9/28/55 glu

IN REPLY REFER TO:

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

RECEIVED SEP 2 6

BUREAU OF MINES
Denver, Colorado

September 26, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, DMEA Docket 3903 (Uranium)
R. M. Matson et al., La Reina, Pajaro Azul, and Pajaro Colorado claims, Rio Arriba County, New Mexico

Enclosed are the original and three copies of a joint engineering and geologic report pertaining to the above subject application.

We concur with the recommendation of the field examiners that the application for exploration assistance be denied.

Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Copy to: DMEA 3820
Harshman
King
Shaw
Hasler
Gordon AEC

Reviewed by Operating Committee 10/3/55

ENHarshman:arh

Sept. 16-'58

R.M. Matson, et al.

When F.T. report is in I will call Miss Spain in Cong. Wright Patman's office (Ext. 584).

Mrs Ault - please draw this to my attention.

E.W.R.

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 9-27

REFERRED TO:
1. 700
2. Mr. Murphy
3.
4.

Note: I called Miss Spain Sept. 29 & told her the report was in. She asked to be notified when final action was taken. Send copy of Denial Letter to Cong. Patman's office.

FOR:

	Action		Recommendation
	Approval	1st copy report	Record
	Comment		Reference
	Conference	not found	Reply for signature of
	Consideration		Rewriting
	Filing		Signature
	Instructions		Suggestions
	Investigation		Your information
	Initials		
	Mailing		
	Previous correspondence		

REMARKS: Please note that Mr. Ellis wanted this report brought to his attention per his note. gla

Check (X) before the items needing attention.

ROBERT E. ADAMS

Initials of sender.

GPO 16—63815-1

RECEIVED SEP 27 1955

IN REPLY REFER TO:

DMEA Date Rec'd SEP 26 1955 BUREAU OF MINES Denver, Colorado

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

September 23, 1955

TRANSMITTED SEP 26 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

Subject: DMEA Docket 3903 (Uranium), R. M. Matson, et al., La Reina, Pajaro Azul, and Pajaro Colorado claims, Rio Arriba County, New Mexico

Enclosed are the original and nine copies of a joint examination report by H. F. Albee, U. S. Geological Survey, and Glen Walker, U. S. Bureau of Mines.

The applicant proposed to explore 10 unpatented mining claims in Rio Arriba County, New Mexico, by 3,000 feet of none-core and 500 feet of core drilling at a total estimated cost of $13,460.00.

The property was examined on August 26, 1955, in company with the applicants' geologist.

The examiners conclude that the project does not meet the minimum requirements for DMEA assistance, and they recommend denial of the application for exploration assistance.

We concur with the recommendation.

E. N. Harshman
E. N. Harshman
Member, Field Team

John F. Shaw
John F. Shaw
Supervising Mining Engineer

Enclosures (10)

ENHarshman:arh

DMEA
Date Rec'd.
SEP 26 1955
BUREAU OF MINES
Denver, Colorado
RECEIVED
SEP 27 1955

IN REPLY REFER TO:

C O P Y

UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY
Colorado Plateau District
P. O. Box 360
Grand Junction, Colorado

September 21, 1955

TRANSMITTED
SEP 26 1955

Memorandum

To: E. N. Harshman, Supervising Geologist

From: J. William Hasler

Subject: DMEA Docket 3903, R. M. Matson, et al, La Reina, Pajaro Azul and Pajaro Colorado claims, Rio Arriba County, New Mexico

Enclosed herewith is a rough draft and maps of a Geologic and Engineering report on the above-mentioned property submitted as a result of a field examination made by H. F. Albee, Geologist, U. S. Geological Survey and Glen Walker, Engineer, U. S. Bureau of Mines. The applicant made application to the Defense Minerals Exploration Administration for assistance to explore for uranium ore on 10 unpatented claims in Rio Ariba County, New Mexico.

The rocks exposed in the area of the subject claims range from Precambrian to Upper Triassic. The sedimentary units present are the Pennsylvanian Madera limestone of the Magdalena group, the Permian Cutler formation and the Upper Triassic Chinle formation.

There are a number of mineralized occurrences on the claims but they are small and are very weakly mineralized. In only one area on the claims was there any uranium minerals exposed. These mineralized areas were as much as 3 times background count and there was no material that was of ore grade. Most of the known occurrences of anomalous radioactivity are in the Cytler Formation whereas most of the subject claims are in the Madera Formation.

The applicants property is at present only in the prospect stage and does not meet the requirements for a DMEA loan. The claims are in an area that is extremely fractured by both normal and thrust faults which may give rise to considerable geologic and drilling problems.

It is therefore recommended that the application and assistance be denied. I concur with the conclusions and recommendations of the examining team. Enclosed are the required number of Figure 2 maps, one copy of Figure 1 index map, as well as the applicants application.

/s/ J. William Hasler

J. William Hasler

JWH/vll
Enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

RECEIVED
SEP 27 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA Docket 3903

R. M. Matson et al

La Reina, Pajaro Azul, and Pajaro Colorado Claims

Rio Arriba County, New Mexico

Uranium

Joint Engineering and Geologic Report

by

H. F. Albee
U. S. Geological Survey

Glen Walker
U. S. Bureau of Mines

September 23, 1955

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2. Geologic Map of the Gallina area showing the R. M. Matson group of claims, Rio Arriba County, New Mexico	8

DMEA 3903
R. M. MATSON ET AL
La Reina, Pajaro Azul, and Pajaro Colorado Claims
Rio Arriba County, New Mexico

RECEIVED
SEP 27 1956

INTRODUCTION AND SUMMARY

R. M. Matson and partners of Marshall, Texas, requested DMEA assistance in exploring for uranium ore on 10 unpatented claims in secs. 30 and 31, T. 23 N., R. 1 E., Rio Arriba County, New Mexico.

The applicant proposed first-stage drilling consisting of 19 dry rotary holes to an average depth of 60 feet on a 75-foot grid. In the second stage, 30 additional holes were proposed on the same grid pattern. There was also 500 feet of coring proposed, the location of which was not definitely stated, but it is assumed to have been proposed on the Pajaro Azul No. 1 claim as was the 1st and 2nd stage work. The costs in the application were not broken down into stages, but the total for the project was $13,460.00 which is $3.845 per foot, or about 30 percent too high.

A field examination of the property was made on August 26, 1955, by an examining team composed of H. F. Albee of the U. S. Geological Survey and Glen Walker of U. S. Bureau of Mines.

The investigation resulted in the conclusion that the property does not warrant DMEA participation in its exploration because:

1. The widely scattered exposures of mineralized rock are low grade.

2. Geologic investigations have not conclusively established stratigraphic and structural relations.

3. There are no known commercial uranium deposits in comparable formations in the general locality.

It is, therefore, recommended that the application be denied.

ACKNOWLEDGMENTS

Messrs. Tom Matson and Ernest Marshall, partners in the venture along with their consulting geologist, O. A. Larrazola, accompanied the examing teams and offered considerable pertinent information. R. K. Nestler and L. R. Kittleman, geologists for the A. E. C., also offered valuable data on the general area.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The 10 unpatented claims are in the southwestern part of sec. 30 and the northwest of sec. 31, T. 23 N., R. 1 E., N.M.P.M. about 4 miles south of Gallina, N. Mex. This very small village is on State Highway 96 about 25 miles northeast of Cuba, the largest town in the area. The nearest rail point is Bernalillo on the Santa Fe Railroad about 90 miles to the southeast. Albuquerque, the largest city in the state, is about 115 miles southeast of the property. Supplies and equipment for mining operations would probably have to be obtained in Albuquerque.

The property is on the north facing slope of San Pedro mountain, a part of the western Nacimiento Range. The relief is not exceptionally great and the surface, for the most part, is covered by soil which supports a thick growth of sizeable pine and spruce timber with a rank undergrowth of scrub oak.

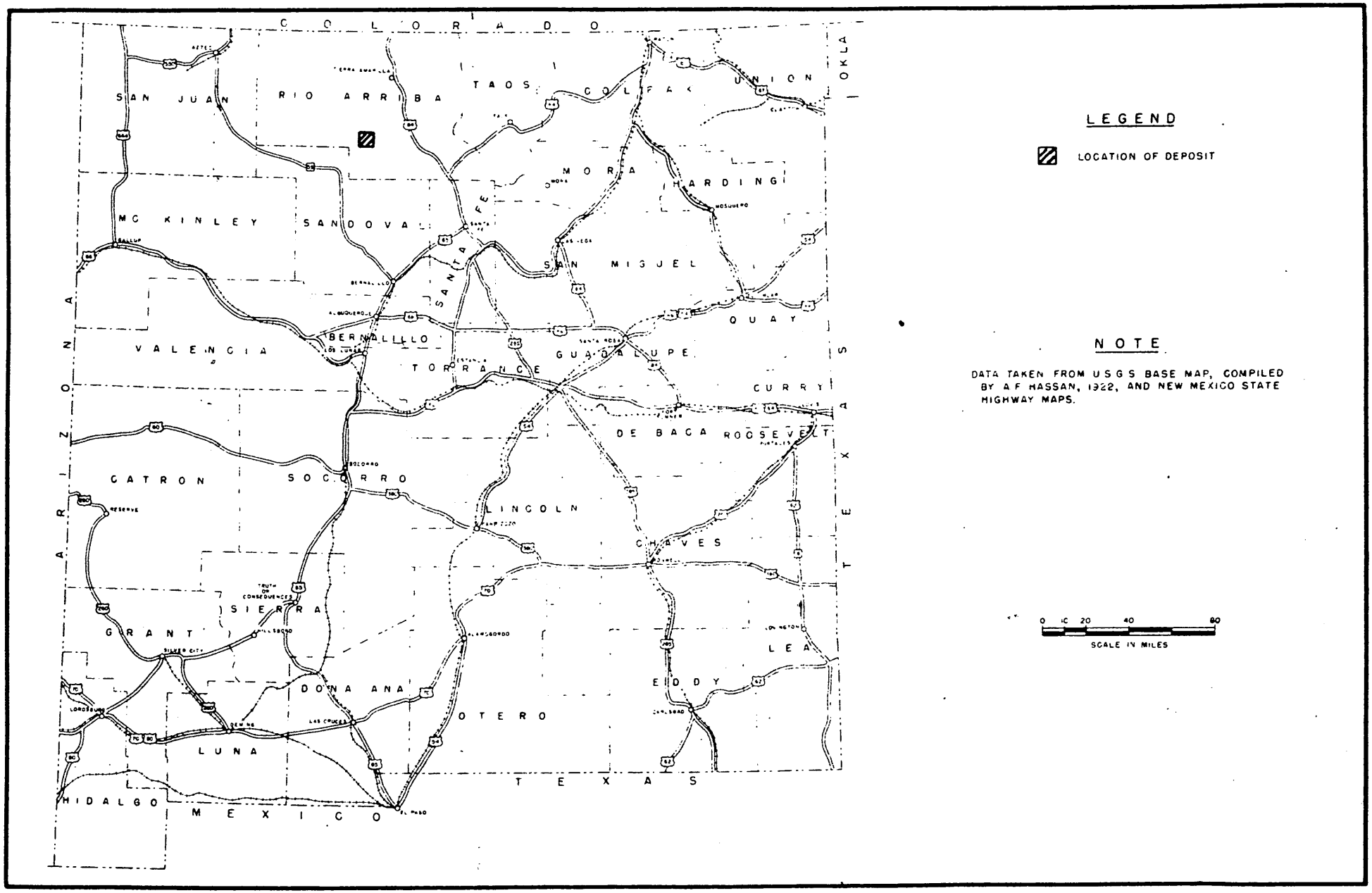

FIGURE 1 - LOCATION MAP, R. M. MATSON, ET AL, LA REINA, PAJARO AZUL AND PAJARA COLORADO CLAIMS, RIO ARRIBA COUNTY, NEW MEXICO. DMEA 3903

Water is readily obtainable from a branch of Gallina Creek which flows through the property; it is said to be perennial.

The climate is marked by great extremes in both temperature and precipitation. Winter temperature is said to fall below 20° below zero and the snowfall amounts to several feet, factors which would greatly hinder a small surface operation. In summer the temperature may be above 100° and rain occurs as violent cloudbursts that for short periods frequently make the one-way road impassable.

Power for mining operations would have to be supplied by internal combustion engines.

Unskilled labor is plentiful, but there are few experienced miners in the district.

HISTORY, PRODUCTION, AND OWNERSHIP

The claims were all located by local residents in September 1954. Also in September 1954, the properties were leased to Carl B. Butler, who, in May 1955, assigned his leases to the applicants. When it became apparent the Government exploration assistance would not be recommended, no search of the county records was made.

There has been no mineral production from the land.

GEOLOGY AND ORE DEPOSITS

Rocks exposed within the area of the subject claims range in age from Precambrian granite to Upper Triassic sediments. The sedimentary units present are the Pennsylvanian Madera limestone of the

Magdalena group, the Permian Cutler formation, and the Upper Triassic Chinle formation.

The Precambrian rock on the southern part of the claims is the granite that forms the core of the San Pedro and Nacimiento Mountains.

The upper arkosic limestone member of the Madera formation is the oldest sedimentary unit in the area of the claims. It consists of dark gray, dense, fossiliferous limestone, thin bedded, gray shale, coarse-grained, reddish gray arkose, and red and greenish gray mudstone.

The Cutler formation consists of about 1,000 feet of interbedded red, brown, green, and gray mudstone, siltstone, sandstone, and conglomerate. These beds are characterized by extreme lateral lithologic variations, crossbedding, shallow intraformational scours, and isolated small accumulations of carbonaceous trash. Lenses of conglomerate are abundant in the lower part of the Cutler formation. The conglomerate lenses are composed of well-rounded quartz, quartzite, granite, and gneiss pebbles that range up to about 3 inches in diameter.

The Chinle formation is divided into an upper "redbed" section and a lower section. The lower section is further divided into three units which are, from bottom to top, the Aqua Zarca sandstone member, the Salitral shale tongue, and the Poleo sandstone lentil. The Aqua Zarca sandstone member consists of conglomeratic sandstone and a few beds of siltstone and shale. The Salitral shale tongue consists of variegated shale and some limestone concretions. The Poleo sandstone lentil is lithologically similar to the Aqua Zarca sandstone member. This section of lower Chinle is about 185 feet thick, and the upper "redbed" section is about 400 feet thick.

The Nacimiento thrust fault is about 1 mile west of the subject group of claims. The claims are on the thrust block and in an area that is severely broken by a series of subsidiary small thrust and normal faults that trend about north 70° west.

Because of the heavy timber, brush, and soil cover in the area, the contact between an upper arkosic member of the Madera limestone and the Cutler formation is obscured.

Radioactivity approximately three times background was observed in the upper arkosic member of the Madera limestone on the Pajaro Azul No. 1 claim. The radioactivity was in a very coarse, reddish gray, arkosic sandstone with sparse carbonaceous trash and secondary copper.

On the La Reina No. 3 claim, an open pit exposed light gray, medium-grained arkosic sandstone that probably is in the upper arkosic member of the Madera. The sandstone, in places containing abundant mudstone galls, gave no count except at one place. On the La Reina No. 3 claim an area of several square feet has a red to reddish purple iron stain along the fractures. The radioactivity is about three times background and dies out in all directions from the iron-rich area.

An open pit on the La Reina No. 4 exposed an orange, very coarse-grained, arkosic sandstone about 3 feet thick overlying a coarse conglomerate composed of quartz, quartzite, and granite pebbles up to about 3 inches in diameter. This pit is probably in the Cutler formation. The conglomerate is not abnormally radioactive, but the

radioactivity of the orange, arkosic sandstone and an overlying yellow, fine- to medium fine-grained sandstone is about twice background.

At only one place on the group of claims were uranium minerals observed. At the Pajaro Azul No. 1 a yellow mineral was seen faintly coating about a one square inch area on a fracture surface.

In the Gallina area one other occurrence of radioactivity is known in the Upper Madera limestone. 1/ At this place commercial-grade

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1/ Brown, H. Gassaway, III, RME-84, Uranium Deposits of the Vegitas Cluster, Rio Arriba and Sandoval Counties, New Mexico, June 1955.

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copper mineralization has a slight radioactive anomaly very close to the Madera-Cutler contact.

Eight other occurrences of anomalous radioactivity that are known in the area 2/ but away from the claims, are in the Cutler

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2/ Brown, H. Gassaway, III, RME-84, Uranium deposits in the Vegitas Cluster, Rio Arriba and Sandoval Counties, New Mexico, June 1955.

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formation. Most of these occurrences are of very weakly radioactive material. One deposit, the Whiteflo No. 1, was the original discovery that brought about prospecting activity in the area. About 4 tons of material were shipped from this deposit and assayed 0.08 percent U_3O_8, 0.52 percent V_2O_5, and 29.5 percent $CaCO_3$, which, even if the high lime content were disregarded, is non-payment rock.

MINABLE ORE RESERVES

No minable ore reserves are known to exist on the property.

PRESENT STATUS

Discovery pits approximately 10 feet deep have been dug, and on the Pajaro Azul No. 1 claim three additional very shallow pits have exposed from a few inches to a foot of coarse sandstone weakly mineralized, principally with copper. All of these pits on Pajaro Azul No. 1 claim give a slight reaction on the scintillometer, but no readings exceeded four times the background count. Scintillometer readings on the mineralized rock on La Reina Nos. 3 and 4 claims were lower than those taken on the exposures on Pajaro Azul No. 1 claim. On La Reina No. 4 claim radioactivity and a little copper mineralization were associated with a conglomerate containing well rounded pebbles as much as 2-1/2 inches in diameter.

There are newly dozed trails to all the claims; but there is no mining or milling equipment on the property; in fact, the applicant owns none.

PROJECT PROPOSALS

The applicant proposed 3,000 feet of dry rotary drilling in 49 holes spaced 75 feet apart and 500 feet of coring at undesignated locations. The applicant's geologist stated, at the time of the examination, that he recommended 19 holes to be drilled as the initial stage of the work followed by the remaining 30, if results warranted. All the proposed drilling was to be conducted on the Pajaro Azul No. 1 claim near three small exposures of mineralized rock.

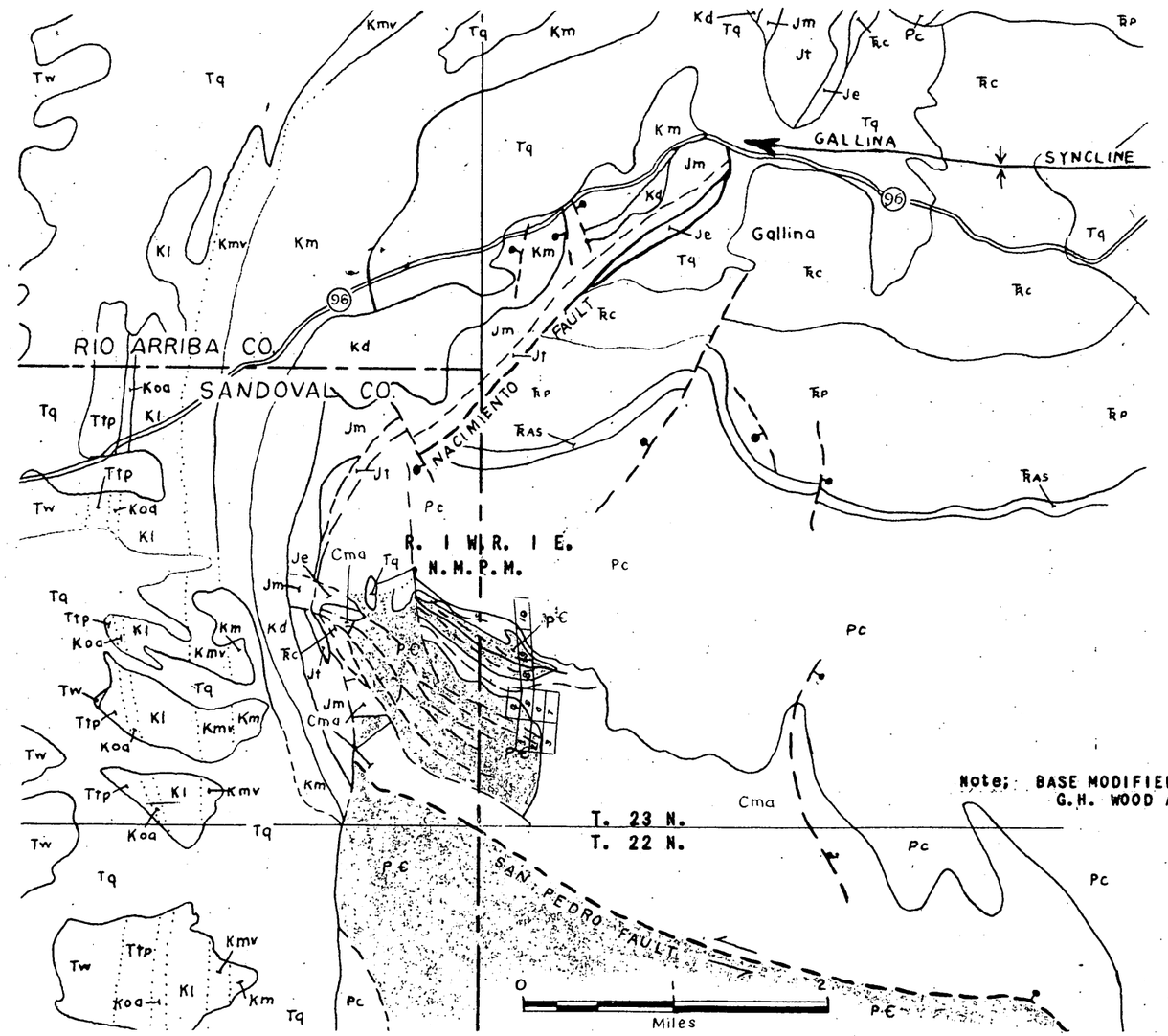
The project as outlined by the applicant was estimated to cost $13,460.00.

No work is proposed by the examining team.

CONCLUSIONS

The mineral deposits in the area of the claims are small and very low grade. Most of the known occurrences of anomalous radioactivity in the area are in the Cutler formation, whereas most of the subject claims are underlain by the Madera formation (fig. 2). The claims are on ground that is extremely broken by both normal and thrust faults, which may give rise to serious geologic and drilling problems.

The examining team believes that the property is, at present, in the prospecting stage of development and that it does not meet the minimum requirements for DMEA assistance in exploration. They, therefore, recommend that the application be denied.



Note: BASE MODIFIED FROM OIL AND GAS 57 BY G.H. WOOD AND S.A. NORTHROP

N

CLAIM INDEX

1 LA REINA NO. 2
2 PAJARO AZUL NO. 2
3 PAJARO COLORADO NO. 2
4 LA REINA NO. 6
5 LA REINA NO. 1
6 PAJARO AZUL NO. 1
7 PAJARO COLORADO NO. 1
8 LA REINA NO. 4
9 LA REINA NO. 5
10 LA REINA NO. 6

EXPLANATION

TERTIARY
- Tq — Alluvium
- Tw — Wasatch fm.
- Ttp — Torrejon Puerco fm

CRETACEOUS
- Koa — Ojo Alamo ss.
- Kl — Lewis sh.
- Kmv — Mesaverde fm.
- Km — Mancos sh.
- Kd — Dakota ss

JURASSIC
- Jm — Morrison fm.
- Jt — Todilto ls.
- Je — Entrada ss

TRIASSIC
- Rc — Chinle fm.
- Rp — Poleo ss.
- RAS — Agua Zarca salitral

PERMIAN
- Pc — Cutler fm.

PENNSYLVANIAN
- Cma — Madera ls.

PRECAMBRIAN
- P€ — Pink granite

Fault, showing downthrown side

Inferred fault

Figure 2. GEOLOGIC MAP OF THE GALLINA AREA SHOWING THE R.M. MATSON GROUP OF CLAIMS, RIO ARRIBA COUNTY, NEW MEXICO