DMEA Form 7
(12-56)

Box 64

OFFICIAL FILE COPY

| Date | Surname | Code |
|---|---|---|
| 2/27 | Selfridge | 120 |
| 2/28 | Cogsdale | 700 |
| " | Johnson | 110 |
| " | Mittendorf | 100 |
| | | 100 |
| | | 225 |

FEB 28 1957

Mr. Ernest E. Thurlow, Manager
Denver Area Office AEC
P. O. Box 7647
Lakewood Branch
Denver 2, Colorado

Subject: DMEA Field Team Uranium Examination Reports

Dear Mr. Thurlow:

Enclosed are single copies of the following reports which should complete your file on reports of uranium field examinations made in DMEA Region IV to date:

1. Docket No. DMEA-3763, Ozarks Exploration Company, Inc., Camden and Laclede Counties, Missouri, September 26, 1955, by T. B. Mallens and C. C. Knox.

2. Docket No. DMEA-3865, Amicus Oil Company, Hudspeth County, Texas, August 25, 1955, by C. C. Knox and D. R. MacLaren.

3. Docket No. DMEA-4211, Lone Star Uranium Corporation, Burnet County, Texas, January 15, 1957, by R. U. King and C. C. Knox.

4. Docket No. DMEA-4304, Louis A. Sanford, Pawnee County, Oklahoma, August 14 and 22, 1956, by C. C. Knox and R. U. King, respectively.

5. Docket No. DMEA-4405, Ozarks Explorations Company, Inc., Camden and Laclede Counties, Missouri, January 29, 1957, by C. C. Knox.

In addition, the final Field Team report, with attachments, on Docket No. DMEA-2924, Uto and Knox, Pawnee County, Oklahoma, September 24, 1954, and January 12, 1955, by C. C. Knox and E. P. Berend, respectively, is enclosed.

Sincerely yours,

G. D. Mittendorf (for)

Administrator

GCSelfridge/esf
2/27/57
cc to: Dockets (6)
FT, REG. IV (2)
Admr. R. File
Oper. Comm.
FDLamb, USBM
THKiilsgaard, USGS
GCSelfridge (2)

Enclosures

8623

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

DOCKET COPY
Surname:
Houk
Mattendorf

AUG - 3 1956

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

Re: Re-opening denied application
Docket No. DMEA-3763-mica,
uranium, thorium
The Ozarks Explorations Company, Inc.
Wheeler Mine or Decaturville 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,

SIGNED

Laurence G. Houk, Chief
Nonmetallic Minerals Division

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

R.C.L.

GAMM

# The OZARKS EXPLORATIONS COMPANY, INC.

(A MISSOURI CORPORATION)

CAMDENTON, MO.

The DECATURVILLE DOME
*An Extinct Volcano*
*Containing Rare Minerals, Metals, Gems*

July 27, 1956

RECEIVED
JUL 30 1956

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

3963

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 itself.

Very respectfully,

H. B. Hart, President

HBH/abh

Docket Copy
Surname:
Houk
FEJohnson

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

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 (for)

C. O. Mittendorf
Administrator

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

R.C.S.

Hoover

- Why the dat not go into Specifics.

---

Can Keep out of "Maybe" ? Maybe we need say

Given that Hart met with several staff members & offer to discuss if Hart is interested

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON 25, D. C.

RECEIVED
JAN 24 1956

January 23, 1956

MICA
DMEA-3763
Issued 10/14/55

Memorandum

To: Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration

From: Assistant Secretary D'Ewart

Subject: Application of Ozarks Explorations, Inc. for assistance.

I am in receipt of a letter from Honorable Dewey Short, a Member of Congress, written in support of an application for assistance made by Mr. Henry B. Hart, President of Ozarks Explorations, Inc. of Camdenton, Missouri.

I have no knowledge of this project and neither do I know Mr. Hart. However, Dewey Short is a personal friend of mine with whom I served many years in Congress. Such help as you may feel justified in giving Mr. Short will be appreciated.

Wesley A. D'Ewart
Wesley A. D'Ewart
Assistant Secretary

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON 25, D. C.

RECEIVED
JAN 24 1956

January 23, 1956

Memorandum

To: Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration

From: Assistant Secretary D'Ewart

Subject: Application of Ozarks Explorations, Inc. for assistance.

I am in receipt of a letter from Honorable Dewey Short, a Member of Congress, written in support of an application for assistance made by Mr. Henry B. Hart, President of Ozarks Explorations, Inc. of Camdenton, Missouri.

I have no knowledge of this project and neither do I know Mr. Hart. However, Dewey Short is a personal friend of mine with whom I served many years in Congress. Such help as you may feel justified in giving Mr. Short will be appreciated.

(Sgd) Wesley A. D'Ewart

Wesley A. D'Ewart
Assistant Secretary

Docket Copy
Surname:
Houk
F E Johnson

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

JAN 23 1956

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,

D. O. Eastwood
(By EST)
Administrator

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

DEWEY SHORT
7TH DIST., MISSOURI

COMMITTEE:
ARMED SERVICES

# Congress of the United States
## House of Representatives
### Washington, D. C.

HOME ADDRESS:
GALENA, MISSOURI

SECRETARIES:
MISS IRENE LEWIS
MRS. HELEN PAULY
MISS MARY ALICE SANDERS

January 17, 1956

RECEIVED
JAN 20 1956

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Department of the Interior
Washington, D. C.

Dear Mr. Mittendorf:

It has come to my attention that Mr. Henry B. Hart, President of the Ozarks Explorations, Inc., Camdenton, Missouri, has a tentative appointment with you, for sometime after January 20, to discuss with you the advisability of seeking governmental assistance for further explorations by his company.

In the past several months Mr. Hart's company has spent more than $50,000 in drilling and exploring certain properties in Camden and Laclede Counties in Missouri. They have complete logs of their drilling operations and believe that additional exploration will develop a source of rare minerals in sufficient quantities to warrant commercial development.

The Ozarks Explorations, Inc., made application for assistance shortly after their company was organized, but the Department rejected the application because insufficient information had been developed to justify assistance. → Area - 3763 - Denied - 10/14/55

Mr. Hart is a former State Senator, a man of responsibility who is interested in his community and state interests as well as the success of his company. He is seeking no preferred treatment--but I should like very much for him to have an opportunity to bring you up to date on the operations of his company. He believes that the explorations of his company will be of interest to our Government.

I am sure Mr. Hart will firm a definite date with you, and I shall appreciate it very much if you will thoroughly and carefully consider the information Mr. Hart submits to you.

Sincerely yours,

Dewey Short

Member of Congress

DS:IL
cc-Honorable Wesley D'Ewart
Assistant Secretary of the Interior

Docket Copy
Surname:
Houk
F E Johnson

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

JAN 1 0 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,

W. W. Mendenhall
Administrator

Cy 257

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

R.C.S.

GAMM

Hauck

# The OZARKS EXPLORATIONS COMPANY, INC.

(A MISSOURI CORPORATION)

CAMDENTON, MO.

RECEIVED

JAN 18 1956

An Extinct Volcano

For Rare Metals and Gems

January 16, 1956

Mr. C. O. Mittendorf, Administrator
Defense Minerals Explorations Administration
Department of Interior
Washington 25
D. C.

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

Dear Mr. Mittendorf:

I plan on arriving at your office on Tuesday, January 24, 10:00 A.M., and I hope I have an opportunity to visit with you a few minutes before before going into details about the project with other members of your department.

Very respectfully,

H B Hart

HH/gn

H. B. Hart

I have another mtg for 10 AM 1/24

m

Docket Copy
Surname:

Hopkins
Houk
F. Johnson

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

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

JAN 6 1956

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 Keldon 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

can come in anytime
after 15th — proper confirmation
of date a few days in
advance.

I would place him
at Touch with Division
handling case —

Can get away
Wed. afternoon any
day —

C. O. Mitmaker (for)

GAMM

# The OZARKS EXPLORATIONS COMPANY, INC.

(A MISSOURI CORPORATION)

CAMDENTON, MO.

The DECATURVILLE DOME
*An Extinct Volcano*
For Rare Metals and Gems

December 29, 1955

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Admininistration
United States Department of the Interior
Washington 25, D. C.

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

Dear Mr. Mittendorf:

I will please refer you to our previous application for exploration assistance from your Department.

Since our application was filed with your Department and since field inspection by your Mr. Mullins and Mr. Knox, our company has put down a number of diamond core drill test holes. These tests have revealed a number of interesting things. At the time your field team was here, we had only five plunger drill holes down and we were then on the first diamond core drill hole. Now we have completed nine diamond core drill holes. In addition, we have possibly some 150 spectrographic analysis made by the Keldon Research Corporation of Los Angeles.

I think that it is necessary that I should talk with you in person and bring to your office the information we have before attempting to refile with your Department an application for assistance. You understand that it takes a great deal of work and time in presenting the application and getting it to a final decision. In addition, the project looks very promising, large, and may be of vital importance to our country. At this point, I want to discuss with you, the possibility of future assistance in financing a plant, should the deep tests we are now planning on, prove out.

what kind?

DMEA out!

I would like to visit you some time in January, preferrably after January 15. It might take an hour of your time. I would be glad to come to Washington upon notice that you can see me.

Respectfully,

H. B. Hart

H. B. Hart, President

RECEIVED
DEC 30 1955

HH/gn

Docket Copy
Surname:
Hopkins
F L Newman
Geehan
Selfridge
Kiilsgaard

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

OCT 14 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:

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

R.C.H.

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.

W. F. Dietrich

W. F. Dietrich

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

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 $\frac{1}{4}$ SW$\frac{1}{4}$ 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

IN REPLY REFER TO:

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

RECEIVED
OCT 5 1955

October 4, 1955

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

Memorandum

To: L. G. Houk, 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

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

RECEIVED
OCT 4 1955

October 4, 1955

Memorandum

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

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

Subject: Report of Examination, DMEA 3763, Ozarks Explorations Co., Inc., Camden and Laclede Counties, Mo.

I have reviewed the report of examination, and I have discussed it with Joseph O. Hosted, Washington representative of the Atomic Energy Commission.

The applicant had originally applied for DMEA assistance totaling $195,258.75 to explore for strategic mica, uranium, thorium, and lithium on the subject property in Camden and Laclede Counties, Mo. Later the company revised its program and requested $52,277.

A field examination by the DMEA field team revealed that there is no geologic probability of discovering any strategic minerals in this pegmatite and no economic or near economic concentrations of these minerals and elements were observed at the outcrops examined. The field examiners recommend that the application be denied.

The recommendation of my August 8, 1955, memorandum to DMEA Member, Non-Metallic Minerals Commodity Committee, is reasserted and again we recommend that the application be denied due to the nature of the material and the less-than-economic uranium content present.

John E. Crawford
John E. Crawford

DMEA Operating Committee

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

[redacted]

RECEIVED
SEP 28 1955

P. O. Box #431
Joplin, Missouri

September 26, 1955

Memorandum

To: DMEA Operating Committee, Interior Bldg., Wash. 25, D. C.

From: C. C. Knox, Region IV Field Team Executive, Joplin, Mo.

Subject: Field Team Examination Report
Application Docket DMEA-3763 (mica-uranium-thorium)
Ozarks Explorations Co., Inc.
$52,277 exploration project proposal
Decaturville Dome prospect, Camden and Laclede Counties, Mo.

The original and two copies of the Field Team's joint examination report on the subject proposal, prepared by T. E. Mullens, USGS, Platteville, Wisconsin, are transmitted herewith. I concur therein and likewise recommend that the application proposal be denied. A geologic probability for making a worthwhile mineral discovery of any kind there, and the Applicant's ability to properly conduct such an exploration program were not evidenced during the field examination.

As described in the July revision of the application, the 80 x 100-foot pegmatite had been prospected by uncovering it and trenching around three sides with a bulldozer, churn drilling five holes, sinking a 19-foot prospect shaft, and making a radiometric survey of the area.

Then, without the advice of his consulting mining engineer in Joplin, Missouri, Mr. Phillip L. Jones, a completely equipped truck-mounted diamond drill was purchased from Joy Manufacturing Co., by Mr. H. B. Hart and some of his associates in the applicant company, and diamond drilling of their first hole was in progress at 640 feet in depth, at the time of the Field Team examination. It is located about 430 feet south and 700 feet west of the center of the pegmatite. Evidently only the limestone beds stratigraphically higher than the Bonneterre dolomite were penetrated. Only a faint trace of galena with marcasite on a few styolite partings, was evidenced in the cores. Their former churn drill crew had gained their desired first diamond drilling experience, however, and drilling on that hole was discontinued after that day.

Reviewed
Operating Committee
10-3-55

While the Missouri Geological Survey logged most of the cuttings from the five previous churn drill holes, Mr. Phillip L. Jones informed me that the diamond drill hole cores have not been submitted to that Agency. He suggested to Mr. Hart that since they intended to continue diamond drilling, a hole might as well be drilled in the heart of the pegmatite so the second hole reportedly was drilled therein to a depth of about 100 feet where it appeared to emerge into highly altered sedimentary rocks. Then the third hole reportedly was drilled only to 20 feet in depth in quartz in the south part of the pegmatite before being abandoned due to a broken bit.

The traces of lead and zinc minerals identified by the Field Team in a rock pile about 300 feet south and 400 feet west of the pegmatite, or near the reported locations of some filled prospect shafts, as well as the galena traces in cores from the first diamond drill hole, are typical of such found throughout the central Missouri district and I am sure have no economic significance; especially on the Applicant's properties. It is mentioned here along with the recent prospect and/or exploratory drilling reportedly done by the Applicant, merely so that your docket information will be as complete as possible.

Mr. H. B. Hart, President of the applicant company, was to have been supervisor of the exploration project proposed in the application. Some shallow barite and lead digging many years ago in the central Missouri district, is evidently the extent of his experience along this line. Also I gathered that he is not prone to follow the advice of his consultants or the State Geological Survey, and evidently only a very small fraction of the considerable sum spent on this prospect this year was expended on the very infrequent consultations with mining and geological engineers.

This single tiny pegmatite-like occurrence in Missouri so far certainly presents a geologic puzzle or curiosity which from the standpoint of pure science, no doubt should be properly investigated. Justification for DMEA participation in the costs of such an exploration, however, has not been evidenced. Further probing work on this pegmatite must continue to be considered as "prospecting" until some ore-grade minerals or tangible geologic features are found which will clearly indicate a reasonable probability for making a worthwhile discovery.

Clinton C. Knox

Clinton C. Knox

CCK/vks
Enclosure (3)
cc: DMEA Op. Com (3)
T. E. Mullens (2)
Laurence
3763 file

RECEIVED
SEP 28 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Docket 3763

# Region IV Examining Team Report
# on
# Ozarks Exploration Company, Incorporated
# Camden and Laclede Counties, Missouri

by

T. E. Mullens and C. C. Knox

RECEIVED
MINERALS TECHNOLOGY
DIVISION

SEP 26 1955

BUREAU OF MINES
JOPLIN, MO.

Reviewed by Operating Committee 10-3-55

RECEIVED
SEP 28 1955

# TABLE OF CONTENTS

| | Page |
|---|---|
| Introduction and Summary | 1 |
| Location and Access | 2 |
| Geology | 4 |
| Ore Deposits | 7 |
| Strategic mica | 7 |
| Monazite | 7 |
| Rare Earth Elements (Elements 57-71) | 8 |
| Radioactive elements | 9 |
| Thorium | 9 |
| Uranium | 9 |
| Conclusions and Recommendations | 10 |

## LIST OF ILLUSTRATIONS

Figure 1.--Index map of Missouri showing location of Ozarks Exploration Company, Incorporated property.

RECEIVED
SEP 28 1955

# INTRODUCTION AND SUMMARY

The Ozarks Exploration Company, Incorporated, Camdenton, Missouri, has applied to the Defense Minerals Exploration Administration (DMEA Docket 3763) for assistance in exploring its property in Camden and Laclede Counties, Missouri. Originally the Company planned a $195,258.75 exploration program to explore for strategic mica, uranium, thorium, and lithium and requested DMEA to loan 75 percent of the cost of the program. Subsequently the Company revised the application and requested DMEA to loan 75 percent of the cost of a $52,277.00 exploration program to explore for strategic mica, monazite, rare earth elements, thorium, and uranium.

A DMEA examining team consisting of C. G. Knox, U. S. Bureau of Mines and DMEA Region IV Executive Officer, and T. E. Mullens, U. S. Geological Survey geologist, examined the Ozarks Exploration Company property on August 30, 1955. The examining team was accompanied by H. B. Hart, president of the company, F. L. Jones, consultant for the company, and L. . Holt, an employee of the company.

On August 31, 1955, Mullens conferred with T. R. Beveridge and G. A. Muilenburg of the Missouri Geological Survey at Rolla, Missouri on the geology of the property. Mr. Muilenburg was especially helpful and many of his suggestions are incorporated in the "Geology" section.

After the field examination and after the conference with Mr. Beveridge and Mr. Muilenburg it is the recommendation of the examining team that DMEA assistance to explore the property be denied. The

examining team believes there is no geologic probability of discovering economic concentrations of strategic mica, monazite, rare earth elements, thorium, or uranium. No economic or near-economic concentrations of these minerals and elements were observed at the outcrops examined, and no geologic features were observed to indicate that such concentrations would be found at depth.

## LOCATION AND ACCESS

The Ozarks Exploration Company, Inc. property is in south-central Missouri (fig. 1) on the border of Camden and Laclede Counties. The company has control of about 6175 acres in sections 4, 5, 6, 7, 8, and 12, T. 36 N., R. 16 W.; sections 1, 10, 11, 12, 13, 14, 15, and 23, T. 36 N., R. 17 W.; sections 29, 30, 31, 32, and 33, T. 37 N., R. 16 W.; section 36, T. 37 N., R. 17 W.; section 39, T. 39 N., R. 16 W.; and section 11, T. 39 N., R. 17 W.

The DMEA examining team used its time to examine a pegmatite in the S½SW¼ of section 32, T. 37 N., R. 16 W. This part of the property contained the only known outcrops of rocks in which strategic mica, monazite, rare earth elements, thorium, or uranium would be likely to occur.

The outcrops examined by the DMEA team is about 4 miles by a good access road southeast of Decaturville, Missouri. Decaturville in turn is about 9 miles south of Camdenton, Missouri, the nearest local supply point, and about 80 by road northeast of Springfield, Missouri, the nearest supply point for heavy equipment.

## GEOLOGY

The specific point of interest at the Ozarks Exploration Company property is a pegmatite outcrop. In plan the pegmatite is crudely rectangular; and averages about 100 feet long in a north-south direction and about 80 feet wide in an east-west direction. The company has stripped the overburden from the pegmatite and has trenched the contact between the pegmatite and country rock on the north, west, and south sides. This work by the company greatly aided the DMEA team in determining the composition of the pegmatite and its relationships with the country rock.

The pegmatite consists mainly of light colored feldspar, clear quartz, and muscovite and small amounts of tourmaline. Chlorite, caused by weathering of the mica is common throughout the pegmatite, but is most abundant near the outer edges. The texture of the pegmatite varies greatly, and it is probable that the texture is zoned. The following characterization of the texture has many exceptions, but it is probably valid. Near the outer edge coarse-grained granite prevails, toward the center graphic granite and large muscovite books are common, and in the northeast central part of the outcrop large (over 2 inches) crystals of feldspar occur. In addition to the large crystals of feldspar, clear and smokey quartz masses as much as 2 feet in diameter occur in the northeast central part.

The pegmatite is not in direct contact with the country rock, a dolomitic limestone. Instead, a "contact zone" from 6 inches to several feet wide separates the pegmatite and dolomitic limestone. In most places the "contact zone" consists of poorly sorted quartz grains, white mica flakes, clayey material, and subangular to subrounded water worn quartz

RECEIVED
SEP 28 1955

FIGURE 1. INDEX MAP OF MISSOURI SHOWING LOCATION OF OZARKS EXPLORATION COMPANY, INC. PROPERTY

fragments as much as 2 inches long. On the south side of the pegmatite this "contact zone" grades into a gray mica schist which locally contains water worn quartz pebbles. Locally, also, the "contact zone" is dark colored to black, and these darker colored parts of the "contact zone" are referred to in the docket as the "ore zone."

The "contact zone" is nearly vertical although in detail many irregularities occur. The zone seems to wrap around and over the pegmatite, except on the west side where a dike of "contact zone" material about 4 inches thick extends a short distance into the country rock.

The country rock is fine-grained dolomitic limestone of Upper Cambrian age.

Structurally the pegmatite is near the center of a large dome, but the attitude of the rocks adjacent to the pegmatite cannot be determined. Mr. Muilenburg has studied samples from holes drilled near the pegmatite and, on the basis of this study, he concludes that one or more faults occur near the pegmatite. No faults were observed by the field team; however the soil cover in areas adjoining the pegmatite could conceal many faults.

The pegmatite has been studied by many geologists in the last 75 years. The chief object of this study was to determine if the pegmatite was an intrusive, a Precambrian hill, a fault block exposing Precambrian rocks, or a combination of the last two. To date the most generally accepted theory (Lead and zinc deposits of the Mississippi Valley region; edited by Edison Bastin, GSA special paper 24, 1939) is that the pegmatite

is Precambrian in age and has not intruded into the Upper Cambrian rocks.

Evidence pointing to a Precambrian age for the pegmatite includes:

1. The lack of garnet, wollastonite, and other contact metamorphic minerals in the "contact zone."

2. The lack of silification or any alteration in the presumably easily altered dolomitic limestone country rock.

3. The presence of water-worn quartz fragments in the "contact zone." These fragments are interpreted as part of a wide-spread conglomerate developed on the Precambrian surface, and are part of the fault gouge around the pegmatite.

Evidence that the pegmatite actually intruded the Upper Cambrian rocks is less conclusive. The evidence includes:

1. Structural relationships of the pegmatite with the country rock. The "contact zone" dips steeply on all sides and it is difficult to conceive of a horst of possibly 300 feet displacement being only 80 by 100 feet in size.

2. Some evidence of contact metamorphism on the south side of the pegmatite where the "contact zone" grades to a mica schist.

The manner of emplacement has some bearing on the economic possibilities of the pegmatite. Strategic mica, monazite, rare earth elements, thorium, and uranium could be expected in the pegmatite regardless of whether it was Precambrian or Upper Cambrian in age. On the other hand, if the pegmatite intruded Upper Cambrian rocks it may have developed a contact zone where valuable minerals might occur. Thus an Upper Cambrian or younger age for the pegmatite would increase the possibility of finding valuable minerals.

After considering all available evidence Mullens believes that the pegmatite is Precambrian and no true contact zone would separate the pegmatite from the dolomitic limestone. He believes the pegmatite is a Precambrian knob which has been faulted into its present position.

## ORE DEPOSITS

No ore deposits were observed by the DMEA examining team. The probability of finding deposits of valuable minerals in or near the pegmatite is discussed below.

### Strategic Mica

All mica observed by the examining team occurred in books less than 2 inches across and all was extremely fractured (A ruled). No mica observed approached "strategic" grade in clearness; and even the average largest books would be marginal size (about 1 inch by 1 inch). A possibility exists that strategic mica could occur in the pegmatite, but the probability is that all mica in the pegmatite would resemble that found at the outcrop.

### Monazite

No monazite was identified by the examining team; however this does exclude the probability of monazite in the pegmatite or in the "contact zone."

Mr. Jones, consultant for the company, made heavy mineral separations of the "contact zone" and had separated a few grains of a yellowish-

brown mineral which may be monazite. Also the presence of thorium-bearing monazite is indicated by spectrographic and chemical assays of samples submitted to Keldon Research Corporation, Root and Simpson, Inc., and The Bruce Williams Laboratories.

Both the heavy mineral separation and spectrographic and chemical assays indicate that monazite is not concentrated in commercial quantities.

A probable explanation of monazite in the "contact zone" is that the "contact zone" represents a fault gouge containing monazite from a placer concentrate in the conglomerate developed on the Precambrian surface.

## Rare Earth Elements (Elements 57-71)

Spectrographic analyses of a representative sample of the pegmatite (Docket assay 7659-1) and the "contact zone" (Docket assays 7602-1 and 7599-1) did not reveal ore grade rare earth elements. Cerium and lanthanum were reported as ranging from 0.01 to 0.1 percent and probably would be ore grade if the higher range is correct; however the actual concentration would more likely be closer to the lower range.

Without exact knowledge as to the method and equipment used by Keldon Laboratories in making the spectrographic analysis the ranges shown on the assay sheet are difficult to interpret. On the other hand, many of the rare earth elements are relatively easy to determine by spectrographic methods and it is assumed that ore grade concentrations of the rare earth elements would be revealed.

The slight concentration of the rare earth elements are probably due to monazite which is not believed to be present in economic concentrations in the "contact zone."

## Radioactive elements

Thorium.--A chemical assay of selected material (Root and Simpson, Inc. assay in Docket) showed 0.14 percent $ThO_2$. This $ThO_2$ could be entirely in the monazite, but the abundance of $ThO_2$ as compared to monazite indicates that a thorium mineral is probably present. The field team, however, did not identify any thorium mineral.

Uranium.--The field team did not 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.

The company had prepared an isorad map of the pegmatite and adjacent ground. This map indicated radiometric highs of about twice background in two general areas. One area was restricted to the pegmatite, the other was restricted to low ridges near the pegmatite.

The highs shown on the company map are real, but they have no economic importance. The map was prepared by taking a background reading over limestone and then using this background to check the property.

Ordinary limestone contains only minor radioactive material; whereas ordinary pegmatite is relatively rich in radioactive material. Thus the about two times higher readings obtained over the pegmatite should be expected as typical when limestone is used for background and they would not indicate any particular concentration of radioactive material in the pegmatite.

The higher readings obtained over the low ridges seem to correlate with soil cover. Why radioactive material should concentrate in residual soil is not known. This question, however, is more academic than economic as the concentration in the soil is extremely weak.

## CONCLUSIONS AND RECOMMENDATIONS

A DMEA team examined part of the Ozarks Exploration Company, Incorporated property in Camden and Laclede Counties, Missouri. The examination was restricted mainly to a pegmatite outcrop as this outcrop contained the only known rocks in which minerals to be explored for with DMEA assistance would be likely to occur.

The DMEA team found no evidence of ore deposits of strategic mica, monazite, rare earth elements, thorium, or uranium during the examination. Furthermore, the team found no evidence that economic concentrations of these minerals and elements would be expected at depth.

It is recommended, therefore, that DMEA assistance to aid the Ozarks Exploration Company, Incorporated to explore for strategic mica, monazite, rare earth elements, thorium, and uranium be denied.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 25, 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 - DMEA Op. Com

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~

RECEIVED

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

C O P Y

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.

P. O. Box #431
Joplin, Missouri

RECEIVED

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

John E. Crawford

RECEIVED
AUG 19 1955

IN REPLY REFER TO:

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

August 17, 1955

Mr. Thomas Mallons
U. S. Geological Survey
Box 163
Platteville, Wisconsin

RECEIVED
AUG 18 1955

Re: DMEA 3763
The Ozarks Explorations Co., Inc.
Camden & Laclede Counties, Missouri

Dear Tom:

I am forwarding to you our file on a DMEA application submitted by the cited applicant. Would you please get in touch with Mr. Clinton Knox, DMEA Executive Officer, Region IV, Joplin, Missouri, and advise him that you have been instructed to serve as the Survey representative on the forthcoming examination of the applicant's property, as suggested in the DMEA Operating Committee letter of August 11. I suggest that you contact Mr. Knox immediately, preferably by telephone, so that you may make proper arrangements for the examination, that is assuming that Mr. Knox decides that a field examination is necessary.

Following the examination you should submit four copies of your section of the report directly to Mr. Knox, who will incorporate it into the Field Team report to DMEA from that Region. A copy of your report should also go to Mr. Bob Lawrence, Knoxville, Tennessee, and a copy to this office. Our copy should be accompanied by all of the docket file information we are hereby sending to you.

For your information, I might state that as we do not have a Survey representative in Region IV, we have a working agreement with Mr. Knox to provide him with Survey assistance on all DMEA matters. Applications coming from Texas, Oklahoma, Kansas, and Nebraska are normally handled through our Denver office, whereas applications from the easternmost states are normally handled through the Knoxville office. In this instance, as you are closest to the property, and as you are also familiar with uranium, you were a logical choice.

As you can see there is a wealth of information in the file concerning this application. Generally, the property does not look good, particularly specimens of mica which we have seen and which were not of strategic quality. The deposit apparently, however, contains radioactive material and since it is a relatively new area it probably warrants a field examination. In this respect, I might add that we were unable to evaluate the deposit by the use of the applicant's Inscend map, although it may be of some interest to you if you get on the property.

If you have any questions concerning this assignment that cannot be answered by Mr. Knox, do not hesitate to contact this office either by letter or phone.

Sincerely yours,

Thor N. Kiilsgaard
Staff Assistant for DMEA

Enclosure

cc: K. H. Teague
C. C. Knox
R. A. Lawrence
L. G. Erak

Director's reading, 4212
Branch reading, 4212

TNKiilsgaard:iml
G-8/17/55

IN REPLY REFER TO:

Mr Kuoine
Mr Hopkins

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
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: 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

RECEIVED
AUG 17 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
AUG 17 1955

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

GAMM

# The OZARKS EXPLORATIONS COMPANY, INC.

(A MISSOURI CORPORATION)

CAMDENTON, MO.

The DECATURVILLE DOME

An Extinct Volcano

For Rare Metals and Gems

August 10, 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:

Yesterday, we sent you three copies of the grid survey of the properties, the Decaturville Dome. Now we note that we failed to point out on this grid survey map that the highest reading on the property is in the shaft located on the North side of the pegmatite. The reading in this shaft at 32 feet depth, is approximately 700 above background count. Also, we might mention that the assay report, included in the amended application, was a sample of the black rock taken from this shaft on the North edge of the pegmatite.

The above information might be of value in the study of the grid survey.

Respectfully,

H. B. Hart, President

cc: Mr. Clinton C. Knox
Joplin, Mo.

RECEIVED
AUG 12 1955

GAMMA

# The OZARKS EXPLORATIONS COMPANY, INC.

(A MISSOURI CORPORATION)

CAMDENTON, MO.

The DECATURVILLE DOME
An Extinct Volcano
For Rare Metals and Gems

August 9, 1955

Mr. Lawrence C. 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,

H B Hart

H. B. Hart, President

RECEIVED
AUG 11 1955

Docket File
Surname:

HM
J Kuscavage
Martin
H Johnson

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

AUG 1 1 1955

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

Subject: 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. 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 20, 1955; Mr. John E. 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 E. Crawford of the Bureau of Mines, dated August 8, 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 (JB)

Approved:

O. M. Bishop (JB)
Member, Bureau of Mines

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

/s/ W. P. Williams (JB)
Member, Geological Survey

Enclosures 13

JHopkins:pk 8/9/55
Copy to: Admr. R. File
Docket
Operating Committee
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk &
Mr. Hopkins

Docket File
Surname:

Hopkins
F. Kinsman
Bishop
Williams
Martin
F. Johnson

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

AUG 11 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:

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. Knox, 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. O. Mittendorf

Administrator

JHopkins:pk 8/9/55
Copy to: Representative Morgan M. Moulder
Admr. R. File
Docket
Operating Committee
Field Team, Region IV
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Hopkins

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.

H W Geiser, for
John E. Crawford

August 2, 1955

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

RECEIVED
AUG 8 1955

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

ERRuhlman: arb

Copy to: Division of Minerals
Br. of Rare and Precious Metals
Br. of Ceram. & Fert. Mtls.
T.H.Kiilsgaard

F I L E S

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

RECEIVED
AUG 1955

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

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 southwestward 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

GAMMA

Docket Copy

# The OZARKS EXPLORATIONS COMPANY, INC.

(A MISSOURI CORPORATION)

CAMDENTON, MO.

RECEIVED
JUL 1955

The DECATURVILLE DOME
An Extinct Volcano
For Rare Metals and Gems

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.

Copies sent — Bureau 7/25/55 [illegible]
Rucky 7/25/55 [illegible]
Friedl

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

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 which 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 | 63.9950 % | (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 B 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 28, 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 background, 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. 710483 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 | 0.1 | 1.0 |
| Zirconium | 0.03 | 0.3 |
| Uranium | 0.003 | 0.03 |

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 Potasi 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. 708485, 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. Bit 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 Exploration Co., Inc., has financed 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 atleast 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 sloppingup 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 isipartly 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. SSome 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) lea d 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 M ica (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 ex isting 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 & erectinn of mining and milling plants in U.S.A. and South America.

E. V. Peterson, Plant Metallurgist, DuPont Plant, Dana, Indiana, will also be consult ant. 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 @ $314 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.

( C O P Y )

LABORATORY CERTIFICATE
KELDON RESEARCH CORPORATION
Los Angeles, California

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

Submitted by: Mr. Philip L. Jones
405 Miners Bank Bldg.
Joplin, Missouri
(from The Ozarks Ex lorations Company, Decaturville Dome Mine)

| Element | Not less than % | Not More than % | Element | Not less than % | Not more than % |
|---|---|---|---|---|---|
| Silicon | Major Consitutuent % | | 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 | | | Rubidium | | |
| 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 | Ruthenium | | |
| Germanium | | | Tungsten | | |
| Platinum | | | Indium | | |
| Bismuth | | | Uranium | | |

1. Percentage ranges represent the probable concantrations 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 ounce 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 considerations are also necessary for a true approaisal of the speciment.
4. Special attention: Uranium is absent or less than 0.02% in this sample.

Respectfully submitted,
(Signed) T. J. Rollins
Keldon Researdh Corporation

# LABORATORY CERTIFICATE

Keldon

research corporation

BOX 2555 TERMINAL ANNEX — LOS ANGELES 54, CALIFORNIA

LABORATORY: 2565 BELGRAVE AVE., HUNTINGTON PARK, CAL.

*Date* June 3, 1955

*Submitted By* Mr. Philip L. Jones
405 Miners Bank Bldg., Joplin, Mo.

Lab. No. 7659-1
*Reference*

Marking: 100.17 JUN 6 REC'D

| 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 | Rhodium | | |
| Chromium | | | Ruthenium | | |
| Arsenic | | | Cobalt | | |
| Antimony | | | Lanthanum | | |
| Manganese | 0.01 | 0.1 | Strontium | | |
| Gallium | 0.001 | 0.01 | Rubidium | | |
| Germanium | | | Tungsten | | |
| Platinum | | | Indium | | |
| Bismuth | | | Uranium | 0.003 | 0.03 |

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 minerological considerations are also necessary for a true appraisal of the specimen.

4. Special attention:

Respectfully submitted,

TJR/t-3

T.J. Rollins

T.J. Rollins

Keldon Research Corporation

THE USE OF THIS REPORT FOR ADVERTISING PURPOSES MUST RECEIVE OUR WRITTEN APPROVAL

( C O P Y )

THE BRUCE WILLIAMS LABORATORIES
Established 1898
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 Mine.

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

Bruce Williams

( C O P Y )

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

( COPY )

THE [illegible] MINERAL [illegible]
Established 1898
Joplin, Missouri

Date: 5-13-55

Submitted by:
Dr. Philip [illegible] Jones
[illegible] Building
Joplin, Missouri

Sample from:
The Ozarks Explorations Company
Decaturville Dome Mine

| Our No. | Mark | Description | | |
|---|---|---|---|---|
| 708485 | Sample [illegible]-7 | Sand | | |
| | | Sodium oxide | $Na_2O$ | 0.04 |
| | | Potassium oxide | $K_2O$ | 0.05 |

Bruce Williams

( COPY )

Date: 5-27-55

| | | | |
|---|---|---|---|
| 79643 | Sample 100.37 | Black Rock Mining Inc, Decaturville Dome | |
| | Radiometric Assay (equivalent to U3O8) | | 0.01% |

Bruce Williams

ENGINEERS
INSPECTIONS and TESTS

Little Rock, Ark.
219 Terminal Bldg.
Telephone FR 2-0695

Picher, Oklahoma
Connell Hotel Bldg.
Telephone 710

# The Bruce Williams Laboratories

ESTABLISHED 1898

Main Office 618-622 Joplin Street Telephone MA 3-1556

JOPLIN, MISSOURI

CHEMISTS
INDUSTRIAL and ANALYTICAL

St. Louis, Missouri
306 Valley Drive
Telephone Hobart 7-3226

Mr. Philip L. Jones
Miners Bank Building
Joplin, Missouri

JUN 6 REC'D
6-4-55

| OUR NO. | MARK | DESCRIPTION | ZINC | IRON | LEAD | CADMIUM | MANGANESE |
|---|---|---|---|---|---|---|---|
| 710483 | Sample #100-40 | | | | | | |

RECEIVED
JUL 21 1955

| | | |
|---|---|---|
| Phosphorous | P | 0.02% |

Bruce Williams

TEL. CHERRY 4-3223

# ROOT & SIMPSON, Inc.

METALLURGICAL CHEMISTS AND ASSAYERS

DENVER 1, COLORADO

P. O. BOX 2069

## SPECIMEN ASSAY

| ASSAYED FOR | MARKS |
|---|---|
| Ozark Exploration Co. | Rock Sample |

| GOLD OZS. PER TON | SILVER OZS. PER TON | WET LEAD PER CENT | COPPER PER CENT | ZINC PER CENT | $U_3O_8$ PER CENT | $V_2O_5$ PER CENT | $ThO_2$ PER CENT | $Li_2O$ PER CENT |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0.021 | | 0.14 | 0.04 |
| | | | | | $5.00 | | $10.00 | $7.50 |

DATE 6/11/55 CHARGES $ 22.50

Root & Simpson, Inc.

# LABORATORY CERTIFICATE

Keldon

**research corporation**

BOX 2555 TERMINAL ANNEX — LOS ANGELES 54, CALIFORNIA
LABORATORY: 2565 BELGRAVE AVE., HUNTINGTON PARK, CAL.

Date May 28, 1955

Submitted By The Ozarks Explorations Co., Inc.
Camdenton, Missouri

Lab. No. 7599-1
Reference

Marking: Ore

| ELEMENT | NOT LESS THAN | NOT MORE THAN | ELEMENT | NOT LESS THAN | NOT MORE THAN |
|---|---|---|---|---|---|
| Silicon | Major Constituent % | | 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 | | |
| 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 minerological 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,

T.J. Rollins

T.J. Rollins
Keldon Research Corporation

TJR/t-3

THE USE OF THIS REPORT FOR ADVERTISING PURPOSES MUST RECEIVE OUR WRITTEN APPROVAL

GAMMA

# The OZARKS EXPLORATIONS COMPANY, INC.

(A MISSOURI CORPORATION)

CAMDENTON, MO.

An Extinct Volcano

For Rare Metals and Gems

MAY 9 - 1955

May 6, 1955

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

Dear Mr. Houk:

In acknowledgement of your communication of April 28, on our DMEA application "Docket No. DMEA-3763, we are now gathering the evidence that you require.

We have engaged a consulting mining engineer, Philip L. Jones, M.A.I.M.E. and Professional Engineer of Missouri to assist us in this work. We too are being assisted in assaying drill results by the Missouri State Geological Office, and we are taking the advice of Mr. Clinton C. Knox, of the DMEA Regional Office in Joplin, Missouri.

We will write you amending or revising our application on completion of this work, and during the interim, please hold this application in the active files.

Yours very truly,

H. B. Hart, President

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

MAY 2 - 1955

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 Explorations Co., Inc., Camden County, Missouri

I have reviewed the attached application of The Ozarks Explorations 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

John E. Crawford

Attachments

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Donald R. Irving, Acting for
Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA-3763 (Mica-Uranium-Thorium)

Applicant: The Ozarks Explorations Co., Inc.

Name and Location of Property: Wheeler Mine
Camden County, Missouri

Date Application Rec'd. by Br. of Ceram. & Fert. Mat.:

Comments:

1. The Bureau of Mines does not have any record of mica production from subject area.

2. The mica according to the description given by the applicant appears to be scrap or mica schist and not strategic block mica. There does not seem to be any indication that strategic mica is present in the deposit.

Recommendation:

Suggest a field team examination.

COPY - DME[illegible]shington (2)

Mr. Robt. Laurence

C
O
P
Y

Department of the Interior
Defense Minerals Administration
RECEIVED
MAY 5 - 1955

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

Camdenton, Mo.
April 29, 1955

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

Re: Docket Number
DMEA 3763

Dear Mr. Knox:

We have been informed that the Washington Office will be asking us for additional information on our application for a DMEA grant, but at this writing, we have not yet received the Washington communication.

Since the filing of my application, I advertised for bids on contract drilling and to my surprise, I have learned that I can secure a reliable contractor for the core drilling for about 1/3 of my estimate, quoted in my qpplication. The estimates that were used in the application, were quoted to me by our State Department at Rolla. This would make a considerable change in my over-all application and we would be very happy to make that change.

As soon as I receive the papers, or requests for information from Washington, I will call at your office.

Very respectfully,

/s/ H. B. Hart, President

COPY - DME[redacted]hington (2)

Mr. Robt. Laurence

C
O
P
Y

Bureau of Mines
Defense Minerals Administration
RECEIVED
MAY 5 - 1955

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

Camdenton, Mo.
April 29, 1955

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

Re: Docket Number
DMEA 3763

Dear Mr. Knox:

We have been informed that the Washington Office will be asking us for additional information on our application for a DMEA grant, but at this writing, we have not yet received the Washington communication.

Since the filing of my application, I advertised for bids on contract drilling and to my surprise, I have learned that I can secure a reliable contractor for the core drilling for about 1/3 of my estimate, quoted in my qpplication. The estimates that were used in the application, were quoted to me by our State Department at Rolla. This would make a considerable change in my over-all application and we would be very happy to make that change.

As soon as I receive the papers, or requests for information from Washington, I will call at your office.

Very respectfully,

/s/ H. B. Hart, President

Docket Copy
Surname:

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

600

APR 28 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.

R.S.S.

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.

Defense Minerals Administration
RECEIVED
APR 20 1955

April 20, 1955

Re: DMEA-3763
The Ozarks Expl. Co., Inc.
Wheeler Mine, Decaturville Dome
Camdenton, Missouri
$195,528.75
Mica-Uranium-Thorium

Memorandum

To: L. G. Houk, 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 (muscovite~~s~~), 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 965 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 Rush, 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 E. Nelson

Ned E. Nelson

3 copies of mining
lease received

April 11, 1955

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

Subject: DMEA 3763
Re: Exploration Assistance
Wheeler Mine or
Decaturville Dome

Gentlemen:

The receipt of your application dated April 5, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3763 and referred to the Nonmetallic Minerals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

April 11, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region IV.

DMEA - 3763 The Ozarks Explorations Company, Inc.

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

P.S. Will you please see that all copies of applications are stamped with the date received, before mailing to the Washington office.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

P. O. Box #431
Joplin, Missouri

April 6, 1955

Operation's Control and Statistical Division
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Re: Ozark Explorations Co., Inc.
DMEA Application for a mica, uranium, and thorium exploration project contract,
Camden and Laclede Counties, Mo.

Dear Sirs:

Forwarded herewith are the original and two copies of the subject application brought to this office this morning by Mr. H. B. Hart, representing the applicant corporation. One copy is being retained in the Field Team file awaiting your instructions.

I am not familiar with the deposit described in this application. At Mr. Hart's suggestion following the lengthy discussion of the application this morning, I am forwarding it for your immediate information, and any comments, suggestions, or geologic reviews that can be made by the Washington Office. In the meantime I again will study the engineering aspects of this project proposal and review any other data available here.

Sincerely yours,

Clinton C. Knox

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

CCK/vks

Enclosures (3)

cc: DMEA Op. Com. (2)
Mr. Hart
Pending appl. file

MF-103
(Revised April 1952)

RECEIVED
MINERALS TECHNOLOGY
DIVISION
APR 6 1955
BUREAU OF MINES
JOPLIN, MO.

# UNITED STATES DEPARTMENT OF THE INTERIOR
## DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

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

*Not to be filled in by applicant*

Docket No. 3763
Metal or Mineral Mica, Uranium, Thorium
Date Received 4-8-55
Estimated Cost $195,528.75
Participation (Government %)

## INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: THE OZARKS EXPLORATIONS COMPANY, INCORPORATED, A Missouri Corporation
Camdenton, Missouri
H. B. Hart, Camdenton, Missouri, President
James A. Franklin, Camdenton, Missouri, Sec'y-Treasurer

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Leases: Mineral, gems, oil and gas, - 10 year leases with renewal provisions, (See Exhibit 3a attached), showing form of leases, together with the Lessors names and descriptions of properties.
Called -- Wheeler Mine or Decaturville Dome.

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise The Ozarks Explorations Company, Inc., owns the leases in full.

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

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

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. None

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

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

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. (See Exhibit 4a & 4c)

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. (See Exhibit 4d.)

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. (See Exhibit 4e)

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

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. (See Exhibit 5b)

(*c*) The work ~~will start within~~ has begun ~~days~~ and be completed within 18 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. (See Exhibit 5d)

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

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). We expect to contract all work (See Exhibit 6)

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. (See Exhibit 6b)

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. (See Exhibit 6c)

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. None

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. (See Exhibit 6e)

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. None at present

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. (See Exhibit 6g)

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

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

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

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

☒ Money ☐ Use of equipment owned by you ☒ Other

Explain in detail on acompanying paper.

## CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 5, 1955

The Ozarks Explorations Company, Inc.
(Applicant)

By H B Hart, Pres

James L. Franklin Secy Treas.

**Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.**

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

STATE OF MISSOURI )
: SS.
COUNTY OF CAMDEN )

# A F F I D A V I T

Comes now H. J. Williams, of lawful age, who being duly sworn, upon his oath states as follows:

1. That he is the duly elected, qualified and acting Clerk of the Circuit Court and Ex Officio Recorder of Camden County, Missouri.

2. That of his own personal knowledge, he states that the Articles of Incorporation of The Ozarks Explorations Company, Incorporated are recorded in his office in Book 100 at Page 404 under date of March 19, 1955.

H. J. Williams
Affiant

Subscribed and sworn to before me this 5th day of April, 1955.

James A. Rosser
Notary Public

My Commission expires: April 28, 1956

(Exhibit 3)

FORM B
FOR SALE BY THE JOPLIN PRINTING CO., JOPLIN, MO.

(COPY--Form of lease signed and acknowledged by Lessor)

# MINING LEASE

**THIS INDENTURE,** Made this.....day of....., 19....., by and between

.....

.....

....., called lessor....., and

The Ozarks Explorations Company, Incorporated

....., called lessee.

**WITNESSETH,** 1. That said lessor....., in consideration of the premises and the sum of One Dollar, paid to lessor....., by lessee..... do..... hereby LEASE unto lessee for prospecting and mining for lead, zinc, coal, and other valuable mineral substances, for ten years from the date hereof, the following described tract of land (for purposes hereof considered as one parcel) situated in..... County, State of Missouri to-wit:

.....

.....

.....

.....

.....

.....

.....of Section.....Township.....Range.....

2. The lessor.....hereby give.....and grant.....unto lessee, for said term, the exclusive right and license to prospect and mine said land for lead, zinc, coal, and other valuable mineral substances; together with the right and license to prepare for market on said premises and remove and sell all lead, zinc, coal, and other valuable mineral substances and gems mined thereon; with the right to construct buildings or other structures and to make excavations, openings, stockpiles, dumps, ditches, drains, roads and other improvements upon said premises, including the use of water in said mining operations, and to place such machinery thereon as lessee may deem necessary for efficiently prospecting and mining said lands and preparing for market and disposing of ores and coal mined, with the right to lessee to remove all property so placed thereon at any time during or within one year after the termination of this lease.

3. **IN CONSIDERATION WHEREOF,** lessee agrees to pay unto lessor.....at First National Bank.....Bank, at Camdenton....., State of Missouri....., on Wednesday of each week following sale of ore, a royalty of .....per centum of all moneys received for ores mined and sold from said land during the preceding week, with the privilege to lessee to consume such ore and pay said percentage of the market price as royalty thereon; for the protection of the lessor.....and to the end that there may be no dispute as to the market price of ore so consumed, it is expressly agreed that if the lessor..... .....not satisfied with the market price used in making royalty settlements, lessor.....shall have and hereby agree.....to take said percentage of said ore, or ore of like quality, in lieu of said royalty, at the ore bins on the property each week and further agree.....to give written notice at once in the event of.....not being satisfied as aforesaid.

4. Lessee agrees to pay lessor at the Bank, hereinbefore mentioned, on the tenth of each month, five per centum of all moneys received for coal mined and sold from said land during the preceding month with the privilege to lessee to consume such coal and pay said percentage of the market price as royalty thereon.

5. The lessee will keep accurate books showing quantities and kinds of ore mined from said lands, and sold or consumed, when and to whom sold, and the money received from sales and such books of account shall be open to inspection of lessor.....at all reasonable hours.

6. All mining operations shall be carried on in a miner-like and workman-like manner as the same are usually conducted in said locality.

7. The lessor.....shall have the right to enter upon said land for the purpose of inspection and examination, not unnecessarily interfering with the prospecting and mining operations.

8. The lessee shall commence prospecting or mining upon the lands within on or before January 1st 1956 days from the date and delivery hereof. Such prospecting or mining shall be carried on continuously and shall not be suspended at any time for longer than 30 days except on account of unavoidable accidents, strikes or other conditions beyond the control of lessee.

9. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided, the lessee shall pay or tender the sum of $25¢ per acre if the 25¢ has been paid on the oil lease then not required on this, in the manner hereinafter provided, which payment or tender shall operate as a rental for one year ~~months~~ from and after the date last above stated, and the same shall also cover the right and privilege in the lessee to defer the commencing of said prospecting or mining operations for and during the said period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of this lease. Lessor.....expressly declares that the down payment or consideration received by him for this lease at the time of the execution thereof is a good, valid and substantial consideration and sufficient in all respects to support each and every covenant herein, including specifically the option granted the lessee to extend this lease from time to time during the term thereof upon the payment or tender of the rentals hereinbefore provided for. All rentals due hereunder may be paid by lessee's check mailed, postage prepaid, to lessor.....at First National Bank....., or to the bank hereinbefore mentioned, or its successors, for lessor.....credit, on or before the date any such rentals shall become payable.

Said bank and its successors by a power irrevocable is hereby made the agent of lessor.....to accept all rentals and royalties herein provided for, and the same shall continue as a depository of such royalties or rentals during the life of this lease regardless of changes in the ownership of said land or said rentals or royalties.

10. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long as ore or coal shall be produced therefrom by the lessee, or he shall continue prospecting or mining operations on said land or any part thereof, in good faith, it being understood and agreed that in case the said lessee shall prospect the said land after the expiration of said term by drilling, he shall have the privilege of suspending such prospecting and mining operations for a period of ninety days after the completion of each hole drilled, without the payment of rentals.

11. Lessor.....hereby warrant.....and agree.....to defend the title to the lands herein described, and agree that the lessee shall have the right, at any time, to redeem for lessor.....by payment any mortgages, taxes or other liens on the above described lands, in event of default of payment by lessor....., and be subrogated to the rights of the holder thereof.

12. The lessee shall have the right to assign or sublet this lease or any portion of the acreage covered thereby.

13. Lessee shall pay for damages, caused by his operations, to growing crops on said land.

14. In case of failure of lessee to keep and perform the terms of this lease, lessor.....may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period, said lease shall thereupon terminate, at the option of the lessor....., which remedy shall be exclusive, and the lessee agrees to execute and record at lessee's expense a proper release of this mining lease.

15. The lessee may at any time, if he desires to do so, pay all royalties or rentals then due, surrender and terminate this lease by giving seven days' written notice and thereupon he shall be relieved from all obligations hereunder with like effect as if this lease had not been made, by executing and recording at lessee's expense a proper release of this mining lease.

16. The terms and conditions of this lease shall be binding upon and inure to the benefit of the heirs, legal representatives and assigns of the parties hereto.

**IN WITNESS WHEREOF,** lessor.....ha.....duly executed this indenture the day and year first above written.

.....

.....

.....

on one tract in the Camden-Laclede project

## ACKNOWLEDGMENT OF LEASE.

STATE OF....., COUNTY OF.....ss.

BE IT REMEMBERED, That on this.....day of....., in the year of our Lord, one thousand nine hundred and....., before me, a Notary Public, in and for said County and State, came..... and.....to me personally known to be the identical persons who executed the above and foregoing instrument, and who each duly acknowledged the execution of the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires.....,

.....
Notary Public.

## ASSIGNMENT.

KNOW ALL MEN BY THESE PRESENTS: That..... of..... County, in the State of.....the within named grant.....in consideration of the sum of..... Dollars to.....in hand paid, the receipt whereof is hereby acknowledged, do.....hereby sell, assign, transfer, set over and convey unto:....., heirs and assigns, the within grant.

TO HAVE AND TO HOLD THE SAME FOREVER, Subject nevertheless, to the conditions therein contained.

IN WITNESS WHEREOF, the said grant.....ha.....hereunto set.....hand.....this.....day of....., 19.....

.....

.....

## ACKNOWLEDGMENT TO THE ASSIGNMENT.

STATE OF....., COUNTY OF.....ss.

BE IT REMEMBERED, That on this.....day of....., in the year of our Lord, one thousand nine hundred and....., before me, a Notary Public, in and for said County and State, personally appeared..... and.....to me known to be the identical person.....who executed the within and foregoing instrument and acknowledged to me that.....executed the same as.....free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my official signature and affixed my notarial seal the day and year first above written.

My commission expires.....

.....
Notary Public.

NO.....

**MINING LEASE**

FROM .....

TO .....

Dated ....., 19.....

Section....., Township....., Range.....

County.....

No. Acres.....

STATE OF..... } ss.
COUNTY OF.....

This instrument was filed for record on the..... day of....., 19..... at..... o'clock.....M., and duly recorded in Book..... Page.....of the records of this office.

.....

By....., Deputy

When recorded
Return to .....

THE JOPLIN PRINTING CO., JOPLIN, MO. 195136 500 8-45

## ACKNOWLEDGMENT OF LEASE WHERE LESSOR SIGNS BY MARK.

STATE OF....., COUNTY OF.....ss.

On this.....day of.....A. D. 19....., before me, the undersigned, a Notary Public, in and for the County and State aforesaid, personally appeared..... and..... to me known to be the identical person.....who executed the within and foregoing instrument by.....mark....., in my presence and in the presence of.....and....., as witnesses, and acknowledged to me that.....executed the same as.....free and voluntary act and deed for the uses and purposes therein set forth.

IN TESTIMONY WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires.....

.....
Notary Public.

(KANSAS)
Form 88—(Producers)

# OIL AND GAS LEASE

KANSAS BLUE PRINT CO.
BLUE PRINTING • PHOTOSTAT WORK • OIL MAPS, FORMS
ARCHITECTS AND ENGINEERS SUPPLIES
141 North Market St.-Wichita Kansas

(COPY)--(Form of lease signed & acknowledged by lessors)

AGREEMENT, Made and entered into this _____ day of _____, 19____,

by and between _____

_____ Party of the first part, hereinafter called lessor (whether one or more) and

The Ozarks Explorations Company, Incorporated Part ____ of the second part, hereinafter called lessee.

WITNESSETH, That the said lessor, for and in consideration of One DOLLARS, cash in hand paid, receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter contained on the part of lessee to be paid, kept and performed, has granted, demised, leased and let and by these presents does grant, demise, lease and let unto said lessee, for the sole and only purpose of mining and operating for oil and gas, and laying pipe lines, and building tanks, power stations and structures thereon to produce, save and take care of said products, all that certain tract of land situated in the County of _____ State of ~~Kansas~~ Missouri described as follows, to wit: _____

on one tract in the Camden-Laclede project

of Section _____ Township _____ Range _____ and containing _____ acres more or less.

It is agreed that this lease shall remain in full force for a term of 10 years from this date, and as long thereafter as oil or gas, or either of them, is produced from said land by the lessee.

In consideration of the premises the said lessee covenants and agrees:

1st. To deliver to the credit of lessor, free of cost, in the pipe line to which lessee may connect his wells, the equal one-eighth (⅛) part of all oil produced and saved from the leased premises.

2nd. To pay lessor for gas from each well where gas only is found the equal one-eighth (⅛) of the gross proceeds at the prevailing market rate, for all gas used off the premises, said payments to be made to lessor at First Nat'l Bank and lessor to have gas free of cost from any such well for all stoves and all inside lights in the principal dwelling house on said land during the same time by making his own connections with the well at his own risk and expense.

3rd. To pay lessor for gas produced from any oil well and used off the premises or in the manufacture of gasoline or any other product a royalty of one-eighth (⅛) of the market value, at the mouth of the well, payable monthly at the prevailing market price.

If no well be commenced on said land on or before the 1st day of January, 19 56, this lease shall terminate as to both parties, unless the lessee on or before that date shall pay or tender to the lessor, or to the lessor's credit in The First National Bank Bank at Camdenton, Missouri or its successors, which shall continue as the depository regardless of changes in the ownership of said land, the sum of .25¢ per acre DOLLARS, which shall operate as a rental and cover the privilege of deferring the commencement of a well for one year ~~xxxxx~~ from said date. In like manner and upon like payments or tenders the commencement of a well may be further deferred for like periods of the same number of months successively. All such payments or tenders of rentals may be made by check or draft of lessee or any assignee thereof, mailed or delivered on or before the rental paying date, either direct to lessor or assigns or to said depository bank. And it is understood and agreed that the consideration first recited herein, the down payment, covers not only the privileges granted to the date when said first rental is payable as aforesaid, but also the lessee's option of extending that period as aforesaid, and any and all other rights conferred.

Should the first well drilled on the above described land be a dry hole, then, and in that event, if a second well is not commenced on said land within twelve months from the expiration of the last rental period for which rental has been paid, this lease shall terminate as to both parties, unless the lessee on or before the expiration of said twelve months shall resume the payment of rentals in the same amount and in the same manner as hereinbefore provided. And it is agreed that upon the resumption of the payment of rentals, as above provided, that the last preceding paragraph hereof, governing the payment of rentals and the effect thereof, shall continue in force just as though there had been no interruption in the rental payments.

If said lessor owns a less interest in the above described land than the entire and undivided fee simple estate therein, then the royalties and rentals herein provided shall be paid the lessor only in the proportion which his interest bears to the whole and undivided fee.

Lessee shall have the right to use, free of cost, gas, oil, and water produced on said land for its operation thereon, except water from wells of lessor.

When requested by lessor, lessee shall bury his pipe lines below plow depth.

No well shall be drilled nearer than 200 feet to the house or barn now on said premises, without the written consent of the lessor.

Lessee shall pay for damages caused by its operations to growing crops on said land.

Lessee shall have the right at any time to remove all machinery and fixtures placed on said premises, including the right to draw and remove casing.

If the lessee shall commence to drill a well within the term of this lease or any extension thereof, the lessee shall have the right to drill such well to completion with reasonable diligence and dispatch, and if oil or gas, or either of them, be found in paying quantities, this lease shall continue and be in force with the like effect as if such well had been completed within the term of years herein first mentioned.

If the estate of either party hereto is assigned, and the privilege of assigning in whole or in part is expressly allowed, the covenants hereof shall extend to their heirs, executors, administrators, successors or assigns, but no change in the ownership of the land or assignment of rentals or royalties shall be binding on the lessee until after the lessee has been furnished with a written transfer or assignment or a true copy thereof; and it is hereby agreed in the event this lease shall be assigned as to a part or as to parts of the above described lands and the assignee or assignees of such part or parts shall fail or make default in the payment of the proportionate part of the rents due from him or them on an acreage basis, such default shall not operate to defeat or affect this lease in so far as it covers a part or parts of said lands upon which the said lessee or any assignee thereof shall make due payments of said rentals. If the leased premises are now or hereafter owned in severalty or in separate tracts, the premises, nevertheless, may be developed and operated as an entirety, and the royalties shall be paid to each separate owner in the proportion that the acreage owned by him bears to the entire leased area. There shall be no obligation on the part of the lessee to offset wells on separate tracts into which the land covered by this lease may hereafter be divided by sale, devise, or otherwise, or to furnish separate measuring or receiving tanks for the oil produced from such separate tracts.

Lessor hereby warrants and agrees to defend the title to the lands herein described, and agrees that the lessee shall have the right at any time to redeem for lessor by payment, any mortgages, taxes or other liens on the above described lands, in the event of default of payment by lessor, and be subrogated to the rights of the holder thereof.

Whereof witness our hands as of the day and year first above written.

Witness to the mark:

_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)

STATE OF_____
COUNTY OF_____ } ss. ACKNOWLEDGMENT FOR INDIVIDUAL (Kans. Okla. and Colo.)

Before me, the undersigned, a Notary Public, within and for said County and State, on this_____ day of_____, 19____, personally appeared_____ and_____

to me personally known to be the identical person___who executed the within and foregoing instrument and acknowledged to me that_____executed the same as_____free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires_____ _____
Notary Public

STATE OF_____
COUNTY OF_____ } ss. ACKNOWLEDGMENT FOR INDIVIDUAL (Kans. Okla. and Colo.)

Before me, the undersigned, a Notary Public, within and for said County and State, on this_____ day of_____, 19____, personally appeared_____ and_____

to me personally known to be the identical person___who executed the within and foregoing instrument and acknowledged to me that_____executed the same as_____free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires_____ _____
Notary Public

STATE OF_____
COUNTY OF_____ } ss. ACKNOWLEDGMENT FOR CORPORATION

Be it remembered that on this_____day of_____, 19____, before me, the undersigned, a Notary Public, duly commissioned, in and for the county and state aforesaid, came_____ _____, _____ president of_____, a corporation of the State of_____, personally known to me to be such officer, and to be the same person who executed as such officer the foregoing instrument of writing in behalf of said corporation, and he duly acknowledged the execution of the same for himself and for said corporation for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal on the day and year last above written.

My commission expires_____ _____
Notary Public

No._____

**OIL AND GAS LEASE**

FROM

TO

Date_____, 19____

Section_____ Twp._____ Rge._____

No. of Acres_____ Term_____

County_____

STATE OF_____ } ss:
County of_____

This instrument was filed for record on the _____day of_____19____ at_____o'clock____M., and duly recorded in Book_____Page_____of the records of this office.

Register of Deeds.

By_____

When recorded, return to_____

THE KANSAS BLUE PRINT CO.
141 NORTH MARKET ST. WICHITA, KANSAS
PHOTOSTAT SERVICE UP-TO-DATE OIL MAPS

NOTE: When signature by mark in Kansas, said mark to be witnessed by at least one person and also acknowledged. For acknowledgment by mark, use regular Kansas acknowledgment.

STATE OF_____
COUNTY OF_____ } ss. ACKNOWLEDGMENT FOR INDIVIDUAL (Kans. Okla. and Colo.)

Before me, the undersigned, a Notary Public, within and for said County and State, on this_____ day of_____, 19____, personally appeared_____ and_____

to me personally known to be the identical person___who executed the within and foregoing instrument and acknowledged to me that_____executed the same as_____free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires_____ _____
Notary Public

(EXHIBIT-3)

# MINERAL, OIL, AND GAS LEASES

## 10-Year Contract with Renewal Provisions

Albert Moore and Cleo Moore, his wife
Description:
County of Laclede--The North half of the Northwest quarter of Section 11, Township 36, Range 17. Also the Southwest quarter of the Northwest quarter of Section 11, Township 39, Range 17, The South half of the Northeast quarter Section 10, Township 36, Range 17, All containing in all ----------200 acres

George Burns and Nancy F. Burns, his wife
Description:
County of Camden --The west half of the Northeast quarter of Section (31) Thirty-one, Township 37 Thirty-seven, Range (16) Sixteen. Except 2 acres off southwest corner of said tract deeded to the Mount Horrb Church and Cemetary, Counting 78 acres more or less.
All of the North Half ($N\frac{1}{2}$) of lot number one (1) of the Northwest quarter ($NW\frac{1}{4}$) of Section Thirty one (31), Township thirty seven (37), Range sixteen (16), containing forty acres (40) more or less, with the exception of all the mineral rights to said forty acres, title to which is to remain with parties of the first part.
Also $W\frac{1}{2}$ of $S\frac{1}{2}$ of Lot 1 $SW\frac{1}{4}$ of Section 30, Township 37, Range 16. Said land containing in all approximately 138 acres, less mineral rights on 40 acres ----------138 acres

B. H. Looney and Ollie Looney, his wife
Description:
County of Camden --The Northeast quarter of the Northeast quarter of Section (31), Township (37), Range (16) in Camden County, Missouri.
The Northwest quarter of the Northwest quarter of Section (32) Township (37), Range (16) in Camden County.
The Southwest quarter of the Northwest quarter of Section (32) Township (37), Range (16) in Camden County, Missouri.
The Southeast quarter of Northeast quarter of Section (31), Township (37), Range (16) in Camden County, Missouri.
Containing in all ----------160 acres

Lealand E. North and Genevieve North, his wife
Description:
County of Laclede -- The South half of the southeast, southwest quarter, Section 5, containing 20 acres.
The North half of the Northwest quarter and 20 acres off of North side of the south half of the Northwest quarter Section 8, containing approximately 100 acres, Twp 36, Range 16.
The Northeast quarter of the Northeast quarter of Section 7, Township 36, Range 16, containing 40 acres.
The Northwest quarter of the Northeast quarter and the North half of Lot 1 of the Northwest quarter of Section 7, Township 36 Range 16 containing 80 acres.
The east half of Lot 1 of the Northeast quarter, The Southeast quarter, all of Section 6, Twp. 36, Range 16, Containing 200 acres more or less.
The Southwest quarter of the Southwest quarter of Section 5, Township 36, Range 16, containing 40 acres. The Legal description above containing in all about ----------480 acres

(EXHIBIT 3)



James Bruce Salley and Goldie Salley, his wife
Description:
County of Laclede--The North half of the Northwest quarter and the southwest quarter of the Northwest quarter, all of Section 12, Township 36, Range 17 in Laclede County. Containing --------120 acres

Dale Esther and Helen L. Esther, his wife
Description:
County of Laclede--East half Southeast quarter and the Northeast corner Southwest Southeast of Section 7, Township 36, Range 16 in Laclede County. The North half southwest, Southwest Southwest, South 3/4 South half Northwest. The southeast Southwest, Northwest Southeast, Section 8, Twp. 36, Range 16, Containing in all, more or less----------341 acres

Ira Mizer and Alma Mizer, his wife
Description:
County of Laclede--The south half of the southwest quarter and the southwest quarter of the southeast quarter of Section 12, township 36, range 17. Also the Northwest quarter of the Northeast quarter Section 13, Township 36, Range 17. Containing in all ----------160 acres

Charles H. Olds and Velma L. Olds, his wife
Description:
County of Laclede--The south half of the Northeast quarter, and the North half of the southeast quarter and the southeast quarter of the southeast quarter, Section 14, Township 36, Range 17 in Laclede County, Missouri, more or less --------200 acres

Zeph Waters and Hazel Waters, his wife
Description:
County of Laclede--S½ SE¼, Section 23, Township 36, Range 17 in Laclede County, Missouri. Also the Southeast quarter of the Southwest quarter of Section 23, Township 36, Range 17. Containing in all one hundred and twenty acres----------120 acres

Charles B. Ginnings and Sadie Ginnins, his wife
Description:
County of Laclede--Twenty acres, part of the south half of Lot 2 southwest Section 6, Township 36, Range 16; Forty acres, the Northeast of the Northeast Section 12, Township 36, Range 16; Fifty-four acres in the Northwest corner of Lot 2 Northwest, Section 7, Township 36, Range 16, containing in all approximately----------114 acres

Hubert Rogers and Wilda Rogers, his wife
Description:
County of Laclede--The North half of the Southwest quarter and the east half Lot 1 Northwest and west half Lot 1, and 2 Northeast. Except 10 acres in the West part of Lot 2 Northeast. Containing in all approximately----------190 acres

J. L. Stephens and Martha C. Stephens, His wife
Description:
County of Camden--South half of Lot 1, Northwest and the Northwest of the Southeast of Section 31, Township 37, Range 16, Containing ----------80 acres

(EXHIBIT 3)



Harold Wheeler and Mary Wheeler, his wife
Description:
County of Camden--The south half of the Southwest quarter Section 32, Township 37, Range 16 in Camden County containing----------80 acres
County of Laclede--Lot 2 of the Northwest quarter Section 5, Township 36, Range 16 in Laclede County., containing approximately 83.46 acres. The west half of Lot 1, Northwest quarter Section 5, Township 36, Range 16 in Laclede County, containing 40 acres. The west part of the southwest southwest Section 4, Township 36, Range 16, lying west of State Highway No. 5, containing approsimately 15 acres. The north half of the Northwest quarter of the Northeast quarter of Section 8, Township 36, Range 16 in Laclede County, Containing approximately 20 acres. The Southeast quarter and the Southeast of the northeast of Section 5, Township 36, Range 16 in Laclede County, containing 200 acres. Total Laclede County--------359 acres
All said tracts containing approximately ---------439 acres.

Mrs. Fay R. LaBlank
Description:
County of Laclede--The West half of the Northeast Quarter ($W\frac{1}{2}$ $NE\frac{1}{4}$) and the Northeast Quarter of the Southeast Quarter ($NE\frac{1}{4}$ $SE\frac{1}{4}$) Section eleven (11), Township Thirty-Six (36), Range Seventeen (17), Containing 120 acres, more or less South $\frac{1}{2}$ of Section 11, Township Thirty-Six (36), Range Seventeen (17).
Containing in all----------400 acres

Maude M. Martin
Description:
County of Laclede-- The North half of the Northeast quarter Section 6,; West half Lot 1, Northwest quarter Section 5, South 24.02 acres of West half Lot 2, Northwest quarter Section 6, all in Township 36, Range 16. Containing in all approximately ----------304 acres

Alfred North and Zetta M. North, his wife
Description:
County of Laclede--The Northeast quarter of the southwest, The Northwest quarter of the Southeast quarter, The South half of the Northeast quarter, the south half of Lots 1 and 2 of the southwest quarter, one acre off of the northeast corner of the southwest southeast quarter, containing in all 248.94 acres more or less, lying in Section 7, Township 36, Range 16. Approximately ----------248.94 acres

Winston O. Esther and Nellie B. Esther, his wife
Description:
County of Camdene--All that part of Southwest quarter of Southwest quarter, Section 33, Township 37, Range 16 Camden County--lying West State Highway No. 5.---------- 30 acres
County of Laclede--Also the Northeast quarter of Northeast quarter, Section 5, Township 36, Range 16 , Laclede County, Missouri ---------- 40 acres

Harrison M. Miller and Ella May Miller, his wife
Description:
County of Laclede--North half of the Southeast Southwest, Section 5, Township 36, Range 16. Southwest Northeast, West half Southeast Northeast, South half Northwest Northeast, Southwest Northeast Northeast, 90 acres 8-36-16. Southwest East of road & south branch 61 acres. Containing in all approximately ---------- 171 acres

(Exhibit 3)



Levie Rogers and Vallie Rogers, his wife
Description:
County of Camden -- Northwest quarter of the Northeast quarter of Section (32) and the west half of the southwest quarter of the southeast quarter of Section (29) all in Township (37) Range (16). Containing 60 acres.
Twenty rods off of the west side of the southeast quarter of the southwest quarter of section (29) Township (37) Range (16) containing 10 acres.
East half of the southwest quarter of the southeast quarter of Section (29) Township (37) Range 16, containing 20 acres.
The south half of Lot 2 of the Northwest quarter, Section (7) Township (36, Range (16) in Laclede County, Missouri. Also south half Lot 1 Northwest quarter Section 7, Township 36 Range 16. Containing approximately----------168 acres

Bethena McCoy, widow
Description:
County of Laclede--The Northwest quarter of the Southwest quarter of Section 12, Township 36, Range 17, in Laclede County, containing approximately 40 acres---------- 40 acres

Laurence Chance and Pauline Chance, his wife
Description:
County ofLaclede --The East half of Lot 1 Northwest, and the West half Southeast, and East half of the Southwest and the Southeast of the Southeast all in Section 1, Township 36, Range 17. Containing in all ----------240 acres

James A. Riggins and Dortha H. Riggins, his wife
Description:
County of Laclede--All of the North Half of the Southwest quarter ($N\frac{1}{2}$ $SW\frac{1}{4}$) and the Northwest quarter of the Southeast Quarter ($NW\frac{1}{4}$ $SE\frac{1}{4}$), all in Section Twenty Three (23), Township Thirty Six (36), Range Seventeen (17), containing 120 acres, more or less.
Also, the Southeast quarter of the Northeast Quarter ($SE\frac{1}{4}$ $NE\frac{1}{4}$) of Section 23, Township 36, Range 17, containing 40 acres more or less.
Containing in all ----------160 acres

Maude M. Martin
Description:
County of Laclede--The west half of the Southwest quarter and the Northeast quarter of the Southwest quarter of Section 1, Township 36, Range 17. Also the South half of the Northwest quarter and the North half of the Southwest quarter in Section 13, Township 36, Range 17. Containing 280 acres more or less----------280 acres

Thomas Young and Grace Young, his wife
Description:
County of Laclede--The East half of the Southeast quarter of Section 13, Township 36, Range 17. The North half of the Northwest quarter of Section 14, Township 36, Range 17 in Laclede County, Missouri. Containing ----------160 acres

Thomas J. De Fries and E. W. Brumbaugh
Description:
County of Laclede--Part of the Southeast $\frac{1}{4}$, Southeast $\frac{1}{4}$ of Section Twelve (12), Township Thirty-six (36), Range Seventeen (17). Containing----------10 acres

(EXHIBIT 3)



Delle Hocking and W. J. Hocking, her husband
Description:
County of Laclede--The Southeast quarter of the Northwest quarter (SE¼ NW¼) of Section eleven (11), Township thirty-six (36), Range Seventeen (17). Containing in all ----------40 acres

Joel Grimes and Goldie Grimes, his wife
Description:
County of Laclede--Beginning at the Northwest corner of the Southeast quarter of the Southeast quarter of Section Twelve (12) Township Thirty-six (36), Range Seventeen (17); thence East 330 feet; thence South 330 feet, thence West 330 feet; thence North 330 feet and to the place of beginning. Containing, more or less----------10 acres

Fred Christner and Mildred Christner, his wife
Description:
County of Laclede --All of the West Half of the Southeast Quarter of Section Fifteen (15) in Township Thirty-Six (36) of Range Seventeen (17) containing, more or less ----------80 acres

Robert E. Hogue and Golda A. Hogue, his wife
Description:
County of Laclede--That part of the west half of Lot 2 Northwest quarter Section 1, Township 36, Range 17, that lies south and east of the branch. Also the west half of Lot 1 of the Northwest Quarter Section 1, Township 36, Range 17, Laclede County
The west half of Lots 1, and 2 of the Northeast quarter and the east half of Lot 2 of the Northwest quarter of Section 1, Township 36, Range 17 of Laclede County
The east half of Lot 2, Northeast Section 1, Township 36, Range 17, of Laclede County. Containing in all, approximately-----240 acres
County of Camden--All of the south half of the southeast quarter of Section 36, Township 37, North, Range 17 West, also that part of the northwest quarter of the southwest quarter of Section 31 Township 37, Range 16 in Camden County described as follows, Beginning at the southwest corner of said northwest quarter of the southwest quarter of Section 31 thence run North along west line said quarter quarter section 31, 411/3 rods more or less to the intersection of the said west line with the south edge of the County road, thence run in a northeasterly direction along the south side of said road 36 rods, thence south to the south line said Northwest southwest quarter, thence west to the place of beginning, in Camden County. Containing approximately --------110 acres

Bual Waters and Myrtle Waters, his wife
Description:
County of Laclede--All of the North one half of Lot Two (2) of the Southwest quarter and the west one half of Lot one (1) of the northwest quarter of Section six (6), Township Thirty-six (36) Range Sixteen (16) and the east one half of the Northeast quarter and the Northeast quarter of the Southeast quarter of Section one (1), Township Thirty-six (36), Range Seventeen (17), and containing in all 160 acres, more or less., together with the rights of ingress and egress for road purposes beginning at the NW corner of the E½ Lot 1 NE¼ run north to the NW corner of the E½ of Lot 2 NE¼ of Section 36, Twp 37, Range 17 following the west side of Pt Lot 2 NW¼ and PT. NW SW of Section 31, Twp 37, Range 16, thence across E½ Lot Lot No. 2 NE of Sec. 1 Twp 36, Range 17, said roadway beginning in Laclede County and ending at the present County road in Camden County.
Also all of the southwest quarter of the southwest quarter (SWSW) of Section twenty-three (23), Township thirty six (36), Range 17, containing 40 acres more or less.
Total containing more or less---------- 210 acres

(EXHIBIT 3)



Clint Rogers and Vada Velma Togers, his wife
Description:
County of Camden--All of the east half ($E\frac{1}{2}$) of the Northwest quarter ($NW\frac{1}{4}$) of Section thirty-two (32), Township thirty-seven (37), Range Sixteen (16), Containing 80 acres more or less.
All of an undivided interest in and to the Northeast quarter ($NE\frac{1}{4}$) of the Northeast quarter ($NE\frac{1}{4}$) of Section Thirty-two (32) in Township thirty-seven (37) North, Range Sixteen (16) West.
Containing in all, approximately---------- 120 acres

Euin Gregory and Ila Mae Gregory, his wife
Description:
County of Camden-- That part of Northwest quarter of Southwest quarter Section 33, Township 39, Range 16, lying West of Highway, Also south half southeast quarter Section 32, Twp 37 Range 16 in Camden County. Containing more or less ----------120 acres
County of Laclede--North 10 acres of Northwest quarter ($NW\frac{1}{4}$) Section 5, Township 36, Range 16, in Laclede County ---------- 10 acres
Containing in all approximately ---------130 acres.

Luther T. Burns and Leona Mae Burns, his wife
Description:
County of Laclede--80 acres of land being the North half ($N\frac{1}{2}$) of the Northwest quarter ($NW\frac{1}{4}$) Section 13, Township 36, Range 17. Containing---------- 80 acres

F. S. Dauwalter and Mary Jane Dauwalter, his wife and
Helen Creagon and Harry A. Creagon, her husband, and
Elizabeth Buchanan and Richard O. Buchanan, her husband
Description:
County of Laclede---The West half of Lot 1 Northeast quarter and East half Lot 1 Northwest quarter and Lot 2 of Northwest quarter; all in Section Six (6), Township thirty-six (36), Range sixteen (16), in Laclede County, Missouri. Containing in all, more or less----------160 acres

6174.94 Acres

EXHIBIT 4 e)

View Of

ONE OF THE DOMES
On Edge of the Crest of the Intrusion

DECATURVILLE DOME

Camden-Laclede Counties

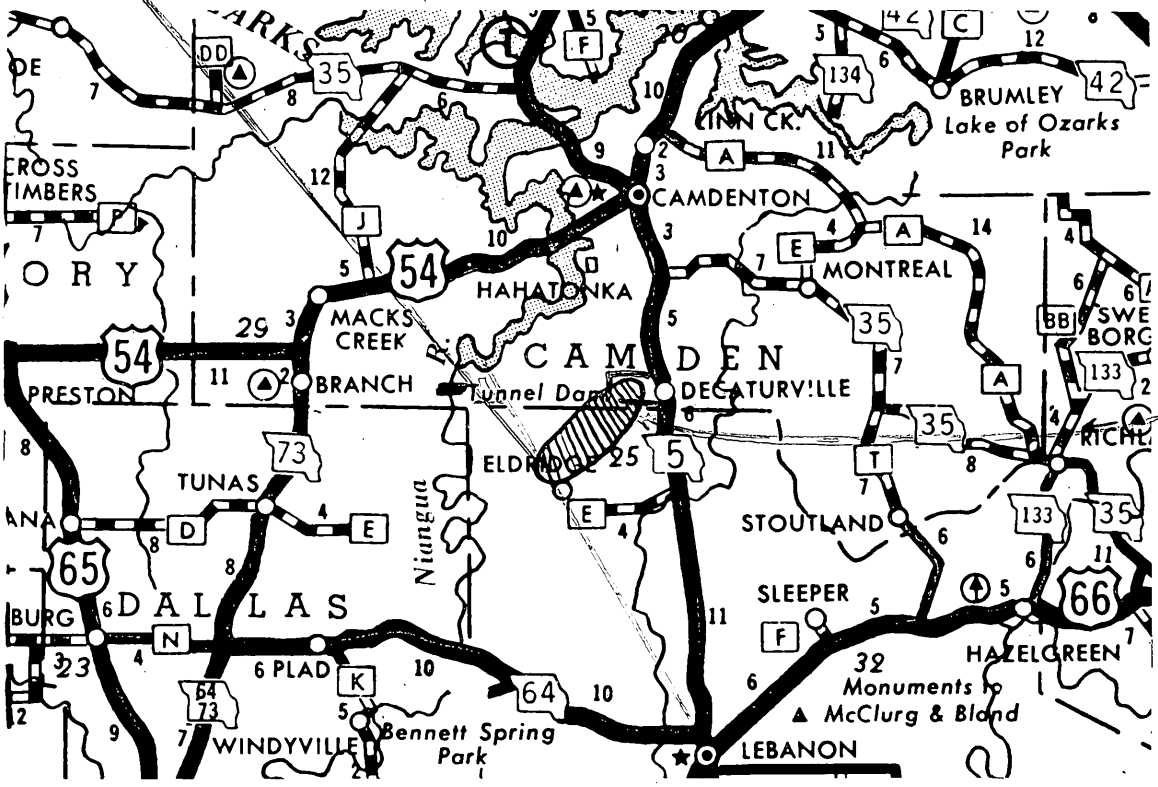
The Ozarks Explorations Company, Inc.
Camdenton, Missouri

(EXHIBIT 4d)

# THE LOCATION IN MISSOURI

**Camden-Laclede Counties**

TUNNEL DAM
POWER LINE
66000




THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(Exhibit - 4 d)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

Cross section of the Pegmatite
by E. M. Shepard
1904

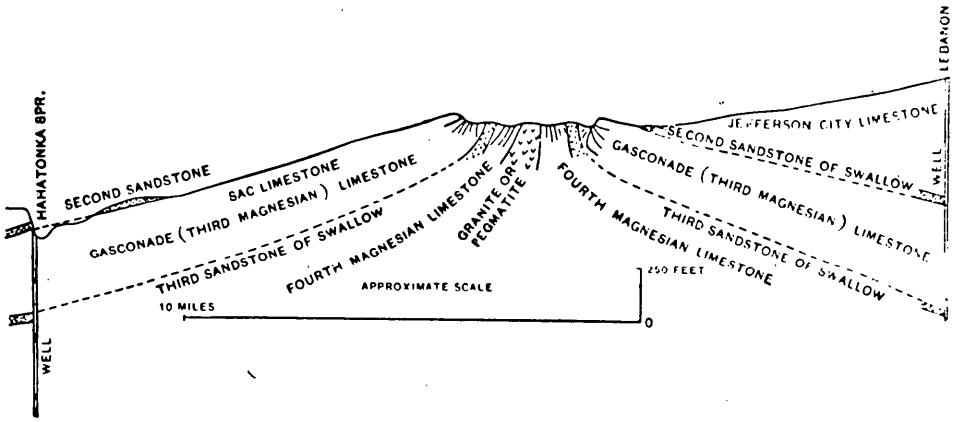



FIG. 29.—Ideal cross section from Hahatonka Spring to Lebanon.

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

Department of the Interior
Bureau of Mines Minerals Administration
RECEIVED
APR - 8 1955

Physical Description)
EXHIBIT 4

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(4) and (a) SUMMARY OF THE DECATURVILLE DOME MINING OPERATIONS (From 1855 to 1955)

Physical Description of Previous Prospecting & Exploration

From the Geological Reports, you will note the first mining and prospecting was done on the property in the year of 1869, by the owner of the land, Mr. Samuel Wheeler. He did only a small amount of excavating and shaft work. The excavating was a small cut only about 20 feet in length and 10 feet wide and perhaps 30 feet deep. Here he encountered the quartz, feldspar, mica, granite, etc. A few years later he put down a few additional prospect holes in another location, about 200 yards southwest of his first work. In these prospect holes of two shafts and cuts, he encountered some veins of lead, zinc and pyrties. In this latter location, he found no mica or feldspar.

About the year of 1901, three or four diamond drill holes were put down by a Major Rush in the area about one mile southwest of the present exposed pegmatite. One hole was put down 500 feet west of the pegmatites. This hole went down to a depth of 965 feet, and an interesting feature was the steepness of the southwest face of the pegmatite. The drilling indicated a sheer clift nearly 1000 feet high with a slope atleast 65 degrees with some lead showing.

There have been no test holes in the pegmatite proper, and none have been put down around the other portion of the pegmatite.

A few years ago, five holes were put down by a St. Louis Smelting Refining Company in other locations southwest, the nearest hole to the pegmatite was 3/4 mile distance. According to log report, the holes were all in domolite? dolomite with some chert and sand with a showing of some lead and zinc in each hole.

Physical Description of Present Prospecting & Exploration (Year 1955)

In February, 1955, we went upon the Wheeler Property, located in the South half of Southwest Quarter, Sec. 32, Twp. 37, Range 16, where in 1869, Mr. Samuel Wheeler had put down 2 shallow shafts and a small cut, uncovering the pegmatite as described previously. Since that time, the shafts and cuts had grown over and filled with debris. With a bulldozer, we removed the top soil over about one-half acre area. And, we uncovered the top of the pegmatite as per photo hereto attached. Then we cut down around the side along the edge of the wall-rock from 8 to 12 feet deep. We discovered the pegmatite contents (the boss or neck) 105 feet in width, North and South; and 85 feet East and West. With present indications, it will increase in width and depth. The top of the pegmatite contains mostly fine mica and feldspar, graphite granite, large blocks of feldspar and quartz, some pyrties showing in the quartz, also a few veins of termailine increasing in width as we go down. Also, the size of the mica increases at depth, and the whole contents is much harder at depth.

We also cut an entrance runway on the North side of sufficient width for our trucks and machinery to operate. And, at the head of this runway, the pegmatite is exposed about 12 feet above the floor of the runway.

EXHIBIT 4-(C)

GEOLOGICAL HISTORY * "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

(1855 - 1871)

REPORTS ON THE GEOLOGICAL SURVEY
of the State of Missouri, 1855-1871
by G. C. Broadhead, F. B. Meek &
B. F. Shumard.

Published by Authority of the Legislature,
under the Direction of the Bureau of Geology
and Mines.

.....Although the Third Magnesian Limestone, which, in counties further east, has yielded such enormous quantities of Galena, is not extensively developed in Laclede, we have observed it to occur only in a single locality--to wit: on Fielding Clark's land, in T. 36, R. 16, N.W. quarter of Sec. 5. At this place a few shallow excavations have been made in a soft variety of the Third Magnesian Limestone, and a few pounds of the Sulphuret of Lead got out. The ore occurs disseminated through an impure brown Iron ore, 200 yards distant from an igneous dyke of Granite. This locality is worthy of being further proved. It is not improbable that other deposits of the valuable metal will be found in Laclede county.

(The Ozarks Explorations Company, Inc., owns photostatic copies of the above report.)

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

(1869)

ORIGIN OF THE DECATURVILLE DOME

By W. A. Tarr, Professor of Geology
University of Missouri
D., U.C.L.A. D., Ok.A.& M.

In 1869 some prospectors searching for lead uncovered a Granite Pegmatite.

The Pegmatite consists of feldspar, dominantly micro-coeline, but according to Winslow and Shepard.....contained albite, aligoclose, quartz and muscovite.....the writer found also tourmaline.

A feature so interesting and important, mention must be made.... of a mass of mica schist....Winslow ventures the suggestion that some of these disturbed areas are underlain by other intrusive masses of igneous rocks....The structural geology of the area offers an interesting problem....Thorough study may disclose some unknown structural elements.

(The Ozarks Explorations Company, Inc., owns photostatic copies of the above report.)

(EXHIBIT 4.C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

1894

Missouri Geological Survey
by, Arthur Winslow
Original Founder of the Geological Society of America...Graduate Massachusetts Institute of Technology...State Geologist of Missouri.... President of Liberty Bell and Gold Mining Co. President of U.C. and British Columbia Mining Company, Goldfield Consolidated, etc.

(Page 432) On the Camden-Laclede County line, Sec. 32, Township 37, Range 16, is an area of intense local disturbance. With this is associated an erupted dike or boss. Special interest attaches itself to this outcrop as it is the <u>only one</u> of the <u>post archean</u> age found in the Mississippi Valley, with the exception of the mesozoic eruptions of Arkansas....Similar conditions have been nowhere observed within the Ozark area...The rocks of the dike consist of a graphic granite or pegmatite and of white mica....The structure is that of a true graphic granite....long crystals of quartz, surrounded by feldspar....The disturbed conditions of rocks surrounding the pegmatite is in support of the view that the latter was originally molten and that it was intruded....An analysis showed the following remarkable composition from near surface samples....assay...

(The Ozarks Explorations Company, Inc., owns photostatic copies of the above report.)

(Exhibit 4C)

The Ozarks Explorations Co., Inc.
Camdenton, Missouri

DEPT. OF THE INTERIOR
Minerals Administration
RECEIVED
APR - 8 1955

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

1894
Missouri Geological Survey
By, Arthur Winslow

LEAD AND ZINC DEPOSITS

(Page 432).On the Camden and Laclede county line, at the Wheeler mine, in section 32, of township 37 N., 16 W., is an area of intense local disturbance, illustrated in figure 114. With this is associated an erupted dike or boss of pegmatite. Special interest attaches itself to this outcrop, as it is the only one of post Archean age found in the Mississippi valley, with the exception of the Mesozoic eruptives of Arkansas. Further, it is the only indication we have that igneous action or metamorphism accompanied the crustal movements of the Ozark uplift. The actual exposure of pegmatite does not exceed a few square yards, and, had it not been that the locality was prospected for lead, its presence might never have been detected.

The country rocks are principally magnesian limestones; with them are some sandstones; they are normally horizontal and undisturbed. Immediately about the pegmatite, however, they assume abnormal and rapidly varying dips. Similar conditions have been nowhere observed within the Ozark area, and, in themselves, they are sufficient to have distinguished this locality as one of somewhat intense, though local, disturbance. These conditions are represented on the small map, constructed from a survey of the area. The short, heavy black lines represent outcrops, and the arrows the dips.

Reference area

From this map it will be seen that to the north, east and south of the pegmatite, the disturbance does not extend very far, nor are the dips excessive. To the southwest, however, the disturbance can be traced some two miles, and at points it is quite intense. It is further noticeable that the dips are generally away from the dike, as if this were the center of the disturbance. Exceptions to this, and steep and confused dips at other localities, such as those marked A, B and C, suggest that there were other centers also, and that eruptive rock may exist elsewhere, not far beneath the surface.

The rocks of the dike consist of a graphic granite, or pegmatite, and of white mica. These do not seem to be distributed or arranged in any special order, unless it be that the mica prevails near the contact with the surrounding rocks. The dike seems to have the form of a boss or neck, which has pushed its way up through the rocks. The structure of the pegmatite proper is in part that of a true graphic granite consisting of long crystals of quartz, surrounded by feldspar; sometimes it is granular. It is always fine-grained, the quartz crystals not exceeding a fourth of an inch in diameter. Sometimes, masses of quartz are found with no admixture of feldspar. The mica forms a rock composed of very small crystals or scales. Prof. Erasmus Haworth, who examined specimens, reports that he found only one mica, muscovite. Microcline is the princâpal feldspar, but the acid triclinics are present in small amounts. These are probably albite and oligoclase, both or either, and,

EXHIBIT 4 e

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

LEAD AND ZINC DEPOSITS
BY, Arthur Winslow — Continued

possibly, orthoclase. The rock is much decomposed at the outcrop, and is mostly soft and incoherent. No contact metamorphism of the country rocks could be detected.

The disturbed condition of the rocks surrounding the pegmatite is in support of the view that the latter was originally molten, and that it was intruded. That it was formed by aqueo-igneous fusion, as such rocks are commonly believed to be formed, there is no reason against. That it is purely a result of segregation or alteration of rocks in situ, as has been maintained by some concerning other pegmatites, is opposed to the facts. It is not probable that this intrusion or eruption ever reached the surface. No traces of volcanic rocks are now found in the surrounding country, and the small size of the outcrop indicates that the present exposure is near the apex of the boss or neck.

The exact age of the intrusion cannot be determined. That it was post-Lower Silurian is self-evident. We are inclined to assign it to the time of the last great uplift of the Ozarks, which was immediately after the Coal Measure epoch, and which was probably the greatest crustal movement that took place over this area.

(The Ozarks Explorations Company, Inc.
Camdenton, Missouri
owns photostatic copy of this report)

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

1904

United States Geological Survey
Hydrology of Eastern United States
By E, M. Shepard
B.A. 1878 Williams College
D.S.Waynesburg College
With Druary College 50 years
Board Mgr. 1893 to 1933.

(Page 113) The coarsely crystalline Granite, known as Pegmatite....in the neighborhood of Decaturville has been for many years an object of interest....In 1869 some miners prospecting for lead laid bare a small area of granite Pegmatite... called graphic granite....resembling the letters of ancient alphabet....which gradually merged into a true pegmatite.... mainly feldspar....known as microcline with some albite and aligoclase feldspar....numberless small masses of quartz.... sheet like mass of fine scaled feirunginous schist evidently metamorphoredgouge.....

(The Ozarks Explorations Company, Inc., owns photostatic copies of the above report.)

(Exhibit 4 e)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

DR. C. R. VAN HISE

Born at Fulton, Wisconsin, May 29, 1857; died at Milwaukee, Wisconsin, November 19, 1918.

B. M. E., University of Wisconsin, 1879, B. S. 1880, M. S. 1882; Ph. D. 1892; LL. D., University of ?Chicago, 1903; Yale, 1904; Harvard, 1908, Dartmouth, 1909.

Instructor in Metallurgy, University of Wisconsin, 1879-1883; Assistant Professor, 1883-1886; Professor 1886-1888; Professor of Mineralogy, 1888-1890; Professor of Archean and Applied geology, 1890-1892; Professor of Geology, 1892-1903; President, 1903-1918.

Non-resident professor of structural geology, University of Chicago, 1892-1903.

Assistant Geologist, United States Geological Survey, 1883-1888; Geologist in charge of Lake Superior Division, 1888-1900; Geologist in charge of Division of pre-Cambrian and Metamorphic Geology, 1900-1908; Consulting Geologist, 1909-1918.

Consulting Geologist, Wisconsin Geological and Natural History Survey, 1897-1903; President Board of Commissioners, 1903-1918.

Chairman of Wisconsin State Board of Forestry, 1905-1918.

Chairman Wisconsin Conservation Commission, 1908-1908.

Member of National Conservation Commission, 1908-1918.

Trustee of Carnegie Foundation for the Advancement of Teaching, 1909-1918.

Member of National Academy of Sciences, Washington Academy of Sciences, Scientific Society of Christiania, Royal Swedish Academy of Science, Geological Society of America (president in 1907), Wisconsin Academy of Sciences, Arts, and Letters (President, 1893-1896), American Association for the Advancement of Science (Vice-president of Section E, 1901; President, 1916-1918), American Institute of Mining Engineers, National Geographic Society, Philosophical Society, New York Academy of Sciences, Boston Society of Natural History, and others.

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

1912

Private Report by C. R. Van Hise to Congressman
D. W. Shackleford.....on the Decaturville Pegmatite...

....It is a true Granite Pegmatite....which will contain several of the common minerals and should contain some of the rare minerals and gems.....There extends to the southwest for considerable distance a mica schist....and from indications, there should be pitchblende, thorium and carnotite nearby....I would advise you to keep watch on this property, it has wonderful possibilities...A thorough test should be made in the area....

Dr. Van Hise was of the opinion that the broken area extended much farther southwest than according to the other geologists.

Briefly, this is a general summary of the private report written by Dr. Van Hise to Congressman Shackleford which I was permitted to read shortly before the death of Shackleford. I was asked to keep it confidential until I had the means or associated with some one that could properly finance the testing of this property.

The Ozarks Explorations Company, Inc.
by H. B. Hart, President
Camdenton, Missouri

(EXHIBIT 4 C)
INFORMATION.

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

STATEMENTS OF OTHER GEOLOGISTS ON PEGMATITES
MINERAL DEPOSIT OF THE PEGMATITES

By Waldemar Lindgren
Professor of Economic Geology, Massachusetts Institute of Technology; Formerly Geologist, United States Geological Survey.

Granite Pegmatites which consists mainly of coarsely crystallized orthoclase and quartz with muscovite; they often contain tourmiline, cassiterite, beryl, orthite, topas and a host of other rare minerals....The Pegmatites on one hand, contain many of the common minerals in exceptional sige of grain and purity and on the other hand they are a store house for a great number of the rarest minerals, many of which are not found elsewhere. These deposits are therefore of considerable economic importance, and their valuable products are of manifold kind.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

FORMATION AND OCCURENCE OF URANIUM DEPOSITS
By Alfred J. Moses, E.M.
Ph.B. Columbia University
New York

Uranium is found in granite rocks and their pegmatites.... Important deposits are generally in veins, the primary mineral being usually the amorphous variety uraninite pitchblende.

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(EXHIBIT 4-C)

INFORMATION

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

STATEMENTS OF OTHER GEOLOGISTS ON PEGMATITES

IGENOUS ROCKS
By James Furman Kemp, E.M., D.Sc.,
Late Professor of Geology, School Mines
Columbia University, New York

....Especially in regions of granite intrusions and of extensive metamorphiam, veins and dikes....these are called pegmatite and in them is the home of graphic granite, the curious intergrowth of quartz and feldspar, such that a cross fracture of the blades of quartz suggests cuneiform characters. Garnet, tourmaline, beryl, and minerals involving the rare earths, are often found in pegmatites, and they supply the feldspar and mica of commerce.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

GEMS

By D. B. Sterrett
Mineral Resourdes, U.S. Geol., Survey

The Pegmatite dikes have always been famous as the source of Gem minerals, which are valued for ornaments on account of their color, hardness and brilliancy.....viz, Beryl, Emerald, Topaz, Sapphire, Ruby and many others....

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

INFORMATION

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

STATEMENTS OF OTHER GEOLOGISTS ON PEGMATITES

December 10, 1954

From: U. S. Atomic Energy Commission
Division of Raw Materials
Washington 25 D. C.

...The major deposits of uranium ore occur in: (1) Veins, many of which also commonly contain other metallic minerals of economic significance; and (2) concentrations in sedimentary rocks, chiefly sandstone and conglomerate. Uranium occurs in trace amounts in most igneous rocks and is notably concentrated in the more granitic rocks, particularly granitic pegmatites.

...Pitchblende and uraninite are uranium minerals of principal economic importance. They are formed by ascending thermal waters derived from, or heated by, intrusive rocks, and are usually found in or near granitic rocks, pegmatites, or in veins.

...Autunite, a lemon-yellow or sulphur-yellow uranium mineral, and torbernite, an emerald green uranium mineral, are formed by the alteration of pitchblende and uraninite. Autunite and torbernite are soft and average weight (specific gravity 3.1). They occur in thin, flat, brittle crystals which are transparent to translucent. Autunite crystals fluoresce a vivid yellow-green under the ultra-violet lamp, but most specimens of torbernite do not fluoresce. Autunite and torbernite occur in pegmatites, and on joints and cracks in granitic volcanic, and various other rocks. Torbernite is an important commercial mineral in the uranium deposits of the Belgian Congo.

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

(EXHIBIT 4e)

State Chamber of Commerce
Lake of the Ozarks Ass'n.
Missouri Recreation Ass'n.
Conservation Federation
U. S. Highway 54 Ass'n.
Mo. Good Roads Ass'n.

# Chamber of Commerce

**NIANGUA ARMS LAKE of the OZARKS**

**Camdenton, Mo.**

**PHONE 187**

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

March 28,1955

Defense Minerals Explorations Administration
Department of Interior
Washington, D.C.

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

Re: Available man power
Decaturville Dome Area

Dear Sir,

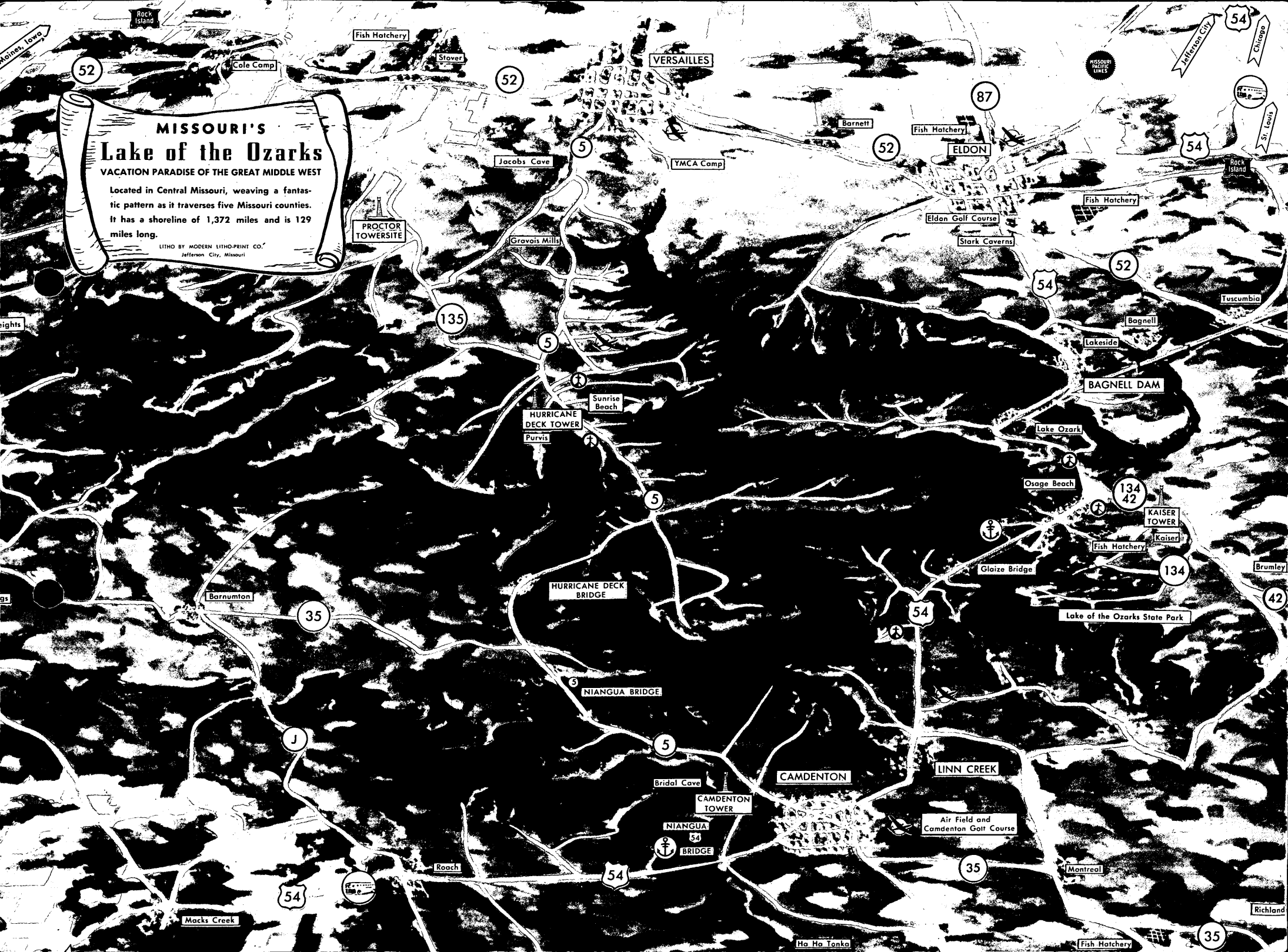
As a conservative estimate, we believe this community and the immediate area-- those living in driving distance-- could supply the Ozarks Exploration Company, Inc., ( the Decaturville Dome Mine ) with at least 400 common and skilled laborers.

We will be glad to cooperate with your department in helping to carry out this project.

Sincerely,

Paul Meadhum Pres.
By. Marybelle Gardiner Secy.

Camdenton Chamber of Commerce
by Marybelle Gardiner Sec'y.


MISSOURI'S
Lake of the Ozarks
VACATION PARADISE OF THE GREAT MIDDLE WEST
Located in Central Missouri, weaving a fantastic pattern as it traverses five Missouri counties. It has a shoreline of 1,372 miles and is 129 miles long.
LITHO BY MODERN LITHO-PRINT CO.
Jefferson City, Missouri
Rock Island
Maines, Iowa
Fish Hatchery
Cole Camp
Stover
VERSAILLES
Jacobs Cave
YMCA Camp
Barnett
Fish Hatchery
ELDON
Jefferson City
Chicago
St. Louis
Rock Island
Fish Hatchery
Eldon Golf Course
Stark Caverns
PROCTOR TOWERSITE
Gravois Mills
Tuscumbia
Bagnell
Lakeside
BAGNELL DAM
Sunrise Beach
HURRICANE DECK TOWER
Purvis
Lake Ozark
Osage Beach
KAISER TOWER
Kaiser
Fish Hatchery
Glaize Bridge
Brumley
HURRICANE DECK BRIDGE
Barnumton
Lake of the Ozarks State Park
NIANGUA BRIDGE
CAMDENTON
LINN CREEK
Bridal Cave
CAMDENTON TOWER
NIANGUA BRIDGE
Air Field and Camdenton Golf Course
Roach
Montreal
Macks Creek
Richland
Ha Ha Tonka
Fish Hatchery

(EXHIBIT 4 e)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

# CHAMBER OF COMMERCE

LEBANON, MISSOURI

Lebanon Mo.
March 29 1955

Defence Minerals Explorations Administration
Department of Interior
Washington,D.C.

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

Re: Available man power
Decaterville Dome Area

Dear Sir:

After a consultation with the employment office here in Lebanon we believe this community and the immediate area-those living in driving distance we could supply the Ozark Explorations Company,Inc.(theDecaterville Dome Mine)with at least 300common laborers. As for skilled they would be pretty scarce,

We will be glad to cooperate with your department in helping to carry out this project.

Very Respectfully
The Lebanon Chamber of Commerce

C.E.Clark Sec.

(EXHIBIT 4 e)

# LACLEDE ELECTRIC COOPERATIVE

## RATE SCHEDULE

### RATE SCHEDULE A

**RESIDENTIAL FARM AND HOME SERVICE**

**UP TO 10 KVA INSTALLED CAPACITY**

| | | |
|---|---|---|
| First | 30 kwh per month | @ 8.0 ¢ per kwh |
| Next | 50 kwh per month | @ 5.0 ¢ per kwh |
| Next | 120 kwh per month | @ 2.5 ¢ per kwh |
| All over | 200 kwh per month | @ 1.75¢ per kwh |

**Minimum Bill**

$2.00 per month 3 kva or less.

**OFF-PEAK CONTROLLED WATER HEATING RATE 1¼¢ PER KWH**

Available when installation complies with Cooperative specifications.

### RATE SCHEDULE B

**COMMERCIAL AND INDUSTRIAL LIGHTING AND POWER**

**Energy Charge**

| | | |
|---|---|---|
| First | 30 kwh per month | @ 8.0 ¢ per kwh |
| Next | 50 kwh per month | @ 5.0 ¢ per kwh |
| Next | 920 kwh per month | @ 2.75¢ per kwh |
| Next | 2000 kwh per month | @ 1.75¢ per kwh |
| All over | 3000 kwh per month | @ 1.25¢ per kwh |

**Demand Charge**

First 10 kilowatts of billing demand per month, no demand charge. Excess above 10 kilowatts of billing demand per month at $1.50 per kilowatt.

**Determination of Billing Demand**

The billing demand shall be the maximum average kilowatt load used by the consumer for any period of fifteen consecutive minutes during the month for which the bill is rendered, as indicated or recorded by a demand meter.

**Power Factor**

The consumer agrees to maintain unity power factors as nearly as practicable. Power factor may be measured at any time. Should such measurements indicate that the power factor at the time of his maximum demand is less than 85% the demand for billing purposes shall be the demand as indicated or recorded by the demand meter multiplied by 85% and divided by the per cent power factor.

(Exhibit 5d)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(5) and (d) Operating Experience & Background of Applicants

H. B. Hart, principal owner of The Ozarks Explorations Company, Inc. He will be the Supervisor of Operations. He has had eight years prospecting and mining experience in the Ozarks Counties. He had the assistance and advice in his mining operations by some of the best qualified geologists and engineers in our country. He is a former State Senator, a builder, a contractor, and a large land owner.

Al G. Elam, an officer in the Corporation, will be an Assistant Supervisor. He is a civil engineer, a realtor, contractor with heavy machinery and equipment for dirt and rock excavating.

Lee W. Farmer, another officer in the corporation is a banker and a state highway construction contractor. He has heavy equipment for that type of contracting.

The Other Officers in the Company are business operators and large land owners, and much of their land is in the Ozark area. Some of the shareholders are geologists and industrial engineers.

(EXHIBIT 6a)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

## Non-Union Rates in Non-Union Area

(6) & (b)

| Labor Classification | Shift of 8-hrs. | Per Hr. | Rates |
|---|---|---|---|
| Common Labor, all classes | " | " | $1.00 |
| Carpenters, No. 1 | " | " | 1.50 to 2.00 |
| Carpenters, Rough | " | " | 1.25 to 1.50 |
| Carpenters, Helpers | " | " | 1.25 |
| Truck Driver | " | " | 1.25 |
| Tractor & Dozer Operator | " | " | 1.50 to 2.50 |
| Highloader Operator | " | " | 1.50 to 2.00 |
| Hoist & Crane Operator | " | " | 2.00 to 3.00 |
| Powder Man | " | " | 2.00 to 3.00 |
| Electrician | " | " | 1.50 |
| Plumber & Pipe fitter | " | " | 2.00 to 3.00 |
| Grader Operator | " | " | 1.50 to 2.50 |
| Well-drill Operator | " | " | 2.00 to 3.00 |
| Well-drill Helper | " | " | 1.25 to 1.50 |
| Core-drill Operator | " | " | 2.00 to 3.00 |
| Core-drill Helper | " | " | 1.50 to 2.00 |
| Welders | " | " | 2.00 to 4.50 |
| Civil Enginmer (Special or short assignment) | | Per day | 50.00 |
| Draftsman ( " " " " ) | | Per Hour | 2.00 to 2.50 |
| Lapidary Machine Operator, skilled | " | " | 1.50 to 2.50 |
| Lapidary Machine Operator, unskilled | " | " | 1.00 to 1.25 |
| Timekeeper | " | " | 1.25 to 1.50 |
| Secretarial & typist | " | Per Week | 30.00 to 50.00 |
| Geiger Counter Operator | " | Per Hour | 1.50 to 2.00 |

**Equipment Units**, Prices per hour Basis

| | | |
|---|---|---|
| Hoist with Operator | Per Hour | 5.00 to 8.00 |
| Dump Truck with Operator | " | 4.00 |
| Motor Grader with Operator | " | 10.00 |
| Dozer with Operator | " | 10.00 to 14.00 |
| Highloader with Operator (Depending on Size) | " | 6.00 to 10.00 |
| Dragline with Operator ( " " " ) | " | 9.00 to 15.00 |
| Air Compressor with Operator (" " " ) | " | 6.50 to 10.00 |
| Well-drill (Depending on Depth) | Per Foot | 1.60 to 2.50 |
| Core Drill ( " " " ) | " | 4.00 to 12.00 |

(EXHIBIT 6)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

ESTIMATES

(6) and (a) By Independent Contract

Please note Exhibit _____, maps and plats hereto attached, showing broken area in question from Geological Reports; approximately 5 miles in length and one mile in width, in a southwesterly direction.

Proposed Exploration:

To Determine the Extent, Width and Depth of the present exposed pegmatites;
To Search for other hidden pegmatites, which may exist;
To Strike any lateral or horizontal veins in the break.

Estimate No. I. We will contract for two core-drill holes in the edge of the present exposed pegmatite, to a depth of 1000 feet. We estimate these holes to cost----------$21,000.00
(Please note: may not require but one hole)

Estimate No. II. We expect to contract for four plunger-drill holes near and around the exposed pegmatite to a depth of 400 feet each, This we estimate to cost approximately---------- $3,000.00
(Please note: may not require but 2 holes)

Estimate No. III. We expect to contract for and to continue excavating the core of the present exposed pegmatite; which would mean, the excavating the entire content of the pegmatite back to and including a part of the wall rock--a circular pit, approximately 150 feet in diameter, and to atleast 100 feet in depth, or the removal of approximately 75,000 yards. A big part of this material will be ore and stockpiled. The waste rock and dirt will be used for the construction of a water reservoir dam. We estimate the cost of this excavating to be from .80¢ to $1.30 per yard or approximately----------$80,000.00

(EXHIBIT 6)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

EXPLORATION ESTIMATES -- CON'T

Estimate No. IV. Also, we expect to contract for the opening up of another cut in another location, about 200 yards distance from the present exposed pegmatite where a quantity of other minerals have been found. In this excavation, we will remove possibly 5000 yards of material, and it will cost approximately----------$6,000.00

Estimate No. V. We expect to contract for the drilling of about 42 holes, 400 feet apart, and approximately 800 feet off of the center line of the break extending in the southwestern direction. These holes will extend about three miles in distance, to a depth of 75 to 300 feet, or averaging approximately 225 feet. Also, contract for the drilling of 42 holes, 400 feet apart, and approximately 800 feet East of the center line of the break, zigzagging with the holes on the West side of the line. (See Plat attached). We estimate the cost in drilling the 84 holes to be approximately----------$18,900.00
(Please note: these holes may average more depth, depending on contour location; and may not require 84.)

Estimate No. VI. Also, we plan on contracting with a core-drill to go down into 10 of the plunger-drill holes to an additional depth of about 200 to 600 feet, or an average of 500 feet. We estimate the cost of these 10 core-drill holes to be approximately----------$30,000.00
(Please note: may not require only part of these holes)

(EXHIBIT 6)

**THE OZARKS EXPLORATIONS COMPANY, INC.**
**Camdenton, Missouri**

**ESTIMATES** **EXHIBIT**_____

(6) and (b) Supervision & Consultants

Supervisor - @ $400.00 per month for 18 months----------$7200.00

Ass't Supervisor (part-time) 75 to 100 hrs. per month
@ $2.50 per hour for 18 months----------$3600.00

Consultants:

Geologist, full time, from State Geology Department,
Paid by State of Missouri----------$ ---.--

Geologist Consultant, part-time, from large corporation,
4 days per month, @ $75.00 per day for
18 months--ESTIMATE----------$5400.00

Industrial Engineer, part-time, as consultant, 2 days
per month, @ $75.00 per day for 18 months,
ESTIMATE----------$2700.00

Land Surveyer & Crew, party of three, Surveying and
running contours, 10 days per month,
@ $45.00 per day for crew, for 10 months----------$4500.00

Chemist, part-time employed teacher, @ $200.00 per
month, for 18 months----------$3600.00

Scintillator, Geiger Counter Operator, part-time,
running contours, checking drill-holes,
@ $2.00 per hour, 24 hrs. per week, 12 months--------$2400.00

Certified Public Accountant, 1 day per month & trans-
portation, for 18 months, by Contract, ESTIMATE------ $600.00

TOTAL for 18 Months----------$30,000.00

EXHIBIT 6
(EXHIBIT 6 a)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

(6) and (e) Rehabilitation & Repair

Access Roads:

We have already constructed one access road into the property from the County Road, near the Clint Rogers residence, running South to the mine, about three-quarter mile distance. This necessitated the building of culverts and putting in two drain pipes, grading and graveling and the building of 2 heavy cattle guards. Also, we have opened up and reconstructed an old road leading from Highway #5, near the Gregory residence, thence running almost due West 1½ miles to the mine. This will be a heavy hauling road. It required the grading, removing of some fences, bulldozing timber for width, and refencing one side. This latter road is not completed.

Total cost of Construction of Roads, to date----------$1718.19

Field Office Building

We have taken an old uninhabitated concrete farm home, the Wheeler home, and rebuilt it into two offices and a storage room. This building required a complete repair, new roof, new floors, windows and doors, some plastering and painting, and electrical wiring. Also, repairs to a well house and a general cleaning up and refenching with new fence.

Total cost of Repair of Field Office Building, to date------$1615.02

(By Rent Agreement, repairs to house paid by Company, credited as advance rent paid at rate of $25.00 per month.)

EXHIBIT 6
EXHIBIT 6-C

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(6) and (c) Operating Materials & Supplies
Costing less than $50 each, and power, water & fuel.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fuel for Field Office heat, estimate ave., | - | $5.00 | per | Mo., | - 18 | Mo. | - $90.00 |
| Telephone " " | " | " | 8.00 | " | " | - 18 | " 144.00 |
| Electricity " " & grounds | " | " | 10.00 | " | " | - 18 | " 180.00 |
| Sump-pump Operating Cost | " | " | 30.00 | " | " | - 18 | " 540.00 |
| Mailing exp. & Containers for Assay samples | " | " | 25.00 | " | " | -18 | " 450.00 |
| Rental on Geiger Counters & Scintillators | " | " | 15.00 | " | " | -18 | " 270.00 |
| Assaying for rare metals | " | " | 20.00 | " | " | -18 | " 360.00 |

Total, Estimate ---------$113.00 per month or $2034.00 for 18 months.

(EXHIBIT 6)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(6) Mining Operations Costs (Feb. 1 to April 1, 1955)

| | |
|---|---|
| Bulldozing & blasting | $1092.00 |
| Surveying & Contour map making | 157.50 |
| Laclede Electric Coop.--electricity | 12.04 |

Total Operations costs to April 1.-------$1261.54

(EXHIBIT 6)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(6) Estimate of Costs -- Summary

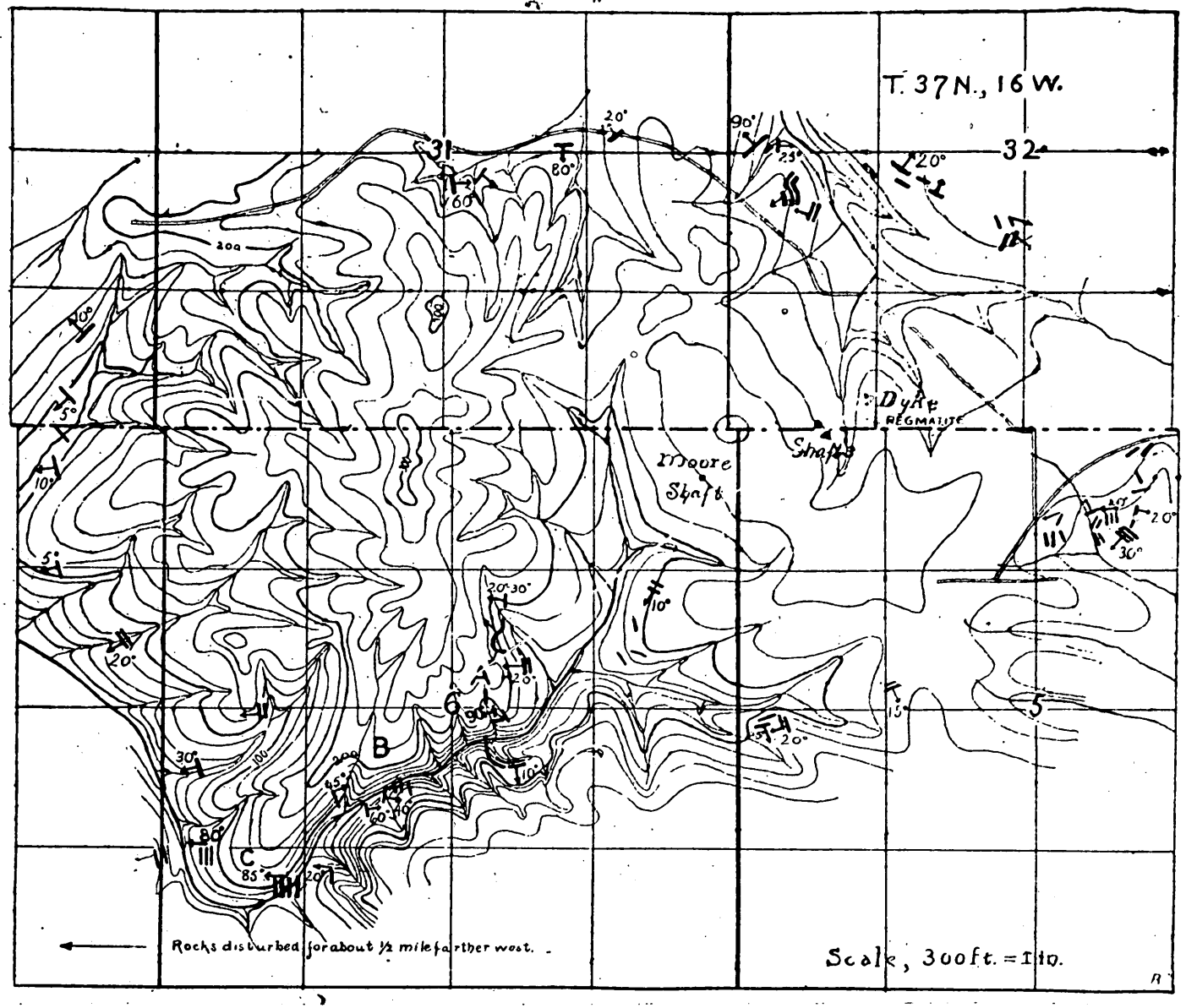
| | | |
|---|---|---|
| Esploration - By Contracts: | | |
| Estimate No. I | $21,000.00 | |
| Estimate No. II | 3,000.00 | |
| Estimate No. III | 80,000.00 | |
| Estimate No. IV | 6,000.00 | |
| Estimate No. V | 18,900.00 | |
| Estimate No. VI | 30,000.00 | |
| Total Explorations Estimate | | $158,900.00 |
| Supervision & Consultants - Estimate Total | | 30,000.00 |
| Rehabilitation & Repairs | | |
| Cost to date on Roads | 1,718.19 | |
| Cost " " on Field Office | 1,615.02 | |
| Total Rehabilitation & Repair | | 3,333.21 |
| Mining Operations Costs to April 1, 1955 | | 1,261.54 |
| Operating Materials & Supplies (Under $50. each) | | 2,034.00 |
| Grand Total, Estimate of Costs | | $195,528.75 |

(EXHIBIT 7-b)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(7) and (b) Share of Cost of Exploration Project

The Ozarks Explorations Company, Inc., expects to furnish in cash $40,000.00. And, Individuals as shareholders in the Company, for additional shares in the company, expect to furnish in services with their equipment, per hour and per foot basis, $10,000.00 — or a Total in cash and use of equipment of $50,000.00.


T. 37 N., 16 W.
31
32
Moore Shaft
Shaft
Dyke
PEGMATITE
B
C
Rocks disturbed for about ½ mile farther west.
Scale, 300 ft. = 1 in.

PLAN III

(EXHIBIT 4)-55

(Exhibit 6)

Department of the Interior
Defense Minerals Administration
RECEIVED
APR 8 1953

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

ESTIMATES

(6) and (a) By Independent Contract

Please note Exhibit _____, maps and plats hereto attached, showing broken area in question from Geological Reports; approximately 5 miles in length and one mile in width, in a southwesterly direction.

Proposed Exploration:

To Determine the Extent, Width and Depth of the present exposed pegmatites;
To Search for other hidden pegmatites, which may exist;
To Strike any lateral or horizontal veins in the break.

Estimate No. I. We will contract for two core drill holes in the edge of the present exposed pegmatite, to a depth of 1000 feet. We estimate these holes to cost----------$21,000.00
(Please note: may not require but one hole)

Estimate No. II. We expect to contract for four plunger-drill holes near and around the exposed pegmatite to a depth of 400 feet each, This we estimate to cost approximately---------- $3,000.00
(Please note: may not require but 2 holes)

Estimate No. III. We expect to contract for and to continue excavating the core of the present exposed pegmatite; which would mean, the excavating the entire content of the pegmatite back to and including a part of the wall rock--a circular pit, approximately 150 feet in diameter, and to atleast 100 feet in depth, or the removal of approximately 75,000 yards. A big part of this material will be ore and stockpiled. The waste rock and dirt will be used for the construction of a water reservoir dam. We estimate the cost of this excavating to be from .80¢ to $1.30 per yard or approximately----------$80,000.00

(Exhibit 6)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

EXPLORATION ESTIMATES --CON'T

Estimate No. IV. Also, we expect to contract for the opening up of another cut in another location, about 200 yards distance from the present exposed pegmatite where a quantity of other minerals have been found. In this excavation, we will remove possibly 5000 yards of material, and it will cost approximately----------$6,000.00

Estimate No. V. We expect to contract for the drilling of about 42 holes, 400 feet apart, and approximately 800 feet off of the center line of the break extending in the southwestern direction. These holes will extend about three miles in distance, to a depth of 75 to 300 feet, or averaging approximately 225 feet. Also, contract for the drilling of 42 holes, 400 feet apart, and approximately 800 feet East of the center line of the break, zigzagging with the holes on the West side of the line. (See plat attached). We estimate the cost in drilling the 84 holes to be approximately----------$18,900.00
(Please note: these holes may average more depth, depending on contour location; and may not require 84.)

Estimate No. VI. Also, we plan on contracting with a core-drill to go down into 10 of the plunger-drill holes to an additional depth of about 200 to 600 feet, or an average of 500 feet. We estimate the cost of these 10 bore-drill holes to be approximately----------$30,000.00
(Please note: may not require only part of these holes)

(Exhibit 6)

THE OZARKS EXPLORATIONS COMPANY, INC.
Jamdenton, Missouri

ESTIMATES EXHIBIT_____

(6) and (b) Supervision & Consultants

Supervisor - @ $400.00 per month for 18 months——————$7200.00

Ass't Supervisor (part-time) 75 to 100 hrs. per month
@ $2.50 per hour for 18 months——————$3600.00

Consultants:

Geologist, full time, from State Geology Department,
Paid by State of Missouri——————$ —.—

Geologist Consultant, part-time, from large corporation,
4 days per month, @ $75.00 per day for
18 months—ESTIMATE——————$5400.00

Industrial Engineer, part-time, as consultant, 2 days
per month, @ $75.00 per day for 18 months,
ESTIMATE——————$2700.00

Land Surveyor & Crew, party of three, Surveying and
running contours, 10 days per month,
@ $45.00 per day for crew, for 10 months——————$4500.00

Chemist, part-time employed teacher, @ $200.00 per
month, for 18 months——————$3600.00

Scintillator, Geiger Counter Operator, part-time,
running contours, checking drill-holes,
@ $2.00 per hour, 24 hrs. per week, 12 months——————$2400.00

Certified Public Accountant, 1 day per month & trans-
portation, for 18 months, by Contract, ESTIMATE—— $600.00

TOTAL for 18 Months——————$30,000.00

EXHIBIT 6
(EXHIBIT 6 e)

THE [illegible] COMPANY, INC.
Camdenton, Missouri

(6) and (c) Rehabilitation & Repair

Access Roads:

We have already constructed one access road into the property from the County Road, near the Clint Rogers residence, running South to the mine, about three-quarter mile distance. This necessitated the building of culverts and putting in two drain pipes, grading and graveling and the building of 2 heavy cattle guards. Also, we have opened up and reconstructed an old road leading from Highway 35, near the Gregory residence, thence running almost due West 1½ miles to the mine. This will be a heavy hauling road. It required the grading, removing of some fences, bulldozing timber for width, and refencing one side. This latter road is not completed.

Total cost of Construction of Roads, to date——————$1718.19

Field Office Building

We have taken an old uninhabitated concrete farm home, the Wheeler home, and rebuilt it into two offices and a storage room. This building required a complete repair, new roof, new floors, windows and doors, some plastering and painting, and electrical wiring. Also, repairs to a well house and a general cleaning up and refencing with new fence.

Total cost of Repair of Field Office Building, to date———$1615.02

(By Rent Agreement, repairs to house paid by Company, credited as advance rent paid at rate of $25.00 per month.)

EXHIBIT 6

EXHIBIT 6

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(6) and (c) **Operating Materials & Supplies**
Costing less than $50 each, and power, water & fuel.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Fuel for Field Office heat, estimate average | | | $5.00 | per Mo.- | 18 | months - | $90.00 |
| Telephone " " | " | " | 8.00 | " " | 18 | " | 144.00 |
| Electricity " " & grounds | " | " | 10.00 | " " | 18 | " | 180.00 |
| Sump-pump Operating Cost | " | " | 30.00 | " " | 18 | " | 540.00 |
| Mailing Exp. & Containers for Assay samples | " | " | 25.00 | " " | 18 | " | 450.00 |
| Rental on Geiger Counters & Scintillators | " | " | 15.00 | " " | 18 | " | 270.00 |
| Assaying for rare metals | " | " | 20.00 | " " | 18 | " | 360.00 |

Total, Estimate ——— $113.00 per month or $2034.00 for 18 months.

(Exhibit 6)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(6) Mining Operations Costs (Feb. 1 to April 1, 1955)

| | |
|---|---|
| Bulldozing & blasting | $1092.00 |
| Surveying & Contour map making | 157.50 |
| Laclede Electric Coop.-electricity | 12.04 |
| Total Operations costs to April 1 | $1261.54 |

(EXHIBIT 6)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(6) Estimate of Costs -- Summary

| | | |
|---|---|---|
| Exploration - By Contracts: | | |
| Estimate No. I | $21,000.00 | |
| Estimate No. II | 3,000.00 | |
| Estimate No. III | 80,000.00 | |
| Estimate No. IV | 6,000.00 | |
| Estimate No. V | 18,900.00 | |
| Estimate No. VI | 30,000.00 | |
| Total Explorations Estimate | | $158,900.00 |
| Supervision & Consultants - Estimate total | | 30,000.00 |
| Rehabilitation & Repairs | | |
| Cost to date on Roads | $1,718.19 | |
| " " " on Field Office | 1,615.02 | |
| Total Rehabilitation & Repair | | 3,333.21 |
| Mining Operations Costs to April 1 1955 | | 1,261.54 |
| Operating Materials & Supplies (Under $50 each | | 2,034.00 |
| Grand Total, Estimate of Costs | | $195,528.75 |

(EXHIBIT 7-b)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(7) and (b) Share of Cost of Exploration Project

The Ozarks Explorations Company, Inc., expects to furnish in cash $40,000.00. And, Individuals as shareholders in the Company, for additional shares in the company, expect to furnish in services with their equipment, per hour and per foot basis, $10,000.00 -- or a Total in cash and use of equipment $50,000.00.

(EXHIBIT 5d)

Division of the Interior
Bureau Minerals Administration
RECEIVED
APR 8 1983

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(5) and (d) Operating Experience & Background of Applicants

H. B. Hart, principal owner of The Ozarks Explorations Company, Inc. He will be the Supervisor of Operations. He has had eight years prospecting and mining experience in the Ozark Counties. He had the assistance and advice in his mining operations by some of the best qualified geologists and engineers in our country. He is a former State Senator, a builder, a contractor, and a large land owner.

Al G. Elam, an officer in the Corporation, will be an Assistant Supervisor. He is a civil engineer, a realtor, contractor with heavy equipment for dirt and rock excavating.

Lee W. Farmer, another officer in the corporation is a banker and a state highway construction contractor. He has heavy equipment for that type of contracting.

The Other Officers in the Company are business operators and large land owners, and much of their land is in the Ozark area. Some of the shareholders are geologists and industrial engineers.

(Exhibit 6a)

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(6) & (b) LABOR - Non-Union Rates in Non-Union Areas

| | Shiftof 8-hours | Per Hr. | Rates |
|---|---|---|---|
| Common labor, all classes | " | " | $1.00 |
| Carpenters, No. 1 | " | " | 1.50 to 2.00 |
| Carpenters, Rough | " | " | 1.25 to 1.50 |
| Carpenters Helpers | " | " | 1.25 |
| Truck Driver | " | " | 1.25 |
| Tractor & Dozer Operator | " | " | 1.50 to 2.50 |
| Highloader Operator | " | " | 1.50 to 2.00 |
| Hoist & Crane Operator | " | " | 2.00 to 3.00 |
| Powder man | " | " | 2.00 to 3.00 |
| Electrician | " | " | 1.50 |
| Plumber & Pipe fitter | " | " | 2.00 to 3.00 |
| Grader Operator | " | " | 1.50 to 2.50 |
| Well-drill Operator | " | " | 2.00 to 3.00 |
| Well-drill Helper | " | " | 1.25 to 1.50 |
| Core-drill Operator | " | " | 2.00 to 3.00 |
| Core-drill Helper | " | " | 1.50 to 2.00 |
| Welders | " | " | 2.00 to 4.50 |
| Civil Engineer (Special or short assignment) | | Per day | 50.00 |
| Draftsman ( " " " " ) | | Per Hour | 2.00 to 2.50 |
| Lapidary Machine Operator, skilled | " | " | 1.50 to 2.50 |
| Lapidary Machine Operator, unskilled | " | " | 1.00 to 1.25 |
| Timekeeper | " | " | 1.25 to 1.50 |
| Secretarial & Typist | " | Per"Week | 30.00 to 50.00 |
| Geiger Counter Operator | " | Per Hour | 1.50 to 2.00 |

Equipment Units, Prices per hour Basis

| | | |
|---|---|---|
| Hoist with Operator | Per Hour | 5.00 to 8.00 |
| Dump Truck with Operator | " | 4.00 |
| Motor Grader with Operator | " | 10.00 |
| Dozer with Operator " | " | 10.00 to 14.00 |
| Highloader with Operator (Depending on Size) | " | 6.00 to 10.00 |
| Dragline with Operator ( " " " ) | " | 9.00 to 15.00 |
| Air Compressor with Operator (" " " ) | " | 6.50 to 10.00 |
| Well-drill (Depending on Depth) | Per Foot | 1.60 to 2.50 |
| Core Drill ( " " " ) | " | 4.00 to 12.00 |

(EXHIBIT 4 a)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

VIEW OF

ONE OF THE DOMES
On Edge of the Crest of the Intrusion

Decaturville Dome

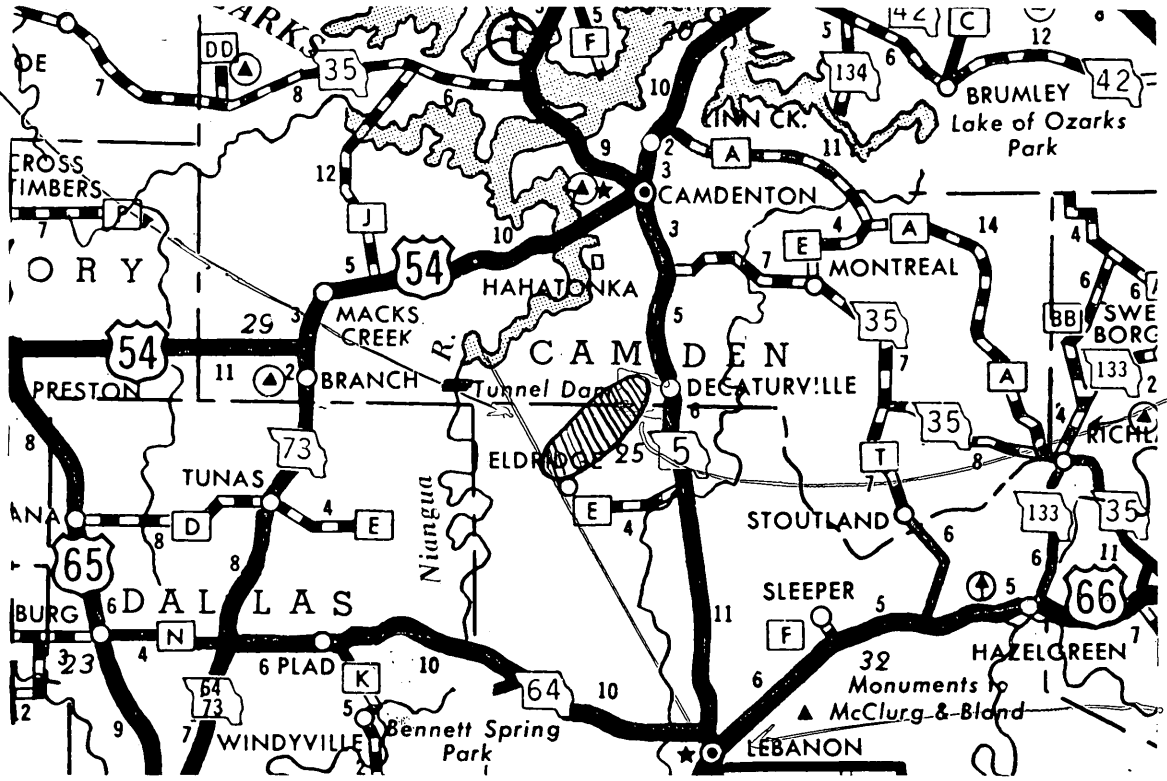
Camden-Laclede Counties

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

# THE LOCATION IN MISSOURI

TUNNEL DAM
POWER LINE
66000

**Camden-Laclede Counties**




ACCESS ROADS

SHIPPING POINT VIA 16 mi Hy

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

(EXHIBIT 4 d)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

Cross section of the Pegmatite
by E. M. Shepard
1904

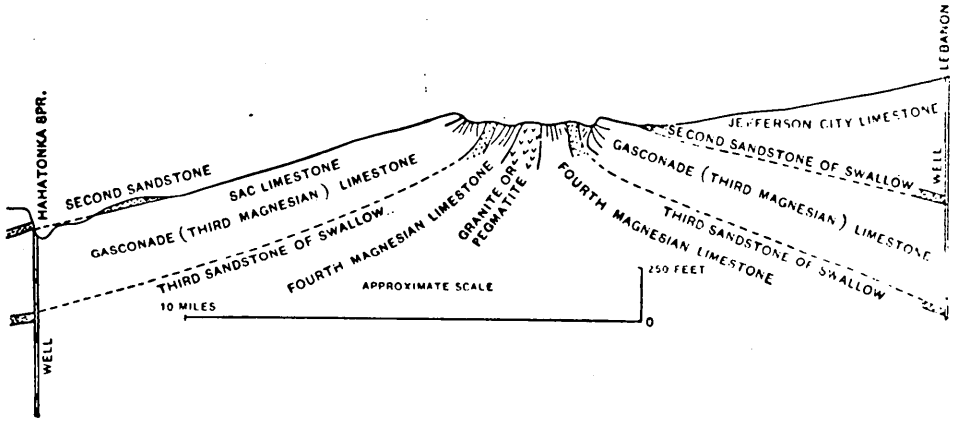



FIG. 29.—Ideal cross section from Hahatonka Spring to Lebanon.

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

THE CLARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

Exhibit 4 physical description

(4) and (a) SUMMARY OF ALL PRO-FORMA PAST MINING OPERATIONS (From 1855 to 1955)

Physical Description of Previous Prospecting & Exploration

From the Geological Reports, you will note the first mining and prospecting was done on the property in the year of 1869, by the owner of the land, Mr. Samuel Wheeler. He did only a small amount of excavating and shaft work. The excavating was a small cut only about 20 feet long and 10 feet wide and perhaps 30 feet deep. Here he encountered the quartz, feldspar, mica, granite, etc. A few years later he put down a few additional prospect holes in another location, about 200 yards southwest of his first work.. In these prospect holes of two shafts and cuts, he encountered some veins of lead, zinc and pyrites. In this latter location, he found no mica or feldspar.

About the year of 1901, three or four diamond drill holes were put down by a Major Rush in the area about one mile southwest of the present exposed pegmatite. One hole was put down 500 feet west of the pegmatites. This hole went down to a depth of 905 feet, and an interesting feature was the steepness of the southwest face of the pegmatite. The drilling indicated a sheer cliff nearly 1000 feet high with a slope attitude 65 degrees with some lead showing.

There have been no test holes in the pegmatite proper, and none have been put down around the other portion of the pegmatite.

A few years ago, five holes were put down by a St. Louis Smelting Refining Company in other locations southwest, the nearest hole to the pegmatite was 3/4 mile distance. According to log report, the holes were all in dolomite with some chert and sand with a showing of some lead and zinc in each hole.

Physical Description of Present Prospecting & Exploration

In February, 1955, we went upon the Wheeler Property, located in the South half of Southwest Quarter, Section 32, Township 37, Range 16, where in 1869, Mr. Samuel Wheeler had put down 2 shallow shafts and a small cut, uncovering the pegmatite as described previously. Since that time, the shafts and cuts had grown over and filled with debris. With a bulldozer, we removed the top soil over about one-half acre area. And, we uncovered the top of the pegmatite as per photo hereto attached. Then we cut down around the side along the edge of the wall-rock from 8 to 12 feet deep. We discovered the pegmatite contents (the boss or nock) 105 feet in width, North and South; and 85 feet East and West. With present indications, it will increase in width and depth. The top of the pegmatite contains mostly fine mica and feldspar, graphite granite, large blocks of feldspar and quartz, some pyrites showing in the quartz, also a few veins of tormaline increasing in width as we go down. Also, the size of the mica increases at depth, and the whole contents is much harder at depth.

We also cut an entrance runway on the North side of sufficient width for our trucks and machinery to operate. And, at the head of this runway, the pegmatite is exposed about 12 feet above the floor of the runway.

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

(1855 - 1871)

REPORTS ON THE GEOLOGICAL SURVEY
of the State of Missouri
1855-1871 by G. C. Broadhead,
F. B. Meek & B. F. Shumard

Published by Authority of the Legislature,
under the Direction of the Bureau of Geology
and Mines.

.....Although the Third Magnesian Limestone, which, in counties further east, has yielded such enormous quantities of Galena, is not extensively developed in Laclede, we have observed it to occur only in a single locality--to wit: on Fielding Clark's land, in T. 36, R. 16, N.W. quarter of Sec. 5. At this place a few shallow excavations have been made in a soft variety of the Third Magnesian Limestone, and a few pounds of the Sulphuret of Lead got out. The ore occurs disseminated through an impure brown Iron ore, 200 yards distant from an igneous dyke of Granite. This locality is worthy of being further proved. It is not improbable that other deposits of the valuable metal will be found in Laclede county.

(The Ozarks Explorations Company, Inc., owns
photostatic copies of the above report.)

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

(1869)

ORIGIN OF THE DECATURVILLE DOME

By W. A. Tarr, Professor of Geology
University of Missouri
D., U.C.L.A. D., Ok.A.& M.

In 1869 some prospectors searching for lead uncovered a Granite Pegmatite.

The Pegmatite consists of feldspar, dominantly micro-coeline, but according to Winslow and Shepard....contained albite, aligoclose, quartz and muscovite....the writer found also tourmaline.

A feature so interesting and important, mention must be made ..... of a mass of mica schist....Winslow ventures the suggestion that some of these disturved areas are underlain by other intrusive masses of igneous rocks....The structural geology of the area offers an interesting problem....Thorough study may disclose some unknown structural elements.

(The Ozarks Explorations Company, Inc. owns photostatic copies of the above report.)

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

1894
Missouri Geological Survey
by, Arthur Winslow
Original Founder of the Geological Society of America...Graduate Massachusetts Institute of Technology...State Geologist of Missouri... President of Liberty Bell and Gold Mining Co. President of U.C. and British Columbia Mining Company, Goldfield Consolidated, etc.

(Page 432) On the Camden-Laclede County line, Sec. 32, Township 37, Range 16, is an area of intense local disturbance. With this is associated an erupted dike or boss. Special interest attaches itself to this outcrop as it is the only one of the post archean age found in the Mississippi Valley, with the exception of the mesozoic eruptions of Arkansas....Similar conditions have been nowhere observed within the Ozark area...The rocks of the dike consist of a graphic granite or pegmatite and of white mica....The Structure is that of a true graphic granite....long crystals of quartz, surrounded by feldspar....The disturbed conditions of rocks surrounding the pegmatite is in support of the view that the latter was originally molten and that it was intruded....An analysis showed the following remarkable composition from near surface samples....assay...

(The Ozarks Explorations Company, Inc., owns photostatic copies of the above report.)

(EXHIBIT 4C)

The Ozarks Explorations Co., Inc.
Camdenton, Missouri

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

LEAD AND ZINC DEPOSITS
1894
Missouri Geological Survey
By, Arthur Winslow

(Page 432) On the Camden and Laclede county line, at the Wheeler mine, in section 32, of township 37N., 16 W., is an area of intense local disturbance, illustrated in figure 114. With this is associated an erupted dike or boss of pegmatite. Special interest attaches itself to this outcrop, as it is the only one of post Archean age found in the Mississippi valley, with the exception of the Mesozoic eruptives of Arkansas. Further, it is the only indication we have that igneous action or metamorphism accompanied the crustal movements of the Ozark uplift. The actual exposure of pegmatite does not exceed a few square yards, and, had it not been that the locality was prospected for lead, its presence might never have been detected.

The country rocks are principally magnesian limestones; with them are some sandstones; they are normally horizontal and undisturbed. Immediately about the pegmatite, however, they assume abnormal and rapidly varying dips. Similar conditions have been nowhere observed within the Ozark area, and, in themselves, they are sufficient to have distinguished this locality as one of somewhat intense, though local, disturbance. These conditions are represented on the small map, constructed from a survey of the area. The short, heavy black lines represent outcrops, and the arrows the dips.

From this map it will be seen that to the north, east and south of the pegmatite, the disturvance does not extend very far, nor are the dips excessive. To the southwest, however, the disturbance can be traced some two miles, and at points it is quite intense. It is further noticeable that the dips are generally away from the dike, as if this were the center of the disturbance. Exceptions to this, and steep and confused dips at other localities, such as those marked A, B, and C, suggest that there were other centers also, and that eruptive rock may exist elsewhere, not far beneath the surface.

The rocks of the dike consist of a graphic granite, or pegmatite, and of white mica. These do not seem to be distributed or arranged in any special order, unless it be that the mica prevails near the contact with the surrounding rocks. The dike seems to have the form of a boss or neck, which has pushed its way up through the rocks. The structure of the pegmatite proper is in part that of a true graphic granite consisting of long crystals of quartz, surrounded by feldspar; sometimes it is granular. It is always fine-grained, the quartz crystals not exceeding a fourth of an inch in diameter. Sometimes, masses of quartz are found with no admixture of feldspar. The mica forms a rock composed of a very small crystals or scales. Prof. Erasmus Haworth, who examined specimens, reports that he found only one mica, muscovite. Microcline

EXHIBIT 4 C

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

LEAD AND ZINC DEPOSITS
By, Arthur Winslow --Continued

is the principal felspar, but the acid triclinics are present in small amounts. These are probably albite and oligoclase, both or either, and, possibly, orthoclase. The rock is much desomposed at the outcrop, and is mostly soft and incoherent. No contact metamorphism of the country rocks could be detected.

The disturbed condition of the rocks surrounding the pegmatite is in support of the view that the latter was originally molten, and that it was intruded. That it was formed by aqueo-igneous fusion, as such rocks are commonly believed to be formed, there is no reason against. That it is purely a result of segregation or alteration of rocks in situ, as has been maintained by some concerning other pegmatites, is opposed to the facts. It is not probable that this intrusion or eruption ever reached the surface, No traces of volcanic rocks are now found in the surrounding country, and the small size of the outcrop indicates that the present exposure is near the apex of the boss or neck.

The exact age of the intrusion cannot be determined. That it was post-Lower Silurian is self-evident. We are inclined to assign it to the time of the last great uplift of the Ozarks, which was immediately after the Coal Measure epoch, and which was probably the greatest crustal movement that took place over this area.

(The Ozarks Explorations Company, Inc., owns photostatic copy of this report.)

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

1904

United States Geological Survey
Hydrology of Eastern United States
By E. M. Shepard
B.A. 1878 Williams College
D.S. Waynesburg College
With Druary College 50 yrs.
Board Mgr. 1893 to 1933.

(Page 113) The coarsely crystalline Granite, known as Pegmatite....in the neighborhood of Decaturville has been for many years an object of interest....In 1869 some miners prospecting for lead laid bare a small area of granite Pegmatite... called graphic granite....resembling the letters of ancient alphabet....which gradually merged into a true pegmatite.... mainly feldspar....known as microcline with some albite and aligoclase feldspar....numberless small masses of quartz.... sheet like mass of fine scaled feirunginous schist evidently metamorphoredgouge.....

(The Ozarks Explorations Company, Inc. owns photostatic copies of the above report.)

(EXHIBIT 4 C)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

Dr. C. R. VAN HISE

Born at Fulton, Wisconsin, May 29, 1857; died at Milwaukee, Wisconsin, November 19, 1918.

B. M. E., University of Wisconsin, 1879, B. S. 1880, M. S. 1882, Ph. D. 1892; LL. D., University of Chicago, 1903; Yale, 1904; Harvard, 1908, Dartmouth, 1909.

Instructor in metallurgy, University of Wisconsin, 1879-1883; Assistant professor, 1883-1886; Professor 1886-1888; Professor of Mineralogy, 1888-1890; Professor of Archean and applied geology, 1890-1892; Professor of geology, 1892-1903; President, 1903-1918.

Non-resident professor of structural geology, University of Chicago, 1892-1903.

Assistant geologist, United States Geological Survey, 1883-1888; Geologist in charge of Lake Superior Division, 1888-1900; Geologist in charge of Division of pre-Cambrian and Metamorphic Geology, 1900-1908; Consulting Geologist, 1909-1918.

Consulting geologist, Wisconsin Geological and Natural History Survey, 1897-1903; President Board of Commissioners, 1903-1918.

Chairman of Wisconsin State Board of Forestry, 1905-1918.

Chairman Wisconsin Conservation Commission, 1908-1908.

Member of National Conservation Commission, 1908-1918.

Trustee of Carnegie Foundation for the Advancement of Teaching, 1909-1918.

Member of National Academy of Sciences, Washington Academy of Sciences, Scientific Society of Christiania, Royal Swedish Academy of Science, Geological Society of America (President in 1907), Wisconsin Academy of Sciences, Arts, and Letters (President, 1893-1896), American Association for the Advancement of Science (Vice-president of Section EE, 1901; President, (1916-1918), American Institute of Mining Engineers, National Geographic Society , Philosophical Society, New York Academy of Sciences, Boston Society of Natural History, and others.

(Exhibit 4 c)

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

1912

Private Report by C. R. Van Hise to Congressman
D. W. Shackleford.....on the Decaturville Pegmatite...

....It is a true Granite Pegmatite....which will contain several of the common minerals and should contain some of the rare minerals and gems.....There extends to the southwest for considerable distance a mica schist.....and from indications, there should be pitchblende, thorium and carnotite nearby.....I would advise you to keep watch on this property, it has wonderful possibilities...A thorough test should be made in the area....

Dr. Van Hise was of the opinion that the broken area extended much farther southwest than according to the other geologists.

Briefly, this is a general summary of the private report written by Dr. Van Hise to Congressman Shackleford which I was permitted to read shortly before the death of Shackleford. I was asked to keep it confidential until I had the means or associated with some one that could properly finance the testing of this property.

The Ozarks Explorations Company, Inc.
by H. B. Hart, President
Camdenton, Missouri

(EXHIBIT 4 c)
INFORMATION

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

STATEMENTS OF OTHER GEOLOGISTS ON PEGMATITES

MINERAL DEPOSIT OF THE PEGMATITES
By Waldemar Lindgren
Professor of Economic Geology, Massachusetts Institute of Technology; Formerly Geologist, United States Geological Survey.

Granite Pegmatites which consists mainly of coarsely crystallized orthoclase and quartz with muscovite; they often contain tourmiline, cassiterite, beryl, orthite, topas and a host of other rare minerals....The Pegmatites on one hand, contain many of the common minerals in exceptional size of grain and purity and on the other hand they are a store house for a great number of the rarest minerals, many of which are not found elsewhere. These deposits are therefore of considerable economic importance, and their valuable products are of manifold kind.

* *

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

FORMATION AND OCCURENCE OF URANIUM DEPOSITS
By Alfred J. Moses, E.M.
Ph.D. Columbia University
New York

Uranium is found in granite rocks and their pegmatites.... Important deposits are generally in veins, the primary mineral being usually the amorphous variety uraninite pitchblende.

THE OZARKS EXPLORATIONS COMPANY, INC.
Camdenton, Missouri

(Exhibit 4-e)
INFORMATION

GEOLOGICAL HISTORY—"THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

STATEMENTS OF OTHER GEOLOGISTS ON PEGMATITES

IGENOUS ROCKS
By James Furman Kemp, E.M., D.Sc.,
Late Professor of Geology, School Mines
Columbia University, New York

....Especially in regions of granite intrusions and of extensive metamorphiam, veins and dikes....these are called pegmatite and in them is the home of graphic granite, the curious intergrowth of quartz and feldspar, such that a cross fracture of the blades of quartz suggests cuneiform characters. Garnet, tourmaline, beryl, and minerals involving the rare earths, are often found in pegmatites, and they supply the feldspar and mica of commerce.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

GEMS

By D. B. Sterrett
Mineral Resources, U.S. Geol., Survey

The Pegmatite Dikes have always been famous as the source of Gem Minerals, which are valued for ornaments on account of their color, hardness and brilliancy.....viz, Beryl, Emerald, Topaz, Sapphire, Ruby and many others....

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

INFORMATION

GEOLOGICAL HISTORY - "THE DECATURVILLE DOME"
Camden-Laclede Counties, Missouri

STATEMENTS OF OTHER GEOLOGISTS ON PEGMATITES

December 10, 1954

From: U. S. Atomic Energy Commission
Division of Raw Materials
Washington 25, D. C.

...The major deposits of uranium ore occur in: (1) veins, many of which also commonly contain other metallic minerals of economic significance; and (2) concentrations in sedimentary rocks, chiefly sandstone and conglomerate. Uranium occurs in trace amounts in most igneous rocks and is notably concentrated in the more granitic rocks, particularly granitic pegmatites.

...Pitchblende and uraninite are uranium minerals of principal economic importance. They are formed by ascending thermal waters derived from, or heated by, intrusive rocks, and are usually found in or near granitic rocks, pegmatites, or in veins.

...Autunite, a lemon-yellow or sulphur-yellow uranium mineral, and torbernite, an emerald green uranium mineral, are formed by the alteration of pitchblende and uraninite. Autunite and torbernite are soft and average weight (specific gravity 3.1). They occur in thin, flat, brittle crystals which are transparent to translucent. Autunite crystals fluoresce a vivid yellow-green under the ultra-violet lamp, but most specimens of torbernite do not fluoresce. Autunite and torbernite occur in pegmatites, and on joints and cracks in granitic volcanic, and various other rocks. Torbernite is an important commercial mineral in the uranium deposits of the Belgian Congo.

The Ozarks Explorations Company, Inc.
Camdenton, Missouri

(EXHIBIT 4e)

March 28,1955

Defense Minerals Explorations Administration
Department of Interior
Washington, D.C.

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

Re: Available man power
Decaturville Dome Area

Dear Sir,

As a conservative estimate, we believe this community and the immediate area-- those living in driving distance-- could supply the Ozarks Exploration Company, Inc., ( the Decaturville Dome Mine ) with at least 400 common and skilled laborers.

We will be glad to cooperate with your department in helping to carry out this project.

Sincerely,

Paul Marchburn Pres -
By Marybelle Gardiner Secy.

Camdenton Chamber of Commerce
by Marybelle Gardiner Sec'y.

MISSOURI'S
Lake of the Ozarks
VACATION PARADISE OF THE GREAT MIDDLE WEST
Located in Central Missouri, weaving a fantastic pattern as it traverses five Missouri counties. It has a shoreline of 1,372 miles and is 129 miles long.
LITHO BY MODERN LITHO-PRINT CO.
Jefferson City, Missouri
Rock Island
Moines, Iowa
Fish Hatchery
Cole Camp
Stover
VERSAILLES
Jacobs Cave
YMCA Camp
Barnett
Fish Hatchery
ELDON
Eldon Golf Course
Stark Caverns
Fish Hatchery
Rock Island
Jefferson City
Chicago
St. Louis
MISSOURI PACIFIC LINES
PROCTOR TOWERSITE
Gravois Mills
HURRICANE DECK TOWER
Purvis
Sunrise Beach
Tuscumbia
Bagnell
Lakeside
BAGNELL DAM
Lake Ozark
Osage Beach
KAISER TOWER
Kaiser
Fish Hatchery
Glaize-Bridge
Brumley
Lake of the Ozarks State Park
HURRICANE-DECK BRIDGE
Barnumton
NIANGUA BRIDGE
Bridal Cave
CAMDENTON TOWER
CAMDENTON
LINN CREEK
Air Field and Camdenton Golf Course
NIANGUA BRIDGE
Roach
Montreal
Richland
Macks Creek
Ha Ha Tonka
Fish Hatchery

(Exhibit 4-2)

Lebanon Mo.
March 29 1955

Defence Minerals Explorations Administration
Department of Interior
Washington,D.C.

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

Re: Available man power
Decaterville Dome Area

Dear Sir:

After a consultation with the employment office here in Lebanon we believe this community and the immediate area-those living in driving distance we could supply the Ozark Explorations Company,Inc.(theDecaterville Dome Mine)with at least 300common laborers. As for skilled they would be pretty scarce,

We will be glad to cooperate with your department in helping to carry out this project.

Very Respectfully
The Lebanon Chamber of Commerce

C.E.Clark Sec.

(EXHIBIT 4 2)

# LACLEDE ELECTRIC COOPERATIVE

## RATE SCHEDULE

### RATE SCHEDULE A

**RESIDENTIAL FARM AND HOME SERVICE**

**UP TO 10 KVA INSTALLED CAPACITY**

| | | |
|---|---|---|
| First | 30 kwh per month | @ 8.0 ¢ per kwh |
| Next | 50 kwh per month | @ 5.0 ¢ per kwh |
| Next | 120 kwh per month | @ 2.5 ¢ per kwh |
| All over | 200 kwh per month | @ 1.75¢ per kwh |

**Minimum Bill**

$2.00 per month 3 kva or less.

**OFF-PEAK CONTROLLED WATER HEATING RATE 1¼¢ PER KWH**

Available when installation complies with Cooperative specifications.

### RATE SCHEDULE B

**COMMERCIAL AND INDUSTRIAL LIGHTING AND POWER**

**Energy Charge**

| | | |
|---|---|---|
| First | 30 kwh per month | @ 8.0 ¢ per kwh |
| Next | 50 kwh per month | @ 5.0 ¢ per kwh |
| Next | 920 kwh per month | @ 2.75¢ per kwh |
| Next | 2000 kwh per month | @ 1.75¢ per kwh |
| All over | 3000 kwh per month | @ 1.25¢ per kwh |

**Demand Charge**

First 10 kilowatts of billing demand per month, no demand charge. Excess above 10 kilowatts of billing demand per month at $1.50 per kilowatt.

**Determination of Billing Demand**

The billing demand shall be the maximum average kilowatt load used by the consumer for any period of fifteen consecutive minutes during the month for which the bill is rendered, as indicated or recorded by a demand meter.

**Power Factor**

The consumer agrees to maintain unity power factors as nearly as practicable. Power factor may be measured at any time. Should such measurements indicate that the power factor at the time of his maximum demand is less than 85% the demand for billing purposes shall be the demand as indicated or recorded by the demand meter multiplied by 85% and divided by the per cent power factor.

FORM B
FOR SALE BY THE JOPLIN PRINTING CO., JOPLIN, MO.

(Exhibit 3) DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
APR - 8 1955

# MINING LEASE

(Copy—Form of Lease signed and acknowledged by Lessors)

THIS INDENTURE, Made this.....day of....., 19....., by and between

.....

.....

....., called lessor....., and

The Ozarks Explorations Company, Incorporated

....., called lessee.

WITNESSETH, 1. That said lessor....., in consideration of the premises and the sum of One Dollar, paid to lessor....., by lessee..... do..... hereby LEASE unto lessee for prospecting and mining for lead, zinc, coal, and other valuable mineral substances, for ten years from the date hereof, the following described tract of land (for purposes hereof considered as one parcel) situated in..... County, State of Missouri to-wit:

.....

.....

.....

.....

.....

.....

.....of Section.....Township.....Range.....

2. The lessor.....hereby give.....and grant.....unto lessee, for said term, the exclusive right and license to prospect and mine said land for lead, zinc, coal, and other valuable mineral substances; together with the right and license to prepare for market on said premises and remove and sell all lead, zinc, coal, and other valuable mineral substances and gems mined thereon; with the right to construct buildings or other structures and to make excavations, openings, stockpiles, dumps, ditches, drains, roads and other improvements upon said premises, including the use of water in said mining operations, and to place such machinery thereon as lessee may deem necessary for efficiently prospecting and mining said lands and preparing for market and disposing of ores and coal mined, with the right to lessee to remove all property so placed thereon at any time during or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, lessee agrees to pay unto lessor.....at First National Bank.....Bank, at Camdenton....., State of Missouri....., on Wednesday of each week following sale of ore, a royalty of .....per centum of all moneys received for ores mined and sold from said land during the preceding week, with the privilege to lessee to consume such ore and pay said percentage of the market price as royalty thereon; for the protection of the lessor.....and to the end that there may be no dispute as to the market price of ore so consumed, it is expressly agreed that if the lessor..... .....not satisfied with the market price used in making royalty settlements, lessor.....shall have and hereby agree.....to take said percentage of said ore, or ore of like quality, in lieu of said royalty, at the ore bins on the property each week and further agree.....to give written notice at once in the event of.....not being satisfied as aforesaid.

4. Lessee agrees to pay lessor at the Bank, hereinbefore mentioned, on the tenth of each month, five per centum of all moneys received for coal mined and sold from said land during the preceding month with the privilege to lessee to consume such coal and pay said percentage of the market price as royalty thereon.

5. The lessee will keep accurate books showing quantities and kinds of ore mined from said lands, and sold or consumed, when and to whom sold, and the money received from sales and such books of account shall be open to inspection of lessor.....at all reasonable hours.

6. All mining operations shall be carried on in a miner-like and workman-like manner as the same are usually conducted in said locality.

7. The lessor.....shall have the right to enter upon said land for the purpose of inspection and examination, not unnecessarily interfering with the prospecting and mining operations.

8. The lessee shall commence prospecting or mining upon on one tract in the Camden-Laclede project the lands within on or before January 1st 1956 days from the date and delivery hereof. Such prospecting or mining shall be carried on continuously and shall not be suspended at any time for longer than 30 days except on account of unavoidable accidents, strikes or other conditions beyond the control of lessee.

9. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided, the lessee shall pay or tender the sum of $.25¢ per acre if the .25¢ has been paid on the oil lease, then not required on this, in the manner hereinafter provided, which payment or tender shall operate as a rental for one year months from and after the date last above stated, and the same shall also cover the right and privilege in the lessee to defer the commencing of said prospecting or mining operations for and during the said period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of this lease. Lessor.....expressly declares that the down payment or consideration received by him for this lease at the time of the execution thereof is a good, valid and substantial consideration and sufficient in all respects to support each and every covenant herein, including specifically the option granted the lessee to extend this lease from time to time during the term thereof upon the payment or tender of the rentals hereinbefore provided for. All rentals due hereunder may be paid by lessee's check mailed, postage prepaid, to lessor.....at First National Bank....., or to the bank hereinbefore mentioned, or its successors, for lessor.....credit, on or before the date any such rentals shall become payable.

Said bank and its successors by a power irrevocable is hereby made the agent of lessor.....to accept all rentals and royalties herein provided for, and the same shall continue as a depository of such royalties or rentals during the life of this lease regardless of changes in the ownership of said land or said rentals or royalties.

10. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long as ore or coal shall be produced therefrom by the lessee, or he shall continue prospecting or mining operations on said land or any part thereof, in good faith, it being understood and agreed that in case the said lessee shall prospect the said land after the expiration of said term by drilling, he shall have the privilege of suspending such prospecting and mining operations for a period of ninety days after the completion of each hole drilled, without the payment of rentals.

11. Lessor.....hereby warrant.....and agree.....to defend the title to the lands herein described, and agree that the lessee shall have the right, at any time, to redeem for lessor.....by payment any mortgages, taxes or other liens on the above described lands, in event of default of payment by lessor....., and be subrogated to the rights of the holder thereof.

12. The lessee shall have the right to assign or sublet this lease or any portion of the acreage covered thereby.

13. Lessee shall pay for damages, caused by his operations, to growing crops on said land.

14. In case of failure of lessee to keep and perform the terms of this lease, lessor.....may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period, said lease shall thereupon terminate, at the option of the lessor....., which remedy shall be exclusive, and the lessee agrees to execute and record at lessee's expense a proper release of this mining lease.

15. The lessee may at any time, if he desires to do so, pay all royalties or rentals then due, surrender and terminate this lease by giving seven days' written notice and thereupon he shall be relieved from all obligations hereunder with like effect as if this lease had not been made, by executing and recording at lessee's expense a proper release of this mining lease.

16. The terms and conditions of this lease shall be binding upon and inure to the benefit of the heirs, legal representatives and assigns of the parties hereto.

IN WITNESS WHEREOF, lessor.....ha.....duly executed this indenture the day and year first above written.

.....

.....

.....

## ACKNOWLEDGMENT OF LEASE.

STATE OF....., COUNTY OF.....ss.

BE IT REMEMBERED, That on this.....day of....., in the year of our Lord, one thousand nine hundred and....., before me, a Notary Public, in and for said County and State, came..... and.....to me personally known to be the identical persons who executed the above and foregoing instrument, and who each duly acknowledged the execution of the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires.....

.....

Notary Public.

## ASSIGNMENT.

KNOW ALL MEN BY THESE PRESENTS: That..... of..... County, in the State of.....the within named grant.....in consideration of the sum of..... Dollars to.....in hand paid, the receipt whereof is hereby acknowledged, do.....hereby sell, assign, transfer, set over and convey unto:....., heirs and assigns, the within grant.

TO HAVE AND TO HOLD THE SAME FOREVER, Subject nevertheless, to the conditions therein contained.

IN WITNESS WHEREOF, the said grant.....ha.....hereunto set.....hand.....this.....day of....., 19.....

.....

.....

## ACKNOWLEDGMENT TO THE ASSIGNMENT.

STATE OF....., COUNTY OF.....ss.

BE IT REMEMBERED, That on this.....day of....., in the year of our Lord, one thousand nine hundred and....., before me, a Notary Public, in and for said County and State, personally appeared..... and.....to me known to be the identical person.....who executed the within and foregoing instrument and acknowledged to me that.....executed the same as.....free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my official signature and affixed my notarial seal the day and year first above written.

My commission expires.....

.....

Notary Public.

NO.....

**MINING LEASE**

FROM .....

TO .....

Dated ....., 19.....

Section....., Township....., Range.....

County.....

No. Acres.....

STATE OF..... } ss.
COUNTY OF.....

This instrument was filed for record on the..... day of....., 19..... at..... o'clock.....M., and duly recorded in Book..... Page.....of the records of this office.

.....

By....., Deputy

When recorded
Return to .....

THE JOPLIN PRINTING CO., JOPLIN, MO. 195136 500 8-45

## ACKNOWLEDGMENT OF LEASE WHERE LESSOR SIGNS BY MARK.

STATE OF....., COUNTY OF.....ss.

On this.....day of.....A. D. 19....., before me, the undersigned, a Notary Public, in and for the County and State aforesaid, personally appeared..... and..... to me known to be the identical person.....who executed the within and foregoing instrument by.....mark....., in my presence and in the presence of.....and....., as witnesses, and acknowledged to me that.....executed the same as.....free and voluntary act and deed for the uses and purposes therein set forth.

IN TESTIMONY WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires.....

.....

Notary Public.

(EXHIBIT 3)

(KANSAS)
Form 88—(Producers)

**B+**

# OIL AND GAS LEASE

KANSAS BLUE PRINT CO.
BLUE PRINTING • PHOTOSTAT WORK • OIL MAPS & FORMS
ARCHITECTS AND ENGINEERS SUPPLIES
141 North Market St.-Wichita Kansas

(COPY)--(Form of lease signed & acknowledged by lessors)

AGREEMENT, Made and entered into this _____ day of _____, 19____,

by and between _____

_____ Party of the first part, hereinafter called lessor (whether one or more) and

The Ozarks Explorations Company, Incorporated Part ____ of the second part, hereinafter called lessee.

WITNESSETH, That the said lessor, for and in consideration of One DOLLARS, cash in hand paid, receipt of which is hereby acknowledged, and of the covenants and agreements hereinafter contained on the part of lessee to be paid, kept and performed, has granted, demised, leased and let and by these presents does grant, demise, lease and let unto said lessee, for the sole and only purpose of mining and operating for oil and gas, and laying pipe lines, and building tanks, power stations and structures thereon to produce, save and take care of said products, all that certain tract of land situated in the County of _____ State of ~~Kansas~~ Missouri, described as follows, to wit: _____

on one tract in the Camden-Laclede project

of Section _____ Township _____ Range _____ and containing _____ acres more or less.

It is agreed that this lease shall remain in full force for a term of 10 years from this date, and as long thereafter as oil or gas, or either of them, is produced from said land by the lessee.

In consideration of the premises the said lessee covenants and agrees:

1st. To deliver to the credit of lessor, free of cost, in the pipe line to which lessee may connect his wells, the equal one-eighth (⅛) part of all oil produced and saved from the leased premises.

2nd. To pay lessor for gas from each well where gas only is found the equal one-eighth (⅛) of the gross proceeds at the prevailing market rate, for all gas used off the premises, said payments to be made to lessor at First Nat'l Bank and lessor to have gas free of cost from any such well for all stoves and all inside lights in the principal dwelling house on said land during the same time by making his own connections with the well at his own risk and expense.

3rd. To pay lessor for gas produced from any oil well and used off the premises or in the manufacture of gasoline or any other product a royalty of one-eighth (⅛) of the market value, at the mouth of the well, payable monthly at the prevailing market price.

If no well be commenced on said land on or before the 1st day of January, 19 56, this lease shall terminate as to both parties, unless the lessee on or before that date shall pay or tender to the lessor, or to the lessor's credit in The First National Bank Bank at Camdenton, Missouri or its successors, which shall continue as the depository regardless of changes in the ownership of said land, the sum of .25¢ per acre DOLLARS, which shall operate as a rental and cover the privilege of deferring the commencement of a well for one year ~~months~~ from said date. In like manner and upon like payments or tenders the commencement of a well may be further deferred for like periods of the same number of months successively. All such payments or tenders of rentals may be made by check or draft of lessee or any assignee thereof, mailed or delivered on or before the rental paying date, either direct to lessor or assigns or to said depository bank. And it is understood and agreed that the consideration first recited herein, the down payment, covers not only the privileges granted to the date when said first rental is payable as aforesaid, but also the lessee's option of extending that period as aforesaid, and any and all other rights conferred.

Should the first well drilled on the above described land be a dry hole, then, and in that event, if a second well is not commenced on said land within twelve months from the expiration of the last rental period for which rental has been paid, this lease shall terminate as to both parties, unless the lessee on or before the expiration of said twelve months shall resume the payment of rentals in the same amount and in the same manner as hereinbefore provided. And it is agreed that upon the resumption of the payment of rentals, as above provided, that the last preceding paragraph hereof, governing the payment of rentals and the effect thereof, shall continue in force just as though there had been no interruption in the rental payments.

If said lessor owns a less interest in the above described land than the entire and undivided fee simple estate therein, then the royalties and rentals herein provided shall be paid the lessor only in the proportion which his interest bears to the whole and undivided fee.

Lessee shall have the right to use, free of cost, gas, oil, and water produced on said land for its operation thereon, except water from wells of lessor.

When requested by lessor, lessee shall bury his pipe lines below plow depth.

No well shall be drilled nearer than 200 feet to the house or barn now on said premises, without the written consent of the lessor.

Lessee shall pay for damages caused by its operations to growing crops on said land.

Lessee shall have the right at any time to remove all machinery and fixtures placed on said premises, including the right to draw and remove casing.

If the lessee shall commence to drill a well within the term of this lease or any extension thereof, the lessee shall have the right to drill such well to completion with reasonable diligence and dispatch, and if oil or gas, or either of them, be found in paying quantities, this lease shall continue and be in force with the like effect as if such well had been completed within the term of years herein first mentioned.

If the estate of either party hereto is assigned, and the privilege of assigning in whole or in part is expressly allowed, the covenants hereof shall extend to their heirs, executors, administrators, successors or assigns, but no change in the ownership of the land or assignment of rentals or royalties shall be binding on the lessee until after the lessee has been furnished with a written transfer or assignment or a true copy thereof; and it is hereby agreed in the event this lease shall be assigned as to a part or as to parts of the above described lands and the assignee or assignees of such part or parts shall fail or make default in the payment of the proportionate part of the rents due from him or them on an acreage basis, such default shall not operate to defeat or affect this lease in so far as it covers a part or parts of said lands upon which the said lessee or any assignee thereof shall make due payments of said rentals. If the leased premises are now or hereafter owned in severalty or in separate tracts, the premises, nevertheless, may be developed and operated as an entirety, and the royalties shall be paid to each separate owner in the proportion that the acreage owned by him bears to the entire leased area. There shall be no obligation on the part of the lessee to offset wells on separate tracts into which the land covered by this lease may hereafter be divided by sale, devise, or otherwise, or to furnish separate measuring or receiving tanks for the oil produced from such separate tracts.

Lessor hereby warrants and agrees to defend the title to the lands herein described, and agrees that the lessee shall have the right at any time to redeem for lessor by payment, any mortgages, taxes or other liens on the above described lands, in the event of default of payment by lessor, and be subrogated to the rights of the holder thereof.

Whereof witness our hands as of the day and year first above written.

Witness to the mark:

_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)
_____ (SEAL)

STATE OF_____ } ss. ACKNOWLEDGMENT FOR INDIVIDUAL (Kans. Okla. and Colo.)
COUNTY OF_____

Before me, the undersigned, a Notary Public, within and for said County and State, on this_____ day of_____, 19____, personally appeared_____ and_____

to me personally known to be the identical person___who executed the within and foregoing instrument and acknowledged to me that_____executed the same as_____free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires_____ _____
Notary Public

STATE OF_____ } ss. ACKNOWLEDGMENT FOR INDIVIDUAL (Kans. Okla. and Colo.)
COUNTY OF_____

Before me, the undersigned, a Notary Public, within and for said County and State, on this_____ day of_____, 19____, personally appeared_____ and_____

to me personally known to be the identical person___who executed the within and foregoing instrument and acknowledged to me that_____executed the same as_____free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires_____ _____
Notary Public

STATE OF_____ } ss. ACKNOWLEDGMENT FOR CORPORATION
COUNTY OF_____

Be it remembered that on this_____day of_____, 19____, before me, the undersigned, a Notary Public, duly commissioned, in and for the county and state aforesaid, came_____ _____, _____ president of_____, a corporation of the State of_____, personally known to me to be such officer, and to be the same person who executed as such officer the foregoing instrument of writing in behalf of said corporation, and he duly acknowledged the execution of the same for himself and for said corporation for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal on the day and year last above written.

My commission expires_____ _____
Notary Public

No._____

**OIL AND GAS LEASE**

FROM

TO

Date_____, 19____

Section_____ Twp._____ Rge._____

No. of Acres_____ Term_____

County_____

STATE OF_____ } ss:
County of_____

This instrument was filed for record on the _____ day of_____ 19____ at_____o'clock____M., and duly recorded in Book_____ Page_____ of the records of this office.

Register of Deeds.

By_____

When recorded, return to_____

THE KANSAS BLUE PRINT CO.
141 NORTH MARKET ST. WICHITA, KANSAS
PHOTOSTAT SERVICE UP-TO-DATE OIL MAPS

NOTE: When signature by mark in Kansas, said mark to be witnessed by at least one person and also acknowledged. For acknowledgment by mark, use regular Kansas acknowledgment.

STATE OF_____ } ss. ACKNOWLEDGMENT FOR INDIVIDUAL (Kans. Okla. and Colo.)
COUNTY OF_____

Before me, the undersigned, a Notary Public, within and for said County and State, on this_____ day of_____, 19____, personally appeared_____ and_____

to me personally known to be the identical person___who executed the within and foregoing instrument and acknowledged to me that_____executed the same as_____free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

My commission expires_____ _____
Notary Public

(Exhibit 3)

## MINERAL, OIL, AND GAS LEASES

### 10-Year Contract with Renewal Provisions

Albert Moore and Cleo Moore, his wife
Description:
County of Laclede--The North half of the Northwest quarter of Section 11, Township 36, Range 17. Also the Southwest quarter of the Northwest quarter of Section 11, Township 39, Range 17, The South half of the Northeast quarter Section 10, Township 36, Range 17, All containing in all ----------200 acres

George Burns and Nancy F. Burns, his wife
Description:
County of Camden --The west half of the Northeast quarter of Section (31) Thirty-one, Township 37 Thirty-seven, Range (16) Sixteen. Except 2 acres off southwest corner of said tract deeded to the Mount Horrb Church and Cemetary, Counting 78 acres more or less.
All of the North Half (N½) of lot number one (1) of the Northwest quarter (NW¼) of Section Thirty one (31), Township thirty seven (37), Range sixteen (16), containing forty acres (40) more or less, with the exception of all the mineral rights to said forty acres, title to which is to remain with parties of the first part.
Also W½ of S½ of Lot 1 SW¼ of Section 30, Township 37, Range 16. Said land containing in all approximately 138 acres, less mineral rights on 40 acres ----------138 acres

B. H. Looney and Ollie Looney, his wife
Description:
County of Camden --The Northeast quarter of the Northeast quarter of Section (31), Township (37), Range (16) in Camden County, Missouri.
The Northwest quarter of the Northwest quarter of Section (32) Township (37), Range (16) in Camden County.
The Southwest quarter of the Northwest quarter of Section (32) Township (37), Range (16) in Camdent County, Missouri.
The Southeast quarter of Northeast quarter of Section (31), Township (37), Range (16) in Camden County, Missouri.
Containing in all ----------160 acres

Lealand E. North and Genevieve North, his wife
Description:
County of Laclede -- The South half of the southeast, southwest quarter, Section 5, containing 20 acres.
The North half of the Northwest quarter and 20 acres off of North side of the south half of the Northwest quarter Section 8, containing approximately 100 acres, Twp 36, Range 16.
The Northeast quarter of the Northeast quarter of Section 7, Township 36, Range 16, containing 40 acres.
The Northwest quarter of the Northeast quarter and the North half of Lot 1 of the Northwest quarter of Section 7, Township 36 Range 16 containing 80 acres.
The east half of Lot 1 of the Northeast quarter, The Southeast quarter, all of Section 6, Twp. 36, Range 16, Containing 200 acres more or less.
The Southwest quarter of the Southwest quarter of Section 5, Township 36, Range 16, containing 20 acres. The Legal description above containing in all about ----------480 acres

(EXHIBIT 3)



James Bruce Salley and Goldie Salley, his wife
Description:
County of Laclede—The North half of the Northwest quarter and the southwest quarter of the Northwest quarter, all of Section 12, Township 36, Range 17 in Laclede County. Containing ————120 acres

Dale Esther and Helen L. Esther, his wife
Description:
County of Laclede—East half Southeast quarter and the Northeast corner Southwest Southeast of Section 7, Township 36, Range 16 in Laclede County. The North half southwest, Southwest Southwest, South 3/4 South half Northwest. The southeast Southwest, Northwest Southeast, Section 8, Twp. 36, Range 16, Containing in all, more or less————————341 acres

Ira Miser and Alma Miser, his wife
Description:
County of Laclede—The south half of the southwest quarter and the southwest quarter of the southeast quarter of Section 12, township 36, range 17. Also the Northwest quarter of the Northeast quarter Section 13, Township 36, Range 17. Containing in all ————————————————————160 acres

Charles H. Olds and Velma L. Olds, his wife
Description:
County of Laclede—The south half of the Northeast quarter, and the North half of the southeast quarter and the southeast quarter of the southeast quarter, Section 14, Township 36, Range 17 in Laclede County, Missouri, more or less ————200 acres

Zeph Waters and Hazel Waters, his wife
Description:
County of Laclede—S½ SE¼, Section 23, Township 36, Range 17 in Laclede County, Missouri. Also the Southeast quarter of the Southwest quarter of Section 23, Township 36, Range 17. Containing in all one hundred and twenty acres————————120 acres

Charles B. Ginnings and Sadie Ginnins, his wife
Description:
County of Laclede—Twenty acres, part of the south half of Lot 2 southwest Section 6, Township 36, Range 16; Forty acres, the Northeast of the Northeast Section 12, Township 36, Range 16; Fifty-four acres in the Northwest corner of Lot 2 Northwest, Section 7, Township 36, Range 16, Containing in all approximately————————————————————114 acres

Hubert Rogers and Wilda Rogers, his wife
Description:
County of Laclede—The North half of the Southwest quarter and the east half Lot 1 Northwest and west half Lot 1, and 2 Northeast. Except 10 acres in the West part of Lot 2 Northeast. Containing in all approximately————————————190 acres

J. L. Stephens and Martha C. Stephens, His wife
Description:
County of Camden—South half of Lot 1, Northwest and the Northwest of the Southeast of Section 31, Township 37, Range 16, Containing ————————————————————80 acres

(Exhibit 3)



Harold Wheeler and Mary Wheeler, his wife
Description:
County of Camden--The south half of the Southwest quarter Section 32, Township 37, Range 16 in Camden County containing----------80 acres
County of Laclede--Lot 2 of the Northwest quarter Section 5, Township 36, Range 16 in Laclede County., containing approximately 43.46 acres. The west half of Lot 1, Northwest quarter Section 5, Township 36, Range 16 in Laclede County, containing 40 acres. The west part of the southwest southwest Section 4, Township 36, Range 16, lying west of State Highway No. 5, containing approximately 15 acres. The north half of the Northwest quarter of the Northeast quarter of Section 8, Township 36, Range 16 in Laclede County, Containing approximately 20 acres. The Southeast quarter and the Southeast of the northeast of Section 5, Township 36, Range 16 in Laclede County, containing 200 acres. Total Laclede County----------359 acres
All said tracts containing approximately ----------439 acres.

Mrs. Fay R. LaBlank
Description:
County of Laclede--The West half of the Northeast Quarter (W½ NE¼) and the Northeast Quarter of the Southeast Quarter (NE¼ SE¼) Section eleven (11), Township Thirty-Six (36), Range Seventeen (17), Containing 120 acres more or less South½ of Section 11, Township Thirty-Six (36), Range Seventeen (17).
Containing in all----------400 acres

Maude M. Martin
Description:
County of Laclede-- The North half of the Northeast quarter Section 6,; West half Lot 1, Northwest quarter Section 5, South 24.02 acres of West half Lot 2, Northwest quarter Section 6, all in Township 36, Range 16. Containing in all approximately ----------304 acres

Alfred North and Zetta M. North, his wife
Description:
County of Laclede--The Northeast quarter of the southwest, The Northwest quarter of the Southeast quarter, The South half of the Northeast quarter, the south half of Lots 1 and 2 of the southwest quarter, one acre off of the northeast corner of the southwest southeast quarter, containing in all 248.94 acres more or less, lying in Section 7, Township 36, Range 16. Approximately ----------248.94 acres

Winston O. Esther and Nellie B. Esther, his wife
Description:
County of Camden--All that part of Southwest quarter of Southwest quarter, Section 33, Township 37, Range 16 Camden County--lying West State Highway No. 5.---------- 30 acres
County of Laclede--Also the Northeast quarter of Northeast quarter, Section 5, Township 36, Range 16 Laclede County, Missouri ---------- 40 acres

Harrison M. Miller and Ella May Miller, his wife
Description:
County of Laclede--North half of the Southeast Southwest, Section 5, Township 36, Range 16. Southwest Northeast, West half Southeast Northeast, South half Northwest Northeast, Southwest Northeast Northeast, 90 acres 8-36-16. Southwest East of road & south branch 61 acres. Containing in all approximately ---------- 171 acres

(Exhibit 3)



Levie Rogers and Vallie Rogers, his wife
Description:
County of Camden -- Northwest quarter of the Northeast quarter of Section (32) and the west half of the southwest quarter of the southeast quarter of Section (29) all in Township (37) Range (16). Containing 60 acres.
Twenty rods off of the west side of the southeast quarter of the southwest quarter of section (29) Township (37) Range (16) containing 10 acres.
East half of the southwest quarter of the southeast quarter of Section (29) Township (37) Range 16, containing 20 acres.
The south half of Lot 2 of the Northwest quarter, Section (7) Township (36, Range (16) in Laclede County, Missouri. Also south half Lot 1 Northwest quarter Section 7, Township 36 Range 16. Containing approximately----------168 acres

Bethena McCoy, widow
Description:
County of Laclede--The Northwest quarter of the Southwest quarter of Section 12, Township 36, Range 17, in Laclede County, containing approximately 40 acres---------- 40 acres

Laurence Chance and Pauline Chance, his wife
Description:
County ofLaclede --The East half of Lot 1 Northwest, and the West half Southeast, and East half of the Southwest and the Southeast of the Southeast all in Section 1, Township 36, Range 17. Containing in all ----------240 acres

James A. Riggins and Dortha H. Riggins, his wife
Description:
County of Laclede--All of the North Half of the Southwest quarter (N½ SW¼) and the Northwest quarter of the Southeast Quarter (NW¼ SE¼), all in Section Twenty Three (23), Township Thirty Six (36), Range Seventeen (17), containing 120 acres, more or less.
Also, the Southeast quarter of the Northeast Quarter (SE¼ NE¼) of Section 23, Township 36, Range 17, containing 40 acres more or less.
Containing in all ----------160 acres

Maude M. Martin
Description:
County of Laclede--The west half of the Southwest quarter and the Northeast quarter of the Southwest quarter of Section 1, Township 36, Range 17. Also the South half of the Northwest quarter and the North half of the Southwest quarter in Section 13, Township 36, Range 17. Containing 280 acres more or less----------280 acres

Thomas Young and Grace Young, his wife
Description:
County of Laclede--The East half of the Southeast quarter of Section 13, Township 36, Range 17. The North half of the Northwest quarter of Section 14, Township 36, Range 17 in Laclede County, Missouri. Containing ----------160 acres

Thomas J. De Fries and E. W. Brumbaugh
Description:
County of Laclede--Part of the Southeast ¼, Southeast ¼ of Section Twelve (12), Township Thirty-six (36), Range Seventeen (17). Containing----------10 acres

(EXHIBIT 3)



Delle Hocking and W. J. Hocking, her husband
Description:
County of Laclede--The Southeast quarter of the Northwest quarter (SE¼ NW¼) of Section eleven (11), Township thirty-six (36), Range Seventeen (17). Containing in all ----------40 acres

Joel Grimes and Coldie Grimes, his wife
Description:
County of Laclede--Beginning at the Northwest corner of the Southeast quarter of the Southeast quarter of Section Twelve (12) Township Thirty-six (36), Range Seventeen (17); thence East 330 feet; thence South 330 feet, thence West 330 feet; thence North 330 feet and to the place of beginning. Containing, more or less----------10 acres

Fred Christner and Mildred Christner, his wife
Description:
County of Laclede --All of the West Half of the Southeast Quarter of Section Fifteen (15) in Township Thirty-Six (36) of Range Seventeen (17) containing, more or less ----------80 acres

Robert E. Hogue and Golda A. Hogue, his wife
Description:
County of Laclede--That part of the west half of Lot 2 Northwest quarter Section 1, Township 36, Range 17, that lies south and east of the branch. Also the west half of Lot 1 of the Northwest Quarter Section 1, Township 36, Range 17, Laclede County
The west half of Lots 1, and 2 of the Northeast quarter and the east half of Lot 2 of the Northwest quarter of Section 1, Township 36, Range 17 of Laclede County
The east half of Lot 2, Northeast Section 1, Township 36, Range 17, of Laclede County. Containing in all, approximately-------240 acres
County of Camden--All of the south half of the southeast quarter of Section 36, Township 37, North, Range 17 West, also that part of the northwest quarter of the southwest quarter of Section 31 Township 37, Range 16 in Camden County described as follows, Beginning at the southwest corner of said northwest quarter of thescouthwest quarter of Section 31 thence run North along west line said quarter quarter section 31, 411/3 rods more or less to the intersection of the said west line with the south edge of the County road, thence run in a northeasterly direction along the south side of said road 36 rods, thence south to the south line said Northwest southwest quarter, thence west to the place of beginning, in Camden County. Containing approximately ----------110 acres

Bual Waters and Myrtle Waters, his wife
Description:
County of Laclede--All of the North one half of Lot Two (2) of the Southwest quarter and the west one half of Lot one (1) of the northwest quarter of Section six (6), Township Thirty-six (36) Range Sixteen (16) and the east one half of the Northeast quarter and the Northeast quarter of the Southeast quarter of Section one (1), Township Thirty-six (36), Range Seventeen (17), and containing in all 160 acres, more or less., together with the rights of ingress and egress for road purposes beginning at the NW corner of the E½ Lot 1 NE¼ run north to the NW corner of the E½ of Lot 2 NE¼ of Section 36, Twp 37, Range 17 following the west side of Pt Lot 2 NW¼ and PT. NW SW of Section 31, Twp 37, Range 16, thence across E½ Lot Lot No. 2 NE of Sec. 1 Twp 36, Range 17, said roadway beginning in Laclede County and ending at the present County road in Camden County.
Also all of the southwest quarter of the southwest quarter (SWSW) of Section twenty-three (23), Township thirty six (36), Range 17, containing 40 acres more or less.
Total containing more or less---------- 210 acres

(EXHIBIT 3)



Clint Rogers and Vada Velma Rogers, his wife
Description:
County of Camden--All of the east half (E½) of the Northwest quarter (NW¼) of Section thirty-two (32), Township thirty-seven (37), Range Sixteen (16), Containing 80 acres more or less.
All of an undivided interest in and to the Northeast quarter (NE¼) of the Northeast quarter (NE¼) of Section Thirty-two (32) in Township thirty-seven (37) North, Range Sixteen (16) West. Containing in all, approximately---------- 120 acres

Ewin Gregory and Ila Mae Gregory, his wife
Description:
County of Camden-- That part of Northwest quarter of Southwest quarter Section 33, Township 39, Range 16, lying West of Highway, Also south half southeast quarter Section 32, Twp 37 Range 16 in Camden County. Containing more or less ----------120 acres
County of Laclede--North 10 acres of Northwest quarter (NW¼) Section 5, Township 36, Range 16, in Laclede County ---------- 10 acres
Containing in all approximately ----------130 acres.

Luther T. Barns and Leona Mae Barns, his wife
Description:
County of Laclede--80 acres of land being the North half (N½) of the Northwest quarter (NW¼) Section 13, Township 36, Range 17. Containing---------- 80 acres

F. S. Dauwalter and Mary Jane Dauwalter, his wife and
Helen Creagon and Harry A. Creagon, her husband, and
Elizabeth Buchanan and Richard O. Buchanan, her husband
Description:
County of Laclede--The West half of Lot 1 Northeast quarter and East half Lot 1 Northwest quarter and lot 2 of Northwest quarter; all in Section Six (6), Township thirty-six (36), Range sixteen (16), in Laclede County, Missouri. Containing in all, more or less----------160 acres

(EXHIBIT 47) 1955

MF-103
(Revised April 1952)

RECEIVED
MINERALS TECHNOLOGY DIVISION
APR 6 1955
BUREAU OF MINES
DENVER, COLO.

# UNITED STATES DEPARTMENT OF THE INTERIOR
## DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 8 1955

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

*Not to be filled in by applicant*

Docket No. 3763
Metal or Mineral Mica, Uranium Thorium
Date Received 4-8-55
Estimated Cost $195,528.75
Participation (Government %)

## INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: THE OZARKS EXPLORATIONS COMPANY, INCORPORATED, A Missouri Corporation, Camdenton, Missouri
H. B. Hart, Camdenton, Missouri, President
James A. Franklin, Camdenton, Missouri, Sec'y-Treasurer

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Leases: Mineral, gems, oil and gas, 10-year leases with renewal provisions, (See Exhibit 3a attached, showing form of leases, together with the Lessors names and descriptions of properties.)
Called--Wheeler Mine or Decaturville Dome.

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise The Ozarks Explorations Company, Inc., owns the leases in full.

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

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

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. None

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

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

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. (See Exhibit 4a & 4c)

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. (See Exhibit 4d)

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. (See Exhibit 4e)

16—66551-1

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

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. (See Exhibit 5b)

(*c*) The work ~~will start within~~ has begun ~~days~~ and be completed within 18 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. (See Exhibit 5d)

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

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). We expect to contract all work (See Exhibit 6)

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. (See Exhibit 6b)

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. (See Exhibit 6c)

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. None

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. (See Exhibit 6e)

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project None at present

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. (See Exhibit 6g)

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

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

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

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

☒ Money ☐ Use of equipment owned by you ☒ Other

Explain in detail on acompanying paper.

## CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 5, 1955

The Ozarks Explorations Company, Inc.
(Applicant)

By H B Hart, Pres

James G. Franklin Sec'y Treas

**Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.**

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

DMEA Operating Committee
Washington 25, D. C.

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

P. O. Box #431
Joplin, Missouri

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR - 8 1955

April 6, 1955

Operation's Control and Statistical Division
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Re: Ozark Explorations Co., Inc.
DMEA Application for a mica, uranium, and thorium exploration project contract,
Camden and Laclede Counties, Mo.

Dear Sirs:

Forwarded herewith are the original and two copies of the subject application brought to this office this morning by Mr. H. B. Hart, representing the applicant corporation. One copy is being retained in the Field Team file asaiting your instructions.

I am not familiar with the deposit described in this application. At Mr. Hart's suggestion following the lengthy discussion of the application this morning, I am forwarding it for your immediate information, and any comments, suggestions, or geologic reviews that can be made by the Washington Office. In the meantime I again will study the engineering aspects of this project proposal and review any other data available here.

Sincerely yours,

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

CCK/vks

Enclosures (3)

cc: DMEA Op. Com. (2)
Mr. Hart
Pending appl. file

STATE OF MISSOURI }
COUNTY OF DENT } ss.

# AFFIDAVIT

Comes now H. J. Williams, of Salem, Mo., who being duly sworn, upon his oath states as follows:

1. That he is the duly elected, qualified and acting Clerk of the Circuit Court and Ex Officio Recorder of Dent County, Missouri.

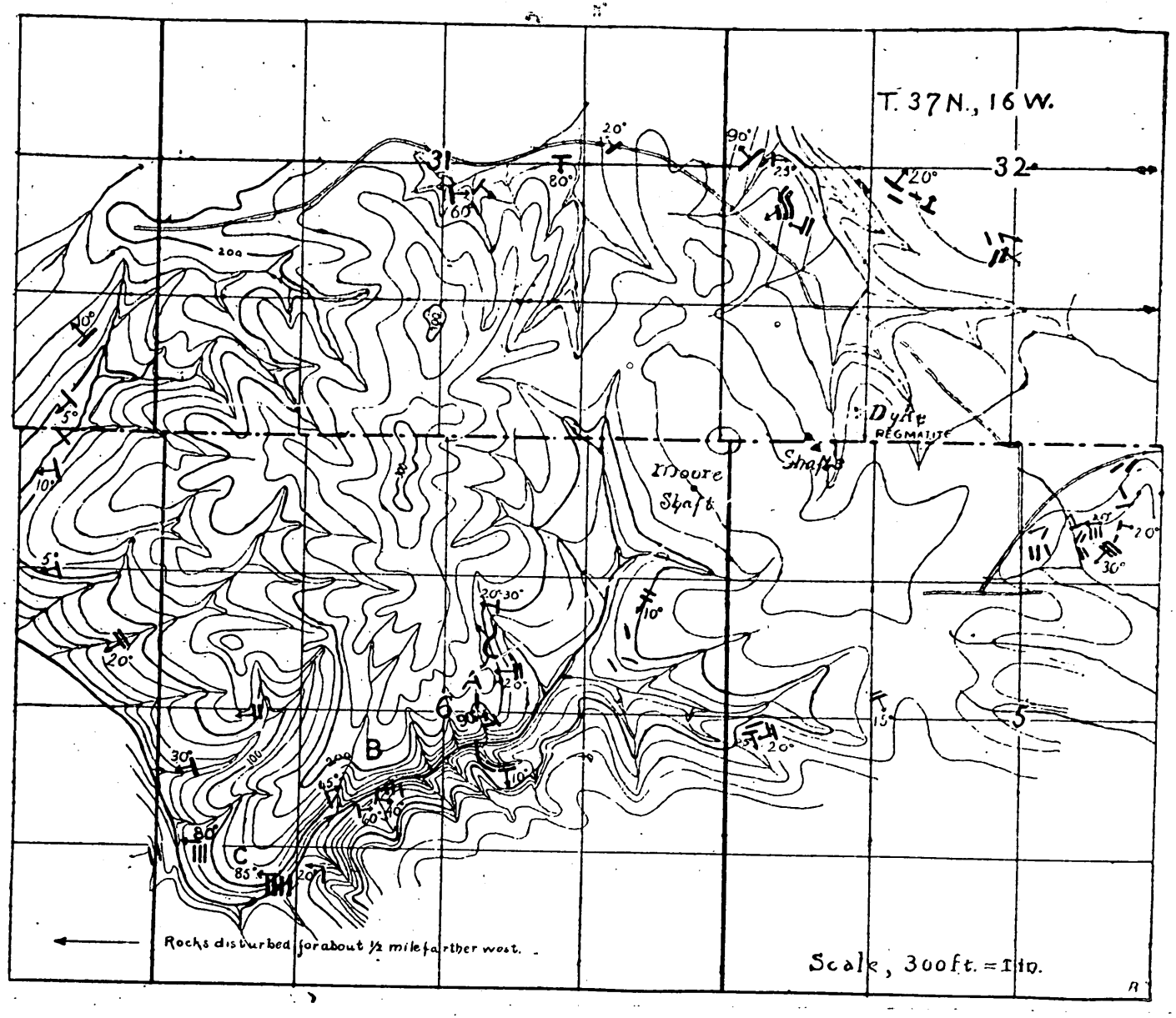
2. That of his own personal knowledge, he states that the Articles of Incorporation of The Ozarks Explorations Company, Incorporated are recorded in his office in Book 100 at Page 404 under date of March 10, 1955.

H. J. Williams
AFFIANT

Subscribed and sworn to before me this 5th day of April, 1955.

James R. Rouse
Notary Public

My Commission expires: April 28, 1956

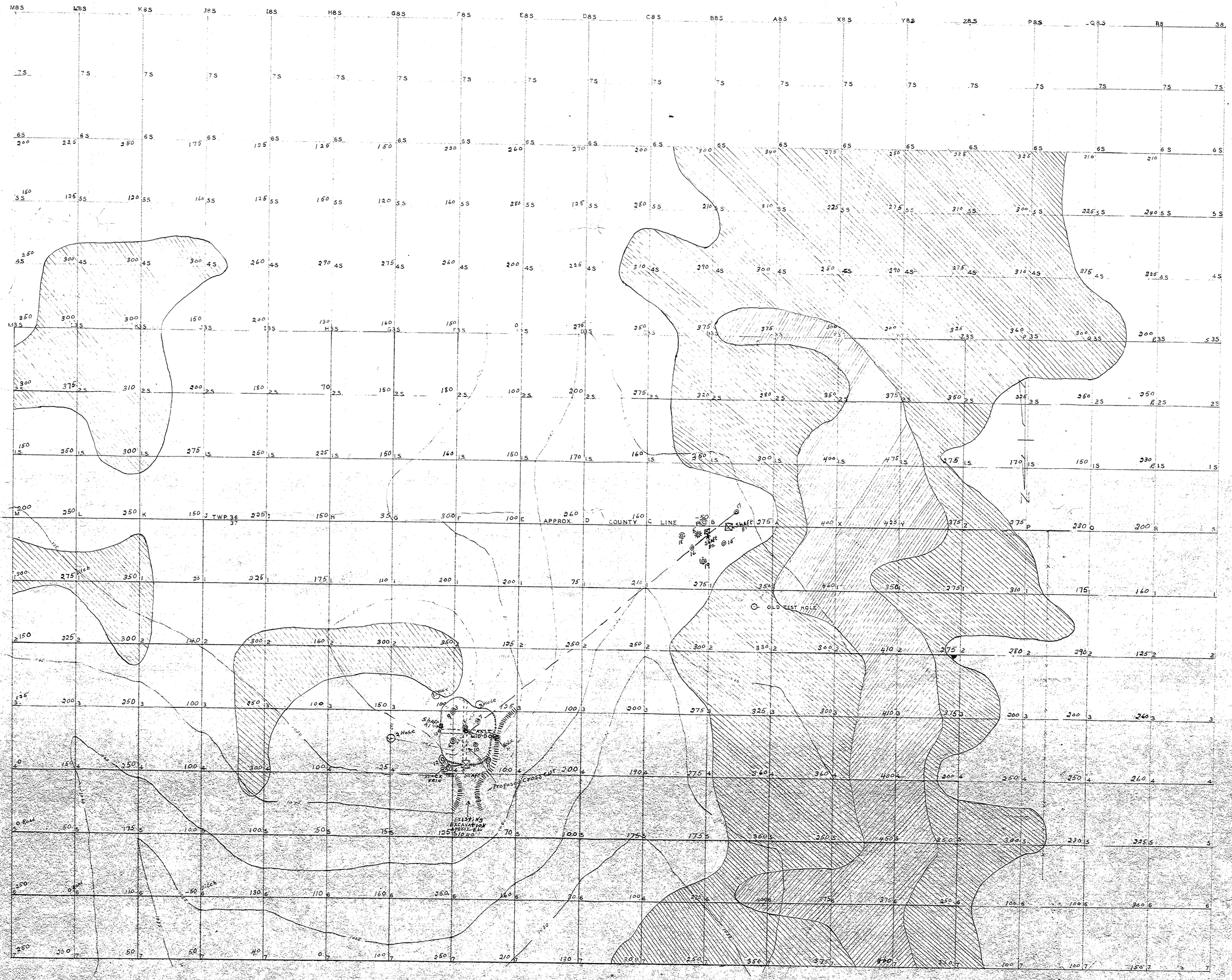

T. 37 N., 16 W.
31
32
5
Dyke
Pegmatite
Moore Shaft
Shaft
A
B
C
Rocks disturbed for about ½ mile farther west.
Scale, 300 ft. = 1 in.

PLAN III

~~U.S. BUREAU OF MINES~~
~~224 NEW CUSTOMHOUSE~~
~~DENVER 2, COLORADO~~

DENVER
APR
8
1955
COLO.

Defense Minerals Exploration Administration
Department of the Interior
Interior Building
Washington 25, D. C.



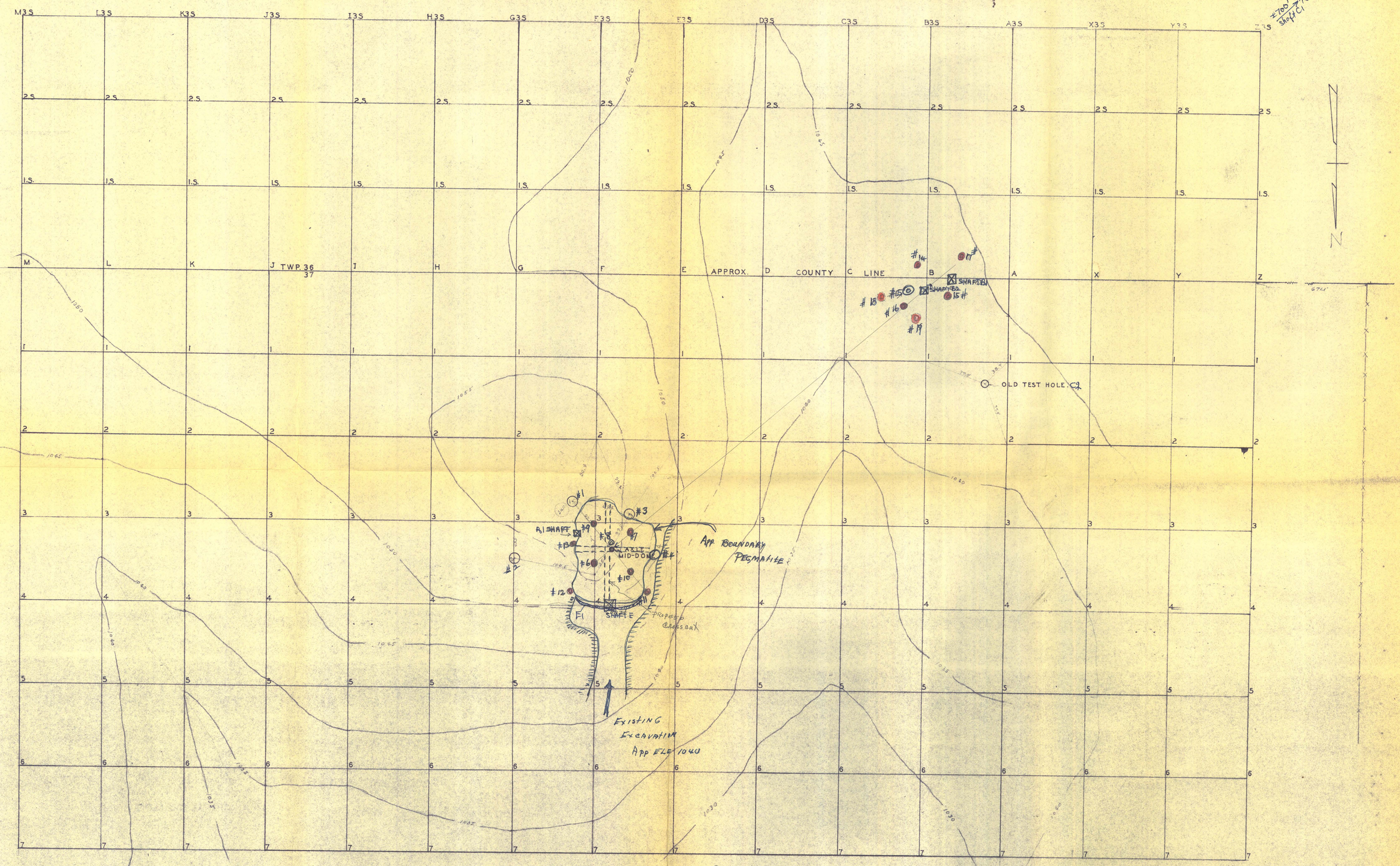

LOCATION
PART OF S½ SW¼ OF
S.32 TWP.37 N. R.NG.16 W. 5TH. P.M.
AND PART N½ NW¼ SEC.5 TWP.36 N.
R.NG.16 W.

DECATURVILLE DOME.
GRANITE PEGMATITE
UNCOVERED PART — FELDSPAR — QUARTZ.
MICA AND PYRITES.

SCALE.
1 INCH — 50 FEET.

LEGEND
RADIOACTIVITY (Above Background)
400 C.P.M. AREA
300 C.P.M. AREA

THE OZARKS EXPLORATION CO. INC.
CAMDENTON, MO.




LOCATION.
PART OF S½ SW¼ OF
S.32 TWP. 37 N. RNG. 16 W. 5TH. P.M.

DECATURVILLE DOME.
GRANITE PEGMATITE
UNCOVERED PART — FELDSPAR — QUARTZ — MICA AND PYRITES.

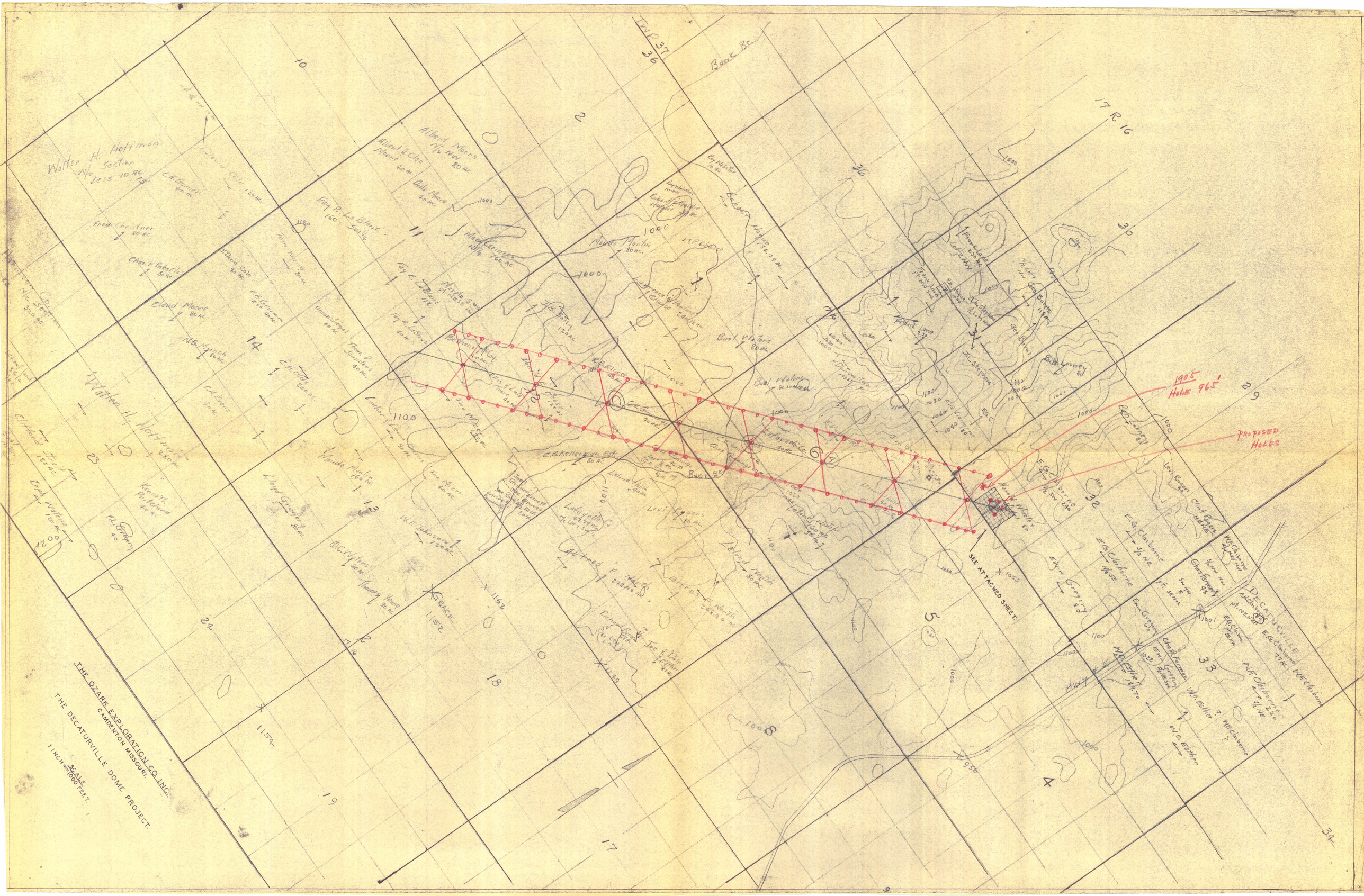
SCALE.
1 INCH = 50 FEET.

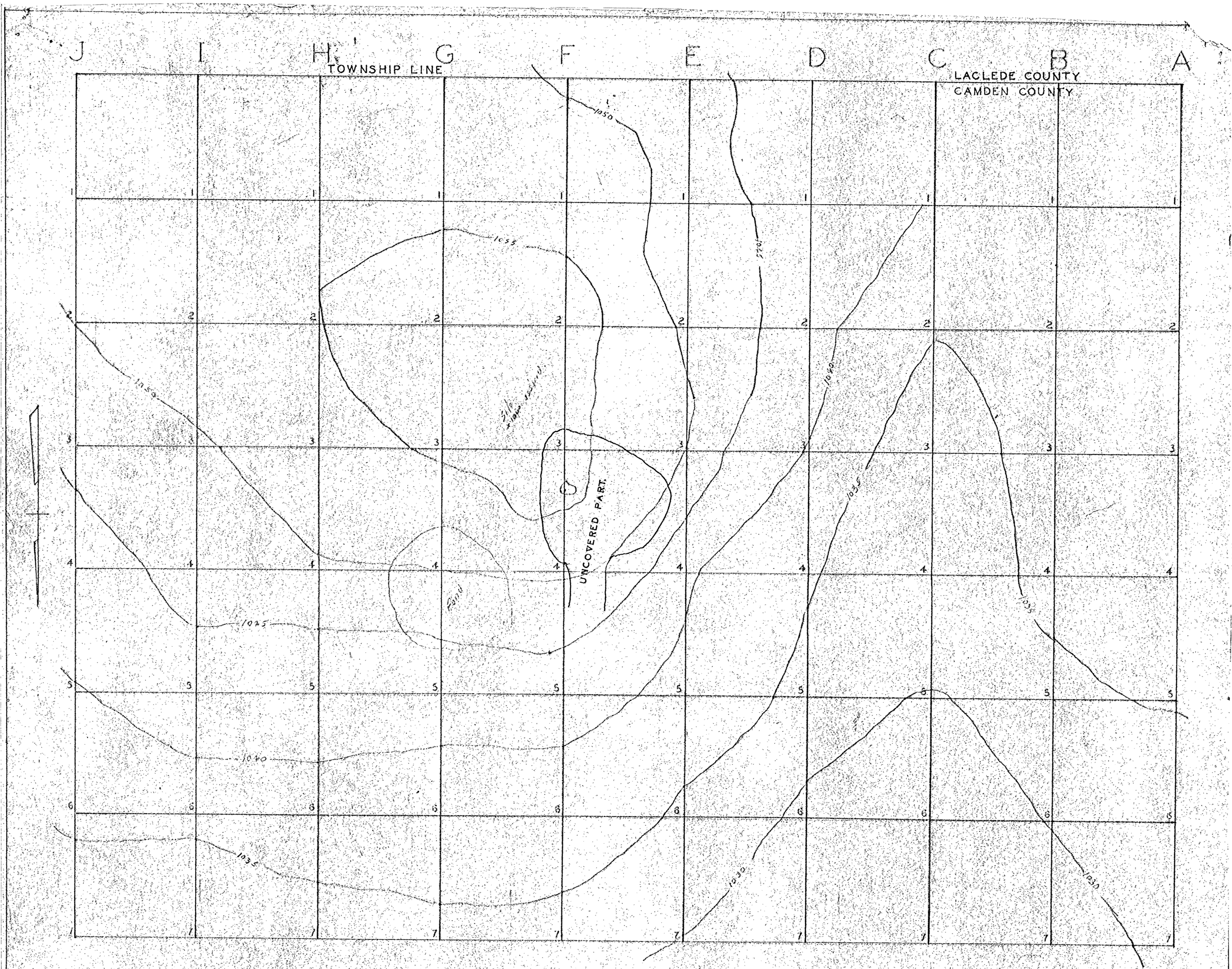
⊙ TEST HOLES 1, 2, 3, 4, 5

● PROPOSED TEST HOLES 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19

THE OZARKS EXPLORATION CO. INC.
CAMDENTON MO.

PLAN I


THE OZARK EXPLORATION CO. INC.
CAMDENTON MISSOURI.
THE DECATURVILLE DOME PROJECT.
SCALE
1 INCH = 1000 FEET.
1905
Hole 965'
PROPOSED HOLES
SEE ATTACHED SHEET.
DECATURVILLE
Walter H. Hottman Section
Albert Moore
Fay R. La Blanc
Bush Waters
Frank Lane
Levi Rogers
Alfred F. Hoffs
Lafayette Co.
Bank Br.
Twp 37
R 16
R 17



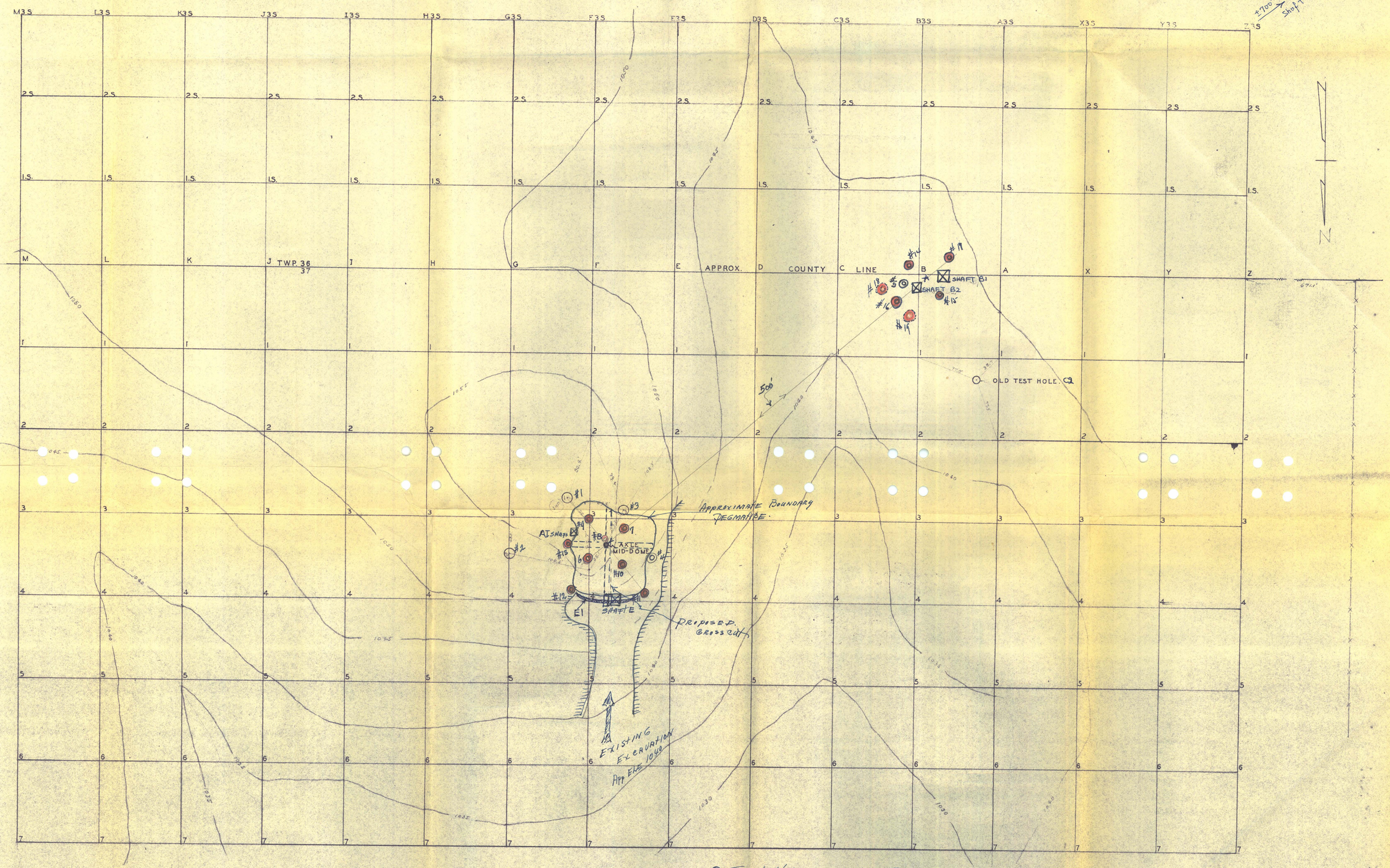

LOCATION.
PART OF THE S 1/2 SW 1/4 OF
S.32 TWP.37N. RNG.16W. OF 5TH. P.M.

SCALE.
1 INCH = 50 FEET.

DECATURVILLE DOME
GRANITE PEGMATITE.

UNCOVERED PART — FELDSPAR — QUARTZ — MICA AND PYRITES.

THE OZARK EXPLORATION CO. INC.
CAMDENTON MISSOURI.




LOCATION.
PART OF S½ SW¼ OF
S.32 TWP. 37 N. RNG. 16 W. 5TH. P.M.

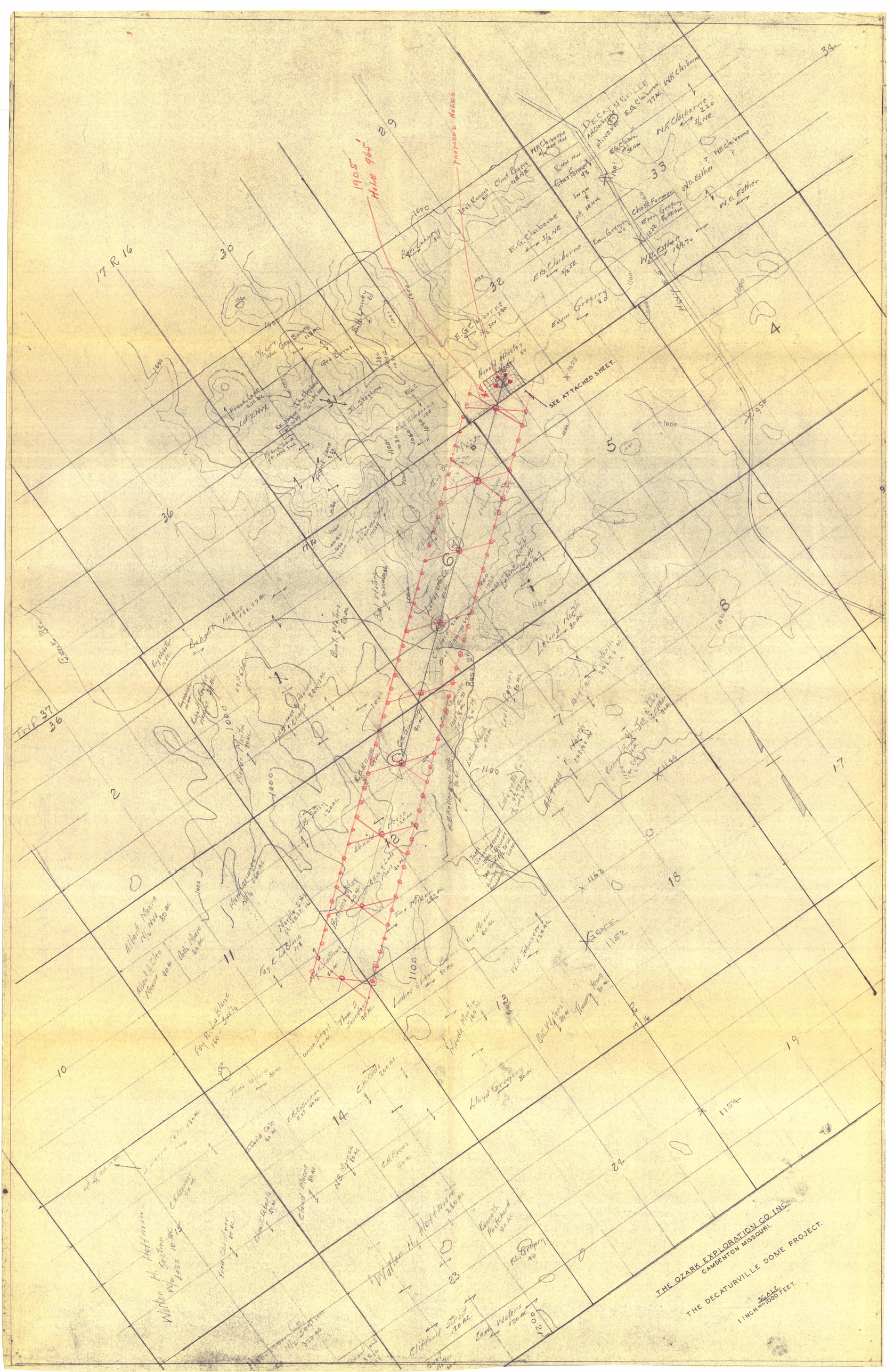
DECATURVILLE DOME.
GRANITE PEGMATITE.
UNCOVERED PART – FELDSPAR – QUARTZ – MICA AND PYRITES.

SCALE.
1 INCH = 50 FEET.

⊙ TEST HOLES 1 2 3 4 5
PROPOSED
◎ TEST HOLES 6 7 8 9 10 11 12 13 14 15 16 17 18 19
PROPOSED

THE OZARKS EXPLORATION CO. INC.
CAMDENTON MO.

PLAN I.


THE OZARK EXPLORATION CO. INC.
CAMDENTON MISSOURI.
THE DECATURVILLE DOME PROJECT.
SCALE
1 INCH = 1000 FEET.
SEE ATTACHED SHEET.
PROPOSED HOLES
1905'
HOLE 965'
DECATURVILLE
17 R 16
T.W.P. 37
GRACE