700

FILE COPY
Surname:
Ching
Kiilsgaard
Hughes
Jeffordge
Mittendorf

CW

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

JUL 9 - 1956

Mr. Nelson Bunker Hunt
618 Rood Avenue
Post Office Box 1786
Grand Junction, Colorado

Re: Docket No. DMEA-4061 (Uranium)
Cliff Claims
Garfield County, Utah

Dear Mr. Hunt:

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

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

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

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

Sincerely yours,

G. O. Mittendorf

Administrator

MChing/izm 7-5-56
cc to: Docket
Code 700
Mr. Ching
Admr.'s Reading File
Operating Committee
DMEA Field Team, Region III (2)
Messrs. JECrawford, Rm. 3643
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

Docket Copy

700 Ching Ellis

July 5, 1956

SUMMARY OF PROPOSED PROJECT

Object: Denial of application for an exploration project.

Docket No.: DMEA-4061

Commodity: Uranium

Applicant: Nelson Bunker Hunt
618 Rood Avenue, P. O. Box 1786
Grand Junction, Colorado

Property: Cliff Nos. 21, 22 and 24 mining claims located in an unsurveyed area in T. 36 S., R. 8 E., S.L.B & M., Garfield County, Utah. Applicant is the owner.

Date of Application: October 19, 1955

Amount of Application: $65,835.84

Work Proposed: Prepare 4,000 feet of access road and 48 drill sites with bulldozer, and drill 48 core and non-core holes totaling 21,420 feet, in two stages, to explore along a pinch-out in the Shinarump conglomerate, occurring on the property. Estimated costs follow:

Bulldozing, 288 hrs @ $12/hr.	$3,456.00	
21,420 ft. drilling @ $2.55/ft.	54,621.00	
Labor and Supervision	4,555.30	
Other costs	3,203.54	
TOTAL		$65,835.84
Government participation @ 75%		$49,376.88

Field Team Report: Transmitted June 7, 1956
W. E. Young, USBM and H. B. Dyer, USGS:

Known economic uranium deposits in the Circle Cliffs area are associated with thick channels of the Shinarump sandstone. In the vicinity of ore bodies the underlying Moenkopi formation is commonly bleached and the ore minerals impregnate the host rock and are not restricted to carbonaceous material. In the vicinity of the subject property the mineralized sandstone may be the Monitor Butte member rather than the Shinarump. It extends for 1,000 feet along the outcrop and reaches a maximum thickness of 9 feet just north of an open cut on the Cliff No. 26 claim. It pinches out both north and south of the open cut and the average thickness over most of the outcrop is less than 3 feet. Significant ore deposits are unknown in such thin sandstone lenses. Radioactive carbonaceous material is common, but the sandstone surrounding such material is essentially barren and the average grade of exposed material is usually very low. Carbonaceous material is therefore no reliable guide to ore.

The Applicant has drilled 40 holes in the vicinity of the subject property and reported that 3 holes intersected ore-grade material. Thickness of the ore was not given. The spotty distribution of mineralization on the outcrop indicates that the ore is probably not continuous between the holes and that the three ore holes probably represent three isolated lenses with little tonnage. Ore reserves inferred from Applicant's drilling and open cut work are negligible. Production in general from the Circle Cliffs area has been small and occurrences of ore deposits are infrequent. The work done by the Applicant is sufficient to evaluate the uranium occurrences. The proposed exploration has little chance of discovering uranium deposits of economic importance. It is recommended that the application be denied.

Commodity Group Comments:

USGS, N. E. Nelson, June 13, 1956:

Agrees with the examiners that work done by the Applicant has not established favorable trends and that the unfavorable host rock and erratic distribution of known mineralized material do not encourage an exploration project. Concurs with the recommendation for denial of the application.

USBM, James Paone, June 21, 1956:

Discussed report of examination with the AEC representative. Agrees that the character of mineralization encountered is not significant enough to warrant further exploration. Concurs in the Field Team's recommendation that the application be denied.

Rare & Miscellaneous Metals Division, Michael Ching, July 5, 1956:

The thin sandstone lenses of the ore horizon, the unimpressive showing on the rather extensive outcrops, and the small amount of ore-grade material encountered in an open cut and in holes drilled by the Applicant, indicate that the possibilities for finding worthwhile ore bodies on this property are poor.

Conclusions and Recommendations:

The potential of this property is quite limited. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

6-26-56

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

RECEIVED
JUN 25 1956

June 21, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of examination, DMEA Docket 4061 (Uranium), N. B. Hunt (Cliff claims), Garfield County, Utah

I have reviewed the report of examination, DMEA Docket 4061, N. B. Hunt (Cliff claims), Garfield County, Utah, dated May 11 and received in this office June 12, 1956. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The field examiners recommend that the application for exploration assistance be denied because sufficient exploratory work has been completed on the subject claims to evaluate the uranium occurrences. The character of mineralization encountered is not significant enough to warrant further exploration.

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

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

James Paone

James Paone

RECEIVED
JUN 25 1956

June 21, 1956

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

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

Subject: Report of examination, DMEA Docket 4061 (Uranium), N. B. Hunt (Cliff claims), Garfield County, Utah

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The field examiners recommend that the application for exploration assistance be denied because sufficient exploratory work has been completed on the subject claims to evaluate the uranium occurrences. The character of mineralization encountered is not significant enough to warrant further exploration.

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

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

James Paone

6/14/56 gfa

IN REPLY REFER TO:

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

RECEIVED
JUN 14 1956

June 13, 1956

Re: DMEA 4061
Nelson Bunker Hunt
Cliff claims
Garfield Co. Utah
$65,835.00 - Uranium

Memoramdum

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

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

Subject: Review of Field Team report

The applicant requested assistance in exploring, by 21,420 feet of core and non-core drilling property underlain in part by the Shinarump conglomerate.

Forty diamond drill holes, drilled by the applicant are believed by him to have delineated a trend of low grade mineralization. Three of the holes are reported as ore holes, 20 intersected mineralized material and 17 were barren. No figures as to grades or thickness are given, but the applicant estimates the reserves are 100 tons.

The examiners do not believe as does the applicant, that a trend has been established by the drilling and conclude that the unfavorable host rock and the erratic distribution of the known mineralized material indicate that the proposed exploration has little chance of discovering economic uranium deposits. They recommend denial of the application. In view of the results of the drilling done by the applicant, the reasons appear adequate.

I concur with the recommendation of the examiners and the Field Team.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
JUN 14 1956

June 13, 1956

Re: DMEA 4261
Nelson Number Hunt
Cliff claims
Garfield Co. Utah
$65,835.00 - Uranium

Memorandum

To: . . Ellis, Defense Minerals Exploration Administration

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

Subject: Review of field team report

The applicant requested assistance in exploring, by 21,420 feet of core and non-core drilling property underlain in part by the Shinarump conglomerate.

Forty diamond drill holes, drilled by the applicant are believed by him to have delineated a trend of low grade mineralization. Three of the holes are reported as core holes, 20 intersected mineralized material and 17 were barren. No figures as to grades or thickness are given, but the applicant estimates the reserves are 100 tons.

The examiners do not believe as does the applicant, that a trend has been established by the drilling and conclude that the unfavorable host rock and the erratic distribution of the known mineralized material indicate that the proposed exploration has little chance of discovering economic uranium deposits. They recommend denial of the application. In view of the results of the drilling done by the applicant, the reasons appear adequate.

I concur with the recommendation of the examiners and the field team.

N. E. Nelson

NENelson:btr
G 6/13/56

N. E. Nelson

cc: J. E. Crawford
J. C. Hosted
Director's reading file (4212)
Branch reading file
DMEA (3)
Chron. file
Docket file

6/14/56 gfa

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

June 7, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, Docket DMEA 4061 (Uranium) Nelson Bunker Hunt, (Cliff claims) Garfield County, Utah

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

The field examiners believe that sufficient exploratory work has been completed on the Cliff claims to evaluate the uranium occurrences and that significant ore deposits are unknown in such thin sandstone lenses. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

By W. M. Traver
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-13-56
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

TRANSMITTED
JUN 7 1956
DMEA
Date Rec'd.

MAY 14 1956
BUREAU OF MINES
Denver, Colorado

May 11, 1956

Memorandum

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

From: Stephen R. Wilson

Subject: Docket No. DMEA-4061 (Uranium), N. B. Hunt (Cliff claims), Garfield County, Utah

Enclosed are the original and 10 copies of an engineering report pertaining to examination and appraisal of the Cliff claims in Garfield County, Utah. The report was prepared by W. E. Young as a result of inspection of the area March 8, 1956. One copy of the brochure is also attached.

The Cliff claims cover an outcrop of the Shinarump conglomerate. The applicant has proposed an exploratory program consisting of approximately 21,420 feet of diamond drilling and 288 hours of bulldozer work for access-road preparation and drill sites.

The operator has completed 40 diamond drill holes in the area of the proposed exploration. A trend of mineralization has been delineated by the drilling. Mineralization encountered is low grade and no increase in grade is noted along the trend explored. A pinch-out in the Shinarump conglomerate occurs on the applicant's property. The property owner believes that the mineralized trend parallels the pinch-out and that this feature has controlled localization of the uranium mineralization.

The examining engineer believes that sufficient exploratory work has been completed on the Cliff claims to evaluate the uranium occurrences. Character of mineralization is not sufficiently intense to justify the increasing cost of exploration necessitated by the topography. The examining engineer recommends denial of the request for Government aid. I am in accord with this recommendation.

Stephen R. Wilson
Stephen R. Wilson

Enclosure

cc: J. F. Shaw
J. B. Clemmer

Reviewed by
DMEA OPERATING COMMITTEE
6-13-56
(date)

N. B. HUNT
CLIFF CLAIMS
GARFIELD COUNTY, UTAH
DMEA-4061
Uranium

TRANSMITTED
JUN 7 1956

Engineering Report

By W. E. Young
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
6-13-56
(date)

N. B. HUNT
CLIFF CLAIMS
GARFIELD COUNTY, UTAH

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Location, topography and physical features	3
Ownership, history and production	3
Description of the deposits	4
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Project costs	7
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ILLUSTRATIONS

Fig. 1 Location map, N. B. Hunt, Cliff claims, Garfield County, Utah
Fig. 2 Claim map
Fig. 3 Section through proposed drill holes

SUMMARY

N. B. Hunt's Cliff group of claims in the Circle Cliffs area, Garfield County, Utah, covers an outcrop of the Shinarump conglomerate. This formation pinches to extinction at this location. The property owner started exploration in the area as a result of discovery of uranium mineralization on the rim exposures near the pinch-out. A total of 40 diamond drill holes has been drilled and a small rim-stripping operation completed. A trend of mineralization was delineated by the drilling. The property owner believes that the trend parallels the pinch-out and that this feature has controlled localization of uranium mineralization. A project consisting of two stages of diamond drilling is proposed to further explore the area along the pinch-out. A total of 38 holes is proposed in the initial phase of the project. Ten holes are proposed in Stage II as offsets to any ore holes discovered in Stage I work. The estimated cost of the work is $65,814.44 at an overall cost of $3.07 per foot of hole. The mineralized occurrence is low grade and no increase in grade is noted along the trend explored. Exploration costs will increase rapidly because of the terrain. It is recommended that the loan request be denied.

INTRODUCTION

The Cliff group of claims, owned by N. B. Hunt, was examined March 8, 1956, 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. George P. Dix, company representative, accompanied the examining personnel during the period. The Cliff group of claims is one of many groups in the Circle Cliffs area owned by the applicant.

The applicant plans to further explore the area by additional drilling. A project is proposed entailing 48 drill holes aggregating 21,420 feet of diamond drilling. A loan of $65,835.84 is requested for access-road building, drill-site preparation and diamond drilling.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The claim group which the applicant proposes to explore lies on the southwest flank of the Circle Cliffs uplift. The area is unsurveyed, thus no definite location relative to land division lines can be made. The approximate location is in T. 36 S., R. 8 E., S.L.B. and M., in Garfield County, Utah (fig. 1).

Shipping points are located at Marysvale, Utah, and at Green River, Utah. Marysvale is 156 miles distant and Green River 142 miles distant. Living facilities should be established at the project because of the isolated area and great distances to established communities.

OWNERSHIP, HISTORY AND PRODUCTION

Three claims of the group are involved in the proposed exploration project. The claims are held by right of location. Notices of location

are recorded in the office of the Garfield County Recorder at Panguitch. Cliff claim No. 21 is recorded in Book 43, page 443; Cliff claim No. 22, in Book 43, page 443, and Cliff claim No. 24, in Book 43, page 444.

Nelson Bunker Hunt, 618 Rood Avenue, P. O. Box 1786, Grand Junction, Colorado, is owner of the property.

Five diamond drill holes have been completed on the Cliff No. 24 claim. A total of 35 holes has been drilled on the Cliff No. 26 claim, which adjoins the Cliff No. 24 on the east side. An access road has also been constructed into the area of the Cliff claims (fig. 2).

There has been no production from the property or from the adjoining property. An inferred reserve of 100 tons of ore containing 0.18 percent U_3O_8 has been calculated on the basis of drillingdone on claims adjacent to those proposed for inclusion in the planned program.

DESCRIPTION OF THE DEPOSITS

The property is situated on the southwest flank of the Circle Cliffs uplift. The general regional dip of the rocks in the area is 3° to the southwest. Exposed rocks on and near the claims are as follows:

Formation	Age	Thickness
Kayenta	Jurassic (?)	200±
Wingate	Triassic (?)	450±
Chinle	Triassic	550±
Shinarump	Triassic	0-50±
Moenkopi	Triassic	300±

In this area only the basal part of the Shinarump formation is known to contain significant concentrations of uranium, although small occurrences have been noted in the overlying Chinle and in the underlying Moenkopi. Thickness of the Shinarump formation varies from 0 to 50 feet over a wide area.

PROPOSED EXPLORATION

Uranium mineralization is exposed on the rim outcrop at the base of the Shinarump conglomerate on the Cliff No. 26 claim. The Shinarump conglomerate thins rapidly to the north in this area. Within a few feet it thins to extinction and does not reappear again for a distance of 2 miles. Exploration conducted by the applicant has disclosed a trend of uranium mineralization which extends in a southwest direction along the pinch-out. The applicant believes this mineralization may parallel the pinch-out and was deposited as a result of circulation control caused by the pinch-out.

An exploratory project is proposed to extend drilling along the mineralized trend. The applicant proposes construction of 4,000 feet of access road and drilling 48 diamond drill holes aggregating 21,420 feet.

The claims cover a steep slope of truncated Chinle shales with depth of overburden increasing to the west. Vertical-walled Wingate sandstone borders the west edge of the claims. Drilling is to be

accomplished in fences of five holes to the fence, designed to intersect the trend of mineralization. Depth of drilling will increase with each successive fence of holes to the west. Average depth of drilling indicated from profile is as follows:

No. of holes in fence	Average depth, feet	Total feet
3	190	570
5	285	1,425
5	330	1,650
5	380	1,900
5	428	2,140
5	475	2,375
5	525	2,625
5	570	2,850
Total 38		15,535

An additional 885 feet is estimated to compensate for any error in depth calculations, rotation of fences, or paleochannel lithology, which brings the estimated total to 16,420 feet.

Fences are laid out 150 feet apart. Holes on fence lines are on 75-foot centers; 30 feet of hole is to be cored.

It is estimated that 3,500 feet of access road will be required to service 38 drill sites (fig. 3).

The above-outlined work constitutes Stage I of the proposed program.

An additional 5,000 feet of drilling and 500 feet of access road is requested under Stage II. This work is to be contingent on the success of Stage I.

Total drilling footage requested is 21,420 feet; total road building requested is 4,000 feet. It is anticipated the road building and drill-site preparation work will be difficult. The surface is steep and is strewn with large boulders from the high Wingate cliff.

PROJECT COSTS

Three contract bids for drilling were submitted with the application. The applicant, however, plans to do the drilling with company-owned equipment on company account. It is estimated that 4 months will be required to complete the job. The following is a tabulation of estimated costs:

Independent Contracts

Bulldozing -		
Stage I, roads and drill sites, 216 hours at $12 per hour	$2,592.00	
Stage II, roads and drill sites, 72 hours at $12 per hour	864.00	
Total independent contracts		$ 3,456.00

Labor

2 diamond drillers, 104 days at $24 per day each	$4,992.00	
2 diamond drill helpers, 104 days at $16 per day each	3,328.00	
2 truck driver-laborers, 104 days at $16 per day each	3,328.00	
1 rodman-logger, 104 days at $16 per day	1,664.00	
1 cook, 4 months at $350 per month	1,400.00	
Total labor		$14,712.00

Supervision

1 surveyor, 1-1/4 months at $650 per month	$ 812.50	
1 geologist, 3 months at $650 per month	1,950.00	
1 bookkeeper, 1 month at $600 per month	600.00	
Total supervision		$ 3,362.50

Operating Materials and Supplies

Gasoline and oil	$ 510.00	
Drill bits at $1.00 per foot	21,420.00	
Rods at $0.50 per foot	10,710.00	
Casing, 4,800 feet at $1.00 per foot	4,800.00	
Core barrels	1,500.00	
Total operating materials and supplies		$38,940.00

Operating Equipment

	Used - approximate value	
1 drill	$10,000.00	
1 truck	5,000.00	
1 jeep	3,000.00	
1 Geiger with Esterline angus recorder	500.00	
Total	$18,500.00	
Depreciation over 36 months, 4 months at $514 per month		$ 2,056.00

Miscellaneous

Payroll taxes and liability insurance, 12%	$ 2,168.94	
Assaying, 202 samples at $5.00 each	1,010.00	
Core storage	13.00	
Core boxes, 96 at $0.75 each	72.00	
Strip logs, 48 at $0.50 each	24.00	
Total miscellaneous		$ 3,287.94
Total estimated costs		$65,814.44

Overall cost per foot for 21,420 feet of drilling at the above costs is $3.07 per foot. These costs are in line with other drilling costs in the area and compare favorably with contract bids submitted.

CONCLUSIONS AND RECOMMENDATIONS

Uranium mineralization occurs in the Shinarump formation adjacent to a pinch-out of the formation on the Cliff group of claims in the Circle Cliffs area, Garfield County, Utah. Drilling by the applicant to date has defined a trend of mineralization in a southwest direction. Sufficient exploratory work has been done to evaluate the occurrence. Character of mineralization is not sufficiently strong to justify the increasing cost of exploration necessitated by the topography. It is recommended the request for Government assistance be denied.

MINERAL DEPOSITS
IN REPLY REFER TO:
DMEA
RECEIVED
JUN 1 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
DMEA
Date Rec'd.
JUN 7 1956
BUREAU OF MINES
Denver, Colorado
TRANSMITTED
JUN 7 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

May 28, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

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

From: J. William Hasler

Subject: Transmittal of report of examination
DMEA docket 4061 (Uranium), Nelson Bunker Hunt, Cliff group of claims (Circle Cliff area), Garfield County, Utah

Nelson Bunker Hunt, 618 Rood Ave., Grand Junction, Colorado, applied for Government assistance in a uranium exploration project on the Cliff group of claims in sec. 31, T. 36 S., R. 7 E., Garfield County, Utah. The application was referred to the field and an examination was made March 8, 1956, by H. B. Dyer, U. S. Geological Survey, and W. E. Young, U. S. Bureau of Mines. Mr. George P. Dix accompanied the examining team as the applicant's representative.

The Cliff group of claims are located on the west flank of the Circle Cliffs anticline on sedimentary rocks of Triassic age. The Circle Cliffs area is an asymmetrical anticline which trends about north 30° west. The rocks dip steeply to the east on the eastern flank of the anticline, but dips on the western flank are low and average about three degrees in the subject area. All deposits in the Circle Cliffs area are associated with thick channels of the Shinarump sandstone member of the Chinle formation of Triassic age. In the vicinity of ore bodies the Moenkopi formation is commonly bleached and the ore minerals impregnate the host rock and are not restricted to the carbonaceous material.

According to E.S.Davidson, project geologist for the U. S. Geological Survey in the Circle Cliffs area, the mineralized sandstone exposed on the subject claims is probably not part of the Shinarump member of the Chinle formation, as its lithology, stratigraphic position, and lenticularity indicate that it should be classified as a Monitor Butte sandstone rather than the Shinarump member. The sandstone pinches out both north and south of an open cut on the property and the average thickness over most of the outcrop is less than 3 feet. Significant ore deposits are unknown in such thin sandstone lenses.

Reviewed by
DMEA OPERATING COMMITTEE
6-13-56
(date)

DMEA 4061 5/28/56

The frequency of ore deposits in the Circle Cliffs area has been low and those deposits which have been found are small. The applicant indicates there is an alignment of ore in mineralized holes, indicating a southwesterly trend, but no lithologic logs have been submitted that will substantiate such a trend. The exposed rock on the Cliff claims has relatively few features which can be considered as reliable guides to ore. The presence of radioactive carbonized wood is of little value in this case as a guide to ore, as it does not show any consistent relationship to ore and may be found widely scattered in areas known to be unproductive. The unfavorableness of the host rock and the erratic distribution of the known material indicate that the proposed exploration program has little chance of discovering any significant uranium deposit. It is therefore recommended that the application for DMEA assistance be denied. I concur with the conclusions and recommendations of the examining team.

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

Enclosed are the required number of maps, as well as the applicant's brochure.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr
Enclosures

DMEA
Date Rec'd.
JUN 7 1956
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
_____, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

RECEIVED
JUN 11 1956

TRANSMITTED
JUN 7 1956

DMEA 4061

Nelson Bunker Hunt

Cliff claims

Garfield County, Utah

Uranium

Geologic Report

by

H. B. Dyer
Geological Survey

June 6, 1956

Reviewed by
DMEA OPERATING COMMITTEE
6-13-56
(date)

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ILLUSTRATIONS

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2. Geologic map showing Cliff 22, 24, and 26 claims, N. B. Hunt, Circle Cliffs area, Garfield County, Utah	3
3. Geologic sketch map showing existing drill holes, and location of proposed drill holes, Cliff 22, 24, and 26 claims, N. B. Hunt, Circle Cliffs area, Garfield County, Utah	4

DMEA 4061

NELSON BUNKER HUNT
CLIFF CLAIMS
GARFIELD COUNTY, UTAH

INTRODUCTION AND SUMMARY

Nelson Bunker Hunt, 618 Rood Avenue, Grand Junction, Colorado, has applied for Government assistance in a uranium exploration project. The property consists of three unpatented mining claims located 54 airline miles S. 22° W. of Hanksville, Utah, and about 25 miles west of the Henry Mountains (fig. 1). The claims are known as the Cliff Nos. 21, 22, and 24, and are located in sec. 31, T. 36 S., R. 7 E., Garfield County, Utah. The claims are recorded in Book 43, pages 443 and 444, County Recorder's office. The applicant has adjoining claims south of the claims presented for exploration. The claims may be reached by traveling southwest of Hanksville, Utah, on Utah Highway 24 for 32 miles to Notom ranch; thence southerly for 25 miles to the Bird Trail; thence westerly 8 miles up the Burr Trail and to the western flank of the Circle Cliff uplift; thence southerly along the west flank of the Circle Cliffs for about 12 miles. The roads are poor and flash floods may make the area inaccessible for short periods.

The property was examined on March 8, 1956, by W. E. Young, U. S. Bureau of Mines, and H. B. Dyer, U. S. Geological Survey. George P. Dix, company representative, accompanied them on the property and his help is gratefully acknowledged. E. S. Davidson and D. A. Brew of the Circle Cliffs mapping project, U. S. Geological Survey, made many

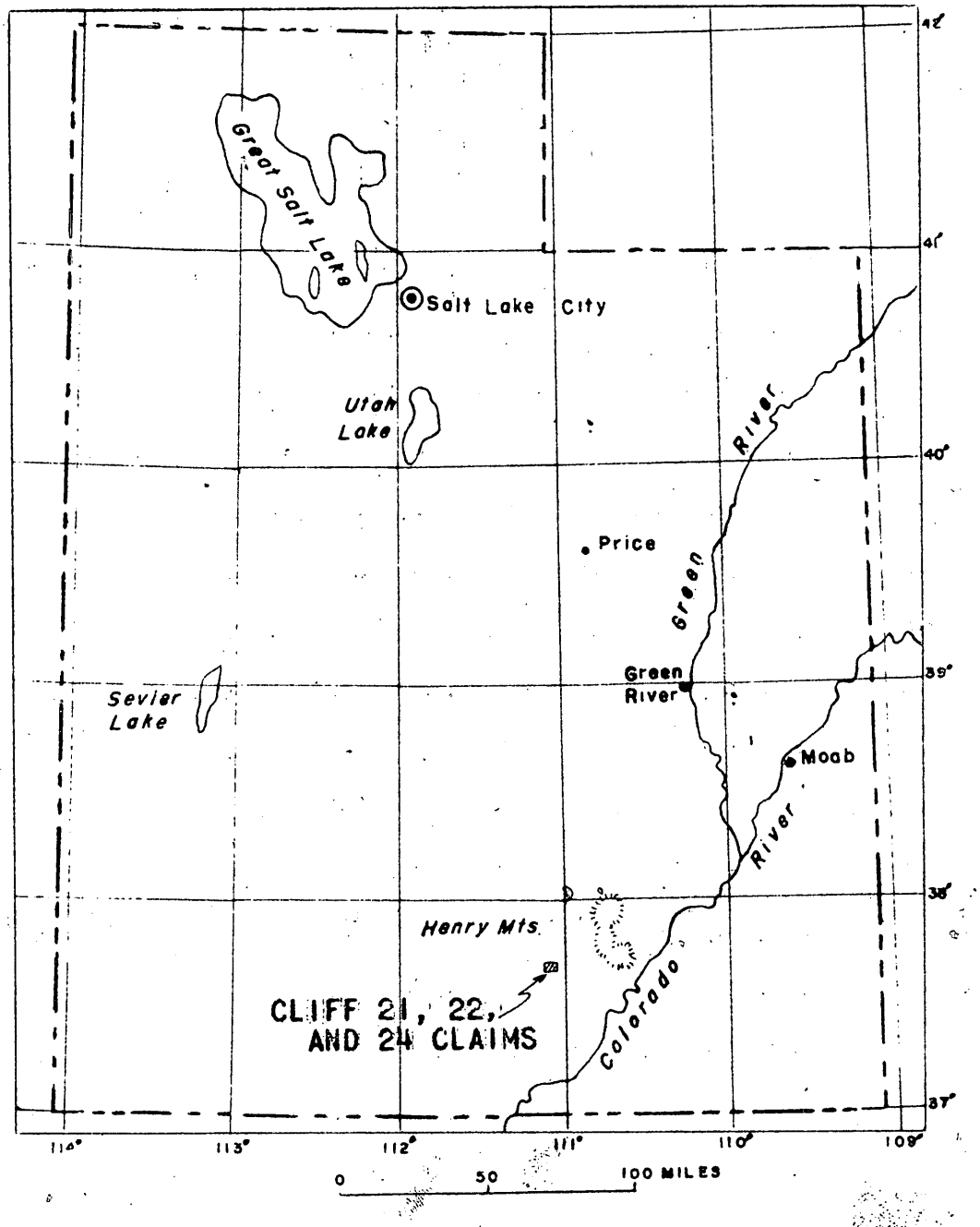


FIGURE 1. INDEX MAP SHOWING LOCATION OF CLIFF 21, 22, AND 24 CLAIMS, N.B. HUNT, GARFIELD COUNTY, UTAH.

helpful suggestions and furnished much of the data used in this report. H. B. Wood of the AEC was consulted concerning the application.

The applicant proposes drilling 38 holes in eight parallel fences. The pattern is designed to test the ground along a projected pinchout of the Shinarump member of the Chinle formation of Triassic age. The first-phase holes would average 450 feet in depth and the lower 30 feet would be cored. Thettotal cost of the project is estimated at $65,834.84.

The sandstone lens exposed on the Butte claims is at the base of the Monitor Butte member of the Chinle formation. The sandstone is very thin and lenticular and averages about 3 feet thick over its outcrop area. Some of the carbonized wood and trash beds in the sandstone are mineralized, but little ore grade material is exposed on the outcrop.

The few ore deposits known in the Circle Cliffs area are associated with thick channels of the Shinarump member of the Chinle formation. The ore minerals are disseminated through the host rocks and are not restricted to carbonaceous material. Inasmuch as the sandstone exposed on the Cliff claim is thin and lenticular and the mineralized material is restricted to the carbonaceous trash, it seems unlikely that the proposed exploration would be successful, and it is recommended that the application for assistance be denied.

ACKNOWLEDGMENTS

George P. Dix, representing the applicant, accompanied the examiners on the property and furnished data on the equilibrium in the ore. E. S. Davidson and D. A. Brew, U. S. Geological Survey geologists in the area, made many helpful suggestions and furnished much of the data used in this report. H. B. Wood of the Atomic Energy Commission was consulted but was unable to contribute pertinent data concerning the application.

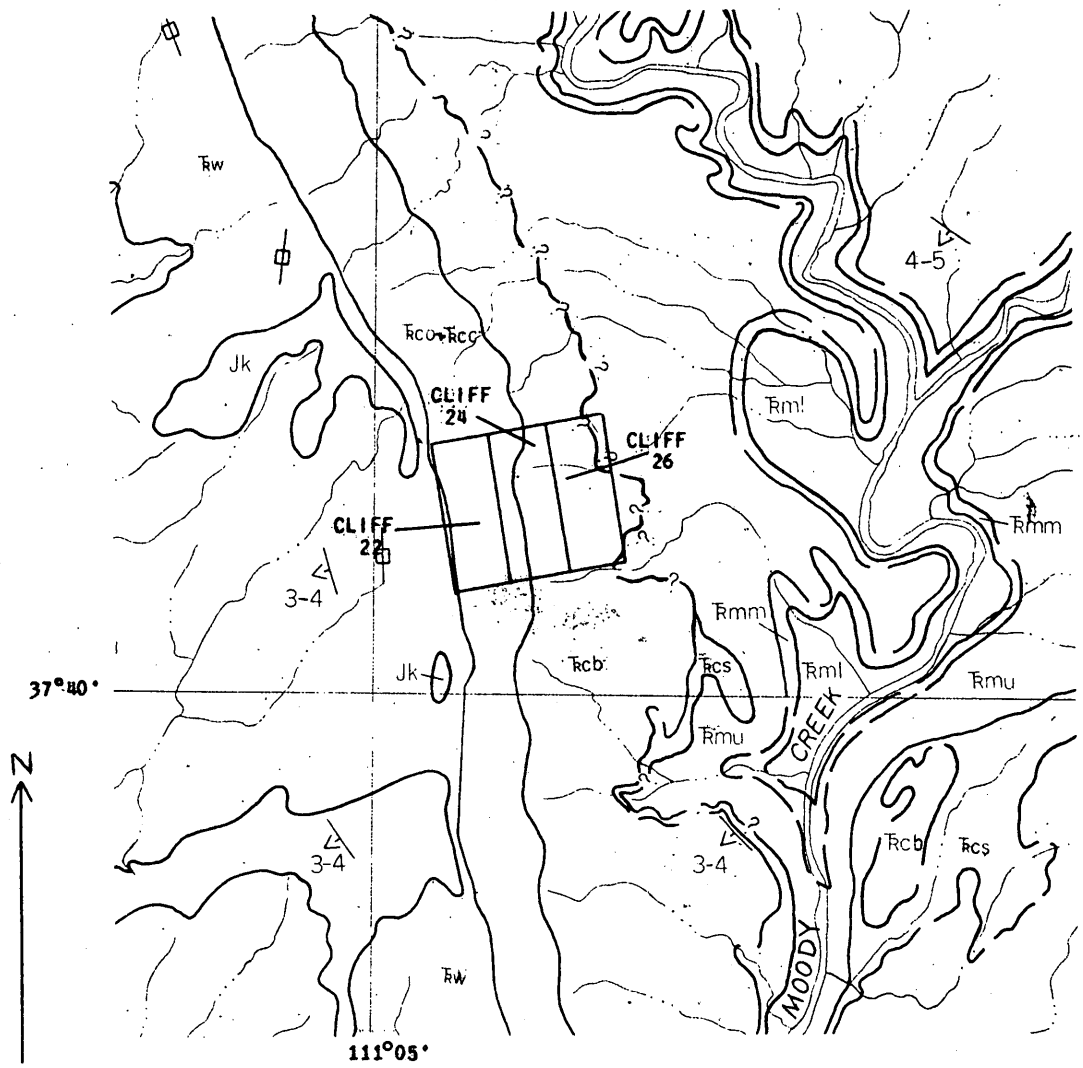
LOCATION, TOPOGRAPHY, AND CLIMATE

The claims are located about 54 airline miles S. 22° W. of the town of Hanksville, Utah. The land is unsurveyed, but the claims probably lie in sec. 31, T. 36 S., R. 7 E. The topography of the area is rugged, and local relief is about 800 feet. Much of the area of the claims is an eastward-facing badland slope but the sandstones commonly form cliffs. The climate is semi-arid and rainfall averages between 5 and 10 inches a year.

HISTORY AND PRODUCTION

The property was prospected by radiometric methods in 1954. Rim-stripping and drilling were conducted during 1955. There has been no production from the property.

Production in the Circle Cliffs area has been small. The Rainy Day mine about 20 miles north of the property is the largest producer



EXPLANATION

Jk	JURASSIC KAYENTA FORMATION
Ꞧw	TRIASSIC WINGATE SANDSTONE
	TRIASSIC CHINLE FORMATION:
Ꞧcc + Ꞧco	Ꞧ cc, CHURCH ROCK MEMBER; Ꞧ co, OWL ROCK MEMBER;
Ꞧcb	Ꞧ cb, MONITOR BUTTE MEMBER;
Ꞧcs	Ꞧ cs, SHINARUMP MEMBER
	MOENKOPI FORMATION:
Ꞧmu	Ꞧ mu, UPPER UNIT;
Ꞧmm	Ꞧ mm, MIDDLE UNIT;
Ꞧml	Ꞧ ml, LOWER UNIT

GEOLOGIC CONTACT, DASHED WHERE APPROXIMATELY LOCATED

3-4 STRIKE AND DIP OF BEDS

STRIKE OF APPROXIMATELY VERTICAL JOINTS

Note: BASE MODIFIED FROM U.S. GEOLOGICAL SURVEY QUADRANGLE MAP, CIRCLE CLIFFS, 9. CLAIM BOUNDARIES FROM APPLICANTS MAP.

2000 0 4000 FEET

FIGURE 2. GEOLOGIC MAP SHOWING CLIFF 22, 24 AND 26 CLAIMS, N.B. HUNT, CIRCLE CLIFFS AREA, GARFIELD COUNTY, UTAH.

with 4,259 tons of ore having a grade of 0.25 percent U_3O_8. However, it is now inactive because of high mining and shipping costs. None of the deposits outside of the Rainy Day mine has produced over 300 tons of ore.

OWNERSHIP AND PRESENT STATUS

N. B. Hunt owns three claims which cover an area of about 1,500 by 1,800 feet (fig. 3). The applicant has built some roads and has drilled 40 holes on the claims. A bulldozer cut has exposed the sandstone for an area of about 40 by 100 feet (fig. 3).

There is no mining or milling equipment on the property. The nearest buying station is at Marysvale, Utah, 160 miles westerly via Utah Highway 24 and Capital Reef National Monument. Supplies are available at Richfield, Utah, 135 miles via Utah Highway 24 west from the property.

GEOLOGY

The claims are located on the western flank of the Circle Cliffs anticline on sedimentary rocks of Triassic age. Circle Cliffs is an assymetrical anticline which trends about north 30° west. The rocks dip steeply to the east on the eastern flank of the anticline, but dips on the western flank are low and average about 3° and 4° in the area of the claims. The structure is simple and the rocks are well exposed.

N.B. Hunt

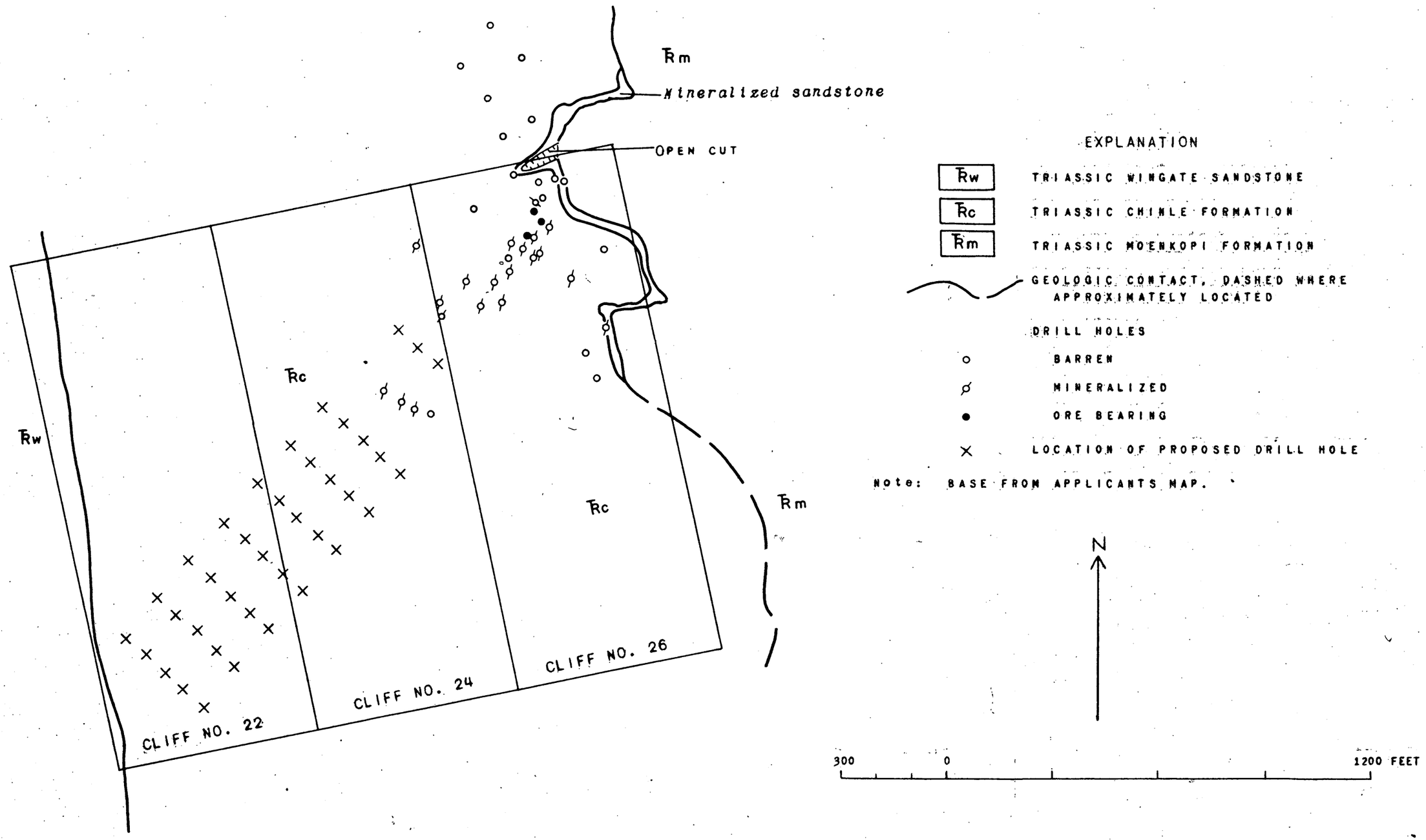


FIGURE 3. GEOLOGIC SKETCH MAP SHOWING EXISTING DRILL HOLES, AND LOCATION OF PROPOSED DRILL HOLES, CLIFF 22, 24, AND 26 CLAIMS, N.B. HUNT, CIRCLE CLIFFS AREA, GARFIELD COUNTY, UTAH.

The oldest formation exposed on the claims is the Moenkopi formation of Lower Triassic age. The Moenkopi is about 400 feet thick in the area and consists of evenly bedded brown siltstones with a few limestone and sandstone beds. The Moenkopi crops out on the eastern portion of the claims and weathers to intricately dissected slopes.

The Moenkopi formation is overlain by the Chinle formation of Middle and Upper Triassic age. The contact between the formations is an erosional unconformity, and sandstones of the Shinarump member of the Chinle formation occur in elongate scours or channels which cut into the upper surface of the Moenkopi formation.

The Chinle formation is divided into four members in the Circle Cliffs area. The lowest member is the Shinarump, which consists of conglomeratic sandstones with a few green siltstones and siltstone pebble conglomerate beds. The maximum thickness of the Shinarump is about 100 feet. The variation in thickness is due to paleochannels cut into the top of the underlying Moenkopi formation. The Shinarump member is conformably overlain by the bentonitic shales of the Monitor Butte member. The basal portion of the Monitor Butte is in places sandy, and thin irregular beds of fine sandstone are common at the base of the member. The Monitor Butte is conformably overlain by the shales and limestones of the Owl Rock member, which in turn is overlain by the red shales and sandstones of the Church Rock member. The Church Rock member of the Chinle formation grades upward into the Wingate sandstone, which forms a vertical cliff along the western edge of the claims.

The total thickness of the Chinle formation varies between 550 and 650 feet. This variation in thickness is related to the discontinuous nature of the Shinarump member along the outcrop, owing to the fact that thick Shinarump sediments are located in stratigraphic "lows" cut into the upper surface of the Moenkopi formation. As the Shinarump thins, progressively younger beds appear at the top of the Moenkopi formation until the Shinarump member disappears and Monitor Butte sediments rest on a relatively flat surface of the youngest Moenkopi beds.

ORE DEPOSITS

The known economic uranium deposits in the Circle Cliffs area are associated with thick channels of the Shinarump member. In the vicinity of ore bodies the Moenkopi formation is commonly bleached and the ore minerals impregnate the host rock and are not restricted to the carbonaceous material. Radioactive carbonaceous material is not a usable guide to economic ore bodies, for there is no consistent relationship between the occurrence of ore and the occurrence of radioactive carbonaceous material. Radioactive logs and "trash" are commonly found along the rims far from known economic ore bodies, and exploration based on this type of mineralization usually fails to find economic ore bodies.

The mineralized sandstone exposed on the claims is probably not part of the Shinarump member of the Chinle formation. E. S. Davidson, U. S. G. S. project geologist in the area, feels that its lithology,

stratigraphic position, and lenticularity indicate that it should be classified as a Monitor Butte sandstone rather than as a thin lens of the Shinarump member. The sandstone extends for 1,000 feet along the outcrop and reaches a maximum of 9 feet in thickness just north of the open cut (fig. 3). The sandstone pinches out both north and south of the open cut and the average thickness over most of the outcrop is less than 3 feet. Significant ore deposits are unknown in such thin sandstone lenses.

Carbonized wood and trash beds consisting of sandstone and small plant fragments are common in the open cut. Much of the carbonaceous material is weakly radioactive but visible uranium minerals are rare. Although the carbonized wood has radioactivity indicating ore grade, the sandstone surrounding the carbonized wood is essentially barren and the average grade of the material exposed by the cut is very low.

ORE RESERVES

The frequency of ore deposits in the Circle Cliffs area has been low and those deposits which have been found are small. The lack of economic ore deposits is not entirely due to lack of prospecting since much of the Shinarump bench in the southern part of the Circle Cliffs has been prospected by widely spaced drill holes. Two 3,000-ton ore bodies are reported from the northwestern part of Circle Cliffs but this information may be unreliable.

The open cut on the property (fig. 3), does not expose minable reserves of ore-grade material. Carefully selected samples may assay

as high as 0.37 percent U_3O_8, but the assays represent only a few pounds of reserves. Exposed faces of ore of minable grade and thickness are unknown. Low-grade material is present, and 10 or 20 tons of material containing 0.02 to 0.04 percent eU_3O_8 may be inferred from the outcrop.

The applicant has drilled 40 holes on the Cliff group and reports that 3 drill holes intersected ore-grade material, 20 intersected mineralized material, and 17 were barren. The thickness of the mineralized material is not given by the drill logs, and the classification cannot be directly compared with U. S. Geological Survey classification. In spite of the apparent success of the drilling, the applicant infers a reserve of only 100 tons of ore. However, the spotty distribution of the material found on the outcrop indicates that the ore is probably not continuous between the holes, and therefore the three ore holes probably represent three isolated lenses with little tonnage.

CONCLUSIONS AND RECOMMENDATIONS

The applicant believes that the alignment of the ore and mineralized holes indicates a southwesterly trend, but no lithologic logs have been submitted to substantiate such a trend. The applicant feels that the extension of the trend warrants further exploration. However, the spotty nature of the mineralized material on the outcrop, and the mineralization in some of the drill holes outside of the trend indicate that the trend may be other than southwesterly. More drill-hole data are needed to determine a trend, if any actually exists on the property.

The host rock on the Cliff claims has none of the features which can be considered reliable guides to ore. The presence of radioactive carbonized wood is of little value as an ore guide, for it does not show any consistent relationship to ore and may be found widely scattered in areas known to be unproductive. The unfavorableness of the host rock and the erratic distribution of the known mineralized material indicate that the proposed exploration has little chance of discovering economic uranium deposits. Therefore, it is recommended that the application for DMEA assistance under Docket 4061 be denied.

6/11/56 glk

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

June 7, 1956

[redacted]
[redacted]

[redacted]

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, Docket DMEA 1061 (Brandon) Eclipse Bunker Hunt, (Cliff claims) Garfield County, Utah

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

The field examiners believe that sufficient exploratory work has been completed on the Cliff claims to evaluate the uranium occurrences and that significant ore deposits are unknown in such thin numerous lenses. They recommend that the application be denied. We concur in this recommendation.

DMEA Field Team, Region III

W. M. Graves

By W. M. Graves
Executive Officer

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE

_____
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

TRANSMITTED
JUN 7 1956
DMEA
Date Rec'd

MAY 14 1956
BUREAU OF MINES
Denver, Colorado

May 11, 1956

Memorandum

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

From: Stephen R. Wilson

Subject: Docket No. DMEA-4061 (Uranium), K. B. Hunt (Cliff claims), Garfield County, Utah

Enclosed are the original and 10 copies of an engineering report pertaining to examination and appraisal of the Cliff claims in Garfield County, Utah. The report was prepared by W. E. Young as a result of inspection of the area March 8, 1956. One copy of the brochure is also attached.

The Cliff claims cover an outcrop of the Shinarump conglomerate. The applicant has proposed an exploratory program consisting of approximately 21,000 feet of diamond drilling and 200 hours of bulldozer work for access-road preparation and drill sites.

The operator has completed 40 diamond drill holes in the area of the proposed exploration. A trend of mineralization has been delineated by the drilling. Mineralization encountered is low grade and no increase in grade is noted along the trend explored. A pinch-out in the Shinarump conglomerate occurs on the applicant's property. The property owner believes that the mineralized trend parallels the pinch-out and that this feature has controlled localization of the uranium mineralization.

The examining engineer believes that sufficient exploratory work has been completed on the Cliff claims to evaluate the uranium occurrences. Character of mineralization is not sufficiently intense to justify the increasing cost of exploration necessitated by the topography. The examining engineer recommends denial of the request for Government aid. I am in accord with this recommendation.

Stephen R. Wilson
Stephen R. Wilson

Enclosure

cc: J. F. Shaw
J. B. Clemmer

Reviewed by
DMEA OPERATING COMMITTEE

(date)

TRANSMITTED

JUN 7 1956

N. B. HUNT
CLIFF CLAIMS
GARFIELD COUNTY, UTAH
DMEA-4061
Uranium

Engineering Report

By V. K. Young
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

_____
(date)

N. B. HUNT
CLIFF CLAIMS
GARFIELD COUNTY, UTAH

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ILLUSTRATIONS

Fig. 1 Location map, N. B. Hunt, Cliff claims, Garfield County, Utah
Fig. 2 Claim map
Fig. 3 Section through proposed drill holes

SUMMARY

N. B. Hunt's Cliff group of claims in the Circle Cliffs area, Garfield County, Utah, covers an outcrop of the Shinarump conglomerate. This formation pinches to extinction at this location. The property owner started exploration in the area as a result of discovery of uranium mineralization on the rim exposures near the pinch-out. A total of 40 diamond drill holes has been drilled and a small rim-stripping operation completed. A trend of mineralization was delineated by the drilling. The property owner believes that the trend parallels the pinch-out and that this feature has controlled localization of uranium mineralization. A project consisting of two stages of diamond drilling is proposed to further explore the area along the pinch-out. A total of 38 holes is proposed in the initial phase of the project. Ten holes are proposed in Stage II as offsets to any ore holes discovered in Stage I work. The estimated cost of the work is $65,814.44 at an overall cost of $3.07 per foot of hole. The mineralized occurrence is low grade and no increase in grade is noted along the trend explored. Exploration costs will increase rapidly because of the terrain. It is recommended that the loan request be denied.

INTRODUCTION

The Cliff group of claims, owned by N. B. Hunt, was examined March 8, 1956, 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. George P. Dix, company representative, accompanied the examining personnel during the period. The Cliff group of claims is one of many groups in the Circle Cliffs area owned by the applicant.

The applicant plans to further explore the area by additional drilling. A project is proposed entailing 48 drill holes aggregating 21,420 feet of diamond drilling. A loan of $65,835.84 is requested for access-road building, drill-site preparation and diamond drilling.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The claim group which the applicant proposes to explore lies on the southwest flank of the Circle Cliffs uplift. The area is unsurveyed, thus no definite location relative to land division lines can be made. The approximate location is in T. 36 S., R. 8 E., S.L.B. and M., in Garfield County, Utah (fig. 1).

Shipping points are located at Marysvale, Utah, and at Green River, Utah. Marysvale is 156 miles distant and Green River 142 miles distant. Living facilities should be established at the project because of the isolated area and great distances to established communities.

OWNERSHIP, HISTORY AND PRODUCTION

Three claims of the group are involved in the proposed exploration project. The claims are held by right of location. Notices of location

are recorded in the office of the Garfield County Recorder at Panguitch. Cliff claim No. 21 is recorded in Book 43, page 443; Cliff claim No. 22, in Book 43, page 443, and Cliff claim No. 24, in Book 43, page 444.

Nelson Bunker Hunt, 618 Rood Avenue, P. O. Box 1786, Grand Junction, Colorado, is owner of the property.

Five diamond drill holes have been completed on the Cliff No. 24 claim. A total of 35 holes has been drilled on the Cliff No. 26 claim, which adjoins the Cliff No. 24 on the east side. An access road has also been constructed into the area of the Cliff claims (fig. 2).

There has been no production from the property or from the adjoining property. An inferred reserve of 100 tons of ore containing 0.18 percent U_3O_8 has been calculated on the basis of drilling done on claims adjacent to those proposed for inclusion in the planned program.

DESCRIPTION OF THE DEPOSITS

The property is situated on the southwest flank of the Circle Cliffs uplift. The general regional dip of the rocks in the area is 3° to the southwest. Exposed rocks on and near the claims are as follows:

Formation	Age	Thickness
Kayenta	Jurassic (?)	200'
Wingate	Triassic (?)	450'
Chinle	Triassic	550'
Shinarump	Triassic	0-50'
Moenkopi	Triassic	300'

In this area only the basal part of the Shinarump formation is known to contain significant concentrations of uranium, although small occurrences have been noted in the overlying Chinle and in the underlying Moenkopi. Thickness of the Shinarump formation varies from 0 to 50 feet over a wide area.

PROPOSED EXPLORATION

Uranium mineralization is exposed on the rim outcrop at the base of the Shinarump conglomerate on the Cliff No. 26 claim. The Shinarump conglomerate thins rapidly to the north in this area. Within a few feet it thins to extinction and does not reappear again for a distance of 2 miles. Exploration conducted by the applicant has disclosed a trend of uranium mineralization which extends in a southwest direction along the pinch-out. The applicant believes this mineralization may parallel the pinch-out and was deposited as a result of circulation control caused by the pinch-out.

An exploratory project is proposed to extend drilling along the mineralized trend. The applicant proposes construction of 4,000 feet of access road and drilling 48 diamond drill holes aggregating 21,420 feet.

The claims cover a steep slope of truncated Chinle shales with depth of overburden increasing to the west. Vertical-walled Wingate sandstone borders the west edge of the claims. Drilling is to be

accomplished in fences of five holes to the fence, designed to intersect the trend of mineralization. Depth of drilling will increase with each successive fence of holes to the west. Average depth of drilling indicated from profile is as follows:

No. of holes in fence	Average depth, feet	Total feet
3	190	570
5	285	1,425
5	330	1,650
5	380	1,900
5	428	2,140
5	475	2,375
5	525	2,625
5	570	2,850
Total 38		15,535

An additional 885 feet is estimated to compensate for any error in depth calculations, rotation of fences, or paleochannel lithology, which brings the estimated total to 16,420 feet.

Fences are laid out 150 feet apart. Holes on fence lines are on 75-foot centers; 30 feet of hole is to be cored.

It is estimated that 3,500 feet of access road will be required to service 38 drill sites (fig. 3).

The above-outlined work constitutes Stage I of the proposed program.

An additional 5,000 feet of drilling and 500 feet of access road is requested under Stage II. This work is to be contingent on the success of Stage I.

Total drilling footage requested is 21,420 feet; total road building requested is 4,000 feet. It is anticipated the road building and drill-site preparation work will be difficult. The surface is steep and is strewn with large boulders from the high Wingate cliff.

PROJECT COSTS

Three contract bids for drilling were submitted with the application. The applicant, however, plans to do the drilling with company-owned equipment on company account. It is estimated that 4 months will be required to complete the job. The following is a tabulation of estimated costs:

Independent Contracts

Bulldozing -		
Stage I, roads and drill sites, 216 hours at $12 per hour	$2,592.00	
Stage II, roads and drill sites, 72 hours at $12 per hour	$864.00	
Total independent contracts		$ 3,456.00

Labor

2 diamond drillers, 104 days at $24 per day each	$4,992.00	
2 diamond drill helpers, 104 days at $16 per day each	3,328.00	
2 truck driver-laborers, 104 days at $16 per day each	3,328.00	
1 rodman-logger, 104 days at $16 per day	1,664.00	
1 cook, 4 months at $350 per month	1,400.00	
Total labor		$14,712.00

Supervision

1 surveyor, 1-1/4 months at $650 per month	$ 812.50	
1 geologist, 3 months at $650 per month	1,950.00	
1 bookkeeper, 1 month at $600 per month	600.00	
Total supervision		$ 3,362.50

Operating Materials and Supplies

Gasoline and oil	$ 510.00	
Drill bits at $1.00 per foot	21,420.00	
Rods at $0.50 per foot	10,710.00	
Casing, 4,800 feet at $1.00 per foot	4,800.00	
Core barrels	1,500.00	
Total operating materials and supplies		$38,940.00

Operating Equipment

	Used - approximate value
1 drill	$10,000.00
1 truck	5,000.00
1 jeep	3,000.00
1 Geiger with Esterline angus recorder	500.00
Total	$18,500.00

Depreciation over 36 months, 4 months at $514 per month	$ 2,056.00

Miscellaneous

Payroll taxes and liability insurance, 12%	$ 2,168.94	
Assaying, 202 samples at $5.00 each	1,010.00	
Core storage	13.00	
Core boxes, 96 at $0.75 each	72.00	
Strip logs, 48 at $0.50 each	24.00	
Total miscellaneous		$ 3,287.94
Total estimated costs		$65,814.44

Overall cost per foot for 21,420 feet of drilling at the above costs is $3.07 per foot. These costs are in line with other drilling costs in the area and compare favorably with contract bids submitted.

CONCLUSIONS AND RECOMMENDATIONS

Uranium mineralization occurs in the Shinarump formation adjacent to a pinch-out of the formation on the Cliff group of claims in the Circle Cliffs area, Garfield County, Utah. Drilling by the applicant to date has defined a trend of mineralization in a southwest direction. Sufficient exploratory work has been done to evaluate the occurrence. Character of mineralization is not sufficiently strong to justify the increasing cost of exploration necessitated by the topography. It is recommended the request for Government assistance be denied.

MINERAL DEPOSITS
REPLY REFER TO:
DMEA
RECEIVED
JUN 1 1956
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO
Date Rec'd.
JUN 7 1956
BUREAU OF MINES
Denver, Colorado
TRANSMITTED
JUN 7 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 360
Grand Junction, Colorado

May 28, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III
Through: E. N. Harshman
~~J. F. Shaw~~

From: J. William Hasler

Subject: Transmittal of report of examination
DMEA docket 4061 (Uranium), Nelson Bunker Hunt, Cliff group of claims (Circle Cliff area), Garfield County, Utah

Nelson Bunker Hunt, 618 Rood Ave., Grand Junction, Colorado, applied for Government assistance in a uranium exploration project on the Cliff group of claims in sec. 31, T. 36 S., R. 7 E., Garfield County, Utah. The application was referred to the field and an examination was made March 8, 1956, by H. B. Dyer, U. S. Geological Survey, and W. E. Young, U. S. Bureau of Mines. Mr. George P. Dix accompanied the examining team as the applicant's representative.

The Cliff group of claims are located on the west flank of the Circle Cliffs anticline on sedimentary rocks of Triassic age. The Circle Cliffs area is an asymmetrical anticline which trends about north 30° west. The rocks dip steeply to the east on the eastern flank of the anticline, but dips on the western flank are low and average about three degrees in the subject area. All deposits in the Circle Cliffs area are associated with thick channels of the Shinarump sandstone member of the Chinle formation of Triassic age. In the vicinity of ore bodies the Moenkopi formation is commonly bleached and the ore minerals impregnate the host rock and are not restricted to the carbonaceous material.

According to E.S.Davidson, project geologist for the U. S. Geological Survey in the Circle Cliffs area, the mineralized sandstone exposed on the subject claims is probably not part of the Shinarump member of the Chinle formation, as its lithology, stratigraphic position, and lenticularity indicate that it should be classified as a Monitor Butte sandstone rather than the Shinarump member. The sandstone pinches out both north and south of an open cut on the property and the average thickness over most of the outcrop is less than 3 feet. Significant ore deposits are unknown in such thin sandstone lenses.

Reviewed by
DMEA OPERATING COMMITTEE

(date)

DMEA 4061 5/28/56

The frequency of ore deposits in the Circle Cliffs area has been low and those deposits which have been found are small. The applicant indicates there is an alignment of ore in mineralized holes, indicating a southwesterly trend, but no lithologic logs have been submitted that will substantiate such a trend. The exposed rock on the Cliff claims has relatively few features which can be considered as reliable guides to ore. The presence of radioactive carbonized wood is of little value in this case as a guide to ore, as it does not show any consistent relationship to ore and may be found widely scattered in areas known to be unproductive. The unfavorableness of the host rock and the erratic distribution of the known material indicate that the proposed exploration program has little chance of discovering any significant uranium deposit. It is therefore recommended that the application for DMEA assistance be denied. I concur with the conclusions and recommendations of the examining team.

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

Enclosed are the required number of maps, as well as the applicant's brochure.

J. William Hasler

J. William Hasler,
Geologist

JWH/mlr
Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
_____, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

TRANSMITTED
JUN 7 1956

DMEA 4061

Nelson Bunker Hunt

Cliff claims

Garfield County, Utah

Uranium

Geologic Report

by

H. B. Dyer
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
_____
(date)

June 6, 1956

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DMEA 4061

NELSON BUNKER HUNT
CLIFF CLAIMS
GARFIELD COUNTY, UTAH

INTRODUCTION AND SUMMARY

Nelson Bunker Hunt, 618 Rood Avenue, Grand Junction, Colorado, has applied for Government assistance in a uranium exploration project. The property consists of three unpatented mining claims located 54 airline miles S. 22° W. of Hanksville, Utah, and about 25 miles west of the Henry Mountains (fig. 1). The claims are known as the Cliff Nos. 21, 22, and 24, and are located in sec. 31, T. 36 S., R. 7 E., Garfield County, Utah. The claims are recorded in Book 43, pages 443 and 444, County Recorder's office. The applicant has adjoining claims south of the claims presented for exploration. The claims may be reached by traveling southwest of Hanksville, Utah, on Utah Highway 24 for 32 miles to Notom ranch; thence southerly for 25 miles to the Bird Trail; thence westerly 8 miles up the Burr Trail and to the western flank of the Circle Cliff uplift; thence southerly along the west flank of the Circle Cliffs for about 12 miles. The roads are poor and flash floods may make the area inaccessible for short periods.

The property was examined on March 8, 1956, by W. E. Young, U. S. Bureau of Mines, and M. B. Dyer, U. S. Geological Survey. George P. Dix, company representative, accompanied them on the property and his help is gratefully acknowledged. E. S. Davidson and D. A. Brew of the Circle Cliffs mapping project, U. S. Geological Survey, made many

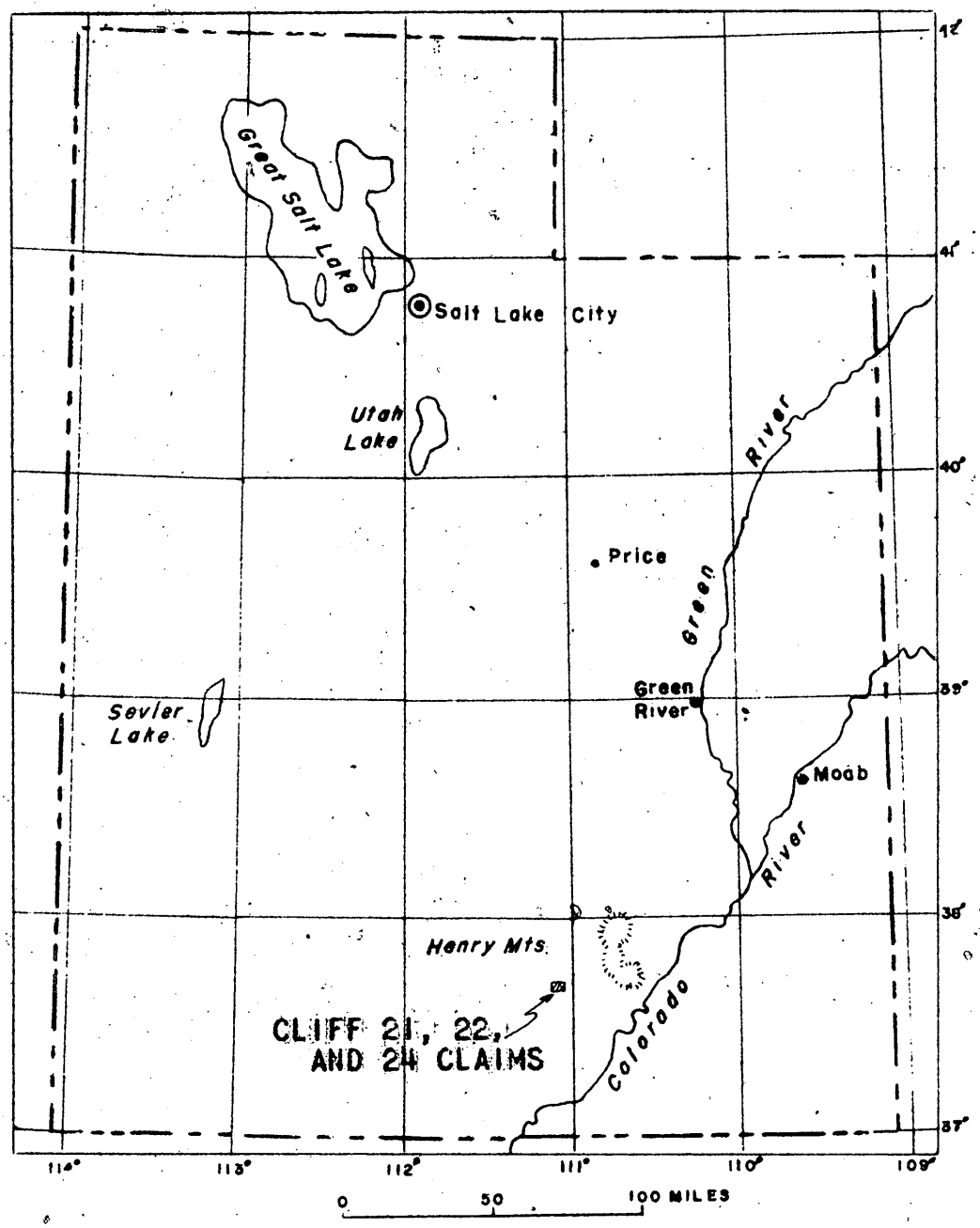


FIGURE 1. INDEX MAP SHOWING LOCATION OF CLIFF 21, 22, AND 24 CLAIMS, N.B. HUNT, GARFIELD COUNTY, UTAH.

helpful suggestions and furnished much of the data used in this report. H. B. Wood of the AEC was consulted concerning the application.

The applicant proposes drilling 38 holes in eight parallel fences. The pattern is designed to test the ground along a projected pinchout of the Shinarump member of the Chinle formation of Triassic age. The first-phase holes would average 450 feet in depth and the lower 30 feet would be cored. The total cost of the project is estimated at $65,834.84.

The sandstone lens exposed on the Butte claims is at the base of the Monitor Butte member of the Chinle formation. The sandstone is very thin and lenticular and averages about 3 feet thick over its outcrop area. Some of the carbonized wood and trash beds in the sandstone are mineralized, but little ore grade material is exposed on the outcrop.

The few ore deposits known in the Circle Cliffs area are associated with thick channels of the Shinarump member of the Chinle formation. The ore minerals are disseminated through the host rocks and are not restricted to carbonaceous material. Inasmuch as the sandstone exposed on the Cliff claim is thin and lenticular and the mineralized material is restricted to the carbonaceous trash, it seems unlikely that the proposed exploration would be successful, and it is recommended that the application for assistance be denied.

ACKNOWLEDGMENTS

George P. Dix, representing the applicant, accompanied the examiners on the property and furnished data on the equilibrium in the ore. E. S. Davidson and D. A. Brew, U. S. Geological Survey geologists in the area, made many helpful suggestions and furnished much of the data used in this report. H. B. Wood of the Atomic Energy Commission was consulted but was unable to contribute pertinent data concerning the application.

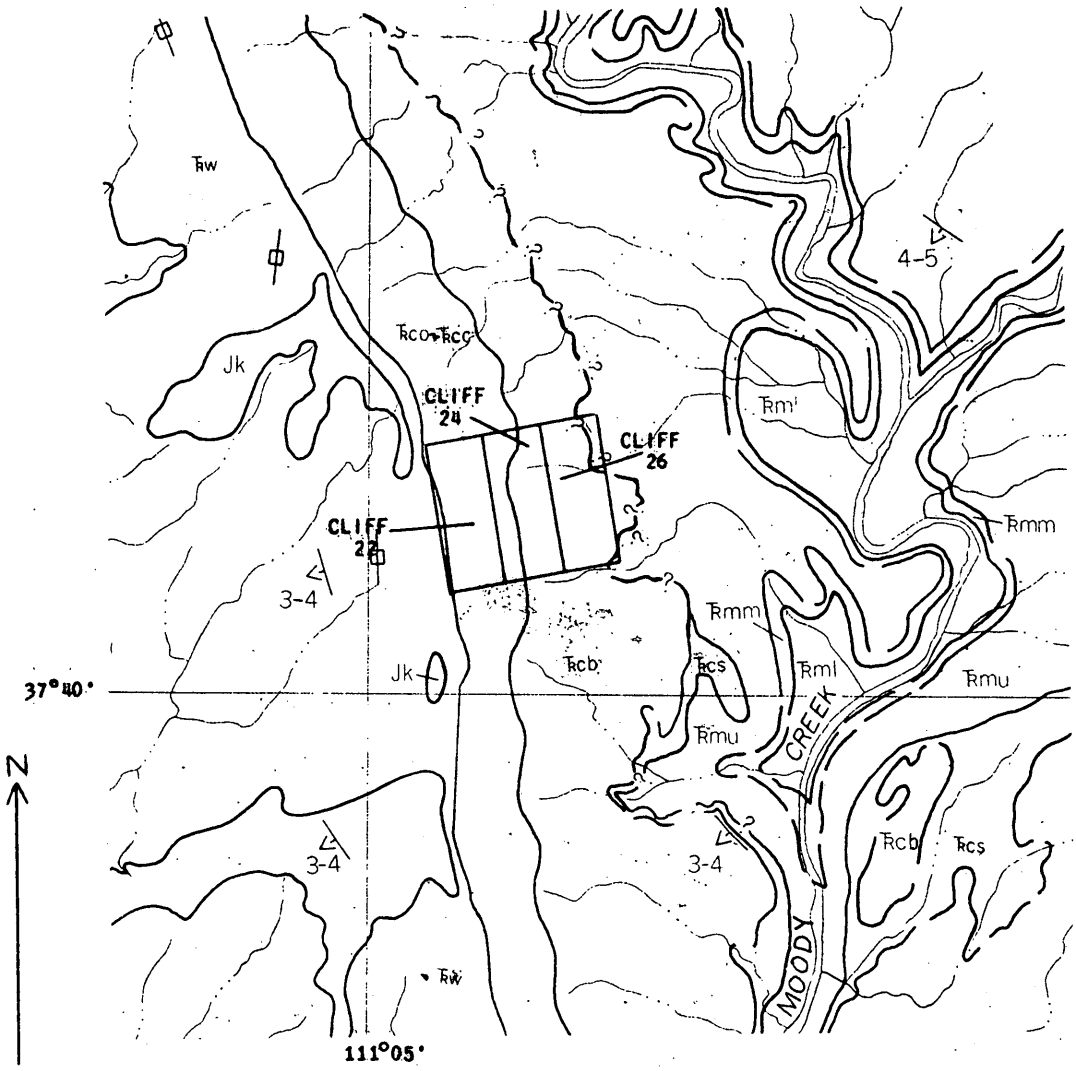
LOCATION, TOPOGRAPHY, AND CLIMATE

The claims are located about 54 airline miles S. 22° W. of the town of Hanksville, Utah. The land is unsurveyed, but the claims probably lie in sec. 31, T. 36 S., R. 7 E. The topography of the area is rugged, and local relief is about 800 feet. Much of the area of the claims is an eastward-facing badland slope but the sandstones commonly form cliffs. The climate is semi-arid and rainfall averages between 5 and 10 inches a year.

HISTORY AND PRODUCTION

The property was prospected by radiometric methods in 1954. Rim-stripping and drilling were conducted during 1955. There has been no production from the property.

Production in the Circle Cliffs area has been small. The Rainy Day mine about 20 miles north of the property is the largest producer



EXPLANATION

Jk	JURASSIC KAYENTA FORMATION
Ŧw	TRIASSIC WINGATE SANDSTONE
	TRIASSIC CHINLE FORMATION:
Ŧcc + Ŧco	Ŧ cc, CHURCH ROCK MEMBER; Ŧ co, OWL ROCK MEMBER;
Ŧcb	Ŧ cb, MONITOR BUTTE MEMBER;
Ŧcs	Ŧ cs, SHINARUMP MEMBER
	MOENKOPI FORMATION:
Ŧmu	Ŧ mu, UPPER UNIT;
Ŧmm	Ŧ mm, MIDDLE UNIT;
Ŧml	Ŧ ml, LOWER UNIT

GEOLOGIC CONTACT, DASHED WHERE APPROXIMATELY LOCATED

3-4 STRIKE AND DIP OF BEDS

STRIKE OF APPROXIMATELY VERTICAL JOINTS

Note: BASE MODIFIED FROM U.S. GEOLOGICAL SURVEY QUADRANGLE MAP, CIRCLE CLIFFS, 9. CLAIM BOUNDARIES FROM APPLICANTS MAP.

2000 0 4000 FEET

FIGURE 2. GEOLOGIC MAP SHOWING CLIFF 22, 24 AND 26 CLAIMS, N.B. HUNT, CIRCLE CLIFFS AREA, GARFIELD COUNTY, UTAH.

with 4,259 tons of ore having a grade of 0.25 percent U_3O_8. However, it is now inactive because of high mining and shipping costs. None of the deposits outside of the Rainy Day mine has produced over 300 tons of ore.

OWNERSHIP AND PRESENT STATUS

N. B. Hunt owns three claims which cover an area of about 1,500 by 1,800 feet (fig. 3). The applicant has built some roads and has drilled 40 holes on the claims. A bulldozer cut has exposed the sandstone for an area of about 40 by 100 feet (fig. 3).

There is no mining or milling equipment on the property. The nearest buying station is at Marysvale, Utah, 160 miles westerly via Utah Highway 24 and Capital Reef National Monument. Supplies are available at Richfield, Utah, 135 miles via Utah Highway 24 west from the property.

GEOLOGY

The claims are located on the western flank of the Circle Cliffs anticline on sedimentary rocks of Triassic age. Circle Cliffs is an assymetrical anticline which trends about north 30° west. The rocks dip steeply to the east on the eastern flank of the anticline, but dips on the western flank are low and average about 3° and 4° in the area of the claims. The structure is simple and the rocks are well exposed.

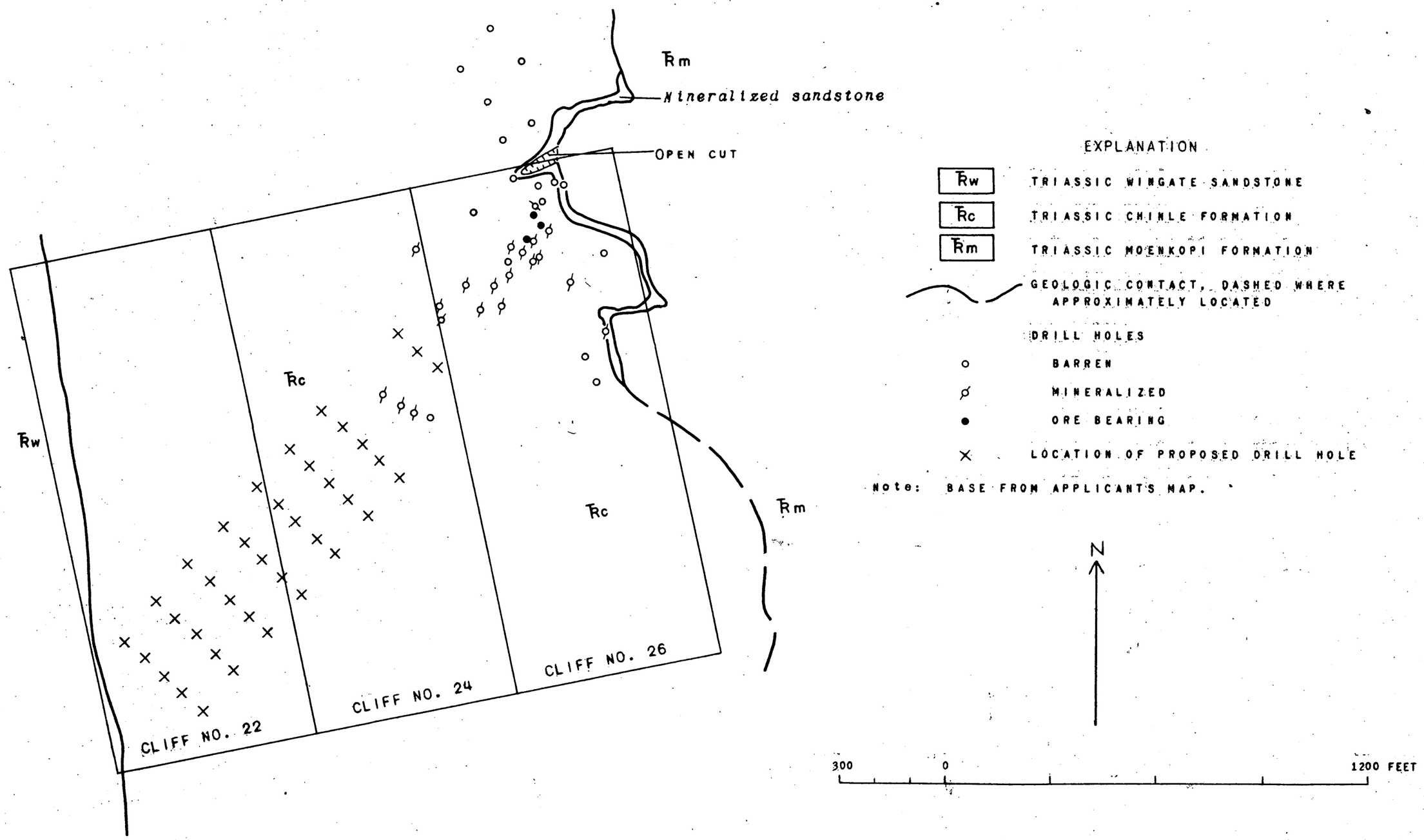


FIGURE 3. GEOLOGIC SKETCH MAP SHOWING EXISTING DRILL HOLES, AND LOCATION OF PROPOSED DRILL HOLES, CLIFF 22, 24, AND 26 CLAIMS, N.B. HUNT, CIRCLE CLIFFS AREA, GARFIELD COUNTY, UTAH.

The oldest formation exposed on the claims is the Moenkopi formation of Lower Triassic age. The Moenkopi is about 400 feet thick in the area and consists of evenly bedded brown siltstones with a few limestone and sandstone beds. The Moenkopi crops out on the eastern portion of the claims and weathers to intricately dissected slopes.

The Moenkopi formation is overlain by the Chinle formation of Middle and Upper Triassic age. The contact between the formations is an erosional unconformity, and sandstones of the Shinarump member of the Chinle formation occur in elongate scours or channels which cut into the upper surface of the Moenkopi formation.

The Chinle formation is divided into four members in the Circle Cliffs area. The lowest member is the Shinarump, which consists of conglomeratic sandstones with a few green siltstones and siltstone pebble conglomerate beds. The maximum thickness of the Shinarump is about 100 feet. The variation in thickness is due to paleochannels cut into the top of the underlying Moenkopi formation. The Shinarump member is conformably overlain by the bentonitic shales of the Monitor Butte member. The basal portion of the Monitor Butte is in places sandy, and thin irregular beds of fine sandstone are common at the base of the member. The Monitor Butte is conformably overlain by the shales and limestones of the Owl Rock member, which in turn is overlain by the red shales and sandstones of the Church Rock member. The Church Rock member of the Chinle formation grades upward into the Wingate sandstone, which forms a vertical cliff along the western edge of the claims.

The total thickness of the Chinle formation varies between 550 and 650 feet. This variation in thickness is related to the discontinuous nature of the Shinarump member along the outcrop, owing to the fact that thick Shinarump sediments are located in stratigraphic "lows" cut into the upper surface of the Moenkopi formation. As the Shinarump thins, progressively younger beds appear at the top of the Moenkopi formation until the Shinarump member disappears and Monitor Butte sediments rest on a relatively flat surface of the youngest Moenkopi beds.

ORE DEPOSITS

The known economic uranium deposits in the Circle Cliffs area are associated with thick channels of the Shinarump member. In the vicinity of ore bodies the Moenkopi formation is commonly bleached and the ore minerals impregnate the host rock and are not restricted to the carbonaceous material. Radioactive carbonaceous material is not a usable guide to economic ore bodies, for there is no consistent relationship between the occurrence of ore and the occurrence of radioactive carbonaceous material. Radioactive logs and "trash" are commonly found along the rims far from known economic ore bodies, and exploration based on this type of mineralization usually fails to find economic ore bodies.

The mineralized sandstone exposed on the claims is probably not part of the Shinarump member of the Chinle formation. E. S. Davidson, U. S. G. S. project geologist in the area, feels that its lithology,

stratigraphic position, and lenticularity indicate that it should be classified as a Monitor Butte sandstone rather than as a thin lens of the Shinarump member. The sandstone extends for 1,000 feet along the outcrop and reaches a maximum of 9 feet in thickness just north of the open cut (fig. 3). The sandstone pinches out both north and south of the open cut and the average thickness over most of the outcrop is less than 3 feet. Significant ore deposits are unknown in such thin sandstone lenses.

Carbonized wood and trash beds consisting of sandstone and small plant fragments are common in the open cut. Much of the carbonaceous material is weakly radioactive but visible uranium minerals are rare. Although the carbonized wood has radioactivity indicating ore grade, the sandstone surrounding the carbonized wood is essentially barren and the average grade of the material exposed by the cut is very low.

ORE RESERVES

The frequency of ore deposits in the Circle Cliffs area has been low and those deposits which have been found are small. The lack of economic ore deposits is not entirely due to lack of prospecting since much of the Shinarump bench in the southern part of the Circle Cliffs has been prospected by widely spaced drill holes. Two 3,000-ton ore bodies are reported from the northwestern part of Circle Cliffs but this information may be unreliable.

The open cut on the property (fig. 3), does not expose minable reserves of ore-grade material. Carefully selected samples may assay

as high as 0.37 percent U_3O_8, but the assays represent only a few pounds of reserves. Exposed faces of ore of minable grade and thickness are unknown. Low-grade material is present, and 10 or 20 tons of material containing 0.02 to 0.04 percent eU_3O_8 may be inferred from the outcrop.

The applicant has drilled 40 holes on the Cliff group and reports that 3 drill holes intersected ore-grade material, 20 intersected mineralized material, and 17 were barren. The thickness of the mineralized material is not given by the drill logs, and the classification cannot be directly compared with U. S. Geological Survey classification. In spite of the apparent success of the drilling, the applicant infers a reserve of only 100 tons of ore. However, the spotty distribution of the material found on the outcrop indicates that the ore is probably not continuous between the holes, and therefore the three ore holes probably represent three isolated lenses with little tonnage.

CONCLUSIONS AND RECOMMENDATIONS

The applicant believes that the alignment of the ore and mineralized holes indicates a southwesterly trend, but no lithologic logs have been submitted to substantiate such a trend. The applicant feels that the extension of the trend warrants further exploration. However, the spotty nature of the mineralized material on the outcrop, and the mineralization in some of the drill holes outside of the trend indicate that the trend may be other than southwesterly. More drill-hole data are needed to determine a trend, if any actually exists on the property.

The host rock on the Cliff claims has none of the features which can be considered reliable guides to ore. The presence of radioactive carbonized wood is of little value as an ore guide, for it does not show any consistent relationship to ore and may be found widely scattered in areas known to be unproductive. The unfavorableness of the host rock and the erratic distribution of the known mineralized material indicate that the proposed exploration has little chance of discovering economic uranium deposits. Therefore, it is recommended that the application for DMEA assistance under Docket 4061 be denied.

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

RECEIVED
DEC 12 1955

22A New Customhouse
Denver 2, Colorado

December 8, 1955

Memorandum

To: S. R. Wilson
J. W. Hasler

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-4061 (Uranium) Nelson Baker Hunt, Cliff claims, Garfield County, Utah

Enclosed for your information is a copy of a letter from the Chairman of the Operating Committee and memorandum reviews by W. P. Williams, USGS, and John E. Crawford, USBM, members of the Uranium Commodity Committee.

The brochure was forwarded to you November 21, 1955.

E. M. Harshman

Enclosures

E. M. Harshman

HMC:pw

cc: Docket DMEA-4061
Sec.Op.Comm. (2)
Harshman
Chron

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

RECEIVED
DEC 12 1955

204 New Customhouse
Denver 2, Colorado

December 8, 1955

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The brochure was forwarded to you November 21, 1955.

E. M. Harshman

Enclosures

E. M. Harshman

HMC:pw

cc: Docket DMEA-4061
Sec.Op.Comm. (2)
Harshman
Chron

700

FILE COPY

Surname:
Ching
Leahan
Killgaard
Lofgren

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

DEC - 5 1955

Mr. Nelson Bunker Hunt
618 Rood Avenue
Post Office Box 1786
Grand Junction, Colorado

Re: Docket No. DMEA-4061 (Uranium)
Cliff Claims
Garfield County, Utah

Dear Mr. Hunt:

The application for assistance in exploring the subject property under the captioned docket number has been reviewed by the Rare and Miscellaneous Metals Division.

The DMEA Field Team, Region III (Mr. W. M. Traver, Executive Officer, 224 New Customhouse Building, Denver 2, Colorado), will schedule a field examination of your claims in the near future, if it has not already done so.

Any assistance you may give the members of the Field Team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf
(EES7)
Administrator

MChing/izm
12-1-55
cc to: Admr.'s Reading File
Docket
Code 700
Mr. Ching
DMEA Field Team, Region III (2)
~~Messrs. JECrawford, Rm. 3641~~
~~THKillsgaard, Rm. 5224~~
~~JCHosted, Rm. 3210, GSA~~

700

FILE COPY
Surname:
Ching
Kiis
Selfridge
[illegible]

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

DEC - 5 1955

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

Re: Docket No. DMEA-4061 (Uranium)
Nelson Banker Hunt
Cliff Claims
Garfield County, Utah

Dear Mr. Traver:

This is with reference to your memorandum of November 9, 1955 and enclosures, relating to the subject application.

Enclosed are two copies each of memoranda, dated November 18 and November 29, 1955, from W. P. Williams, USGS, and John E. Crawford, USBM, respectively.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee GCS

APPROVED:

/s/ Robert W. Gechm GCB
Member, Bureau of Mines

Thor H. Kiilsgaard GCS
Member, Geological Survey

MChing/izm 12-1-55
cc to: Admr.'s Reading File
Operating Committee
Docket
Code 700
Mr. Ching
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

11-29-55 [illegible]

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

November 29, 1955

Memorandum

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

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

Subject: Application for assistance, DMEA Docket 4061, N. B. Hunt, Cliff group of claims, Garfield County, Utah

I have reviewed the attached application of N. B. Hunt, DMEA Docket 4061, dated October 19 and received in this office November 17. I have also discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

Nelson Bunker Hunt has applied for DMEA assistance in a diamond-drilling uranium exploration program on the Cliff 24, 22, and 21 unpatented mining claims located in Garfield County, Utah. The total estimated cost is $65,835.84.

The applicant has conducted some drilling on the Cliff group of claims and has had some encouraging results.

Inasmuch as a field examination of the property has been scheduled, we feel that our comments should be deferred pending the arrival of the Field Team report.

John E. Crawford

John E. Crawford

Attachment

RECEIVED
NOV 29 1955

11-21-55 [illegible]

IN REPLY REFER TO:

RECEIVED
NOV 21 1955

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

November 18, 1955

Memorandum

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

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

Subject: Review of application, DMEA 4061 (uranium), N. B. Hunt, Cliff claims, Circle Cliffs, Garfield County, Utah.

The applicant proposes an exploration project consisting of a total of 21,420 feet of core and non-core drilling at a total estimated cost of $65,835.00.

It is my impression that ore deposits in the Shinarump conglomerate in the Circle Cliffs area have been scattered and disappointingly small. Production figures for the area would seem to bear that out.

The applicant has completed some rim stripping on the property and has drilled a total of 40 holes. Of all the holes only three were ore-bearing. I see no reason to believe that more drilling would result in a greater proportion of ore holes to non-ore holes. I doubt that DMEA participation in exploration costs on the property are warranted.

The Grand Junction office has indicated that a field examination of the property will be made. If the applicant can substantiate the ore trend spoken of in the application the outlook for a significant discovery may be more optimistic.

W P Williams

W. P. Williams

IN REPLY REFER TO:

RECEIVED
NOV 21 1955

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

November 18, 1955

Memorandum

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

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

Subject: Review of application, DMEA 4061 (uranium), N. B. Hunt, Cliff claims, Circle Cliffs, Garfield County, Utah.

The applicant proposes an exploration project consisting of a total of 21,480 feet of core and non-core drilling at a total estimated cost of $65,835.00.

It is my impression that ore deposits in the Shinarump conglomerate in the Circle Cliffs area have been scattered and disappointingly small. Production figures for the area would seem to bear that out.

The applicant has completed some rim stripping on the property and has drilled a total of 40 holes. Of all the holes only three were ore-bearing. I see no reason to believe that more drilling would result in a greater proportion of ore holes to non-ore holes. I doubt that DMEA participation in exploration costs on the property are warranted.

The Grand Junction office has indicated that a field examination of the property will be made. If the applicant can substantiate the ore trend spoken of in the application the outlook for a significant discovery may be more optimistic.

WPWilliams:iml
G-11/18/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Hosted, 3210

W. P. Williams

November 15, 1955
Subject: DMEA-4061
Re: Exploration Asssistance
Cliff Claims

Mr. Nelson Bunker Hunt
618 Rood P. O. Box 1786
Grand Junction, Colorado

My dear Mr. Hunt:

The receipt of your application dated October 19, 1955, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4061 and referred to the Rare & Misc. 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

November 15, 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 - 4061 Nelson Bunker Hunt

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

11-17-55 ign

RECEIVED
NOV 17 1955

November 10, 1955

Memorandum

To: S. R. Wilson

From: Acting Supt., Denver Experiment Station, Reg. III

Subject: Application for DMEA Assistance, Docket DMEA 4061 (Uranium), N. B. Hunt, Cliff claims, Garfield County, Utah

Enclosed is a copy of the application submitted by N. B. Hunt in the amount of $65,835.84.

A field examination and suitable report are required. The report should be submitted directly to the Executive Officer, with a copy of the memorandum of transmittal to this office.

JOHN F. SHAW
John F. Shaw

cc: E. H. Harshman
J. W. Hasler
W. M. Traver (3)
Sec. Op. Com (2)

RECEIVED

NOV 17 1955

November 10, 1955

Memorandum

To: S. R. Wilson

From: Acting Supt., Denver Experiment Station, Reg. III

Subject: Application for DMEA Assistance, Docket DMEA _____ (Uranium), N. B. Hunt, Cliff claims, Garfield County, Utah

Enclosed is a copy of the application submitted by N. B. Hunt in the amount of $65,835.84.

A field examination and suitable report are required. The report should be submitted directly to the Executive Officer, with a copy of the memorandum of transmittal to this office.

JOHN F. SHAW

John F. Shaw

cc: E. H. Harshman
J. W. Ensler
W. M. Traver (3)
Sec. Op. Com (2)

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

November 9, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Assistance (Uranium), N. B. Hunt, Cliff claims, Garfield County, Utah

Enclosed are two copies of the subject application in the amount of $65,835.84.

The application was submitted to the Grand Junction office where the application was reviewed. Also enclosed are four copies of their review of the application which recommends that a field examination is in order. We have therefore forwarded one copy of the application to the engineer examiner with the request that a field examination and suitable report be made.

W. M. Traver

By J. W. Townsend

Enclosures

RECEIVED
NOV 14 1955

Dmea 4061

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

RECEIVED
NOV 9 1955

November 9, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Assistance (Uranium), M. B. Hunt, Cliff claims, Garfield County, Utah

Enclosed are two copies of the subject application in the amount of $65,835.84.

The application was submitted to the Grand Junction office where the application was reviewed. Also enclosed are four copies of their review of the application which recommends that a field examination is in order. We have therefore forwarded one copy of the application to the engineer examiner with the request that a field examination and suitable report be made.

W. M. Traver

By J. W. Tourneau
J. W. Tourneau

Enclosures

RECEIVED
NOV 14 1955

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

November 9, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (With brochure)
J. W. Nesler

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Assistance (Uranium), H. B. Hunt, Cliff claims, Garfield County, Utah

Enclosed is a copy of the subject application in the amount of $65,835.84. A field examination and suitable report are required.

W. M. Traver

By W. W. Townsend
W. W. Townsend

Enclosure

HMC:ab
cc: Sec. Op. Comm. (2)

RECEIVED
NOV 14 1955

Prince 4061

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

RECEIVED
NOV 21 1955

November 9, 1955

204 New Customhouse
Denver 2, Colorado

Memorandum

To: J. F. Shaw (With brochure)
J. W. Kasler

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA Assistance (Uranium), N. B. Hunt, Cliff claims, Garfield County, Utah

Enclosed is a copy of the subject application in the amount of $65,835.84. A field examination and suitable report are required.

W. H. Travers

By J. W. Townsend
J. W. Townsend

Enclosure

HMC:ab
cc: Sec. Op. Comm. (2)

RECEIVED
NOV 14 1955

Dmea 4061

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

November 4, 1955

RECEIVED
NOV 21 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: J. William Hasler and M. H. Salsbury

Subject: N. B. Hunt, Cliff group of claims, Garfield County, Utah

Enclosed are three copies of answers to MF-103 forms, Application for Aid in an Exploration Project, Pursuant to DMEA Order 1, under the Defense Production Act of 1950, as amended, by Nelson Bunker Hunt, 618 Rood, P. O. Box 1786, Grand Junction, Colo.

The applicant has proposed a diamond-drilling exploration program on the Cliff 24, 22, and 21 unpatented mining claims located in Garfield County, Utah. The Cliff claims are located in the Circle Cliffs area.

We have reviewed the application and are of the opinion that a field examination should be made on the subject property. The examination will be made as soon as possible and a suitable report will be made.

We are retaining one copy of the applicant's material in this office.

D. D. Haynes
For J. William Hasler
Geologist, USGS

M. H. Salsbury
M. H. Salsbury,
Engineer, USBM

JWH/mlr
cc: E. N. Harshman

Enclosures

RECEIVED
NOV 14 1955

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA Field Team
NOV 8 1955
BUREAU OF MINES
Denver, Colorado

November 4, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: J. William Hasler and M. H. Salsbury

Subject: N. B. Hunt, Cliff group of claims, Garfield County, Utah

Enclosed are three copies of answers to MF-103 forms, Application for Aid in an Exploration Project, Pursuant to DMEA Order 1, under the Defense Production Act of 1950, as amended, by Nelson Bunker Hunt, 618 Rood, P. O. Box 1786, Grand Junction, Colo.

The applicant has proposed a diamond-drilling exploration program on the Cliff 24, 22, and 21 unpatented mining claims located in Garfield County, Utah. The Cliff claims are located in the Circle Cliffs area.

We have reviewed the application and are of the opinion that a field examination should be made on the subject property. The examination will be made as soon as possible and a suitable report will be made.

We are retaining one copy of the applicant's material in this office.

D. D. Haynes
For J. William Hasler
Geologist, USGS

M. H. Salsbury
M. H. Salsbury,
Engineer, USBM

JWH/mlr
cc: E. N. Harahman

Enclosures

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MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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

DMEA Rec'd NOV 1955 BUREAU OF MINES Denver, Colorado

Not to be filled in by applicant

Docket No. DMEA-4061
Metal or Mineral Uranium
Date Received 11-14-55
Estimated Cost $65,835.84
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: Nelson Bunker Hunt
618 Rood-P.O. Box 1786
Grand Junction, Colo.

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Cliff 24, 22, & 21 unpatented mining claims, located in T36S, R8E in Garfield County Utah. Cliff 24, Book 43, page 444, Cliff 22, Book 43, page 443, Cliff 21, Book 43, page 443

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it none

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

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

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

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

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

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

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

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

(*c*) The work will start within 40 days and be completed within 6 months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ 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 October 19, 1955

Nelson Bunker Hunt
(Applicant)

By George P. Dix Jr.

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

N.B. HUNT
618 Hood-Box 1786
Grand Junction, Colo.

October 19, 1955

COPY

Executive Officer
DMEA Field Team
224 New Customhouse BLDG.
Denver 2, Colorado

Dear Sir:

Submitted herewith is the required data as requested under the form Budget Bureau No. 42-R1035.2., with additional pertinent information.

It is our intent to conduct the drilling as outlined with our own equipment, since past experience indicates that we can drill these holes cheaper than they can possibly be drilled by contract. In any event, we shall absorb any drilling losses over and above the submitted basis should our costs run higher than our proposed bid.

Respectfully submitted,

George P. Dix

George P. Dix
Geologist

4. PHYSICAL DESCRIPTION
   (a) Past Exploration
      (1) Radiometric Survey
      (2) Rim-stripping program
      (3) Primary Drilling Program
      (4) Secondary Drilling Program

   (b) Production & Reserves
      (1) No Production
      (2) Inferred Reserves

   (c) Geology
      (1) Regional Geology
         Structure
         Stratigraphy
      (2) Areal Geology
      (3) Nature of Mineralization

   (d) Accessibility
      (1) Access Roads
      (2) Shipping

   (e) Logistics

COPY

4. Physical Description
   (a) Past Exploration
      (1) Radiometric Survey
      In October, 1954, a radiometric survey was initiated to evaluate the Chinarump outcrops on the Cliff Group. Some uranium mineralization was found on the Cliff #26 claim at the base of the Chinarump Conglomerate.
      (2) Rim-Stripping
      A rim-stripping operation was started in March, 1955, on the mineralized outcrop on the Cliff #26 claim. Some additional uranium mineralization was found. A small pocket of carbonaceous material was sampled in a random manner and was found to contain: 0.37% U_3O_8, 0.02% V_2O_5, and 0.6% $CaCO_3$ by chemical assay. Approximately 1000 tons of rock was moved and access roads and drill sites for the Primary Drilling Program were constructed.
      (3) Primary Drilling Program
      In April, 1955, a total of 2,164 feet were drilled on the Cliff Group. Twenty-six holes were drilled with an average depth of 83 feet, a maximum depth of 230 feet, and a minimum depth of 15 feet. Of these holes, 1 was ore, 12 were mineralized, and 13 were barren. A trend was established. The drilling on the above program was contracted.
      (4) Secondary Drilling Program
      In September, 1955, a total of 1,071 feet were drilled on the Cliff Group. Fourteen holes were drilled with an average depth of 76 feet, a maximum depth of 144 feet, and a minimum depth of 26 feet. Of these holes, 2 were ore, 8 were mineralized, and 4 were barren. The trend was further delineated by this program. The drilling was done by our own crew and our equipment.
      Chemcial assays were obtained from core in Hole 107 and Hole 111 to substantiate radiometric data.

   (b) Production & Reserves
      (1) No production has come from the property
      (2) No ore has definitely been blocked out, but the inferred reserves are 100 tons of 0.18% U_3O_8 ore 1 foot thick. This does not include hole #20.

COPY

Drill Hole Data-Cliff Group-Circle Cliffs Area-Garfield Co., Utah

I. Primary Project

Hole No.	Depth	Result					Ft Ore	Ft Minerl.
1	31	Barren						
2	30	Barren						
3	24	Barren						
4	15	Barren						
5	22	Barren						
6	26	Barren						
7	28	Barren						
8	57	Barren						
9	42	39.4-0.02	37.2-0.12	36.5-0.03			0.5	2.4
10	41.6	34.2-0.02	33.2-0.04	33.1-0.08	32.5-0.04	32.3-0.02		1.9
11	24	Barren						
12	57	51.1-0.04	50.6-0.06	50.2-0.02				0.9
13	77	73.2-0.02	69.1-0.07	64.0-0.04				9.2
14	74	72.7-0.03	72.0-0.22	71.4-0.12	70.5-0.03		1.2	1.0
15	26	21.6-0.02	21.1-0.08	20.0-0.03				1.6
16	26	Barren						
17	34	Barren						
18	111	108.0-0.03	107.6-0.05	107.2-0.03				0.8
19	132	126.5-0.04	125.6-0.09	125.2-0.04				1.3
20	153	150.7-0.04	149.1-0.10	148.1-0.04			0.5	2.1
21	113	Barren						
22	115	112.0-0.02	111.0-0.06	109.6-0.02				2.4
23	226	Barren						
24	224	217.1-0.02	218.0-0.08	218.3-0.03				1.2
25	225	222.4-0.03	221.0-0.07	220.0-0.04				2.4
26	230	227.2-0.03	225.2-0.08	224.2-0.02				3.0

Drill Hole Data-Cliff Group-Circle Cliffs Area-Garfield Co., Utah

II. Secondary Project

Hole No.	Depth	Result	Ft Ore	Ft. Min.
101	52	46.6-47.8-0.07, 47.8-48.8-0.25, 48.8-49.8-0.06	1	
102	Caved			
103	48	Barren		
104	28	Barren		
105	27	Barren		
106	26	Barren		
107	92	83.8-84.1-0.02, 84.1-84.9-0.08, 84.9-85.2-0.02, 86.0-86.7-0.03, 86.7-87.1-0.106, 87.1-88.8-0.04	.4	3.8
108	Caved			
109	96	90.5-91.5-0.02		1.0
110	Caved			
111	102	98.3-99.8-0.07		1.5
112	108	100.3-101.4-0.06		1.1
113	Caved			
114	128	122.6-124.5-0.05		1.9
115	56	49.8-50.8-0.035, 50.8-51.8-0.10, 51.8-54-0.04	1	3.2
116	90.5	87.0-88.5-0.07		1.5
117	No report - caved			
118	No report - caved			
119	144	138.4-141.5-0.035		3.1
120	73.5	67-68-0.045, 68-68.5-0.10, 68.5-69.6-0.045	.5	2.1

4. Physical Description (Continued)

(c) Geology

(1) General

The Cliff Group is located on the southwest flank of the Circle Cliffs uplift. The Shinarump in this area is dipping 3 degrees to the southwest. There is a pronounced fracture pattern in the Wingate, on the west side of the property, but otherwise there are no additional structural features. The Shinarump conglomerate in this area varies in thickness from 0 to 50 feet and is typical of Shinarump of the White Canyon-Circle Cliffs Region. The Chinle formation is approximately 550 feet thick and consists of red mudstone and siltstone.

(2) Geology and Mineralogy of Deposit

It is relatively certain that the mineralization on the Cliff group is related to a pinch-out in the Shinarump Conglomerate. The pinch-out is exposed on the property north of the Cliff #26 claim; at this point the Shinarump pinches to the north to extinction and does not appear to the north for two miles. The mineralization was encountered in the pinchout in drilling.

The outcrop of the mineralized zone was at the base of the Shinarump and some alteration and copper mineralization was noted in the underlying Moenkopi. The uranium mineralization was confined to carbon and carbonaceous sandstone layers (cf 4a2 for assay).

The drilling on the property defined a zone of mineralization 800 feet long by 150 feet wide that trended along the pinch-out in a southwesterly direction. Two mineralized holes off of this trend were found but they do not appear to have any significance to the trend. The maximum thickness of mineralization was 4.2 feet and the maximum value found by drilling was 0.30% U_3O_8.

(3) Reasons for requesting additional exploration

It appears from past exploration that the pinch-out has some control over the mineralization and that the zone of mineralization outlined is of considerable magnitude. Some commercial ore has been found within the zone. The zone is trending down dip and it is possible that an ore body may have resulted from increased concentration by the mineralizing solution in the area suggested for DMEA exploration. The drilling pattern is minimized by the trend established by past exploration.

COPY

CLIFF GROUP DMEA

4. Physical Description (Continued)

(d) Accessibility

(1) The claims are accessible from drill roads built for past exploration. However, approximately 3500 feet of road will be necessary for the proposed project.

(2) Shipping points: Marysvale, Utah is 156 miles from the property by road, 79 miles of it being paved. There is a buying station there, Green River is 142 miles from the property, 4 miles of this is paved and 36 miles of this should be paved in the near future.

Supplies are available at Price, Utah, Richfield, Utah, or Grand Junction, Colorado.

Resident facilities are available at Escalante, Utah or at Hanksville, Utah.

(3) N.B. HUNT HAS CONSTRUCTED AN AIRSTRIP 4 MILES FROM THE PROPERTY

(e) Logistics

(1) Manpower-readily available

(2) Materials-Supplies- Equipment- available at Loa, Richfield, or Green River, Utah.

(3) Water- Water would be available 3 miles from the property, if a greater volume of drilling water or culinary water is desired a 40 foot hole could be drilled. In the spring of the year water from run off could be caught by reservoirs.

(4) Power-None available in this area.

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5. (b) Proposed Exploration Program (See Map)

1. Phase 1
   (a) Engineering Program
   Approximately 3500 feet of access road and 38 drill sites will be necessary. In addition to this it will be necessary to build one reservoir and drill one 40 foot hole to obtain drill water.
   (b) Drilling Program
   The program includes 38 drill holes on 8 drill fences. One fence of three holes is planned to test the area between holes 119, 20 and 24,25, and 26. The remaining seven fences are set up to extend the trend established by past exploration. Each of these fences are parallel and 150 feet apart. The westernmost five fences are planned so they can shift in one direction or another, depending on the results of the first three fences. Drill holes on all fences are on 75 foot spacings.
   The drill depth on the easternmost fence is 190 feet and the total footage on the fence is 570 feet. The depth on the other seven fences is 570 feet maximum, 260 feet minimum, and 450 feet average depth. The total footage for all 38 holes is 16, 420.

2. Phase 2
   (a) Engineering Program
   Approximately 500 feet of access road and 10 drill sites will be necessary.
   (b) Drilling Program
   Approximately 10 holes with an average depth of 500 feet would be utilized to offset between fences any ore holes obtained in Phase 1 drilling. This program would entail 5000 feet of drilling.

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5. (b) Proposed Exploration Program (Continued)

3. Detailed Breakdown of Drilling Depths (See section)

(a) Phase I

(1) 30 feet of core to be taken per hole

Core footage	1,140 feet
Non-core footage	15,280 feet
	16,420 feet

(2) Depths on fences

5 holes--570 feet deep =	2,850
5 holes--525 feet deep =	2,625
5 holes--475 feet deep =	2,375
5 holes--428 feet deep =	2,140
5 holes--380 feet deep =	1,900
5 holes--330 feet deep =	1,650
5 holes--285 feet deep =	1,425
3 holes--190 feet deep =	570
	15,535
To compensate for any error in depth calculations, rotation of fences, paleochannel lithology	885
	16,420 feet

(b) Phase II

Thirty feet of core to be taken per hole

Core footage	300 feet
Non-core footage	4700 feet
	5000 feet

No detailed breakdown is possible due to the nature of phase II.

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5. (1) Operating experience

The applicant, [illegible] Hunt, has been actively engaged in the search for and production of crude oil and gas over the past 9 years. The applicant has been directly responsible for the successful operation of an oil well drilling and contracting company.

[illegible] has actively been engaged in uranium exploration for the past two years, using geology, electronic equipment, core drills, and deep hole [illegible] have been continuously employed. During the past year, the applicant has successfully operated a small core rig, used entirely on his own explorations. The drilling by this rig successfully located and blocked out a small ore body on which an incline shaft is being sunk down at the present time.

[illegible]

[illegible] Allcox, field engineer for the company, is a [illegible] mining engineer. He has operated oil mines in 1937, 1938, and 1946, and has been actively engaged in oil and mining from 1937 to the present except for a short period of military service.

[illegible] Hodges, field engineer for the company, has spent his entire active life in the mining business except for a short period during World War II. He has prospected, leased, mined, and was shift boss for several operations. He has been responsible for sinking both vertical and incline shafts.

[illegible] Dix, geologist for the company, is a graduate geologist and has been actively engaged in uranium exploration for the past three years. He has been field geologist for the [illegible], Utex Exploration Co., and the Blinchfield Mint & Feldspar Corp.

Allcox and Hodges will supervise the physical aspects of the exploration, and Dix will supervise the coordination of geologic data.

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[illegible] T-[illegible] I-[illegible]

Item	Function	Rate	Amount	Total
Bulldozer (contract)	3500' road, [illegible] sites	12.00/hr or 96.00/day	27 days	2,592.00
Drilling (H.[illegible] Hunt)	Price to cover all footage, considering depth, corrug etc	2.55/ft.	16,420 ft.	41,871.00
Labor				
(a) surveyor	Labor includes field expenses	650.00/mo	1 mo.	650.00
(b) Geologist		650.00/mo	2 mos.	1,300.00
(c) Roman-logger		1.65/hr 48 hr week, (100.00 mo expenses)	3 mos.	1,329.60
Materials & Supplies				
(a) one jeep	transportation, probe current	12.00/day incl gas, oil	3 mos.	1,030.00
(b) probe	[illegible]eter with waterline [illegible] recorder, motor driven	1.[illegible]0/hole	33 holes	33.00
(c) core boxes	[illegible], 2 per hole	1.28/score	3.[illegible] score	54.26
(d) Strip logs	stratigraphic log	.50/log	33 logs	19.00
Miscellaneous				
(a) assays		5.00/assay	152 assays	760.00
(b) core storage	[illegible] Hunt warehouse			13.00
Office records	Bookkeeping, typing, drafting, calculations, reproduction	600.00/mo	3 weeks	450.00
				$50,153.86 Total

CLIFF GROUP PROJECT- PHASE II-COST SHEET

Item	Function	Rate	Amount	Total
Bulldozer (contract)	500' road, 10 sites	12.00/hr 96.00/day	9 days	864.00
Drilling (N.B. Hunt)	Price to cover all footage, considering depth, coring etc	2.55/ft	5000 ft.	12,750.00
Labor	Labor includes field exp.			
(a) Surveyor		660.00/mo	one week	182.50
(b) Geologist		650.00/mo	one month	650.00
(c) Logger-Rodman		1.65/hr, 48 hr week, 100.00/mo exp.	one month	443.20
Materials & Supplies				
(a) One jeep	transportation, probe current	12.00/day	one month	360.00
(b) Probe	Geiger with Esterline Angus Recorder, motor driven	1.00/hole	10 holes	10.00
(c) Core Boxes	AX	14.28/score	one score	14.28
(d) Strip Logs	Stratigraphic Logging	.50/log	10 logs	5.00
Miscellaneous				
(a) assays		5.00/assay	50 assays	250.00
(b) Core storage	N.B. Hunt warehouse			3.00
(c) Office Records	Bookkeeping, typing, drafting, calculations, reproductions	600.00/mo	one week	150.00
				$15,671.98 Total

Stanray Mining Company

246 GRAND AVENUE
TELEPHONE 56
NOGALES, ARIZONA

Please address any
reply: P.O. Box 1911
Grand Junction, Colo.

October 18, 1955

Mr. John Wilcox
c/o N. B. Hunt
618 Rood Avenue
Grand Junction, Colorado

Dear Mr. Wilcox:

We would like to submit the following firm bid on your proposed drilling program on the N. B. Hunt properties in the Circle Cliffs area of Garfield County, Utah:

BID: $3.95 per foot for program #1 (38 holes totaling 16,420 feet, holes to be drilled to a maximum of 570 feet with a minimum of 260 feet, plus 1,140 feet of core).

BID: $3.65 per foot for program #2 (10 holes averaging 500 feet per hole, totaling 5,000 feet with 300 feet of core).

This bid is based on our experience in drilling this area and anticipating the need of casing each hole from 30 to 100 feet, due to the slough from the Wingate cliffs above. This area is quite remote, which makes supply and repairs costly.

Sincerely,

Ray Carpenter

Ray Carpenter
Secretary-Treasurer

RC/dl

MINERALS ENGINEERING COMPANY
P. O. BOX 1951
GRAND JUNCTION, COLORADO

October 18, 1955

Mr. N. B. Hunt
Box 1786
Grand Junction, Colorado

Dear Mr. Hunt:

The following quotations are our bid for drilling a minimum of 16,420 feet on your Circle Cliff properties in southern, Utah:

Depth	Price per Foot Non Core	Price per Foot Core
0-200 feet	$ 1.75	$ 2.75
200-400 feet	2.00	3.25
400-600 feet	3.00	4.50

Stand-by time we bid at the rate of $12.00 per hour.

We would expect to begin operations with two fully equipped core drills capable of delivering cores below 800 feet. The above schedule includes any and all costs of drilling operations.

We would expect to operate steadily and continuously unless prevented by causes beyond our control. It is our understanding that you would prepare access roads and drill sites for the movement of our equipment.

We would expect to begin drilling operations within 15 days after notice of acceptance of our bid.

Thank you for asking us to submit this bid.

Very truly yours,

MINERALS ENGINEERING COMPANY

Howard S. Perry

Howard S. Perry
Drill Superintendent

HSP/k

MINERALS ENGINEERING COMPANY
P. O. BOX 1951
GRAND JUNCTION, COLORADO

October 18, 1955

Mr. N. B. Hunt
Box 1786
Grand Junction, Colorado

Dear Mr. Hunt:

The following quotations are our bid for drilling a minimum of 5,000 feet on your Circle Cliff properties in southern Utah:

Depth	Price per Foot Non Core	Core
0-200 feet	$ 1.75	$ 2.75
200-400 feet	2.00	3.25
400-600 feet	3.00	4.50

Stand-by time we bid at the rate of $12.00 per hour.

We would expect to begin operations with two fully equipped core drills capable of delivering cores below 800 feet. The above schedule includes any and all costs of drilling operations.

We would expect to operate steadily and continuously unless prevented by causes beyond our control. It is our understanding that you would prepare access roads and drill sites for the movement of our equipment.

We would expect to begin drilling operations within 15 days after notice of acceptance of our bid.

Thank you for asking us to submit this bid.

Very truly yours,

MINERALS ENGINEERING COMPANY

Howard S. Perry

Howard S. Perry
Drill Superintendent

HSP/k

October 26, 1955

W. B. Hunt
Box 1786
Grand Junction, Colo.

Attn: Mr. John Wilcox

Gentlemen:

In accordance with our conversations, we herewith submit our quotation for drilling in the Circle Cliffs area of Utah.

PROPOSAL:

Non-Core Drilling

Item 1. - From surface to 400 ft. depth. . . . . .1.85 per ft.
Item 2. - From 400 ft. to 600 ft. depth. . . . . .2.60 per ft.

Core Drilling

Item 3. - From surface to 400 ft. depth. . . . . .3.60 per ft.
Item 4. - From 400 ft. to 600 ft. depth. . . . . .5.00 per ft.

Delays

Item 5. - For all delays such as radiometric logging or for any other reason required by the customer. . . . . .12.00 per hr.

This quotation is subject to the following conditions:

1. All drill hole locations and access roads to drill sites will be constructed and maintained to accommodate Sprague & Henwood, Inc. truck mounted drills and water trucks. Any bulldozer work required for preparation of sites and roads will be furnished by the customer at no cost to Sprague & Henwood, Inc.

2. Cores will be delivered at drill hole locations, and storage and preservation of cores will be the responsibility of the customer.

3. All holes will be located in the field by the customer.

4. Payments are to be made monthly based on completed holes, within 15 days after date of invoice. Should payments not be made within the specified period then Sprague & Henwood, Inc. reserves the right to terminate operations. Credit arrangements satisfactory to Sprague & Henwood, Inc. must be made prior to commencement of work.

SPRAGUE & HENWOOD, INC.

Grand Junction, Colorado
October 26, 1955

We thank you for the opportunity of submitting this proposal.

Very truly yours,

SPRAGUE & HENWOOD, INC.

by R. Carver

R. R. Carver

RRC:be
CC: Scranton
File

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

224 New Customhouse, Denver, Colo.

OFFICIAL BUSINESS

DEN NOV 9 6.30PM 1955 COLO.

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE $300.

Mr. J. L. Chambers, Chief

Contract Administration and Audit Division

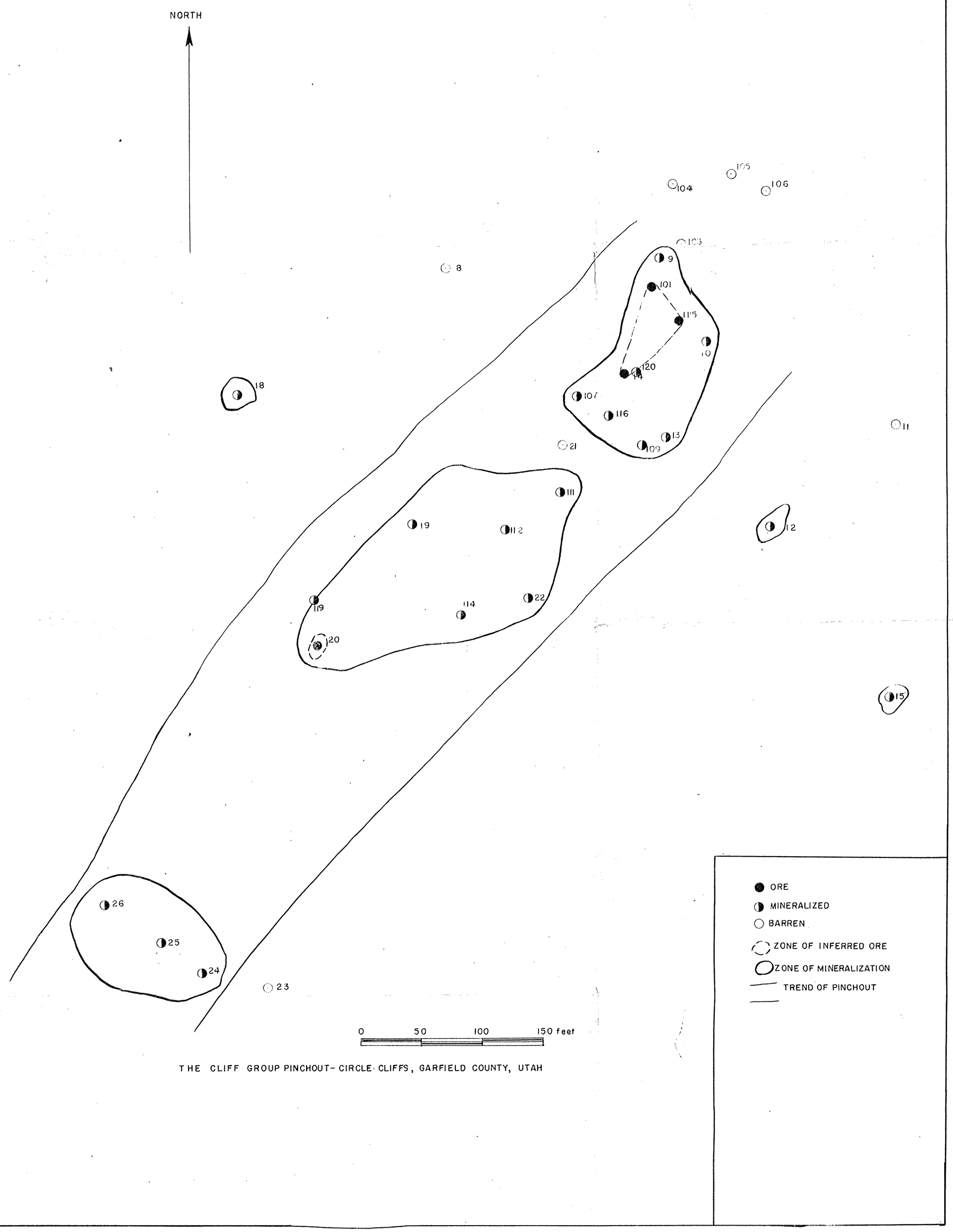
Defense Minerals Exploration Administration

U. S. Department of the Interior - Interior Building

Washington 25, D. C.

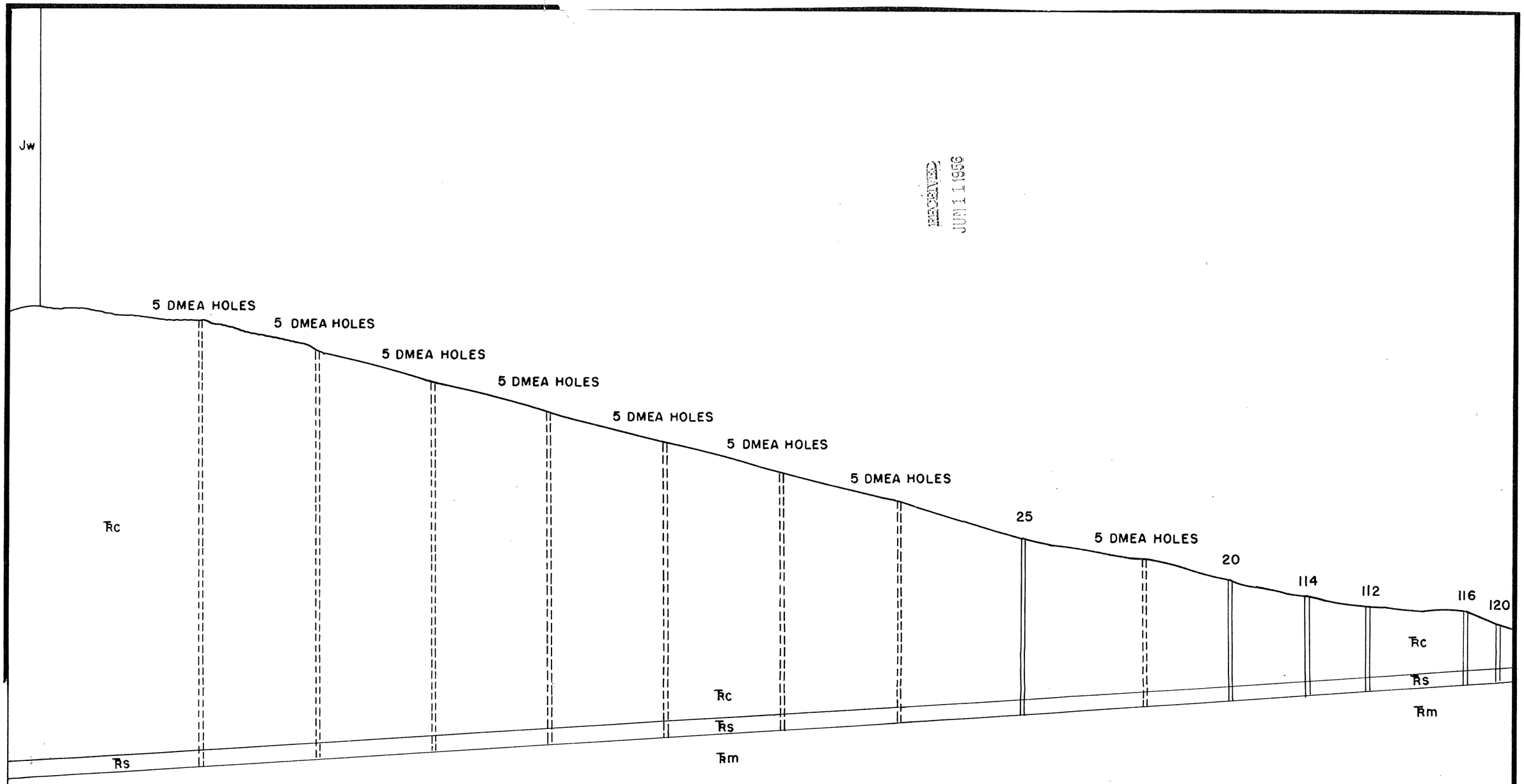
RECEIVED
NOV 14 1955

CLIFF PROJECT, CIRCLE CLIFFS AREA, GARFIELD CO, UTAH



THE CLIFF GROUP PINCHOUT- CIRCLE CLIFFS, GARFIELD COUNTY, UTAH

RECEIVED
JUN 11 1956



SECTION A-A'

LEGEND

=======	PROPOSED DMEA HOLE
═══	EXISTING PREVIOUS DRILLING
Jw	WINGATE
Ꞧc	CHINLE
Ꞧs	SHINARUMP
Ꞧm	MOENCOPI

0 100 200 300
SCALE OF FEET

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

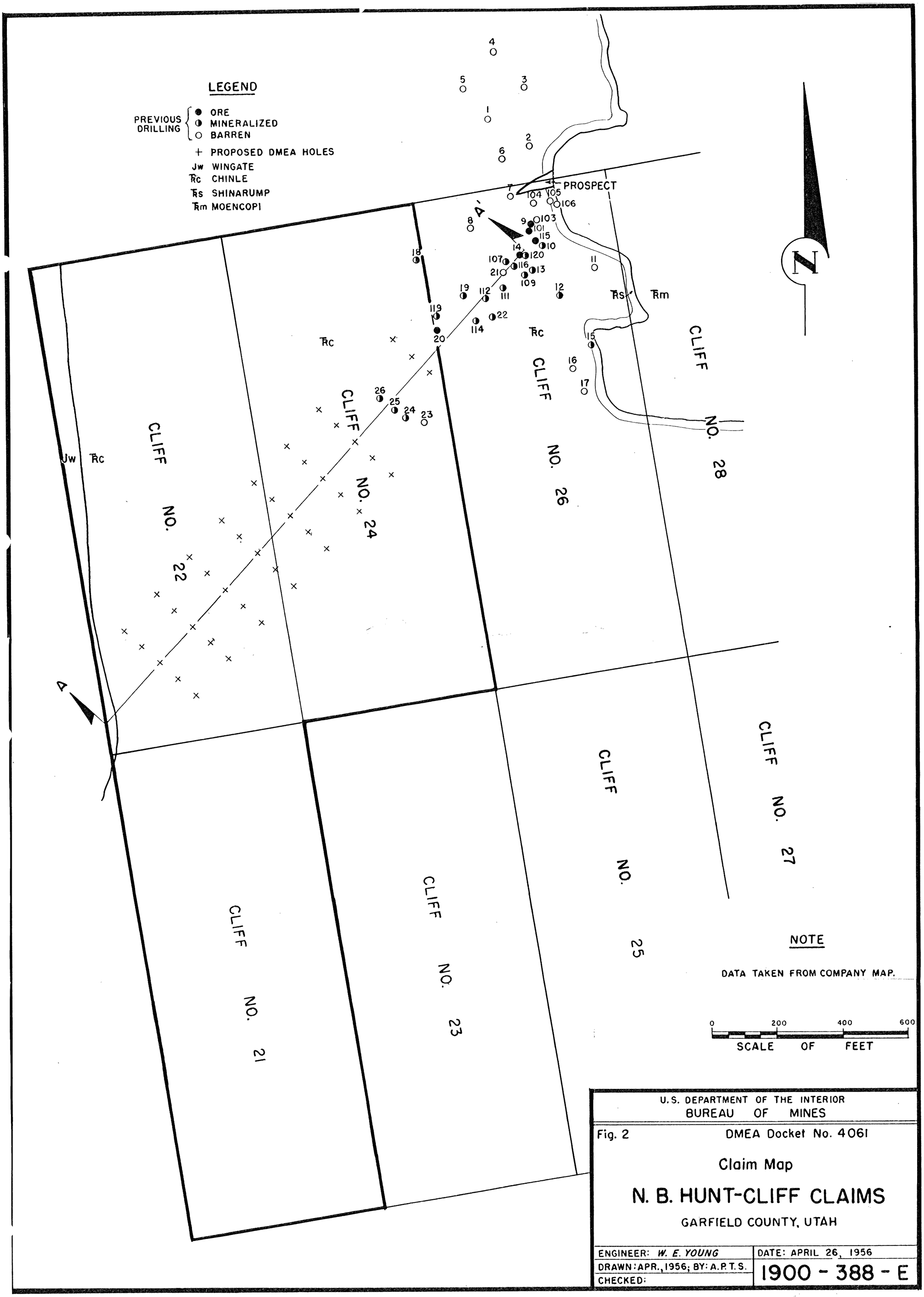
Fig 3 DMEA Docket No. 4061

Section through Proposed DMEA Holes

N. B. HUNT-CLIFF CLAIMS

GARFIELD COUNTY, UTAH

ENGINEER: *W. E. YOUNG*	DATE: MAY 2, 1956
TRACED: MAY, 1956; BY: A.P.T.S.	1900 - 389 - E
CHECKED:	


LEGEND
PREVIOUS DRILLING
ORE
MINERALIZED
BARREN
PROPOSED DMEA HOLES
Jw WINGATE
TRc CHINLE
TRs SHINARUMP
TRm MOENCOPI
PROSPECT
A'
A
N
CLIFF NO. 21
CLIFF NO. 22
CLIFF NO. 23
CLIFF NO. 24
CLIFF NO. 25
CLIFF NO. 26
CLIFF NO. 27
CLIFF NO. 28
NOTE
DATA TAKEN FROM COMPANY MAP.
0 200 400 600
SCALE OF FEET
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Fig. 2
DMEA Docket No. 4061
Claim Map
N. B. HUNT-CLIFF CLAIMS
GARFIELD COUNTY, UTAH
ENGINEER: W. E. YOUNG
DATE: APRIL 26, 1956
DRAWN: APR., 1956; BY: A.P.T.S.
CHECKED:
1900 - 388 - E

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 1 DMEA Docket No. 4601

STATE: UTAH

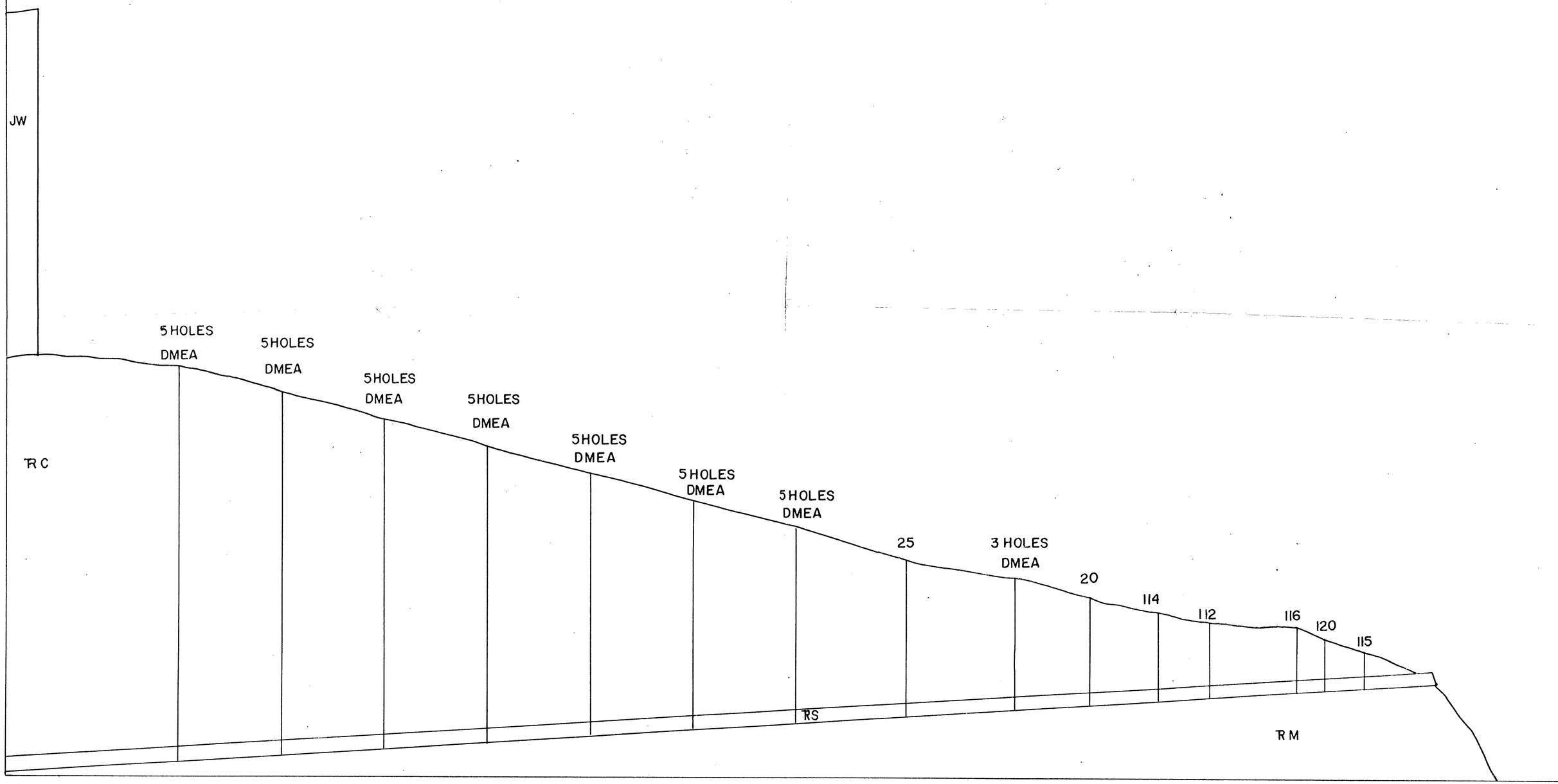
COUNTY: GARFIELD

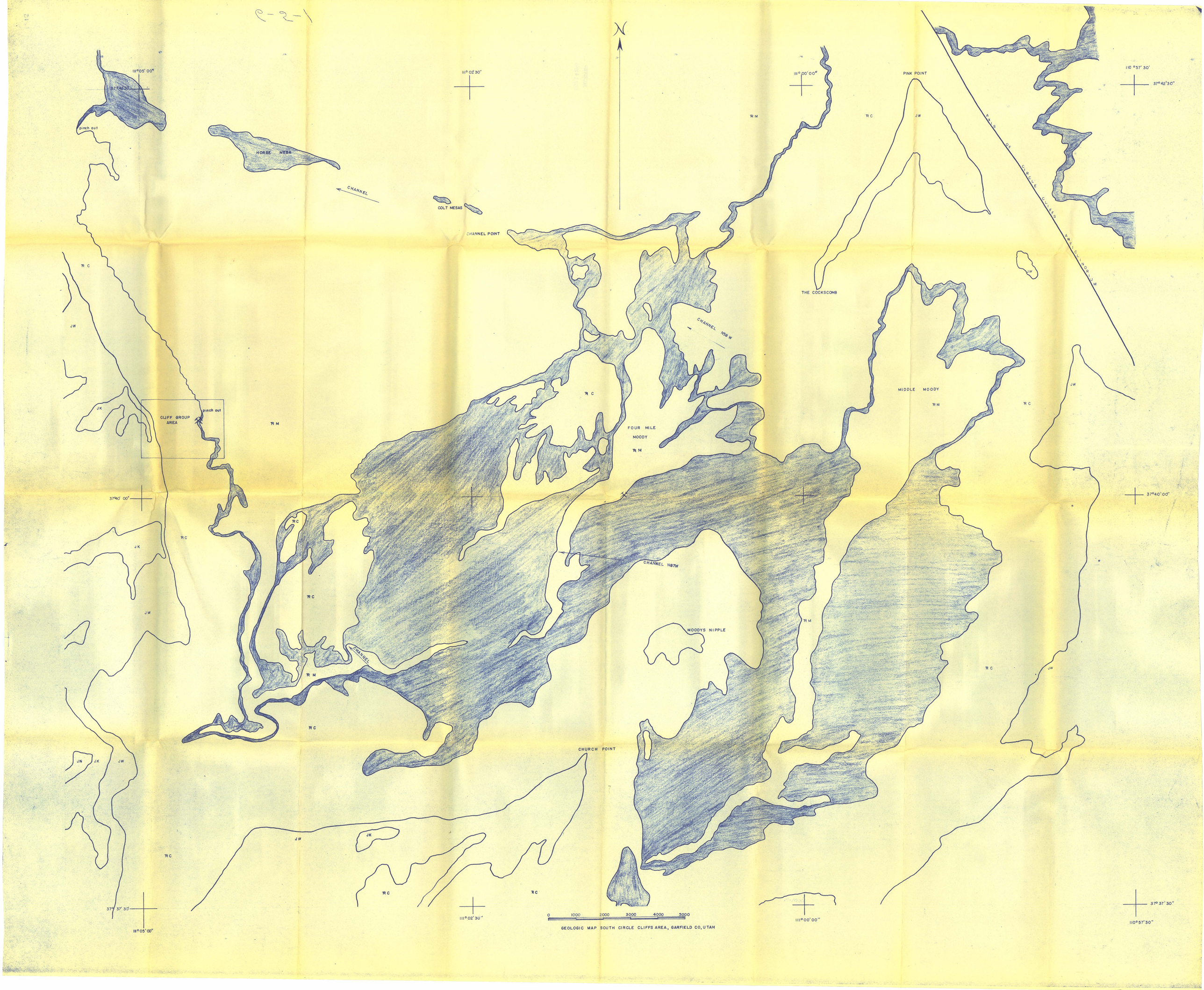
Sheet 2 of 5
Location Map

ENGINEER: W. E. YOUNG	DATE: APRIL 16, 1956
TRACED: APR., 1956; BY: A. P. T. S.	1900-378-D
CHECKED:	

CLIFF GROUP DMEA —— SECTION THRU DRILL AREA

1"=100' V,H





GEOLOGIC MAP SOUTH CIRCLE CLIFFS AREA, GARFIELD CO, UTAH