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

TRANSMITTED
OCT 13 1955

October 6, 1955

Memorandum

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

From: Stephen R. Wilson

Subject: Docket No. DMEA-3851 (Uranium), Lease Bonifield, El Rico property, Navajo County, Arizona

Enclosed are original and ten copies of an engineering report pertaining to examination of the subject property to appraise a request for Government assistance in exploration. The report was prepared by M. M. Howes. Also included are copies of a separate section, Summary, Conclusions and Recommendations, and a copy of the brochure.

The applicant has requested a loan of $36,000 to conduct a project of core and noncore drilling on 32 mining claims. DMEA personnel examined the property July 27, 1955. Representatives of the Atomic Energy Commission were consulted relative to the proposed work.

Uranium mineralization is exposed on the El Rico property in one area. Mineralization occurs in the Chinle formation approximately 250 feet above the base of the formation. Structural control of mineralization in the area is not well defined. It appears probable that the mineralization is related to secours in the Chinle, and it is believed that the secours are sporadically distributed in the area.

The examining engineer believes that little likelihood exists that deposits of commercial significance will be found by the proposed exploration. He therefore recommends that the application for Government assistance be denied. I concur in this recommendation.

Stephen R. Wilson
Stephen R. Wilson

Enclosure

cc: W. H. King
J. E. Clemmer

10-24-55

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By D. B. Magnes and M. N. Howes

An application for Government assistance in exploration on uranium property in Navajo County, Arizona has been submitted by Lease Benifield. The property, consisting of 32 mining claims, is held under purchase agreement by the applicant. The proposed exploratory program consists of 24,000 feet of core and noncore drilling estimated to cost $36,000.

Rocks exposed in the property area consist of the flat-lying beds of the Triassic Chinle formation. The Middle "C" and Lower "C" members of the formation are conspicuous. The Middle "C" member consists of variegated and banded shale with sand and conglomerate lenses and fossil wood. The Lower "C" member is approximately 100 feet thick and consists of brown to red shale interbedded with coarse sandstone lenses. Mineralization on the applicant's property is found in occurs approximately 250 feet above the base of the Chinle.

The only exposed uranium mineralization on the property is found on the Annette No. 2 claim. A shallow shaft has been sunk on this exposure. A picked sample from this area, taken by the applicant, assayed 0.198 percent U_3O_8.

Uranium production in the general area of the El Rico property has been small. The mineralized bed apparently underlies most of the applicant's property. However, the mineralized occurs appear to be sparsely distributed and it is unlikely that significant uranium ore bodies will be found by the proposed exploratory project. The examining team recommends that the request for assistance be denied.

LEASE BONIFIELD
NAVAJO COUNTY, ARIZONA
BOMA-3851
Uranium

Engineering Report

By M. K. Reeves
Mining Engineer
Bureau of Mines

10-24-55

LEASE BONIFIELD
NAVAJO COUNTY, ARIZONA

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ILLUSTRATIONS

Fig. 1 Location map, Lease Bonifield, El Rico property, Navajo County, Arizona
Fig. 2 Claim map

INTRODUCTION

An application dated May 30, 1955, was submitted by Lease Benifield for Government aid in exploring uranium claims in Navajo County, Arizona, under docket No. DMSA-3851. A program consisting of 160 core-drill holes averaging 150 feet in depth and totaling 24,000 feet of drilling, is proposed to explore for uranium in an ore-bearing horizon, which is judged to be about 250 feet above the base of the Triassic Chinle formation. The estimated cost of the proposed project is $36,000.

A field examination of the property was made July 27, 1955, by J. William Mazler and B. B. Haynes, Geological Survey, and M. H. Hewes, Bureau of Mines, to determine the feasibility of the proposed exploratory work, and to appraise the estimated costs and the engineering aspects of the job. The field examiners were accompanied to the property by the applicant, Lease Benifield, and Harvey Hunnes Yates, a business associate.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The property is located in Navajo County, Arizona, approximately 15 airline miles east of Holbrook and about 3 miles west of Petrified Forest National Monument, in Sec. 4, T. 17 N., R. 23 E. The claims may be reached by driving 12 miles northeasterly on paved U. S. Highway 260 toward St. John, then left through a pasture gate and along a dirt road in a northeasterly direction for about 8 miles toward the south side of Twin Buttes.

In general, the country for several miles east of Malbrook is flat, with gently rolling hills. At the property, bluffs rise from 100 to 200 feet above surrounding floor.

The climate is semiarid. Summers are hot and dry, and the winters are moderately cold, with snow rarely accumulating. Vegetation consists mostly of desert plants.

HISTORY AND PRODUCTION

This is a newly located property, with no past production record.

OWNERSHIP AND EXTENT

The applicant, Leamo Ronifield, Box 382, Abilene, Texas, is operating as an individual. He is acquiring the property as purchaser under contract. Terms of the purchase contract are: for 32 unpatented lode mining claims, hereinafter described, an initial payment of $6,300 is to be made upon delivery and acceptance of abstracts of title of the claims; exploratory work in such amount and such manner upon the claims as is deemed desirable by the purchaser shall be done starting within 60 days from April 29, 1955, and ending not later than October 29, 1956; during the exploration period the purchaser may select the claims he wishes to retain as his own, for which he shall pay $3,000 each, and upon such payment he will be vested with full and absolute title to each claim so retained, free and clear of any and all adverse claims, liens and encumbrances, except that said claims will be subject to a royalty to the sellers of 10 percent of ore produced. The above 32 claims, situated in Sec. 4, T. 17 N.,

R. 23 E., G. and S.R.B. and M., Navajo County, Arizona, are recorded in the office of the County Recorder of Navajo County, Arizona, as follows:

Name of Claim	Book	Page
Annette No. 1	65	172
Annette No. 2	65	173
Annette No. 3	65	174
Annette No. 4	65	175
Jock No. 1	65	176
Jock No. 2	65	177
Jock No. 3	65	178
Jock No. 4	65	179
Jock No. 5	65	180
Florence No. 1	65	181
Florence No. 2	65	182
Florence No. 3	65	183
Florence No. 4	65	184
Karen No. 1	65	185
Karen No. 2	65	186
Karen No. 3	65	187
Karen No. 4	65	188
Karen No. 5	65	189
Ray No. 1	62	502
Ray No. 2	62	503
Ray No. 3	62	504
Ray No. 4	62	505
Davis No. 1	62	497
Davis No. 2	62	498
Davis No. 3	62	499
Davis No. 4	62	500
Davis No. 5	62	501
Fay No. 1	62	467
Fay No. 2	62	468
Fay No. 3	62	469
Fay No. 4	62	470
Fay No. 5	66	330

DESCRIPTION OF THE DEPOSITS

Rocks exposed in the area of the property are flat-lying beds of shale of the Triassic Chinle formation, with interbedded sandstone and

conglomerate. The mineral-bearing bed is a shaly sandstone containing some conglomerate and carbonaceous matter, and appears to occur about 250 feet above the base of the Chinle. In several scattered spots on the claims, fossil wood occurs in a bed estimated to be approximately 50 feet higher than the mineral-bearing horizon.

The only ore outcrop found on the property is situated on Annette #2 claim. A 4- by 6-foot shaft was sunk 8 feet deep on this showing. A picked sample by the applicant from a 3-foot zone (considered to be the richest in the shaft) assayed 0.198 percent V_2O_5. At the time of field examination, rainwater had filled the shaft prohibiting inspection of the rock in place. However, a grab sample of the shaft muck pile was taken, which assayed 0.093 percent V_2O_5 and 0.07 percent V_2O_5.

MINABLE ORE RESERVES

There are no known minable ore reserves on the property.

PRESENT STATUS

The only workings on the property are claim discovery shafts. It was reported that a 4- by 6- by 8-foot shaft had been excavated on each of the 32 claims. Several of these were observed during the field examination.

PROJECT PROPOSALS

The applicant proposes to explore the property for uranium by core drilling 160 vertical holes from the surface through the underlying mineralized zone. It is estimated that the holes will average

150 feet in depth. The plan is to drill 80 holes on a closely spaced pattern, beginning near the ore outcrop of Annette No. 2 claim and working outward, in an attempt to follow the course of mineralization. It is further planned, if this particular mineralized zone cannot be extended, to core drill 80 holes on a 660-foot-spaced grid pattern to explore the entire group of claims.

ESTIMATED COSTS OF PROJECT PROPOSALS

The applicant plans to employ a core-drilling firm, on a contract basis, to complete the entire proposed program. This will include construction of access roads, core drilling, furnishing necessary labor and materials, analysis of mineralized drill cores, employment of a competent geological consultant, and submitting a complete engineering report of the results. Cost of the project is estimated as follows:

<u>Close-spaced holes</u>

80 holes, 150 feet deep (12,000 feet) at $1.50 per foot $18,000.00

<u>Wide-spaced holes</u>

80 holes, 150 feet deep (12,000 feet) at $1.50 per foot 18,000.00

Total cost of project ———————————— $36,000.00

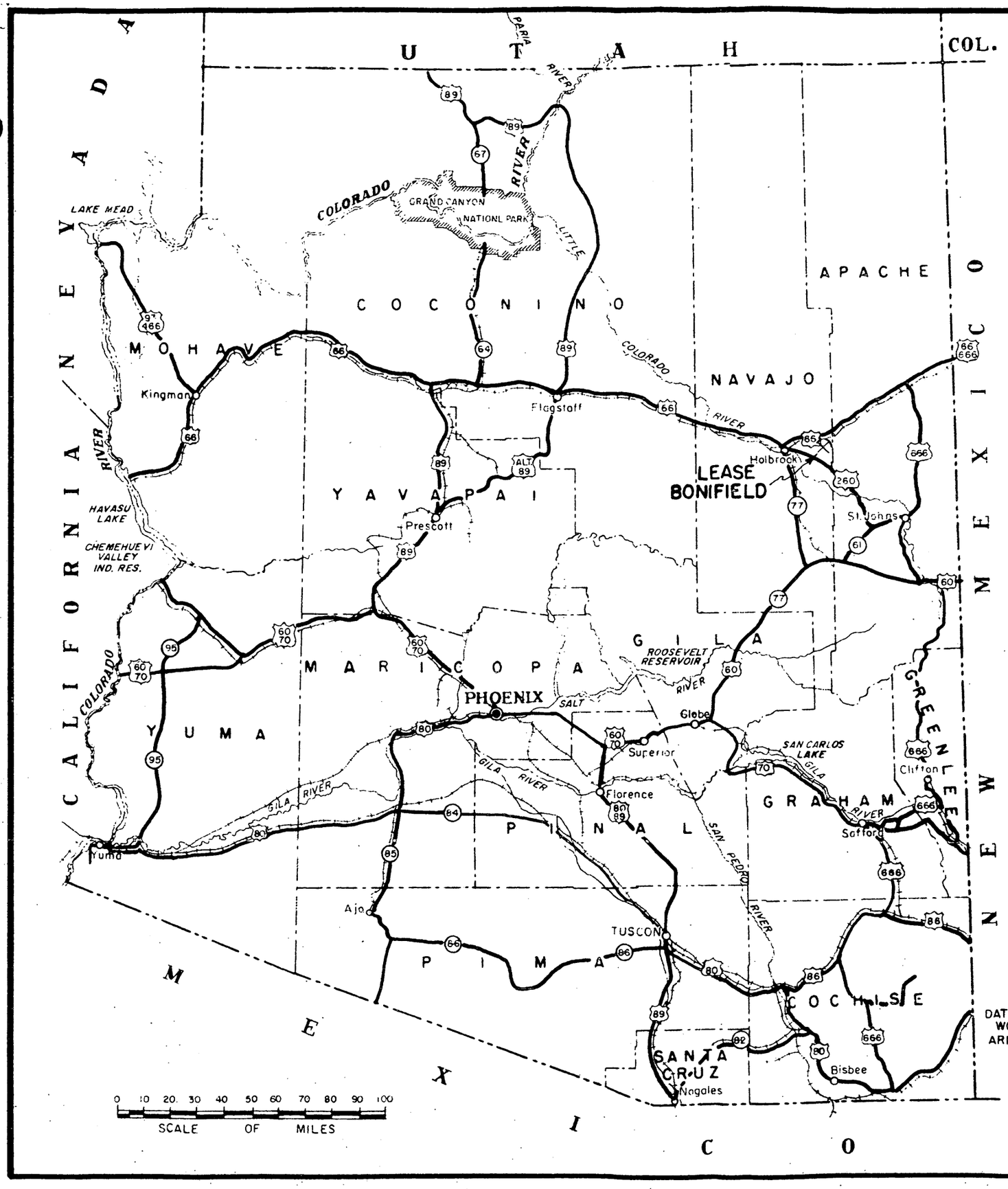
Government participation at 75 percent ———— $27,000.00

PROPOSED FINANCING

The applicant reports he is prepared to furnish, in money, $9,000, his share of the cost of the proposed project, in accordance with the regulations on Government participation (Sec. 7, DMEA Order-1 Amended).

CONCLUSIONS AND RECOMMENDATIONS

Only one small spot of uranium mineralization is known to be exposed on the property. A picked sample of ore from this area assayed 0.196 percent U_3O_8. Structural ore controls appear to be indistinct, and although the favorable mineral horizon apparently underlies most of the property, the possibility of discovery of sizeable ore bodies is believed to be unlikely. It is therefore recommended that the application for Government aid be denied.



NOTE

DATA TRACED FROM HAMMOND'S LIBRARY WORLD ATLAS. ROADS PLOTTED FROM ARIZONA TOURING MAP OF STANDARD OIL COMPANY OF CALIFORNIA, 1950.

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 1 DMEA Docket No. 3851
Location Map
STATE OF ARIZONA
LEASE BONIFIELD
(EL RICO PROPERTY)
NAVAJO COUNTY

ENGINEER: *M. H. HOWES*	DATE: AUG. 24, 1955
DRAWN: AUG., 1955; A.P.T.S.	**1900 - 344 - F**
CHECKED:	

IN REPLY REFER TO:

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

RECEIVED
OCT 1 3 1955

October 6, 1955

Date Rec'd

TRANSMITTED

OCT 1 3 195

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3851 (Uranium), Lease Bonifield, El Rico property, Navajo County, Arizona.

Enclosed are 10 copies of a geologic report by D. D. Haynes, U. S. Geological Survey, recommending denial of the subject application for exploration assistance.

I concur with the recommendation.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

MINERAL DEPOSITS
DMEA
RECEIVED
OCT 6 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

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

September 29, 1955

Memorandum

To: E. N. Harshman, DMEA Field Team, Region III

From: J. William Hasler

Subject: DMEA 3851 (Uranium) Lease Bonifield, El Rico property, Navajo County, Arizona

Enclosed are 12 copies of a geologic report and accompanying maps by Donald D. Haynes, U. S. Geological Survey, on the subject property.

The geologic report was ready to be transmitted when Haynes received word concerning the change in procedure for writing joint geologic and engineering reports; consequently, this report has not been submitted until the present.

I apparently failed to carry through in sending a copy of the geologic report to the Salt Lake City office for their inclusion in the joint report. I am, therefore, enclosing the required number of copies for a denial report on the subject property and this report may be included as a joint report upon receipt of the engineering report from Salt Lake City, or it can be transmitted as a separate report, whichever way you deem it advisable.

I am sending a copy of this report to Steve Wilson, should he wish to include the material in a joint report.

Enclosed is applicant's brochure.

J. William Hasler
J. William Hasler
Geologist

JWH/mlr
Enclosures

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

August 26, 1955

Memorandum

To: E. N. Harshman, DMEA Field Team, Region III

From: D. D. Haynes for J. William Hasler

Subject: DMEA 3851, Lease Bonifield, El Rico property, Navajo County, Arizona

Enclosed are 12 copies of a geologic report and accompanying maps by Donald D. Haynes, U. S. Geological Survey, on the subject property.

The applicant applied for DMEA assistance on May 30, 1955, and a field examination was made on July 27, 1955. The property lies on the west edge of the Petrified National Forest and the rocks exposed in the area are composed of the Middle "C" and Lower "C" members of the Triassic Chinle formation. The main ore zone on the claims lies about 50 feet above the base of the Middle "C" member, which is about 200 feet thick in this area but only about 50 to 75 feet of the lower part remains on some of the claims. The ore zone is composed of unconsolidated sandstone and conglomerate with abundant mudstone. Within this zone the ore occurs in scours that are filled with sediments similar to those surrounding the scour, thus making it very difficult to determine the boundaries of the scours. The largest deposit in the vicinity of the subject claims is about one and one-quarter miles to the east on the Ruth No. 1 claim. This deposit has produced 946 tons of 0.20 percent U_3O_8.

(2880)

At the time of the examination the El Rico Prospect pit was filled with water and was not accessible to the examining team; however, the ore zone was exposed some 30 feet from the Prospect Pit and there was no appreciable increase above background count at this outcrop. Uranium mineralization in the ore zone appeared to be very sparse. It was concluded that the type of the scour in which the El Rico Prospect is located would be very difficult to explore by diamond drilling due to the similarity between the scour material itself and the adjacent sediments. Because of the fact a projected channel trend in the area would lie north of the subject claims and that the mineralized material in the area is very sparsely distributed, it is concluded the chances of finding significant amounts of commercial grade ore are not good. It is, therefore, recommended that Government assistance be denied.

The atomic Energy Commission has been consulted with regards to an appraisal of the property.

Enclosed is the applicant's brochure.

D. H. Hagner
For J. William Hasler,
G ologist

JWH/mlr

Enclosures

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT BY EXAMINING TEAM
REGION III

DMEA 3851, Lease Bonifield, El Rico property
Navajo County, Arizona

Uranium

Geologic Report

by

D. D. Haynes
U. S. Geological Survey

August 19, 1955

DMEA 3851

RECEIVED
OCT 1 2 1955

INTRODUCTION

Application (DMEA 3851) was made on May 30, 1955, by Lease Bonifield for Government assistance in exploring for uranium in the Chinle formation, Little Colorado mining district, Navajo County, Arizona. The applicant proposes to explore the claimed area with a maximum of 24,000 feet of core and non-core drilling at a total cost of $36,000.00. The Government's share would be 75 percent, or $27,000.00.

The property was visited on July 27, 1955, by a Region III examining team composed of J. William Hasler and D. D. Haynes of the U. S. Geological Survey, and M. H. Howes, U. S. Bureau of Mines. The examining team was accompanied by Lease Bonifield, the applicant, and Harvey Yates, a friend and business associate of the applicant.

The writer conferred with Mr. Louis Garbrecht of the U. S. Atomic Energy Commission, relative to evaluation of the property.

The subject property consists of 32 claims, Annette Nos. 1 to 4, Jock Nos. 1 to 5, Florence Nos. 1 to 4, Karen Nos. 1 to 5, Ray Nos. 1 to 4, Davis Nos. 1 to 5, and Fay Nos. 1 to 5, located in sec. 4, T. 17 N., R. 23 E., Little Colorado mining district, Navajo County, Arizona. The subject claims are accessible from Holbrook, Arizona, by traveling 12 miles southeast on U. S. Highway 260, then east 8 miles on a dirt road to the property (fig. 1).

The area near the property is readily accessible in dry weather, but is very muddy in wet weather. The nearest buying station would be at Bluewater, New Mexico, a distance of about 165 miles.

At the time of the examination the prospect pit, known as the El Rico prospect or "mine", was flooded by water and was inaccessible.

A grab sample was taken from the dump by the Bureau of Mines engineer. No chemical assay return has been received by this office to date.

GEOLOGY

The subject claims lie in an area of nearly flat-lying strata. The only rocks exposed are those of the Middle "C" and Lower "C" members of the Triassic Chinle formation. The Middle "C" member consists of variegated and banded shales with sand and conglomerate lenses and abundant fossil wood. The main ore zone on the subject claims lies about 50 feet above the base of the Middle "C" member. The Middle "C" member is about 200 feet thick in this area, but only about 50 to 75 feet of the lower part remains on some of the claims. The Lower "C" member is about 100 feet thick and consists of brown to red shales interbedded with a few coarse sandstone lenses. The Chinle "D" member underlies the Lower "C" member and is about 100 feet thick and consists of brown to red shales interbedded with coarse sandstone lenses. The overlying Chinle "B" and Upper "C" members have been eroded away and the Middle "C" member is the capping rock for the numerous buttes of the area.

There are no known faults on the subject claims and only minor jointing was observed.

ORE DEPOSITS

The ore zone consists of unconsolidated sandstone and conglomerate with abundant mudstone. Within this zone the ore occurs in scours that are filled with sediments similar to those surrounding the scour, making it very difficult to pick the boundaries of the scours. These scours range from 100 to 200 feet in width and from 300 to 1,000 feet in length and are usually less than 10 feet deep.[1/] A bleached zone surrounds the

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1/ U. S. A.E.C. RME - 51

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depressions and may cover a quarter of a square mile. Different shades of yellow occur from the concentration of abundant limonite. The ore bodies usually contain abundant carbonaceous material including carbonized fossil wood.

The largest deposit in the immediate vicinity of the subject claims is about one and one quarter miles to the east on the Ruth No. 1 claim. This deposit has produced 946 tons of 0.20 percent U_3O_8. This deposit seems to be localized in the same stratigraphic zone as the El Rico prospect on the Annette No. 2 claim. The sandstone containing the deposit on the Ruth No. 1 claim is coarser grained and contains less mudstone than the sandstone containing the El Rico prospect.

At the time of the examination, the El Rico prospect was filled with water and was not accessible to the examining team. It was, therefore, necessary to examine nearby outcrops (fig. 2, circle No. 1) which were similar lithologically to those at the El Rico prospect.

Taken for granted that the channels in the ore zone had the same direction of flow as the overlying conglomeratic lenses, the main direction of flow appeared to be about N. 65° W., with minor channels trending N. 65° E. This being true, when a channel is projected N. 65° W. from the El Rico prospect, Fig. 2, most of the subject claims lie to the south of the projected channel. No definite channel boundaries were observed at the El Rico prospect due to lack of definite lithologic change from those sediments filling the scour to those surrounding the scour. The ore zone was observed from the outcrop about 30 feet northwest of the El Rico prospect (fig. 2, circle 2) and no channel boundaries were discovered.

There was no appreciable increase in count above background at the outcrop. The ore zone was not exposed in the field at the location marked by circle 3 on figure 2.

APPLICANT'S PROPOSED PLAN OF EXPLORATION

The applicant proposed to explore the 32 subject claims with 160 core and non-core holes totaling 24,000 feet. The applicant proposed a two-stage program. Stage I consisted of drilling on 50-foot centers in the area around the mineralized outcrop on the Annette No. 2 claim and following any mineralized channel that might be discovered. If the mineralized channel became lost, stage II would be used. Stage II consisted of drilling the claimed area on a 660-foot spacing. The holes would average about 150 feet in depth.

CONCLUSIONS AND RECOMMENDATIONS

The El Rico prospect is located in an area where production has been relatively insignificant to date. The type of channel scour in which the El Rico prospect is located would be very difficult to explore by diamond drilling, due to the similarity between the scour material itself and the adjacent sediments.

The channel trend appears to be about N. 65° W., and,this being true, almost all the subject claims would lie south of the projected channel trend.

Also the ore zone outcrops through the area and as no other mineralized channels are known, this would indicate that the mineralized scours in the area are very sparsely distributed.

Due to the above reasons and also to the fact there are no large producing mines in the area, it is recommended that Government assistance be denied.

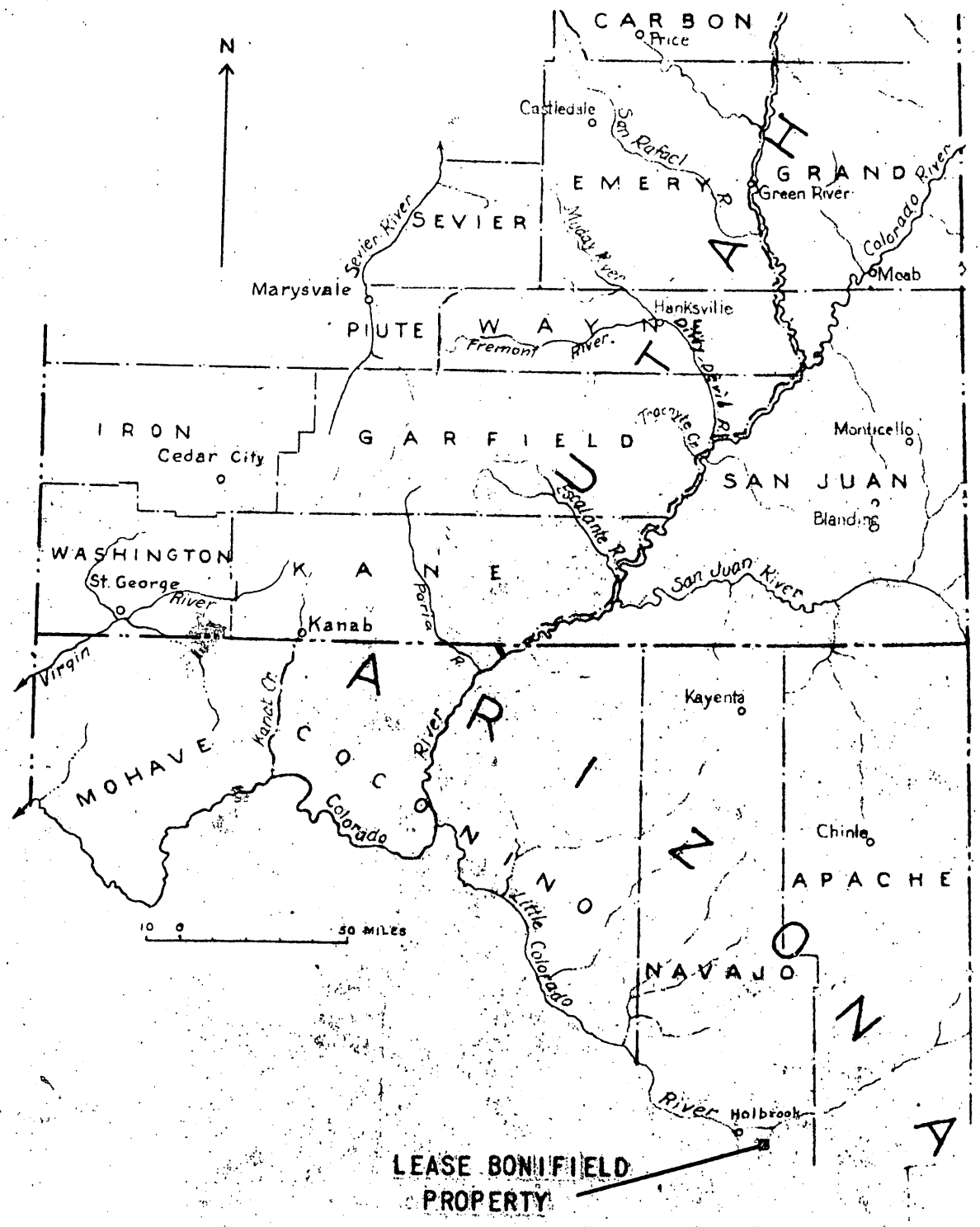
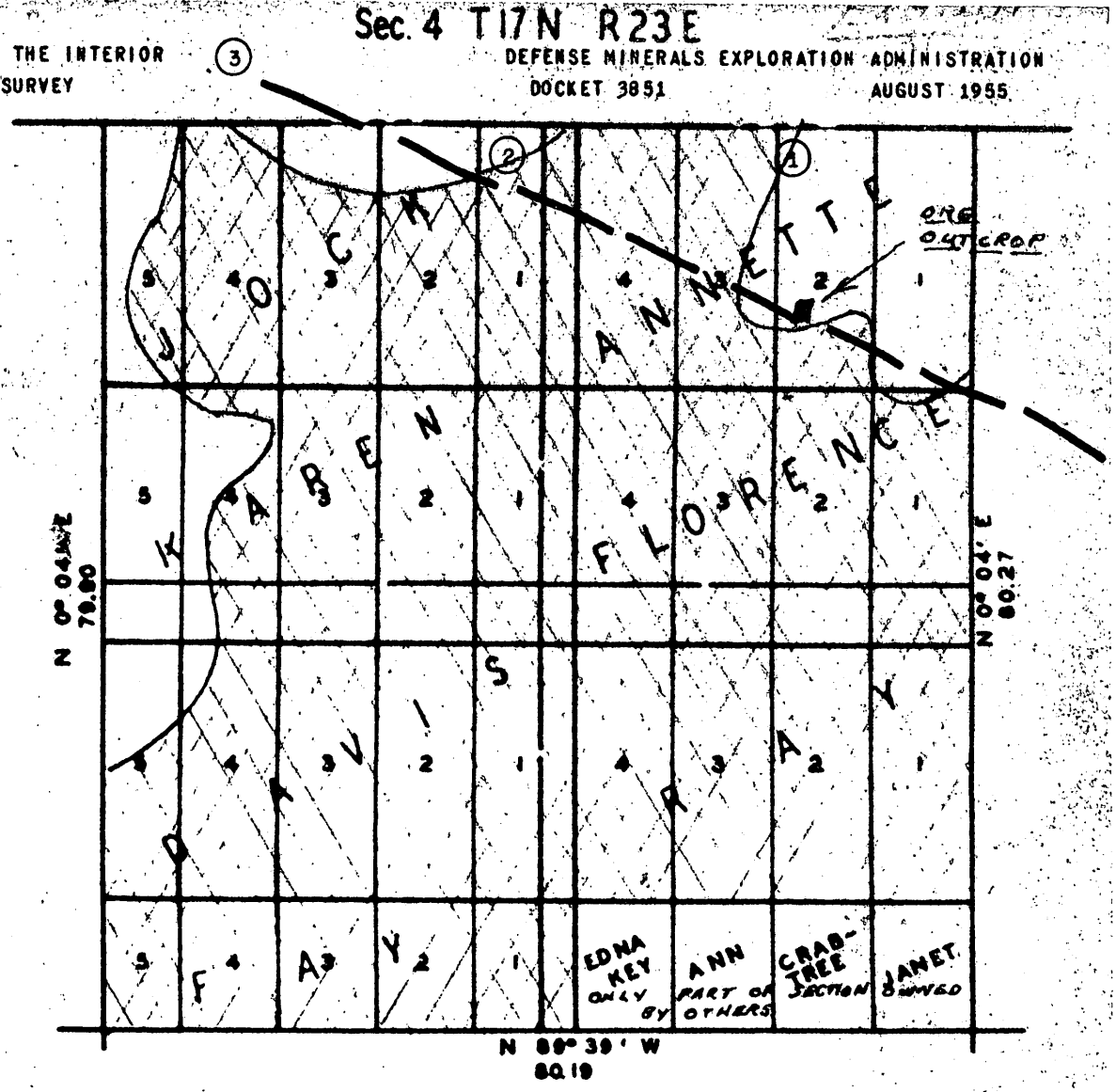


Figure 1. INDEX MAP OF PARTS OF ARIZONA AND UTAH SHOWING LOCATION OF LEASE BONIFIELD PROPERTY, NAVAJO COUNTY, ARIZONA

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3851
AUGUST 1955



EXPLANATION

POSSIBLE TREND OF CHANNEL CONTAINING EL RICO PROSPECT

AREA UNDERLAIN BY ORE ZONE

(2) POINTS OF OBSERVATION AT OUTCROP IN FIELD

Note: CLAIM BOUNDARIES AND LAND LINES FROM APPLICANTS MAP

Figure 2. MAP SHOWING APPLICANTS CLAIMS AND POSSIBLE PROJECTED CHANNEL, LEASE BONIFIELD, NAVAJO COUNTY, ARIZONA

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

Surna
Mu
Ellis
Guh
Kilog
Selff

Mr. Lease Bonifield
Box 382
Abilene, Texas

NOV -4 1955

Re: Docket No. DMEA-3851 (Uranium)
El Rico Property
Navajo County, Arizona

Dear Mr. Bonifield:

Reference is made to your application for Government aid in an exploration project on the above-named property.

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 a small amount 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 that, under these circumstances, your application for exploration assistance is denied.

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

Sincerely yours,

Frank E. Johnson

ACTING Administrator

FMMurphy/izm
11/3/55
cc to: Adm. Reading File
Operating Committee
Docket
Code 700
Mr. Murphy

DMEA Field Team, Region IV
Messrs. JECrawford, Rm. 3641
THKiilsgaard, Rm. 5224
JOHosted, Rm. 3210, GSA

R.G.

MF-

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 11-3-55

REFERRED TO:

1. ~~Operating Com., Rm. 4459~~
2. Mr. Mittendorf, Rm. 4459
3. Mails & Files, Rm. 4450
4.

FOR:

	Action		Recommendation
	Approval		Record of
	Comment		Referring to
	Conference		Reply for signature of
	Consideration		Rewriting
X	Filing		Signature
	Instructions		Suggestions
	Investigation	X	Your information
	Initials		
	Mailing		
	Previous correspondence		

REMARKS:

Check (X) before the items needing attention.

E. W. Ellis
Initials of sender.

izm

GPO 16—63815-1

Docket Copy

November 3, 1955

Summary of Proposed Project

Object:	Denial of application for exploration aid.
Docket No.:	DMEA-3851
Commodity:	Uranium
Applicant:	Lease Bonifield Box 382 Abilene, Texas
Property:	Owner, 32 claims located in sec. 4, T. 17 N., R. 23 E., Navajo County, Arizona.
Date of Application:	May 30, 1955
Field Team Report Received:	October 19, 1955
Amount of Application:	$36,000.00
Work Proposed and Costs:	Stage I

80 close spaced holes, 150 ft. deep, 12,000 feet @ $1.50/ft.	$18,000.00
Stage II	
80 holes spaced on 660 ft. grid, to average depth of 150 feet, 12,000 feet @ $1.50/ft.	18,000.00

Excerpts from Field Team Report:

The property lies on the west edge of the Petrified National Forest and the rocks exposed in the area are composed of the Middle "C" and Lower "C" members of the Triassic Chinle formation. The main ore zone on the claims lies about 50 feet above the base of the Middle "C" member, which is about 200 feet thick in this area but

only about 50 to 75 feet of the lower part remains on some of the claims. The ore zone is composed of unconsolidated sandstone and conglomerate with abundant mudstone. Within this zone the ore occurs in scours that are filled with sediments similar to those surrounding the scour, thus making it difficult to determine the boundaries of the scours. The largest deposit in the vicinity of the subject claims is about 1¾ miles to the east on Ruth No. 1 claim. This deposit has produced 946 tons of 0.20 percent U_3O_8.

The only exposed uranium mineralization on the property is found on the Annette No. 2 claim. A picked sample, taken by the applicant from a shallow shaft sunk on this exposure, assayed 0.198 percent U_3O_8. At the time of the DMEA field inspection, rainwater had filled this shaft. However, a grab sample of the shaft muckpile was taken, which assayed 0.093 percent U_3O_8 and 0.07 percent V_2O_5.

The field examiners recommended the subject application be denied for the following reasons:

(1) The type of channel scour in which the El Rico prospect is located would be very difficult to explore by diamond drilling, due to the similarity between the scour material itself and the adjacent sediments.

(2) The channel trend appears to be N. 65° W., and, this being true, almost all the subject claims would lie south of the projected channel trend.

(3) There was no appreciable increase above the ~~beck~~ back-ground count in the radiometric readings at places where the ore zone was exposed in outcrops.

The Field Team concurred in the recommendation to deny the application.

Commodity Members' Recommendations - USBM, J. E. Crawford, October 25, 1955
Concurs in denial.

- USGS, T. H. Kiilsgaard, October 31, 1955
Concurs in denial for same reasons as field examiners.

Rare & Miscellaneous Metals Division - F. M. Murphy, November 3, 1955

This Division concurs in the field examiner's recommendation to deny the subject application.

Ernest Wm. Ellis

Ernest Wm. Ellis, Chief
Rare and Miscellaneous
Metals Division

11/2/55 gla

IN REPLY REFER TO:

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

RECEIVED
NOV - 1 1955

October 31, 1955

Memorandum

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

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

Subject: Review of Field Team report, DMEA Docket 3851, Lease Bonifield property, Navajo County, Arizona.

The Lease Bonifield property covers parts of the Chinle formation, known as the Middle "C" and Lower "C" members. The ore zone on the claims occurs as sporadic scours about 50 feet above the base of the Middle "C" member. A good part of the ore-bearing part of the Middle "C" member crops out on the claims but few of the outcrops show uranium mineralization.

Based on the scanty outcrop evidence, the sporadic distribution of the scours, the unfeasibility of diamond drilling such scattered scours, and the difficulty of projecting any lineation of scours--in the form of old channels--, the field examiners recommend denial of the application and I concur.

Thor H. Kiilsgaard

Thor H. Kiilsgaard

IN REPLY REFER TO:

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

RECEIVED
NOV - 1 1955

October 31, 1955

Memorandum

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

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

Subject: Review of Field Team report, DMEA Docket 3851, Lease Remifield property, Navajo County, Arizona.

The Lease Remifield property covers parts of the Chinle formation, known as the Middle "C" and Lower "C" members. The ore zone on the claims occurs as sporadic seams about 50 feet above the base of the Middle "C" member. A good part of the ore-bearing part of the Middle "C" member crops out on the claims but few of the outcrops show uranium mineralization.

Based on the scanty outcrop evidence, the sporadic distribution of the seams, the unfeasibility of diamond drilling such scattered seams, and the difficulty of projecting any linearity of seams--in the form of old channels--, the field examiners recommend denial of the application and I concur.

Thor H. Kiilsgaard

THKiilsgaard:iml
G-10/31/55

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
NOV - 1 1955

October 31, 1955

Memorandum

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

From: Thor N. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team report, DMEA Docket 3851, Lease Ronifield property, Navajo County, Arizona.

The Lease Ronifield property covers parts of the Chinle formation, known as the Middle "C" and Lower "C" members. The ore zone on the claims occurs as sporadic seams about 50 feet above the base of the Middle "C" member. A good part of the ore-bearing part of the Middle "C" member crops out on the claims but few of the outcrops show uranium mineralization.

Based on the scanty outcrop evidence, the sporadic distribution of the seams, the unfeasibility of diamond drilling such scattered seams, and the difficulty of projecting any limestone of seams--in the form of old channels--, the field examiners recommend denial of the application and I concur.

Thor N. Kiilsgaard

TNKiilsgaard:iml
G-10/31/55

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
NOV - 1 1955

October 31, 1955

Memorandum

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

From: Thor N. Killingsord, U. S. Geological Survey

Subject: Review of Field Team report, DMEA Docket 3951, Lessee Bonifield property, Navajo County, Arizona.

The Lessee Bonifield property covers parts of the Chinle formation, known as the Middle "C" and Lower "C" members. The ore zone on the claims occurs as sporadic zones about 50 feet above the base of the Middle "C" member. A good part of the ore-bearing part of the Middle "C" member crops out on the claims but few of the outcrops show uranium mineralization.

Based on the county outcrop evidence, the sporadic distribution of the zones, the unfeasibility of diamond drilling such scattered zones, and the difficulty of projecting any location of zones--in the form of old channels--, the field examiners recommend denial of the application and I concur.

Thor N. Killingsord

TNKillingsord:iml
G-10/31/55

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

10/27/55 gla

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

RECEIVED
OCT 26 1955

October 25, 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 3851, Lease Bonifield, El Rico Property, Navajo County, Arizona

I have reviewed the report of examination dated October 13 of Lease Bonifield, DMEA Docket 3851; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission. I received the report October 24, 1955.

The applicant requested DMEA assistance to explore for uranium on the El Rico Property, Navajo County, Arizona. The program would consist of 24,000 feet of core and non-core drilling on the 32 mining claims at a total estimated cost of $36,000.

A field examination of the property was made on July 27, 1955, by the DMEA Field Team. The examining team concluded that the application for Government participation be denied because the possibility of discovery of sizable ore bodies on the property is believed to be unlikely. Structural ore controls appeared to be indistinct, and only one small spot of uranium mineralization is known to be exposed on the property.

We concur in the recommendation of the field team that the application for DMEA purposes be denied.

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

John E. Crawford
John E. Crawford

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

RECEIVED
OCT 26 1955

October 25, 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 3851, Lease Benifield, El Rico Property, Navajo County, Arizona

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John E. Crawford

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

RECEIVED
OCT 26 1955

October 25, 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 3851, Lease Bonifield, El Rico Property, Navajo County, Arizona

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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
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

October 13, 1955

224 New Customhouse
Denver 2, Colorado

Mr. L. Cohen
502 National Bank and Commerce Building
Tulsa, Oklahoma

Re: Docket DMEA 3851 (Uranium), Lease Bonifield, El Rico Property, Navajo County, Arizona

Dear Mr. Cohen:

This is to inform you that the Examination Report of the Lease Bonifield Application was transmitted to the Secretary to the Operating Committee, Defense Minerals Exploration Administration on this date.

Very truly yours,

W. M. Traver

By J. W. Townsend
J. W. Townsend

JC:ab
cc: Sec. Op. Comm. (2)
Docket DMEA 3851
Chron.

10/28/55 gfe

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

October 13, 1955

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, DMEA Docket 3851 (Uranium), Lease Bonifield, El Rico Property, Navajo County, Arizona

Enclosed are the original and three copies of the report pertaining to the above application which consists of the following:

a. Joint Summary, Conclusions and Recommendations by D. D. Haynes, U. S. Geological Survey, and M. H. Howes, U. S. Bureau of Mines

b. Engineering Report by M. H. Howes

c. Geologic Report by D. D. Haynes

d. Memoranda of transmittal and comment by E. N. Harshman, J. William Hasler, and Stephen R. Wilson

The examining team believes that there is little chance for the discovery of significant reserves of uranium by means of the proposed exploration, and they therefore recommend that the application be denied.

We concur with this recommendation.

W. M. Traver

By J. W. Townsend

E. N. Harshman

Reviewed by
DMEA OPERATING COMMITTEE
10-24-55
(Date)

Enclosures

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

TRANSMITTED

OCT 13 1955

RECEIVED
OCT 13 1955

October 6, 1955

Memorandum

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

From: Stephen R. Wilson

Subject: Docket No. DMEA-3851 (Uranium), Lease Bonifield, El Rico property, Navajo County, Arizona

Enclosed are original and ten copies of an engineering report pertaining to examination of the subject property to appraise a request for Government assistance in exploration. The report was prepared by M. H. Howes. Also included are copies of a separate section, Summary, Conclusions and Recommendations, and a copy of the brochure.

The applicant has requested a loan of $36,000 to conduct a project of core and noncore drilling on 32 mining claims. DMEA personnel examined the property July 27, 1955. Representatives of the Atomic Energy Commission were consulted relative to the proposed work.

Uranium mineralization is exposed on the El Rico property in one area. Mineralization occurs in the Chinle formation approximately 250 feet above the base of the formation. Structural control of mineralization in the area is not well defined. It appears probable that the mineralization is related to secours in the Chinle, and it is believed that the secours are sporadically distributed in the area.

The examining engineer believes that little likelihood exists that deposits of commercial significance will be found by the proposed exploration. He therefore recommends that the application for Government assistance be denied. I concur in this recommendation.

Stephen R. Wilson
Stephen R. Wilson

Enclosure

cc: W. H. King
J. B. Clemmer

Returned by
DMEA DENVER SUPPORT
10-24-55
(2230)

Reviewed by
DMEA OPERATING COMMITTEE
10-24-55
(date)

RECEIVED
OCT 1 1955

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By D. D. Haynes and M. H. Howes

An application for Government assistance in exploration on uranium property in Navajo County, Arizona has been submitted by Lease Bonifield. The property, consisting of 32 mining claims, is held under purchase agreement by the applicant. The proposed exploratory program consists of 24,000 feet of core and noncore drilling estimated to cost $36,000.

Rocks exposed in the property area consist of the flat-lying beds of the Triassic Chinle formation. The Middle "C" and Lower "C" members of the formation are conspicuous. The Middle "C" member consists of variegated and banded shale with sand and conglomerate lenses and fossil wood. The Lower "C" member is approximately 100 feet thick and consists of brown to red shale interbedded with coarse sandstone lenses. Mineralization on the applicant's property is found in scours approximately 250 feet above the base of the Chinle.

The only exposed uranium mineralization on the property is found on the Annette No. 2 claim. A shallow shaft has been sunk on this exposure. A picked sample from this area, taken by the applicant, assayed 0.198 percent U_3O_8.

Uranium production in the general area of the El Rico property has been small. The mineralized bed apparently underlies most of the applicant's property. However, the mineralized scours appear to be sparsely distributed and it is unlikely that significant uranium ore bodies will be found by the proposed exploratory project. The examining team recommends that the request for assistance be denied.

RECEIVED
OPTA MINES

LEASE BONIFIELD
NAVAJO COUNTY, ARIZONA
DMEA-3851
Uranium

Engineering Report

By M. H. Howes
Mining Engineer
Bureau of Mines

RECEIVED BY
DMEA OFFICE
10-24-55
(6230)

LEASE BONIFIELD
NAVAJO COUNTY, ARIZONA

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ILLUSTRATIONS

Fig. 1 Location map, Lease Bonifield, El Rico property, Navajo County, Arizona
Fig. 2 Claim map

INTRODUCTION

An application dated May 30, 1955, was submitted by Lease Bonifield for Government aid in exploring uranium claims in Navajo County, Arizona, under docket No. DMEA-3851. A program consisting of 160 core-drill holes averaging 150 feet in depth and totaling 24,000 feet of drilling, is proposed to explore for uranium in an ore-bearing horizon, which is judged to be about 250 feet above the base of the Triassic Chinle formation. The estimated cost of the proposed project is $36,000.

A field examination of the property was made July 27, 1955, by J. William Hasler and D. D. Haynes, Geological Survey, and M. H. Howes, Bureau of Mines, to determine the feasibility of the proposed exploratory work, and to appraise the estimated costs and the engineering aspects of the job. The field examiners were accompanied to the property by the applicant, Lease Bonifield, and Harvey Emmons Yates, a business associate.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The property is located in Navajo County, Arizona, approximately 15 airline miles east of Holbrook and about 3 miles west of Petrified Forest National Monument, in Sec. 4, T. 17 N., R. 23 E. The claims may be reached by driving 12 miles southeasterly on paved U. S. Highway 260 toward St. John, then left through a pasture gate and along a dirt road in a northeasterly direction for about 8 miles toward the south side of Twin Buttes.

In general, the country for several miles east of Holbrook is flat, with gently rolling hills. At the property, bluffs rise from 100 to 200 feet above surrounding floor.

The climate is semiarid. Summers are hot and dry, and the winters are moderately cold, with snow rarely accumulating. Vegetation consists mostly of desert plants.

HISTORY AND PRODUCTION

This is a newly located property, with no past production record.

OWNERSHIP AND EXTENT

The applicant, Lease Bonifield, Box 382, Abilene, Texas, is operating as an individual. He is acquiring the property as purchaser under contract. Terms of the purchase contract are: for 32 unpatented lode mining claims, hereinafter described, an initial payment of $6,500 is to be made upon delivery and acceptance of abstracts of title of the claims; exploratory work in such amount and such manner upon the claims as is deemed desirable by the purchaser shall be done starting within 60 days from April 29, 1955, and ending not later than October 29, 1956; during the exploration period the purchaser may select the claims he wishes to retain as his own, for which he shall pay $3,000 each, and upon such payment he will be vested with full and absolute title to each claim so retained, free and clear of any and all adverse claims, liens and encumbrances, except that said claims will be subject to a royalty to the sellers of 10 percent of ore produced. The above 32 claims, situated in Sec. 4, T. 17 N.,

R. 23 E., G. and S.R.B. and M., Navajo County, Arizona, are recorded in the office of the County Recorder of Navajo County, Arizona, as follows:

Name of Claim	Book	Page
Annette No. 1	65	172
Annette No. 2	65	173
Annette No. 3	65	174
Annette No. 4	65	175
Jock No. 1	65	176
Jock No. 2	65	177
Jock No. 3	65	178
Jock No. 4	65	179
Jock No. 5	65	180
Florence No. 1	65	181
Florence No. 2	65	182
Florence No. 3	65	183
Florence No. 4	65	184
Karen No. 1	65	185
Karen No. 2	65	186
Karen No. 3	65	187
Karen No. 4	65	188
Karen No. 5	65	189
Ray No. 1	62	502
Ray No. 2	62	503
Ray No. 3	62	504
Ray No. 4	62	505
Davis No. 1	62	497
Davis No. 2	62	498
Davis No. 3	62	499
Davis No. 4	62	500
Davis No. 5	62	501
Fay No. 1	62	467
Fay No. 2	62	468
Fay No. 3	62	469
Fay No. 4	62	470
Fay No. 5	66	330

DESCRIPTION OF THE DEPOSITS

Rocks exposed in the area of the property are flat-lying beds of shale of the Triassic Chinle formation, with interbedded sandstone and

conglomerate. The mineral-bearing bed is a shaly sandstone containing some conglomerate and carbonaceous matter, and appears to occur about 250 feet above the base of the Chinle. In several scattered spots on the claims, fossil wood occurs in a bed estimated to be approximately 50 feet higher than the mineral-bearing horizon.

The only ore outcrop found on the property is situated on Annette #2 claim. A 4- by 6-foot shaft was sunk 8 feet deep on this showing. A picked sample by the applicant from a 3-foot zone (considered to be the richest in the shaft) assayed 0.198 percent U_3O_8. At the time of field examination, rainwater had filled the shaft prohibiting inspection of the rock in place. However, a grab sample of the shaft muck pile was taken, which assayed 0.093 percent U_3O_8 and 0.07 percent V_2O_5.

MINABLE ORE RESERVES

There are no known minable ore reserves on the property.

PRESENT STATUS

The only workings on the property are claim discovery shafts. It was reported that a 4- by 6- by 8-foot shaft had been excavated on each of the 32 claims. Several of these were observed during the field examination.

PROJECT PROPOSALS

The applicant proposes to explore the property for uranium by core drilling 160 vertical holes from the surface through the underlying mineralized zone. It is estimated that the holes will average

150 feet in depth. The plan is to drill 80 holes on a closely spaced pattern, beginning near the ore outcrop of Annette No. 2 claim and working outward, in an attempt to follow the course of mineralization. It is further planned, if this particular mineralized zone cannot be extended, to core drill 80 holes on a 660-foot-spaced grid pattern to explore the entire group of claims.

ESTIMATED COSTS OF PROJECT PROPOSALS

The applicant plans to employ a core-drilling firm, on a contract basis, to complete the entire proposed program. This will include construction of access roads, core drilling, furnishing necessary labor and materials, analysis of mineralized drill cores, employment of a competent geological consultant, and submitting a complete engineering report of the results. Cost of the project is estimated as follows:

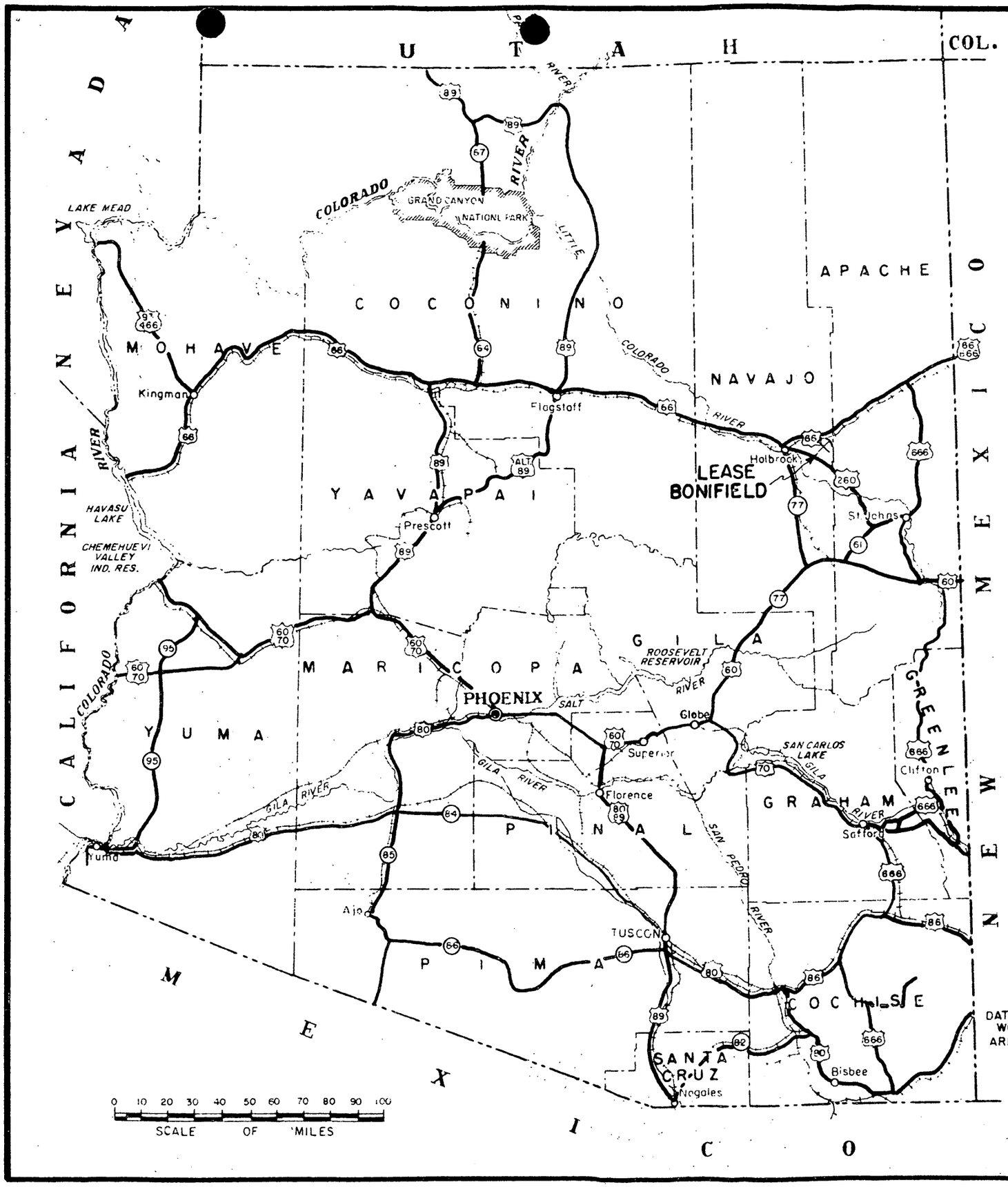
Close-spaced holes	
80 holes, 150 feet deep (12,000 feet) at $1.50 per foot	$18,000.00
Wide-spaced holes	
80 holes, 150 feet deep (12,000 feet) at $1.50 per foot	18,000.00
Total cost of project	$36,000.00
Government participation at 75 percent	$27,000.00

PROPOSED FINANCING

The applicant reports he is prepared to furnish, in money, $9,000, his share of the cost of the proposed project, in accordance with the regulations on Government participation (Sec. 7, DMEA Order-1 Amended).

CONCLUSIONS AND RECOMMENDATIONS

Only one small spot of uranium mineralization is known to be exposed on the property. A picked sample of ore from this area assayed 0.198 percent U_3O_8. Structural ore controls appear to be indistinct, and although the favorable mineral horizon apparently underlies most of the property, the possibility of discovery of sizeable ore bodies is believed to be unlikely. It is therefore recommended that the application for Government aid be denied.



NOTE

DATA TRACED FROM HAMMOND'S LIBRARY WORLD ATLAS. ROADS PLOTTED FROM ARIZONA TOURING MAP OF STANDARD OIL COMPANY OF CALIFORNIA, 1950.

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 1 DMEA Docket No. 3851
Location Map
STATE OF ARIZONA
LEASE BONIFIELD
(EL RICO PROPERTY)
NAVAJO COUNTY

ENGINEER *M. H. HOWES*	DATE: AUG. 24, 1955
DRAWN: AUG., 1955, A.P.T.S.	**1900 - 344 - F**
CHECKED:	

IN REPLY REFER TO:

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

RECEIVED
OCT 13 1955

October 6, 1955

DMEA
Date Rec'd
TRANSMITTED
OCT 13 1955
BUREAU OF MINES
Denver, Colorado

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3851 (Uranium), Lease Bonifield, El Rico property, Navajo County, Arizona.

Enclosed are 10 copies of a geologic report by D. D. Haynes, U. S. Geological Survey, recommending denial of the subject application for exploration assistance.

I concur with the recommendation.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

Reviewed by
DMEA OPERATING COMMITTEE
10-24-55
(Date)

MINERAL DEPOSITS
DMEA
RECEIVED
OCT 6 1955
U. S.
GEOLOGICAL SURVEY
DENVER, COLORADO

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

September 29, 1955

RECEIVED
OCT 1955

Memorandum

To: E. N. Marshman, DMEA Field Team, Region III

From: J. William Hasler

Subject: DMEA 3851 (Uranium) Lease Bonifield, El Rico property, Navajo County, Arizona

Enclosed are 12 copies of a geologic report and accompanying maps by Donald D. Haynes, U. S. Geological Survey, on the subject property.

The geologic report was ready to be transmitted when Haynes received word concerning the change in procedure for writing joint geologic and engineering reports; consequently, this report has not been submitted until the present.

I apparently failed to carry through in sending a copy of the geologic report to the Salt Lake City office for their inclusion in the joint report. I am, therefore, enclosing the required number of copies for a denial report on the subject property and this report may be included as a joint report upon receipt of the engineering report from Salt Lake City, or it can be transmitted as a separate report, whichever way you deem it advisable.

I am sending a copy of this report to Steve Wilson, should he wish to include the material in a joint report.

Enclosed is applicant's brochure.

J. William Hasler
J. William Hasler
Geologist

JWH/mlr
Enclosures

10-24-55

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

August 26, 1955

Memorandum

To: E. N. Harshman, DMEA Field Team, Region III

From: D. D. Haynes for J. William Hasler

Subject: DMEA 3851, Lease Bonifield, El Rico property, Navajo County, Arizona

Enclosed are 12 copies of a geologic report and accompanying maps by Donald D. Haynes, U. S. Geological Survey, on the subject property.

The applicant applied for DMEA assistance on May 30, 1955, and a field examination was made on July 27, 1955. The property lies on the west edge of the Petrified National Forest and the rocks exposed in the area are composed of the Middle "C" and Lower "C" members of the Triassic Chinle formation. The main ore zone on the claims lies about 50 feet above the base of the Middle "C" member, which is about 200 feet thick in this area but only about 50 to 75 feet of the lower part remains on some of the claims. The ore zone is composed of unconsolidated sandstone and conglomerate with abundant mudstone. Within this zone the ore occurs in scours that are filled with sediments similar to those surrounding the scour, thus making it very difficult to determine the boundaries of the scours. The largest deposit in the vicinity of the subject claims is about one and one-quarter miles to the east on the Ruth No. 1 claim. This deposit has produced 946 tons of 0.20 percent U_3O_8.

Reviewed by
DMEA OPERATING COMMITTEE
10-24-55
(date)

At the time of the examination the El Rico Prospect pit was filled with water and was not accessible to the examining team; however, the ore zone was exposed some 30 feet from the Prospect Pit and there was no appreciable increase above background count at this outcrop. Uranium mineralization in the ore zone appeared to be very sparse. It was concluded that the type of the scour in which the El Rico Prospect is located would be very difficult to explore by diamond drilling due to the similarity between the scour material itself and the adjacent sediments. Because of the fact a projected channel trend in the area would lie north of the subject claims and that the mineralized material in the area is very sparsely distributed, it is concluded the chances of finding significant amounts of commercial grade ore are not good. It is, therefore, recommended that Government assistance be denied.

The atomic Energy Commission has been consulted with regards to an appraisal of the property.

Enclosed is the applicant's brochure.

D. K. Hagness
For J. William Hasler,
G ologist

JWH/mlr

Enclosures

UNITED STATES DEPARTMENT OF THE INTERIOR

DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
REPORT BY EXAMINING TEAM
REGION III

DMEA 3851, Lease Bonifield, El Rico property
Navajo County, Arizona

Uranium

Geologic Report

by

D. D. Haynes
U. S. Geological Survey

August 19, 1955

Reviewed by
DMEA OPERATING COMMITTEE
10-24-55
(date)

INTRODUCTION

Application (DMEA 3851) was made on May 30, 1955, by Lease Bonifield for Government assistance in exploring for uranium in the Chinle formation, Little Colorado mining district, Navajo County, Arizona. The applicant proposes to explore the claimed area with a maximum of 24,000 feet of core and non-core drilling at a total cost of $36,000.00. The Government's share would be 75 percent, or $27,000.00.

The property was visited on July 27, 1955, by a Region III examining team composed of J. William Hasler and D. D. Haynes of the U. S. Geological Survey, and M. H. Howes, U. S. Bureau of Mines. The examining team was accompanied by Lease Bonifield, the applicant, and Harvey Yates, a friend and business associate of the applicant.

The writer conferred with Mr. Louis Garbrecht of the U. S. Atomic Energy Commission, relative to evaluation of the property.

The subject property consists of 32 claims, Annette Nos. 1 to 4, Jock Nos. 1 to 5, Florence Nos. 1 to 4, Karen Nos. 1 to 5, Ray Nos. 1 to 4, Davis Nos. 1 to 5, and Fay Nos. 1 to 5, located in sec. 4, T. 17 N., R. 23 E., Little Colorado mining district, Navajo County, Arizona. The subject claims are accessible from Holbrook, Arizona, by traveling 12 miles southeast on U. S. Highway 260, then east 8 miles on a dirt road to the property (fig. 1).

The area near the property is readily accessible in dry weather, but is very muddy in wet weather. The nearest buying station would be at Bluewater, New Mexico, a distance of about 165 miles.

At the time of the examination the prospect pit, known as the El Rico prospect or "mine", was flooded by water and was inaccessible.

A grab sample was taken from the dump by the Bureau of Mines engineer. No chemical assay return has been received by this office to date.

GEOLOGY

The subject claims lie in an area of nearly flat-lying strata. The only rocks exposed are those of the Middle "C" and Lower "C" members of the Triassic Chinle formation. The Middle "C" member consists of variegated and banded shales with sand and conglomerate lenses and abundant fossil wood. The main ore zone on the subject claims lies about 50 feet above the base of the Middle "C" member. The Middle "C" member is about 200 feet thick in this area, but only about 50 to 75 feet of the lower part remains on some of the claims. The Lower "C" member is about 100 feet thick and consists of brown to red shales interbedded with a few coarse sandstone lenses. The Chinle "D" member underlies the Lower "C" member and is about 100 feet thick and consists of brown to red shales interbedded with coarse sandstone lenses. The overlying Chinle "B" and Upper "C" members have been eroded away and the Middle "C" member is the capping rock for the numerous buttes of the area.

There are no known faults on the subject claims and only minor jointing was observed.

ORE DEPOSITS

The ore zone consists of unconsolidated sandstone and conglomerate with abundant mudstone. Within this zone the ore occurs in scours that are filled with sediments similar to those surrounding the scour, making it very difficult to pick the boundaries of the scours. These scours range from 100 to 200 feet in width and from 300 to 1,000 feet in length and are usually less than 10 feet deep.[1/] A bleached zone surrounds the

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1/ U. S. A.E.C. RME - 51

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depressions and may cover a quarter of a square mile. Different shades of yellow occur from the concentration of abundant limonite. The ore bodies usually contain abundant carbonaceous material including carbonized fossil wood.

The largest deposit in the immediate vicinity of the subject claims is about one and one quarter miles to the east on the Ruth No. 1 claim. This deposit has produced 946 tons of 0.20 percent U_3O_8. This deposit seems to be localized in the same stratigraphic zone as the El Rico prospect on the Annette No. 2 claim. The sandstone containing the deposit on the Ruth No. 1 claim is coarser grained and contains less mudstone than the sandstone containing the El Rico prospect.

At the time of the examination, the El Rico prospect was filled with water and was not accessible to the examining team. It was, therefore, necessary to examine nearby outcrops (fig. 2, circle No. 1) which were similar lithologically to those at the El Rico prospect.

Taken for granted that the channels in the ore zone had the same direction of flow as the overlying conglomeratic lenses, the main direction of flow appeared to be about N. 65° W., with minor channels trending N. 65° E. This being true, when a channel is projected N. 65° W. from the El Rico prospect, Fig. 2, most of the subject claims lie to the south of the projected channel. No definite channel boundaries were observed at the El Rico prospect due to lack of definite lithologic change from those sediments filling the scour to those surrounding the scour. The ore zone was observed from the outcrop about 30 feet northwest of the El Rico prospect (fig. 2, circle 2) and no channel boundaries were discovered.

There was no appreciable increase in count above background at the outcrop. The ore zone was not exposed in the field at the location marked by circle 3 on figure 2.

APPLICANT'S PROPOSED PLAN OF EXPLORATION

The applicant proposed to explore the 32 subject claims with 160 core and non-core holes totaling 24,000 feet. The applicant proposed a two-stage program. Stage I consisted of drilling on 50-foot centers in the area around the mineralized outcrop on the Annette No. 2 claim and following any mineralized channel that might be discovered. If the mineralized channel became lost, stage II would be used. Stage II consisted of drilling the claimed area on a 660-foot spacing. The holes would average about 150 feet in depth.

CONCLUSIONS AND RECOMMENDATIONS

The El Rico prospect is located in an area where production has been relatively insignificant to date. The type of channel scour in which the El Rico prospect is located would be very difficult to explore by diamond drilling, due to the similarity between the scour material itself and the adjacent sediments.

The channel trend appears to be about N. 65° W., and,this being true, almost all the subject claims would lie south of the projected channel trend.

Also the ore zone outcrops through the area and as no other mineralized channels are known, this would indicate that the mineralized scours in the area are very sparsely distributed.

Due to the above reasons and also to the fact there are no large producing mines in the area, it is recommended that Government assistance be denied.

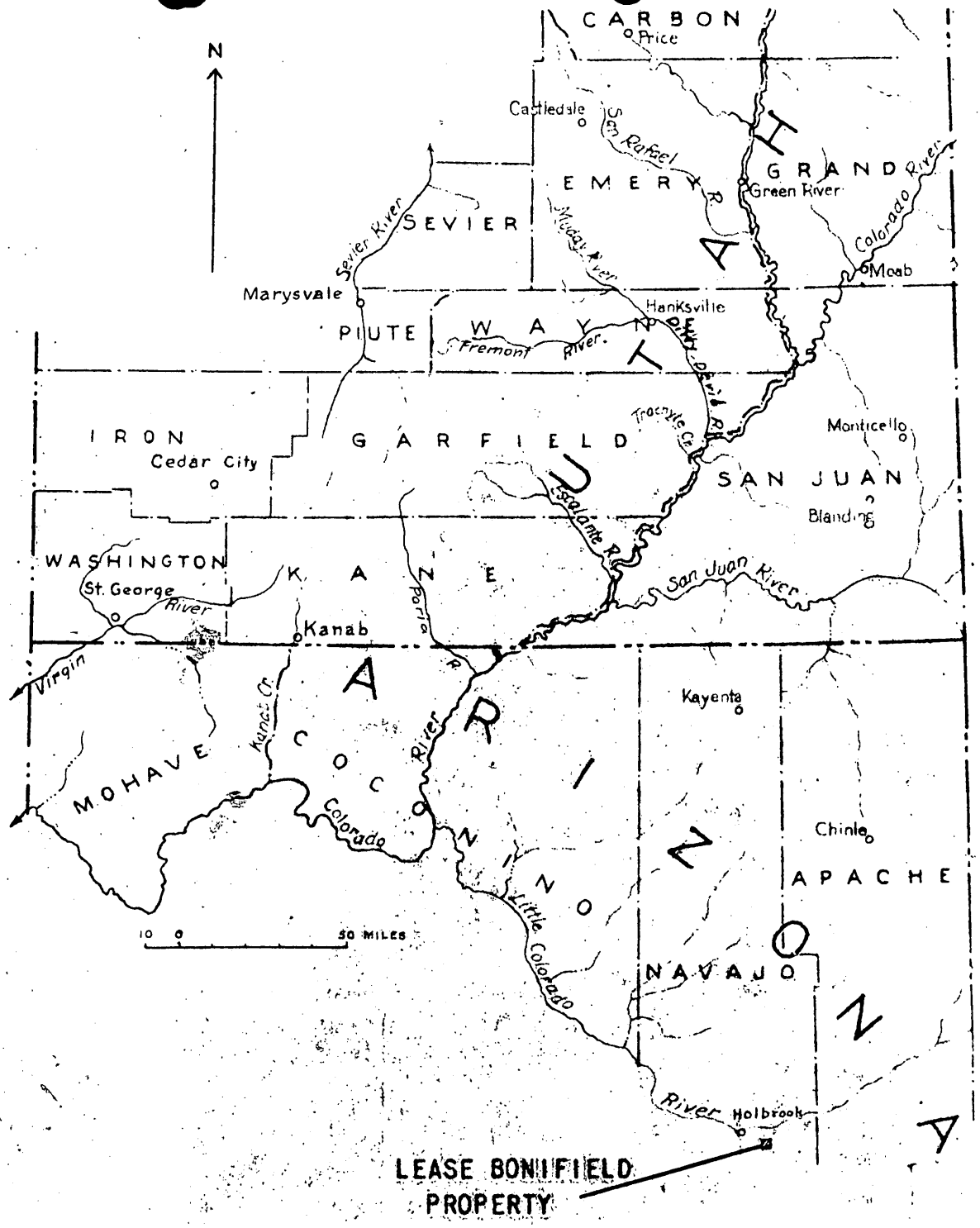

Figure 1. INDEX MAP OF PARTS OF ARIZONA AND UTAH SHOWING LOCATION OF LEASE BONIFIELD PROPERTY, NAVAJO COUNTY, ARIZONA

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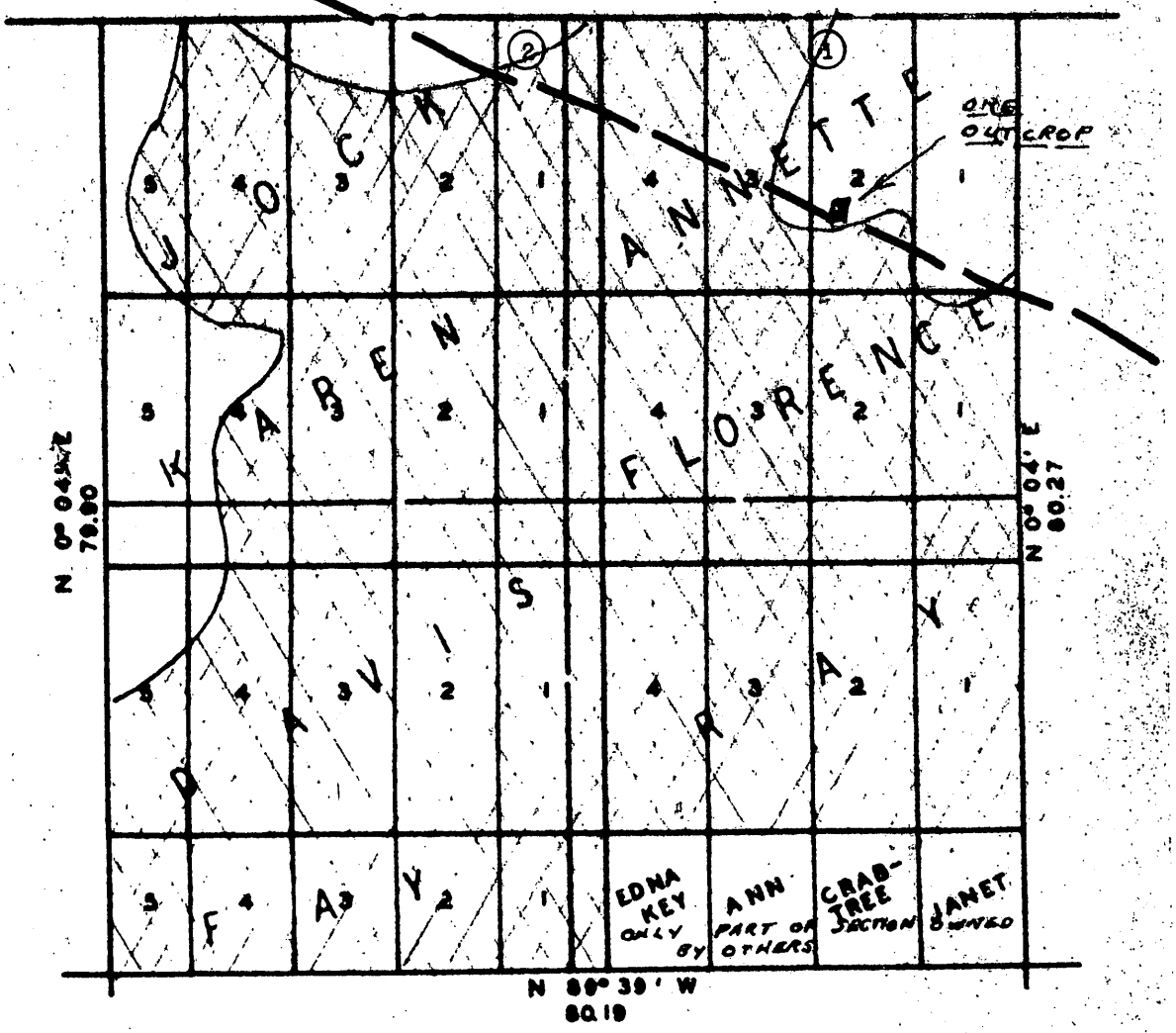
GEOLOGICAL SURVEY

Sec. 4 T17N R23E

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET 3851
AUGUST 1955



EXPLANATION

POSSIBLE TREND OF CHANNEL CONTAINING EL RICO PROSPECT

AREA UNDERLAIN BY ORE ZONE

(2) POINTS OF OBSERVATION AT OUTCROP IN FIELD

Note: CLAIM BOUNDARIES AND LAND LINES FROM APPLICANTS MAP

Figure 2. MAP SHOWING APPLICANTS CLAIMS AND POSSIBLE PROJECTED CHANNEL, LEASE BONIFIELD, NAVAJO COUNTY, ARIZONA

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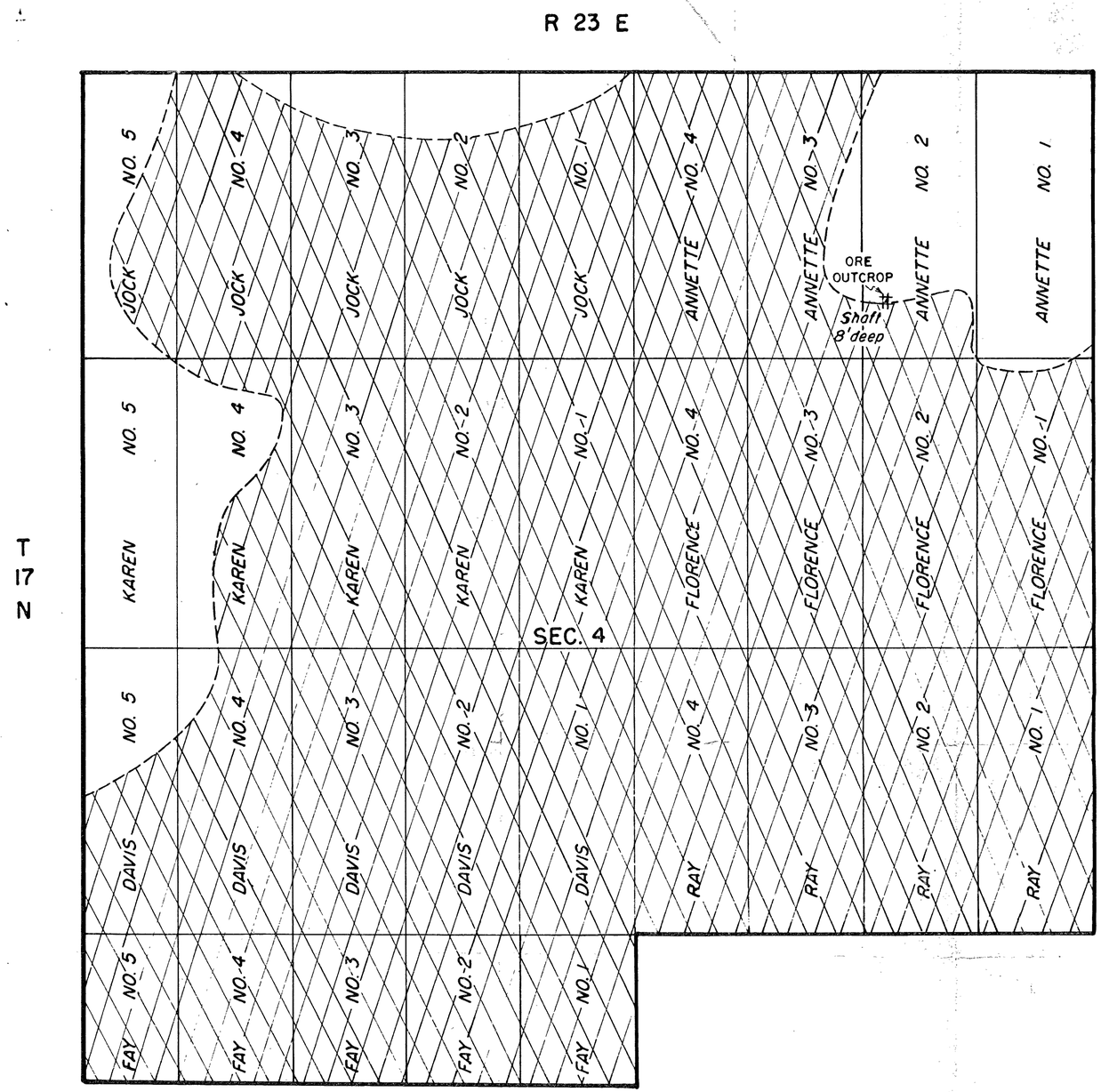

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LEGEND

SHAFT

AREA UNDERLAIN BY MINERALIZED ZONE

NOTE

DATA TAKEN FROM APPLICANT'S MAP.

0 500 1000 1500
SCALE OF FEET

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 2 DMEA Docket No. 3851

Claim Map

LEASE BONIFIELD
(EL RICO PROPERTY)

NAVAJO COUNTY, ARIZONA

ENGINEER: M. H. HOWES	DATE: AUG. 25, 1955
TRACED: AUG., 1955; BY: A. P. T. S.	1900 - 345 - D
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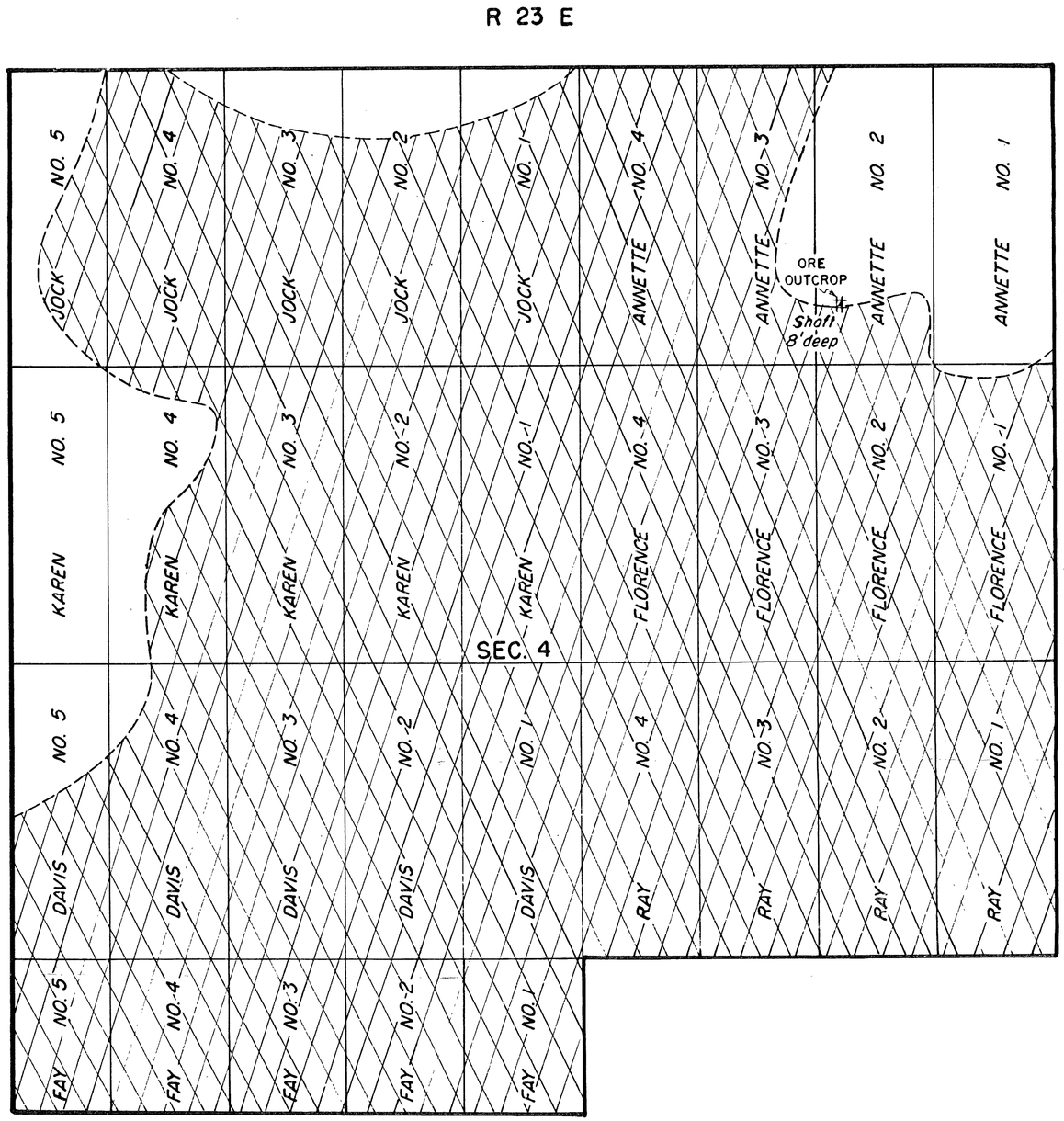

LEGEND

SHAFT

AREA UNDERLAIN BY MINERALIZED ZONE

NOTE

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Fig. 2 DMEA Docket No. 3851

Claim Map

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