DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ DMEA NO. 4443.

Application
- [ ] ~~Denied~~
- [x] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

Folders No._____: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

ST. JOSEPH LEAD COMPANY

SOUTHEAST MISSOURI MINING AND MILLING DIVISION

BONNE TERRE, MO.

E. A. JONES,
DIVISION MANAGER.

August 28, 1956

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

Dear Mr. Mittendorf:

I was pleased to have the opportunity of discussing with you and my old friend Bill Griswold, on August 15th, possible Government aid in our exploration program.

As a result of those conversations, we have prepared data and filled in forms to support our first application, which is enclosed in quadruplicate. We have temporarily suspended work on this application, and so will appreciate an early consideration.

Yours very truly,

E. A. Jones

Division Manager.

RECEIVED
AUG 30 1956

cc: Mr. Francis Cameron

MF-103
Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
AUG 30 1956

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. 4443
Metal or Mineral Lead-Zinc-Copper
Date Received 8-30-56
Estimated Cost $36,637.10
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: St. Joseph Lead Company, a corporation organized under the laws of the State of New York and licensed to do business in the State of Missouri, with an office at Bonne Terre, Missouri. Andrew Fletcher, President Robert H. Ramsey, Secretary, George I. Brigden, Vice Pres. and Treasurer 250 Park Avenue, New York, New York

(*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 Attached options on 7 tracts of land, located in 10 sections as per description, totaling 2,567 acres, located in Shannon and Texas Counties of Missouri.

(*b*) State any mine name by which the property is known. None

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Option contract to buy underground and mining rights and all minerals contained excepting coal, oil and gas.

(*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. Copy of options attached.

(*e*) If you own the land, describe any liens or encumbrances on it --

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. --

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.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. None

(*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.

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

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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Lead, zinc, copper

(*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.

(*c*) The work will start within 15 days and be completed within 8 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.

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:

(*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.).

(*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.

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

(*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.

(*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.

(*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.

(*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.

(*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)? Yes

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

[x] Money [x] 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 August 28, 1956

St. Joseph Lead Company
(Applicant)

By E. A. Jones
E. A. Jones, Division Mgr.

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

4. Physical Description -

a. In the NW 1/4 NW 1/4, Section 10, Township 29 North, Range 4 West (Map #2) several shallow prospect pits have been sunk in a basal conglomerate bed immediately overlying an exposed Precambrian rhyolite porphyry knob. Small amounts of various copper minerals are present in this conglomerate. The location is known as the McKinney copper prospect and the date when the work was done is not known to us.

St. Joseph Lead Company has completed 2 churn drill holes through the chert-bearing upper formations at locations 1 and 2. 3" casing has been set preparatory to completing the holes with diamond core drill to the Lamotte sandstone or Precambrian basement.

b. None

c. The disseminated lead and zinc deposits of Southeast Missouri occur in the Bonneterre formation, which is one of a series of upper Cambrian sedimentary formations deposited around and pinching out against old Precambrian mountain areas in this region. Mineralization, in a general fashion, is distributed in a belt surrounding the main Precambrian St. Francois Mountain mass and its outliers. The Eminence Precambrian Mountain area, on a smaller scale, comprises a similar structural feature with the same sedimentary beds present and separated from the main structural high by about 25 miles (see Map #1).

Our long range exploration work, carried on continuously during the last 10 years, has consisted to a large degree of investigation of this mineralized belt surrounding the main Precambrian mountain mass. During 1955 we began investigation of the separate Eminence high to determine whether it also might show a surrounding

mineralized belt. A section of holes was drilled in a northeasterly direction from the northeast part of the Eminence high in order to determine the nature of this flank and adjoining basin. Some slight evidence of mineralization was found. The present project is designed to get information on a section in a northwesterly direction.

d. The southeastern part of the project area (Map #2) is crossed by State Highway #19 at a point about 3 miles north of Eminence, the county seat of Shannon County. Other secondary roads give access to the remainder of the area. Closest shipping points on railroad are Salem, about 25 miles to the north, and Winona, about 35 miles to the south of the central part of the area. The area, in general, consists of wooded land, and Eminence (population 527) is the only town of consequence in the immediate region.

e. There would be no difficulty in securing ordinary labor for mining operations in the area and skilled supervision and labor could be obtained from the main Southeast Missouri mining areas. The same statement applies for supplies and equipment. Water is plentiful in the area. Low voltage electricity is available but the closest high voltage lines are located about 35 miles to the south in the vicinity of Winona, Missouri.

5. The Exploration Project -

b. The optioned acreage consists of 7 tracts totaling 2,567 acres which are scattered out in a northwesterly direction for a distance of about 28 miles from a point about 3 miles north of the town of Eminence (Map #2). The farthest northwest surface outcrop of the Precambrian Eminence mountain mass occurs in the

southern part of the farthest southeast tract of land in the project.

The proposed drilling plan consists of locating one hole on each of the 7 tracts. This will give information on the general lithology and structural position of the Bonneterre formation on the northwest flank of the Eminence high and in the adjoining basin. Location of holes is shown on Map #2. Stake #1 was located near the northern edge of the tract in order to get as far away from the Precambrian exposure as possible as the Bonneterre formation would be absent in the immediate vicinity of the exposed peak. Location of other drilling sites was dictated largely by the nature of the topography which limits the number of locations which are readily accessible for drilling equipment. Six-inch holes will be drilled by churn drill through the upper chert-bearing formations to estimated depths of 650-1,000 feet. 3-inch casing will be set in these holes and diamond core drills will complete the hole to the Lamotte sandstone or Precambrian whichever comes first. Diamond drill footage on each hole will average 700 feet with total depth of holes varying from 1,350 to 1,700 feet. Both churn and core drilling will be on contract with independent contractors. This is a preliminary reconnaissance program and would be followed by additional optioning and drilling if results showed presence or probability of mineralization.

d. St. Joseph Lead Company has been actively engaged in mining and exploration operations in Southeast Missouri since 1864. Mr. R. E. Wagner, who will supervise the exploration activity, has been actively engaged in exploration operations for St. Joseph Lead Company since 1928.

6. Estimate of Costs - Estimated total cost = $36,637.10 or $3.32 per foot.

a. Independent contracts -

Estimated amount of payments to drilling contractors:

Stake No.	Est. C.D. Depth	Est. D. Drilling	Est. Total Depth	Est. Contract C.D. Cost	Est. Contract D.D. Cost	Est.* Other Contr. Cost	Est. Total Contract Cost
1	900'	700'	1600'	$2,250.00	$1,785.00	$ 639.80	$4,674.80
2	845'	700'	1545'	2,112.50	1,655.00	625.80	4,393.30
3	770'	700'	1470'	1,925.00	1,500.00	612.80	4,037.80
4	650'	700'	1350'	1,625.00	1,432.50	579.80	3,637.30
5	1000'	700'	1700'	2,500.00	1,925.00	664.80	5,089.80
6	875'	700'	1575'	2,187.50	1,670.00	634.80	4,492.30
7	1000'	700'	1700'	2,500.00	1,925.00	664.80	5,089.80
Totals	6040'	4900'	10940'	$15,100.00	$11,892.50	$4,422.60	$31,415.10
Avg.	863'	700'	1563'	$ 2,157.14	$ 1,698.93	$ 631.80	$ 4,487.87
Average Per Foot				$ 2.50	$ 2.43	$ 0.40	$ 2.87

*Includes:

Cost of hauling pipe per hole	$200.00
Cost of pulling pipe.....	0.25 per ft.
Cost of moving (C. D. & D.D.) per hole	$ 80.00
Cost of plugging holes (C.D. & D.D.) - per hole	$ 20.00
Cost of diamond bits (extra) - per hole.....	$ 34.00
Cost of reimbursement (Price-of-lead bonus, wage, insurance) Per Hole.....	$ 50.80
Cost of miscellaneous items - per hole.....	$ 30.00

Does not include:

1. Cost of pipe.
2. Supervision, engineering and geological work, corehouse expense or transportation for this personnel.
3. Cost of obtaining options.

b. Labor, supervision, consultants:

*Geologist in charge - $150.00 per month x 8 months....	$1,200.00
*Contract Sup't. - $100.00 " " x 8 "	800.00
Field Engineer - Approx. 1 day per week for 8 months @ $15.00	525.00
Core Inspector - 2 days per hole (7 Holes) @ $15.00 ...	210.00
Corehouse labor -2 days per hole (7 Holes) @ $12.00 ...	168.00
Total Cost	$2,903.00
Cost Per Foot	$ 0.265

*A reasonable portion of geologist's and contract superintendent's salary. They are looking after other exploration projects of the St. Joseph Lead Company.

c. None

d. None

e. None

f. None

g. Miscellaneous:

Maintenance of vehicles for transportation of supervisory employees between Bonne Terre and Eminence - estimated 1 trip per week for 35 weeks = 270 miles x 35 @ 7¢ per mile ..... $ 661.50

Accounting charge - $25.00 per hole	175.00
Engineering office charge - $15.00 per hole	105.00
Total Cost	$ 941.50
Cost Per Foot	$ 0.086

h. Contingencies:

10¢ per foot for probable loss of pipe in hole, extra handling and transportation of pipe and supplies by Company truck, damages paid to land owner, etc. $1,094.00

Cost Per Foot ..... $ 0.10

OPTION CONTRACT

This instrument states the contract made as of the date of the latest acknowledgment hereof and hereon by and between the CONSERVATION COMMISSION of the State of Missouri, party of the first part, hereinafter designated and referred to as the Commission, and ST. JOSEPH LEAD COMPANY, a corporation of the State of New York, party of the second part, hereinafter designated and referred to as the Company.

In consideration of the covenants and agreements hereinafter expressed and of the sum of one dollar paid by the Company to the Commission, the receipt of which is hereby acknowledged, and for other good and valuable considerations, the Commission by these presents grants and sells unto the Company, the exclusive right and option to buy upon the terms and conditions and within the time hereinafter set out, any or all of the following described real estate, lying, being and situate in the Counties of Shannon and Texas and State of Missouri, to-wit:

All underground and mining rights in and pertaining to, and all minerals contained in the following:

Township	Range	Section	Description	Acres
29N	4W	4	Lots 8 & 9 NW¼	117
30N	5W	13	E½ Sec.; E½ NW¼, SW¼ NW¼	440
31N	5W	27	SE¼	160
31N	6W	33	SE¼	160
31N	6W	5	SW¼	160
31N	6W	6	N½ NW¼	80
31N	7W	6	NW¼, W½ NE¼, N½ SW¼	320

The total aggregate acreage covered by this Option Contract is 1,447 acres, more or less.

All coal, oil and gas in and to the above described real estate is excepted from this option contract.

This option to buy the underground, mining rights and minerals, excepting coal, oil and gas, shall continue to be in force for a period of one year from and after the date of the latest acknowledgment hereon, provided, however, that whenever the Company shall fail to perform any promise, agreement or covenant herein made, after ten days' notice in writing of such failure shall be given the Company by the Commission, then this contract shall at the election of the Commission, become forfeited and void, upon giving written notice to the Company of such forfeiture.

It is agreed as part of the consideration of this contract that the Commission will renew or extend this option contract, in all of its terms for a further period of time upon the following conditions: that is to say: On the payment of One Dollar ($1.00) per acre this Option Contract

will be extended for a period of one year from the expiration of the time mentioned above, and also on the further payment of One Dollar ($1.00) per acre this Option Contract will be again extended for an additional period of one more year, that is, a total of two one-year extensions.

If the Company shall, during the life of this Option Contract, or any extension thereof, purchase under the terms of this contract, it shall pay for said underground, mining rights and minerals, excepting coal, oil and gas, of such of the above described land that is purchased, the sum of Fifty ($50.00) Dollars per acre.

For the purpose of this contract only, the aggregate acreage, as above stated, is taken to be correct, but if upon election to purchase under the terms of this contract or at any time during the life of said contract, the Company shall so desire, the true acreage of said lands shall be ascertained by the County Surveyor of the county in which the land lies, at the expense of the Company. And it is agreed that if the true acreage as shown by said survey be different from that given above, any payments made or calculated by or upon the acreage as above stated shall be corrected and adjusted to the said true acreage.

The right and privilege is hereby granted the Company to go in and upon the above described land and prospect the same for lead or other valuable minerals in modern manner and under modern local customs, that is to say, with a diamond drill or churn drill or such other implements, tools and machinery as the Company may choose, and to dig, drill, bore, blast, tunnel and sink shafts in and upon said land, and to use from said land without cost, all the water necessary for such drilling and prospecting. It is further understood and agreed that the Commission shall have the right to see and examine any and all drill cores taken from said land, and in case the Company shall fail to buy under this option, all such drill cores as shall have been taken from said land and preserved by the Company, shall at any time within sixty days after the expiration of this contract, be turned over to the Commission upon its demand.

It is further agreed that all diamonds, bits, rods, pipes and other tools and appliances that may be used by the Company in prospecting said land, shall remain and be the absolute property of the Company, and the Commission hereby recognizes such continual ownership, and guarantees to the Company the right and privilege to go in and upon said land or any part thereof, within one year after the expiration of this option con-

tract, for the purpose of searching for and seeking to recover any lost diamonds, bits, rods, pipes and other tools and appliances.

It is hereby agreed that the Company will be responsible for and pay the reasonable amount of damages done to any fences, fruit trees, timber, improvements or growing crops of the Commission by reason or as the result of the drilling and prospecting of said land, or in the search for lost bits and diamonds, and in case of a disagreement over the amount of any damage, the question of damages shall be submitted to the arbitration of three ~~a~~ interested citizens living in the county where the land herein described is situated, one of which arbitrators shall be chosen by each of the parties to this contract and the third by the arbitrators thus selected.

The Commission hereby covenants and agrees that in the event of an election by the Company to purchase said underground, mining rights and minerals of any or all of the above described land, excepting coal, oil and gas, under this contract, the Commission will execute and deliver unto the Company a special warranty deed for that so purchased covenanting against the lawful claims of all persons claiming by, through, or under it. Such abstracts of title as are held by the Commission shall be loaned by the Commission for the purpose of review and examination by the Company, but the abstracts shall be returned to and remain the property of the Commission. Said deed shall contain a clause, with respect to such unacquired surface, substantially as follows:

"It is hereby expressly understood and agreed that the grantee, its successors and assigns, shall have the full, free and exclusive right and privilege of carrying on its business of mining under the premises hereby conveyed and removing the mineral, excepting coal, oil and gas, therefrom, including the right to prospect for mineral upon any part of the same. But it is further understood and agreed that for all damages that may be done to the surface of the conveyed premises, timber, growing crops, improvements, or to any building or structure thereon in the carrying out of any or all of the purposes and rights of the grantee, said grantee shall pay the grantor, its successors or assigns, a reasonable amount to be agreed upon; and in the event they fail to agree, then the same shall be determined by three appraisers, one appointed by each party hereto and a third by those two, and their decision as to such damages shall be final, the expense of such appraisal to be borne equally by the grantor and grantee".

In Witness Whereof, the said party of the first part has caused these presents to be signed by its chairman, secretary, and members, this 20 day of April, 1956.

CONSERVATION COMMISSION of the State of Missouri,

By: /s/ Frank P. Briggs
Chairman.

/s/ Ben Cash
Vice-Chairman.

/s/ D. L. Pippin
Secretary.

/s/ Joe M. Roberts
Member.

STATE OF MISSOURI }
COUNTY OF Cole } SS.

On this 20 day of April, 1956, before me personally appeared Frank P. Briggs, Ben Cash, D. L. Pippin and Joe M. Roberts

of the CONSERVATION COMMISSION of the State of Missouri, to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed, as Chairman and Members of the CONSERVATION COMMISSION for the uses and purposes herein set forth.

In Testimony Whereof, I have hereunto set my hand and affixed my notarial seal at my office in Jefferson City, Missouri, the date last herein written.

My commission expires August 1, 1959.

(SEAL)

/s/ Evelyn Schuerman
Notary Public.

OPTION CONTRACT

EMINENCE #1

RECEIVED
AUG 30 1956

EMINENCE NO. 2

OPTION CONTRACT

This instrument states the contract made as of the date of the latest acknowledgment hereof and hereon by and between the CONSERVATION COMMISSION of the State of Missouri, party of the first part, hereinafter designated and referred to as the Commission, and ST. JOSEPH LEAD COMPANY, a corporation of the State of New York, party of the second part, hereinafter designated and referred to as the Company.

In consideration of the covenants and agreements hereinafter expressed and of the sum of one dollar paid by the Company to the Commission, the receipt of which is hereby acknowledged, and for other good and valuable considerations, the Commission by these presents grants and sells unto the Company, the exclusive right and option to buy upon the terms and conditions and within the time hereinafter set out, any or all of the following described real estate, lying, being and situate in the County of Shannon and State of Missouri, to-wit:

All underground and mining rights in and pertaining to, and all minerals (excepting coal, oil and gas) contained in the following:

Township	Range	Section	Description	Acres
29N	3W	2	Lots 1 & 2 & W½ Lot 3 NE¼	201
		4	Lots 3, 4, 5, 6, 7 NE¼; Lots 1, 2 & 4 NW¼	643
		23	S½ NW¼, NW¼ SW¼	120
		35	SW¼	160
		36	S½ SE¼	80
				1,204
29N	4W	1	SW¼	160
		2	SE¼	160
		9	E½	320
		10	W½, W½ SE¼, SE¼ SE¼	440
		11	N½ NE¼	80
		12	NW¼	160
		15	N½, NW¼ SW¼	240
				1,640
28N	2W	6	W½ Lot 2 NE¼, Lots 1 & 2 NW¼	171
		7	SW¼ NE¼, S½ NW¼ NE¼	80
				251
28N	3W	1	W½ NE¼, SE¼ NE¼, N½ SE¼, E½ NW¼, SW¼ NW¼	320
		5	W½ NE¼	80
		6	SW¼ SE¼	40
		7	W½ NE¼	80
		8	NW¼ NW¼, SE¼ SE¼	80
		9	NE¼ NW¼, S½ NW¼ NW¼, S½ NE¼ NW¼ NW¼, S-3/4 S½ NW¼, NE¼ SE¼	165
		10	S½ SW¼, SW¼ SE¼	120
		15	W½ NE¼, N½ SE¼	160
		17	E½, SE¼ NW¼, NE¼ SW¼	400
		24	N½ N½	160
				1,605

THIS PART ONLY INCLUDED IN PROJECT FOR #1 HOLE LOCATION

Township	Range	Section	Description	Acres
26N	4W	11	All of section	640
		14	NW¼, N½ NE¼	240
		24	NE¼ SE¼, E. 30 A. NW¼ SE¼, N½ SW¼ SE¼, SW¼ SW¼ SE¼	100
				980

The total aggregate acreage covered by this Option Contract is 5,706 acres, more or less.

This option to buy the underground, mining rights and minerals, excepting coal, oil and gas, shall continue to be in force for a period of six ~~[illegible]~~ one year from and after the date of the latest acknowledgment hereon, provided, however, that whenever the Company shall fail to perform any promise, agreement or covenant herein made, after ten days' notice in writing of such failure shall be given the Company by the Commission, then this contract shall at the election of the Commission, become forfeited and void, upon giving written notice to the Company of such forfeiture.

It is agreed as part of the consideration of this contract that the Commission will renew or extend this option contract, in all of its terms, ~~[illegible]~~ for a further period of time upon the following conditions, that is to say: On the payment of One Dollar ($1.00) per acre ~~[illegible]~~ this Option Contract will be extended ~~[illegible]~~ for a period of one year from the expiration of the time mentioned above, and also on the further payment of One Dollar ($1.00) per acre ~~[illegible]~~ this Option Contract will again be extended, ~~[illegible]~~ for an additional period of one more year, that is, a total of 2 one-year extensions.

If the Company shall, during the life of this Option Contract, or any extension thereof, purchase under the terms of this contract, it shall pay for said underground, mining rights and minerals, excepting coal, oil and gas, of such of the above described land that is purchased, the sum of Fifty ($50.00) Dollars per acre.

For the purpose of this contract only, the aggregate acreage, as above stated, is taken to be correct, but if upon election to purchase under the terms of this contract or at any time during the life of said contract, the Company shall so desire, the true acreage of said lands shall be ascertained by the County Surveyor of the county in which the land lies, at the expense of the Company. And it is agreed that if the

true acreage as shown by said survey be different from that given above, any payments made or calculated by or upon the acreage as above stated shall be corrected and adjusted to the said true acreage.

The right and privilege is hereby granted the Company to go in and upon the above described land and prospect the same for lead or other valuable minerals in modern manner and under modern local customs, that is to say, with a diamond drill or churn drill or such other implements, tools and machinery as the Company may choose, and to dig, drill, bore, blast, tunnel and sink shafts in and upon said land, and to use from said land without cost, all the water necessary for such drilling and prospecting. It is further understood and agreed that the Commission shall have the right to use and examine any and all drill cores taken from said land, and in case the Company shall fail to buy under this option, all such drill cores as shall have been taken from said land and preserved by the Company, shall at any time within sixty days after the expiration of this contract, be turned over to the Commission upon its demand.

It is further agreed that all diamonds, bits, rods, pipes and other tools and appliances that may be used by the Company in prospecting said land, shall remain and be the absolute property of the Company, and the Commission hereby recognises such continual ownership, and guarantees to the Company the right and privilege to go in and upon said land or any part thereof, within one year after the expiration of this option contract, for the purpose of searching for and seeking to recover any lost diamonds, bits, rods, pipes and other tools and appliances.

It is hereby agreed that the Company will be responsible for and pay the reasonable amount of damages done to any fences, fruit trees, timber, improvements or growing crops of the Commission by reason or as the result of the drilling and prospecting of said land, or in the search for lost bits and diamonds, and in case of a disagreement over the amount of any damage, the question of damages shall be submitted to the arbitration of three disinterested citizens living in the county where the land herein described is situated, one of which arbitrators shall be chosen by each of the parties to this contract and the third by the arbitrators thus selected.

The Commission hereby covenants and agrees that in the event of an election by the Company to purchase said underground, mining rights and minerals of any or all of the above described land, excepting coal, oil

and gas, under this contract, the Commission will execute and deliver unto the Company a special warranty deed for that so purchased covenanting against the lawful claims of all persons claiming by, through, or under it. Such abstracts of title as are held by the Commission shall be loaned by the Commission for the purpose of review and examination by the Company, but the abstracts shall be returned to and remain the property of the Commission. Said deed shall contain a clause, with respect to such unacquired surface, substantially as follows:

"It is hereby expressly understood and agreed that the grantee, its successors and assigns, shall have the full, free and exclusive right and privilege of carrying on its business of mining under the premises hereby conveyed and removing the mineral, excepting coal, oil and gas, therefrom, including the right to prospect for mineral upon any part of the same. But it is further understood and agreed that for all damages that may be done to the surface of the conveyed premises, timber, growing crops, improvements, or to any building or structure thereon in the carrying out of any or all of the purposes and rights of the grantee, said grantee shall pay the grantor, its successors or assigns, a reasonable amount to be agreed upon; and in the event they fail to agree, then the same shall be determined by three appraisers, one appointed by each party hereto and a third by these two, and their decision as to such damages shall be final, the expense of such appraisal to be borne equally by the grantor and grantee".

In Witness Whereof, the said party of the first part has caused these presents to be signed by its chairman, secretary, and members, this 20 day of April, 1956.

CONSERVATION COMMISSION of the State of Missouri,

By: /s/ Frank P. Briggs
Chairman.

/s/ Ben Cash
Vice-Chairman.

/s/ D. L. Pippin
Secretary.

/s/ Joe M. Roberts
Member.

STATE OF MISSOURI }
COUNTY OF Cole } SS.

On this 20 day of April, 195 6, before me personally appeared Frank P. Briggs, Ben Cash, D. L. Pippin and Joe H. Roberts

of the CONSERVATION COMMISSION of the State of Missouri, to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed, as Chairman and Members of the CONSERVATION COMMISSION for the uses and purposes herein set forth.

In Testimony Whereof, I have hereunto set my hand and affixed my notarial seal at my office in Jefferson City, Missouri, the date last herein written.

My commission expires 8- 1-59.

(SEAL)

/s/ Evelyn Schuerman
Notary Public.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

June 18, 1957

Memorandum

To: Mr. Allen S. Daken, Director
Division of Operations, Control & Statistics

From: Director, Division of Base Metals

Subject: Withdrawal of Application, Docket No. DMEA-443, St. Joseph Lead Company, Eminence Area, Shannon and Texas Counties, Missouri

With reference to the Applicant's letter of June 7, please consider this application as having been withdrawn.

W R Griswold

W. R. Griswold

WRG/er
Copy to: Adm R File
Chron.

8623

ST. JOSEPH LEAD COMPANY

SOUTHEAST MISSOURI MINING AND MILLING DIVISION

BONNE TERRE, MO.

E. A. JONES,
DIVISION MANAGER.

June 7, 1957

Mr. C. O. Mittendorf, Administrator
U. S. Department of the Interior
Defense Minerals Exploration Administration
Washington 25, D. C.

Dear Mr. Mittendorft:

Re - Docket No. DMEA-4443
(Lead-Zinc-Copper) St. Joseph
Lead Company - Eminence Area,
Shannon and Texas Counties,
Missouri

Since receiving your letter of December 5, 1956, we have completed the three drill holes on tracts 1, 2 and 3. Results do not warrant further exploration at this time, and we respectfully request cancellation of our DMEA Application No. 4443.

Yours very truly,

E. A. Jones

Division Manager.

cc: Mr. Clinton C. Knox
Mr. Francis Cameron
Mr. John Brown

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 10 1957

DATE	INITIALS	CODE
6/10	C	220
6/10	ARG	500

DMEA Form 7
(12-56)

500

OFFICIAL FILE COPY

Date	Surname	Code
4/30	Griswold	500
5/1	Selfridge	30
"	[illegible]	110
"	[illegible]	100
5/2	"	220
		500

MAY - 2 1957

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

Re: Docket No. DMEA-4443 (Lead-Zinc-Copper)
St. Joseph Lead Company
Eminence Area
Shannon and Texas Counties, Missouri

Dear Mr. Knox:

Referring to the cited application, we have heard nothing regarding it since our letters of December 5, 1956, to you and to the Applicant.

It is inconvenient for us to hold applications in abeyance for long periods in an indefinite status. At your convenience, would you please get in touch with this company and inquire as to whether it plans to supplement its application in the near future. If not, and if it has no specific plans at present regarding this area, it should request that the application be withdrawn. It could always be reopened at any time by reference to the cited docket number.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

APPROVED:

Frank D. Lamb (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

WRGriswold/er 4/30/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

File Copy
Surname

Griswold
Lamb
Kiilsgaard
Selbridge
F. Johnson

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

DEC - 5 1956

Mr. E. A. Jones
Division Manager
St. Joseph Lead Company
Bonne Terre, Missouri

Re: Docket No. DMEA-443 (Lead-Zinc-Copper)
St. Joseph Lead Company
Eminence Area
Shannon and Texas Counties, Missouri

Dear Mr. Jones:

Referring to the cited application, it is our present understanding that you prefer to leave the matter pending until your company completes the three drill holes on tracts 1, 2 and 3 at its own expense.

We shall therefore hold this application in abeyance until you advise us further.

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/er 11/30/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region IV (2)
Region V (2)
Chron.

R.G.

File Copy
Surname

Griswold
Selfridge
Ferguson
Mathewson

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

500

DEC - 5 1956

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

Re: Docket No. DMEA-444 (Lead-Zinc-Copper)
St. Joseph Lead Company
Eminence Area
Shannon and Texas Counties, Missouri

Dear Mr. Knox:

At a meeting on November 29, with Messrs. Francis Cameron and E. A. Jones, representing the cited company, it was decided that the referenced application be held in abeyance for the present.

They feel that the company should complete the three drill holes on tracts 1, 2 and 3 at its own expense. Therefore, and of course, dependent upon the data obtained, they would be in a much better position to make plans for any additional work which seemed advisable.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GCS)

WRGriswold/er 11/30/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region V, (2)
Chron.

APPROVED:

Frank D. Lamb (FDL)
Member, Bureau of Mines

Thor H. Kiilsgaard (THK)
Member, Geological Survey

R.E.S.

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

RECEIVED DEC 4 1956 D.M.E.A.

December 4, 1956

Re: DMEA 4443; Pb-Zn-Cu
St. Joseph Lead Co.,
Bonne Terre, Missouri
Eminence Area
Shannon and Texas Counties,
Missouri.

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Field Team report of examination, dated November 13, 1956, received November 26, 1956

I have reviewed the application and the field team report on it. I agree with the field team examiners, Knox (USBM) and Amos (USGS) that the facts may well warrant a staged exploration program and concur that an exploration contract is in order if a proper basis for drill hole locations is established. Known mineralization in Upper Cambrian formations on the flanks of pre-Cambrian highs in mines of the "Lead Belt" at the Indian Creek Mine, Hayden Creek Mine, Annapolis Mine and in the Eminence area itself support conclusions as to the general potential of the area. This is further supplemented by widespread although generally non-commercial occurrences of lead or zinc sulfide mineralization in the Potosi, Eminence, Gasconade and Jefferson City dolomite formations over the areas flanking the Bonne Terre deposits.

It appears to me that with a moderately greater effort, the applicant could present additional information that would warrant a Stage I program of somewhat greater scope, and I recommend that he be so advised, before proceeding further with the application.

O. M. Bishop

O. M. Bishop

Copy to: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Bishop
Files

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

500

November 30, 1956

Memorandum for the Files

From: Chief, Base Metals Division

Subject: Phone conversation about Docket No. DMEA-4443, St. Joseph Lead Company, Eminence Area, Shannon and Texas Counties, Missouri, Lead-Zinc-Copper.

On the above date the undersigned had a phone conversation with Clinton Knox, Executive Officer, Region IV, regarding the subject docket. He was advised that during a conference on the previous day with Messrs. E. A. Jones and Francis Cameron, the Applicant's representatives, it had been decided that the referenced application be held in abeyance for the time being.

Meanwhile the St. Joseph Lead Company will drill three holes, on tracts 1, 2 and 3, at its own expense to gather additional data.

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Room 13, Post Office Building
Knoxville 2, Tennessee

Docket

November 20, 1956

RECEIVED NOV 23 1956 D.M.E.A.

Memorandum

To: Operating Committee, DMEA, Washington, D. C.

From: Robert A. Laurence, Geologist, U. S. Geological Survey
Knoxville, Tennessee

Subject: DMEA-443 (lead-zinc-copper
St. Joseph Lead Co., Bonne Terre, Missouri
Eminence Area, Shannon, and Texas Counties Missouri

The field examination report of November 13, on the subject application, has been reviewed here. I am in agreement with the Executive Officer's recommendation for a staged exploration contract, as outlined in the report.

The evidence is certainly good enough to justify the proposed first-stage expenditure of only $9410. A complete absence of ore in the three holes of stage I would not completely condemn the area, and evaluation of stage I and possible approval of stage II should be based on geologic information as well as presence or absence of mineralization. The Eminence area affords a good opportunity for discovery of entirely new deposits.

Robert A. Laurence

Robert A. Laurence

Perimeter, Mo
Phone 600

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

RECEIVED NOV 19 1956 D.M.E.A.

November 13, 1956

Memorandum

To: DMEA Operating Committee, Department of the Interior, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region IV

Subject: Field Team Examination Report
Application Docket DMEA-4443 (lead-zinc-copper)
St. Joseph Lead Co., Bonne Terre, Mo.
Eminence area, Shannon and Texas Counties, Mo.

Summary:

The exploration proposal was discussed, and all supporting geological data, drill hole logs (two copies of each furnished you in brief October 19, 1956), maps, and geologic sections were examined with Dr. John S. Brown, Chief Geologist, Dr. Ernest Ohle, Assistant Chief Geologist, Mr. R. E. Wagner, Exploration Geologist, Mr. James Jewel, Exploration Superintendent, Mr. E. A. Jones, Division Manager, and other representatives of the Applicant, in its Bonne Terre Offices on October 15, 1956, by the Field Team examiners, Clinton Knox (USBM-Joplin) and Dewey Amos (USGS_Champaign).

In summary, all available geologic and geophysical reconnaissance data, including those from the recently drilled holes by the Applicant extending along a section from the St. Francois Mountain Pre-Cambrian "high" to the Eminence "high" indicates a favorable exploration target in a zone flanking the latter.

This Eminence zone of geologically inferred deposits is definitely indicated to be stratigraphically, lithologically, structurally, and mineralogically similar to those of the so-called east Missouri lead belt, identified with the St. Francois Pre-Cambrian "high", where some of the largest lead resources of the World remain, and where production of lead, and accessory by-product silver, copper, cobalt, and nickel minerals have been mined in very substantial amounts since before 1720. Likewise, under virtually the same geological conditions, deposits on other "highs" outlying the main St. Francois Pre-Cambrian mass have been productive, including the deposit at Annapolis mined during the 1920s, and still others promise great production such as the recently developed Indian Creek deposit of the St. Joseph Lead Co., identified with a relatively small Pre-Cambrian outcrop to the northwest of the St. Francois mountains.

Reviewed by DMEA OPERATING COMMITTEE 11-23-56 (date)

Admittedly, this exploration target, due to the inherent characteristics of the east Missouri ore deposits in the Bonneterre strata, yet is not clearly defined. While the recent exploratory drilling thereon to the northeast of this Eminence "high" indicated an unfavorable steep gradient on Lamotte sandstone contact with the Pre-Cambrian rocks, nevertheless a mineral assemblage like that in the ore deposits around the Pre-Cambrian "knobs" in the Fredericktown area, for example, was found. Now that leases more recently have been acquired by the Applicant for exploratory drilling along this target zone in the structurally more favorable-appearing area of indicated "knobs" on the northwestern flank of the Eminence "high", the chances for discoveries of worthwhile ore depositions there are believed to be most favorable.

Recommendations:

Approval of a DMEA Project Contract is recommended in three Stages which as may prove justifiable, would permit reasonable delineation and sampling of this most favorable-appearing sector of the exploration target zone, under the alternative proposal which the Applicant and the Field Team tentatively have agreed upon.

A detailed breakdown of the cost estimates which are believed would be acceptable under DMEA regulations and suggested specifications for a proposed unit-cost DMEA Project Contract are submitted as an addendum to this joint Field Team report. Details of the Applicant's property rights and other information included therein, and in the application, are not repeated here. Of course provisions must be made in the proposed Contract for adding other properties thereunder as justifiably acquired, and for dropping properties therefrom as may be proven unfavorable throughout this vast area during the proposed exploration program.

The sections of this Field Team report giving more specific details on the data and geologic recommendations for your consideration and possible approval, as rough-drafted by Dewey Amos, the examining geologist, and submitted to me October 24, follow:

Location

The area of proposed exploration is northwest of Eminence, Missouri in Texas and Shannon Counties. Topographic coverage is given by the following quadrangles:

Eminence quadrangle 1/62,500
Round Spring quadrangle 1/62,500
Montauk quadrangle 1/24,000
Cedargrove quadrangle 1/24,000
Lewis Hollow quadrangle 1/24,000

The terrain is rugged with only a limited number of access roads.

Applicant's Proposal

The applicant proposes to drill seven widely scattered holes beginning at a point about three miles northwest of Eminence and extending 28 miles northwestward to determine stratigraphic and structural

conditions and to explore for ore mineralization on the northwest nose of the Eminence Pre-Cambrian high. The area was chosen because its stratigraphy, lithology, and mineralization appear similar to those conditions in areas of known ore deposits in southeastern Missouri. Holes would vary from 1,350 to 1,700 feet in depth based on known stratigraphic relationships and would be a combination of churn-and diamond-drilling.

Geology

The Eminence Pre-Cambrian high is one of three large basement masses in southeastern Missouri which are partially exposed and which in part lie beneath thin sedimentary cover. Several smaller bodies occur at shallow depth perpherial to the larger ones.

Rhyolite porphyry is the predominate Pre-Cambrian rock of the Eminence high with minor amounts of granite, tuff, and agglomerate.

Upper Cambrian and lower Ordovician sedimentary rocks overlie unconformably the basement complex around the flanks of the high and in Pre-Cambrian topographic depressions within the mass. They are in ascending order the Lamotte sandstone, Bonneterre dolomite, Potosi dolomite, Eminence dolomite, Van Buren formation with the Gunter sandstone member at its base, Gasconade formation and the Roubidoux formation. A basal conglomerate composed of Pre-Cambrian debris occurs at the contact of the Pre-Cambrian and the Paleozoic and traverses all the formations from the Lamotte to the Van Buren inclusive. Detailed descriptions of the Paleozoic rocks as well as a geologic map of the southeastern part of the area of proposed exploration is given in Volume 24, Mo. Bureau of Geology and Mines, 1930 (Geology of the Eminence and Cardareva quadrangles by Josiah Bridge).

The Applicant has recently drilled a line of holes from the Eminence high northeastward to the margin of the larger St. Francois high. Copies of drill log summaries of the holes on the northeast flank of the Eminence mass were furnished by the Applicant to supplement the application data. This drilling revealed the stratigraphic sequence and the lithologic variations within the formations to be similar to the other areas of commercial mineralization in southeast Missouri.

The sedimentary rocks dip relatively steep off the south and southwest flank of the Eminence high indicating a rapid increase in depth to the basement in this direction. This is well illustrated on the geological map in Bridge's report, the geologic map of Missouri (Mo. Division of Geology and Water Resources, 1939) and the gravity and magnetic maps of Missouri (Mo. Geological Survey and Water Resources, 1943). The same publications show that the Paleozoic rocks are essentially horizontal for a considerable distance northwestward from the Eminence high indicating a well-defined broad nose of basement rock at shallow depths in this direction. The Applicant's geologists have confirmed this by geological reconnaissance. In addition, the gravity map suggests the presence of small buried knobs on this nose in the vicinity of proposed holes two and three (see application for location).

Mineralization

Commercial mineralization in southeastern Missouri occurs on the flanks of small Pre-Cambrian knobs in the St. Francois and Annapolis highs. Most occur adjacent to buried knobs which project above large broad noses extending from these highs. The St. Francois mass has economic deposits east, northeast, north and northwest of the exposed Pre-Cambrian rocks and the Annapolis mass has formerly mined deposits on the north side. The area of proposed exploration on the northwest side of the Eminence mass is structurally similar to places of known commercial mineralization.

Mineralization in this region occurs at or near the pinch-out of the Lamotte sandstone against the Pre-Cambrian rocks or in or above buried bars extending from these pinch-outs. The ore minerals are in large part disseminated in the Lamotte sandstone and in particular the lower part of the overlying Bonneterre dolomite. It is restricted to areas where the lower part of the Bonneterre is light gray dolomite. Geologic mapping and holes drilled in the vicinity of the area of proposed exploration have revealed favorable stratigraphic and lithologic conditions.

Most of the commercial deposits in southeast Missouri contain the same mineral assemblage (galena, sphalerite, pyrite, barite, chalcopyrite, millerite, and siegenite in varying proportions) indicating a common origin. Only those occurrences containing this assemblage at least in part have proven in this region to be of economic value. The characteristic assemblage is present in some of the holes drilled by the Applicant on the northeast flank of the Eminence high.

Copper mineralization is known at three places in or near the area of proposed exploration as follows:

(1) McKinney Prospect (NE$\frac{1}{4}$, NE$\frac{1}{4}$ Sec. 15, T. 29 N., R. 4 W.)
This prospect which is about 1,500 feet southeast of proposed drill site one consists of a few shallow pits in the basal conglomerate of the Eminence on the east flank of an exposed porphyry knob. It is not known when the pits were dug but was prior to 1930 as the prospect is shown on the geologic map accompanying Bridge's report.

(2) Casey Mine (SE$\frac{1}{4}$, SW$\frac{1}{4}$, Sec. 14, T. 29 N., R. 4 W.)
The Casey mine is about 1.8 airline miles southeast of proposed drill site one in a basin between two porphyry ridges. Oxidized copper minerals occur in the lower portion of the Gasconade and Nee underlying Van Buren. This is high stratigraphically for commercial mineralization in southeast Missouri. The mine was last operated in the mid-1920's. No shipments of ore are known to have been made.

(3) Jerktail Mine (NW corner Lot 2, NE$\frac{1}{4}$, Sec. 5, T. 29 N., R. 3 W.). This mine is about four miles east of proposed drill site two on the south flank of a large exposed porphyr knob. Mineralization consists of chalcopyrite and its oxidized derivatives in basal conglomerate of the Eminence and in adjacent dolomite. The last work of any consequence is reported to have been about 1870.

Geochemical exploration has proven to be of no value in these flat-lying, deeply-buried deposits of southeastern Missouri and can be very misleading due to traces of lead, zinc, and copper minerals scattered throughout all the formations in the region.

Geologic Recommendations

Geological conditions are considered to be favorable for the possible discovery of significant deposits in this new area. Justification for exploration is based on the following:

(1) Structural similarity to areas of economic mineralization in the region where deposits are on the flanks of small porphyry knobs on large broad noses extending from large Pre-Cambrian highs.

(2) Existence of the same stratigraphic sequence and the same lithologic variations as in areas of the known ore deposits.

(3) The presence of the same mineral assemblage as is characteristic of the commercial deposits of the region. This is regarded as highly significant by the Applicant and by the Field Team examiners.

(4) Known mineralization within and adjacent to the area of proposed exploration.

The different proposed drill sites offer various degrees of probability of discovery of an economic deposit based on known information.

(1) Site one is very favorable being on the flank of a porphyry knob and close to known mineralization.

(2) Sites 2 and 3 are also considered favorable being on flanks of known porphyry knobs.

(3) Sites 4, 5, 6 and 7 are difficult to evaluate because of lack of information. The relative position of all knobs on the broad nose in the northwestern part of the area is not known. More detailed geophysical prospecting in this area might be very revealing.

It is recommended that the application with considerable modification be approved. A three staged exploration program is suggested as follows:

Stage I to consist of a total of three drill holes; one each at sites one, two, and three. Holes have already been started at sites one and two by the Applicant. Hole one recently was churn drilled to a depth of 880 feet and hole two to 800 feet. The holes should be bottomed in either the Lamotte sandstone or the Pre-Cambrian, whichever comes first, by diamond drilling possibly to 1,600 feet in total depth.

Stage II to consist of a maximum of 80 holes; 20 each in the vicinity of holes one, two, and three. These holes would be drilled only

if favorable results are obtained at sites one, two and three to follow up significant leads and to roughly delineate any ore bodies encountered. As some of the favorable drill sites may be on property not now held by the Applicant, provision should be made in the contract for the addition of property. Prior approval of the Government should be required as to the number and locations of holes. Representatives of the Applicant are in agreement with this proposed Stage II.

Stage III to consist of 80 additional holes if justified to complete the Stage II program and extend it to the general vicinity of proposed sites 4, 5, 6, and 7. This drilling would be undertaken only if warranted by the results obtained from Stage I and II or by information gained by further detailed geophysical prospecting and prospect drilling at the Applicant's expense in the areas of proposed sites 4, 5, 6, and 7.

Availability of Manpower, Supplies, Etc.

Manpower is of no immediate concern as the proposed exploration drilling would be done under contract. Sufficient water for drilling is available in streams of the area.

Dewey Amos, Geologist
U. S. Geological Survey

Addendum

by C. C. Knox

Description of the proposed project work:

The work is expected to be started within 30 days after date of a DMEA Contract and be completed in two years.

The purpose of the project work is to explore lead, zinc, and copper mineral deposits by churn and diamond core drilling (AJ or AX-size) on land described in the Application, or any other tracts which the Applicant subsequently may acquire during the two years in the proposed project area of Shannon and Texas Counties, Missouri. The parties to the proposed DMEA Project Contract shall promptly execute amendments thereto which will include any land so acquired under the terms of said Contract. Also at any time before expiration of 60 days following conclusion or termination of the project work, as requested by the Project Operator, an amendment may be executed by both parties to the DMEA Contract deleting therefrom any tracts as have no known value for mineral production from the scope of any "Certification" that may be made by the Government thereunder.

The location, depth, and type of all drilling and sampling are subject to approval of the Government.

The work is proposed in three stages, as follows:

Stage I is to consist of drilling a total of three holes on sites No. 1, 2, and 3 shown on the Applicant's map. The churn drilling for the sleeve casing on site one and two already is completed to 880 and 800 feet, respectively, so that the drilling to be specifically authorized under the proposed contract would include deepening by diamond drilling of those first two holes to about 1,600 feet each in total depth, and the combination churn and diamond drilling of proposed hole three throughout its entire estimated depth of about 1,500 feet or a total of 3,020 feet of drilling.

Stage II, to be subject to requests and justifications from the Project Operator and written approvals by the Field Team, would consist of a maximum of 80 like holes altogether, or a total of 120,000 feet of drilling, but not to exceed 20 holes on each of the respective tracts on which site 1, 2, or 3 is located, and 20 holes on any other tract which might subsequently be included under the contract in that general area.

Stage III, likewise subject to written Field Team approvals upon requests and justifications by the Project Operator, based on results of Stages I and II work or other detailed geological and geophysical prospecting or test drilling as may be conducted entirely at the Applicant's expense, would consist of a maximum of 80 additional holes averaging about 1,600 feet of drilling apiece in the general locality, and possibly on the Applicant's proposed sites No. 4, 5, 6, and 7.

Estimated Costs of the project:

Stage I

	Total	Rate/ft.
(a) Independent contracts		
2,220 ft. diamond drilling	$5,395	$2.43
800 ft. churn drilling	2,000	2.50
(standard drilling rates for Flat River district plus allowances for inaccessibility of this project area 100 miles to the southwest)		
hauling casing for 3 holes at $200	600	0.20
retrieving casing from holes	600	0.20
Total (a)	$8,595	$2.85
(b) Labor, Supervision, and Consultants		
Core house labor - 6 days at $12	$72	
Core Inspector & photographer-6 days at $15	90	
Surveyor - 2 days at $15	30	
Exploration Geologist - 4 days at $25	100	
Exploration Superintendent - 6 days at $25	150	
Total (b)	$442	$0.15

(c)	Operating materials and Supplies	none	—
(d)	Equipment - purchase	none	—
	rental	none	—
	owned		
	(depreciation (incl. all operating expenses) on vehicles for travel to and from the project by supervisory personnel - 12 days at $7.00/da	$84	
	Total (d)	$84	$0.03
(e)	Rehabilitation and Repairs -	none	
(f)	Miscellaneous		
	Accounting, drafting, and DMEA Reports 1 mo. at $120.00	$120	
	Sample analyses ----$50/hole	$150	
	(incl. estimated 10 sample/hole-Pb,Zn,Cu,Co, and Ni determination $1 each on each sample)		
	Workmen's Compensation, Payroll taxes, State Unemp. Ins., etc., on Supervisory Personnel	$19	
	Total (f)	$289	$0.10
	Total Estimated Stage I Costs -	$9,410	$3.12

Stage II

		Total	Rate/ft.
(a)	Independent contracts		
	120,000 feet of churn & diamond drilling	$330,000	$2.75
	(inclusive of all work by independent contractors)		
(b)	Labor, Supervision, and Consultants		
	11 months at $400/mo	$4,400	
	(as detailed for 1 mo. under Stage I)		
(c)	none		
(d)	Equipment (depreciation on cars)		
	11 months at $75	$825	
(e)	none		
(f)	Accounting, etc. 11 mo. at $100	1,100	
	Analyses of 10 samples/hole at $5	4,000	
	Comp. Ins., Payroll taxes, etc. 11 mo. at $20	220	
	Total Stage II	$340,545	$2.84

Stage III

Same as Stage II in 11 mos.	$340,545	$2.84
Estimated Total Project Costs	$690,500	$2.84

Clinton C. Knox

Clinton C. Knox

cc: DMEA Op. Com. (3)
Amos, USGS, Champaign
Laurence, USGS, Knoxville (2)
4443 file

Memo of phone call 9:15 a.m. 11-1-56

To: Mr. James Jewell, Exploration Supt., Geological Department, St. Joseph Lead Co., Bonne Terre, Mo.

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

Subject: Drafting specifications for suggested DMEA Project Contract, Application DMEA-4443, St. Joseph Lead Co., Shannon County, Mo.

Upon receiving a rough-draft report October 29 from Dewey Amos, USGS-Champaign, I explained that I was completing the Field Team report, tentative recommendations, and a draft of specifications for a suggested DMEA Project Contract, somewhat as we had outlined to the Applicant on October 15, to possibly be set up in three stages:

1. Complete holes 1 and 2, and drill all of hole 3 as designated in the Application proposal, to further define the exploration target on the north flank of the Eminence Pre-Cambrian "high" as the Applicant had done by two of the previously drilled holes on the northeast. As the starting point for the suggested contract, Mr. Jewell stated that holes 1 and 2 had been churn drilled through the upper porous formations to depths of 880 and 800 feet, respectively; their total completion depths for diamond drilling estimated to be about 1,600 and 1,545 feet, respectively; total diamond and churn drilling from the surface for hole 3, about 1,470 feet.

2. Then, subject to justification, and approvals of each drilling site by the Government, necessary additional land may be optioned for inclusion under the contract, or optioned land proved unfavorable thereunder may be dropped, and up to a maximum of 80 additional holes might be drilled to reasonably delineate and sample any ore deposits that might be substantially inferred from the Stage 1 drilling.

3. Finally, in the light of results from both the Stages 1 and 2 drilling and all justifiable geologic projections of the exploration target zone, based also possibly on geophysical and/or other additional prospecting at the Applicant's expense, likewise with necessary land aquisitions, and approvals of each drilling site by the Government, the Stage 2 program might be extended as justified, including drilling of the Applicant's proposed sites 4, 5, 6, and 7 and up to another 80 delimitative holes in any or all the additional areas of any ore deposits that might be clearly inferred.

Mr. Jewell said that Dr. Brown, Chief Geologist, had gone to Minneapolis and both Dr. Ohle and Mr. Wagner, Geologists, are away on field work. I explained that this call in no way should be construed as a committment by him or this Field Team, but was merely to review our outline previously discussed there, and to obtain the exact depths of holes 1 and 2 for our report to Washington with suggested specifications for a proposed DMEA project contract.

Knox

CCK/enn

cc: DMEA Op.Com.(2)
Amos,USGS,Champaign
Laurence,USGS,Knoxville

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

Airmail

October 9, 1956

Mr. Dewey H. Amos, Geologist
U. S. Geological Survey
303 South Elm Street
Champaign, Illinois

Re: DMEA-4443 (lead, zinc, copper)
St. Joseph Lead Co.
Texas and Shannon Counties, Mo.

Dear Dewey:

Thanks for your letter of October 5.

I have not been able to learn much about hotels or motels in the Bonne Terre locality but I will plan to meet you Sunday evening, October 14, by 7 P.M. at the National Hotel, 224 West Main Street, Flat River, Missouri.

Sincerely,

CCK/enn

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

encl.(1)
cc: Laurence, USGS, Knoxville
DMEA Op.Com.(2)
4443 file

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D. C.~~
Box 431
Joplin, Missouri

RECEIVED
OCT 12 1956

Airmail

October 9, 1956

Dr. John S. Brown, Chief Geologist
St. Joseph Lead Company
Bonne Terre, Missouri

Re: DMEA-4443 (lead-zinc-copper)
St. Joseph Lead Co.
Texas and Shannon Counties, Mo.

Dear Dr. Brown:

In reply to your letter of October 1 it certainly will be satisfactory for the Field Team to discuss the subject application with you or Mr. Wagner.

Mr. Dewey Amos, Geologist, U. S. Geological Survey, and I have arranged to arrive there next Sunday evening and plan to be at your office Monday morning, October 15.

Of course, we do not expect any commitments from the company regarding the proposed D.M.E.A. contract, nor could we as yet commit the Government to any such contract, but as stated in my letter of September 27, we are eager to present all obtainable prospecting data in support of your application proposal.

Sincerely yours,

CCK/enn

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

cc: Laurence, USGS, Knoxville
Amos, USGS, Champaign
DMEA Op. Com. (2)
4443 file

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

RECEIVED
OCT - 5 1956

October 3, 1956

Mr. Dewey H. Amos, Geologist
U. S. Geological Survey
303 South Elm Street
Champaign, Illinois

Re: DMEA-4443 (lead-zinc-copper)
St. Joseph Lead Company
Eminence Area
Shannon and Texas Counties, Mo.

Dear Dewey:

I have received a copy of the October 1 letter to you from Robert Laurence and a letter from the cited Operator (copy attached).

I will be tied up here through October 12, but if it would be possible for you to come to Bonneterre for a discussion with this Applicant's geologist on October 15, I would be pleased to meet you at Bonneterre Sunday evening, October 14, or any later date which might be more convenient for you.

I hope that we can also make the monthly inspection of the National Lead project the same day, but if time does not permit, I could do that alone the next day, assuming that you would have to be back to your regular duties in Champaign.

Please let me know as soon as possible if and what date you can come and where you would prefer to meet me. Then I would advise St. Joe and National Lead when to expect us.

Sincerely,

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

CCK/enn

encl. (1)
cc: Laurence, USGS, Knoxville
DMEA Op. Com. (2)
4443 file
1371 file

COPY

RECEIVED
OCT - 5 1956

COPY

ST. JOSEPH LEAD COMPANY

Bonne Terre, Missouri
October 1, 1956

Mr. Clinton C. Knox, Executive Officer
DMEA Field Team, Region IV
U. S. Department of the Interior
Box 431
Joplin, Missouri

Re: DMEA-4443 (lead-zinc-copper)
Non-contiguous tracts, Eminence Area,
Shannon and Texas Counties, Mo.

Dear Mr. Knox:

In the absence of Mr. Jones, who is away until October 15th, I am replying to your letter of September 27th regarding a possible meeting to discuss the geological background of the above DMEA application.

W e will be glad to have you arrange such a meeting at any time in the near future convenient to you and the Knoxville office of the U. S. Geological Survey. Should you prefer to have Mr. Jones present, this would need to be October 15th or later. However, I believe, Mr. Wagner and I can supply all necessary geological information at any time should you prefer to come earlier. We could not, of course, commit the Company to any details of an actual contract for the proposed program.

Normally, we work a 5-day week, Monday to Friday, but we could, of course, be available outside these days if need be.

Very truly yours,

/s/ John S. Brown,
Chief Geologist.

JSB/jcp
cc - Mr. E. A. Jones

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
OCT - 1 1956

September 28, 1956

Memorandum

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

From: Executive Officer, DMEA Field Team, Region V

Subject: Docket No. DMEA-4443 (Lead, zinc, copper)
St. Joseph Lead Company, Bonne Terre, Missouri
Eminence Area, Shannon and Texas Counties, Missouri

Reference is made to Operating Committee Minutes No. 719, September 19, 1956.

The first item states two copies each of the Committee's letter of referral and the reviews by Bishop and Nelson were sent to Region V. All I've received to date is a copy of the letter to the Applicant, so presumably the others went somewhere else by mistake and will arrive here soon. I will send one copy of each to Dewey Amos as soon as I receive them. However, if an early field examination seems to be desirable, it would be a good idea for you to send Dewey all the pertinent data now, so that he can review it and plan for the field examination.

Robert A. Laurence

RAL/mg
cc
Operating Committee (2)
Dewey H. Amos, 303 S. Elm Street, Champaign, Illinois
File

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
Box 431
Joplin, Missouri

RECEIVED
OCT - 1 1956

Airmail

September 27, 1956

Mr. E. A. Jones, Division Manager
St. Joseph Lead Company
Bonne Terre, Missouri

Re: DMEA-4443 (lead-zinc-copper)
Non-contiguous tracts, Eminence Area
Shannon and Texas Counties, Mo.

Dear Mr. Jones:

The cited application has been referred to me with the hopes that with help of your geologists we can assemble all the actual prospecting data on at least some of your proposed exploration sites so that I can assure of sufficiently definite exploration targets to be applicable under the Defense Minerals Exploration Program.

As I believe recently was reiterated to you by the Washington Office, under the criteria that DMEA must apply, applications should present a firm geologic probability for making a worthwhile ore discovery. In other words, DMEA project contracts cannot be let for the purpose of prospecting or, on the other hand, for blocking out ore and actual preparations for mining production. Thus in administering this Program, we seem to be bound between narrow lines but they yet remain flexible enough to apply the Field Team's interpretations of justifiable geologic projections wherever adequate prospecting data are made available. Such a concept admittedly must vary from one mining region to the next, even from one favorable-appearing prospect to the next.

I assure you that this Field Team has come to fully appreciate the difficulties you and the many other mining people have in presenting such exploration justifications on the predominately deep-lying flat-bedded ore depositions of these Central States.

Despite any doubts expressed as to the adequacy of the available prospecting data to present definite exploration targets under such difficult circumstances, my acquaintance with your company's operations, and likewise with some of its geologists, convinces me that any exploration program you endorsed would be on the soundest possible geologic footing. Therefore, I have no doubt that at least some variation of your proposed program would be found acceptable under DMEA regulations if the Field Team could present all data obtainable from the prospect pits, the sections of holes drilled northeasterly from the Eminence

high and the two holes started at locations 1 and 2 as mentioned in your application, plus all other information such as detailed geologic mapping, magnetometer surveys, geochemical investigations or any other observations which might have been significant factors in your company's decision to start this exploration program.

Obviously the appraisal for DMEA of all such data as you might be able to present is a job for a well-qualified geologist, but I am a mining engineer of the Bureau of Mines employed alone on a consulting basis for all DMEA work in these Central States and have no Geological Survey teammate in this region. The eastern regional office of the Geological Survey under Robert A. Laurence, Knoxville, Tennessee, cooperates wholeheartedly, however, by sending a geologist whenever available, and whenever I deem that such a trip is justifiable. Therefore, if you will advise when it would be most opportune, I would be very pleased to schedule a meeting of that Government geologist and myself with you or your representative at the earliest possible date, either at Bonne Terre or at the proposed project site.

I regret that my absence here while on DMEA field examinations in Texas the past 10 days has caused this delay in contacting you but wish to assure you that every effort will be made to expedite a decision on your application.

Sincerely yours,

CCK/enn

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

cc: DMEA Op.Com.(2)
Laurence, USGS-Knoxville (2)
4443 file

File Copy
Surname

Linwood
Selfridge
Kilmurray
Mottendorf

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION 500
WASHINGTON 25, D. C.

SEP 26 1956

Mr. Clinton C. Knox
Executive Officer
DMEA Field Team, Region IV
Post Office Box 411
Joplin, Missouri

Re: Docket No. DMEA-4443 (Lead-Zinc-Copper)
St. Joseph Lead Company
Eminence Area
Shannon and Texas Counties, Missouri

Dear Mr. Knox:

The cited application is being referred to your office for consideration, a field examination of the property if warranted, and recommendations.

We are sure you realize that we do not accept certain types of applications as being eligible for DMEA assistance; in this group are such projects as prospecting, random wildcat drilling, and work of a purely reconnaissance nature. It would appear that the cited application falls within this group, but we are referring it to you with the thought that perhaps the Applicant could revise it to an acceptable form. Otherwise, it could not be given consideration.

Mr. Elmer Jones, Division Manager, St. Joseph Lead Company, informed us that he would like to meet you and discuss St. Joseph's proposals. Possibly, the Applicant has sufficient data to justify a project for a specific target on any one or several of the leased parcels of land. A project should encompass

RGK

sufficient work so as to have some probability of making a significant discovery or development and reasonably delineate any ore body encountered. Logs of any holes already drilled should be made available to us as well as the results of any geophysical and geochemical work performed by the Applicant so as to justify Government participation in a project. Perhaps the Applicant has considerable data about which we have not been informed.

Since we had been advised that the Applicant was also preparing another application, we phoned this company on September 14, explaining the type of projects which are considered as being eligible.

Copies of memoranda, dated September 6 and 7, 1956, by O. M. Bishop, Bureau of Mines, and N. E. Nelson, Geological Survey, respectively, relating to the project, are enclosed for your information.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (24B)

Enclosures

APPROVED:

P. F. Yopes
Member, Bureau of Mines (24B)

Thor H. Kiilsgaard
Member, Geological Survey (24B)

WRGriswold/er 9/11, 17& 18/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region V (2)
Chron.

File Copy
Surname

Irwin
Lamb
Kiilsgaard
Selfridge
Yokes
Griswold

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

SEP 2 0 1956

Mr. E. A. Jones, Division Manager
St. Joseph Lead Company
Bonne Terre, Missouri

Re: Docket No. DMEA-4443 (Lead-Zinc-Copper)
St. Joseph Lead Company
Eminence Area
Shannon and Texas Counties, Missouri

Dear Mr. Jones:

Your application for Government assistance to explore the cited property has been reviewed by the Base Metals Division of the Defense Minerals Exploration Administration and is being referred to:

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

If additional information concerning your application is needed the Field Team will get in touch with you at an early date.

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/er 9/11/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Region IV (2)
Region V (2)
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Crhon.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION 500
WASHINGTON 25, D. C.

September 14, 1956

Memorandum for the Files

From: Chief, Base Metals Division

Subject: Phone Conversation on Docket No. DMEA-4443, St. Joseph Lead Company, Eminence Area, Shannon and Texas Counties, Missouri, Lead-Zinc-Copper.

On this date the undersigned phoned Mr. Elmer Jones, Division Manager of the St. Joseph Lead Company, to explain the type of applications which are considered as being eligible for DMEA assistance. It was obvious from the nature of the cited application that the Applicant was unaware of the fact that we do not assist in work of a prospecting or reconnaissance nature.

W R Griswold

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

IN REPLY REFER TO:

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

RECEIVED
SEP 10 1956

September 7, 1956

Re: DMEA 4443
St. Joseph Lead Co.,
Project #1 Area
Shannon and Texas Co's.,
Missouri
$36,637.10 - Lead-Zinc-Copper

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

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

Subject: Review of application.

The applicant requests assistance in completing and drilling holes at seven locations in a search for the presence of or probability of mineralization in the Bonneterre formation.

The project as proposed will section in a northwesterly direction from the Eminence 'high' the sedimentary strata which overlie the Lamotte sandstone, or the Precambrian 'basement' whichever comes first. Within the sedimentary sequence is the Bonneterre formation the host rock of the lead deposits of southeast Missouri. The irregularly and widely spaced holes, 7 in a distance of 24 miles, by showing the position of the Bonneterre will, at least, obtain, by sound procedure pertinent geological information and per chance, locate an undeveloped source of strategic metals.

The applicant has drilled a section northeasterly from the Eminence high toward the partly exposed St. Francois high. The application says..."some slight evidence of mineralization was found."

Referral of the application to the Field Team for appropriate action is recommended.

N. E. Nelson

N. E. Nelson

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

RECEIVED
SEP - 6 1956
Griswold

September 6, 1956

Re: DMEA 4443; Pb, Zn, Cu;
$ 36,637
St. Joseph Lead Co.
7 tracts totaling 2,567 acres
Shannon and Texas Counties,
Missouri

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Application dated August 28, received August 30, 1956.

The applicant proposes to drill 7 holes to determine the lithology and structural position of the Bonneterre formation on a northwesterly line extending about 30 miles, to the northwest of Eminence, Missouri. Holes which will vary from 1,350 to 1,700 feet in depth will be a combination of churn-drilling and diamond drilling, in conformance with accepted good practice in southeast and central Missouri.

The work outlined appears to be a part of a sound exploration program which the St. Joseph Lead Company is carrying forward to determine whether structural and mineralogic evidence warrants further drilling. It also appears to conform to the standards for a DMEA exploration program as described in DMEA Order-1.

On the basis of personal knowledge of the area, I am of the opinion that geochemistry would be of doubtful value, but there is some potential use for magnetic surveys, which would aid in delineating buried porphyry knobs which exert an important control on the structural position of potential ore horizons.

I recommend that the application be referred to the field team for their views, but would note that there is no necessity for a field examination.

O. M. Bishop

O. M. Bishop

Copy to: Division of Minerals
Mr. Kiilsgaard
Mr. Geehan
Mr. Bishop Files

File Copy
Surname

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

SEP - 7 1956

Mr. E. A. Jones, Division Manager
St. Joseph Lead Company
Bonne Terre, Missouri

Re: Docket No. DMEA-443 (Lead-Zinc-Copper)
St. Joseph Lead Company
Eminence Area
Shannon and Texas Counties, Missouri

Dear Mr. Jones:

This is with reference to your August 28 letter, transmitting an application for Government assistance in the cited exploration project.

We note that you propose to have the drilling done by independent contractors. In such instances, we should be provided with three independent bids, covering the work in question.

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief,
Base Metals Division

WRGriswold/er 9/6/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region IV, (2)
Chron.

R.G.

August 30, 1956

Stl Joseph Lead Co.
Bonne Terre,
Missouri

Subject: DMEA-4443
Re: Exploration Assistance

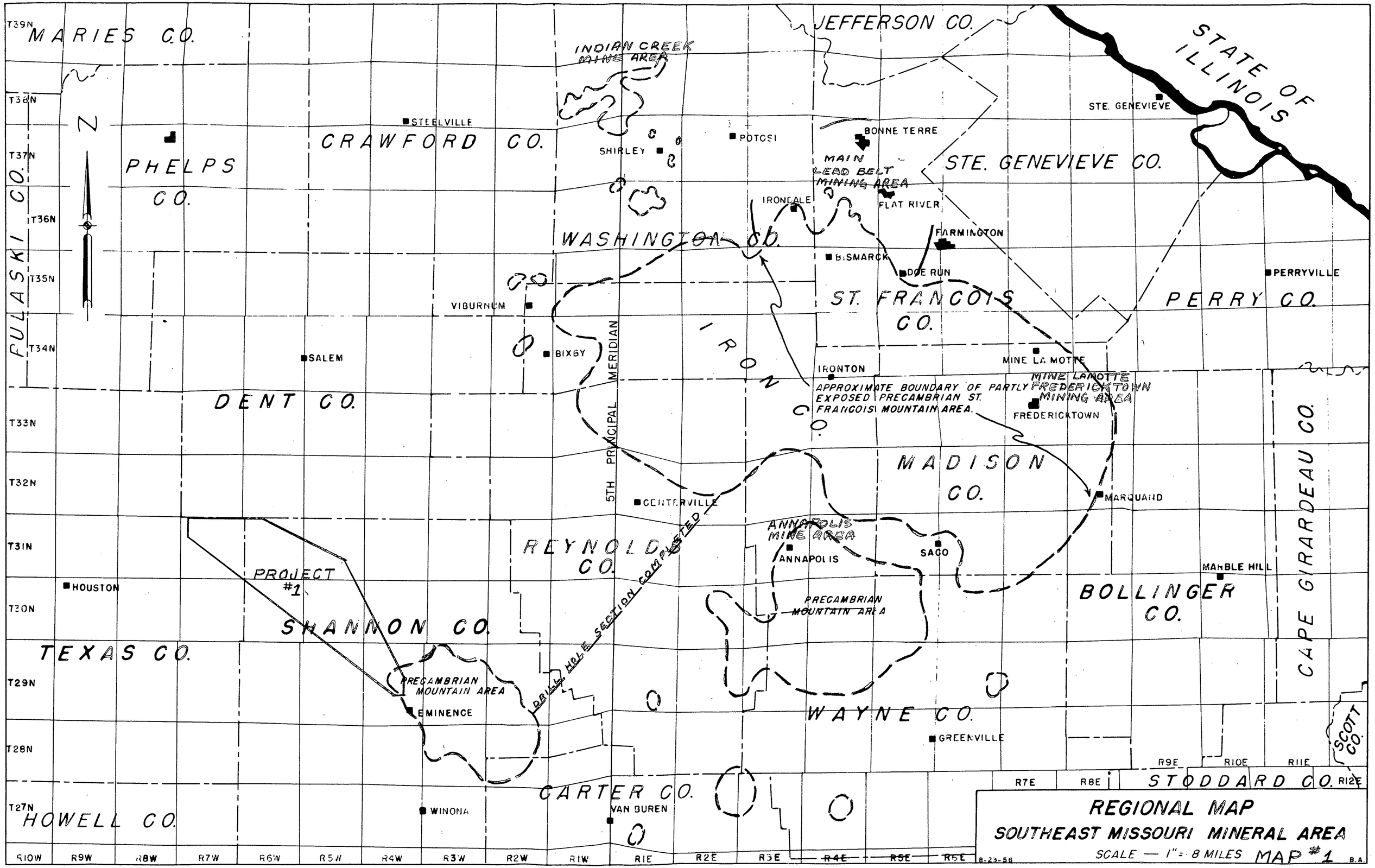
The receipt of your application dated August 28, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4443 and referred to the Base Metals Division.

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

Sincerely yours,

Allen S. Dakan
~~Robert E. Adams~~, Chief
Operations Control and
Statistics Division


MARIES CO.
JEFFERSON CO.
STATE OF ILLINOIS
INDIAN CREEK MINE AREA
STEELVILLE
CRAWFORD CO.
SHIRLEY
POTOSI
BONNE TERRE
STE. GENEVIEVE
MAIN LEAD BELT MINING AREA
STE. GENEVIEVE CO.
PHELPS CO.
IRONDALE
FLAT RIVER
FARMINGTON
WASHINGTON CO.
BISMARCK
DOE RUN
PERRYVILLE
VIBURNUM
ST. FRANCOIS CO.
PERRY CO.
FULASKI CO.
SALEM
BIXBY
IRON CO.
IRONTON
MINE LA MOTTE
MINE LAMOTTE
FREDERICKTOWN MINING AREA
APPROXIMATE BOUNDARY OF PARTLY EXPOSED PRECAMBRIAN ST. FRANCOIS MOUNTAIN AREA.
FREDERICKTOWN
DENT CO.
5TH PRINCIPAL MERIDIAN
MADISON CO.
CENTERVILLE
MARQUAND
CAPE GIRARDEAU CO.
ANNAPOLIS MINE AREA
ANNAPOLIS
SAGO
REYNOLDS CO.
DRILL HOLE SECTION COMPLETED
PROJECT #1
HOUSTON
MARBLE HILL
PRECAMBRIAN MOUNTAIN AREA
BOLLINGER CO.
SHANNON CO.
TEXAS CO.
PRECAMBRIAN MOUNTAIN AREA
EMINENCE
WAYNE CO.
GREENVILLE
SCOTT CO.
CARTER CO.
STODDARD CO.
HOWELL CO.
WINONA
VAN BUREN
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R6E
R7E
R8E
R9E
R10E
R11E
R12E
REGIONAL MAP
SOUTHEAST MISSOURI MINERAL AREA
SCALE — 1" = 8 MILES
MAP #1
8-23-56
B.A.

MAP #1

E G Jones
Phone 600
Bonne Terre, Mo.

RECEIVED
AUG 30 1956

U. S. Government Messenger Envelope

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Void previous block.
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Mr. McCormack ~~Room 6213~~	RUN STOP		RUN STOP
~~Mrs Farley 1321 Interior Bldg.~~	RUN STOP		RUN STOP
~~Accounts Br.~~	RUN STOP		RUN STOP
Mr. [illegible] 5[illegible] 4 5A Bldg.	RUN STOP		RUN STOP
~~Rm. 4206~~	RUN STOP		RUN STOP
~~Mr. [illegible] [illegible]~~	RUN STOP		RUN STOP
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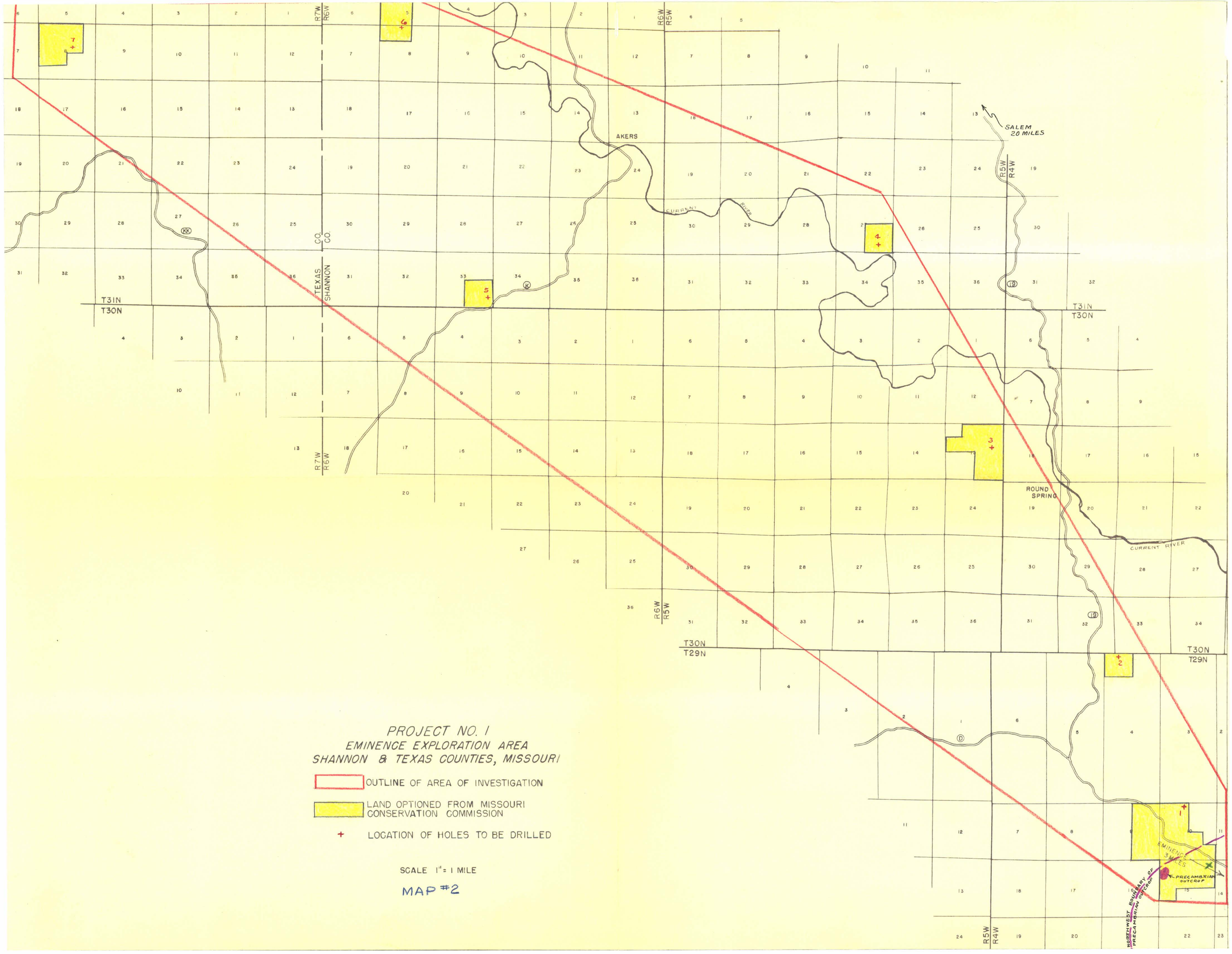
PROJECT NO. 1
EMINENCE EXPLORATION AREA
SHANNON & TEXAS COUNTIES, MISSOURI
OUTLINE OF AREA OF INVESTIGATION
LAND OPTIONED FROM MISSOURI CONSERVATION COMMISSION
LOCATION OF HOLES TO BE DRILLED
SCALE 1" = 1 MILE
MAP #2
AKERS
SALEM 20 MILES
ROUND SPRING
CURRENT RIVER
TEXAS CO.
SHANNON CO.
T31N
T30N
T29N
R7W
R6W
R5W
R4W
EMINENCE 3 MILES
PRECAMBRIAN OUTCROP
NORTHWEST BOUNDARY OF PRECAMBRIAN OUTCROP