot Mines, A Partnership
P. O. Box 100
Provo, 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. See Attached.

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.

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

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

(*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. See attached.

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

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

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

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

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

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

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

See attached.

16—66551-1

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

(*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. See attached.

(*c*) The work will start within 90 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. See attached.

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.). See attached.

(*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 attached.

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

(*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 attached.

(*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. See attached.

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

(*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 attached.

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

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 February 14, 1955

Woodlot Mines, A Partnership
(Applicant)

By Allen B. Sorensen
Allen B. Sorensen
Partner and Attorney in Fact

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

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

1 (d) Names and Addresses of all Partners:

Name	Address
Sam Sargis	845 California Street, San Francisco, Calif.
Lyon McKinney	P. O. Box 575, Chowchilla, California
Sherwood Green	P. O. Box 1019, Madera, California
A. E. Lentz	220 So. 1st East, Provo, Utah
J. K. Hayes	190 So. 3rd East, Provo, Utah
Allen B. Sorensen	517 East Center, Provo, Utah
J. E. Kirkman	P. O. Box 298, Madera, California
Vera McKinney	P. O. Box 575, Chowchilla, California
Melvin Crader	P. O. Box 152, Chowchilla, California
R. S. Whitmore	3035 Ferris St., Fresno, California
Arnold Sallaberry	Rte. 1 Box 246 A, Madera, California
Dorothy M. Boles	P. O. Box 787, Chowchilla, California
D. O. Jones	1126 Water St., Santa Cruz, California
Lester E. Braun	145 No. 11th St., Chowchilla, California
John Holiday	118 Doralee Way, San Jose, California
James V. Demaio	1735 Sherman, Apt. 210, Denver, Colorado
H. O. Bollinger	P. O. Box 281, Chowchilla, California
Jack Mac Arthur	2820 Grant Street, Concord, California
Jay S. Wilner	155 First Avenue, Salt Lake City, Utah
Jessie Schofield	1632 Deerdorff Lane, Concord, California
L. F. Black	1310 North 9th East, Provo, Utah
A. E. Terry	38 South 6th East, Provo, Utah
Mrs. Kiba Roberts	515 Lexington Ave., Fort Smith Arkansas
Velma Bearntsen	1110 So. Waldron Road, Fort Smith, Arkansas
Paul Sorensen	517 East Center Street, Provo, Utah
O. A. Clemmer	Box 133, Vista, California
Ray Clemmer	Rte. 1 Box 40, Chowchilla, California
Elden Brady	Bridgeland, Utah
Francis N. Mortenson	344 South 3d East St., American Fork, Utah

3. Applicants Property Rights.

(a) Sixty-four (64) unpatented mining claims located in the Circle Cliffs, Garfield County, Utah. (See maps accompanying this application). Location and recording data required by Item 3 (f) is given herewith. It should be noted that the claims identified as Vulcan No.'s 1 to 48 inclusive, include the same area as those identified by Devil's Furnace No.'s 1 to 48. The location of the Vulcan claims was made out of caution in view of the fact that the claims known as Devil's Furnace No.'s 1 to 48 were made prior to August 13, 1954, and there is a possibility of a conflict with an oil and gas lease prior to the effective date of Public Law 585, 83rd Congress 2nd Session. References to the book and page where the location notices are recorded are to the records of the Garfield County Recorder, Panguitch, Utah.

Name of Claim	Notice of Location Recorded Book	Page	Name of Claim	Notice of Location Recorded Book	Page
Devil's Furnace 1	34	205	Devil's Furnace 28	34	232
Devil's Furnace 2	34	206	Devil's Furnace 29	34	233
Devil's Furnace 3	34	207	Devil's Furnace 30	34	234
Devil's Furnace 4	34	208	Devil's Furnace 31	34	235
Devil's Furnace 5	34	209	Devil's Furnace 32	34	236
Devil's Furnace 6	34	210	Devil's Furnace 33	34	237
Devil's Furnace 7	34	211	Devil's Furnace 34	34	238
Devil's Furnace 8	34	212	Devil's Furnace 35	34	239
Devil's Furnace 9	34	213	Devil's Furnace 36	34	240
Devil's Furnace 10	34	214	Devil's Furnace 37	34	241
Devil's Furnace 11	34	215	Devil's Furnace 39	34	243
Devil's Furnace 12	34	216	Devil's Furnace 41	34	245
Devil's Furnace 13	34	217	Devil's Furnace 43	34	247
Devil's Furnace 14	34	218	Devil's Furnace 45	34	249
Devil's Furnace 15	34	219	Devil's Furnace 47	34	251
Devil's Furnace 16	34	220	Devil's Furnace 49	47	423
Devil's Furnace 17	34	221	Devil's Furnace 50	47	424
Devil's Furnace 18	34	222	Devil's Furnace 51	47	425
Devil's Furnace 19	34	223	Devil's Furnace 52	47	426
Devil's Furnace 20	34	224	Devil's Furnace 53	47	427
Devil's Furnace 21	34	225	Devil's Furnace 54	47	428
Devil's Furnace 22	34	226	Devil's Furnace 55	47	429
Devil's Furnace 23	34	227	Devil's Furnace 56	47	430
Devil's Furnace 24	34	228	Devil's Furnace 57	47	431
Devil's Furnace 25	34	229	Devil's Furnace 58	47	432
Devil's Furnace 26	34	230	Devil's Furnace 59	50	108
Devil's Furnace 27	34	231	Devil's Furnace 60	50	109
Vulcan 1	50	110	Vulcan 7	50	116
Vulcan 2	50	111	Vulcan 8	50	117
Vulcan 3	50	112	Vulcan 9	50	118
Vulcan 4	50	113	Vulcan 10	50	119
Vulcan 5	50	114	Vulcan 11	50	120
Vulcan 6	50	115	Vulcan 12	50	121

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

3. Applicants Property Rights, continued

Name of Claim	Notice of Location Recorded Book	Page	Name of Claim	Notice of Location Recorded Book	Page
Vulcan 13	50	122	Vulcan 29	50	138
Vulcan 14	50	123	Vulcan 30	50	139
Vulcan 15	50	124	Vulcan 31	50	140
Vulcan 16	50	125	Vulcan 32	50	141
Vulcan 17	50	126	Vulcan 33	50	142
Vulcan 18	50	127	Vulcan 34	50	143
Vulcan 19	50	128	Vulcan 35	50	144
Vulcan 20	50	129	Vulcan 36	50	145
Vulcan 21	50	130	Vulcan 37	50	146
Vulcan 22	50	131	Vulcan 39	50	148
Vulcan 23	50	132	Vulcan 41	50	150
Vulcan 24	50	133	Vulcan 43	50	152
Vulcan 25	50	134	Vulcan 45	50	154
Vulcan 26	50	135	Vulcan 47	50	156
Vulcan 27	50	136			
Vulcan 28	50	137			
Woodlot 1	31	57	Woodlot 6	31	62
Woodlot 2	31	58	Woodlot 7	31	63
Woodlot 3	31	59	Woodlot 8	31	64
Woodlot 4	31	60	Woodlot 9	31	65
Woodlot 5	31	61	Woodlot 10	31	66

Amended Notice of Location

Devil's Furnace 1	48	434	Devil's Furnace 22	48	455
Devil's Furnace 2	48	435	Devil's Furnace 23	48	456
Devil's Furnace 3	48	436	Devil's Furnace 24	48	457
Devil's Furnace 4	48	437	Devil's Furnace 25	48	458
Devil's Furnace 5	48	438	Devil's Furnace 26	48	459
Devil's Furnace 6	48	439	Devil's Furnace 27	48	460
Devil's Furnace 7	48	440	Devil's Furnace 28	48	461
Devil's Furnace 8	48	441	Devil's Furnace 29	48	462
Devil's Furnace 9	48	442	Devil's Furnace 30	48	463
Devil's Furnace 10	48	443	Devil's Furnace 31	48	464
Devil's Furnace 11	48	444	Devil's Furnace 32	48	465
Devil's Furnace 12	48	445	Devil's Furnace 33	48	466
Devil's Furnace 13	48	446	Devil's Furnace 34	48	467
Devil's Furnace 14	48	447	Devil's Furnace 35	48	468
Devil's Furnace 15	48	448	Devil's Furnace 36	48	469
Devil's Furnace 16	48	449	Devil's Furnace 37	48	470
Devil's Furnace 17	48	450	Devil's Furnace 39	48	472
Devil's Furnace 18	48	451	Devil's Furnace 41	48	474
Devil's Furnace 19	48	452	Devil's Furnace 43	48	476
Devil's Furnace 20	48	453	Devil's Furnace 45	48	478
Devil's Furnace 21	48	454	Devil's Furnace 47	48	480
Woodlot 1	48	492	Woodlot 6	48	497
Woodlot 2	48	493	Woodlot 7	48	498
Woodlot 3	48	494	Woodlot 8	48	499
Woodlot 4	48	495	Woodlot 9	48	500
Woodlot 5	48	496	Woodlot 10	48	501

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

3. Applicants Property Rights, continued

NOTE: A possible title conflict exists on portions of the following claims:

Devil's Furnace (Vulcan) No.'s 38, 40, 42, 44, 46 and 48

and the area where this possible conflict exists is excluded from the proposed exploration project.

(b) None

(c) and (d) Woodlot Mines is lessee of the above described properties. A copy of the lease is attached to this sheet.

(e) There are no liens or encumbrances on the property.

3(d). Applicants Property Rights (continued)

L E A S E

This lease agreement executed this 15th day of December, 1954, by and among Samson Uranium, a partnership, hereinafter called the Lessor, and Melvin Grader, per power of attorney for fourteen (14) principals, and Allen B. Sorensen, per power of attorney for six (6) principals, which two groups of principals are severally participating as lessees, hereinafter called the Lessees:

1. The Lessor hereby leases to the lessees certain unsurveyed and unpatented mining claims listed on Exhibit A attached hereto and made a part hereof, for the purpose of exploring said claims by drilling or otherwise for the purpose of discovering uranium, vanadium or other mineral ore bodies in commercial quantities.

2. The consideration for this lease shall be that the Lessees shall enter upon the mining claims and proceed to explore the same with reasonable diligence, but in no event shall the lessees be required to expend on such exploration more than the sum of Twenty-Five Thousand Dollars ($25,000.00), or the total of contributions actually made by the several lessees, whichever sum is smaller.

3. Should an ore body or ore bodies of commercial grade, as determined by the lessors, be discovered from said exploration, then the lessors and lessees shall mine said ore bodies, or lease the same, or sell the same on such terms as shall, at that time, be determined by the lessors and lessees.

4. Forty-nine per cent (49%) of the net proceeds received from the mining or leasing or sale of the subject claims shall be paid to the lessees. Each lessee shall be paid from the said forty-nine per cent (49%) of the net proceeds, a sum which shall be that proportion of the forty-nine per cent (49%) of the net proceeds as the amount that the lessee has contributed toward the joint venture bears to the entire amount contributed by all lessees to the joint venture. All payments made pursuant to this paragraph shall be made directly to the lessees, without regard to appointments by the lessees of their attorneys in fact.

5. No time limit is placed upon this agreement intentionally, it being the intent of the parties hereto that exploration, including road work, drilling, and geologic examination of the properties shall proceed as expeditiously as possible with due regard to sound geologic exploration practices and to sound fiscal practices such as geologic exploration. No party hereto shall be held liable by any other party hereto for errors of judgment.

3(d). Applicants Property Rights (continued)

and they do not represent that there is no interest in the claims or a part thereof paramount to their title. The joint venture hereby assumes all responsibility for assessment work and all other future acts required to maintain or perfect title.

7. For purposes of convenience, this joint venture shall be known as Woodlot Mines.

SAMSON URANIUM

By /s/ S. G. Sargis
S. G. Sargis

/s/ J. K. Hayes
J. K. Hayes

/s/ Sherwood Green
Sherwood Green

LESSORS

/s/ Allen B. Sorensen
Allen B. Sorensen

/s/ Melvin Crader
Melvin Crader

ATTORNEYS IN FACT FOR LESSORS

EXHIBIT A

CLAIMS FOR WOODLOT MINES

Devil's Furnace - Vulcan Claims:

Nos. 1-36, inclusive, 37, 39, 41, 43, 45, and 47.

Devil's Furnace Claims:

Nos. 49 to 60, inclusive.

Woodlot Claims:

Nos. 1 to 10, inclusive.

MF-203
(Revised July 1, 1954)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Utah, County of

Garfield, described as follows: 1/

Devil's Furnace - Vulcan Claims:

No.'s 1-36, inclusive, 37, 39, 41, 43, 45, and 47.

Devil's Furnace Claims:

No.'s 49 to 60, inclusive.

Woodlot Claims:

No.'s 1 to 10, inclusive.

which is the subject to a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and 2/

Woodlot Mines, a Partnership

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract or any amendment thereof shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production provided for under the terms of said exploration project contract or any amendment thereof there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

MF-203
(Revised July 1, 1954)
OWNERS CONSENT TO LIEN, (continued)

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions: None

Dated this 14th day of February, 1955.

S. G. Sargis (Seal)
S. G. Sargis

J. K. Hayes (Seal)
J. K. Hayes

Allen B. Sorensen (Seal)
Allen B. Sorensen

A. E. Lentz (Seal)
A. E. Lentz

4. Physical Description.

(a). To the present time no mining operations have been attempted on the property. However, a few hundred feet east on the Jack Little property, and farther east and south production has been made from theBlack Widow mine. The entire area of the claim is readily accessible by jeep. No underground workings are present.

(b). There has been no past production from the property. Ore reserves are not known.

(c). The geologic setting is simple. Very gently west dipping Triassic rocks crop out in the claim areas. The Moenkopi shales comprise the lowermost formation exposed and from steep to gentle slopes in canyon areas. The ledge-forming Shinarump formation lies directly on the Moenkopi and makes conspicuous cliffs wherever the two are exposed together. Lower and Upper Chinle shales and sandstones cover the Shinarump formation on the west. Jurassic (?) Wingate sandstones form bold escarpments in the extreme northwest and southwest portions of the Vulcan claim group.

Known mineralization in the area occurs as uranium-mineral impregnations and possible replacements of the basal sandstone formation and the uppermost portions of the Moenkopi shales. The mineralization is commonly accompanied by a bleaching of the darker shales in the vicinity of the ore-bodies. Deposits tend to resemble uranium deposits elsewhere in the Shinarump formation, but are unique in their occurrence not only in the sandstones but also in the underlying shales and siltstones in the uppermost Moenkopi formation. Since the base of the ore-carrying bed is not exposed in the claims area it is not possible, without exploration, to describe the position, shape, or type of possible ore-bodies.

The rather common occurrence of uranium mineralization associated with Shinarump stream channels or their marginal portions, the presence of nearby ore-bodies of this type, conspicuous bleaching of the shales in outcrops to the east, and finally the trend of the steep inclination of the fore-set type sandstone beds from known ore-zones W-S-W toward and through the claim areas suggest a good possibility for hidden mineralization within the claim boundaries. (See figure 1). Shallow drilling appears to be the most likely method of exploring these possibilities.

(d). The properties are readily accessible by good dirt graded roads from Green River via Cainville, Notom Ranch, and the Old Burr Trail, or from Torrey via Capitol Reef, Notom Ranch and then as above. Torrey is approximately 70 miles and Hanksville, Utah about the same. Escalante, Torrey, and Green River act as supply and resident centers for the area.

4. Physical Description (continued)

(e) Availability of manpower is good, especially during the winter months. All needed materials for exploration work can be obtained from the above towns. Since the proposed program is mainly drilling in character, the contractor would be required to furnish practically all of the needed equipment, supplies, materials, and manpower for the project. Power supply would have to be generated at the exploration sites. The nearest good source for water for both drinking and equipment lies approximately 15 miles north in the Circle Cliffs area. This spring is accessible by road and supplies almost all of the mining groups in the central and northern portions of the Circle Cliffs.

5. The Exploration Project.

(a). The minerals sought in the exploration are uranium-bearing. These probably include autunnite, torbernite, but mainly pitchblende.

(b). The proposed exploration program is shown on the accompanying map. Objectives of the program are to test the basal portions of the Shinarump formation and uppermost Moenkopi shales and silts for uranium mineralization in areas considered favorable for hidden ore-bodies. This is to be accomplished by drilling.

The ore potential of the area is based on several factors: (1) Known ore-bodies of relatively large size occur in nearby areas in the formation of the same age. These have been blocked out by drilling in the Circle Cliffs area. (2) Favorable trend of ancient stream channels from known ore-bodies toward property controlled by the company. (3) Alteration zones usually associated with mineralization in the Moenkopi shales and siltstones are well developed east of the claim areas. (4) ~~Shallow~~ Drilling depths to the target ore-horizon are shallow and exploration can be easily accomplished when the equipment is on the ground.

As further support, and in more detail, the Jack Little property lies approximately 1900 feet east of the northern portion of the Vulcan claims. Here a mineralized zone approximately 500 feet wide and to 5 feet thick occurs at the base of the Shinarump formation in an old stream channel. The ancient stream channel appears to bear N 78 West and should cross the Devil's Furnace claim group. The higher-grade mineralization exposed ranges to over one foot in thickness and over 200 feet wide, and occurs in a bleached shale zone. Probable uraninite, some chalcopyrite, marcasite, and the secondary autunite and torbernite are present in association with carbonized wood. The Black Widow mine has a similar geologic setting and lies approximately one mile east of the Vulcan claims. Production of over $30,000 to date is reported. A hidden ore-body has also been

5 (b). The Exploration Project (continued)

drilled approximately 1000 feet North of the Woodlot claims. Here the ore occurs at the base of the Chinle and is associated with carbonaceous material. Another ore zone is reported to have been outlined by drilling some 3000 feet north of the Woodlot claims. The company estimates $500,000 in ore blocked out. This figure has not been confirmed. Approximately 1700 feet east of the Woodlot claims the Olsen prospect shows a 2-5 inch and locally one foot thick high-grade uranium bearing zone in the lower Shinarump sandstones. Other more well-known properties in the vicinity are the Rocky Mountain Uranium Company 10 miles easterly where ore reserves are estimated at $1,000,000. The channel in which the ore occurs is reported as 30-40 feet wide and to 14 feet thick. Geologic conditions are very similar to the Jack Little property just east of the Vulcan claims. The Acme Uranium Company adjacent to the Rocky Mountain property is also reported to contain large ore reserves. Other properties include the Stud Horse Buttes to five feet thick, the LaSal ore body to 10 feet thick, and the numerous other holdings in the area which are yet to be explored.

In the Woodlot and northern Vulcan claims the ore-bearing base lies within 100 feet of the present surface. This suggests that a relatively inexpensive wagon-drilling exploration program could be initiated here. Further south in the Vulcan claims the Shinarump formation is covered by Lower Chinle shales and sandstones. The type of material is not too amenable to wagon drilling and it will be necessary to use either plug or diamond drill bits. Costs of the holes in the southern area will probably more than double the wagon drilling costs.

In order to accomplish the greatest amount of exploration with the least amount of expenditure, and yet properly test the ore-bearing beds, a grid spacing of 300 feet between holes at approximately right angles to known Triassic stream directions is proposed. A line of holes at right angles west 600 feet with 300 foot spacing and set midway between the other holes will permit a narrow enough spacing to pick up any of the larger size ore-bodies in the areas of greatest interest. (See map and cross-sections). All holes are planned to cut the Shinarump formation and uppermost Moenkopi shales. Depths will range from approximately 60 feet in the northernmost area to those approximating 250 feet in the south. If an ore-body is penetrated in the drilling program, the exploration program will be modified, spacing of the bore holes dropped to 75 feet on the grid system, and the ore-body outlined.

The greatest concentration of drilling is outlined for the Woodlot and northern portion of the Vulcan-Devil's Furnace group since these areas have the most favorable indications of uranium mineralization on the nearby cliff faces of the Shinarump formation. (See cross-section D-D' and map). Only one line of drill holes is proposed in the southern part of the Vulcan-Devil's Furnace group

5 (b). The Exploration Project (continued)

to test the ore-potential. This is based on lack of geologic data because of distance from known outcrops of the ore-bearing horizon. However, these holes are placed on the regular grid system, and are adjusted to it to take advantage of the most favorable topographic conditions. Any future drilling in this area can utilize the established grid. It will be noted (see map) that a line of diamond drill core holes is proposed throughout the length of the claims. This permits not only the testing of the ore-potential of the beds, but will give basic geologic information on channel-development, thickness of units within the ore-bearing beds, and other valuable data. If the same data can be obtained through less expensive drifting methods, or if ore is found exclusively at the base of the formation, then the drill type can be modified to meet the known conditions.

Estimate of costs for the planned drilling program are included on the following sheet.

(d). It is contemplated that the proposed exploration project will be conducted entirely by contract. Several of the partners are professionally trained, experienced and employed in geology and mining operations, namely, S. G. Sargis, J. K. Hayes, Jack MacArthur, J. S. Milner, and Paul M. Sorensen. Their consultation services are available to the applicant.

It is contemplated that the partnership will employ the services of Dr. Paul Dean Proctor, consulting geologist who prepared the geological data for this application, as circumstances require.

6. Estimate of Costs

(a) Drill Program: Costs estimated below are based on various bids by contractors for an exploration program as heretofore outlined. Estimates of the Minerals Engineering Company of Grand Junction, Colorado are taken as representative.

WOODLOT CLAIMS

Type of Drilling	Number of Holes	Average Depth	Total Footage	Av.Cost/ Foot	Total Cost
Wagon Drilling	32	100	3200	$ .95	$3040.00
Diamond Drilling*	10	150	500 (Plug)	2.35	1175.00
			1000 (Bx)	2.75	2750.00
			Subtotal		$6965.00

Vulcan-Devil's Furnace Claims

Wagon Drilling	27	125	3375	$ .95	$ 3106.25
	19	150	2850	1.35	3847.50
Diamond Drilling*	74	125	9250 (Plug)	2.35	21737.50
		100	7400 (Bx)	3.00	22200.00
			Subtotal		$ 50891.25
			Total Drilling		$ 57856.25

Road Building and Drill Site Preparation
145 hours at $12.00/hour $ 1740.00

Grand Total Drilling $ 59596.25

(b). Supervision, engineering and geological consultants during period of drilling contract, 3 months at $1200.00 per month including expenses. $ 3600.00

(c), (d), (e), (f) and (g) None

(h). Contingencies 5% of total $ 3159.81

Grand Total Estimated Cost for Exploration Program $ 66356.06

*See text for possible modification.

DMEA Loan Application of Woodlot Mines, P. O. Box 100, Provo, Utah

7. (a) Yes.

(b) There is on deposit in the State Bank of Provo, 75 North University Avenue, Provo, Utah, to the account of Woodlot Mines, the sum of Twenty-three thousand dollars ($23,000.00) to be used for the proposed project.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
[redacted]

~~OFFICIAL BUSINESS~~
~~2900 Colfax Ave. S.~~
[redacted]
~~Minneapolis, Minn.~~

MINNEAPOLIS OCT 14 8 PM 1953 MINN

MINNEAPOLIS OCT 14 5 PM 1953 MINN

3 CENTS 3

~~Operating Committee~~
~~Defense Minerals Exploration Administration~~
~~Interior Building~~
~~WASHINGTON 25, D. C.~~

FIRST CLASS MAIL

(CIRCLE CLIFFS 2 NE)

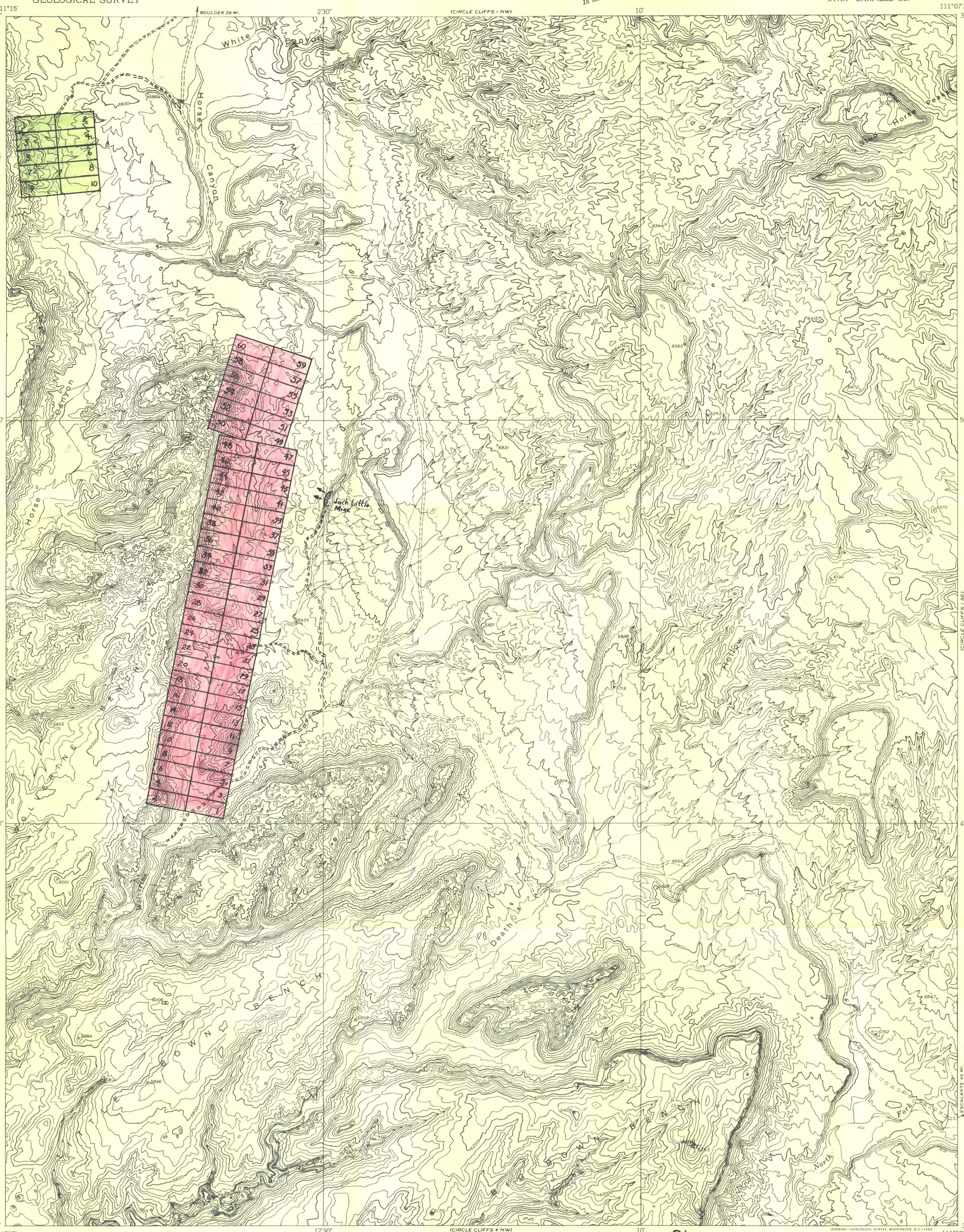
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Preliminary edition
Pending completion of 1:62,500 scale
15 minute maps covering this area

CIRCLE CLIFFS 1 SW QUADRANGLE

UTAH—GARFIELD CO.

(CIRCLE CLIFFS 1 NE)



INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1954

Mapped by the Geological Survey 1953

Topography by multiplex methods from aerial photographs taken 1952

15½°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1954

SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

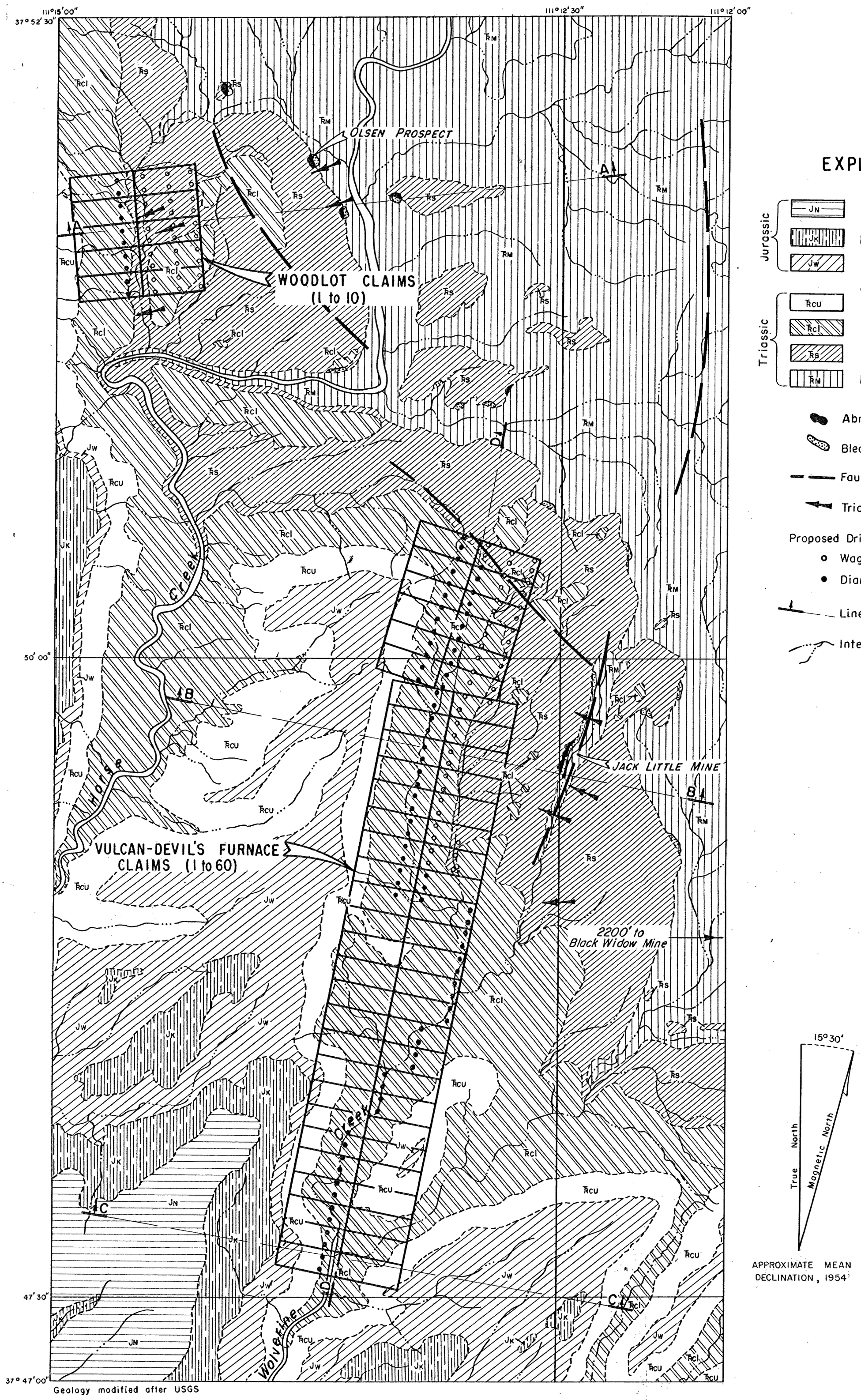
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

Claims:
Vulcan Devil's Furnace
Wood Lot

ROAD CLASSIFICATION
Improved ——— Unimproved - - - - -

(CIRCLE CLIFFS 4 NE)

CIRCLE CLIFFS 1 SW, UTAH
N3745—W11107.5/7.5



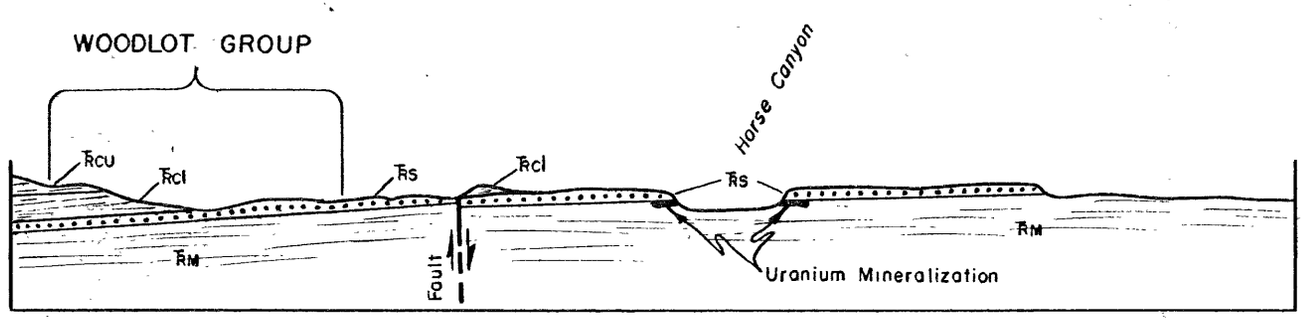
GEOLOGIC MAP OF WOODLOT, VULCAN-DEVIL'S FURNACE AREAS

CIRCLE CLIFFS DISTRICT-GARFIELD COUNTY, UTAH

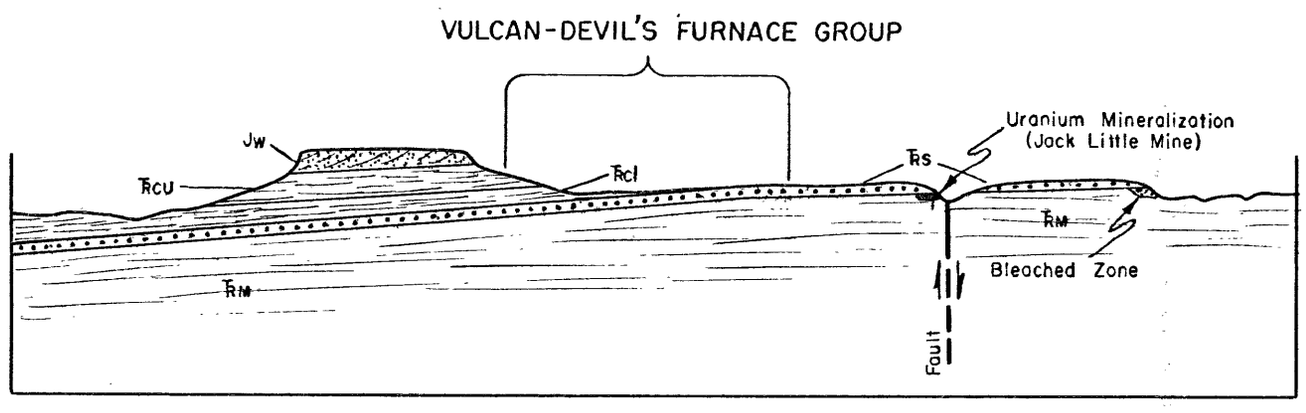
2000 0 2000 4000 6000

SCALE IN FEET

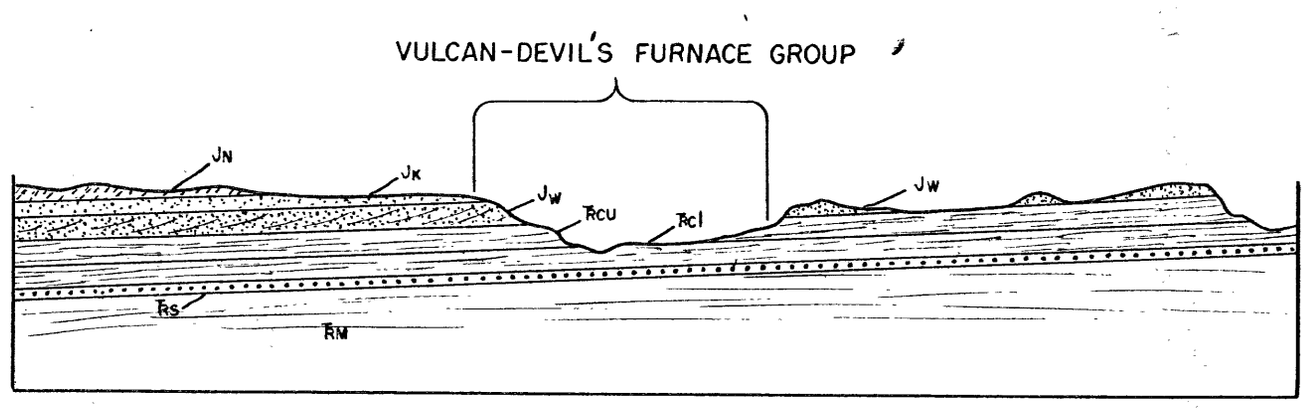
SECTIONS—PARALLEL TO DIRECTION OF TRIASSIC SHINARUMP STREAM CHANNELS



SECTION A–A
N 84° E Looking Nr'ly

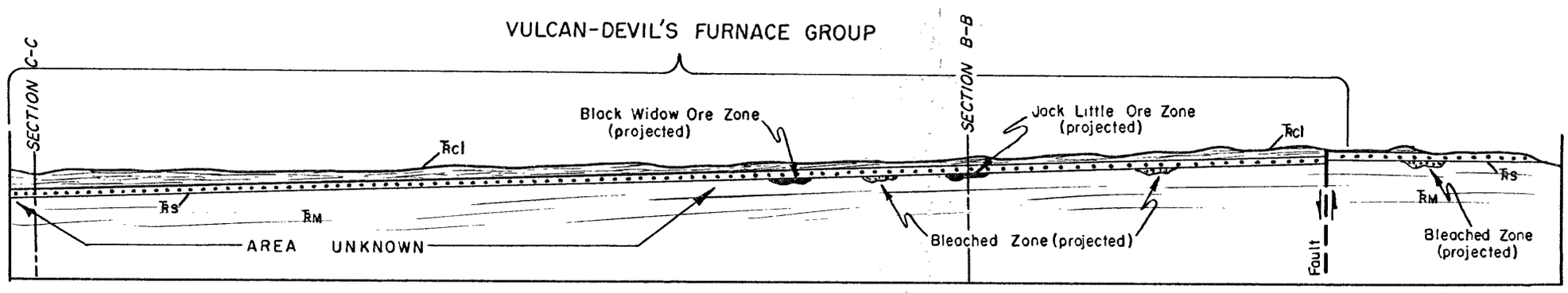


SECTION B-B
N 80° W Looking Nr'ly



SECTION C-C
N 80° W Looking Nr'ly

SECTIONS—APPROXIMATELY RIGHT ANGLE TO DIRECTION OF TRIASSIC SHINARUMP STREAM CHANNELS



SECTION D-D
N 12° E Looking Wr'ly

EXPLANATION

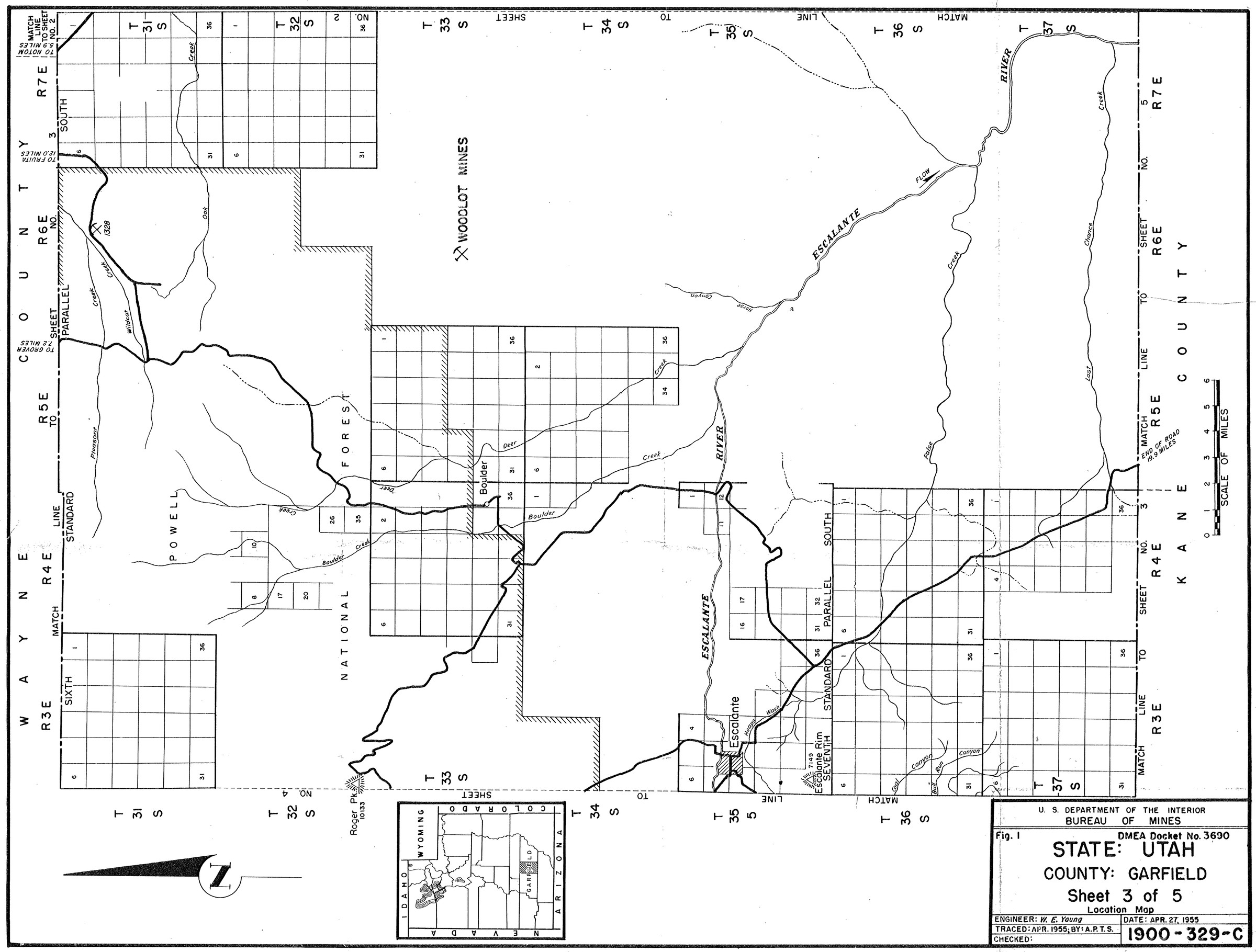
Jurassic	JN	Navajo Sandstone
	JK	Kayenta Formation
	JW	Wingate Sandstone
Triassic	TRcu	Chinle (upper) Formation
	TRcl	Chinle (lower) Formation
	TRs	Shinarump Formation
	TRm	Moenkopi Formation

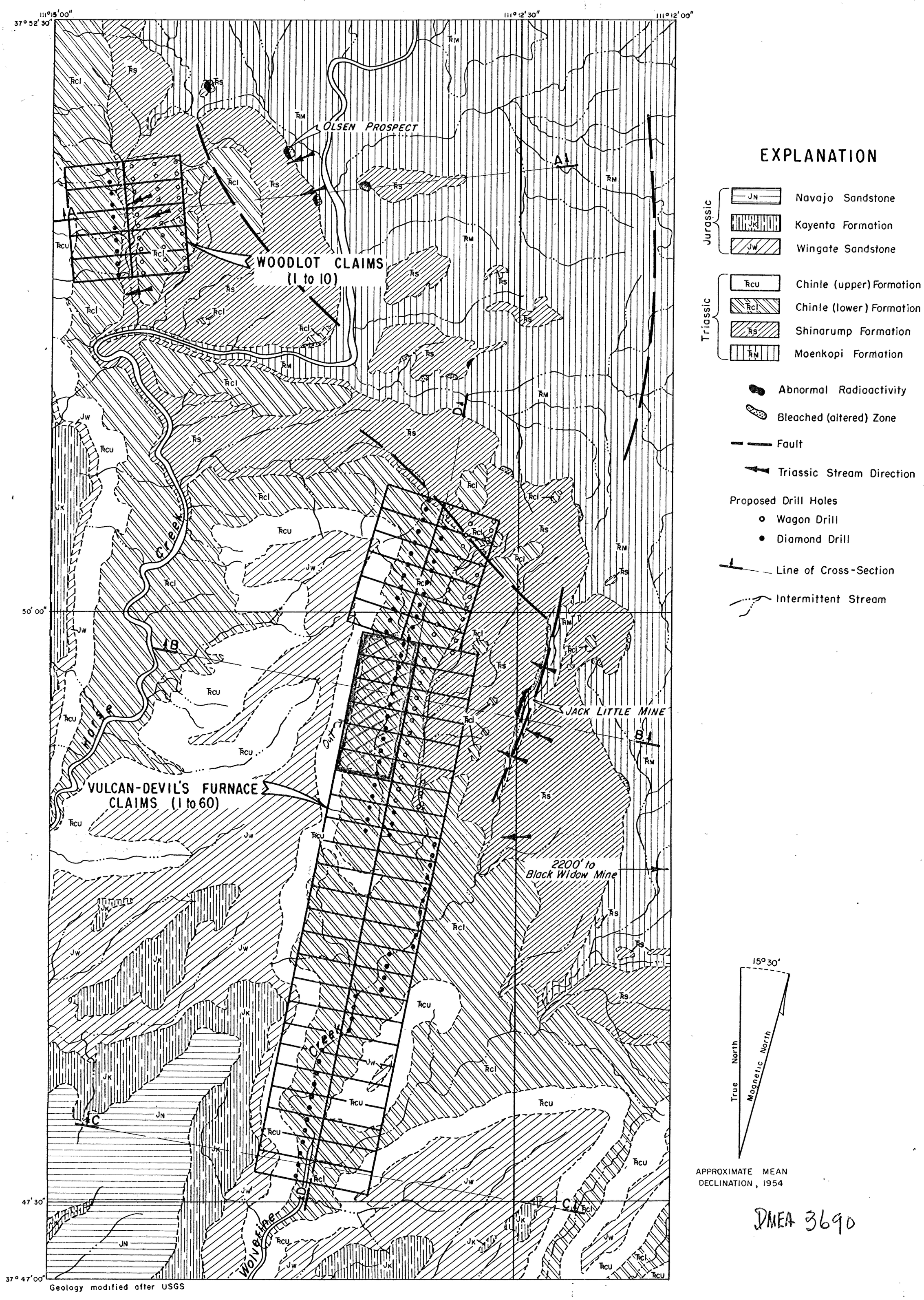
GEOLOGIC SECTIONS OF WOODLOT, VULCAN-DEVIL'S FURNACE AREAS

CIRCLE CLIFFS DISTRICT-GARFIELD COUNTY, UTAH

2000 0 2000 4000 6000

SCALE IN FEET


U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Fig. 1
DMEA Docket No. 3690
STATE: UTAH
COUNTY: GARFIELD
Sheet 3 of 5
Location Map
ENGINEER: W. E. Young
DATE: APR. 27, 1955
TRACED: APR. 1955; BY: A.P.T.S.
CHECKED:
1900-329-C
WOODLOT MINES
ESCALANTE RIVER
FLOW
POWELL NATIONAL FOREST
WAYNE COUNTY
KANE COUNTY
R3E
R4E
R5E
R6E
R7E
SIXTH PARALLEL
SOUTH STANDARD
SEVENTH PARALLEL
MATCH LINE TO SHEET NO. 2
TO NOTOM 5.9 MILES
TO FRUITA 12.0 MILES
TO GROVER 7.2 MILES
END OF ROAD 19.9 MILES
Escalante
Escalante Rim
Roger Pk. 10133
7149
1328
Boulder
Deer
Pleasant
Wildcat
Oak
Chance
Last
False
Coal
Run
Canyon
Hoape
Wash
Horse
SCALE OF MILES
IDAHO
WYOMING
NEVADA
UTAH
COLORADO
ARIZONA
GARFIELD

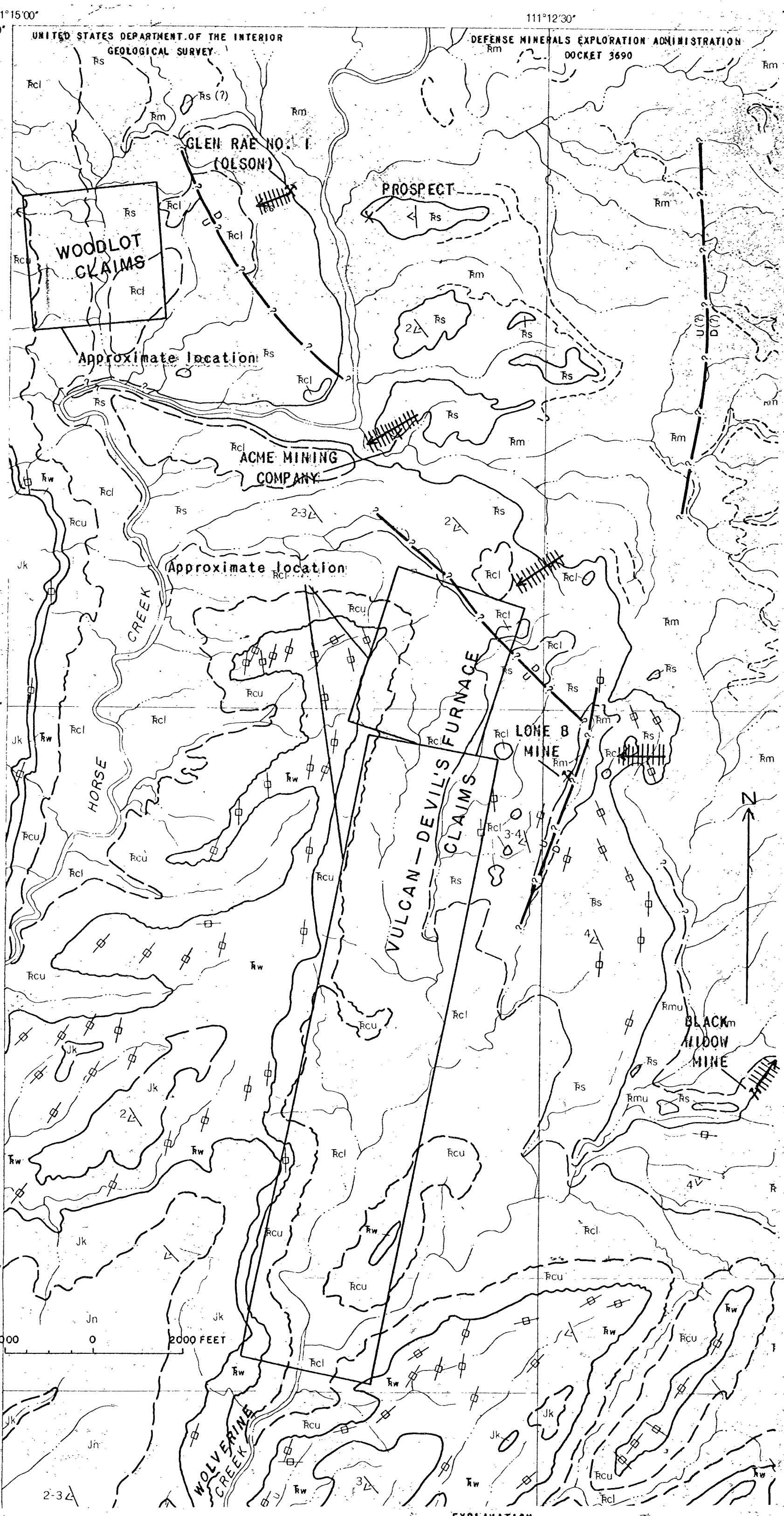


GEOLOGIC MAP OF WOODLOT, VULCAN-DEVIL'S FURNACE AREAS

CIRCLE CLIFFS DISTRICT-GARFIELD COUNTY, UTAH

2000 0 2000 4000 6000

SCALE IN FEET



EXPLANATION

Jurassic

- Jn — NAVAJO SANDSTONE
- Jk — KAYENTA FORMATION

Triassic

- Ŧw — WINGATE SANDSTONE
- Ŧcu / Ŧcl — CHINLE FORMATION. UPPER UNIT Ŧcu; LOWER UNIT, Ŧcl
- Ŧs — SHINARUMP CONGLOMERATE
- Ŧmu / Ŧm — MOENKOPI FORMATION UPPER UNIT, Ŧmu

GEOLOGIC CONTACT. DASHED WHEN OF DOUBTFUL LOCATION. (?) PROBABLE CONTACT.

PROBABLE FAULT (U, UPTHROWN SIDE, D, DOWNTHROWN SIDE)

STRIKE AND DIP OF BEDS

CONSPICUOUS RESISTANT BED WITHIN A FORMATION (MAY BE TRACEABLE ONLY LOCALLY)

STRIKE OF APPROXIMATELY VERTICAL JOINTS

SMALL PROSPECT PIT

MINE

CHANNEL CUT IN TOP OF MOENKOPI FORMATION. ARROW SHOWS DIP DIRECTION OF CROSS-BEDS

Note: BASE AND GEOLOGY FROM U.S. GEOLOGICAL SURVEY PHOTOGEOLOGIC QUADRANGLE MAP CIRCLE CLIFFS 7

Figure 3. GEOLOGIC MAP SHOWING VULCAN-DEVIL'S FURNACE, AND WOODLOT GROUP OF CLAIMS, WOODLOT MINES, CIRCLE CLIFFS AREA, GARFIELD AND KANE COUNTIES, UTAH