Surname copy

700

Ching
Ellis
Nelson
Gehman
Selfridge

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

Mr. John A. Prather
Executive Vice President
Cimarta Exploration, Inc.
258 Highland Park Village
Dallas, Texas

SEP 22 1955

Re: Docket No. DMEA-3829 (Uranium)
Red claims et al.
Grand and San Juan Counties, Utah

Dear Mr. Prather:

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

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

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

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

Sincerely yours,

Frank E. Johnson

ACTING Administrator

MChing/gla
9-16-55
cc to: Admr.'s Reading File
Operating Committee
Docket
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA
Code 700
Mr. Ching
DMEA Field Team, Region III (2)

R.C.B.

DOCKET COPY

Ching
Ellis

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

September 16, 1955

Summary of Proposed Project

Object: Denial of application for an exploration project.

Docket No.: DMEA-3829

Commodity: Uranium

Applicant: Cimota Exploration, Inc., a Delaware corporation.
25B Highland Park Village
Dallas, Texas

Property: Red claims, et al, consisting of 49 unpatented claims in sections 28, 32, 33, and 34, T. 26 S., R. 21 E., S.L.M. & B., Grand County, Utah, and sections 3 and 4, T. 27 S., R. 21 E., S.L.M. & B., San Juan County, Utah. Applicant is the owner.

Date of application: March 28, 1955.

Amount of application: $97,927.25.

Work Proposed: Two separate programs of drilling, one to explore the MossBack member of the Chinle formation and the other to explore the Cutler formation along a main fault.

MossBack Exploration (59 holes):

15,625 ft. plug drilling @ $2.70/ft.	$42,187.50	
2,500 ft. core drilling @ $3.65/ft.	9,125.00	
900 ft. horizontal drilling from Mossback Mine @ $2.70/ft.	2,475.00	
		$53,787.50

Cutler Exploration (66 holes):

6,200 ft. plug drilling @ $2.70/ft.	$16,740.00	
1,320 ft. core drilling @ $3.65/ft.	4,818.00	
		$21,558.00
Constructing roads and drill sites		12,350.00
Supervision and other costs		10,231.75
Estimated total cost		$97,927.25
Government participation @ 75%		$73,445.44

Field Team
Report: August 30, 1955 Carl H. Roach, USGS
Carl Belser, USBM

The general history of attempts to mine the Chinle-Moenkopi contact in Cane Springs Canyon is poor. About 20 miles of such contact is exposed and many short adits have been driven into the rim without any production of commercial ore. The Applicant has driven an adit about 190 feet into the cliff on the MossBack-Moenkopi contact. About two tons of low-grade uranium ore was produced, but the exposures were not promising. Drilling of the Chinle-Moenkopi contact from the surface would require costly access roads and deep (500-600 feet) drilling which are not believed to be warranted.

The main uranium mineralization appears to be in the Cutler formation along faults which nearly parallel the axis of the Cane Creek anticline. Such a fault has been prospected on the Moonshine No. 2 claim and mineralization was found on the hanging wall. About 265 tons of ore averaging 0.13% U_3O_8 was shipped from this claim. Nearby properties to the northwest, southeast, and southwest have produced limited tonnages of ore from the same or parallel faults. The fault on the Moonshine No. 2 claim has already been explored by a number of drill holes. Because of this and the fact that the ore found to date has been quite low grade, it is believed that further drilling as proposed is not warranted.

Commodity Committee Members' Comments:

Geological Survey - W. P. Williams - September 13, 1955.

Ore deposits in Cane Springs Canyon, both in the Cutler formation and in the Moss Back member of the Chinle, are small and scattered. Although uranium mineralization has been found on the property, the examining team states that geologic conditions are not favorable for the occurrence of large ore bodies. I concur with the Field Team's recommendation for denial.

Bureau of Mines - John E. Crawford - September 16, 1955.

Discussed the report of examination with the AEC representative. Notes that the history of production from the Chinle Cutler contact in Cane Springs Canyon has been exceedingly unfavorable and that the ore mined along the fault on subject claims has been of doubtful mining grade. Concurs in the recommendation for denial.

The Applicant has already explored the Moss Back-Moenkopi contact by means of 190 feet of adit and drift at a point where ore was exposed on the rim. Since no significant ore body was found, further exploration by comparatively deep drilling hardly appears justified, especially in view of the history of exploration at this horizon in this area.

The potential of the Cutler formation appears to have been pretty well determined by the work completed by the Applicant. Further exploration is not warranted because of the limited size of ore bodies that might be found.

Conclusions and Recommendations:

The chances of finding worthwhile ore bodies by the proposed exploration are not good. It is recommended that the application be denied.

Ernest Wm. Ellis

Ernest Wm. Ellis

9/16/55-gla

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

RECEIVED
SEP 16 1955

September 16, 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: Report of Examination, DMEA Docket 3829, Cimota Exploration, Inc., Cane Springs Canyon Claims, San Juan and Grand Counties, Utah

I have reviewed the Field Team report of examination, Cimota Exploration, Inc., DMEA Docket 3829; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

Cimota Exploration, Inc., applied for DMEA assistance to explore their Cane Springs Canyon claim in San Juan and Grand Counties, Utah, with a proposed program consisting of 26,545 feet of drilling at a total estimated cost of $97,927.25 or $3.69 cost per foot.

The field examiners report that the history of production from the Chinle-Cutler contact in Cane Springs Canyon has been exceedingly unfavorable. They further state that the ore mined along the fault on subject claims has been of doubtful mining grade. The field examiners recommend that the application be denied.

We concur in the recommendation for denial.

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

James Paone
for John E. Crawford

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

RECEIVED
SEP 16 1955

September 16, 1955

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Uranium Commodity Committee, Room 4445

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The field examiners report that the history of production from the Chinle-Cutler contact in Cane Springs Canyon has been exceedingly unfavorable. They further state that the ore mined along the fault on subject claims has been of doubtful mining grade. The field examiners recommend that the application be denied.

We concur in the recommendation for denial.

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

John E. Crawford

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

RECEIVED
SEP 16 1955

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The field examiners report that the history of production from the Chinle-Cutler contact in Cane Springs Canyon has been exceedingly unfavorable. They further state that the ore mined along the fault on subject claims has been of doubtful mining grade. The field examiners recommend that the application be denied.

We concur in the recommendation for denial.

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

John E. Crawford

9/14/55 gl

IN REPLY REFER TO:

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

RECEIVED
SEP 14 1955

September 13, 1955

Memorandum

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

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

Subject: Review of Field Team Report, DMEA Docket No. 3829, Cimota Exploration, Inc., Cane Springs Canyon, Grand and San Juan Counties, Utah.

Ore deposits in Cane Springs Canyon, both in the Cutler formation and in the Moss Back member of the Chinle, are small and scattered. Although uranium mineralization has been found on the property, the examining team states that geologic conditions are not favorable for the occurrence of large ore bodies, and they recommend that the application be denied.

I concur with the recommendation for denial.

WPWilliams

W. P. Williams

IN REPLY REFER TO:

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

RECEIVED
SEP 14 1955

September 13, 1955

Memorandum

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

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

Subject: Review of Field Team Report, DMEA Docket No. 3889, Cimota Exploration, Inc., Cane Springs Canyon, Grand and San Juan Counties, Utah.

Ore deposits in Cane Springs Canyon, both in the Cutler formation and in the Moss Back member of the Chinle, are small and scattered. Although uranium mineralization has been found on the property, the examining team states that geologic conditions are not favorable for the occurrence of large ore bodies, and they recommend that the application be denied.

I concur with the recommendation for denial.

WP

W. P. Williams

WPWilliams:iml
G-9/13/55

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

IN REPLY REFER TO:

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

RECEIVED
SEP 14 1955

September 13, 1955

Memorandum

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

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

Subject: Review of Field Team Report, DMEA Docket No. 3089, Cimota Exploration, Inc., Cane Springs Canyon, Grand and San Juan Counties, Utah.

Ore deposits in Cane Springs Canyon, both in the Cutler formation and in the Moss Back member of the Chinle, are small and scattered. Although uranium mineralization has been found on the property, the examining team states that geologic conditions are not favorable for the occurrence of large ore bodies, and they recommend that the application be denied.

I concur with the recommendation for denial.

WPW

W. P. Williams

WPWilliams:iml
G-9/13/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
J. E. Crawford, 3641
J. O. Nested, 3210

IN REPLY REFER TO:

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

RECEIVED
SEP 14 1955

September 13, 1955

Memorandum

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

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

Subject: Review of Field Team Report, DMEA Docket No. 3589, Cimota Exploration, Inc., Cane Springs Canyon, Grand and San Juan Counties, Utah.

Ore deposits in Cane Springs Canyon, both in the Cutler formation and in the Moss Back member of the Chinle, are small and scattered. Although uranium mineralization has been found on the property, the examining team states that geologic conditions are not favorable for the occurrence of large ore bodies, and they recommend that the application be denied.

I concur with the recommendation for denial.

WPW

W. P. Williams

WPWilliams:iml
G-9/13/55

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

9/12/55-gla

224 New Customhouse
Denver 2, Colorado

September 7, 1955

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region III

Subject: Report of Examination, DMEA Docket 3829 (Uranium), Cane Springs Canyon Claims, Cimota Exploration, Inc., San Juan and Grand Counties, Utah.

Enclosed are the original and three copies each of the Bureau of Mines and U. S. Geological Survey reports pertaining to the above application.

The reports consist of the following:

(a) Geologic Report by Carl H. Roach, U. S. Geological Survey
(b) Memorandum from J. William Hasler to E. N. Harshman concerning the Geologic Report
(c) Memorandum from E. N. Harshman to the Field Team transmitting the Geologic Report
(d) Engineering Report by Carl Belser, Bureau of Mines
(e) Joint Summary, Conclusions and Recommendations, by Carl H. Roach and Carl Belser
(f) Memorandum from John F. Shaw to the Executive Officer, Region III transmitting the Engineering Report and Joint Recommendations

The Field Examiners believe there is little chance that a significant amount of Uranium can be found on the property and they recommend that the application be denied.

We concur with their recommendation.

W. M. Traver
W. M. Traver

E. N. Harshman
E. N. Harshman

Enclosures

DMEA
Date Rec'd

SEP 2 1955

BUREAU OF MINES
Denver, Colorado

Region III

Memorandum

Building 20
Denver Federal Center
Denver 2, Colorado
August 31, 1955

TRANSMITTED

SEP 87 1955

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: DMEA 3829 (Uranium) Cane Springs Canyon Claims, Cimota Exploration, Inc., San Juan and Grand Counties, Utah

Enclosed are the original and ten copies of a "Joint Summary, Conclusions, and Recommendations", by Carl H. Roach, Geologist, and Carl Belser, Mining Engineer, and the original and ten copies of an Engineering Report by Carl Belser, Mining Engineer, covering docket DMEA 3829.

Cimota Exploration, Inc. applied for exploration assistance in the amount of $97,927.25 to explore their Cane Springs Canyon group of claims by 26,545 feet of drilling.

A field examination was made on June 20, 1955, by Carl H. Roach and Carl Belser. The examining team concluded that there was little possibility of discovering a significant amount of uranium by the proposed exploration.

It is recommended that the application be denied.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

Enclosures

cc 10
DMEA 3829
Chron

JFS:ph

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3[illegible], Cane Springs Canyon Claims

Cimarta Exploration, Inc.

San Juan and Grand Counties, Utah

Uranium

Carl H. Roach, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

August 30, 1955

DMRA 3829

CANE SPRINGS CANYON CLAIMS
CINDRA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

Joint Summary, Conclusions, and Recommendations

By

Carl H. Roach, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

DMEA 3829

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Carl H. Roach and Carl Belser

Cimota Exploration, Inc., John A. Prather, Executive Vice President, 25 B Highland Park Village, Dallas, Texas, has applied to the Defense Minerals Exploration Administration for aid in a $97,927.25 project to explore the Moss Back member of the Chinle formation and the Cutler formation by 26,545 feet of drilling.

A field investigation was made on June 20, 1955, by an examining team from the Geological Survey and the Bureau of Mines. William S. Dawson, field representative for Cimota Exploration, Inc., accompanied the examining team.

The Cane Springs Canyon group of 49 unpatented claims is in sections 28, 32, 33, and 34, T. 26 S., R. 21 E., Salt Lake Base and Meridian, Grand County, Utah, and sections 3 and 4, T. 27 S., R. 21 E., Salt Lake Base and Meridian, San Juan County, Utah. The claims are in a solid block and cover the northeast side of Cane Springs Canyon for a distance of about 2 miles.

The exposed rocks range from the Rico of the Lower Permian, through the Cutler, Moenkopi, Chinle, and Wingate formations to the Kayenta formation of the Lower Jurassic.

The Cutler formation is about 500 feet thick, the Moenkopi from 30 to 60 feet thick, the Chinle 265 feet thick, the Wingate 300 feet thick, and the Kayenta is represented only by remnants. The Moss Back member of the Chinle formation ranges from 10 to 50 feet thick and contains grey medium-grained sands, thin lenses of grey mudstone and some chert and lime pebble conglomerate. Very little carbonaceous trash was noticed. An adit about 190 feet long has been driven into the cliff on the Moss Back--Moenkopi contact. Most of the adit was driven in the Moenkopi formation just below the Moss Back. About two tons of low-grade uranium ore was obtained from this work, but the exposures are not promising.

The main uranium mineralization appears to be in the Cutler formation. This mineralization follows faults which are nearly parallel to the axis of the Cane Creek anticline. A fault striking south 35 degrees east and dipping about 45 degrees to the southwest crosses the property and has been prospected on the Moonshine No. 2 claim. At this point the hanging wall of the fault shows uranium mineralization and 265 tons of uranium ore averaging .13 percent U_3O_8 has been shipped.

It is estimated that the hanging wall of the fault has dropped about 100 feet. To the northwest, in section 32, Climax produced a small amount of ore from a fault which is in line with the fault on the Moonshine No. 2 claim. To the southeast Capitol Uranium is mining from a parallel fault which dips about 60 degrees to the northeast. To the southwest Dove Creek Uranium is reported to have

produced over 750 tons of ore from along a southeasterly striking fault.

Cimota Exploration, Inc., requested aid in 19,025 feet of drilling to explore the Moss Back member of the Chinle formation. The general history of attempts to mine the Chinle-Moenkopi contact in Cane Springs Canyon is poor. About 20 miles of Chinle-Moenkopi contact is exposed and many short adits have been driven into the rims without any production of commercial ore. Drilling of the Chinle-Moenkopi contact on the Cimota property would require costly access roads and deep (500 to 600 feet) drilling. This drilling is not believed to be warranted by the examining team.

The applicant also requested aid in drilling 66 holes (7,580 feet) in the Cutler formation along the fault on the Moonshine No. 2 claim. The fault has already been explored by the drilling of a number of holes. Considering the low grade of the ore already mined, the examining team did not believe that further drilling was warranted and recommended that the application be denied.

DMEA 3829

CANE SPRINGS CANYON CLAIMS
SIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

Engineering Report

By Carl Belser
Mining Engineer
Bureau of Mines

DMRA 3089

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

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ILLUSTRATIONS

Figure — Follows page

1. Location map, Cane Springs Canyon claims, Cimota Exploration, Inc., San Juan and Grand Counties, Utah, DMRA 3089..... 2
2. Claim map, showing proposed drilling, Cane Springs Canyon claims, Cimota Exploration, Inc., San Juan and Grand Counties, Utah, DMRA 3089..... 2

DMEA 3889

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

ENGINEERING REPORT

By Carl Belser

INTRODUCTION

Cimota Exploration, Inc., 25 B Highland Park Village, Dallas, Texas, submitted on March 28, 1955, an application to the Defense Minerals Exploration Administration for aid in an exploration project on their Cane Springs Canyon claims in San Juan and Grand Counties, Utah. The application, DMEA 3889, requested aid in completing 26,545 feet of drilling at a total estimated cost of $97,927.25, Government participation at 75 percent would be $73,445.44. This proposed exploration was to test both the Chinle-Moenkopi contact and the Cutler formation for uranium mineralization.

A joint field examination was made by a Geological Survey and Bureau of Mines examining team on June 20, 1955. The examining team, as a result of their investigation, recommended that the application be denied.

ACKNOWLEDGMENTS

W. S. Dawson, field representative for Cimota Exploration, Inc., accompanied the examining team.

J. William Hasler, Geologist, Colorado Plateau area, Grand Junction, Colorado, assigned Carl H. Roach, Geologist, to make the exam-

ination as the Geological Survey member of the team. Roach was accompanied by H. S. Johnson, Geologist, Geological Survey.

The Atomic Energy Commission was consulted regarding the area before the examination was made.

LOCATION, TOPOGRAPHY, AND CLIMATE

The Spring Creek Canyon group of 49 unpatented claims is in sections 28, 32, 33, and 34, T. 26 S., R. 21 E., Salt Lake Base Meridian, Grand County, Utah, and sections 3 and 4, T. 27 S., R. 21 E., Salt Lake Base Meridian, San Juan County, Utah. (figs. 1 and 2) The claims form a solid block and cover the northeast side of Cane Springs Canyon for a distance of about 2 miles.

A fair 16-mile dirt road to the southeast connects the property with U. S. Highway 160 from whence, Monticello, Utah, is 39 miles southeast; Moab, Utah, is 19 miles northwest; and Thompson, Utah, is 61 miles northwest.

Miners and supplies are available in Moab and Monticello. Government ore depots are maintained in Monticello, Moab, and Thompson; and the nearest railroad is the Denver and Rio Grande Western at Thompson.

Native timber and dimension lumber can be purchased at Moab or Monticello. Water for drilling and domestic purposes can be pumped from Cane Springs Canyon. Water for drilling on top of the mesa would have to be hauled at least 18 miles.

The altitude in Cane Springs Canyon near the mine camp is about 4,000 feet. Rainfall is light and the area is classed as semi-arid.

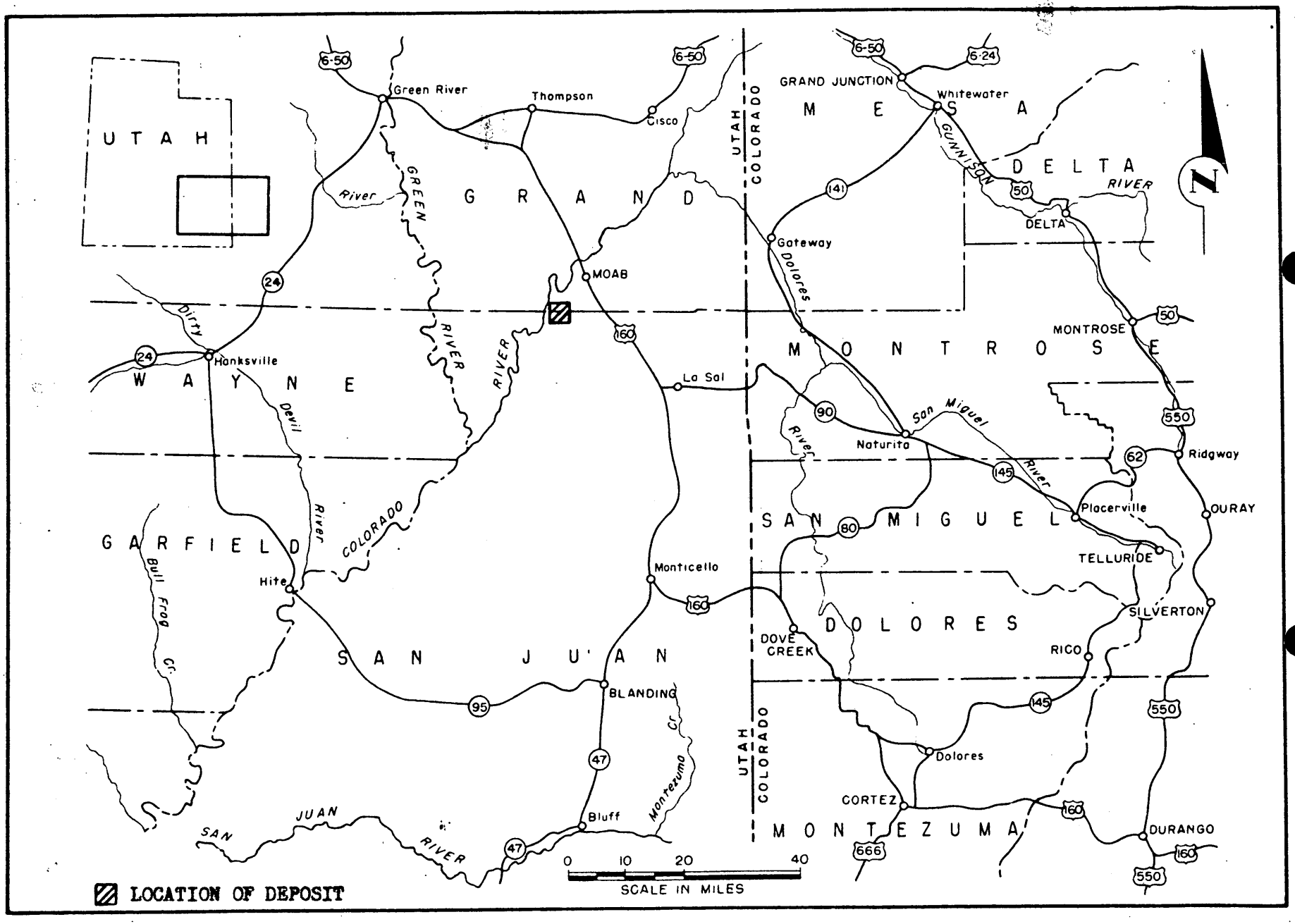

FIGURE 1 - LOCATION MAP, CANE SPRINGS CANYON CLAIMS, CIMOTA EXPLORATION, INC., GRAND AND SAN JUAN COUNTIES, UTAH.
DMEA 3829

HISTORY AND PRODUCTION

Although a road was built down the canyon many years ago, no significant production of vanadium or uranium ore has been made. Since the introduction of the Government ore buying schedules in 1948, the road has been rebuilt and most of the land has been staked. The claims in the applicant's group were located late in 1953 and early 1954. Since then, an access road has been constructed to the Chinle-Moenkopi contact where an adit about 190 feet in length has been driven. In the Cutler formation 265 tons of 0.13 percent U_3O_8 ore has been produced along a fault zone and some shallow holes have been drilled.

OWNERSHIP AND EXTENT

The claim block lies on the Grand County--San Juan County line. Part of the claims are located in Grand County and part in San Juan County.

The claims located in the office of the Recorder of San Juan County are:

Claim	Book	Page	Date Located	Date Recorded	Locator
Red 00	63	512	2/20/54	3/2/54	Jackson & McDougall
Red 0	63	512	2/20/54	3/2/54	" "
Red No.	63	513	2/25/54	3/2/54	" "
Red No. 1	45	31	12/10/53	12/13/53	" "
Red No. 2	45	31	12/10/53	12/13/53	" "
Moonshine No. 1	87	336	4/30/54	5/3/54	" " & Cimota
Moonshine No. 2	87	337	4/30/54	5/3/54	" " "
Big Black Bear #1	101	249	5/26/54	5/28/54	Cimota
Big Black Bear #2	101	249	5/26/54	5/28/54	"
Big Black Bear #3	101	250	5/26/54	5/28/54	"

Claim	Book	Page	Date Located	Date Recorded	Locator
Frac. No. 1	101	250	5/27/54	5/28/54	Cimota
Frac. No. 2	101	251	5/27/54	5/28/54	"
Hot Frac. #1	145	321	7/10/54	8/9/54	
Moon Frac.	245	159			
Hot #1	83	137		4/10/54	Jackson & McDougall
Hot #2	101	231	5/27/54	5/28/54	Cimota
Hot #3	101	232	5/27/54	5/28/54	"
Hot #4	101	252	5/27/54	5/28/54	"
Hot #5	101	253	5/27/54	5/28/54	"
Hot #6	101	253	5/27/54	5/28/54	"

Claims recorded in Grand County follow:

Claim	Book	Page	Date Located	Date Recorded	Locator	Amended Book	Amended Page
Red #1	16	496	12/10/53	1/6/54	Jackson & McDougall	28	131
Red #2	16	497	12/10/53	1/6/54	" "	28	132
Red #3	16	498	12/10/53	1/6/54	" "	28	133
Red #4	16	499	12/10/53	1/6/54	" "	28	134
Red #5	16	500	12/10/53	1/6/54	" "	28	134
Red #6	16	501	12/10/53	1/6/54	" "	28	135
Red #7	16	502	12/10/53	1/6/54	" "	28	135
Red #8	16	503	12/10/53	1/6/54	" "	28	136
Old Crow	16	504	12/9/53	1/6/54	" "	28	138
Old Crow #11	16	515	12/9/53	1/6/54	" "	28	138
Old Crow #12	16	516	12/9/53	1/6/54	" "	28	139
Old Crow #13	16	517	12/9/53	1/6/54	" "	28	139
Red 0	19	150	1/10/54	2/1/54	" "	28	131
Red 00	19	150	1/10/54	2/1/54	" "		
Red No	19	151	1/10/54	2/1/54	" "		
Big Black Bear #4	27	111	5/26/54	5/29/54	Cimota		
Big Black Bear #5	27	111	5/26/54	5/29/54	"		
Big Black Bear #6	27	112	5/26/54	5/29/54	"		
Big Black Fr. #3	27	112	5/26/54	5/29/54	"	28	140
Big Black Fr. #4	27	113	5/26/54	5/29/54	"	28	140
Big Black Fr. #5	27	113	5/26/54	5/29/54	"	28	141
Old Crow Fr. #13	27	104	5/28/54	5/29/54	"	28	137
Lonly Fr. #1	27	108	5/28/54	5/29/54	"		
Lonly Fr. #2	27	109	5/28/54	5/29/54	"		
Lonly Fr. #3	27	109	5/28/54	5/29/54	"		
Lonly Fr. #4	27	110	5/28/54	5/29/54	"		
Lonly Fr. #5	27	110	5/28/54	5/29/54	"		

Claim	Book	Page	Date Located	Date Recorded	Locator
Bedstead #1	27	106	5/27/54	5/29/54	Cimota
Bedstead #2	27	107	5/27/54	5/29/54	"
Bedstead #3	27	107	5/27/54	5/29/54	"
Bedstead #4	27	108	5/27/54	5/29/54	"
Bedstead Fr. #1	27	104	5/27/54	5/29/54	"
Bedstead Fr. #2	27	105	5/27/54	5/29/54	"
Bedstead Fr. #3	27	105	5/27/54	5/29/54	"
Bedstead Fr. #4	27	106	5/27/54	5/29/54	"
Reel Fr. #1	30	374	6/30/54	7/13/54	"
Wamrike	24	336	4/30/54	5/13/54	"
Wamrike #1	24	336	4/30/54	5/13/54	"
Wamrike #2	24	337	4/30/54	5/13/54	"

The Jim Jackson-Kim McDougall option is recorded in Moab in book 43, page 181. Affidavits of labor are also filed in book 59, pages 248-251 and dated February 18, 1955.

DESCRIPTION OF THE DEPOSITS

All known uranium mineralization on the claims occurs either near the Chinle-Moenkopi contact or along fault zones in the Cutler formation.

The Chinle-Moenkopi contact has been prospected with an inclined adit which followed down the dip in the Moenkopi for 60 feet and then forked to the right and the left as two level drifts. Some uranium mineralization is said to have been present at the portal. Most of the incline is in the Moenkopi formation below the favorable area for deposition. However, commercial ore has not been mined in Cane Springs Canyon from the Chinle-Moenkopi contact.

In the Cutler formation crushed zones along faults have been mined by Climax to the northwest, Dove Creek Uranium to the southwest, Capitol Uranium to the northeast, and by Cimota on the Moonshine No. 2 claim. The faults mined by Climax, Cimota, and Capitol are almost in a straight line, approximately south 35 degrees east

but the fault on Climax dips 45 degrees to the southwest and the ore is above the footwall while at Capitol the fault dips 60 degrees to the northeast and the ore is below the footwall. However, on the footwall side of the fault on the Moonshine No. 2 claim 13 holes, ranging from 22 to 150 feet in depth were drilled and uranium mineralization was penetrated in 7 of the holes. A total of 265 tons of ore averaging 0.13 percent U_3O_8 was mined from the hanging wall side of the fault on the Moonshine No. 2 claim. The fault appears to have length but the outcrop is hidden in many places by surface debris so that it cannot be directly traced to either the Climax or Capitol workings at this time.

MINABLE ORE RESERVES

There are no known minable ore reserves on the property.

PRESENT STATUS

Exploration and Development

The Chinle-Moenkopi contact has been explored by a 190-foot adit. The Cutler formation has been developed by 2 surface cuts, 2 short adits, and 13 shallow drill holes, 7 of which penetrated uranium mineralization.

Mining and Milling Equipment and Other Facilities

Mining equipment consists of:

1 Jaeger 125 c.f.m., gasoline-engine-powered compressor
1 Joy air slusher and scraper
1 Ingersoll-Rand air tugger-type hoist
1 1600-pound capacity mine car
1 Air receiver
2 Thor jackhammer-type drills with jack legs
1 Small air driven fan
  180 feet of track, hand tools, etc.
2 Jeep station wagons
1 Jeep pickup

Facilities consist of the following:

1 10-ton ore bin
1 small frame cook house
3 small frame bunk houses
access roads

PROPOSED EXPLORATION

The applicant proposed to further explore the Chinle-Moenkopi contact by 19,025 feet (59 holes) of rotary drilling of which 2,500 feet would be cored, and to explore the Cutler formation by 7,500 feet (66 holes) of rotary drilling of which 3,820 feet would be cored. The applicant reports that the lowest bid received for drilling was; plug-bit, 0-300 feet at $2.65 a foot, 300-600 feet at $2.85 a foot; core drilling, all depths, at $3.65 a foot. Cost of bulldozing was estimated by two contractors.

The examining team does not believe that the small amount of uranium mineralization found to date in Cane Springs Canyon on the Chinle-Moenkopi contact warrants DMEA participation at this time and also does not believe that Government aid should be given to a project to explore the fault in the Cutler formation by further drilling.

ESTIMATED COST OF PROJECT

The application, as submitted, included costs for both drilling to the Chinle-Moenkopi contact and for drilling in the Cutler formation.

Applicant's Estimated Cost of Rotary Drilling

Moss Rock Exploration

Independent contracts

Bulldozing roads and drill sites 660 hours at $12.00 an hour	$7,920.00	
Plug-bit drilling 15,685 feet at $2.70/foot	42,187.50	
Core drilling 2,500 feet at $3.65/foot	9,125.00	
Core drilling 900 feet at $2.75/foot	2,475.00	
Total independent contracts		$61,707.50

Labor, supplies, etc.

Labor, blasting, compressor, drills, etc.	3,500.00	
Total labor, supplies, etc.		3,500.00

Cutler Exploration

Independent contracts

Bulldozing roads and drill sites 40 hours at $12.00/hour	480.00	
Plug-bit drilling 6,200 feet at $2.70/foot	16,740.00	
Core drilling 1,320 feet at $3.65/foot	4,818.00	
Total independent contracts		22,038.00

Labor, supplies, etc.

Labor, supplies, blasting, compressor	450.00	
Total labor, supplies, etc.		450.00

General

Supervision

Supervisor 3-1/2 months at $600.00/month	2,100.00	
Geologist-engineer 3-1/2 months at $800.00/month	2,800.00	
Total supervision		4,900.00

Miscellaneous

Audit of books by C.P.A.	$ 800.00	
Logging of drill holes		
26,545 feet at $0.15/foot	3,981.75	
Surveying 12 days at $50.00/day	600.00	
Assaying and emergency road work	550.00	
Total miscellaneous		$ 5,331.75

Total estimated cost for 26,545 feet of drilling	$97,987.85
Estimated cost per foot	$3.69
Government participation 75 percent, or	$73,987.23

CONCLUSIONS

The history of production from the Chinle-Cutler contact in Cane Springs Canyon has been exceedingly unfavorable. The low-grade uranium ore mined along the fault on the Moonbeam No. 2 claim has been of doubtful mining grade and the fault has already been explored with a number of drill holes. The examining team does not believe that a DMEA project on the Cimota group is justified at this time.

RECOMMENDATIONS

It is recommended that the application be denied.

/ph

IN REPLY REFER TO:

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

DMEA
Date Rec'd.
AUG 2 1955
BUREAU OF MINES
Denver, Colorado

August 1, 1955

TRANSMITTED
SEP 8 7 1955

Memorandum

To: DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3889 (Uranium), Cimota Exploration, Inc., Grand and San Juan Counties, Utah

Enclosed are 10 copies of a report by Carl H. Roach, U. S. Geological Survey, covering his examination of the property included in the subject application for exploration assistance.

The applicant proposes to explore for ore in the Cutler formation along a normal fault exposed on the Moonshine No. 2 claim and in the Moss Back member of the Chinle formation near its contact with the underlying Moenkopi formation.

Roach reports that the Moss Back ore horizon on the claims contains small ore bodies localized by "trash pockets," but that no evidence of the channels or "traps" necessary to localize significant ore bodies could be found. He concludes that the size of the possible ore bodies that might be discovered by exploration of the Moss Back ore horizon does not justify drilling to depths of 500 feet as proposed by the applicant.

Small bodies of low grade ore have been found in the Cutler formation along normal faults of small displacement. The applicant has explored a fault, exposed on the Moonshine No. 2 claim, with 76 closely spaced drill holes and proposes to explore the projected position of the fault for a distance of about 6,500 feet northwest of the Moonshine No. 2 claim. Roach believes that the fault can be projected only a few hundred feet northwest of the claim and that the exploration already completed by the applicant has adequately tested the structure.

On July 29, 1955, I discussed with Easler the advisability of very limited exploration along the extension of the known fault on the Moonshine No. 2 claim. He had considered such exploration but after discussions with personnel of the AEC concluded that it would at best lead to the discovery of a few small sub-marginal ore bodies.

For the reasons outlined above, it appears that the application for exploration assistance should be denied as recommended by Roach and Easler.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

MINERAL DEPOSITS
DMEA
RECEIVED
JUL 26 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

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

July 22, 1955

Memorandum

To: E. N. Harshman

From: J. William Hasler

Subject: DMEA 3829 (Uranium) Cimota Exploration, Inc., Grand and San Juan Counties, Utah

The Cimota Exploration, Inc., applied for Government assistance to explore for uranium deposits in the Cane Springs Canyon area, Moab Mining District, Grand and San Juan Counties, Utah.

The application was referred to the field and an examination was made June 20, 1955, by Carl H. Roach, geologist, U. S. Geological Survey, and Carl Belser, engineer, U. S. Bureau of Mines. They were accompanied by Mr. William Dawson of the Cimota Exploration, Inc.

The subject property is located along the northeast flank of the Cane Creek anticline and sedimentary rocks exposed in the area range in age from Permian to Jurassic. The ore deposits in the Cane Springs area have been found to occur in the Moss Back member of the Chinle formation of Triassic age as well as in the Cutler formation of Permian age. The company proposes to explore areas where mineralization has been discovered in both the Moss Back and Cutler formations. However, the mineralized material found in the Moss Back member of the Chinle of the applicant's property does not appear to be extensive enough to warrant a great deal of exploration work. The ore deposits in the Cutler formation are associated with a northwest striking fault and from field observation mineralized material appears to have been deposited as a result of migration downward from overlying sediments containing mineralized material, as there have been little or no primary minerals found in the area.

The subject applicant has tested some mineralized occurrences along the fault with 76 drill holes. Ore was found in some of them, but the reported results appear doubtful. Although the applicant has had production from the property, the ore bodies occur as small, scattered pods and the likelihood of moderate or even large reserves is not good.

It is concluded, therefore, that the ore bodies found will be small and low grade. The possibility of finding ore in any significant quantity at depth along the fault on the subject property is not good. It is recommended, therefore, that the application for DMEA assistance be denied.

Enclosed are 12 copies of the geologic report and maps by Carl H. Roach. I concur with the conclusions and the recommendations as result of the field examination.

Enclosed is the brochure concerning this application.

J. William Hasler
Geologist

JWH/mlr

Enclosures

UNITED STATES DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

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

DMEA 3829, Cimota Exploration, Inc.
Grand and San Juan Counties, Utah

Uranium

Geologic Report

by

Carl H. Roach
U. S. Geological Survey

July 22, 1955

INTRODUCTION

The Cimota Exploration, Inc., applied for Government assistance (DMEA 3829) on March 28, 1955, to explore for uranium deposits in the Cane Springs Canyon area, Moab mining district, Grand and San Juan Counties, Utah, (fig. 1).

The applicant proposes to explore on 57 claims in Grand and San Juan Counties, Utah. The claims are located in secs. 28, 33, and 34, T. 26 S., R. 21 E., and secs. 3 and 4, T. 27 S., R. 21 E. The property can be reached by traveling 19 miles southeast of Moab, Utah, on U. S. Highway 160 to Cane Springs, and then 16 miles northwest by dirt road through Cane Springs Canyon to the claims. The proposed plan of exploration provides for 26,545 feet of drilling, and the total cost of the project (drilling, personnel, road building, etc.) is estimated at $97,927.25.

A DMEA examining team, Region III, consisting of Carl H. Roach, geologist of the U. S. Geological Survey, and Carl Belser, Mining Engineer of the U. S. Bureau of Mines, examined the property on June 20, 1955. William Dawson of the Cimota Exploration, Inc., and H. S. Johnson of the U. S. Geological Survey accompanied the DMEA examining team during the field examination.

The writer conferred with Y. W. Isachsen of the U. S. Atomic Energy Commission, Exploration Division, on June 27, for the purpose of evaluating the property.

GEOLOGY

The Cimota Exploration, Inc., property is located along the northeast flank of the Cane Creek anticline. All rocks exposed in the area are sedimentary and dip about 10° northeast. The area is traversed by numerous small, discontinuous, normal faults which strike parallel to the anticline (fig. 3).

The sedimentary rocks exposed in the area range in age from Permian to Jurassic. They are, in ascending order: Rico formation, Cutler formation, Moenkopi formation, Chinle formation, and the Wingate formation.

The Permian Rico formation outcrops near the area and consists of a sequence of alternating beds of sandstone, arkose and shale. Most of the beds are various shades of red and purple. The Permian Cutler formation is about 400 feet thick in the subject area. The arkosic sandstones are coarse- to very coarse-grained and commonly contain feldspar crystals up to one-quarter inch in diameter. Much mica and silt are present interstitial to the quartz grains.

The Triassic Moenkopi formation overlies the Cutler formation with a slight angular unconformity. The Moenkopi formation is composed of alternating, thin-bedded, layers of red and chocolate brown shales, siltstones, and fine-grained sandstones. The sandstones contain abundant mica and are commonly ripple marked. The Moenkopi formation is about 200 to 250 feet thick in Cane Springs Canyon area.

The Triassic Chinle formation unconformably overlies the Moenkopi formation. The Chinle is about 275 feet thick and can be divided into three units in this area. The lower unit is 25 to 50 feet thick. It is composed mainly of green calcareous mudstone and siltstone, and coarse-grained conglomeratic sandstone. The unit, in places, contains carbonaceous material in the lower few feet. The conglomeratic sandstone lenses are surpisingly flat-bedded with little or no channeling or cross-bedding observed in the area. The contact of this unit with the underlying Moenkopi formation is very level throughout the area and no "channels" were observed. This unit is probably a correlative of the Moss Back member of the Chinle formation that is present farther west. Overlying this lower Chinle unit is a unit containing about 100 feet of gray-green siltstone and fine- to very fine-grained sandstone. Above this unit is about 125 feet of interbedded red shales, siltstones, and fine-grained sandstones.

The Triassic Wingate sandstone overlies the Chinle formation and forms a 300-foot cliff. It is a fine-grained light brown sandstone that is largely eolian in origin. The Jurassic Kayenta overlies the Wingate sandstone but erosion has removed it in the area where drilling is proposed.

ORE DEPOSITS

Moss Back ore bodies

The Moss Back member of the Chinle formation contains mineralized material on and adjacent to the property owned by the Cimota Exploration, Inc. However, none of these deposits is known to have produced ore to date.

The Moss Back member of the Chinle formation contains mineralized material on Cimota's "Red O" claim. Here, the mineralized material occurs in the Moss Back at its contact with the underlying Moenkopi formation. The mineralized material has been localized by a local "trashy pocket" of carbonaceous material. Near the deposit, a few inches of the underlying Moenkopi shales have been altered to gray-green. The mineralized material occurs in a medium-grained sandstone which is massive and structureless. The applicant has explored this showing with an incline and two drifts totaling about 200 linear feet. The field examination of the mine workings and adjacent outcrops revealed that the Moss Back does not contain channels or appreciably cross-bedding of the type considered to be necessary to form "traps" for migrating ore solutions. The mineralized material was probably formed by selective absorption of uranium by the carbonaceous materials as the ore media migrated along the relatively impermeable contact between the Moenkopi and Moss Back. No significant masses of mineralized material were observed where the sandstone was impregnated with ore minerals. The main bulk of the mineralized material consists of uranium-bearing carbonaceous material. The chances for relatively large sandstone replacement deposits are slight since the "host" rock is essentially devoid of sedimentary structures of the type generally considered to form "traps" for ore solutions.

Cutler ore bodies

In the Cane Springs Canyon area, the Cutler formation contains numerous small ore bodies associated with small discontinuous normal faults. The Dove Creek Uranium Co., has produced about 700 tons of ore from their Atomic King No. 2 mine, about 2 miles southeast of Cimota's property. This ore averaged 0.20 percent U_3O_8, 0.38 percent V_2O_5, and 7.7 percent $CaCO_3$. Capitol Uranium Company has produced about 150 tons of ore, from nearby properties, averaging 0.13 percent U_3O_8, 0.32 percent V_2O_5, and 10.7 percent $CaCO_3$. Cimota Exploration, Inc., has shipped about 250 tons of ore from Cutler ore bodies, which average about 0.13 percent U_3O_8, 0.25 percent V_2O_5, and 10 percent $CaCO_3$. No additional production from this type of ore body is known in the Cane Springs Canyon area.

The ore bodies appear to have been localized by a "trap" formed by the intersection of the fault plane with an arkosic sandstone lens. Figure 2 shows the cross-sectional nature of an ore body on Cimota's Moonshine No. 2 claim. The ore body has been localized in a red arkosic sandstone lens where it is traversed by a normal fault with small vertical displacement. The highest grade ore (field estimate of 0.25 percent U_3O_8) is restricted to the area very near the fault plane and the grade decreases rapidly away from the fault. The ore grade material seems to be restricted to within about 10 feet of the fault plane. The arkosic sandstone containing the ore is overlain by a relatively impermeable red mudstone layer.

The contact between the arkose and mudstone has an "anticlinal arch" structure, the axial plane of which is about normal to the fault plane. This "anticlinal arch" is the result of scour and fill action by streams and is apparently not a tectonic structure. The ore is restricted to the arkose and does not cross the contact into the overlying mudstone. Furthermore, the ore seems to occur in the upper or highest part of the structure, much in the manner that petroleum occurs in the crest of anticlines.

A system of second-order fractures is associated with the main fault plane and appears to have controlled the mudstone alteration that is associated with the ore bodies. Figure 2 shows the relation between the second-order fractures, fault plane, and the ore bodies. All fault deposits examined by the writer in Cane Creek have gray-green mudstone alteration associated with them. The second-order fractures diverge downward; the greatest divergence occurs where the fault traverses a mudstone layer and enters an underlying arkosic sandstone lens. The red mudstone is altered to gray green along these fractures. It is interesting to note that the fractures branch and become more numerous in a downward direction. The alteration appears as increasing numbers of fingers extending downward. The manner in which the alteration is associated with the fractures suggests that the solutions causing the alteration were moving down the fault plane.

Of particular importance is the fact that the ore seems always to occur in the hanging wall of the fault. The northeast flank of the Cane Creek anticline is characterized by numerous small discontinuous normal faults, forming numerous small grabens and horsts. Several of these faults have small masses of ore associated with them.

The following observations seem to support the idea that these small ore bodies were leached from some overlying horizon (probably in the Moss Back) and will not make large sized reserves at great depths:

1. The overlying Moss Back member of the Chinle formation is known to contain mineralized material.

2. The ore bodies are localized only in the hanging wall of the fault and the fault plane is mineralized for considerable distance above the ore bodies. The regional distribution of the deposits suggests that they are localized in small grabens which have provided for considerable recirculation of ground water.

3. Only secondary uranium minerals were observed and one (Andersonite) is a water soluble carbonate.

4. The gray green mudstone alteration associated with the ore bodies appears to have formed by solutions migrating downward along the fault plane.

5. The association of ore with a system of fractures which branch and diverge downward.

6. The occurrence of ore only where the fault plane intersects a permeable sandstone and the ore occurs only in the upper part of the sandstone.

7. There is a general tendency for the larger deposits to be localized in arkosic sandstone lenses occurring at higher elevations along the fault.

PROPOSED EXPLORATION

Cimota Exploration, Inc. proposes to explore their property in two phases, since mineralized material occurs in both the Moss Back member of the Chinle formation and the Cutler formation.

Moss Back Exploration

The applicant proposes to explore the Moss Back by diamond drilling. Most of the holes will start in the Wingate sandstone and the average total depth of these holes is estimated at about 500 feet. The plan calls for 35 holes totaling 16,625 feet. In addition, 15 holes averaging 100 feet in depth will be drilled to test the Moss Back in the northeast quarter of sec. 33 and the southeast quarter of sec. 28, T. 26 S., R. 21 E. Also, 9 horizontal and inclined holes, each 100 feet in length, are planned to determine whether it would be practical to extend the mine workings on the Red O claim.

The total footage needed to explore the Moss Back, as proposed, is 19,025 feet. The total cost of this phase of the exploration program, including road building expenses, is estimated at $65,207.50.

Cutler exploration plans

The proposed exploration program in the Cutler formation provides for 33 holes with an average depth of 125 feet to drill along the west side of the main fault and 13 holes, with an average depth of 100 feet, along the east side of the fault. A second phase of drilling is planned for 20 holes with an average depth of 100 feet, to develop any ore trends discovered by the first 46 drill holes. A total of 7,520 feet of drilling

is planned to test the Cutler formation in the manner proposed. This phase of the program is estimated to cost $22,488.

The total cost of the exploration program in both the Moss Back member of the Chinle formation and Cutler formation (including road building costs, personnel, drilling, etc.) is estimated at $97,927.25.

The applicant has already explored that portion of the fault occurring on the Moonshine No. 2 claim with 76 drill holes. Of these 76 drill holes, the applicant reports that 29 holes penetrated mineralized material of ore grade (containing 0.10 percent U_3O_8 or more) and 22 holes penetrated mineralized material (containing 0.02 percent U_3O_8 or more). These holes are closely spaced and represent small individual pods of ore occuring at depths of about 10 to 50 feet. The main fault cannot be reasonably projected for more than 300 or 400 feet northwest of the Moonshine No. 2 claim and, therefore, most of the drilling proposed by the applicant to test this fault is considered to be risky.

CONCLUSIONS AND RECOMMENDATIONS

The property owned by Cimota Exploration, Inc. in the Cane Creek area is not considered favorable for the occurrence of ore deposits containing large reserves. The exploration program proposed for the Moss Back sandstone is too ambitious and cannot be justified geologically. The Moss Back sandstone is devoid of the type of sedimentary structures considered to be necessary to localized ore deposits of sufficient size to justify drilling 500 feet or more in depth.

The small ore bodies localized by faults in the Cutler formation have some potential, but probably will not exceed 1,000 tons. The deposits are localized in arkosic sandstones and are traversed by small normal faults. Field observations indicate that the deposits probably were derived by leaching of overlying mineralized horizons, downward movement of the solutions, and precipitation in the arkosic sandstones.

Cimota, Inc., has already done considerable exploration on their Moonshine No. 2 claim, and this drilling has already tested the main fault throughout most of the distance that it can be reasonably projected.

In summary, the mineralized material in the Moss Back sandstone is considered to be small and spotty, and has little chance of producing reserves large enough to be considered economic at the depth at which they occur. The deposits localized by the fault in the Cutler formation have small potential and have probably already been adequately tested throughout most of its known extent.

Because of the geologic reasons discussed above, it is believed that there is little chance of finding significant ore deposits on the property and it is recommended that Government assistance in the program be denied.

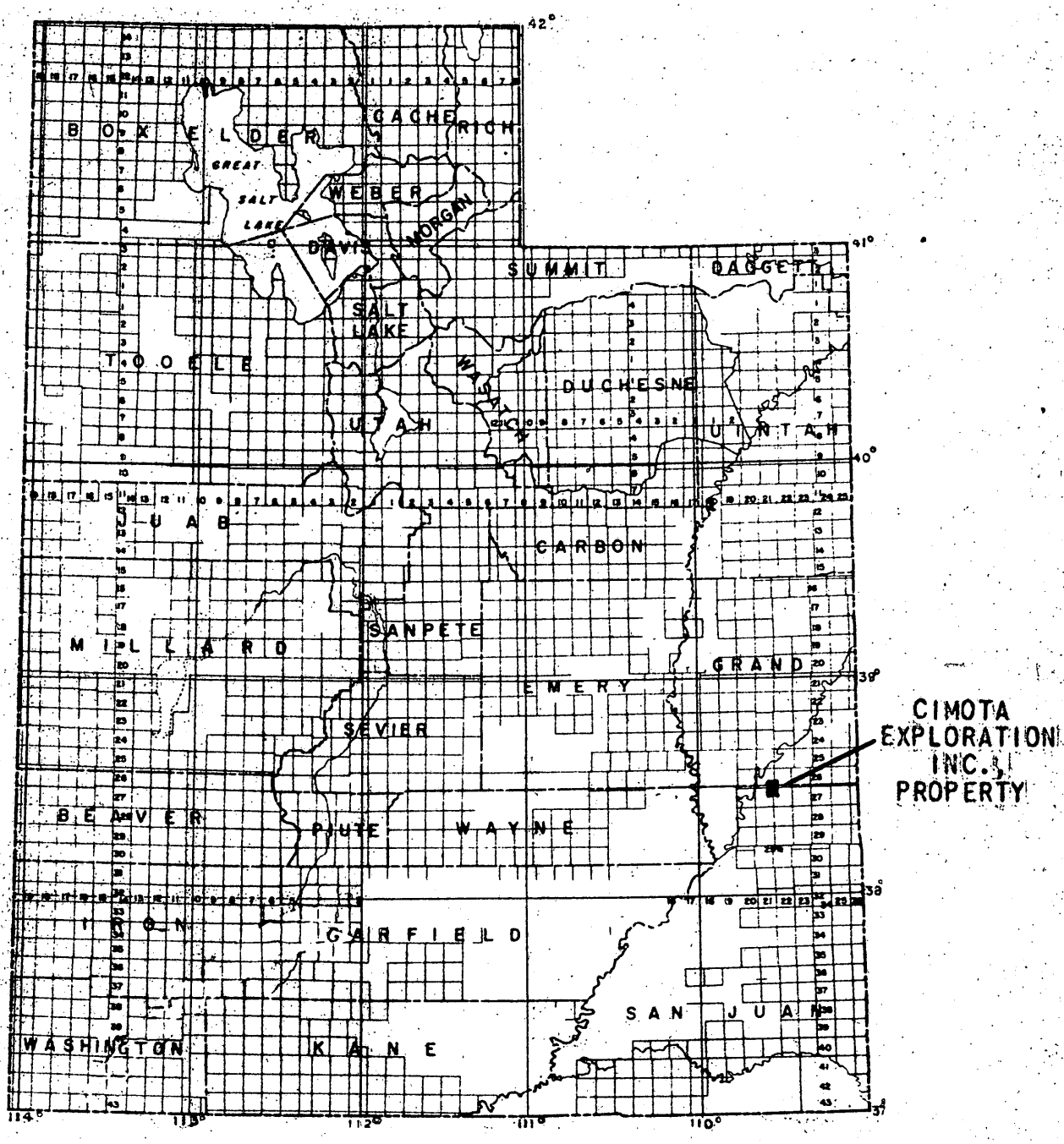

Figure 1. INDEX MAP OF UTAH SHOWING LOCATION OF PROPERTY OWNED BY CIMOTA EXPLORATION, INC., GRAND AND SAN JUAN COUNTIES, UTAH

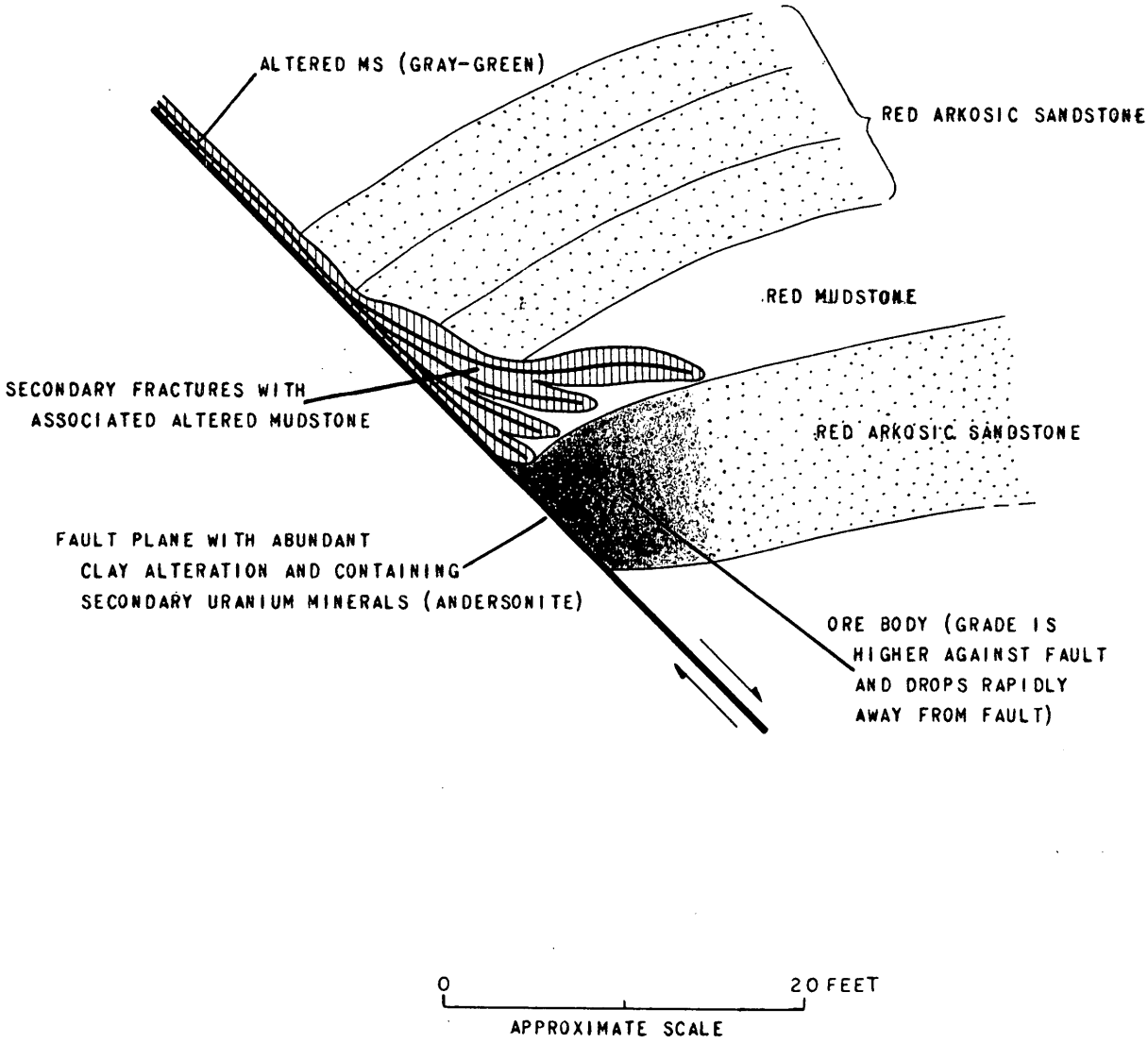

Figure 2. DIAGRAMMATIC SKETCH SHOWING CROSS-SECTIONAL NATURE OF FAULT DEPOSITS AND ASSOCIATED MUDSTONE ALTERATION ON THE MOONSHINE NO. 2 CLAIM CIMOTA EXPLORATION CO., GRAND AND SAN JUAN COUNTIES, UTAH

9/15/55 gla

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

224 New Customhouse
Denver 2, Colorado

September 7, 1955

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region III

Subject: Report of Examination, DMEA Docket 3829 (Uranium), Cane Springs Canyon Claims, Cimota Exploration, Inc., San Juan and Grand Counties, Utah.

Enclosed are the original and three copies each of the Bureau of Mines and U. S. Geological Survey reports pertaining to the above application.

The reports consist of the following:

(a) Geologic Report by Carl H. Roach, U. S. Geological Survey
(b) Memorandum from J. William Hasler to E. N. Harshman concerning the Geologic Report
(c) Memorandum from E. N. Harshman to the Field Team transmitting the Geologic Report
(d) Engineering Report by Carl Belser, Bureau of Mines
(e) Joint Summary, Conclusions and Recommendations, by Carl H. Roach and Carl Belser
(f) Memorandum from John F. Shaw to the Executive Officer, Region III transmitting the Engineering Report and Joint Recommendations

The Field Examiners believe there is little chance that a significant amount of Uranium can be found on the property and they recommend that the application be denied.

We concur with their recommendation.

W. M. Traver

E. N. Harshman

Enclosures

Reviewed by
9-14-55

DMEA
Date Rec'd.

SEP 2 1955

BUREAU OF MINES
Denver, Colorado

Region III

Memorandum

Building 20
Denver Federal Center
Denver 2, Colorado
August 31, 1955

TRANSMITTED
SEP 07 1955

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw

Subject: DMEA 3829 (Uranium) Cane Springs Canyon Claims, Cimota Exploration, Inc., San Juan and Grand Counties, Utah

Enclosed are the original and ten copies of a "Joint Summary, Conclusions, and Recommendations", by Carl H. Roach, Geologist, and Carl Belser, Mining Engineer, and the original and ten copies of an Engineering Report by Carl Belser, Mining Engineer, covering docket DMEA 3829.

Cimota Exploration, Inc. applied for exploration assistance in the amount of $97,927.25 to explore their Cane Springs Canyon group of claims by 26,545 feet of drilling.

A field examination was made on June 20, 1955, by Carl H. Roach and Carl Belser. The examining team concluded that there was little possibility of discovering a significant amount of uranium by the proposed exploration.

It is recommended that the application be denied.

John F. Shaw
John F. Shaw
Supervising Mining Engineer

Enclosures

cc 10
DMEA 3829
Chron

JFS:ph

9-14-55

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3629, Cane Springs Canyon Claims

Cimpta Exploration, Inc.

San Juan and Grand Counties, Utah

Uranium

Carl H. Roach, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

August 30, 1955

9-14-55

DMEA 3829

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

Joint Summary, Conclusions, and Recommendations

By

Carl H. Roach, Geologist
Geological Survey

Carl Belser, Mining Engineer
Bureau of Mines

DMEA 3829

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Carl H. Beach and Carl Belser

Cimota Exploration, Inc., John A. Prather, Executive Vice President, 25 B Highland Park Village, Dallas, Texas, has applied to the Defense Minerals Exploration Administration for aid in a $97,927.25 project to explore the Moss Back member of the Chinle formation and the Cutler formation by 26,545 feet of drilling.

A field investigation was made on June 20, 1955, by an examining team from the Geological Survey and the Bureau of Mines. William S. Dawson, field representative for Cimota Exploration, Inc., accompanied the examining team.

The Cane Springs Canyon group of 49 unpatented claims is in sections 28, 32, 33, and 34, T. 26 S., R. 21 E., Salt Lake Base and Meridian, Grand County, Utah, and sections 3 and 4, T. 27 S., R. 21 E., Salt Lake Base and Meridian, San Juan County, Utah. The claims are in a solid block and cover the northeast side of Cane Springs Canyon for a distance of about 2 miles.

The exposed rocks range from the Rico of the Lower Permian, through the Cutler, Moenkopi, Chinle, and Wingate formations to the Kayenta formation of the Lower Jurassic.

The Cutler formation is about 500 feet thick, the Moenkopi from 30 to 60 feet thick, the Chinle 265 feet thick, the Wingate 300 feet thick, and the Kayenta is represented only by remnants. The Moss Back member of the Chinle formation ranges from 10 to 50 feet thick and contains grey medium-grained sands, thin lenses of grey mudstone and some chert and lime pebble conglomerate. Very little carbonaceous trash was noticed. An adit about 190 feet long has been driven into the cliff on the Moss Back--Moenkopi contact. Most of the adit was driven in the Moenkopi formation just below the Moss Back. About two tons of low-grade uranium ore was obtained from this work, but the exposures are not promising.

The main uranium mineralization appears to be in the Cutler formation. This mineralization follows faults which are nearly parallel to the axis of the Cane Creek anticline. A fault striking south 35 degrees east and dipping about 45 degrees to the southwest crosses the property and has been prospected on the Moonshine No. 2 claim. At this point the hanging wall of the fault shows uranium mineralization and 265 tons of uranium ore averaging .13 percent U_3O_8 has been shipped.

It is estimated that the hanging wall of the fault has dropped about 100 feet. To the northwest, in section 32, Climax produced a small amount of ore from a fault which is in line with the fault on the Moonshine No. 2 claim. To the southeast Capitol Uranium is mining from a parallel fault which dips about 60 degrees to the northeast. To the southwest Dove Creek Uranium is reported to have

produced over 750 tons of ore from along a southeasterly striking fault.

Cimota Exploration, Inc., requested aid in 19,025 feet of drilling to explore the Moss Back member of the Chinle formation. The general history of attempts to mine the Chinle-Moenkopi contact in Cane Springs Canyon is poor. About 20 miles of Chinle-Moenkopi contact is exposed and many short adits have been driven into the rims without any production of commercial ore. Drilling of the Chinle-Moenkopi contact on the Cimota property would require costly access roads and deep (500 to 600 feet) drilling. This drilling is not believed to be warranted by the examining team.

The applicant also requested aid in drilling 66 holes (7,520 feet) in the Cutler formation along the fault on the Moonshine No. 2 claim. The fault has already been explored by the drilling of a number of holes. Considering the low grade of the ore already mined, the examining team did not believe that further drilling was warranted and recommended that the application be denied.

DMEA 3829

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

Engineering Report

By Carl Belser
Mining Engineer
Bureau of Mines

9-14-55

DMEA 3829

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

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2. Claim map, showing proposed drilling, Cane Springs Canyon claims, Cimota Exploration, Inc., San Juan and Grand Counties, Utah, DMEA 3829..... 2

DMEA 3829

CANE SPRINGS CANYON CLAIMS
CIMOTA EXPLORATION, INC.
SAN JUAN AND GRAND COUNTIES, UTAH

ENGINEERING REPORT

By Carl Belser

INTRODUCTION

Cimota Exploration, Inc., 25 N Highland Park Village, Dallas, Texas, submitted on March 28, 1955, an application to the Defense Minerals Exploration Administration for aid in an exploration project on their Cane Springs Canyon claims in San Juan and Grand Counties, Utah. The application, DMEA 3829, requested aid in completing 26,545 feet of drilling at a total estimated cost of $97,927.25, Government participation at 75 percent would be $73,445.44. This proposed exploration was to test both the Chinle-Moenkopi contact and the Cutler formation for uranium mineralization.

A joint field examination was made by a Geological Survey and Bureau of Mines examining team on June 20, 1955. The examining team, as a result of their investigation, recommended that the application be denied.

ACKNOWLEDGMENTS

W. S. Dawson, field representative for Cimota Exploration, Inc., accompanied the examining team.

J. William Hasler, Geologist, Colorado Plateau area, Grand Junction, Colorado, assigned Carl H. Roach, Geologist, to make the exam-

ination as the Geological Survey member of the team. Roach was accompanied by N. S. Johnson, Geologist, Geological Survey.

The Atomic Energy Commission was consulted regarding the area before the examination was made.

LOCATION, TOPOGRAPHY, AND CLIMATE

The Spring Creek Canyon group of 49 unpatented claims is in sections 28, 32, 33, and 34, T. 26 S., R. 21 E., Salt Lake Base Meridian, Grand County, Utah, and sections 3 and 4, T. 27 S., R. 21 E., Salt Lake Base Meridian, San Juan County, Utah. (figs. 1 and 2) The claims form a solid block and cover the northeast side of Cane Springs Canyon for a distance of about 2 miles.

A fair 16-mile dirt road to the southeast connects the property with U. S. Highway 160 from whence, Monticello, Utah, is 39 miles southeast; Moab, Utah, is 19 miles northwest; and Thompson, Utah, is 61 miles northwest.

Miners and supplies are available in Moab and Monticello. Government ore depots are maintained in Monticello, Moab, and Thompson; and the nearest railroad is the Denver and Rio Grande Western at Thompson.

Native timber and dimension lumber can be purchased at Moab or Monticello. Water for drilling and domestic purposes can be pumped from Cane Springs Canyon. Water for drilling on top of the mesa would have to be hauled at least 18 miles.

The altitude in Cane Springs Canyon near the mine camp is about 4,000 feet. Rainfall is light and the area is classed as semi-arid.

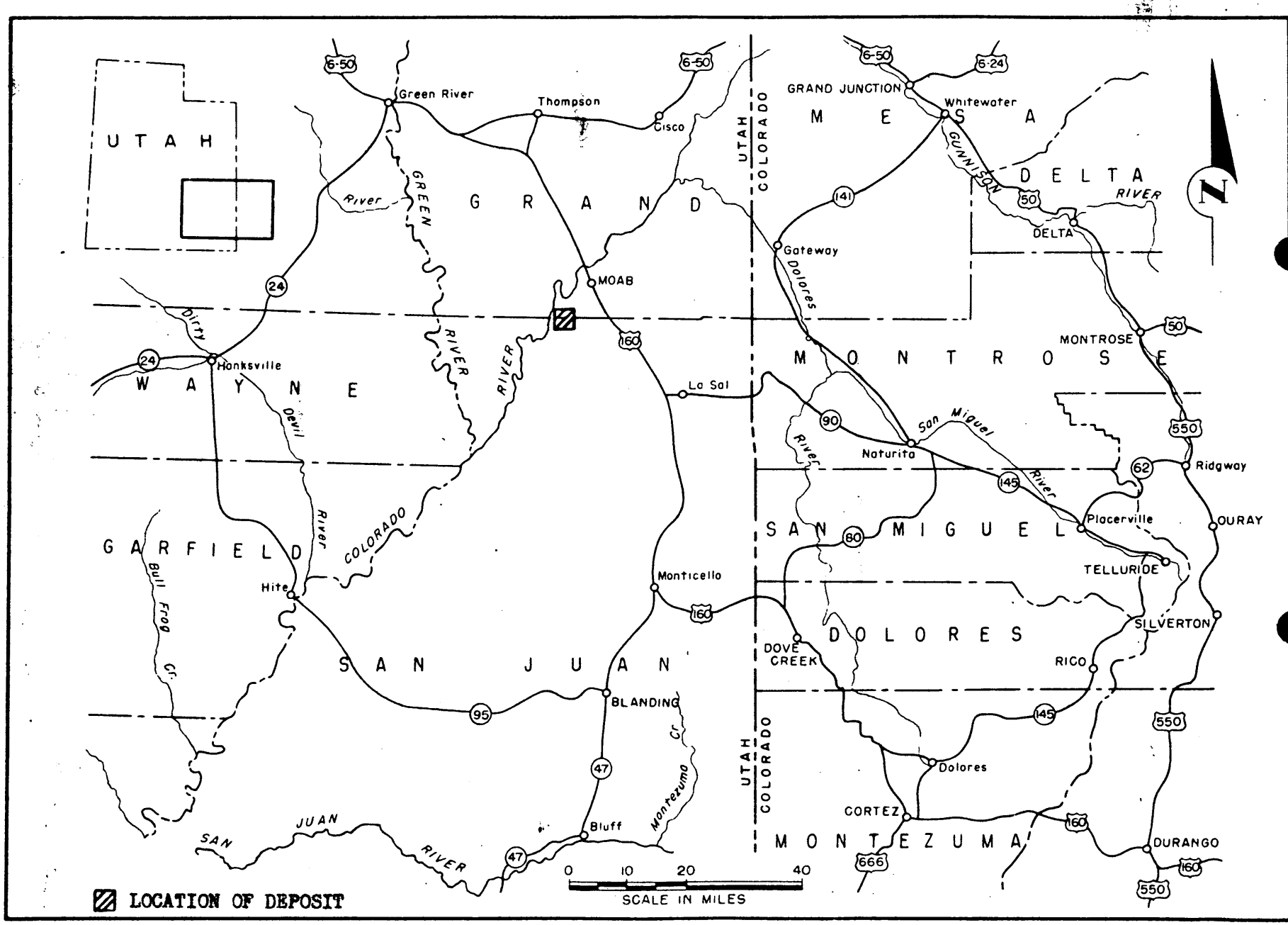

FIGURE 1 - LOCATION MAP, CANE SPRINGS CANYON CLAIMS, CIMOTA EXPLORATION, INC., GRAND AND SAN JUAN COUNTIES, UTAH.
DMEA 3829

HISTORY AND PRODUCTION

Although a road was built down the canyon many years ago, no significant production of vanadium or uranium ore has been made. Since the introduction of the Government ore buying schedules in 1948, the road has been rebuilt and most of the land has been staked. The claims in the applicant's group were located late in 1953 and early 1954. Since then, an access road has been constructed to the Chinle-Moenkopi contact where an adit about 190 feet in length has been driven. In the Cutler formation 265 tons of 0.13 percent U_3O_8 ore has been produced along a fault zone and some shallow holes have been drilled.

OWNERSHIP AND EXTENT

The claim block lies on the Grand County--San Juan County line. Part of the claims are located in Grand County and part in San Juan County.

The claims located in the office of the Recorder of San Juan County are:

Claim	Book	Page	Date Located	Date Recorded	Locator
Red 00	63	512	2/20/54	3/2/54	Jackson & McDougall
Red 0	63	512	2/20/54	3/2/54	" "
Red No.	63	513	2/25/54	3/2/54	" "
Red No. 1	45	31	12/10/53	12/13/53	" "
Red No. 2	45	31	12/10/53	12/13/53	" "
Moonshine No. 1	87	336	4/30/54	5/3/54	" " & Cimota
Moonshine No. 2	87	337	4/30/54	5/3/54	" " "
Big Black Bear #1	101	249	5/26/54	5/28/54	Cimota
Big Black Bear #2	101	249	5/26/54	5/28/54	"
Big Black Bear #3	101	250	5/26/54	5/28/54	"

Claim	Book	Page	Date Located	Date Recorded	Locator
Frac. No. 1	101	250	5/27/54	5/28/54	Cimota
Frac. No. 2	101	251	5/27/54	5/28/54	"
Hot Frac. #1	145	321	7/10/54	8/9/54	
Moon Frac.	245	159			
Hot #1	83	137		4/10/54	Jackson & McDougall
Hot #2	101	251	5/27/54	5/28/54	Cimota
Hot #3	101	252	5/27/54	5/28/54	"
Hot #4	101	252	5/27/54	5/28/54	"
Hot #5	101	253	5/27/54	5/28/54	"
Hot #6	101	253	5/27/54	5/28/54	"

Claims recorded in Grand County follow:

Claim	Book	Page	Date Located	Date Recorded	Locator	Amended Book	Amended Page
Red #1	16	496	12/10/53	1/6/54	Jackson & McDougall	28	131
Red #2	16	497	12/10/53	1/6/54	" "	28	132
Red #3	16	498	12/10/53	1/6/54	" "	28	133
Red #4	16	499	12/10/53	1/6/54	" "	28	134
Red #5	16	500	12/10/53	1/6/54	" "	28	134
Red #6	16	501	12/10/53	1/6/54	" "	28	135
Red #7	16	502	12/10/53	1/6/54	" "	28	135
Red #8	16	503	12/10/53	1/6/54	" "	28	136
Old Crow	16	504	12/9/53	1/6/54	" "	28	138
Old Crow #11	16	515	12/9/53	1/6/54	" "	28	138
Old Crow #12	16	516	12/9/53	1/6/54	" "	28	139
Old Crow #13	16	517	12/9/53	1/6/54	" "	28	139
Red 0	19	150	1/10/54	2/1/54	" "	28	131
Red 00	19	150	1/10/54	2/1/54	" "		
Red No	19	151	1/10/54	2/1/54	" "		
Big Black Bear #4	27	111	5/26/54	5/29/54	Cimota		
Big Black Bear #5	27	111	5/26/54	5/29/54	"		
Big Black Bear #6	27	112	5/26/54	5/29/54	"		
Big Black Fr. #3	27	112	5/26/54	5/29/54	"	28	140
Big Black Fr. #4	27	113	5/26/54	5/29/54	"	28	140
Big Black Fr. #5	27	113	5/26/54	5/29/54	"	28	141
Old Crow Fr. #13	27	104	5/28/54	5/29/54	"	28	137
Lonly Fr. #1	27	108	5/28/54	5/29/54	"		
Lonly Fr. #2	27	109	5/28/54	5/29/54	"		
Lonly Fr. #3	27	109	5/28/54	5/29/54	"		
Lonly Fr. #4	27	110	5/28/54	5/29/54	"		
Lonly Fr. #5	27	110	5/28/54	5/29/54	"		

Claim	Book	Page	Date Located	Date Recorded	Locator
Bedstead #1	27	106	5/27/54	5/29/54	Cimota
Bedstead #2	27	107	5/27/54	5/29/54	"
Bedstead #3	27	107	5/27/54	5/29/54	"
Bedstead #4	27	108	5/27/54	5/29/54	"
Bedstead Fr. #1	27	104	5/27/54	5/29/54	"
Bedstead Fr. #2	27	105	5/27/54	5/29/54	"
Bedstead Fr. #3	27	105	5/27/54	5/29/54	"
Bedstead Fr. #4	27	106	5/27/54	5/29/54	"
Reel Fr. #1	30	374	6/30/54	7/13/54	"
Waurike	24	336	4/30/54	5/13/54	"
Waurike #1	24	336	4/30/54	5/13/54	"
Waurike #2	24	337	4/30/54	5/13/54	"

The Jim Jackson-Kim McDougall option is recorded in Moab in book 43, page 181. Affidavits of labor are also filed in book 59, pages 248-251 and dated February 18, 1955.

DESCRIPTION OF THE DEPOSITS

All known uranium mineralization on the claims occurs either near the Chinle-Moenkopi contact or along fault zones in the Cutler formation.

The Chinle-Moenkopi contact has been prospected with an inclined adit which followed down the dip in the Moenkopi for 60 feet and then forked to the right and the left as two level drifts. Some uranium mineralization is said to have been present at the portal. Most of the incline is in the Moenkopi formation below the favorable area for deposition. However, commercial ore has not been mined in Cane Springs Canyon from the Chinle-Moenkopi contact.

In the Cutler formation crushed zones along faults have been mined by Climax to the northwest, Dove Creek Uranium to the southwest, Capitol Uranium to the northeast, and by Cimota on the Moonshine No. 2 claim. The faults mined by Climax, Cimota, and Capitol are almost in a straight line, approximately south 35 degrees east

but the fault on Cimota dips 45 degrees to the southwest and the ore is above the footwall while at Capitol the fault dips 60 degrees to the northeast and the ore is below the footwall. However, on the footwall side of the fault on the Moonshine No. 2 claim 13 holes, ranging from 22 to 150 feet in depth were drilled and uranium mineralization was penetrated in 7 of the holes. A total of 265 tons of ore averaging 0.13 percent U_3O_8 was mined from the hanging wall side of the fault on the Moonshine No. 2 claim. The fault appears to have length but the outcrop is hidden in many places by surface debris so that it cannot be directly traced to either the Climax or Capitol workings at this time.

MINABLE ORE RESERVES

There are no known minable ore reserves on the property.

PRESENT STATUS

Exploration and Development

The Chinle-Moenkopi contact has been explored by a 190-foot adit. The Cutler formation has been developed by 2 surface cuts, 2 short adits, and 13 shallow drill holes, 7 of which penetrated uranium mineralization.

Mining and Milling Equipment and Other Facilities

Mining equipment consists of:

1 Jaeger 125 c.f.m., gasoline-engine-powered compressor
1 Joy air slusher and scraper
1 Ingersoll-Rand air tugger-type hoist
1 1600-pound capacity mine car
1 Air receiver
2 Thor jackhammer-type drills with jack legs
1 Small air driven fan
180 feet of track, hand tools, etc.
2 Jeep station wagons
1 Jeep pickup

Facilities consist of the following:

1 10-ton ore bin
1 small frame cook house
3 small frame bunk houses
access roads

PROPOSED EXPLORATION

The applicant proposed to further explore the Chinle-Moenkopi contact by 10,025 feet (59 holes) of rotary drilling of which 2,500 feet would be cored, and to explore the Cutler formation by 7,500 feet (66 holes) of rotary drilling of which 3,000 feet would be cored. The applicant reports that the lowest bid received for drilling was; plug-bit, 0-300 feet at $2.65 a foot, 300-600 feet at $2.85 a foot; core drilling, all depths, at $3.65 a foot. Cost of bulldozing was estimated by two contractors.

The examining team does not believe that the small amount of uranium mineralization found to date in Cane Springs Canyon on the Chinle-Moenkopi contact warrants DMEA participation at this time and also does not believe that Government aid should be given to a project to explore the fault in the Cutler formation by further drilling.

ESTIMATED COST OF PROJECT

The application, as submitted, included costs for both drilling to the Chinle-Moenkopi contact and for drilling in the Cutler formation.

Applicant's Estimated Cost of Rotary Drilling

Moss Back Exploration

Independent contracts

Bulldozing roads and drill sites 660 hours at $12.00 an hour	$7,920.00	
Plug-bit drilling 15,625 feet at $2.70/foot	42.187.50	
Core drilling 2,500 feet at $3.65/foot	9,125.00	
Core drilling 900 feet at $2.75/foot	2,475.00	
Total independent contracts		$61,707.50

Labor, supplies, etc.

Labor, blasting, compressor, drills, etc.	3,500.00	
Total labor, supplies, etc.		3,500.00

Cutler Exploration

Independent contracts

Bulldozing roads and drill sites 40 hours at $12.00/hour	480.00	
Plug-bit drilling 6,200 feet at $2.70/foot	16,740.00	
Core drilling 1,300 feet at $3.65/foot	4,818.00	
Total independent contracts		22,038.00

Labor, supplies, etc.

Labor, supplies, blasting, compressor	450.00	
Total labor, supplies, etc.		450.00

General

Supervision

Supervisor 3-1/2 months at $600.00/month	2,100.00	
Geologist-engineer 3-1/2 months at $800.00/month	2,800.00	
Total supervision		4,900.00

Miscellaneous

Audit of books by C.P.A.	$ 200.00	
Logging of drill holes 26,545 feet at $0.15/foot	3,981.75	
Surveying 12 days at $50.00/day	600.00	
Assaying and emergency road work	550.00	
Total miscellaneous		$ 5,331.75
Total estimated cost for 26,545 feet of drilling		$97,927.85
Estimated cost per foot		$3.69
Government participation 75 percent, or		$73,927.23

CONCLUSIONS

The history of production from the Chinle-Cutler contact in Cane Springs Canyon has been exceedingly unfavorable. The low-grade uranium ore mined along the fault on the Moonbeam No. 2 claim has been of doubtful mining grade and the fault has already been explored with a number of drill holes. The examining team does not believe that a DMEA project on the Cimeta group is justified at this time.

RECOMMENDATIONS

It is recommended that the application be denied.

/ph

IN REPLY REFER TO:

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

DMEA
Date Rec'd.
AUG 2 1955
BUREAU OF MINES
Denver, Colorado

August 1, 1955

Memorandum

TRANSMITTED
SEP 87 1955

To: DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3889 (Uranium), Cimota Exploration, Inc., Grand and San Juan Counties, Utah

Enclosed are 10 copies of a report by Carl H. Roach, U. S. Geological Survey, covering his examination of the property included in the subject application for exploration assistance.

The applicant proposes to explore for ore in the Cutler formation along a normal fault exposed on the Moonshine No. 2 claim and in the Moss Back member of the Chinle formation near its contact with the underlying Moenkopi formation.

Roach reports that the Moss Back ore horizon on the claims contains small ore bodies localized by "trash pockets," but that no evidence of the channels or "traps" necessary to localize significant ore bodies could be found. He concludes that the size of the possible ore bodies that might be discovered by exploration of the Moss Back ore horizon does not justify drilling to depths of 500 feet as proposed by the applicant.

Small bodies of low grade ore have been found in the Cutler formation along normal faults of small displacement. The applicant has explored a fault, exposed on the Moonshine No. 2 claim, with 76 closely spaced drill holes and proposes to explore the projected position of the fault for a distance of about 6,500 feet northwest of the Moonshine No. 2 claim. Roach believes that the fault can be projected only a few hundred feet northwest of the claim and that the exploration already completed by the applicant has adequately tested the structure.

9-14-55

On July 29, 1955, I discussed with Hasler the advisability of very limited exploration along the extension of the known fault on the Moonshine No. 2 claim. He had considered such exploration but after discussions with personnel of the AEC concluded that it would at best lead to the discovery of a few small sub-marginal ore bodies.

For the reasons outlined above, it appears that the application for exploration assistance should be denied as recommended by Roach and Hasler.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

MINERAL DEPOSITS
DMEA
RECEIVED
JUL 26 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

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

July 22, 1955

Memorandum

To: E. N. Harshman

From: J. William Hasler

Subject: DMEA 3829 (Uranium) Cimota Exploration, Inc., Grand and San Juan Counties, Utah

The Cimota Exploration, Inc., applied for Government assistance to explore for uranium deposits in the Cane Springs Canyon area, Moab Mining District, Grand and San Juan Counties, Utah.

The application was referred to the field and an examination was made June 20, 1955, by Carl H. Roach, geologist, U. S. Geological Survey, and Carl Belser, engineer, U. S. Bureau of Mines. They were accompanied by Mr. William Dawson of the Cimota Exploration, Inc.

The subject property is located along the northeast flank of the Cane Creek anticline and sedimentary rocks exposed in the area range in age from Permian to Jurassic. The ore deposits in the Cane Springs area have been found to occur in the Moss Back member of the Chinle formation of Triassic age as well as in the Cutler formation of Permian age. The company proposes to explore areas where mineralization has been discovered in both the Moss Back and Cutler formations. However, the mineralized material found in the Moss Back member of the Chinle of the applicant's property does not appear to be extensive enough to warrant a great deal of exploration work. The ore deposits in the Cutler formation are associated with a northwest striking fault and from field observation mineralized material appears to have been deposited as a result of migration downward from overlying sediments containing mineralized material, as there have been little or no primary minerals found in the area.

The subject applicant has tested some mineralized occurrences along the fault with 76 drill holes. Ore was found in some of them, but the reported results appear doubtful. Although the applicant has had production from the property, the ore bodies occur as small, scattered pods and the likelihood of moderate or even large reserves is not good.

Reviewed by
DMEA EVALUATION COMMITTEE
9-14-55

It is concluded, therefore, that the ore bodies found will be small and low grade. The possibility of finding ore in any significant quantity at depth along the fault on the subject property is not good. It is recommended, therefore, that the application for DMEA assistance be denied.

Enclosed are 12 copies of the geologic report and maps by Carl H. Roach. I concur with the conclusions and the recommendations as result of the field examination.

Enclosed is the brochure concerning this application.

J. William Hasler
Geologist

JWH/mlr

Enclosures

UNITED STATES DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

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

DMEA 3829, Cimota Exploration, Inc.
Grand and San Juan Counties, Utah

Uranium

Geologic Report

by

Carl H. Roach
U. S. Geological Survey

July 22, 1955

9-14-55

INTRODUCTION

The Cimota Exploration, Inc., applied for Government assistance (DMEA 3829) on March 28, 1955, to explore for uranium deposits in the Cane Springs Canyon area, Moab mining district, Grand and San Juan Counties, Utah, (fig. 1).

The applicant proposes to explore on 57 claims in Grand and San Juan Counties, Utah. The claims are located in secs. 28, 33, and 34, T. 26 S., R. 21 E., and secs. 3 and 4, T. 27 S., R. 21 E. The property can be reached by traveling 19 miles southeast of Moab, Utah, on U. S. Highway 160 to Cane Springs, and then 16 miles northwest by dirt road through Cane Springs Canyon to the claims. The proposed plan of exploration provides for 26,545 feet of drilling, and the total cost of the project (drilling, personnel, road building, etc.) is estimated at $97,927.25.

A DMEA examining team, Region III, consisting of Carl H. Roach, geologist of the U. S. Geological Survey, and Carl Belser, Mining Engineer of the U. S. Bureau of Mines, examined the property on June 20, 1955. William Dawson of the Cimota Exploration, Inc., and H. S. Johnson of the U. S. Geological Survey accompanied the DMEA examining team during the field examination.

The writer conferred with Y. W. Isachsen of the U. S. Atomic Energy Commission, Exploration Division, on June 27, for the purpose of evaluating the property.

GEOLOGY

The Cimota Exploration, Inc., property is located along the northeast flank of the Cane Creek anticline. All rocks exposed in the area are sedimentary and dip about 10° northeast. The area is traversed by numerous small, discontinuous, normal faults which strike parallel to the anticline (fig. 3).

The sedimentary rocks exposed in the area range in age from Permian to Jurassic. They are, in ascending order: Rico formation, Cutler formation, Moenkopi formation, Chinle formation, and the Wingate formation.

The Permian Rico formation outcrops near the area and consists of a sequence of alternating beds of sandstone, arkose and shale. Most of the beds are various shades of red and purple. The Permian Cutler formation is about 400 feet thick in the subject area. The arkosic sandstones are coarse- to very coarse-grained and commonly contain feldspar crystals up to one-quarter inch in diameter. Much mica and silt are present interstitial to the quartz grains.

The Triassic Moenkopi formation overlies the Cutler formation with a slight angular unconformity. The Moenkopi formation is composed of alternating, thin-bedded, layers of red and chocolate brown shales, siltstones, and fine-grained sandstones. The sandstones contain abundant mica and are commonly ripple marked. The Moenkopi formation is about 200 to 250 feet thick in Cane Springs Canyon area.

The Triassic Chinle formation unconformably overlies the Moenkopi formation. The Chinle is about 275 feet thick and can be divided into three units in this area. The lower unit is 25 to 50 feet thick. It is composed mainly of green calcareous mudstone and siltstone, and coarse-grained conglomeratic sandstone. The unit, in places, contains carbonaceous material in the lower few feet. The conglomeratic sandstone lenses are surpisingly flat-bedded with little or no channeling or cross-bedding observed in the area. The contact of this unit with the underlying Moenkopi formation is very level throughout the area and no "channels" were observed. This unit is probably a correlative of the Moss Back member of the Chinle formation that is present farther west. Overlying this lower Chinle unit is a unit containing about 100 feet of gray-green siltstone and fine- to very fine-grained sandstone. Above this unit is about 125 feet of interbedded red shales, siltstones, and fine-grained sandstones.

The Triassic Wingate sandstone overlies the Chinle formation and forms a 300-foot cliff. It is a fine-grained light brown sandstone that is largely eolian in origin. The Jurassic Kayenta overlies the Wingate sandstone but erosion has removed it in the area where drilling is proposed.

ORE DEPOSITS

Moss Back ore bodies

The Moss Back member of the Chinle formation contains mineralized material on and adjacent to the property owned by the Cimota Exploration, Inc. However, none of these deposits is known to have produced ore to date.

The Moss Back member of the Chinle formation contains mineralized material on Cimota's "Red O" claim. Here, the mineralized material occurs in the Moss Back at its contact with the underlying Moenkopi formation. The mineralized material has been localized by a local "trashy pocket" of carbonaceous material. Near the deposit, a few inches of the underlying Moenkopi shales have been altered to gray-green. The mineralized material occurs in a medium-grained sandstone which is massive and structureless. The applicant has explored this showing with an incline and two drifts totaling about 200 linear feet. The field examination of the mine workings and adjacent outcrops revealed that the Moss Back does not contain channels or appreciably cross-bedding of the type considered to be necessary to form "traps" for migrating ore solutions. The mineralized material was probably formed by selective absorption of uranium by the carbonaceous materials as the ore media migrated along the relatively impermeable contact between the Moenkopi and Moss Back. No significant masses of mineralized material were observed where the sandstone was impregnated with ore minerals. The main bulk of the mineralized material consists of uranium-bearing carbonaceous material. The chances for relatively large sandstone replacement deposits are slight since the "host" rock is essentially devoid of sedimentary structures of the type generally considered to form "traps" for ore solutions.

Cutler ore bodies

In the Cane Springs Canyon area, the Cutler formation contains numerous small ore bodies associated with small discontinuous normal faults. The Dove Creek Uranium Co., has produced about 700 tons of ore from their Atomic King No. 2 mine, about 2 miles southeast of Cimota's property. This ore averaged 0.20 percent U_3O_8, 0.38 percent V_2O_5, and 7.7 percent $CaCO_3$. Capitol Uranium Company has produced about 150 tons of ore, from nearby properties, averaging 0.13 percent U_3O_8, 0.32 percent V_2O_5, and 10.7 percent $CaCO_3$. Cimota Exploration, Inc., has shipped about 250 tons of ore from Cutler ore bodies, which average about 0.13 percent U_3O_8, 0.25 percent V_2O_5, and 10 percent $CaCO_3$. No additional production from this type of ore body is known in the Cane Springs Canyon area.

The ore bodies appear to have been localized by a "trap" formed by the intersection of the fault plane with an arkosic sandstone lens. Figure 2 shows the cross-sectional nature of an ore body on Cimota's Moonshine No. 2 claim. The ore body has been localized in a red arkosic sandstone lens where it is traversed by a normal fault with small vertical displacement. The highest grade ore (field estimate of 0.25 percent U_3O_8) is restricted to the area very near the fault plane and the grade decreases rapidly away from the fault. The ore grade material seems to be restricted to within about 10 feet of the fault plane. The arkosic sandstone containing the ore is overlain by a relatively impermeable red mudstone layer.

The contact between the arkose and mudstone has an "anticlinal arch" structure, the axial plane of which is about normal to the fault plane. This "anticlinal arch" is the result of scour and fill action by streams and is apparently not a tectonic structure. The ore is restricted to the arkose and does not cross the contact into the overlying mudstone. Furthermore, the ore seems to occur in the upper or highest part of the structure, much in the manner that petroleum occurs in the crest of anticlines.

A system of second-order fractures is associated with the main fault plane and appears to have controlled the mudstone alteration that is associated with the ore bodies. Figure 2 shows the relation between the second-order fractures, fault plane, and the ore bodies. All fault deposits examined by the writer in Cane Creek have gray-green mudstone alteration associated with them. The second-order fractures diverge downward; the greatest divergence occurs where the fault traverses a mudstone layer and enters an underlying arkosic sandstone lens. The red mudstone is altered to gray green along these fractures. It is interesting to note that the fractures branch and become more numerous in a downward direction. The alteration appears as increasing numbers of fingers extending downward. The manner in which the alteration is associated with the fractures suggests that the solutions causing the alteration were moving down the fault plane.

Of particular importance is the fact that the ore seems always to occur in the hanging wall of the fault. The northeast flank of the Cane Creek anticline is characterized by numerous small discontinuous normal faults, forming numerous small grabens and horsts. Several of these faults have small masses of ore associated with them.

The following observations seem to support the idea that these small ore bodies were leached from some overlying horizon (probably in the Moss Back) and will not make large sized reserves at great depths:

1. The overlying Moss Back member of the Chinle formation is known to contain mineralized material.

2. The ore bodies are localized only in the hanging wall of the fault and the fault plane is mineralized for considerable distance above the ore bodies. The regional distribution of the deposits suggests that they are localized in small grabens which have provided for considerable recirculation of ground water.

3. Only secondary uranium minerals were observed and one (Andersonite) is a water soluble carbonate.

4. The gray green mudstone alteration associated with the ore bodies appears to have formed by solutions migrating downward along the fault plane.

5. The association of ore with a system of fractures which branch and diverge downward.

6. The occurrence of ore only where the fault plane intersects a permeable sandstone and the ore occurs only in the upper part of the sandstone.

7. There is a general tendency for the larger deposits to be localized in arkosic sandstone lenses occurring at higher elevations along the fault.

PROPOSED EXPLORATION

Cimota Exploration, Inc. proposes to explore their property in two phases, since mineralized material occurs in both the Moss Back member of the Chinle formation and the Cutler formation.

Moss Back Exploration

The applicant proposes to explore the Moss Back by diamond drilling. Most of the holes will start in the Wingate sandstone and the average total depth of these holes is estimated at about 500 feet. The plan calls for 35 holes totaling 16,625 feet. In addition, 15 holes averaging 100 feet in depth will be drilled to test the Moss Back in the northeast quarter of sec. 33 and the southeast quarter of sec. 28, T. 26 S., R. 21 E. Also, 9 horizontal and inclined holes, each 100 feet in length, are planned to determine whether it would be practical to extend the mine workings on the Red O claim.

The total footage needed to explore the Moss Back, as proposed, is 19,025 feet. The total cost of this phase of the exploration program, including road building expenses, is estimated at $65,207.50.

Cutler exploration plans

The proposed exploration program in the Cutler formation provides for 33 holes with an average depth of 125 feet to drill along the west side of the main fault and 13 holes, with an average depth of 100 feet, along the east side of the fault. A second phase of drilling is planned for 20 holes with an average depth of 100 feet, to develop any ore trends discovered by the first 46 drill holes. A total of 7,520 feet of drilling

is planned to test the Cutler formation in the manner proposed. This phase of the program is estimated to cost $22,488.

The total cost of the exploration program in both the Moss Back member of the Chinle formation and Cutler formation (including road building costs, personnel, drilling, etc.) is estimated at $97,927.25.

The applicant has already explored that portion of the fault occurring on the Moonshine No. 2 claim with 76 drill holes. Of these 76 drill holes, the applicant reports that 29 holes penetrated mineralized material of ore grade (containing 0.10 percent U_3O_8 or more) and 22 holes penetrated mineralized material (containing 0.02 percent U_3O_8 or more). These holes are closely spaced and represent small individual pods of ore occuring at depths of about 10 to 50 feet. The main fault cannot be reasonably projected for more than 300 or 400 feet northwest of the Moonshine No. 2 claim and, therefore, most of the drilling proposed by the applicant to test this fault is considered to be risky.

CONCLUSIONS AND RECOMMENDATIONS

The property owned by Cimota Exploration, Inc. in the Cane Creek area is not considered favorable for the occurrence of ore deposits containing large reserves. The exploration program proposed for the Moss Back sandstone is too ambitious and cannot be justified geologically. The Moss Back sandstone is devoid of the type of sedimentary structures considered to be necessary to localized ore deposits of sufficient size to justify drilling 500 feet or more in depth.

The small ore bodies localized by faults in the Cutler formation have some potential, but probably will not exceed 1,000 tons. The deposits are localized in arkosic sandstones and are traversed by small normal faults. Field observations indicate that the deposits probably were derived by leaching of overlying mineralized horizons, downward movement of the solutions, and precipitation in the arkosic sandstones.

Cimota, Inc., has already done considerable exploration on their Moonshine No. 2 claim, and this drilling has already tested the main fault throughout most of the distance that it can be reasonably projected.

In summary, the mineralized material in the Moss Back sandstone is considered to be small and spotty, and has little chance of producing reserves large enough to be considered economic at the depth at which they occur. The deposits localized by the fault in the Cutler formation have small potential and have probably already been adequately tested throughout most of its known extent.

Because of the geologic reasons discussed above, it is believed that there is little chance of finding significant ore deposits on the property and it is recommended that Government assistance in the program be denied.

RECEIVED
SEP 12 1955

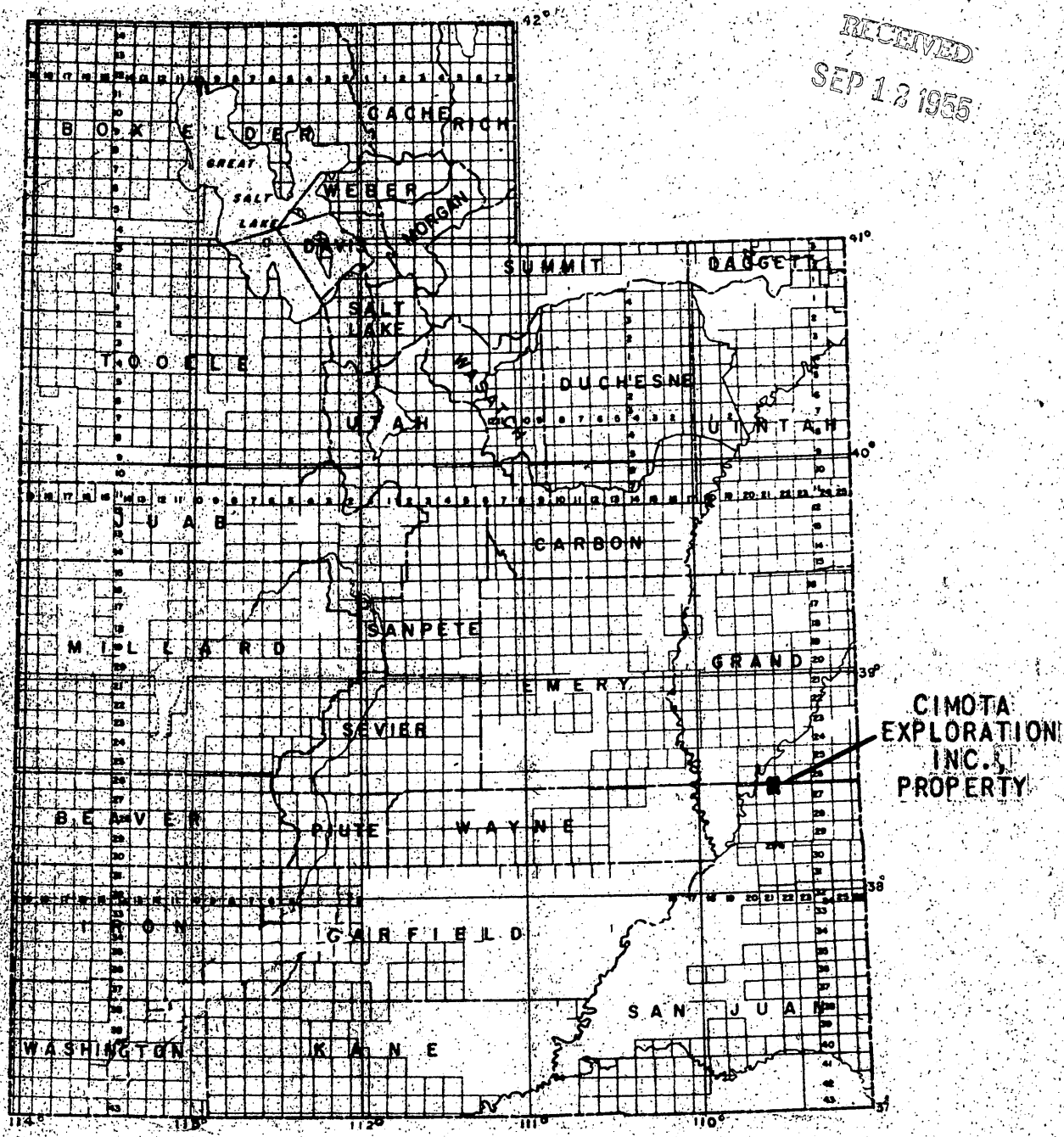

Figure 1. INDEX MAP OF UTAH SHOWING LOCATION OF PROPERTY OWNED BY CIMOTA EXPLORATION, INC., GRAND AND SAN JUAN COUNTIES, UTAH

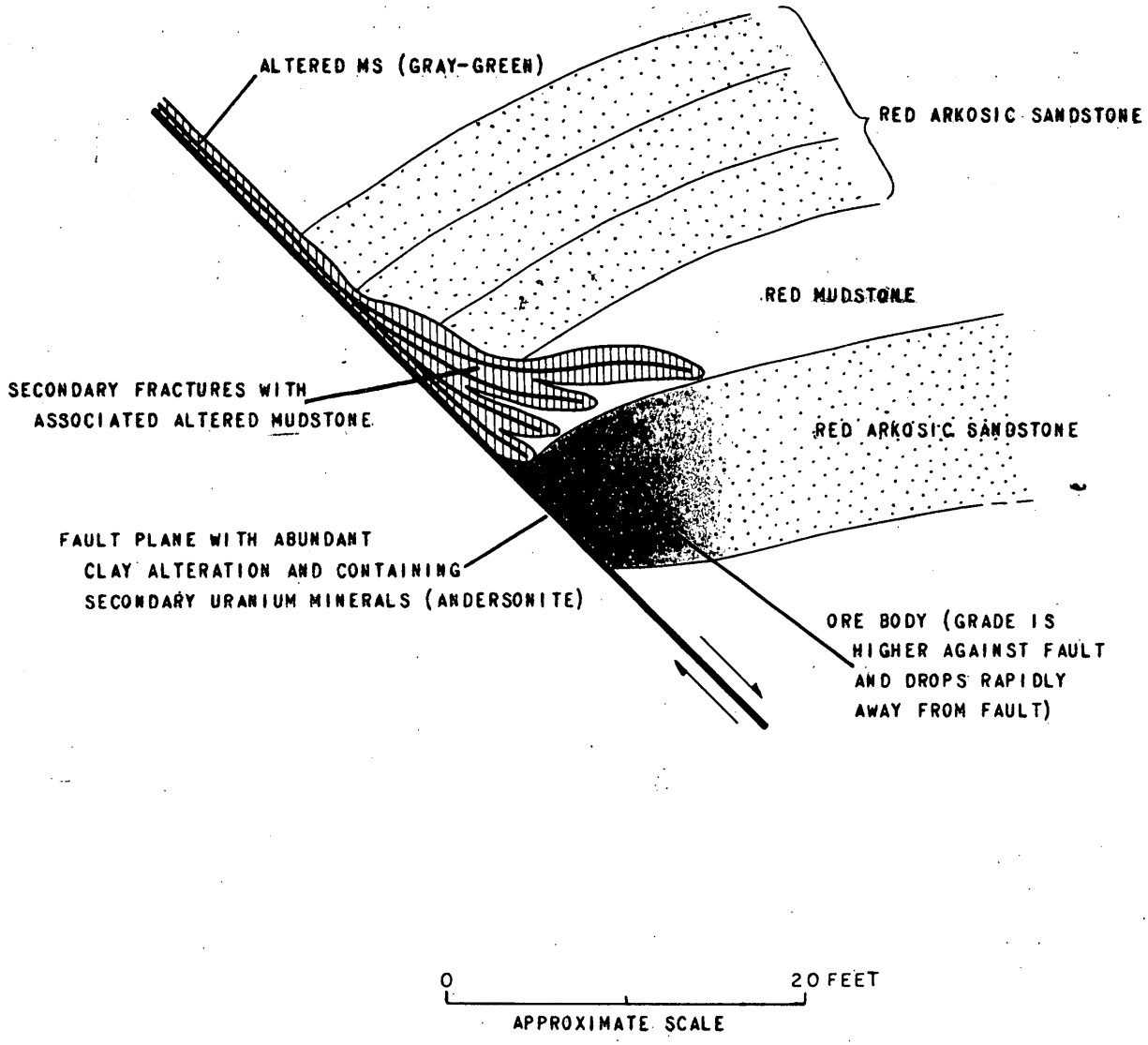

Figure 2. DIAGRAMMATIC SKETCH SHOWING CROSS-SECTIONAL NATURE OF FAULT DEPOSITS AND ASSOCIATED MUDSTONE ALTERATION ON THE MOONSHINE NO. 2 CLAIM CIMOTA EXPLORATION CO., GRAND AND SAN JUAN COUNTIES, UTAH

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

RECEIVED
JUN 13 1955

224 New Customhouse
Denver 2, Colorado

June 8, 1955

Memorandum

To: J. F. Shaw (w/brochure)
W. P. Williams

From: Field Team, Region III

Subject: Docket DMEA-3829 (Uranium), Cimota Exploration, Inc., (Red claims et al), Grand and San Juan Counties, Utah

Enclosed are copies of the subject application for a loan of $97,927.25, its referral by the Chairman of the Operating Committee, and memoranda to E. W. Ellis from R. D. Trace, USGS, and J. A. Crawford, USBM, members of the Uranium Commodity Committee.

Washington has no information on the property but suggests that it appears overly ambitious.

After referral to the Grand Junction office of the AEC, a field examination and covering reports are required.

W. M. TRAVER

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

WMT:pw

cc: Subject
Chron
Harshman
Sec.Op.Comm. (2)

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

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E. N. Harshman

Enclosures

WMT:pw

cc: Subject
Chron
Harshman
Sec.Op.Comm. (2)

100

6-3-55

JUN - 2 1955

Mr. John A. Prather, Executive
Vice President and Treasurer
Cimota Exploration, Incorporated
25B Highland Park Village
Dallas, Texas

Re: Docket No. DMEA-3829 (Uranium)
Red claims et al.
Grand and San Juan Counties,
Utah

Dear Mr. Prather:

The application for assistance in exploring the subject property in Grand and San Juan Counties, Utah, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred to the Executive Officer of Region III at the following address:

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
22h New Customhouse Building
Denver 2, Colorado

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

Sincerely yours,

E. O. Mittendorf

Administrator

EWellis:am
5-31-55
cc to: Admr. Reading File
Docket
Code 700
DMEA Field Team, Region III(2)

700

6-3-55

JUN - 2 1955

Mr. A. R. Trevor
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. [illegible]-3829 (Uranium)
Cimeta Exploration, Incorporated
Red claims et al.
Grand and San Juan Counties,
Utah

Dear Mr. Trevor:

The captioned application is referred to Region III Field Team for investigation, a field examination if warranted, and recommendation.

Enclosed are copies of memoranda from Thor H. Kiilsgaard, dated May 25, and John L. Crawford, dated May 27, 1955, members of the Uranium Commodity Committee.

A copy of the application was retained by your office.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

CONCURS:

J. H. Hedges
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

Williams
5-31-55
cc to: Adm. Reading File
Operating Committee
Docket
Messrs. J. L. Crawford, Rm. 3461
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, OSA
Code 700

Surname 700

Ellis
Selfridge
Johnson

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

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

JUN - 2 1955

Re: Docket No. DMEA-3829 (Uranium)
Cimota Exploration, Incorporated
Red claims et al.
Grand and San Juan Counties,
Utah

Dear Mr. Traver:

The captioned application is referred to Region III Field Team for investigation, a field examination if warranted, and recommendation.

Enclosed are copies of memoranda from Thor H. Kiilsgaard, dated May 25, and John E. Crawford, dated May 27, 1955, members of the Uranium Commodity Committee.

A copy of the application was retained by your office.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JB)

Enclosures

APPROVED:

J. H. Hedges (JB)
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey (JB)

EWEllis:am
5-31-55
cc to: Admr. Reading File
Operating Committee
Docket
Messrs. J. E. Crawford, Rm. 3461
T. H. Kiilsgaard, Rm. 5224
J. O. Hosted, Rm. 3210, GSA
Code 700

R.C.H.

Surname 700

Ellis
Hedges
Kilsgaard
Selfridge
Johnson

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

JUN - 2 1955

Mr. John A. Prather, Executive
Vice President and Treasurer
Cimota Exploration, Incorporated
25B Highland Park Village
Dallas, Texas

Re: Docket No. DMEA-3829 (Uranium)
Red claims et al.
Grand and San Juan Counties,
Utah

Dear Mr. Prather:

The application for assistance in exploring the subject property in Grand and San Juan Counties, Utah, under the captioned docket number, has been reviewed by the Rare and Miscellaneous Metals Division of the Defense Minerals Exploration Administration. It has been referred to the Executive Officer of Region III at the following address:

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

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

Sincerely yours,

C. O. Mittendorf

Administrator

EWEllis:am
5-31-55
cc to: Admr. Reading File
Docket
Code 700
DMEA Field Team, Region III(2)

R.C.B.

5/31/55 gla

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 27 1955

May 27, 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 3829, Cimota Exploration, Inc., San Juan County, Utah

I have reviewed the attached application for assistance, Cimota Exploration, Inc., DMEA Docket 3829, San Juan County, Utah; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We suggest that the application be referred to the Field Team for examination and report, and that the Field Team be requested to discuss the application with Ernest R. Gordon, Grand Junction Operations Office, Atomic Energy Commission, Grand Junction, Colorado.

John E Crawford
John E. Crawford

Attachment

5/26/55 gla

IN REPLY REFER TO:

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

Department of the Interior
Defense Minerals Administration
RECEIVED
MAY 26 1955

May 25, 1955

Re: DMEA-3829
Cimota Explor., Inc.
Moab District (West)
Grand & San Juan Cos., Utah
$97,927.25 - Uranium

Memorandum

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

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

Subject: Review of application

The applicant proposes to drill 50 holes from the surface, 9 holes underground, and do some road work, in a two-stage program designed to explore for uranium deposits in both the Mossback and the Cutler.

I have no data on the property except what is given by the applicant.

Because of the known mineralization and nearby mines, I suggest that the application be referred to the Field Team.

The proposed program seems to me to be overly ambitious.

Victor H. Kilsgaard

FOR: R. D. Trace

IN REPLY REFER TO:

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

Defense Minerals Administration
RECEIVED
MAY 26 1955

May 25, 1955

Re: DMEA-3829
Cimarte Explor., Inc.
Moab District (West)
Grand & San Juan Cos.,
Utah
$97,987.25 - Uranium

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

Subject: Review of application

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Because of the known mineralization and nearby mines, I suggest that the application be referred to the Field Team.

The proposed program seems to me to be overly ambitious.

Thos H. Kiley signed
for R. D. Trace

RDTrace:hlm
G-5/25/55

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

May 24, 1955

Subject: DMEA-3829
Re: Exploration Assistance

Cimota Exploration Inc.,
25-B Highland Park Village
Dallas, Texas

Gentlemen:

The receipt of your application dated March 28, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3829 and referred to the Rare & Miscellaneous Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

May 24, 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-3829 Cimota Exploration Inc.

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

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

224 New Customhouse
Denver 2, Colorado

May 20, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Cimota Exploration, Inc., Grand and San Juan Counties, Utah

Enclosed are the original and two copies of the subject application to explore for uranium at a total estimated cost of $97,927.25.

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

W. M. Traver

Enclosures

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

224 New Customhouse
Denver 2, Colorado

May 20, 1955

Memorandum

To: Secretary to the Operating Committee

From: Executive Officer, DMEA Field Team, Region III

Subject: Application for DMEA assistance (Uranium), Cinota Exploration, Inc., Grand and San Juan Counties, Utah

Enclosed are the original and two copies of the subject application to explore for uranium at a total estimated cost of $97,927.25.

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

W. M. Traver

Enclosures

W. M. Traver

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DMEA
Date Rec'd
MAY 25 1955

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

RECEIVED
MAY 23 1955
BUREAU OF MINES
Denver, Colorado

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

Note to be filled in by applicant

Docket No. 3829
Metal or Mineral Uranium
Date Received 5-23-55
Estimated Cost 97,927.25
Participation (Government %) 75

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:

CINOTA EXPLORATION, INC., a Delaware Corporation
25 B HIGHLAND PARK VILLAGE
DALLAS, TEXAS

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

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

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

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

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

(*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

OWNERS - See Report

(*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

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

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

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

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

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

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

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

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

(*c*) The work will start within 30 days and be completed within 3 1/2 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)? YES

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

[X] Money [X] 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 March 28, 1955

Amolo Exploration, Inc
(Applicant)

By John A. Mathews, Exec Vice P.

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

LISTED BELOW ARE NAMES, ADDRESSES, TITLES
OF OFFICERS OF CINOTA EXPLORATION, INC.

William P. Castleman, Jr. Pres. of Board	Republic Nat'l. Bank Bldg.Dallas,Tex.
Creston H. Alexander President	Continental Bldg. - Dallas, Tex.
John A. Prather Exec.Vice Pres.& Treas.	25B Highland Park Village-Dallas,Tex.
Charles E. Dimit Vice President	Colorado Bldg. Denver, Colo.
H. Stewart Bennett Secretary	Republic Nat'l. Bank Bldg.Dallas,Tex.

This Report Prepared By
GEOLOGICAL CONSULTANT SERVICE
G. R. Grandbouche G. K. Zareski
P. O. BOX 862 MOAB, UTAH

RECEIVED

DEFENSE MINERALS EXPLORATION ADMINISTRATION LOAN APPLICATION REPORT ON A GROUP OF CLAIMS OWNED BY CILOTA EXPLORATION INCORPORATED IN CANE SPRING CANYON AREA, GRAND SAN JUAN COUNTY, UTAH

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INTRODUCTION

Purpose

This geologic report was written at the request of Mr. William S. Dawson, field representative for Cimota Exploration, Inc., of Dallas, Texas and Moab, Utah, in compliance with the regulations for application for a D.M.E.A. loan on 53 full and partial mining claims owned wholly by the corporation. The corporation has spent approximately $80,000. on equipment, camp facilities, and development of their ore deposits in the Cutler and Chinle formations, but the potential of the majority of their claims is as yet undetermined.

The claims are listed below:

NAME	BOOK	PAGE	COUNTY
Red 00	63	512	San Juan
	19	150	Grand
Red	63	512	San Juan
	19	150	Grand
Red No.	63	511	San Juan
	19	151	Grand
Red #1	45	31	San Juan
	16	496	Grand
Big Brown Bear #1	101	249	San Juan
Big Brown Bear #2	101	249	San Juan
Big Brown Bear #3	101	250	San Juan
Big Brown Bear Fraction #1	101	250	San Juan
Big Brown Bear Fraction #2	101	251	San Juan
Red #2	16	497	Grand
	45	31	San Juan
Red #3	16	498	Grand
Red #4	16	499	Grand
Red #5	16	500	Grand
Red #6	16	501	Grand
Red #7	16	502	Grand
Red #8	16	503	Grand
Red Fraction #1	30	374	Grand
Big Brown Bear #4	27	111	Grand

NAME	BOOK	PAGE	COUNTY
Big Brown Bear #5	27	111	Grand
Big Brown Bear #6	27	112	Grand
Big Brown Bear Fraction #3	27	112	Grand
Big Brown Bear Fraction #4	27	113	Grand
Big Brown Bear Fraction #5	27	113	Grand
Hot #1	85	137	San Juan
Hot #2	100	251	San Juan
Hot #3	100	252	San Juan
Hot #4	100	252	San Juan
Hot #5	100	253	San Juan
Hot #6	100	253	San Juan
Hot Fraction #1	145	321	San Juan
Moonshine #2	87	337	San Juan
Moon Frac.	245	159	San Juan
Waurika	24	336	Grand
Waurika #1	24	336	Grand
Waurika #2	24	337	Grand
Old Crow	16	504	Grand
Old Crow #11	16	515	Grand
Old Crow #12	16	516	Grand
Old Crow #13	16	517	Grand
Old Crow Fraction #13	27	104	Grand
Lonely Fraction #1	27	108	Grand
Lonely Fraction #2	27	109	Grand
Lonely Fraction #3	27	109	Grand
Lonely Fraction #4	27	110	Grand
Lonely Fraction #5	27	110	Grand
Bed Stead #1	27	106	Grand
Bed Stead #2	27	107	Grand
Bed Stead #3	27	107	Grand
Bed Stead #4	27	108	Grand
Bed Stead Fraction #1	27	104	Grand
Bed Stead Fraction #2	27	105	Grand
Bed Stead Fraction #3	27	105	Grand

#4

52

Location

The claims are located in T26S, R21E, Sections 28, 33, 34 and T27S, R21E, Sections 3 and 4, Grand and San Juan Counties, Utah, extending for 8,500 feet along the northeast side of Cane Springs Canyon. (Figure 2.).

Access

Access can be gained to those claims on the canyon floor by traveling 19 miles southeast of Moab on U.S. highway 160, then 16 miles northwest on a dirt road. The claims behind the rim of the canyon can be reached by traveling 13 miles southeast of moab on U.S. 160, then northwest 15 miles on a dirt road, and 1 mile on foot. The A.E.C. has approved a new road from Moab along the Colorado River into Cane Springs Canyon. Construction is to begin immediately after July 1, 1955.

The nearest uranium processing mill is at Monticello, Utah, 53 miles south of the claims. The U.S.V. buying station at Thompsons is 73 miles to the northwest, and the station at Moab is 35 miles from the claims.

WATER, SUPPLIES, EQUIPMENT, AND LABOR

An unlimited water supply is obtainable from Cane Creek, 1/2 mile from the claims, and the Colorado River, 5 miles from the claims. Water would have to be obtained from different sources for those claims which lie behind the canyon wall. There are several springs which reportedly contain water throughout the year. The use of this water supply would depend upon the practicality of constructing roads to them. If the cost of road construction is disproportionate to the value of the water, it would be necessary to travel 18 miles

to the head of Cane Springs Canyon for a source of water.

Supplies, mining equipment, and labor can be obtained in Moab, Utah, (35 miles) Monticello, Utah, (53 miles) and Grand Junction, Colorado, (151 miles).

At the present time there are three bunkhouses and a cookhouse adequate for ten men on the claims and the following equipment: one hundred twenty-five cubic feet Jaeger compressor, Joy slusher and bucket, Ingersoll - Rand air tugger, mine car.

GEOLOGY

Stratigraphy

The formations present on the claims range from the permian Rico to the Jurassic Kayenta.

Those formations whose total thicknesses will be penetrated by drilling (Wingate and Chinle) were measured on the claims. The Wingate Ss. is 250 feet thick and the Chinle formation is 265 feet thick. One and one-half miles west of Cimota's claims in the southwest quarter of Section 1, R21E, T27S, a hole was drilled which cut the Chinle-Moenkopi contact. From the gamma-ray log of this hole the Wingate was estimated to be 300 feet thick and the Chinle 265 feet thick. Since neither formation has been exposed to erosion it can be assumed that the total thickness of the Wingate and Chinle will not exceed 565 feet in the proposed drill areas.

The Wingate formation has been eroded as deep as 200 feet in several locations on the claims in section 3. This erosion has generally made bowl-like depressions which are estimated to be 500 yards in diameter. These erosional features would provide advantageous drilling sites.

At several locations in the claim area the Wingate has been altered to an almost white color from its usual tan or pink. This is probably due to the movement of solutions in the numerous fractures.

The Chinle formation in the area is largely composed of sand units. The uppermost units have been eroded over and near the axis of the Cane Creek Anticline, leaving the middle and lower units intact. The sand units (excluding the Mooseback member) vary in thickness from 10 - 75 feet. Gray alteration is conspicuous and locally it extends from the bottom to the top of the Chinle.

The Mooseback member of the Chinle varies from ten to fifty feet in thickness. It is composed of gray, well-sorted, medium-grained sands, chert and lime pebble conglomerate, and thin lenses of gray muds. Within the member, the lithologic units thicken and thin abruptly forming lenticular masses.

The Cutler formation is estimated to be 500 feet thick and is composed of sands, silts, arkoses, and thin mud seams. At

least one arkosic unit contains uranium mineralization and is found at depths no greater than 150 feet under the floor of the canyon. Alteration is obvious near ore deposits where the arkose has been altered to gray from its usual red.

Structure

The Cane Creek Anticline trends N45°W for a distance of approximately 12 miles from where it is first visible in Section 24, R21E, T27S. The anticline then trends westerly for approximately 17 miles until it disappears between Hell Roaring Canyon and the Green River. The activity of the anticline in the area for which this report was written shows several stages of uplift. It is believed that uplift took place during post-Moenkopi, pre-Chinle time. This is shown by the thinning of the formation and the truncation of the upper beds of the Moenkopi. During Chinle time the anticline was stable but post-Chinle, pre-Wingate time shows a repetition upthrust of the anticline as evidenced by the thinning and truncating of the upper Chinle beds. The Kayenta and Navajo formations are so badly eroded that no evidence could be gathered as to further periods of uplift.

Faults are numerous in the claimed area as can be seen on figure 2. The trend of the majority of them is parallel with the axis of the anticline with a conjugate system of minor faults. In one normal fault, from which Cimota has done most of their mining, the vertical displacement of the

Cutler formation is approximately 100 feet. Others app[illegible] this amount. The major fault in the area can be traced for a distance of approximately 2,000 feet and then disappears under the aluvium covering the valley floor. A fault in which Climax Uranium Corporation is mining in Section 32, T26S, R21E is in line with this fault suggesting it to be the same. (Figure 2.).

Numerous small faults of several feet displacement are visible and sometimes contain small amounts of uranium ore but they cannot be traced for any distance due to either discontinuity of the fault or the heavy talus cover.

One channel, which trends S70E is visible within the mine on the Red O claim. Evidence of channeling can also be seen outside the mine entrance and in adjacent areas by the scouring in the Moenkopi. It was impossible to plane table the TRm/TRc contact due to the lack of setup stations and the cover of talus over wide areas.

ORE DEPOSITS IN THE CANE SPRINGS CANYON

Moenkopi Deposits

Climax Uranium and Dove Creek Uranium each have uranium deposits in the Moenkopi formation adjacent to Cimota's property. Climax has an adit approximately 60 feet into the rim. Dove Creek Uranium has commercial ore showing but has done no tunneling. Cimota has commercial ore exposed in the

Mossback and began a mining operation in this unit.

Cutler Deposits

The mines which have shipped ore to date are in the Cutler formation. Dove Creek Uranium, according to reports, has shipped over 750 tons. The ore occurs in a fault paralleling the Cane Creek Anticline. Capitol Uranium has shipped approximately 150 tons from the Cutler formation. This deposit is located at the junction of two faults. Cimota has shipped 263 tons with an average of .13% U_3O_8 from a fault. This company has concentrated its mining and exploration in the Cutler almost entirely on the Moonshine No. 2 claim.

CIMOTA - ORE IN MOSSBACK

On the basis of ore exposed on the rim, in the Mossback, on the Red O claim, the corporation began a mining operation and to date has an incline and two drifts totalling 200 linear feet. An examination of this mine revealed several places in which an ore count could be obtained. (Babble Counter). These ore spots, however, are on the roof so that it is impossible to give an estimate of reserves. When the mine was begun, it was anticipated, because of the exposure of ore on the rim, that if an ore body were present it would be at the same level as the exposed ore and therefore an

operation of the stoping type was proposed. Since the exposed ore is within a few feet of the Chinle - Moenkopi contact this type of operation necessitated that the mine be mostly in the Moenkopi formation. The TRc/TRm contact in places in the mine is roof high.

The writers of this report feel that this operation did not adequately explore the ore possibilities in the Mossback and that mining should have begun at the level of the exposed ore and continued until sufficient evidence concerning the size of the ore body could be accumulated.

EXPLORATION PROPOSALS

Exploration will be divided into, and planned as, two separate programs because there are two ore formations present, (Cutler and Chinle) and because the canyon wall presents an obstacle to access from one side of the claim group to the other. (See figure 3.).

EXPLORATION OF MOSSBACK

The Mossback in the area contains at least three locations at which commercial ore was observed (see figure 2.) demonstrating that uranium-bearing solutions did pass through this unit locally. To date the only serious exploration work done in Cane Springs Canyon, in the Mossback, has been that of Climax Uranium (drilling and drifting) and Cimota Exploration, Inc. (drifting). The results of the drilling

by Climax are not available while the drifting done by Cimota and Climax shows that the Mossback can contain ore behind the rim, although no estimate can be made of target size. It is not known, at present, if interformational channels, intraformational scours, or faults exercise a structural control on the Mossback ore deposits in this area. The extremely steep slope from the bottom of the canyon to the Wingate ss. makes it impossible to drill an adequate pattern of drill holes without drilling through the Wingate.

It is proposed, therefore, that access roads and drill sites be constructed on the erosional surface of the Wingate, behind the canyon wall, so that a sufficient number of holes can be drilled to test the ore potential of the Mossback in the Cane Springs area.

Topographic lows in the Wingate could be utilized to cut down on drilling depths. It is expected that holes placed in these lows would not exceed 425 feet in depth. None of the holes drilled through full thickness of the Wingate and Chinle would exceed 565 feet. Thirty-five holes should be sufficient to explore the Mossback from the top. Total drill footage, core and plug bit, would amount to 16,625 feet. This is based on an average estimate of 475 feet per hole.

In the southeast quarter of Section 28 and the northeast

quarter of section 33, both in T26S, R21E, where the Mossback is on the canyon floor, sufficient space is available for a pattern of 15 holes averaging 100 feet deep for a total footage, core and plug bit, of 1,500 feet.

It is planned to core only the Mossback which, in effect, would be the bottom 50 feet of each hole. By this method a structure map of the TRm/TRc contact can be plotted accurately and channels followed.

Total footage for drilling in the Mossback would be 18,125 feet. Of this amount 15,625 feet would be plug bit drilling, and 2,500 feet core drilling.

Road work on top of the Wingate Ss. would consist of lengthening the present access road one mile onto Cimota's claims, and two miles of drill roads and drill sites on the claims. Blasting would be required in several places. Total time required for the road work would be 660 hours.

In the mine in the Mossback member, on the Red O claim, it is planned to drill 9 horizontal and inclined holes 100 feet each in length, to determine whether it would be practical to continue to extend the present workings.

Exploration of Cutler Formation

The Moonshine #2 claim lies along a fault which strikes N35°W and dips 45°SW. This fault has apparently influenced

the deposition of the uranium ores which are being mined at present since the ore occurs in pockets or on fractures in proximity to the fault. Another controlling factor for the emplacement of the ore is an arkosic sandstone unit which outcrops 100 feet west of the fault and dips toward it at 15°. Mining operations are taking place in two locations along the fault.

A secondary fault was found which is parallel to the main fault but which dips approximately 60°SW thereby intersecting the main fault in places and the favorable arkosic unit. Several minor faults were also noted in the area but, at present, they are not considered to be controlling factors in the deposition of uranium deposits.

Intense alteration along bedding planes on the southwest side of the main fault imply that solutions or gases ascended in the fault plane and then spread along such favorable passages as bedding planes, discoloring the host rock. It is likely that these same solutions or gases deposited uranium where it is now being mined.

The proposed drilling program in the Cutler would be 33 holes, with an average depth of 125 feet, along the west side of the main fault and 13 holes, with an average depth of 100 feet, along the east side. Twenty second phase holes averaging 100 feet deep are proposed to develop any ore trends which the first 46 holes reveal.

A total of 7,520 feet will be required for drilling the claims in the Cutler. First phase drilling will use 5,520 feet and second phase 2,000 feet. It is planned to core only the favorable arkosic unit which will require approximately 20 feet of core in each hole for a total of 1,320 cored feet, 6,200 feet plug bit.

There is already a network of roads on the claims which lie on the Cutler so that the only construction work will be the preparation of drill sites. Total time for this should not exceed 40 hours.

EXPLORATION COSTS AND PROCEDURES

It is planned to use two Mayhew rotary rigs capable of operating on air or water. One will drill through the Wingate and Chinle, and the other will drill the Cutler and Mossback on the canyon floor. A contract, contingent upon the loan, has been made at the most reasonable prices obtainable. These prices are as follows: Plug Bit, 0-300 feet @ $2.65 per foot, 300-600 feet @ $2.85 per foot; core @ $3.65 per foot. Standby time at $12.00 per hour will be charged if the supervisors of the program cause a drill rig to idle for more than 24 hours. Payment of standby time is not expected.

Costs of roadbuilding has been based on estimates made by two bulldozer contractors. It is hoped that road construction can be completed for less than the amount shown.

The full-time services of a geologist will be required to bottom and strip-log the holes, and compile information for isorad and structure contour maps.

The holes will be surveyed, as drilling progresses, so that the Chinle-Moenkopi contact can be accurately plotted.

It is expected that the project can be completed within 3 1/2 months.

DRILLING FOOTAGE BREAKDOWN

	Plug bit	Core bit	Horizontal	Total
Moenkopi	15,625	2,500	900	19,025
Cutler	6,200	1,320	900	7,520
Totals	21,825	3,820	900	26,545
			Total footage	26,545

Gordon K. Zareski
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George R. Grandbouche
George R. Grandbouche
Geological Consultants

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COST ESTIMATE

DESCRIPTION	SUB-TOTAL	TOTAL
Mossback Exploration		
Road Work		
First phase access and drill sites		
580 hrs @ $12.00 per hr	$ 6,960.00	
Second phase drill sites		
80 hrs @ $12.00 per hr	960.00	
Blasting, compressor, hammer, supplies, labor, etc., ...	3,500.00	
		$11,420.00
Drilling		
First phase		
25 holes @ 475 ft. 11,875 ft.		
10 holes @ 100 ft. 1,000 ft.		
12,875 ft.		
Plug bit 11,125 ft @ average cost of $2.70 per foot	30,037.50	
Core bit 1,750 ft @ $3.65 per foot	6,387.50	
Second phase		
10 holes @ 475 ft. 4,750 ft.		
5 holes @ 100 ft. 500 ft.		
Plug bit 4,500 ft. @ average cost of $2.70 per foot	12,150.00	
Core bit 750 ft. @ $3.65 per foot	2,737.50	
Horizontal drilling in the Mossback Mine		
9 holes @ 100 ft. 900 ft.		
900 ft. @ $2.75 per foot ...	2,475.00	
		$53,787.50
Cutler Exploration		
Road Work		
Access roads and drill sites		
40 hrs @ $12.00 per hr	$ 480.00	
Blasting, compressor, hammer, supplies, labor, etc., ...	450.00	
		$ 930.00
Drilling		
First phase		
46 holes @ 120 ft. 5,520 ft.		
Plug bit 4,600 ft. @ average cost of $2.70 per foot	12,420.00	
Core bit 920 ft. @ $3.65 per foot	3,358.00	

COST ESTIMATE (CONTINUED)

DESCRIPTION	SUB-TOTAL	TOTAL
second phase		
20 holes @ 100 ft. 2,000 ft.		
Plug bit 1,600 ft. @ average cost of $2.70 per foot	$4,320.00	
Core bit 400 ft. @ $3.65 per foot	1,460.00	
		$21.558.00
Supervision and Technical Help		
Administrative and accounting		
3½ mos @ $600.00 per month	$2,100.00	
Audit of books by CPA	200.00	
Geological and engineering		
3½ mos @ $800.00 per month	2,800.00	
Logging of drill holes (gamma-ray,graphic)		
26,545 ft. @ $.15 per foot	3,981.75	
Surveying		
12 days @ $50.00 per day	600.00	
Incidentals -		
Assaying, emergency road work (rainstorm) etc.	550.00	
		$10,231.75
	TOTAL	$97,927.25

MF-103
(Revised April 1952)

DMEA
Date Rec'd.
MAY 20 1955
BUREAU OF MINES
Denver, Colorado

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

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Not to be filled in by applicant

Docket No. 3829.
Metal or Mineral Uranium
Date Received 5-23-55
Estimated Cost 97,927.25
Participation (Government %) 75

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: Cimota Exploration, Inc. a Delaware Corporation
25 B Highland Park Village
Dallas, Texas

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

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

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

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

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

(*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 Owners --See Report

(*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

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

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

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

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

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

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

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

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

(*c*) The work will start within 30 days and be completed within 3 1/2 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)? Yes

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

[X] Money [X] 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 March 28, 1955

Cimora Exploration, Inc.
(Applicant)

By John H. Prather
Exec. Vice-Pres.

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

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This Report Prepared By
GEOLOGICAL CONSULTANT SERVICE
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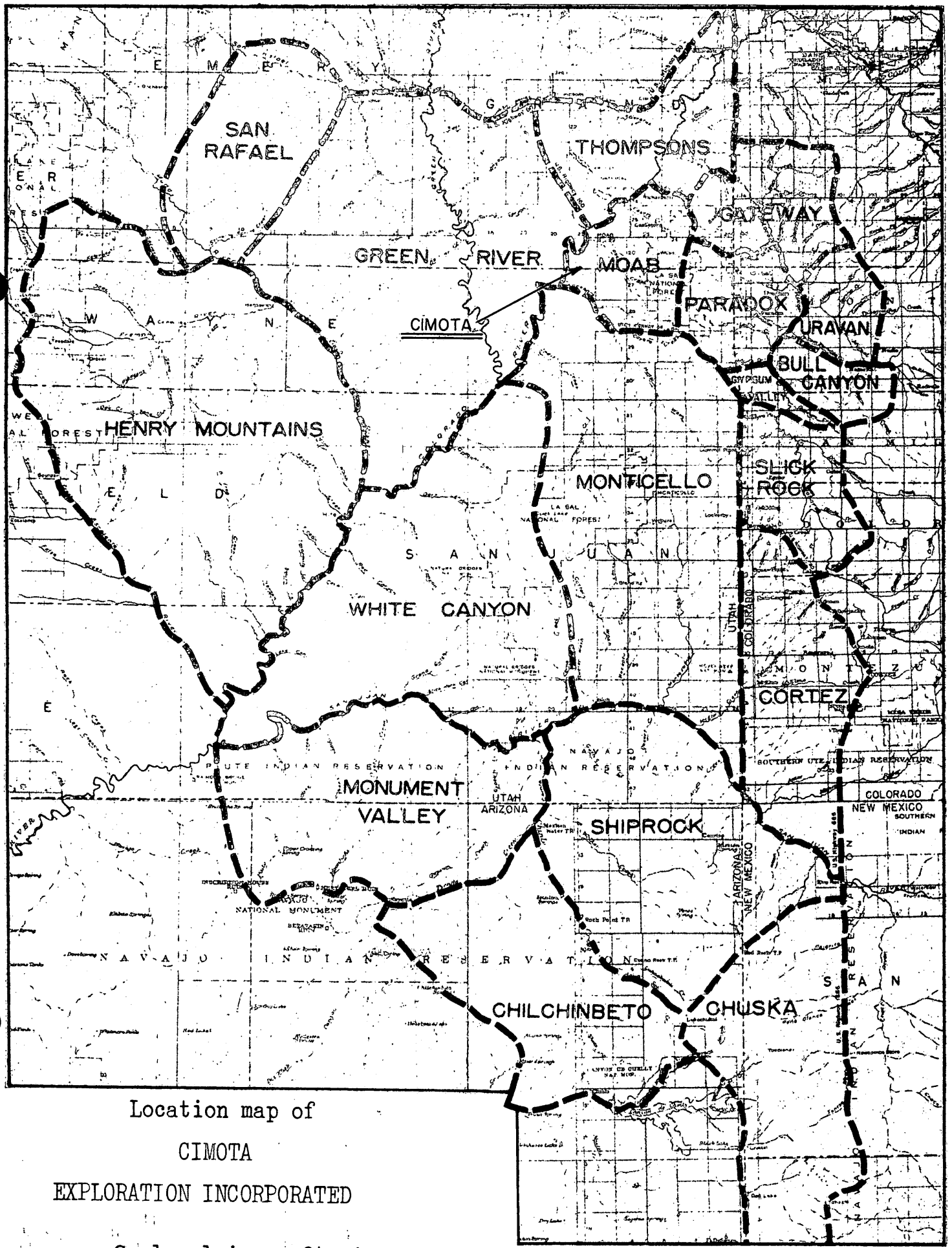
P. O. BOX 862 MOAB, UTAH

Minerals Administration
RECEIVED
MAY 23 1955

SOME MINOR URANIUM-BEARING MINERALIZATION AND ATTENDANT ROCK IN A MAP OF OLDER CAP OF JOHN BEHRENS DISTRICT IN THE MOAB CITY AREA, GRAND AND SAN JUAN, UTAH



Location map of

CIMOTA

EXPLORATION INCORPORATED

Scale 1 in. = 24 mi.

FIG. 1

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INTRODUCTION

Purpose

This geologic report was written at the request of Mr. William S. Dawson, field representative for Cimota Exploration, Inc., of Dallas, Texas and Moab, Utah, in compliance with the regulations for application for a D.M.E.A. loan on 53 full and partial mining claims owned wholly by the corporation. The corporation has spent approximately $80,000. on equipment, camp facilities, and development of their ore deposits in the Cutler and Chinle formations, but the potential of the majority of their claims is as yet undetermined.

The claims are listed below:

NAME	BOOK	PAGE	COUNTY
Red 00	63	512	San Juan
	19	150	Grand
Red	63	512	San Juan
	19	150	Grand
Red No.	63	511	San Juan
	19	131	Grand
Red #1	43	31	San Juan
	16	496	Grand
Big Brown Bear #1	101	249	San Juan
Big Brown Bear #2	101	249	San Juan
Big Brown Bear #3	101	250	San Juan
Big Brown Bear Fraction #1	101	250	San Juan
Big Brown Bear Fraction #2	101	251	San Juan
Red #2	16	497	Grand
	45	31	San Juan
Red #3	16	498	Grand
Red #4	16	499	Grand
Red #5	16	500	Grand
Red #6	16	501	Grand
Red #7	16	502	Grand
Red #8	16	503	Grand
Red Fraction #1	30	374	Grand
Big Brown Bear #4	27	111	Grand

NAME	BOOK	PAGE	COUNTY
Big Brown Bear #5	27	111	Grand
Big Brown Bear #6	27	112	Grand
Big Brown Bear Fraction #3	27	112	Grand
Big Brown Bear Fraction #4	27	113	Grand
Big Brown Bear Fraction #5	27	113	Grand
Hot #1	85	137	San Juan
Hot #2	100	251	San Juan
Hot #3	100	252	San Juan
Hot #4	100	252	San Juan
Hot #5	100	253	San Juan
Hot #6	100	253	San Juan
Hot Fraction #1	145	321	San Juan
Moonshine #2	87	337	San Juan
Moon Frac.	245	159	San Juan
Maurika	24	336	Grand
Maurika #1	24	336	Grand
Maurika #2	24	337	Grand
Old Crow	16	504	Grand
Old Crow #11	16	515	Grand
Old Crow #12	16	516	Grand
Old Crow #13	16	517	Grand
Old Crow Fraction #13	27	104	Grand
Lonely Fraction #1	27	108	Grand
Lonely Fraction #2	27	109	Grand
Lonely Fraction #3	27	109	Grand
Lonely Fraction #4	27	110	Grand
Lonely Fraction #5	27	110	Grand
Bed Stead #1	27	106	Grand
Bed Stead #2	27	107	Grand
Bed Stead #3	27	107	Grand
Bed Stead #4	27	108	Grand
Bed Stead Fraction #1	27	104	Grand
Bed Stead Fraction #2	27	105	Grand
Bed Stead Fraction #3	27	105	Grand

Location

The claims are located in T26S, R21E, Sections 28, 33, 34 and T27S, R21E, Sections 3 and 4, Grand and San Juan Counties, Utah, extending for 8,500 feet along the northeast side of Cane Springs Canyon. (Figure 2.).

Jk
Rw
Pc
Rm
Rc
29
28
27
PROPERTY LIMITS OF CIMOTA EXPLORATION INC.
T 26 S
T 27 S
32
33
34
AXIS OF CANE CREEK ANTICLINE
Pr
4
15
3
2
14
15
U
D
N
Jk Kayenta fm
Rw Wingate fm
Rc Chinle fm
Rm Moenkopi fm
Pc Cutler fm
Pr Rico fm
FAULT
SCALE 1" = 2,000'
GRG

FIG. 2

Access

Access can be gained to those claims on the canyon floor by traveling 19 miles southeast of Moab on U.S. highway 160, then 16 miles northwest on a dirt road. The claims behind the rim of the canyon can be reached by traveling 13 miles southeast of moab on U.S. 160, then northwest 15 miles on a dirt road, and 1 mile on foot. The A.E.C. has approved a new road from Moab along the Colorado River into Cane Springs Canyon. Construction is to begin immediately after July 1, 1955.

The nearest uranium processing mill is at Monticello, Utah, 53 miles south of the claims. The U.S.V. buying station at Thompsons is 73 miles to the northwest, and the station at Moab is 35 miles from the claims.

WATER, SUPPLIES, EQUIPMENT, AND LABOR

An unlimited water supply is obtainable from Cane Creek, 1/2 mile from the claims, and the Colorado River, 5 miles from the claims. Water would have to be obtained from different sources for these claims which lie behind the canyon wall. There are several springs which reportedly contain water throughout the year. The use of this water supply would depend upon the practicality of constructing roads to them. If the cost of road construction is disproportionate to the value of the water, it would be necessary to travel 18 miles

to the head of Cane Springs Canyon for a source of water.

Supplies, mining equipment, and labor can be obtained in Moab, Utah, (35 miles) Monticello, Utah, (53 miles) and Grand Junction, Colorado, (151 miles).

At the present time there are three bunkhouses and a cookhouse adequate for ten men on the claims and the following equipment: one hundred twenty-five cubic feet Jaeger compressor, Joy slusher and bucket, Ingersoll - Rand air tugger, mine car.

GEOLOGY

Stratigraphy

The formations present on the claims range from the permian Rico to the Jurassic Kayenta.

These formations whose total thicknesses will be penetrated by drilling (Wingate and Chinle) were measured on the claims. The Wingate Ss. is 250 feet thick and the Chinle formation is 265 feet thick. One and one-half miles west of Cimota's claims in the southwest quarter of Section 1, R21E, T27S, a hole was drilled which cut the Chinle-Moenkopi contact. From the gamma-ray log of this hole the Wingate was estimated to be 300 feet thick and the Chinle 265 feet thick. Since neither formation has been exposed to erosion it can be assumed that the total thickness of the Wingate and Chinle will not exceed 565 feet in the proposed drill areas.

The Wingate formation has been eroded as deep as 200 feet in several locations on the claims in section 3. This erosion has generally made bowl-like depressions which are estimated to be 500 yards in diameter. These erosional features would provide advantageous drilling sites.

At several locations in the claim area the Wingate has been altered to an almost white color from its usual tan or pink. This is probably due to the movement of solutions in the numerous fractures.

The Chinle formation in the area is largely composed of sand units. The uppermost units have been eroded over and near the axis of the Cane Creek Anticline, leaving the middle and lower units intact. The sand units (excluding the Moeseback member) vary in thickness from 10 - 75 feet. Gray alteration is conspicuous and locally it extends from the bottom to the top of the Chinle.

The Moeseback member of the Chinle varies from ten to fifty feet in thickness. It is composed of gray, well-sorted, medium-grained sands, chert and lime pebble conglomerate, and thin lenses of gray muds. Within the member, the lithologic units thicken and thin abruptly forming lenticular masses.

The Cutler formation is estimated to be 500 feet thick and is composed of sands, silts, arkoses, and thin mud seams. At

least one arkosic unit contains uranium mineralization and is found at depths no greater than 150 feet under the floor of the canyon. Alteration is obvious near ore deposits where the arkose has been altered to gray from its usual red.

Structure

The Cane Creek Anticline trends N45°W for a distance of approximately 12 miles from where it is first visible in Section 24, R21E, T27S. The anticline then trends westerly for approximately 17 miles until it disappears between Hell Roaring Canyon and the Green River. The activity of the anticline in the area for which this report was written shows several stages of uplift. It is believed that uplift took place during post-Moenkopi, pre-Chinle time. This is shown by the thinning of the formation and the truncation of the upper beds of the Moenkopi. During Chinle time the anticline was stable but post-Chinle, pre-Wingate time shows a repetition upthrust of the anticline as evidenced by the thinning and truncating of the upper Chinle beds. The Kayenta and Navajo formations are so badly eroded that no evidence could be gathered as to further periods of uplift.

Faults are numerous in the claimed area as can be seen on figure 2. The trend of the majority of them is parallel with the axis of the anticline with a conjugate system of minor faults. In one normal fault, from which Cinots has done most of their mining, the vertical displacement of the

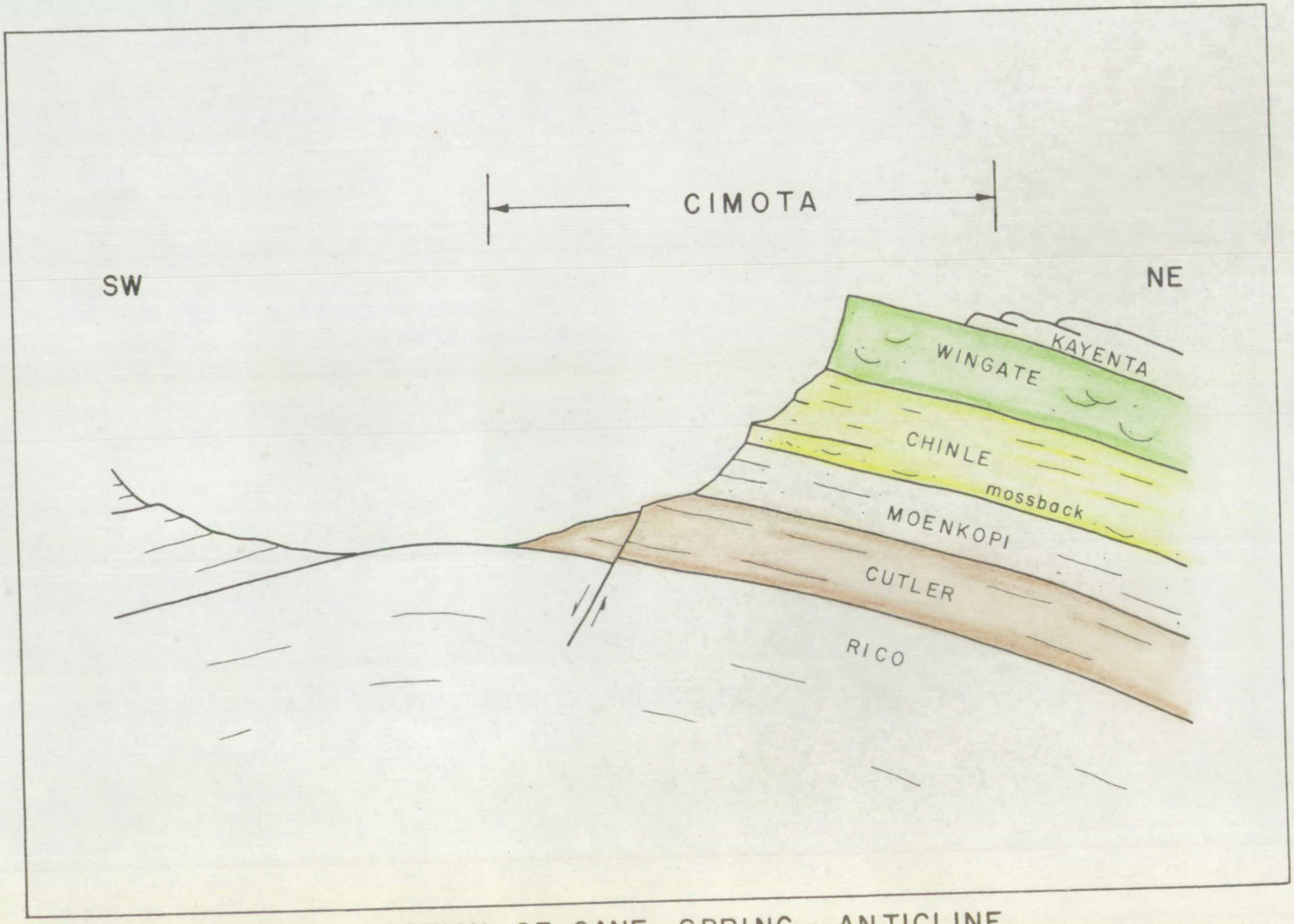


FIG. 3

CROSS SECTION OF CANE SPRING ANTICLINE

Cutler formation is approximately 100 feet. Others approach this amount. The major fault in the area can be traced for a distance of approximately 2,000 feet and then disappears under the alluvium covering the valley floor. A fault in which Climax Uranium Corporation is mining in Section 32, T26S, R21E is in line with this fault suggesting it to be the same. (Figure 2.).

Numerous small faults of several feet displacement are visible and sometimes contain small amounts of uranium ore but they cannot be traced for any distance due to either discontinuity of the fault or the heavy talus cover.

One channel, which trends S70E is visible within the mine on the Red O claim. Evidence of channeling can also be seen outside the mine entrance and in adjacent areas by the scouring in the Moenkopi. It was impossible to plane table the TRm/TRc contact due to the lack of setup stations and the cover of talus over wide areas.

ORE DEPOSITS IN THE CANE SPRINGS CANYON

Moenkopi Deposits

Climax Uranium and Dove Creek Uranium each have uranium deposits in the Moenkopi formation adjacent to Cimota's property. Climax has an adit approximately 60 feet into the rim. Dove Creek Uranium has commercial ore showing but has done no tunneling. Cimota has commercial ore exposed in the

Mossback and began a mining operation in this unit.

Cutler Deposits

The mines which have shipped ore to date are in the Cutler formation. Dove Creek Uranium, according to reports, has shipped over 750 tons. The ore occurs in a fault paralleling the Cane Creek Anticline. Capitol Uranium has shipped approximately 150 tons from the Cutler formation. This deposit is located at the junction of two faults. Cimota has shipped 263 tons with an average of .13 % U_3O_8 from a fault. This company has concentrated its mining and exploration in the Cutler almost entirely on the Moonshine No. 2 claim.

CIMOTA - ORE IN MOSSBACK

On the basis of ore exposed on the rim, in the Mossback, on the Red C claim, the corporation began a mining operation and to date has an incline and two drifts totalling 200 linear feet. An examination of this mine revealed several places in which an ore count could be obtained. (Babble Counter). These ore spots, however, are on the roof so that it is impossible to give an estimate of reserves. When the mine was begun, it was anticipated, because of the exposure of ore on the rim, that if an ore body were present it would be at the same level as the exposed ore and therefore an

operation of the stoping type was proposed. Since the exposed ore is within a few feet of the Chinle - Moenkopi contact this type of operation necessitated that the mine be mostly in the Moenkopi formation. The TRe/TRm contact in places in the mine is roof high.

The writers of this report feel that this operation did not adequately explore the ore possibilities in the Mossback and that mining should have begun at the level of the exposed ore and continued until sufficient evidence concerning the size of the ore body could be accumulated.

EXPLORATION PROPOSALS

Exploration will be divided into, and planned as, two separate programs because there are two ore formations present, (Cutler and Chinle) and because the canyon wall presents an obstacle to access from one side of the claim group to the other. (See figure 3.).

EXPLORATION OF MOSSBACK

The Mossback in the area contains at least three locations at which commercial ore was observed (see figure 2.) demonstrating that uranium-bearing solutions did pass through this unit locally. To date the only serious exploration work done in Game Springs Canyon, in the Mossback, has been that of Climax Uranium (drilling and drifting) and Cimote Exploration, Inc. (drifting). The results of the drilling

by Climax are not available while the drifting done by Cimota and Climax shows that the Mossback can contain ore behind the rim, although no estimate can be made of target size. It is not known, at present, if interformational channels, intraformational secours, or faults exercise a structural control on the Mossback ore deposits in this area. The extremely steep slope from the bottom of the canyon to the Wingate ss. makes it impossible to drill an adequate pattern of drill holes without drilling through the Wingate.

It is proposed, therefore, that access roads and drill sites be constructed on the erosional surface of the Wingate, behind the canyon wall, so that a sufficient number of holes can be drilled to test the ore potential of the Mossback in the Cane Springs area.

Topographic lows in the Wingate could be utilized to cut down on drilling depths. It is expected that holes placed in these lows would not exceed 425 feet in depth. None of the holes drilled through full thickness of the Wingate and Chinle would exceed 565 feet. Thirty-five holes should be sufficient to explore the Mossback from the top. Total drill footage, core and plug bit, would amount to 16,625 feet. This is based on an average estimate of 475 feet per hole.

In the southeast quarter of Section 28 and the northeast

quarter of section 33, both in T26S, R21E, where the Mossback is on the canyon floor, sufficient space is available for a pattern of 15 holes averaging 100 feet deep for a total footage, core and plug bit, of 1,500 feet.

It is planned to core only the Mossback which, in effect, would be the bottom 50 feet of each hole. By this method a structure map of the TRm/TRs contact can be plotted accurately and channels followed.

Total footage for drilling in the Mossback would be 16,125 feet. Of this amount 15,625 feet would be plug bit drilling, and 2,500 feet core drilling.

Road work on top of the Wingate Ss. would consist of lengthening the present access road one mile onto Cimota's claims, and two miles of drill roads and drill sites on the claims. Blasting would be required in several places. Total time required for the road work would be 660 hours.

In the mine in the Mossback member, on the Red O claim, it is planned to drill 9 horizontal and inclined holes 100 feet each in length, to determine whether it would be practical to continue to extend the present workings.

Exploration of Cutler Formation

The Moonshine #2 claim lies along a fault which strikes N35°W and dips 45°SW. This fault has apparently influenced

the deposition of the uranium ores which are being mined at present since the ore occurs in pockets or on fractures in proximity to the fault. Another controlling factor for the emplacement of the ore is an arkosic sandstone unit which outcrops 100 feet west of the fault and dips toward it at 15°. Mining operations are taking place in two locations along the fault.

A secondary fault was found which is parallel to the main fault but which dips approximately 60°SW thereby intersecting the main fault in places and the favorable arkosic unit. Several minor faults were also noted in the area but, at present, they are not considered to be controlling factors in the deposition of uranium deposits.

Intense alteration along bedding planes on the southwest side of the main fault imply that solutions or gases ascended in the fault plane and then spread along such favorable passages as bedding planes, discoloring the host rock. It is likely that these same solutions or gases deposited uranium where it is now being mined.

The proposed drilling program in the Cutler would be 33 holes, with an average depth of 125 feet, along the west side of the main fault and 13 holes, with an average depth of 100 feet, along the east side. Twenty second phase holes averaging 100 feet deep are proposed to develop any ore trends which the first 46 holes reveal.

A total of 7,520 feet will be required for drilling the claims in the Cutler. First phase drilling will use 5,520 feet and second phase 2,000 feet. It is planned to core only the favorable arkosic unit which will require approximately 20 feet of core in each hole for a total of 1,320 cored feet, 6,200 feet plug bit.

There is already a network of roads on the claims which lie on the Cutler so that the only construction work will be the preparation of drill sites. Total time for this should not exceed 40 hours.

EXPLORATION COSTS AND PROCEDURES

It is planned to use two Mayhew rotary rigs capable of operating on air or water. One will drill through the Wingate and Chinle, and the other will drill the Cutler and Mossback on the canyon floor. A contract, contingent upon the loan, has been made at the most reasonable prices obtainable. These prices are as follows: Plug Bit, 0-300 feet @ $2.65 per foot, 300-600 feet @ $2.85 per foot; core @ $3.65 per foot. Standby time at $12.00 per hour will be charged if the supervisors of the program cause a drill rig to idle for more than 24 hours. Payment of standby time is not expected.

Costs of roadbuilding has been based on estimates made by two bulldozer contractors. It is hoped that road construction can be completed for less than the amount shown.

The full-time services of a geologist will be required to bottom and strip-log the holes, and compile information for isorad and structure contour maps.

The holes will be surveyed, as drilling progresses, so that the Chinle-Moenkopi contact can be accurately plotted.

It is expected that the project can be completed within 3 1/2 months.

DRILLING FOOTAGE BREAKDOWN

	Plug bit	Core bit	Horizontal	Total
Mossbeck	15,625	2,500	900	19,025
Cutler	6,200	1,320	000	7,520
Totals	21,825	3,820	900	26,545
			Total footage	26,545

Gordon K. Zareski
Gordon K. Zareski

George R Grandbouche
George R. Grandbouche
Geological Consultants

aog

COST ESTIMATE

DESCRIPTION	SUB-TOTAL	TOTAL
Mossback Exploration		
Road Work		
First phase access and drill sites		
580 hrs @ $12.00 per hr	$ 6,960.00	
Second phase drill sites		
80 hrs @ $12.00 per hr	960.00	
Blasting, compressor, hammer, supplies, labor, etc., ...	3,500.00	
		$11,420.00
Drilling		
First phase		
25 holes @ 475 ft. 11,875 ft.		
10 holes @ 100 ft. 1,000 ft.		
12,875 ft.		
Plug bit 11,125 ft @ average cost of $2.70 per foot	30,037.50	
Core bit 1,750 ft @ $3.65 per foot	6,387.50	
Second phase		
10 holes @ 475 ft. 4,750 ft.		
5 holes @ 100 ft. 500 ft.		
Plug bit 4,500 ft. @ average cost of $2.70 per foot	12,150.00	
Core bit 750 ft. @ $3.65 per foot	2,737.50	
Horizontal drilling in the Mossback Mine		
9 holes @ 100 ft. 900 ft.		
900 ft. @ $2.75 per foot ...	2,475.00	
		$53,787.50
Cutler Exploration		
Road Work		
Access roads and drill sites		
40 hrs @ $12.00 per hr	$ 480.00	
Blasting, compressor, hammer, supplies, labor, etc., ...	450.00	
		$ 930.00
Drilling		
First phase		
46 holes @ 120 ft. 5,520 ft.		
Plug bit 4,600 ft. @ average cost of $2.70 per foot	12,420.00	
Core bit 920 ft. @ $3.65 per foot	3,358.00	

COST ESTIMATE (CONTINUED)

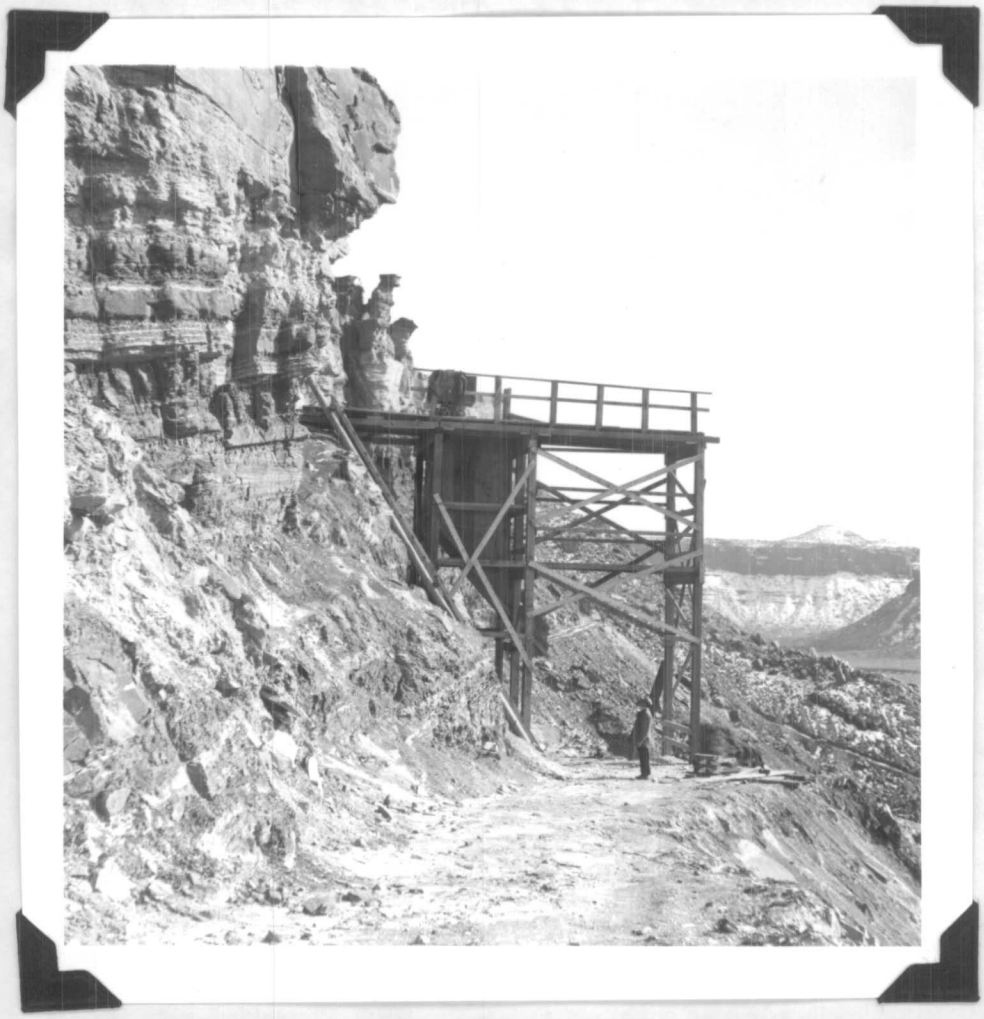
DESCRIPTION	SUB-TOTAL	TOTAL
second phase		
20 holes @ 100 ft. 2,000 ft.		
Plug bit 1,600 ft. @ average cost of $2.70 per foot	$4,320.00	
Core bit 400 ft. @ $3.65 per foot	1,460.00	
		$21.558.00
Supervision and Technical Help		
Administrative and accounting		
3½ mos @ $600.00 per month	$2,100.00	
Audit of books by CPA	200.00	
Geological and engineering		
3½ mos @ $800.00 per month	2,800.00	
Logging of drill holes (gamma-ray,graphic)		
26,545 ft. @ $.15 per foot	3,981.75	
Surveying		
12 days @ $50.00 per day	600.00	
Incidentals -		
Assaying, emergency road work (rainstorm) etc.	550.00	
		$10,231.75
TOTAL		$97,927.25

Picture showing erosional thinning of the Wingate Ss above the property of Cimota Exploration Inc.

Adit to Cimota's mine in the Mossback on Red O claim.

Looking northwest along the axis of the Cane Creek Anticline from Big Brown Bear number 1 claim.

Looking northwest along the axis of the Cane Creek Anticline from Big Brown Bear number 1 claim.



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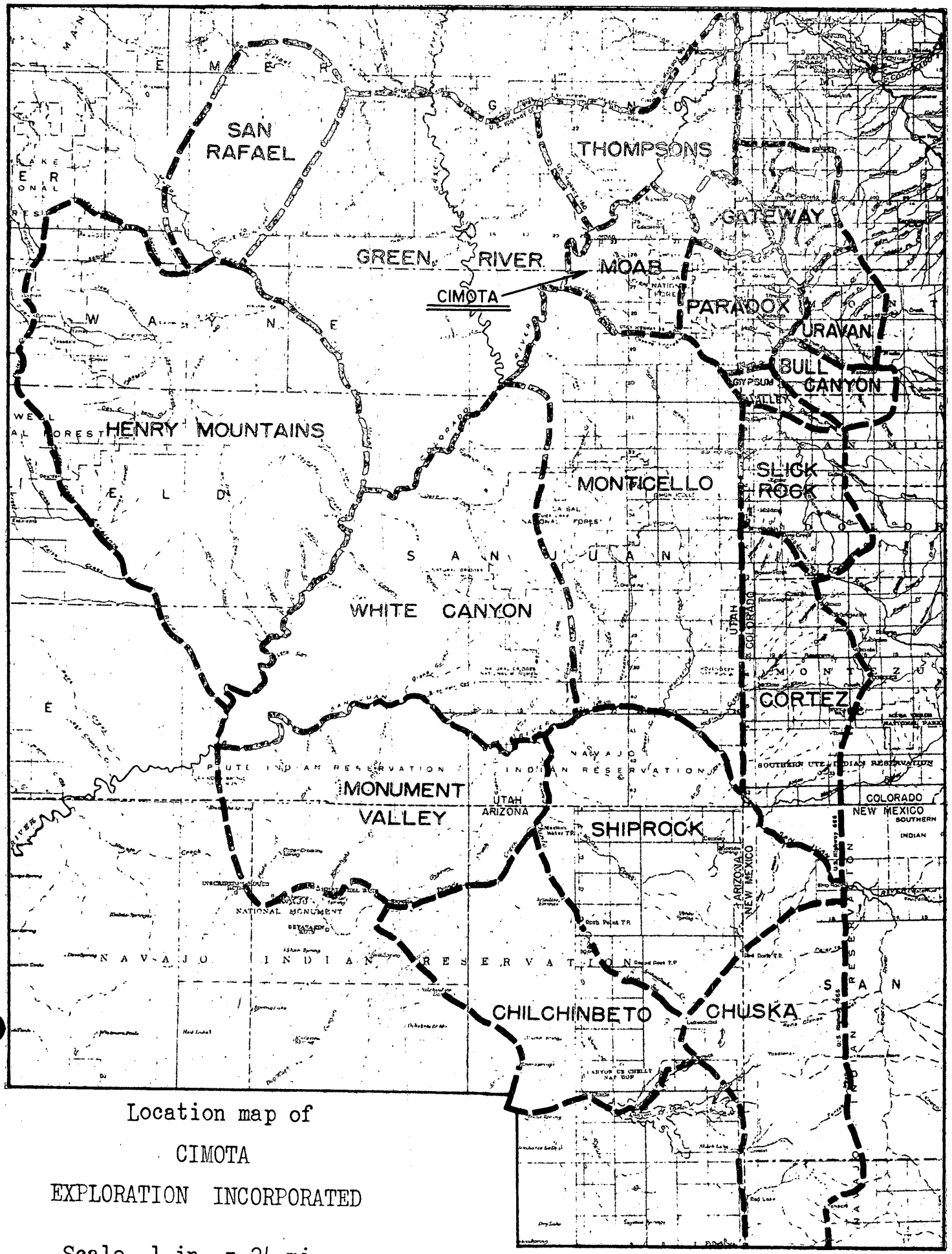


Location map of

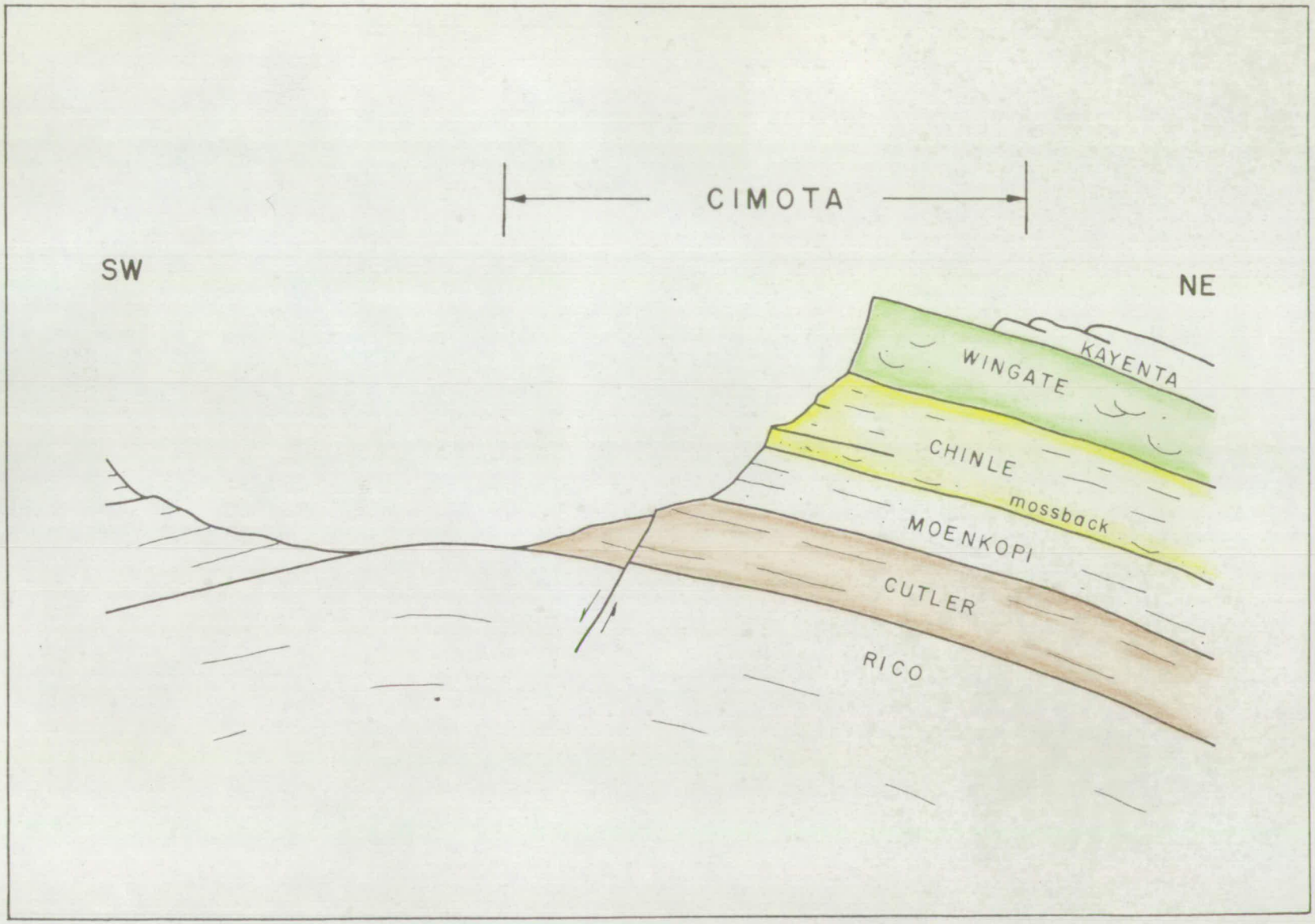
CIMOTA

EXPLORATION INCORPORATED

Scale 1 in. = 24 mi.

FIG. 1

FIG. 3



CROSS SECTION OF CANE SPRING ANTICLINE

Jk
Rw
Pc
Rw
Rm
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Rc
PROPERTY LIMITS OF CIMOTA EXPLORATION INC.
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AXIS OF CANE CREEK ANTICLINE
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D
Jk Kayenta fm
Rw Wingate fm
Rc Chinle fm
Rm Moenkopi fm
Pc Cutler fm
Pr Rico fm
FAULT
SCALE 1" = 2,000'
GRG

FIG.2

DENVER
FEB
14
7PM
1955
COLO.

$1

Defense Minerals Exploration Administration
U.S. Dept. of the Interior
Interior Bldg.
Washington 25, D.C.

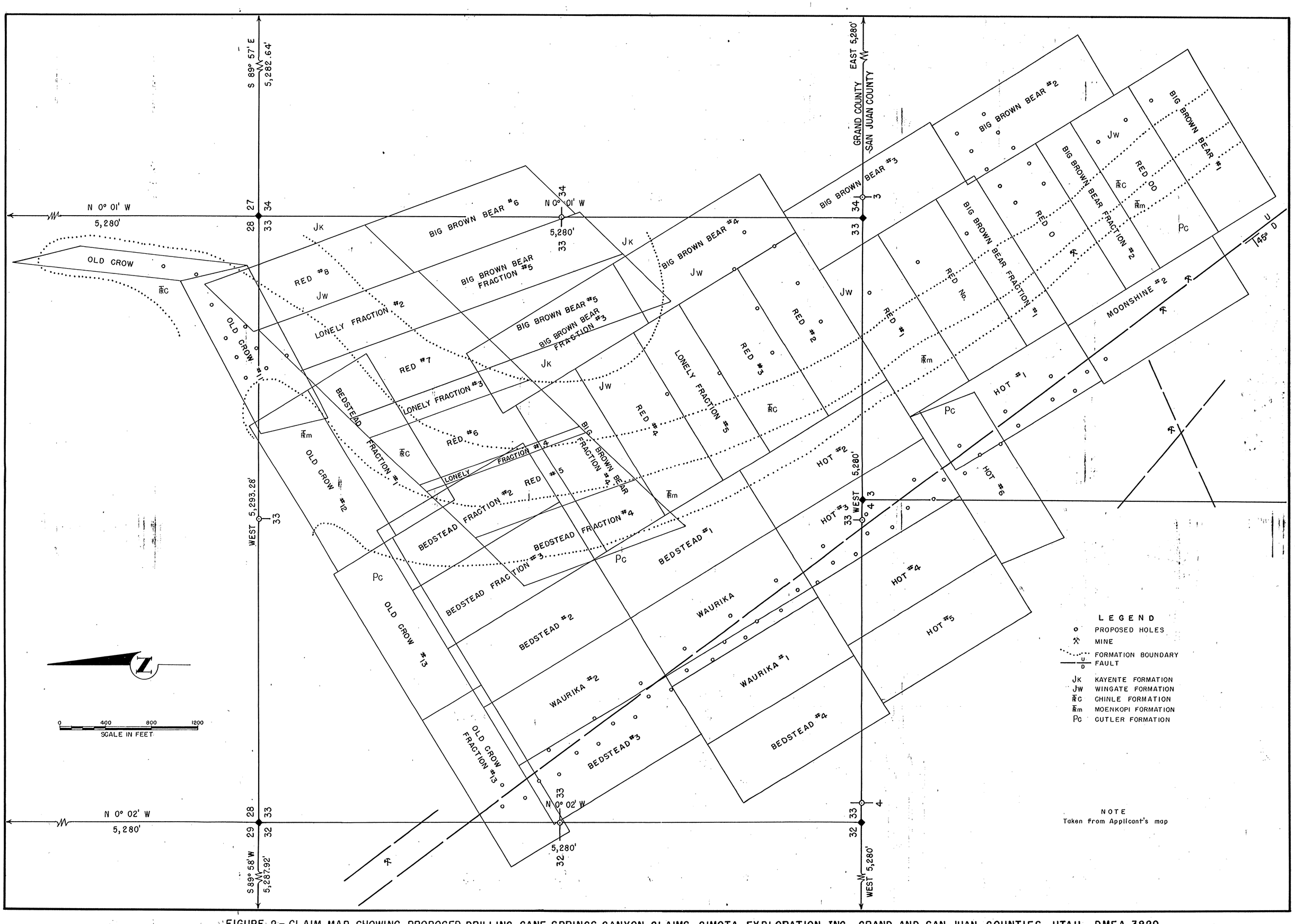

FIGURE 2.- CLAIM MAP, SHOWING PROPOSED DRILLING, CANE SPRINGS CANYON CLAIMS, CIMOTA EXPLORATION, INC., GRAND AND SAN JUAN COUNTIES, UTAH. DMEA 3829

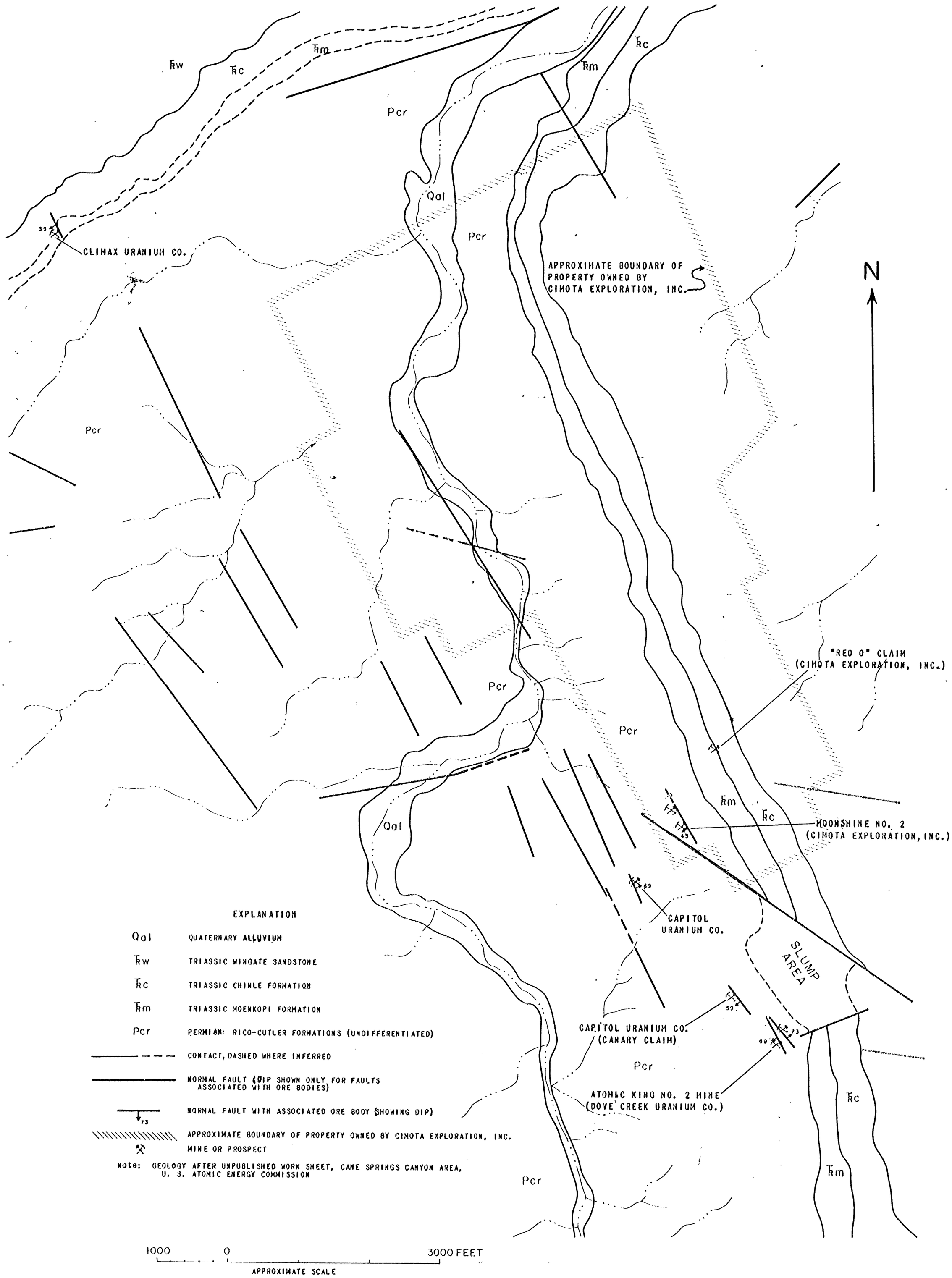

Figure 3. GEOLOGIC MAP OF CIMOTA EXPLORATION, INC. PROPERTY AND ADJACENT AREA, CANE SPRINGS CANYON AREA, GRAND AND SAN JUAN COUNTIES, UTAH