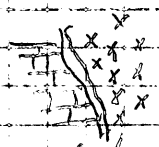
DMEA 3763

August 29 1945

H. B. Kent
P. L. Jones } Company
L. W. Holt

C. C. Knox - USBM + DMEA
T. E. Mathews USGS.

Note 1



Contact zone between Em. ls and pegmatite.

Pegmatite, light grey, very coarse grained, white feldspar, quartz (cathedral). up to 1/2" mica locally concentrated - is massive up to 1 1/2" is dirty, but of no value, thin 1/2" veins of tourmaline. Highly fractured, no apparent pattern.

Contact zone - black, sandy, conglomerate, and silty, angular ore pebbles up to 9", quartz mainly sub rounded to angular. Quartz - crushed. Contact zone [illegible] 2", [illegible] 3". Zone dips steeply and steps down pegmatite zone mica flakes.

Em - light grey fine grained dolomitic limestone, bedded but contains rounded medium clear quartz grains

dark colored [illegible] coarse [illegible] high [illegible]

[illegible] pyrite [illegible] [illegible] pocket

2 DNMEA 3762

Assay on black carbonate gave
.14 TR - see docket state
Chemical assay holden spec. assay

Drill hole #5 penetrated mica
bearing dolomite — reported
pegmatite in nearby shaft in 1882 (?)

Radiometric maps highs generally
follow topographic highs.

Contact zone widens on west side
of pegmatite or else two zones appear
Zone or zones about 15 feet wide
and outer part looks somewhat like
dike from pegmatite

Core of pegmatite contains graphic
granite large (2') ball quartz,
and white feldspar. Muscovite mica
sparse as are tourmaline fragments.
Some green color probably due to
chloritization of mica.

Some dark colored material on top
of pegmatite - all came from
near shaft.

Light grey shistose rock at top

DMEA
3763

3.

at pegmatite - apparently [illegible] grey. Also light grey aplite appearing rock with many specks (probably chlorite mica). Also dolomite with galena active.

Skirt is probably [illegible] at pegmatite - [illegible] [illegible] also skirt be [illegible] sandstone.

Dumps around D.H. 5 show $Zn(CO_3)$, FeS + $FeS_2$, $Fe(OH)_2$, and PbS.

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

P. O. Box #431
Joplin, Missouri

September 6, 1955

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

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

Dear Mr. Hart:

This is to acknowledge receipt of your September 1 letter.

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

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

Sincerely yours,

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

CCK/vks

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

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

P. O. Box #431
Joplin, Missouri

August 23, 1955

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

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

Dear Mr. Hart:

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

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

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

Sincerely yours,

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

CCK/vks

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

IN REPLY REFER TO:

RECEIVED
MINERALS TECHNOLOGY
DIVISION

AUG 23 1955

BUREAU OF MINES
JOPLIN, MO.

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
Bonneterville Dome
Cambenton, Missouri
$52,277.00 - Mica, Uranium, etc.

Memorandum

To: L. G. Hook, 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 chern drill holes, especially No. 1 and No. 5, might assist in the interpretation of the anomalies shown on the map.

The peculiarities of this pegmatite justify an examination.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-8/16/55

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

RECEIVED
AUG 17 1955

X-tra copy
send to Tom Mac Clous, USGS, Rolla Mo
CCR

Copy

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

The Decaturville Dome
An extinct Volcano
For Rare Metals and Gems

Camdenton, Mo.
September 1, 1955

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

Dear Mr. Knox:

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

Yours very truly,

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

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. Hook
Mr. Hopkins

x-ma cover Field to J. Mullens USGS Decaturville, Mo. 9/19/55 OCK

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

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

IN REPLY REFER TO:

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

October 4, 1955

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

Memorandum

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

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

Subject: Review of Field Team report.

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

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

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

I concur with the recommendation that the application be denied.

N. E. Nelson

N. E. Nelson

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

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

RECEIVED
OCT 14 1955

October 13, 1955

Memorandum

To: Nonmetallic Minerals Division
Defense Minerals Exploration Administration

From: Chief, Branch of Ceramic and Fertilizer Materials

Subject: DMEA-3763 (mica)

Applicant: Ozarks Exploration Co., Inc.

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

Date of Field Team Report: 9/26/55

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

Field Team Recommendation: Recommend denial of application.

Comments:

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

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

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

Signed
W. F. Dietrich

Box 165
Platteville, Wis.

October 3, 1955

Mr. Thor H. Kiilsgaard
Staff Assistant for DMEA
U. S. Geological Survey
Washington 25, D. C.

Dear Thor:

Enclosed are DMEA Docket 3763 (Ozarks Exploration Company) and my report on the property plus a transmittal letter by C. C. Knox. The report recommends that DMEA assistance be denied.

I am far from satisfied with the report. The property could be the subject for a good paper as outcrops are good and the company has several drill holes. However, I could not justify the time for field work on DMEA funds as the "DMEA project" was no good. So I wrote only a brief paper which I hope will serve for you to deny the loan.

Sincerely yours,

T. E. Mullens
Project Chief
Wisconsin Zinc-Lead

Enclosure

Copy to: R. A. Laurence
C. E. Dutton

TEM:rbg

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

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## LIST OF ILLUSTRATIONS


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

## 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. C. 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, P. L. Jones, consultant for the company, and L. W. 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 southwest 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.

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

## 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 70 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 DMSA 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

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.

Box 165
Platteville, Wis.

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 4 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 metting 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 the low range than to the high range.

Sincerely yours,

T. E. Mullens
Project Chief
Wisconsin Zinc-Lead

P. S. The counter arrived in fine shape

Enclosure

IN REPLY REFER TO:

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

August 17, 1955

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

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 Laurence, 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 Isorad 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 H. Kiilsgaard
Staff Assistant for DMEA

Enclosure

cc: K. H. Teague
C. C. Knox
R. A. Laurence
L. G. Houk

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

P. O. Box #431
Joplin, Missouri

September 12, 1955

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

Re: DMEA-3865
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

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

CCK/vks

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

Box 165
Platteville, Wis.

September 8, 1955

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

Dear Mr. Knox:

I will be a little late with my geologic report on the Decaturville dome.

The report is currently about one-half complete and I expect to complete it this weekend. However, we have a next to impossible typing load for tomorrow, Monday, and Tuesday.

This typing is for Allen Agnew's report and we want to get it out before Allen leaves.

In addition, I was made project chief for the Wisconsin project and had a drilling program dropped in my lap. The program starts September 20, but by September 14 we must have all holes located so legal agreements can be made. Since Tuesday I have been tearing my hair.

Thank you for your carbons on the latest proposals. Mr. "Eisenhour" in Kansas City could do well to recommend that Mr. Hart drop the project.

Sincerely yours,

T. E. Mullens

TEM:rbg