Mr. H. R. Hart
President, The Ozarks Explorations
Company, Incorporated
Cassimiro, Missouri

Re: Re-opening denied application
Docket No. [illegible]-3763-mica,
uranium, thorium
The Ozarks Explorations Company, Inc.
Wheeler Mine or Reactorville Dome
Camden and Laclede Counties,
Missouri

Dear Mr. Hart:

Reference is made to your letter of July 27, 1956, indicating you have continued drilling your property and are submitting a new application for exploration assistance.

Until the application is received and there has been time to make a study of the data submitted, I do not believe it would be of any assistance to personally come to Washington. We will advise you, after a study of the information in the application, if we think you should come to Washington for a consultation.

Sincerely yours,

Lawrence G. Houk, Chief
Nonmetallic Minerals Division

LGHouk:ms 8/3/56
Copy to: Docket
Field Team, Region V
Mr. Killagnard, 5222
Mr. Dietrich, 3061
Mr. Houk
Admr. R. File

C
O
P
Y

THE OZARKS EXPLORATIONS COMPANY, INC.
(A MISSOURI CORPORATION)
CAMDENTON, MO.

July 27, 1956

Mr. Lawrence G. Houk, Chief
Nonmetallic Minerals Division
Defence Minerals Exploration Administration
U. S. Department of Interior
Washington, 25, D. C.

Dear Mr. Houk:

If you recall, myself and my attorney Mr. James P. Roach, talked with you earlier in the year with regards to our previous application made to your department for Government assistance for our project.

Since we were in Washington last, we have continued to drill and test the property. On the basis of the recent tests and their findings we have prepared a new application and we are mailing it to your department.

If I can be of any assistance by coming to Washington and talking over the application I will be glad to do so. I could possibly be of assistance in that I could answer any questions that might arise that is not included in the application.

Very respectfully,

/s/ H. B. Hart

H. B. Hart, President

HBH/abh
copied by ms 7/30/56

RECEIVED
JULY 30, 1956

COPY

THE OZARKS EXPLORATIONS COMPANY, INC.
(A MISSOURI CORPORATION)
CAMDENTON, MO.

July 27, 1956

Mr. Lawrence G. Houk, Chief
Nonmetallic Minerals Division
Defense Minerals Exploration Administration
U. S. Department of Interior
Washington, 25, D. C.

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/s/ H. B. Hart

H. B. Hart, President

HBH/abh
copied by ms 7/30/56

RECEIVED
JULY 30, 1956

COPY

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(A MISSOURI CORPORATION)
CAMDENTON, MO.

July 27, 1956

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Nonmetallic Minerals Division
Defence Minerals Exploration Administration
U. S. Department of Interior
Washington, 25, D. C.

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Very respectfully,

/s/ H. B. Hart

H. B. Hart, President

HBH/abh
copied by ms 7/30/56

RECEIVED
JULY 30, 1956

January 30, 1956

Memorandum

To: Mr. Wesley A. D'Ewart
Assistant Secretary

From: Administrator
Defense Minerals Exploration Administration

Subject: The Ozarks Explorations Company, Inc., DMEA-3763 (Mica)

Reference is made to your memorandum of January 23, 1956, concerning the application of The Ozarks Explorations Company, Inc., for Government assistance on an exploration project.

The subject application was denied under date of October 14, 1955, because of the improbability of making a significant discovery of strategic or critical minerals. In compliance with Mr. Hart's request for a conference and the opportunity to submit additional information, I met with him on January 24th, and several members of my staff spent considerable time with Mr. Hart discussing his proposal and additional information necessary for re-opening his case. I do not know what Mr. Hart's plans are, but I believe he fully understands our requirements.

You may be assured that every courtesy was extended to Mr. Hart and careful consideration was given to the additional information he brought with him. If you are interested I shall be glad to discuss this proposed project with you at your convenience.

C. O. Mittendorf

C. O. Mittendorf
Administrator

FEJohnson:gad 1/30/56
Copy to: Admr. R. File
Docket
Mr. Houk
Mr. Johnson

DRAFT

FEJOHNSON/bih
1/27/56

Memorandum

TO: Mr. Wesley A. D'Ewart
Assistant Secretary

FROM: Administrator
Defense Minerals Exploration Administration

SUBJECT: Ozarks Exploration, Inc., DMEA-3763 (Mica)

Reference is made to your memorandum of January 23, 1956, concerning the application of Ozarks Exploration, Inc., for Government assistance on an exploration project.

The subject application was denied under date of October 14, 1956, because of the improbability of making a significant discovery of stretegic or critical minerals. In compliance with Mr. Hart's request for a conference and the opportunity to submit additional information, I met with him on January 24th, and several members of my staff spent considerable time with Mr. Hart discussing his proposal and ~~the~~ additional information ~~he had with him.~~ (missing for augmenting his case, I do not know what Mr. Hart's plans are, but I believe it fully understands me.)

You may be assured that every courtesy was extended to Mr. Hart and careful consideration was given to the additional information he brought with him. If you are interested I shall be glad to discuss this proposed project with you at your convenience.

C. O. Mittendorf
Administrator

Because of the persistence of Mr. Ostby and Congressional interest, it seems appropriate to advise Mr. W. Ewart of the status of the case and that we had a recent conference with Mr. Ostby.

JC

600

JAN 23 1956

DMEA 3763

Hon. Dewey Short
House of Representatives
Washington 25, D. C.

My dear Mr. Short:

Reference is made to your letter of January 17, 1956, concerning the tentative appointment of Mr. Henry B. Hart, President of The Ozarks Explorations Company, Inc., Camdenton, Missouri, to discuss his application, DMEA-3763, and the additional data that he has developed by diamond drilling.

Mr. Hart has a firm appointment for January 24th at 10:00 A.M. to meet and discuss his application with Mr. Frank E. Johnson, Deputy Administrator of the DMEA, and members of our staff. I have a prior appointment at 10:00 A.M. on the 24th and will meet with Mr. Hart later in the day.

You may be assured that careful consideration will be given to the information Mr. Hart has to present.

Sincerely yours,

S. D. Mitchell

Administrator

LGHouk:gad 1/20/56
Copy to: Admr. R. File
Docket
Region IV
Mr. Johnson
Mr. Houk

JAN 19 1956

Mr. H. B. Hart
President, The Ozarks Explorations
Company, Incorporated
Camdenton, Missouri

Re: Docket No. DMEA-3763 - Mica
Uranium and Thorium
The Ozarks Explorations Company,
Incorporated
Wheeler Mine or Decaturville Dome
Camden and Laclede Counties,
Missouri

Dear Mr. Hart:

This will acknowledge receipt of your letter of January 16, 1956, advising that you plan on arriving in Washington on Tuesday, January 24, 10:00 A.M.

I am very sorry to advise that I have a prior appointment for 10:00 A.M. However, I will be able to talk with you later in the day. I have asked Mr. Frank E. Johnson, Deputy Administrator, to talk with you upon your arrival and he will be glad to discuss your problems with you. Mr. Johnson is located in Room 4460, Interior Building, 18th and E Streets, N. W., and his telephone number is Republic 7-1820, Extension 5369.

Sincerely yours,

O. J. Weaver

Administrator

LQHouk:gad 1/19/56
Copy to: Admr. R. File
Docket
Field Team, Region IV
Mr. Houk
Mr. Johnson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

JAN 6 1956

Mr. E. B. Hart
President, The Ozarks Explorations
Company, Incorporated
Camdenton, Missouri

Re: Docket No. DMEA-3763 - Mica,
Uranium and Thorium
The Ozarks Explorations Company,
Incorporated
Wheeler Mine or Decaturville Dome
Camden and Laclede Counties,
Missouri

Dear Mr. Hart:

This will acknowledge receipt of your letter of December 29, 1955, advising us of the core drill holes you have drilled on your property and the number of spectrographic analyses made by the Kelden Research Corporation since the field inspection by the examining engineer and geologist of the DMEA Field Team, Region IV, August 30, 1955.

Since you have expressed a desire to bring the new data to Washington before re-filing a new application for exploration assistance, we will be pleased to have you call at this office at any time after January 15th. However, we will appreciate being advised a few days in advance of your expected arrival.

Upon your arrival you will be placed in touch with the members of the Division handling your case who will carefully review all of your new data and will render whatever assistance you may require.

We note that you may require financial assistance for plant construction in event your deep tests prove successful. We regret that we will be unable to discuss assistance of this nature because DMEA assistance is confined solely to exploration for strategic minerals.

Sincerely yours,

C. O. Mitchell

Administrator

JHopkins:gad 1/5/56
Copy to: Admr. R. File
Docket
Field Team, Region IV
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Hopkins

OCT 1 4 1955 600

The Ozarks Explorations Company, Incorporated

Camdenton, Missouri

Re: Docket No. DMEA-3763 - Mica, Uranium and Thorium
The Ozarks Explorations Company, Incorporated
Wheeler Mine or Decaturville Dome
Camden and Laclede Counties, Missouri

Gentlemen:

Your application for aid for an exploration project and other reports available to us in Washington relating to the subject 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 a small amount of non-strategic mica and some radioactivity on your property, indicates to us that the probability of disclosing significant reserves of mica and radioactive material 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

JHopkins:gad 10/13/55
Copy to: Admr. R. File
Docket
Operating Committee
Field Team, Region IV
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Hopkins

October 13, 1955

Memorandum

To: Administrator

From: Nonmetallic Minerals Division

Subject: A denial of exploration assistance and summary report

By: James Hopkins

1. Docket No. DMEA-3763 - Mica, Uranium, Thorium, Monazite & Rare Earth Elements

Property: Decaturville Dome
Camden and Laclede Counties, Missouri
S ½ SW¼ Sec. 32 T. 37 N., R. 16 W.

Applicant: Ozark Exploration Company, Inc.
Camdenton, Missouri

Application: MF-103, dated April 5, 1955
Amended July 18, 1955

Work proposed:

| | | |
|---|---|---|
| 14 D.D. holes, aggregate footage 6,300 ft. @ $3.75 | | $25,800.00 |
| Shaft Sinking 15 ft. | ) | |
| Drifting 200 ft. | ) | 26,477.00 |
| Chemical Analyses and Incidentals | ) | |
| Total estimated cost | | $52,277.00 |

No contract - application denied.

2. Comments:

The specific point of interest at the Ozark Exploration Company property is a pegmatite outcrop. The pegmatite is crudely rectangular - 100 feet long and 80 feet wide, having been stripped of overburden. It consists mainly of light colored feldspar, clear quartz, muscovite and small amounts of tourmaline. Chlorite caused by weathering is also present. It is not in direct contact with the country rock, a dolomitic limestone, but is separated by a "contact zone" six inches to several feet in width that is composed of poorly sorted quartz grains, white mica flakes, clayey material and subangular to subrounded water worn quartz fragments. Country rock is fine grained dolomitic limestone of Upper Cambrian age. The pegmatite is believed to be Pre-Cambrian in age and faulted to its present position near the center of a large dome.

No ore deposits were observed by the DMEA examining team.

All mica observed occurred in books less than two inches across and all was extremely fractured ("A" ruled). None was of strategic grade.

No monazite was identified by the examining team.

Spectrographic analyses of a representative sample of the pegmatite and the "contact zone" did not reveal ore grade rare earth elements.

A chemical assay of selected material showed 0.14 per cent $ThO_2$. This $ThO_2$ could be entirely in monazite. The field team, however, did not identify any thorium mineral or observe any uranium minerals in or near the pegmatite and none of the company assays revealed ore grade concentration of uranium minerals.

The examining team used its radiometric survey to appraise the possibilities of radioactive material occurring in or near the pegmatite. This survey indicated that no ore or near-ore concentrations of radioactive material are present.

Because no evidence of ore deposits of strategic mica, monazite, rare earth elements, thorium or uranium was found, the DMEA team recommends that exploration assistance to the Ozark Exploration Company be denied.

The Nonmetallic Minerals Division concurs in this denial.

The Commodity Specialists of the Bureau of Mines and the Geological Survey also concur.

James Hopkins
Mining Engineer, Nonmetallic
Minerals Division

JHopkins:gad 10/13/55
Copy to: Admr. R. File
Mr. Houk
Mr. Hopkins

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

RECEIVED
OCT 14 1955

October 13, 1955

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA-3763 (mica)

Applicant: Ozarks Exploration Co., Inc.

Name and Location of Property: Ozark Exploration Co., Inc., Camden and Laclede Counties, Mo.

Date of Field Team Report: 9/26/55

Date Rec'd. by Br. of Ceramic & Fertilizer Materials: 10/5/55

Field Team Recommendation: Recommend denial of application.

Comments:

1. Reserves of strategic mica are estimated to be negligible.

2. The limited quantity of mica observed was heavily "A" ruled and too small to be of strategic quality.

Recommendation: I concur with the field team's recommendation and repeat my recommendation from my memorandum of 8/2/55 that this application be denied on the basis of exploration for mica.

Signed

W. F. Dietrich

IN REPLY REFER TO:

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

RECEIVED
OCT 7 1955

October 4, 1955

Re: DMEA 3763
Ozarks Explorations Co., Inc.
Decaturville Dome
Camden Co., Missouri
$52,277 - Mica, Thorium

Memorandum

To: L. G. Kouk, Defense Minerals Exploration Administration

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

Subject: Review of Field Team report.

The original application for assistance in exploring this property outlined a program to cost $195,258.75. An alternate proposal was later submitted, the cost to be $52,277.

Much time and work have been accorded the unusual pegmatite exposure without having conclusively explained the questions concerning the occurrence or found a worthwhile concentration of any mineral.

The conclusions and recommendation of the Field Team are adequate insofar as the application is concerned. Perhaps the applicant will continue to do work and obtain information tending to answer the academic questions.

I concur with the recommendation that the application be denied.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-10/4/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
W. F. Dietrich, 3061

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

Box 165
Platteville, Wis.

RECEIVED
SEP 28 1955

C
O
P
Y

September 23, 1955

Mr. C. C. Knox
Executive Officer
DMEA Field Team, Region IV
Post Office Box 431
Joplin, Missouri

Dear Mr. Knox:

Attending to details here in Platteville has delayed the report on DMEA 3763. Now the details have vanished and here are four copies of the report. One copy is for your office as I will submit the "fourth" copy with the Survey docket.

I am not really satisfied with the report as too many things were omitted. But, to include everything I would need more time and I do not believe the extra time is justified for the DMEA report. The things I would like to write about would be better placed in a professional journal.

The difficult part of the report is to express the idea that this is another pegmatite, and it may or may not contain valuable minerals. I failed to do this in so many words because most geologists realize this fact; nevertheless, Mr. Hart must be of the firm opinion that all pegmatites contain valuable minerals. I do not know how to arrive at a meeting of minds.

You will notice that I changed my mind about the pegmatite. At first I thought it had intruded; now I believe it is Precambrian. This is more of a hunch than a fact as there is little concrete evidence. Maybe I should propose a Survey project to find out.

Page 3 is missing in all carbon copies of the report. This page is for the index map (map with original copy) as I do not have any means of reproducing the map.

Also missing in the report is mention of lead and zinc minerals and a geologic map. My first idea was to include everything; my last idea was to stick to minerals mentioned in the application. This restricted me to the pegmatite and "contact zone" and as I could not accurately outline the "contact zone" I deleted the map.

If you are not satisfied with the report I will rewrite it. I could expand the report with little trouble except for time. If you are satisfied with the report I would like for you to include this idea in your letter of transmittal: Indicate this property was just a pegmatite and exploration should be considered as "prospecting" until ore-grade material or geologic features to indicate ore-grade material are found.

If you so transmit the report would you send me a spare copy of the transmittal letter to go with the Survey copy of the docket. And about 4 copies of the map.

On page 8 I made a statement that cerium would probably be near the low range instead of the high. I cannot give you a reference, but work by Survey geologists in Grand Junction indicates that the actual concentration of an element is near the geometric mean of the listed range. This means that actual concentrations are more likely to be closer numerically to ghe low range than to the high range.

Sincerely yours,

/s/ Tom
T. E. Mullens
Project Chief
Wisconsin Zinc-Lead

P. S. the counter arrived in fine shape

Enclosure

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

RECEIVED
SEP 16 1955

P. O. Box #431
Joplin, Missouri

September 12, 1955

Mr. T. E. Mullens
U.S. Geological Survey
Box 165
Platteville, Wisconsin

Re: DMEA-~~3865~~ 3763
Ozarks Explorations
Decaturville Dome
Camden County, Mo.

Dear Tom:

Thanks for your September 8 letter advising that your geologic report on the cited applications will be coming as soon as possible. I am glad to hear that I am not the only one swamped. I have been trying to complete a backlog of reports due on Bureau of Mines and DMEA projects and haven't gotten around to much worrying yet about the current ones, particularly this one on Decaturville Dome.

Also, this is to admit that I hadn't taken time to prepare a G B/L and forwarded the USGS Geiger to you by Express as I promised, so am sending it now under separate cover marked for careful handling by Parcel Post. Hope that it arrives satisfactorily and that you haven't been needing it too much.

Sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV

CCK/vks

cc: DMEA Op. Com. (2)
3865 file

COPY - DME[redacted]p. Com

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D. C.~~

P. O. Box #431
Joplin, Missouri

September 6, 1955

Mr. H. B. Hart
The Ozarks Explorations Co., Inc.
Camdenton, Missouri

Re: Application DMEA-3763
(mica-uranium-thorium)
Decaturville Dome
Camden and Laclede Counties, Mo.

Dear Mr. Hart:

This is to acknowledge receipt of your September 1 letter.

Following our examination of your property last Tuesday, Mr. Mullens' geologic report and recommendations are in preparation as are mine to be added covering the engineering aspects of your exploration project proposal in the submittal to Washington. If any exploration assistance should be deemed justifiable within the scope of the Defense Minerals Exploration Program, I immediately will contact you for a discussion of the "straight drilling proposition", mentioned in your letter. Recommendations for DMEA assistance on your proposed exploration project, however, must be based firmly on geologic justifications.

Please rest assured that the decision on your application in Washington will be based on thorough study, both administratively and geologically, because ever since the start of this particular incentive program, it has been the firm policy of DMEA to offer every reasonable exploration assistance within the scope of this agency. The prime consideration, however, must be the geologic probability for making a significant mineral discovery.

Sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV

CCK/vks

cc: DMEA Op. Com. (2) w/c
Mullens w/c
Laurence w/c
3763 file

COPY

GAMMA - THE OZARKS EXPLORATIONS COMPANY, Inc.
(A Missouri Corporation)

The Decaturville Dome
An extinct Volcano
For Rare Metals and Gems

Camdenton, Mo.
September 1, 1955

Mr. Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV
P. O. Box 431
Joplin, Missouri

Dear Mr. Knox:

After giving considerable thought to our project, and the many things that we discussed while you were here, I believe that this would be best--whatever kind of recommendation that you make to Washington, I would rather have a straight drilling proposition. That is, you and I could again go over the entire map and figure out enough drill holes to definitely test the spread and depth of this ore body. If you think that this would be a better plan, I will go through Mr. Eisenhour in Kansas City, and see what kind of a recommendation that I can get from him.

Yours very truly,

/s/ H. B. Hart
H. B. Hart

COPY DMEA Operating Committee

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

RECEIVED
AUG 2 1955

P. O. Box #431
Joplin, Missouri

August 23, 1955

Mr. H. B. Hart, President
The Ozarks Explorations Co., Inc.
Camdenton, Missouri

Re: Application DMEA-3763
(mica-uranium-thorium)
Decaturville Dome properties
Camden and Laclede Counties, Mo.

Dear Mr. Hart:

Upon returning yesterday from examination trips in Texas I found that your application for exploration assistance had been referred to this office for further consideration and possibly a Field Team examination. I reviewed the supplement to your application, maps, and other data received with the referral letter from Washington, and decided on the field examination of the subject property.

Therefore, tentative arrangments have been made for Thomas Mullens, Geologist designated to represent the U. S. Geological Survey on this Field Team work, to arrive in Springfield, Missouri, early next Tuesday morning, August 30, when I plan to meet him and drive to your property, probably before noon. I advised Mr. Philip Jones, your Consulting Engineer in Joplin, of these tentative plans made this morning by telephone conversation with Mr. Mullens.

Any assistance or further information you or your engineers may be able to furnish us during the examination will be appreciated.

Sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV

CCK/vks

cc: DMEA Op. Com. (2)
Mullens, USGS, Platteville, Wisc.
Laurence, USGS. Knoxville, Tenn.
3763 file

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

August 19, 1955

Memorandum

To: DMEA Member
Non-Metallic Minerals Commodity Committee, Room 4450

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

Subject: Review of supplemental information, DMEA Docket 3763, The Ozarks Exploration Co., Inc., Wheeler Mine, Camden and Laclede Counties, Missouri

Mr. Joseph O. Hosted, Washington representative of the Atomic Energy Commission, and I have reviewed the radioactivity anomaly map supplied by The Ozarks Exploration Co., Inc., DMEA Docket 3763, as supplemental information to their recent application.

While the map does indicate that some radioactivity is present on the Ozarks Exploration Company's property, it does not in any way change the opinions which we expressed in our memorandum of August 8 regarding the subject docket.

John E. Crawford

RECEIVED
AUG 19 1955

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

August 19, 1955

Memorandum

To: DMEA Member
Non-Metallic Minerals Commodity Committee, Room 4450

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

Subject: Review of supplemental information, DMEA Docket 3763, The Ozarks Exploration Co., Inc., Wheeler Mine, Camden and Laclede Counties, Missouri

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John E. Crawford

RECEIVED
AUG 19 1955

IN REPLY REFER TO:

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

August 16, 1955

Re: DMEA 3763
The Ozarks Explorations Co., Inc.
Wheeler Mine
Bunsterville Zone
Cardenten, Missouri
$52,277.00 - Mica, Uranium, etc.

Memorandum

To: L. G. Houk, Defense Minerals Exploration Administration

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

Subject: Comment on isorad map submitted as supplementary information in support of application.

Without information as to the terrain and the method of taking the readings, the isorad map affords little help in appraising the pegmatite plug.

If still open, radiometric surveys of the churn drill holes, especially No. 1 and No. 5, might assist in the interpretation of the anomalies shown on the map.

The peculiarities of this pegmatite justify an examination.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/16/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
W. F. Dietrich, 3061

RECEIVED
AUG 17 1955

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

P. O Box #431
Joplin, Missouri

August 15, 1955

Mr. Robert A. Laurence,
Regional Geologist
U. S. Geological Survey
Room 13, Postoffice Building
Knoxville 2, Tenn.

Re: Field Team Examination
DMEA 3763 (uranium-thorium)
Ozark Expl. Co.
Decaturville Dome
Camden County, Mo.

Dear Bob:

Thanks for your August 12 letter advising that you will be on vacation until September 6. I am leaving in an hour by plane for El Paso to meet Don MacLaren, USGS, Denver, for joint examination of an applicant's property near there and expect to be away until August 22.

Enclosed herewith are the extra copies of the cited Field referral and memo reviews received this morning fromWashington, which information your office might need while you and I are away. I presume that if Field geologic consultation is deemed necessary on this requested examination, a copy of the Docket will be sent to your office with instructions from Mr. Kiilsgaard. In the meantime I will study the application and contact the Applicant's local consultant, Mr. Philip Jones. In case you become involved, I will contact you or your office soon after my return.

I hope you have a most pleasant vacation. With best personal regards, I am

Sincerely yours,

Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV

CCK/vks
Enclosures (9)

cc: DMEA Op. Com (2) ✓
3763 file

RECEIVED
AUG 17 1955

AUG 11 1955

600

The Gamma Explorations Company, Incorporated

Camdenton, Missouri

Re: Docket No. DMA-3763 - Mica, Uranium and Thorium
The Gamma Explorations Company, Incorporated
Wheeler Mine or Sweetwater Dome
Camden and Laclede Counties, Missouri

Gentlemen:

Your application for assistance in exploring the subject property has been reviewed by the Nonmetallic Minerals Division of the Defense Minerals Exploration Administration and has been referred to Mr. Clinton C. Kunz, Executive Officer, DMEA Field Team, Region IV, P. O. Box 431, Joplin, Missouri, for further consideration and possibly a field examination.

The Regional Office will contact you at an early date if an examination is to be made. Any assistance you may give the members of the Field Team during the examination will be appreciated.

Sincerely yours,

C. W. Mittendorf

Administrator

JHopkins:pk 8/9/55
Copy to: Representative Morgan M. Moulder
Admr. R. File
Docket
Operating Committee
Field Team, Region IV
Mr. Killegaard, 3222
Mr. Dietrich, 3061
Mr. Hauk
Mr. Hopkins

600

AUG 11 1955

Mr. Clinton C. Knox
Executive Officer, [illegible]
Field Team, Region IV
Bureau of Mines
P. O. Box 431
Joplin, Missouri

Subject: Docket No. [illegible]-7763 - Mica, Uranium and Thorium
The Ozarks Explorations Company, Incorporated
Wheeler Mine or Pegatarville Area
Camden and Laclede Counties, Missouri

Dear Mr. Knox:

The captioned application is referred to Region IV for a field examination and report or your recommendations based on information available to your office.

If your office recommends an exploration program approved by the applicant, please furnish the necessary information to draft a contract. In this connection, nine copies of a map showing the proposed work and mineralized exposures in relation to the property lines will be required.

Copies of memoranda from Mr. N. E. Nelson of the Geological Survey, dated April [illegible], 1955; Mr. John A. Crawford of the Bureau of Mines, dated April 29, 1955; Mr. N. E. Nelson of the Geological Survey, dated July 26, 1955; Mr. W. F. Dietrich of the Bureau of Mines, dated August 2, 1955; and from Mr. John A. Crawford of the Bureau of Mines, dated August 3, 1955, are enclosed for your information. A copy of the revised application, dated July 18, 1955, and other related data are also enclosed.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee

Approved:

O. M. Bishop

Member, Bureau of Mines

(S) W. P. Williams

Member, Geological Survey

Enclosures 13

P.S. The sample of mica which the applicant submitted to this office is of non-strategic grade.

JHopkins:pk 8/9/55
Copy to: Admr. R. Fils
Docket
Operating Committee
Mr. Killingsord, 52.2
Mr. Dietrich, 3061
Mr. Houk
Mr. Hopkins

GAMMA

The OZARKS EXPLORATIONS COMPANY, INC.
(A MISSOURI CORPORATION)

The DECATURVILLE DOME
An Extinct Volcano
For Rare Metals and Gems

CAMDENTON, MO.

August 9, 1955

Mr. Lawrence G. Houk, Chief
Nonmetallic Minerals Division
Defense Minerals Explorations Administration
United States Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 3763
The Ozarks Explorations Co. Inc.
Camdenton, Missouri

Dear Mr. Houk:

Under separate cover, we are mailing you three copies of a grid survey of the properties in the proximity of the Decaturville Dome mine.

Will you please attach these copies to our application which is now on file. We will also send Mr. Clinton Knox, your Executive Office, Region IV, Joplin, Missouri, a copy for his files and use.

We hope you will be able to make a speedy decision upon our application.

Respectfully,

/s/ H. B. Hart, President

(RECEIVED AUG 11 1955)

GAMMA

The OZARKS EXPLORATIONS COMPANY, INC.
(A MISSOURI CORPORATION)

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Respectfully,

/s/ H. B. Hart, President

(RECEIVED AUG 11 1955)

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

August 8, 1955

(RECEIVED AUG-8 1955)

Memorandum

To: DMEA Member
Non-Metallic Minerals Commodity Committee, Room 4450

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

Subject: Application for Assistance, DMEA Docket 3763, The Ozarks Exploration Co., Inc., Wheeler Mine, Camden and Laclede Counties, Missouri

I have reviewed the supplemental information provided by The Ozarks Exploration Co., Inc., DMEA Docket 3763; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The analytical data which the applicant has sent in indicates that uranium was present in samples taken from micaceous pegmatitic material of a deposit known as the Decaturville Dome near Camdenton, Missouri. However, the uranium ($U_3O_8$) content of all samples was less than .03 percent. Because of the nature of the material and the ~~less than economic~~ uranium content, we suggest that the application be ~~denied~~ forthright.

John E. Crawford

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

August 2, 1955

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA - 3763 (mica)

Applicant: The Ozarks Exploration Co., Inc.

Name and Location of Property: Wheeler Mine
Camden and Laclede Counties, Mo.

Date Rec'd. by Br. of Ceramic & Fertilizer Materials: July 25, 1955

Comments:

1. The mica specimen submitted has a greenish cast, is "A" rules and is too small for strategic sheet mica.

2. There is no evidence that better quality mica will be found at depth.

3. Supplemental information is being transferred to Branch of Rare and Precious Metals for their review and comments.

Recommendation:

I recommend denial of this project on the basis of exploration for strategic mica.

W. F. Dietrich

IN REPLY REFER TO:

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

RECEIVED
JUL 28 1955

July 26, 1955

Re: DMEA 3763
The Ozarks Exploration
Co., Inc.
Wheeler Mine
Decaturville Dome
Camdenton, Missouri
$52,277.00 - Mica,
Uranium, etc.

Memorandum

To: L. G. Houk, Defense Minerals Exploration Administration

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

Subject: Review of Revised Application.

The original application requested $195,528.75. The drilling done, presumably by the applicant, since filing of the original application, has added much to the general information, and led to a much revised exploration program.

The drilling and shallow shaft suggest that the pegmatite may be column like in form on two sides for at least four hundred feet and may not increase in area going downward, as was expected. On two sides, the west and north, the testing has not been carried deep enough to show a form but a pipe rather than a dome is suggested by the work to date.

Nearly 10,000 square feet of pegmatite has been exposed by stripping, and if washed clean it should be possible to make a fair estimate as to its potentialities. At most four or five relatively shallow 100- to 300-foot holes should indicate what the surface exposure does not.

Hole No. 5 would appear to question the southeastward trending igneous axis conception, and with the shafts and old time drilling in the vicinity gives little encouragement to a belief that significant amounts of galena and sphalerite occur in that locality.

An appraisal of the available information, especially of the bared outcrop is needed. A sample of mica, probably selected,

submitted by Mr. Hart to the DMEA office in Washington, showed no strategic mica. From the information at hand the 'black rock' mentioned in the application cannot be identified, but not one of the analyses submitted suggests the presence, in the 'black rock' or other specimens submitted to the various laboratories, of an economic amount of any element or mineral.

Considerable money has been spent on this pegmatite. Lest more is being or may be spent a Field Team examination should be made, unless information with the examiners makes such an investigation unnecessary.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-7/27/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
W. F. Dietrich, 3061

7/25

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

July 18, 1955

Mr. Lawrence C. Houk, Chief
Nonmetallic Minerals Division
Defense Minerals Exploration Administration
United States Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 3763
The Ozarks Explorations Co., Inc.

Dear Mr. Houk:

With respect to your letter of April 28th and ours of May 6, 1955, we wish to amend our application for exploration assistance in respect to Sections 4 to the end as inclosed, in accordance with the advice in your letter of April 28th, and new discoveries.

Your letter asks for amplification of Section 4 & 5, and we wish to alter our previous section 6, and, therefore revised the whole of the application from section 4 onward for completeness and easy reference.

We are also giving to Mr. Clinton C. Knox, Executive Officer, Region IV, Joplin, Missouri, some samples of mica from the Decaturville Dome property.

We would appreciate your prompt action on this matter.

Respectfully,

H. B. Hart, President

**P.S. We have discussed this amendment with Mr. Knox of the Joplin office, who suggested we ship the sample of mica direct. It will follow by mail marked DMEA 3763-sample 1.**
**The radiometric survey mentioned on page 5 of the amendment will be mailed shortly since the survey was delayed by a broken instrument.**

REVISED ANSWERS TO THE DMEA APPLICATION
of the
The Ozarks Explorations Company, Inc.

4 (a) Physical Description of previous prospecting & exploration

General — The deposit known as the Decaturville Dome on the Wheeler lands is exposed as a vertical pipe of pegmatite roughly square with rounded corners in plan, sharply defined from the surrounding dolomites on the surface, approximately 85 feet East and West by 100 feet North and South and occupying an area of roughly 8,500 square feet.

Old Workings
Previous to 1894: The following work was done on this deposit. According to Otto Ruhl, in Vol. I Part I, Bulletin of the Bradley Geological Field Station of Drury College, issued by the Departments of Geology and Chemistry, 1905, pp 36-40, several shafts were put down on this pegmatite which he examined. These shafts are mentioned by Arthur Winslow in "Lead Zinc Deposits of Missouri", Vol. II, Missouri Geological Survey, Vol. VII, 1894, but not described. In 1904, one of these, marked A 1 on Plan I attached, was examined by Otto Ruhl. It was then 30 feet deep and sitting four-square to the compass. This shaft was on the North part of the East side of the pegmatite and its top can still be seen. At that time its west side skirted the pegmatite and exposed largely pegmatite with a breccia of pegmatite, mica "schist", and quartzite described as limpid quartz pebbles cemented in chert. The South and East sides were similar but with less pegmatite, and more kaolin, quartz, and chert. The North side was similar to the South and East sides but with distinctly more mica "schist"

At present this shaft is filled to within a few feet of the surface, and shows a jumble of all the rocks mentioned in the above description.

Apparently the miners who put down these shafts were looking for lead and zinc and abandoned them and moved 750 feet to the Southwest.

Here they put down some shafts, three of which were seen by Ruhl in 1904, and traces of two of which remain today, marked B 1 and B 2 on Plan I. These showed pyrite and a little earthy lead zinc ore in a country rock of much brecciated dolomite. Analysis of ore from these shafts is given in Winslows book referred to above, p. 717 as follows:

| | | |
|---|---|---|
| $CuFeS_2$ | 0.0071 % | |
| $FeS_2$ | 3.8308 % | |
| PbS | 63.9250 % | (by difference) |
| | 100.0000 | |

Silver ½ oz. to the ton.

Ruhl in 1904 reported that earthy lead and silicate zinc and iron pyrites were found in them, but most significantly, that at the bottom of the deepest shaft pegmatite was found.

About a quarter mile still further to the Southwest another shaft was put down, marked C 1 on Plan I, and according to Winslow similar ore was found in it, but there is no report of proximity of any pegmatite.

Old Workings
About 1917: During the First World War, the old workings D above were cleaned out, retimbered and possibly deepened. At that time atleast, one core-drill hole, marked C2 on Plan I, was put down about 163 feet Northwest of the shaft B 1 to 965 feet. It was reported to have inclined to the Southeast and found no mineralization except pyrite in dolomite all the way. Little other work seems to have been done.

Continued--------- Physical Description of previous prospecting & exploration

4 (a) Con't.

Old Workings
Today: All old workings are now caved and filled. A slight depression marks A 1, B 1, and B 2 are filled to near the surface and water flooded, having been used for years as a cattle pond. The dumps around them are now largely covered by recent excavations but where the old dumps can be seen they show besides iron pyrite, more significantly muscovite mica similar to that occuring in the main pegmatite 500 feet to the Northeast, thus confirming Ruhl's observation that pegmatite was met in one of these shafts.

Present Workings
1955: In late 1954, Mr. H. B. Hart's attention was drawn to these deposits, which he prospected in 1955. He recognized that if the main outcrop was a pegmatite, that it might carry nuclear elements and besides be valuable as a source of feldspar, mica and quartz, all materials that had no value to the old miners or to any until recently, in this area.

Hart prospected the whole neighborhood with a geiger counter and found that especially to the north of the outcrop, and to a lesser degree in various other scattered locations that radiation significantly above background was detected, of the nature of 0.5 to 1.0 Mr./hour.

He founded a Company, largely of local men, called The Ozarks Explorations Company, Inc., that began prospecting the deposit as follows:

1. Rehabilitated an old farm home nearby, as a field office;
2. Repaired the road to the field office, built a road to the pegmatite outcrop; and another from the office, South to the Camdenton-Lebanon Highway #5;
3. Cleared round the quartz outcrop of the pegmatite until its boundary with the surrounding dolomites was met, of soil and debris, thus roughly delimiting it;
4. Trenched about 14 feet deep by 12 feet wide round the South, West and North sides, (the East side had a water storage pond near it) and exposed the near vertical walls of the pegmatite. At most places a skin of high muscovite pegmatite was met but especially on the North. The dolomites surrounding were often green colored possibly due to chloritization. On the North side a band of rock about 1 - 3 feet think was exposed, consisting of clear quartz pebbles in a dark siliceous and argillaceous cement with abundant mica flakes. This band was found to give a higher radiation than elsewhere, of atleast 1.0 MR/Hour.
5. Had a metallurgical test conducted on a sample of surface material from the vicinity of the quartz outcrop with the following result:

Rougher Concentrates by Flotation

| | % Weight | $SiO_2$ % | $Al_2O_3$ % | $Fe_2O_3$ % | $Na_2O$ % | $K_2O$ % |
|---|---|---|---|---|---|---|
| Iron concentrate | 3.0 | | | | | |
| Mica concentrate | 5.5 | | | | | |
| Feldspar concentrate | 48.1 | 73.90 | 14.89 | 0.13 | 8.13 | 2.17 |
| Quartz Tailing | 30.0 | 95.22 | | 0.11 | | |
| Slime | 13.4 | | | | | |

Microscopic examination of these suggested that the mica rougher concentrate would clean up to 1% by weight, and that the composition of this sample mineralogically was as follows:

| | |
|---|---|
| Black tourmailine and non silicates | 1.0 % |
| Muscovite mica | 2.2 % |
| Albite/microcline feldspar | 53.4 % |
| Quartz | 43.4 % |

4 (a) Con't Present Workings—Con't

6. Sampled the black band to the North of the pegmatite, marked E1 on Plan I, and sent sample for spectro-chemical analysis to the Keldon Research Laboratories of Los Angeles, see assay report 7602-1 mark 100.38 of May 26, 1955, which reported as follows:

| | | |
|---|---|---|
| Silicon -- | Major Constituent | |
| Aluminum | 2.0 % | 20.0 % |
| Magnesium | 1.0 | 10.0 |
| Iron | 1.0 | 10.0 |
| Calcium | 0.3 | 3.0 |
| Sodium | 0.03 | 0.3 |
| Potassium | 0.1 | 1.0 |
| Boron | 0.03 | 3.0 |
| Lead | | 0.01 |
| Manganese | | 0.01 |
| Gallium | 0.001 | 0.01 |
| Barium | 0.03 | 0.3 |
| Vanadium | 0.005 | 0.05 |
| Yttrium | 0.005 | 0.05 |
| Copper | 0.005 | 0.05 |
| Titanium | 0.3 | 3.0 |
| Zirconium | 0.05 | 0.5 |
| Lanthanum | 0.01 | 0.1 |
| Strontium | 0.01 | 0.1 |
| Cerium | 0.01 | 0.1 |
| Uranium | 0.0 | 0.02 |

This sample was assayed radiometrically as it gave when removed from the deposit a count of about 0.2 MR/hour above back round, See assay Report No. 709643 mark 100.37 dated May 27, 1955, and was reported as 0.01% equivalent $U_3O_8$.

This sample was also assayed for phosphorus since the presence of cerium, lanthanum andyttrium together suggested monazite, and spectro-chemical methods will not detect satisfactorily small quantities of phosphorus, see assay report No. 715403 marked 100.40, dated June 4, 1955, and was reported to run 0.02% phosphorus.

7. Sampled carefully the whole cleared top of the pegmatite by channelling across every 10 feet, and after cutting down the bulk sample in the standard way, sending one sample to the Keldon Research Laboratories for spectro-chemical analysis and another to the U. S. Bureau of Mines at Rolla for petrographic analysis. The Report of the Keldon Labs,(see report 7659-1, marked 100.17, of June 3, 1955, was as follows:

| | | |
|---|---|---|
| Silicon | Major constituent | |
| Aluminum | 2.0 % | 20.0% |
| Magnesium | 1.0 | 10.0 |
| Iron | 0.5 | 5.0 |
| Calcium | 0.5 | 5.0 |
| Sodium | 0.3 | 3.0 |
| Potassium | 0.3 | 3.0 |
| Lithium | 0.03 | 0.3 |
| Lead | 0.005 | 0.05 |
| Manganese | 0.01 | 0.01 |
| Gallium | 0.001 | 0.01 |
| Vanadium | | 0.03 |
| Yttrium | 0.003 | 0.03 |
| Copper | 0.005 | 0.05 |
| Silver | 0.0003 | 0.003 |
| Titanium | ~~0.01~~ | 1.0 |
| Zirconium | 0.03 | 0.3 |
| Uranium | 0.003 | 0.03 |

THE OZARKS EXPLORATIONS CO., INC.
Camdenton, Missouri

4 (a) Con't.

Report from the U. S. Bureau of Mines has not yet been received.

8. Put down five churn-drill holes with the following results,(for locations, see Plan I):

No. 1 drill hole: elevation about 1057 feet; drilled depth 425 feet, located to the Southwest of the pegmatite, 73 feet from the center peg, and about 19 feet from the boundary:

0 - 75 feet, largely chert, quartz with a little dolomite similar to the "quartzite" exposed in shaft A 1;
75 - 110 feet, light colored very pure dolomites probably of Eminence formation;
110 - 120 feet, chert and quartz similar to 0 - 75 feet but running 94% insol. with very little dolomite; probably Eminence;
1 20-425 feet, grey dolomites, cherty, slightly pyritic and glauconitic, probably Eminence or Potosi formation;

No. 2 Drill Hole: elevation about 1053 feet; to depth 400 feet, located to the East of the pegmatite; 118 feet from the center peg, and 75 feet from the boundary of the pegmatite;

0 - 115 feet, was very pure dolomite of the Eminence formation;
115 - 195 feet, were pure dolomites probably of Davis formation;
195 - 400 feet, were pure dolomites, slightly pyritic and glauconitic, probably of Bonne Terre formation;
A flow of water of about 10 - 20 gallons per minute was met at about 200 feet.

No. 3 drill hole: elevation about 1054 feet, to depth of 440 feet, located to the Southwest of the pegmatite, 48 feet from the center peg, and about five feet from the boundary of the pegmatite;

0 - 100 feet, very pure light colored dolomites with a little mica, feldspar, and tourmaline from pegmatite, the dolomites probably of Eminence or Potosi formation;
100 - 165 feet, mainly chert and quartz, similar to shaft A 1 with little dolomite; possibly Davis formation;
165 - 200 feet, cherty dolomites and siltstones probably of Davis formation, carrying mica occasionally in considerable amounts and pyrite in lower part;
200 - 395 feet, cherty dolomites, carrying mica occasionally in considerable amounts, probably Bonne Terre formation;
395- 405 feet, chert & quartz similar to that on surface on Shaft A 1;
405 - 440 feet, Dolomites probably Bonne Terre formation.

No. 4 Drill hole: elevation about 1060 feet, to depth 180 feet, located to the West of the pegmatite and 44 feet from the center peg, and 4 feet from the boundary of the pegmatite;

0 - 10 feet, green dolomite with much chert, mica and tourmaline;
10 - 115 feet, grey dolomites with some chert, probably of Eminence formation, with some mica;
115 - 180 feet, heavy chert and quartz, similar to that in shaft A 1, which ran 97.2% insol. and the following soda and potash, (see assay sheet No. 708465, mark 100.7, of May 13, 1955,
$Na_2O$ 0.04% and $K_2O$ 0.05%
This hole was abandoned as the driller jammed his bit in the hole.

4 (a) Con't.

No. 5 Drill Hole: elevation about 1043 feet, to depth 205 feet, located to the Southwest of the pegmatite, 481 feet from the center peg, and 48 feet to the East of Shaft B 1;

All the way this ran through grey dolomite with a little quartz. Insoluable residues suggested that the upper part was Gunter and the rest Eminence and lower formations. The lower part ran about 5% iron pyrites with traces of lead and zinc.
At 50 - 55 feet muscovite mica was present in the cuttings.
The hole was abandoned as the driller jammed his bit in the hole. But was removed subsequently & hole continued to 440' in dolomite with pyrite.

9. Dug test trenches on the surface of the pegmatite near the quartz outcrop looking for larger mica crystals than the friable and decomposed ones visible on the weathered surface. Some such flakes were found; (see specimen, No. 1 attached.)
10. Sunk a shaft on the North side of the pegmatite on the black rock, about 19 feet below trench and 30 feet from top of pegmatite at elevation about 1055 feet; shaft 10 feet square, four-square with the compass, (See E on Plan I). This shaft showed on its North face massive cream colored dolomite that appeared to have a true dip of about 25° North east; on its East side about the middle, green shally looking slickenslided boulders of dolomite and to their South the band of black rock about one foot wide and dipping 80° to the South apparently cutting into the pegmatite. To the South was pegmatite with a mica skin. This shaft showed the boundary of the pegmatite ~~xxxx~~ about 5 feet further to the north than as exposed in the trench, but the pegmatite was receding again to the South due to the black rock cutting into it. On the West, the same conditions as to the East showed but in sequence a few feet more South on this wall. There was pyrite present in the lower part of the black rock, and considerably more radioactivity. Samples of this were cut for extraction tests, to isolate the radioactive mineral if possible and for assay, and a report from Root and Simpson, Denver, Colo., dated 6-11-55 gave the following results:

| | |
|---|---|
| $U_3O_8$ | .021% |
| $Li_2O$ | .04 |
| $ThO_2$ | .14 |

In combination with the spectro-chemical assay given in para. (6), above, it seems probable that the radioactive mineral in this material is largely monazite.
11. Drill holes were probed with a geiger counter but owing to their water filling so rapidly, could not be carefully logged. No. 4 hole showed a high spot about 37 feet down and No. 5 showed one about 25 feet down.
12. The whole area was laid out in a grid of 50 feet squares orientated to the compass, and a radiometric survey made with a bismuth tube counter at each stake with the usual precautions. The exposed pegmatite was squared in 20 feet squares and similarly logged. Lines of equal radiation were plotted in accompanying Plan II.

INTEREST IN THE OPERATION

The Ozarks Explorations Company, Inc., had no interest at all in the work done in 1894, in 1904, or in 1917, all of which was directed towards lead and zinc discovery.

4 (a) Con't

The Ozarks Ex loration Co., Inc., has fi anced in its entirety all the work done in 1955, which is directed towards finding the ore reserves of the pegmatite exposed, discovering the economic minerals present, especially the nuclear elements that give rise to the radioactivity of the deposit, and to discover further pegmatites that may exist.

Accessibility of the workings:
All workings previous to 1955, are caved and inaccessible. All work subsequent to 1955 is accessible.

4 (b) PREVIOUS PRODUCTION
Some lead ore seems to have been taken out in 1894 from shafts B 1 and B 2. No production figures are available since.

Current Production
There is no current production

Ore Reserves
These down to 405 feet, according to present information, are as follows:

| Ore Tons | Ore Tons | Feldspar Tons | Quartz Tons | Mica Tons | Other Tons |
|---|---|---|---|---|---|
| Proved | 96,000 | 52,000 | 41,000 | 2,000 | 1,000 |
| Probable | 189,000 | 102,000 | 81,000 | 4,000 | 2,000 |
| Total | 287,000 | 155,000 | 123,000 | 6,000 | 3,000 |

This does not include any possible pegmatite below 405 feet, or any enlargement of the cross section of the pegmatite, or any other pegmatite than that outcropping.
The mica tonnage contains unknown amounts of stragetic mica.
The "other" minerals include rare earths, thorium, uranium, vanadium, titanium, and zirconium minerals.
The feldspar tonnage is considered to include lithium minerals known to be present.

4 (c) GEOLOGICAL FEATURES OF THE PROPERTY
The deposit is a high alkali pegmatite shaped as a long prism of unknown depth, but atleast 405 feet deep vertically on the North side, (where No. 2 drill hole showed typical silicified wall rock and mica), and atl ast 180 feet deep on the West side (where No. 3 drill hole showed the same), and atleast 30 feet deep on the North side where the shaft has exposed pegmatite.
The surface of the surrounding country rock is an oval of Eminence Dolomite, circumscribed by Van Buren dolomites and Gunter sandstones and dolomites, this again circumscribed by Gasconade dolomites; as can be seen on the Geological Map of Missouri, 1939.
This surrounding country shows many signs of general uplift in an oval completely surrounding the pegmatite, with the pegmatite at one focus of the oval and the long axis of the oval running about 50° West of South, to the Southwest of the pegmatite. In this area rocks are generally dipping away from the pegmatite on a strike roughly parallel to the periphery of the above described oval.
The long axis of the pegmatite to the Southwest of the pegmatite shows more disturbed conditions than this simple picture as can be seen on Map on p.433 of the "Lead and Zinc Deposits of Missouri", Vol. II by Arthur Winslow, 1894, reproduced here as Plan III. The dips on this axis are in places very steep, and in other places reversed to the directions described above, showing folding

4 (c) Con't Geological Features of the Property

or more extreme compression. Folding can be seen readily on a hillside 1 mile to the Southwest of the pegmatite and elsewhere.

In addition, the two mine shafts B and C were reported to have found extremely broken conditions, fractures and intense brecciation, with the sheet like lead deposits slopingup to the pegmatite, and to have met a pegmatite somewhere near the fifty foot level.

The pegmatite exposed therefore is in the focal area of a powerful uplift associated with folding and fracturing, on an axis bearing 50° West of South.

Petrographically the pegmatite is a mixture of the following constituents:

1. Graphic granite with high feldspar and little quartz, quartz being mostly wedges of ¼" or less. The feldspar is mostly microcline. Associated with the graphic granite is muscovite mica and black tourmaline.
2. Segregated massive feldspar usually a perthitic mixture of albite and microcline in a ratio of about 4 to 1;
3. Segregated massive clear quartz, among which is the original outcrop where boulders over a yard in diameter occur;
4. A high muscovite mica graphic granite skin that shows particularily on the North side;
5. A recemented breccia of pegmatite quartz with mica and tourmaline cemented in a siliceous and argillaceous matrix with a little pyrite. It is black when wet and shows consistent radiation and a content of rare earths, thorium, titanium, zirconium, and vanadium and uranium. The minerals that carry these have not yet been isolated but there is reasonable probability that one of them is monazite. (See Keldon Report 7602-1 of 5/28/55 and Bruce Williams Report 710483 of 6/4/55 and Root and Simpson Report of 6/11/55.

   In addition to the minerals mentioned above, spectro-chemical analysis showed that appreciable quantites of lithium minerals are present on the surface, although these have not been identified visually. Work is going on to separate and identify these. (See Keldon Report 7659-1 of 6/3/55.

REASONS FOR WISHING TO EXPLORE:

1. The deposit uncovered is radioactive and contains radioactive elements, probably thorium and uranium associated mostly probably with monazite since the rare earth constituents of that mineral, namely, cerium, lanthanum and yttrium occur. These have been found in one part of the deposit in near economic concentrations.
2. The deposit shows abundant mica on the surface where it is partly decomposed and friable. Mica of near stragetic size occurs a few feet down.
3. The deposit is a pegmatite which is known to be the type of rock that carries almost all primary deposits of rare earth radioactive minerals and mica.
4. Some pegmatites are well known to be segregated in width and in depth, in zones of particular composition where certain minerals are concentrated. This pegmatite is zoned as there exists a quartz core which is the usual central zone of a zoned pegmatite. Zoned pegmatites are usually those that carry certain late deposited minerals, especially albite and tourmaline. These occur here. In zoned pegmatites, rare earth minerals tend to concentrate in zones. In zoned pegmatites books of large strategic mica can be expected. Lithium minerals are also to be expected concentrated in certain zones and so are feldspars.
5. Exploration so far is such as to show that economically sufficient tonnages of pegmatite may exist. Geological considerations prove that this deposit has come from below in a zone of great fracturing. Such conditions may allow the pegmatite to have considerable enlargements below the surface still further increasing the tonnage.

REASONS FOR WISHING TO EXPLORE: CON'T

6. The same considerations as (5) lead us to expect other pegmatites especially in the zone of greatest disturbance to the South west of the present known pegmatite, and traces of one such, not reaching to the surface have been met near shaft B 1.
7. The exploitation of radioative rare earths and strategic mica is rendered attractive since the nature and size of the deposit on the surface and its geographical location is such as to suggest economic recovery of besides the above, feldspar and quartz for the local ceramic industry, and agricultural dolomite, (overburden or waste cut), for local farming.

4 (d) ACCESS ROAD

There is a good second class road from Decaturville to the property. Decaturville is on State Highway #5, from Lebanon to Camdenton.
Shipping Point--The Frisco Railway at Lebanon, is 16 miles by road from the mine.
Supply Point----The nearest local supply point is Camdenton, which is 12 miles by road. General supply point is Springfield, Missouri, 80 miles by road and/or rail.
Residence-------locally there are numerous rentable accomodations.

4 (c) Manpower

Camdenton Chamber of Commerce estimate the local area could supply 400 common and skilled laborers.
Materials, supplies and equipment amply available locally or from Springfield, Kandas City, Joplin or St. Louis.
Water--Water is pentiful at about 200 ft in local wells and in nearby springs at about 250 gallons per minute minimum, and a considerable catchment basin exists on property capable of storing about 27 million gallons.
Power--is available at 33,000 volts, 2 miles away. At present, a line comes into the property at 7500 volts.

5 (a) THE EXPLORATION PROJECT

We wish to explore for Mica (strategic) Monazite and rare earths, thorium, and uranium.

5 (b) PROPOSED WORK

A. It is proposed to core-drill as follows (See Plan I):
   I. Two deep holes, 1000' deep #6 and #7 on Plan I, placed on the axis of structure, 50° West of South, inside the existing exposure. 25' either side of the center peg.
   II. Three shallow holes 450 ' deep, #8 and #9 #10 on Plan I:
   #8 in the existing of exposure by the center peg.
   #9 in the existing exposure, about 375' to the Southeast of center peg in an area of higher radiation than normal.
   #10 in the existing exposure about 25' Northwest of center peg.
   Holes 6 - 10 will make a pattern consisting of a center and two diagonals.
   III. Three shallow holes 450 feet deep, #11, 12, and 13 on Plan I:
   #11 just off the existing exposure 59 feet to the Northwest of the center peg at the west end of a zone of high radiation (the black vein);
   #12 just off the existing exposure 59 feet to the Northeast of the center peg at the east end of a zone of high radiation (the black vein);
   #13 just off the existing exposure 41 feet to the East of the center peg--

5 (b) Con't --Proposed Work - Con't

thus with holes 1, 3 & 4 (existing) and 11, 12, & 13, completely ringing existing exposure.

IV. Four shallow holes 400 feet deep, #14, 15, 16 and 17 in the vicinity of shaft B 1 and existing drill hole #5 centered about a point 503 feet 50° West of South from center peg, and this on the axis of disturbance, thus: #14, 15 straddling this point 25 feet Southeast and 25 feet Northwest; #16, 17 respectively 41 feet Northeast of this point and 41 feet Southwest of this point.
These four holes are designed to locate the pegmatite, proximity of which was indicated in drill hole #5 and shaft B1.

V. Two shallow holes, #18, 19, contingent on finding a pegmatite near existing drill hole #5 and shaft B1 which will straddle the holes which locate it. They are shown for reference only straddling hole #16.

B. It is proposed to sink and cross cut the existing pegmatites by exploratory shaft and drifts at a level approximately 45 feet below the original surface outcrop which is at an elevation of 1055 feet, in order to expose the texture, mineralogical composition and most particularly the zoning of the pegmatite at a level where the ground is relatively unaltered by surface decomposition and which is deep enough to be safe from caving without extensive timbering. The existing shaft E, now approximately 30 feet below surface of pegmatite bottoming at 1025 feet, will be deepened 15'. A drift going South, 7 feet high by 6 feet wide, will cross-cut about 100 feet. At the mid point, a drift East and West will cross pegmatite E - W about 50 feet each way. A contingency of 50 feet of drifting is allowed in case of discovery of structures that need to be clarified.

5 (c) The work will begin in 30 days and be completed within six (6) months of completion of exploration.

5 (d) Operating Experience & Background of Applicant

H. B. Hart, President of The Ozarks Explorations Co., Inc., will be Supervisor of operations. He has had eight years experience in mining and milling of barite and lead in Morgan and Camden Counties, Missouri. He is a former State Representative and State Senator. He has been recently engaged in building, contracting and real estate development in Morgan and Camden Counties.

Philip L. Jones will be consulting Engineer. He is a graduate engineer, A.R.S.M. of the Royal School of Mines, London University, a member of the A.I.M.E. and a registered professional engineer of Missouri; with 28 years general mining, geological and milling experience. For the last fifteen years, he has been engaged in consulting, design & erection of mining and milling plants in U.S.A and South America.

L. V. Peterson, Plant Metallurgist, DuPont Plant, Dana, Indiana, will also be consultant. He has B.S. in Mining Engineering from the University of Idaho, and a M.S. in Mining Engineering from the University of Utah. He has worked as geologist and metallurgist for DuPont for the last 13 years.

6 (a) Independent Contracts

| | | |
|---|---|---|
| 2 core-drill holes 1 1/8 core, total 2000' @ $4.50 | $9,000.00 | |
| 6 core-drill holes " " total 2700' @ 4.00 | 10,800.00 | |
| 4 core-drill holes " " total 1600' @ 3.75 | 6,000.00 | |
| | $25,800.00 | $25,800.00 |

6 (b) Labor, Supervision, Consultants

| | | |
|---|---|---|
| 1 miner for 80 days @ $14.00 daily | $1120.00 | |
| 3 muckers for 80 days @ $12.00 per day | $2,880.00 | |
| 2 Watchmen, 24 hrs., for 180 days @ $16.00 | 2,880.00 | |
| 1 Supervisor, ½ time for 6 months @ $600.00 | 1,800.00 | |
| 1 Asst. Supervisor, full time for 4 months @ $300 | 1,200.00 | |
| Consulting, including final report, 6 Mo. @ $250 | 1,500.00 | |
| | $11,380.00 | $11,380.00 |

6 (c) Operating Material & Supplies

| | | |
|---|---|---|
| Explosives, 600 lbs @ 22¢ per lb. | $ 132.00 | |
| Fuses, 800' @ 1.2¢ per ft. | 96.00 | |
| Caps 1000 @ $19 per 1000 | 19.00 | |
| Drill steel 510 ft @ $1.00 per ft | 510.00 | |
| Hand tools, various | 220.00 | |
| Carbide, 100 lbs @ $8.00 per 100 | 8.00 | |
| Fuel Oil, 1000 gallons @ 13¢ per gal | 130.00 | |
| Coal (drill sharpening) 1200 lbs @ .5¢ per lb | 6.00 | |
| Gasoline, 1300 gals @ 21¢ per gal | 273.00 | |
| Lubricants, various | 50.00 | |
| Steel piping & fittings, air service | 120.00 | |
| Rubber hose, air service, 100 ft @ $1.60 per ft. | 160.00 | |
| Track for tramming complete 100 ft @ $3.14 per ft | 314.00 | |
| Rope for hoisting 200 ft @ 50¢ per ft | 100.00 | |
| | $3,138.00 | $3,138.00 |

6 (d) Operating Equipment

| | | |
|---|---|---|
| Rock Drill, use allowance or rent, 4 Mo. @ $20.00 | $80.00 | |
| Air Compressor " " " 4 Mo. @ $60.00 | 240.00 | |
| Dewatering pump " " " 4 Mo. @ $7.00 | 28.00 | |
| Truck " " " 4 Mo. @ $70.00 | 280.00 | |
| Air Hoist " " " 4 Mo. @ $10.00 | 40.00 | |
| Drill Sharpener " " " 4 Mo. @ $25.00 | 100.00 | |
| Hoist headgear & bin | 640.00 | |
| 2 cans @ $60.00 each | 120.00 | |
| | $1,528.00 | $1,528.00 |

6 (e) Rehabilitation — None

6 (f) New Buildings & Improvements

| | | |
|---|---|---|
| Field Office | $150.00 | |
| Temporary Powder House | 250.00 | |
| | $400.00 | $400.00 |

6 (g) Miscellaneous, including Repairs, Assaying, Accounting & Payroll:

| | |
|---|---|
| Repairs, labor & parts, rock drill | $80.00 |
| Air Compressor | 240.00 |
| Dewatering Pump | 28.00 |
| Truck | 200.00 |
| Air Hoist | 40.00 |
| Drill Sharpener | 100.00 |
| Hoist headgear & bin | 50.00 |
| Cans | 12.00 |

6 (g) Con't

| | | |
|---|---|---|
| Assaying, Thorium, 20 @ $10.00 | $200.00 | |
| " , Uranium, 20 @ $5.00 | 100.00 | |
| " , Rare earths, 20 @ $11.00 | 220.00 | |
| " , Silica, alumina, iron, 10 @ $3.00 | 30.00 | |
| " , Spectro-chemical analyses 4 @ $8.00 | 32.00 | |
| " , Magnetic tests, 2 @ $25.00 | 50.00 | |
| " , Heavy liquid tests, 4 @ $50.00 | 200.00 | |
| " , Freight on assay samples, 40 @ 25¢ | 10.00 | |
| " , Freight on bulk samples, 6 @ $1.00 | 6.00 | |
| " , General Lab work | 75.00 | |
| Workmens' Comp., liability, insurance 7.5% of $6,880.00 | 516.00 | |
| | $2,189.00 | $2,189.00 |

6 (h) Contingencies

| | | |
|---|---|---|
| Two extra drill holes, 800' @ $3.75 per ft | $6,000.00 | |
| 50' extra cross cutting @ $25.00 per ft | 1,250.00 | |
| Extra Assaying for above | 192.00 | |
| Extra payroll comp., liab., insurance | 75.00 | |
| Timbering, cross cuts, if necessary 50' @ 6.50 ft. | 325.00 | |
| | $7,842.00 | $7,842.00 |
| TOTAL | | $52,277.00 |

7 (a) We are prepared to furnish our share of the cost of proposed project according to Government regulations.

7 (b) We propose to furnish our share in money.

(COPY)

LABORATORY CERTIFICATE
KELLER
research corporation

Submitted by: Mr. Philip L. Jones
405 Miners Bank Bldg.
Joplin, Missouri

Date May 28, 1955
Lab No. 10038 7602-1
Marking: No. 10038

from The Ozarks Explorations Co. Decaturville Dome Mine

| ELEMENT | NOT LESS THAN | NOT MORE THAN | ELEMENT | NOT LESS THAN | NOT MORE THAN |
|---|---|---|---|---|---|
| Silicon | Major Constituent % | | Barium | 0.03 % | 0.3 % |
| Aluminum | 2.0 | 20.0 | Columbium | | |
| Magnesium | 1.0 | 10.0 | Nickel | | |
| Iron | 1.0 | 10.0 | Beryllium | | |
| Calcium | 0.3 | 3.0 | Molybdenum | | |
| Sodium | 0.03 | 0.3 | Vanadium | 0.005 | 0.05 |
| Potassium | 0.1 | 1.0 | Yttrium | 0.005 | 0.05 |
| | Tellurium | | Cadmium | | |
| Gold | | | Copper | 0.005 | 0.05 |
| Boron | 0.03 | 0.3 | Silver | | |
| Mercury | | | Tantalum | | |
| Phosphorus | | | Zinc | | |
| Lithium | | | Titanium | 0.3 | 3.0 |
| Thallium | | | Zirconium | 0.05 | 0.5 |
| Lead | | 0.01 | Palladium | 0.05 | 0.5 |
| Tin | | | Rhodium | | |
| Chromium | | | Ruthenium | | |
| Arsenic | | | Cobalt | | |
| Antimony | | | Lanthanum | 0.01 | 0.1 |
| Manganese | | 0.01 | Strontium | 0.01 | 0.1 |
| | | | Cerium | 0.01 | 0.1 |
| Gallium | 0.001 | 0.01 | Rubidium | | |
| Germanium | | | Tungsten | | |
| Platinum | | | Indium | | |
| Bismuth | | | Uranium | | |

1. Percentage ranges represent the probable concentrations of the elements to be ~~if~~ present.
2. Fire assay is the method of choice for Gold and Platinum group elements; general spectrographic techniques are limited to ore concentrations greater than two ounces per ton.
3. Spectrochemical analysis is only one of several factors required for the complete evaluation of an ore sample; it should be regarded as a "Coarse Screen" used to estimate the advisability of additional study. Economic and minerological consideration are also necessary to a true appraisal of the specimen.
4. Special attention: Uranium is absent or less than 0.02% in this sample.

Respectfully submitted,

T. J. Rollins

[illegible] LABORATORIES CO., INC.
Cameron, Missouri

( C O P Y )

LABORATORY CERTIFICATE
KELLOGG RESEARCH CORPORATION
Los Angeles 54, California

Date: June 3, 1955
Lab. No. 7659-1

Submitted by: Mr. Philip L. Jones
405 Miners Bank Bldg., Joplin, Mo.

Markings: 100.17 Decaturville Dome Mine

| Element | Not less than | Not more than | Element | Not less than | Not more than |
|---|---|---|---|---|---|
| Silicon | Major Constituent % | | Barium | | |
| Aluminum | 2.0 | 20.0 | Columbium - Not Detected—Less than 0.1% | | |
| Magnesium | 1.0 | 10.0 | Nickel | | |
| Iron | 0.5 | 5.0 | Beryllium - Not Detected—Less than 0.005% | | |
| Calcium | 0.5 | 5.0 | Molybdenum | | |
| Sodium | 0.3 | 3.0 | Vanadium | | 0.03 |
| Potassium | 0.3 | 3.0 | Yttrium | 0.003 | 0.03 |
| Tellurium | | | Cadmium | | |
| Gold | | | Copper | 0.005 | 0.05 |
| Boron | | | Silver | 0.0003 | 0.003 |
| Mercury | | | Tantalum | | |
| Phosphorus | | | Zinc | | |
| Lithium | 0.03 | 0.3 | Titanium | 0.1 | 1.0 |
| Thallium | | | Zirconium | 0.03 | 0.3 |
| Lead | 0.005 | 0.05 | Palladium | | |
| Tin - Not Detected—less than | | 0.005 | | | |
| Chromium | | | Ruthenium | | |
| Arsenic | | | Cobalt | | |
| Antimony | | | Lanthanum | | |
| Manganese | 0.01 | 0.1 | Strontium | | |
| Gallium | 0.001 | 0.01 | Rubidium | | |
| Germanium | | | Tungsten | | |
| Platinum | | | Indium | | |
| Bismuth | | | Uranium | 0.005 | 0.03 |

Respectfully submitted

(Signed) T. J. Mullins

Kelldon Research Corporation

( C O P Y )

THE BRUCE WILLIAMS LABORATORIES
Joplin, Mo.

Date: June 4, 1955

Submitted by:
Mr. Philip L. Jones
Miners Bank Building
Joplin, Missouri

Sample from Decaturville Dome

| Our No. | Mark | Description | | |
|---|---|---|---|---|
| 710483 | Sample #100-40 | | | |
| | | Phosphorous | P | 0.02% |

(Signed) Bruce Williams

( COPY )

THE BRUCE WILLIAMS LABORATORIES
Established 1896
Joplin, Missouri

Submitted by:
Mr. Phillip L. Jones
Miners Bank Building
Joplin, Missouri

Date: 5-13-55

Sample from:
The Ozarks Explorations Company
Decaturville Dome Line.

| Our No. | Mark | Description | | |
|---|---|---|---|---|
| 708435 | Sample 100-7 | Sand | | |
| | | Sodium Oxide | Na2O | 0.04 |
| | | Potassium Oxide | K2O | 0.05 |

Bruce Williams

( COPY )

Date: 5-27-55

709643 Sample 100.37 Black Rock Shoeler Mine, Decaturville Dome

Radioactive assay (equivalent to % U3O8) 0.015

Bruce Williams

( C O P Y )

ROOT & SIMPSON, INC.
Denver, 1 Colo.

SPECIMEN ASSAY

Assayed for
The Ozarks Explorations Company

Marks
Rock Sample from pit shaft

| Gold | Silver | Pct Lead | Copper | Zinc | U3O8 | V2O5 | Th O2 | Li2O |
|---|---|---|---|---|---|---|---|---|
| % | % | % | % | % | % | % | % | % |
| | | | | | 0.021 | | 0.14 | 0.04 |
| | | | | | $5.00 | | $10.00 | $7.50 |

Date--6/11/55 Charges: $22.50

ROOT & SIMPSON, INC.

( COPY )

THE BRUCE WILLIAMS LABORATORIES
Established 1898
Joplin, Missouri

Date: 5-13-55

Submitted by:
Mr. Philip L. Jones
Miners Bank Building
Joplin, Missouri

Sample from:
The Ozarks Explorations Company
Decaturville Dome Mine

| Our No. | Mark | Description | | |
|---|---|---|---|---|
| 708485 | Sample #100-7 | Sand | | |
| | | Sodium Oxide | $Na_2O$ | 0.04 |
| | | Potassium Oxide | $K_2O$ | 0.05 |

Bruce Williams

( COPY )

Date: 5-27-55

709643 Sample #100.37 Black Rock Wheeler Mine, Decaturville Dome

Radiometric assay (equivalent to $U_3O_8$) 0.01%

Bruce Williams

( C O P Y )

LABORATORY CERTIFICATE
KELDON RESEARCH CORP.
Los Angeles, 54, Calif.

Submitted by: The Ozarks Explorations Company
Camdenton, Missouri

Date--May 28, 1955
Lab. No. 7597-1
Markings -Ore

| Element | Not less than % | Not more than % | Element | Not less than % | Not more than % |
|---|---|---|---|---|---|
| Silicon | Major Consituent | | Barium | | |
| Aluminum | 2.0 | 20.0 | Columbium | | |
| Magnesium | 1.0 | 10.0 | Nickel | | |
| Iron | 1.0 | 10.0 | Beryllium | | |
| Calcium | 0.3 | 3.0 | Molybdenum | | |
| Sodium | 0.03 | 0.3 | Vanadium | 0.005 | 0.05 |
| Potassium | 0.3 | 3.0 | Yttrium | 0.005 | 0.05 |
| Tellurium | | | Cadmium | | |
| Gold | | | Copper | 0.005 | 0.05 |
| Boron | | | Silver | 0.0003 | 0.003 |
| Mercury | | | Tantalum | | |
| Phosphorus | | | Zinc | | |
| Lithium | | | Titanium | 0.3 | 3.0 |
| Thallium | | | Zirconium | 0.3 | 3.0 |
| Lead | | 0.01 | Palladium | | |
| Tin | | | Rhodium | | |
| Chromium | | | Ruthenium | | |
| Arsenic | | | Cobalt | | |
| Antimony | | | Lanthanum | 0.005 | 0.05 |
| Manganese | | 0.01 | Strontium | 0.01 | 0.1 |
| | | | Thorium | 0.01 | 0.1 |
| Gallium | 0.001 | 0.01 | Rubidium | 0.01 | 0.1 |
| Germanium | | | Tungsten | | |
| Platinum | | | Indium | | |
| Bismuth | | | Uranium | | |

1. Percentage ranges represent the probable concentrations of the elements found to be present.
2. Fire assay is the method of choice for Gold and Platinum group elements; general spectrographic techniques are limited to ore concentrations greater than one or two ounces per ton.
3. Spectrochemical analysis is only one of several factors required for the complete evaluation of an ore sample; it should be regarded as a "Coarse Screen" used to estimate the advisability of additional study. Economic and mineralogical considerations are also necessary for a true appraisal of the specimen.
4. Special attention: Uranium is absent or less than 0.02% in this sample.

Respectfully submitted,
(signed) T. J. Rollins
Keldon Research Corporation

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

April 29, 1955

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee

From: Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket 3763, The Ozarks Exploration Co., Inc., Camden County, Missouri

I have reviewed the attached application of the Ozarks Exploration Co., Inc., DMEA Docket 3763; and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

We suggest that the applicant be requested to submit additional information on the radioactive minerals present in the deposit, and results of assays made for uranium and / or thorium.

Attached are comments provided by the Acting Chief, Branch of Ceramic and Fertilizer Materials regarding the mica potentialities of the prospect.

John E. Crawford

Attachments

600

APR 2 8 1955

The Ozarks Explorations Company, Incorporated

Camdenton, Missouri

Re: Docket No. DMEA-3763 - Mica, Uranium and Thorium
The Ozarks Explorations Company, Incorporated
Wheeler Mine or Decaturville Dome
Camden and Laclede Counties, Missouri

Gentlemen:

Reference is made to your application for exploration assistance on the Wheeler Mine or Decaturville Dome in Camden and Laclede Counties, Missouri.

You will find enclosed a copy of DMEA Order-1, Amended. Please note Sec. 6, Criteria, (b) "The geologic probability of making a significant discovery". A study of your application shows that you have failed to supply sufficient facts to indicate that there is geologic probability of making a significant discovery of mica, uranium or thorium. To qualify for exploration assistance under the DMEA Program, it is necessary that you furnish evidence that strategic mica, uranium or thorium occur on the property. In your application under Section 4 (a), Physical description of previous prospecting and exploration, you have shown evidence that only minor amounts of lead, zinc, and pyrite have been found. Under your physical description of present prospecting and exploration in the Year 1955 you show that you have a pegmatite 105 feet in width north and south and 85 feet east and west. Many pegmatites are known that contain no strategic mica, uranium or thorium. You failed to mention the size of the mica crystals that you have found. It will be necessary that you supply this office with a sample of the better quality mica from the pegmatite so that its potential strategic quality may be appraised. Enclosed is a copy of Mica Purchase Regulations which may be of interest to you.

You have cited statements of many prominent geologists on the general occurrence of mica, rare gems, and uranium in pegmatites, in granites, and in granitic pegmatites. This evidence is not sufficient to justify a field team examination.

Concerning uranium and thorium possibilities in the area described in the application you should supply evidence that these minerals exist on the land you wish to explore. The evidence may consist of Geiger counter grid surveys, radiometric logs of drill holes, and samples of the uranium or thorium minerals.

Sincerely yours,

Lawrence G. Houk, Chief
Nonmetallic Minerals Division

Enclosures 2

LGHouk:gad 4/27/55
Copy to: Admr. R. File
Docket
Field Team, Region IV
Mr. Dietrich, 3061
Mr. Kiilsgaard, 5222
Mr. Houk

April 27, 1955

Mr. L. G. Houk calling Congressman Moulder for Mr. Mittendorf
(Code 190 - X-328)

Mr. Houk talked with the Congressman's Secretary Mrs. Koerber.

Re: Docket No. DMEA-3763 - Mica, Uranium and Thorium
The Ozarks Explorations Company, Incorporated
Wheeler Mine or Decaturville Dome
Camden and Laclede Counties, Missouri

Mr. Houk: I talked with you yesterday and Mr. Mittendorf has asked me to call again for him. He talked with either you or the Congressman and he said he would keep you informed. I can either talk with you or the Congressman if he is in.

Mrs. Koerber: Mr. Mittendorf talked with the Congressman. You might tell me what information you have if you want I will tell the Congressman and he can call you when he comes in. He is out of town.

Mr. Houk: We have just written Mr. Hart a letter and requested certain additional information before we can process the application. It is up to Mr. Hart to get the information in here before we can do anything more.

Mr. Koerber: You are sending him the letter today?

Mr. Houk: Yes, it will go out today.

Mrs. Koerber: Thank you so much Mr. Houk, I will tell Congressman Moulder what has happened.

Mr. Houk: You are quite welcome.

April 25, 1955

Congressman Moulder's Office calling re. Docket No. DMEA-3763 - Mica Thorium and Uranium. Mrs. Koerber, Secretary, talked with Mr. Houk.

DMEA-3763 - Mica, Thorium and Uranium
Ozark Explorations Company
Mr. Hart, President.

Mrs. Koerber: I wanted to check with you on the status of the docket for Ozark Explorations Company, DMEA-3763.

Mr. Houk: We received it on the 11th of April. It is in the process of being reviewed at the present time.

Mrs. Koerber: I see. Do you have any idea how long it might take?

Mr. Houk: When it comes to us it also goes to the Bureau of Mines and the Geological Survey and they make recommendations to us. That takes from one to two weeks. We make our recommendations to the Operating Committee who send it to the field for an examination. This would depend on how the application is made out. In this case we are still waiting for the Bureau of Mines for their comments. In view of the fact that the application is for mica, thorium and uranium that might have delayed it a little.

Mrs. Koerber: Thank you very much.

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 20 1955

April 20, 1955

Re: DMEA-3763
The Ozarks Expl. Co., Inc.
Wheeler Mine,
Decaturville Dome
Camdenton, Missouri
$195,588.75
Mica-Uranium-Thorium

Memorandum

To: L. O. Kouk, Defense Minerals Exploration Administration

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

Subject: Review of application

This application pertains to the exploration of an isolated outcrop of pegmatite (graphic granite) in Camden County, Missouri. A well defined dome in which the outcrop occurs is 55 miles southwest of Jefferson City, 52 miles west of Rolla and 115 miles west of Bonne Terre. Joplin is about 115 miles to the southwest.

The domed sedimentary rocks flanking the pegmatite outcrop have been the subject of intermittent interest since 1869, galena having been the mineral sought. Some galena, zinc minerals and iron pyrite were found in the open cuts and in diamond drill holes put down by the St. Louis Smelting and Refining Company. According to the application little of the early work was done on the pegmatite. The applicant is interested in the pegmatite and has recently stripped about one half an acre and exposed a body of pegmatite measuring 105 feet north and south and 85 feet east and west. Fine mica (muscovites), feldspar, quartz, scattered pyrite, and tourmaline, common pegmatite minerals are present, but no rare minerals are noted. The exposure seems not to have been tested by mineralite or counter.

The applicants propose to further investigate the pegmatite mass by drilling, the assumption being that the dimensions increase with depth especially to the southwest, in which direction the flanking sedimentary rocks show the greatest disturbance. (Exhibit 4c - Winslow) Records of the drilling by Rush and the St. Louis Smelting and Refining Company (Exhibit 4), west and southwest of the outcrop, if available, should furnish information concerning the assumption of the applicants. The 905 foot hole drilled by Rush 500 feet west of the pegmatite outcrop apparently failed to encounter that rock. The program involving drilling to the southwest should be reconsidered.

The information at hand gives little support to the idea that the pegmatite mass becomes larger with depth to the southwest and carries significant amounts of mica and uranium and thorium minerals. No drilling is reported as having been done near the pegmatite outcrop other than the hole to the west, drilled by Bush, and the subsurface size and shape of the mass is unknown. Seismic work might assist in determining the shape and size.

If, as appears probable, no recent investigation of the area has been made by state or federal agencies, a Field Team examination is warranted. If the application is accepted, the contract should be modified to include galena and sphalerite as sought for minerals.

Ned K. Nelson

NKNelson:hln
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Docket file
W. F. Dietrich, 3061 Interior