DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 1054

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

Exploration Loan

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

To:	SUPPLY DIVISION	Date	AUG 22 1951
To:	REPORTS AND RECORDS	Date	AUG 24 1951
To:		Date	
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FILE COPY
SURNAME: 350

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

AUG 24 1951

McKnight
O'Leary
(Fox Mote)
Johnson

a. r. c.

Memorandum

To: Reports and Records Unit
Administrative Management Div.

From: Chief, Lead-Zinc Branch

Subject: Withdrawal of application

Re: DMA-1054
J.E. & R. Mines
Housley Mine
Hot Springs County, Arkansas
Exploration lease $15,000
Lead-zinc

The attached letter of June 8 points out that after de-watering the mine and assaying the mineralization, the applicant has decided to withdraw his application and abandon the project.

Returned herewith are 2 copies of MF-103, including the lease.

Approved:

Tom Lyon

Gunnard Johnson

Tom Lyon, Director
Supply Division

T. P. Billings, Chief
Lead-Zinc Branch

ETMcKnight:emp
G 8-21-51

Copies to: David Gallagher Region VI (2)
Chief, Lead-Zinc Branch
E. T. McKnight 4204 GSA
R. H. Mote
Reports & Records Unit
Directors r. file 4214 GSA
Br. r. file 4214 GSA
Files

AUG 2 4 1951

Memorandum

To: Reports and Records Unit
Administrative Management Div.

From: Chief, Lead-Zinc Branch

Subject: Withdrawal of application

Re: [illegible]-1054
John & M. Mines
Bowsley Mine
Hot Springs County, Arkansas
exploration lease $15,000
Lead-zinc

The attached letter of June 2 points out that after de-watering the mine and assaying the mineralization, the applicant has decided to withdraw his application and abandon the project.

Returned herewith are 2 copies of MF-103, including the lease.

Approved:
Tom Lyon

Gunnard Johnson

Tom Lyon, Director
Supply Division

[illegible] Billings, Chief
Lead-Zinc Branch

[illegible]knight:cmp
6-26-51
Copies to: David Gallagher Region [illegible] (C)
Chief, Lead-Zinc Branch
E. T. McKnight 4214 GSA
R. H. Kote
Reports & Records Unit
Director r. file 4214, GSA
Dr. r. file 4214 GSA
Files

AUG 2 4 1951

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

Memorandum

Re: DMA-1054
J.E. & R. Mines
Housley Mine
Hot Springs County, Arkansas
Exploration loan $15,000
Lead-zinc

Q.E.C.

To: Reports and Records Unit
Administrative Management Div.

From: Chief, Lead-Zinc Branch

Subject: Withdrawal of application

The attached letter of June 8 points out that after de-watering the mine and assaying the mineralization, the applicant has decided to withdraw his application and abandon the project.

Returned herewith are 2 copies of MF-103, including the lease.

T. P. Billings by WBP
T. P. Billings, Chief
Lead-Zinc Branch

Approved:

Tom Lyon
Tom Lyon, Director
Supply Division

Herrn
1054

JOPLIN MACHINERY & ELECTRIC CO.

PUMPS FOR MINING, AGRICULTURE AND INDUSTRY

ELECTRIC MOTORS • CONTRACTORS AND MINING EQUIPMENT

5TH AND SCHOOL STREETS

TELEPHONE 1500 • L. D. 20

JOPLIN, MISSOURI

June 8, 1951

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 11 1951
LANDON F. STROBEL
Executive Secretary

Defense Minerals Administration
U.S. Department of The Interior
Washington 25, D.C.

Attention: Mr. Tom Lyon

Re: DMA - 1054

Gentlemen:

We appreciate your consideration and the very helpful cooperative attitude of Mr. Gallagher and Mr. Berliner of the Joplin Field office on our application DMA-#1054. We have de-watered and carefully examined the Housley mine in Hot Springs, Arkansas and have decided to abandon the project.

Yours truly,

J. E. & R. MINES

J. V. Reynolds

JVR:mb

JUN 21 1951

FILE COPY
SURNAME:

McKnight
Herres
Hage

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

May 8, 1951

DMA-1054
Housely Mine
Hot Springs County, Arkansas

Mr. J. V. Reynolds
Post Office Box 1043
Joplin, Missouri

Dear Mr. Reynolds:

Your application for an exploration loan to dewater and explore the Housley Mine has been examined by the Lead-Zinc Branch of Defense Minerals Administration and has been referred to Mr. David Gallagher, U. S. Geological Survey, Joplin, Missouri, for further consideration.

Mr. Gallagher will doubtless get in touch with you about this project.

Yours very truly,

Otto Herres

OTTO HERRES, Chief
Lead-Zinc Branch

OHERRES:ks

cc: Mr. Strobel
Mr. Mote
Mr. McKnight
Mr. Herres
Files
2 copies Mr. David Gallagher Region VI

4623

a.e.c.

May 7, 1951

Memorandum

To: Executive Officer of Field Team, Region VI

From: Coordinating Committee

Subject: Application of J. L. & R. Mines, Joplin, Missouri. Re: Docket DMA-1054

The Land-Line Branch has reviewed the application submitted by the J. L. and R. Mines for a loan to dewater and explore the Beasley (Price-Williams) mine in Hot Springs County, Arkansas.

The mine is developed on four veins in a fracture zone 50 ft. wide which occurs in a sandstone member of the Bonneley shale. Three of the veins are exposed on the surface.

No engineer assays accompany the application, but excerpts from a report by [illegible] give a brief description of the mine. [illegible] estimates that in four stopes in the northwest crosscuts there are [illegible] tons of ore that would produce 7,500 tons of lead and zinc concentrates. He also recommends exploration by diamond drilling.

The applicant proposes to dewater the mine and then diamond drill about 2,000 ft. The exact location of the holes will be determined after the mine has been dewatered and examined. It is estimated that 30 days will be required to dewater the mine and another 30 to complete the drilling.

The estimated cost of the entire program is $15,000. The company is prepared to [illegible].

The Land-Line Branch recommends that an investigation be made to determine if the proposal is desirable as an exploration program. If the decision is favorable from a geologic viewpoint, an investigation of the mining [illegible] should be made. If on the basis of these investigations the Field Team believes the Government should participate in the project, no [illegible] of the applications as posed is necessary to complete the contract should be entered into.

Approved:
The Coordinating Committee
Lowell B. Moon

Chairman

Tom Lyons

Chief, Legal Div.
Olaf W. Love

Olaf W. Love

E.J. Lyons:emp 5/7/51
Copies to: H. Gallagher
Region VI (2)
Chief, Lead-Zinc Br.
K. T. McKnight
L. C. Moon
R. H. Mote
L.F. Strobel
T. Lyon
Files

May 17, 1951

Ref: DMA-1054

[illegible] Mines
P. O. Box 1043
Joplin, Missouri

Gentlemen:

The Lead-Zinc Branch of the Defense Minerals Administration has reviewed your application (DMA-1054) for a loan to construct and explore the Moulton mine in Hot Springs County, Montana. The application has been sent to Mr. [illegible] Gallagher, Executive Officer of the Field Team, P. O. Box 131, Joplin, Missouri, for further [illegible] and advice.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

TLyon:[illegible]
5/17/51
Copies to: L. Gallagher, Region VI
Chief, Lead-Zinc Br.
[illegible] Moonight [illegible]
[illegible] Moon
[illegible] Cote
[illegible] Strobel
[illegible] Lyon
Files

FILE COPY
SURNAME:

E. J. Lyons (alb)
McKnight
Mote
Strobel
Lyon

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

May 17, 1951

Re: DMA-1054

J. E. and R. Mines
P. O. Box 1043
Joplin, Missouri

Gentlemen:

The Lead-Zinc Branch of the Defense Minerals Administration has reviewed your application (DMA-1054) for a loan to dewater and explore the Mousley mine in Hot Springs County, Arkansas. The application has been sent to Mr. David Gallagher, Executive Officer of the Field Team, P. O. Box 431, Joplin, Missouri, for further information and advice.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

EJLyons:emp
G 5/7/51
Copies to: D. Gallagher, Region VI
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
L. B. Moon
R. H. Mote
L. F. Strobel
T. Lyon
Files

FILE COPY
SURNAME:

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

E.J. Lyons
McKnight
Mote
(cal 3)

May 7, 1951

Memorandum File Lent To David Gallagher

To: Executive Officer of Field Team, Region VI

From: Coordinating Committee

Subject: Application of J. E. & R. Mines, Joplin, Missouri.

Re: Docket DMA-1054

The Lead-Zinc Branch has reviewed the application submitted by the J. E. and R. Mines for a loan to dewater and explore the Housley (Price-Williams) mine in Hot Springs County, Arkansas.

The mine is developed on four veins in a fracture zone 50 ft. wide which occurs in a sandstone member of the Stanley shale. Three of the veins are exposed on the surface.

No maps or assays accompany the application, but excerpts from a report by S. S. Clarke give a brief description of the mine. Clarke estimates that in four stopes in the northwest crosscuts there are 75,000 tons of ore that could produce 7,500 tons of lead and zinc concentrates. He also recommends exploration by diamond drilling.

The applicant proposes to dewater the mine and then diamond drill about 2,000 ft. The specific location of the holes will be determined after the mine has been dewatered and examined. It is estimated that 30 days will be required to dewater the mine and another 30 to complete the drilling.

The estimated cost of the entire program is $15,000. The company is prepared to invest $7,500.

The Lead-Zinc Branch recommends that an investigation be made to determine if the proposal is desirable as an exploration program. If the decision is favorable from a geologic viewpoint, an investigation of the methods and costs should be made. If on the basis of these investigations the field team believes the Government should participate in the project, as many of the negotiations as possible necessary to complete the contract should be entered into.

Approved:
DMA Coordinating Committee

Lowell B. Moon

L. B. Moon

Olaf N. Rove

Olaf N. Rove

Tom Lyon
Chairman

E.J. Lyons:emp G 5/7/51
Copies to: D. Gallagher
Region VI (2)
Chief, Lead-Zinc Br.
E. T. McKnight L.F.Strobel
L. B. Moon T.Lyon
R. H. Mote Files

FILE COPY
SURNAME:

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

April 26, 1951

Mr. E. A. Julian
J. E. & R. Mines
P. O. Box 1043
Joplin, Missouri

Subject: DMA-1054

Re: Exploration loan of
$15,000
Housley, Price-Williams

My dear Mr. Julian:

Receipt is acknowledged of your application and attachments of April 18, from the J. E. & R. MINES, for an exploration loan under the Defense Production Act of 1950.

The application was assigned docket number 1054 and referred to Mr. Otto Herres, Chief, Lead-Zinc Branch, on April 25.

In any future correspondence relating to your application, kindly refer to DMA-1054.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:bh
Copy to: Strobel(2)
Files ✓
Mr. Herres
Mr. Lyon

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. dma 1054

Date received 4-23-51

J. E. & R. Mines
P.O.Box 1043
Joplin, Missouri

Name and address of applicant

Date April 16, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
E.A. Julian 71 Montgomery Street San Francisco, California	Partner	none					
Frank Eichelberger 320 Symons Building Spokane, Washington	Partner	none					
J.V.Reynolds 420 School Street Joplin, Missouri	Partner	none					
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)		none	none	none	none
2. Quantity of product processed (specify unit of measure and type of process)		none	none	none	none
3. Quantity and grade of product sold or shipped (specify units of measure)		none	none	none	none

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)	75,000	10% Zn	$15.00	15.00	5.00 per MT

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

J E & R Mines
(Name of company)

By J V Rymond
(Signature of authorized official)

4/18/51
(Date)

Partner
(Title)

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—63792-1

dpm 1054

1. Material Produced

   a. Mine products - lead and zinc

   b. None

J. E. & R. Mines
Box 1043
Joplin, Missouri
Telephone #7050

2. Housley Mine - Price-Williams Mine. Shaft mine - Fissure formation.

a. No map available

b. No map available

c. No map available

d. No map available

Mine is flooded. Plan of de-watering to use two turbine pumps with 6" and 8" column - 10" bowls. Pumps to be belt driven. Power two 65 H.P. Waukesha Industrial Power units.

Total approximate gallonage - 1800 gpm at 135 feet.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone 7050

a. Mine located 8 miles N.W. of Amity, Arkansas
(Missouri Pacific R.R.)

b. Hot Springs, County

c. Section 31, Twp. 4 South, Range 21 West

d. Hot Springs County, Arkansas

J. E. & R. Hines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

a. Property not now in operation

b. Lessee

J.N. & R. Mines
P.O. Box 1083
Joplin, Missouri
Telephone #7050

Property not in production

Production hoped for by June 30, 1951

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

6. Experience of Operators.

The operators will be headed by Frank Eichelberger and E.A. Julian, both well known and experienced consulting and operating mining engineers. Mr. Eichelberger is chief consulting engineer and general manager of the Vermont Copper Company. Mr. Julian is Executive Vice President of The Goldfield Consolidated Mines Company. The third partner is J.V. Reynolds an experienced operator in Tri-State field, former district manager of United Zinc Smelting Corporation, Century Lead & Zinc Company and Goldfield Consolidated Mines Company. All three partners are members of A.I.M.E.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

COPY

EXCERPTS FROM REPORT ON HOUSELY MINE

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

The property is located about twenty-two miles southwest of Hot Springs, Arkansas and is situated in Section 31, Township 4, South, Range 21 West, Hot Springs County.

Several trips have been made to inspect this property to observe the progress of the development work being done.

There are three ore veins exposed on the surface, outcrops occurring in the creek bed which flows through a narrow valley. The north side of the valley is a sand stone ridge; the south side is novaculite, the mineralization occurs in veins between ribs of carbon shale.

These veins all increase in width with depth and are confined in a fracture zone about fifty feet in width. It is possible that the three veins will converge at greater depth to make one vein.

At this time, neither the State nor the Government Geological Survey have a comprehensive report on the geological structure of this area and our time was too limited to assign any of our staff to make a detailed study.

A tunnel has been cut in the hillside S 20 degrees E for a distance of 150 feet. At 120 feet a small vein was cut which has the same strike as a vein that was cut in a cross cut 40 feet in from the tunnel portal. This vein also ties in to the one opened up in No. Four Shaft. In the tunnel the vein is 2"

to 6" wide and carries some lead and zinc.

No. 4 Shaft is bottomed at 110 feet and about 200 feet of main haulage drift has been driven and two veins both approximately 40 feet long and two veins were cut. These veins show about 5 feet of mineralisation and will assay not less than 10% zinc and lead.

At the eastern end of the haulage drift another vein was cut which I believe is No. 2 which is the same as opened in the cross cuts at the extreme west end of the haulage drift. No. 3 vein is cut and more development should be done at both ends of the main drift to determine the width and strike of the veins.

Further study should be made to determine if the shale outcrop east of the tunnel will cut off or divert the vein at right angles.

At this time, I believe that sufficient ore is exposed in the four stopes in the northwest cross cuts to yield about 75,000 tons of ore that should produce 7500 tons of lead and zinc concentrates. The possibility of two moreestopes being opened in the main drift should add to this tonnage.

If operations are contemplated under the present set-up, the following suggestions are made:

Install adequate pumping equipment to insure continuous mining operation, the shaft should be sunk to the 200 ft. level and cross cuts driven to cut the vein if it exists at that depth and at least 6 producing stopes opened up to insure a steady tonnage to the mill which should be not less than 150 tons per day.

It would be advisable to prospect by means of surface diamond drilling rather than continue work in the present shaft, as drilling may show that vein continuation and width may increase with depth and an entirely different shaft location would be necessary for economic mine development and mining.

S.S. Clarke

HISTORY

a. Operated sporadically in early 1940's with little or no technical guidance and without mechanization of any kind. The mining was done in a haphazard manner causing a major fall which stopped operations. This fall was at least partially caught up but not mined afterward.

b. There have been no other operations in this area.

c. Attached herewith is copy of a report by Mr. Sim Clark, chief operations engineer for the Eagle Picher Company.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Monthly production of 4,000 rock tons of ten percent combined lead-zinc values estimated

J. E. & R. Mines

B.O. Box 1043

Joplin, Missouri
Telephone #7050

The geology of the area can briefly be described as follows: It is located on the south limb of the Mazarn synclinorium which is at the southeast border of the Ouachita Mountain Province. The Paleozoic formations of this area have been highly folded and faulted by pressure from the southeast. The resultant structure is that of parallel east-west trending synclines and anticlines. The sediments dip steeply on the limbs of the structures. Many of the folds have been overturned so that both limbs dip to the south. The parallel folds are reflected in the topography which consists of moderately rugged parallel east-west trending ridges and valleys. The main stratigraphic horizons exposed in the area of the mineral deposit are the Stanley shale and the Arkansas Novaculite. The Stanley shale has a stratigraphic thickness of 3 to 4 thousand feet in this localized area and is comprised essentially of a dark grey fissle shale but with two or three dominant sandstone members from 100 to 300 feet in thickness. The Novaculite is principally chert with a stratigraphic thickness of less than 1,000 feet. It lies stratigraphically below the Stanley shale and is of Devonian age.

The general area is one of wide spread hydrothermal and some igneous activity. The Magnet Cove Intrusive and the large Arkansas barite deposits lie to the Northeast near the eastern extremity of the Mazarn syncline. To the south and west are located the Arkansas cinnabar deposits, the diamond bearing peridotite near Murfreesboro, and buried igneous plugs near Nashville and Lockeburg. In the Ouachita provine are also found antimony deposits, vein baritem and other lead and zinc deposits. All of these points bring out the wide spread extent of magnatic and hydrothermal activity of the region.

b. No assay plans or sections available.

Purpose of this exploration is to determine the ore reserves.

Further Information

The ore deposit apparently occurs in one of the sandstone members of the Stanley shale adjacent to an east-west trending thrust fault(?). The deposit consists of several veins occurring in a fractured zone of the sandstone. This zone is estimated to be about 50 feet in thickness. The strike length is unknown but is apparently several hundred feet in an east-west direction. The dip has not been definitely determined but is known to be quite steep and probably not far from vertical.

As far as structural conditions are concerned, and in view of the unquestionable hydrathermal original of the mineralization, there is reason to believe that the mineralization may persist in depth for at least a few and possibly several hundred feet.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Network of good all-weather gravel and concrete roads in area.

Mine located on good gravel road 8 miles from Missouri Pacific R.R. at Amity, Arkansas and is 22 miles Southwest of Hot Springs, Arkansas.

Housing available at Point Cedar located 2 miles from mine.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Annual rainfall is 50 - 55 inches per year in this area. Small perennial stream crosses property 150 feet from mill and mine will furnish 200-250 G.P.M. at all times.

J.E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Power is not available on property, but applicant will furnish 50 K.V.A. Diesel electric generating set.

J.E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Mine has not operated for years, so no payroll schedules or time-keeper lists are available.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Equipment and facilities now available on property

are as follows:

INVENTORY OF EQUIPMENT AND BUILDINGS

One pump house - frame building with corrugated roofing, containing:
1 International 4 cylinder motor with clutch and pulley driving 6" Pomona pump. 10" Belt. With cooling water and piping system.
One machine drill complete with 3 changes of stell up to 8 feet, piping and air hose to reach ends of all drifts.
Track system in all drifts with 3 cars and four 750# cans.
All Necessary picks, shovels and hammers.
One 8" x 8" slide valve Freeman air hoist, with 5/8" iron-spin cable, 24" sheave and safety hook.
One frame building with composition and corrugated roofs, containing:
One 65 H.P. Holt engine with cooling water tank and piping system.
One 250 foot Chicago Pneumatic compressor with unloader and belt, and 4' x 8' receiver, and with complete system of air piping to the hoist and to the mine.
One Blacksmith forge and anvil
One lot miscl. Shop tools
One 12' x 12' frame building, change house for miners.
One 12' x 14' frame building, office.
List and description of mill building and equipment:
One mill building, 24' x 60' x 16' high, with corrugated galvanized iron roofing.
Vertical book boxing on three sides.
One ore hopper, 11' x 12', 100 ton capacity.
One lean to-for mill engine. Corrugated and galvanized roof.
One Carterville 9" x 16" Blake type primary crusher.
One set Carterville 30" x 14" Cornish type gear driven crushing rolls.
One set 36" Rogers type crushing rolls.
One 18" elevator, with new belt.
One 10" elevator, with used belt.
One 4 cell rougher jig, 32" x 36". Jig irons
One 5 cell cleaner jig, 30" x 36" Jig irons.
One screen 4' x 8', with new screens
Three rebuilt bachart tables
Complete set of used pulleys, shafting and gears, and new belts, for the operation of the entire mill.
One 100 H.P. LeRoi mill engine with tank and piping for cooling system, and with clutch and pulley,
All necessary shovels, wheelbarrows, small tools and a one ton crab.
One 3" discharge American centrifugal pump, belt driven by a 20 H.P. rebuilt Reo engine. Connected with a 5" Suction with a 6" foot valve and with 6" discharge pipe to mill. Discharge approximately 100 feet long.
New International Motor - Diesel 1946 - Approx. 50 H.P .
Delco light system and other new equipment.

Equipment and buildings are in fair condition, but will require some repairs. In addition to the above described equipment the following is available for use:

50 KVA Diesel electric plant
315 C.F.M. Portable compressor
Two trucks
One 6" Pomona turbine pump
One 8" Pomona turbine pump
One 3 drum slusher hoist
Miscellaneous tools.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

MF-103
(Rev. 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. dma 1054

Date received 4-23-51

Participation

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri

Name and address of applicant

Date April 18, 1951

FILL IN THIS BLOCK

Date of application April 18, 1951

Estimated cost $15,000

Mineral or metal Lead-Zinc

Percentage of Government participation 50%

Location of mine Sect. 31, Twp 4 South
Range 21 W. Hot Springs County, Arkansas

Date of filing MF-100 April 18, 1951

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing. Attached

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. See item 8
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

See item 9

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property. See description on lease attached

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons. State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled. See item 15

*16. History:

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See item 20

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. See item 21

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. See item 22

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each. See item 23

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. See item 24

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

J E & R Mines
(Name of company)

By J W Raymond
(Signature of authorized official)

4/18/51
(Date)

Partner
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

7 Lease in good standing

Lmw 1054

MINING LEASE

THIS INDENTURE, Made this 10th day of April, 1951, by and between MRS. LENA D. PRICE-WILLIAMS of Hot Springs, Arkansas, hereinafter referred to as Lessor, and JAMES V. REYNOLDS of Joplin, Missouri; FRANK EICHELBERGER of Spokane, Washington; and ESTEY A. JULIAN of San Francisco, California, hereinafter referred to as Lessee, WITNESSETH:

1.

That in consideration of the covenants and agreements hereinafter set out, to be kept and performed by Lessee, Lessor does hereby lease unto Lessee for prospecting and mining for lead and zinc ores, for five (5) years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Hot Spring County, State of Arkansas, to-wit:

The SW¼ of the SW¼ of Section 30, Township 4 South, Range 21 West, 56.89 Acres.

The NW¼ of the NW¼ of Section 31, Township 4 South, Range 21 West, 55.4 Acres.

Part of the Northwest Quarter (NW¼) of the Southwest Quarter (SW¼) of Section 31, Township 4 South of Range 21 West, more minutely described to-wit: Beginning at the Northeast Corner of said tract thence West to the Northwest Corner of said tract, thence South to the Southwest corner of said tract thence East to the Southeast Corner of said tract, thence North with the creek to the place of beginning, the West bank of said creek to be the East line of tract herein conveyed, containing 54 Acres, more or less.

The Northwest Quarter (NW¼) of the Southeast (SE¼), 40 Acres; and also a tract of land 165 yards wide East and West extending clear across the East side of the Southwest Quarter (SW¼) of the Northeast Quarter (NE¼), 15 Acres, all of said lands being in Section 31, Township 4 South of Range 21 West, containing in the aggregate 55 Acres, more or less.

A part of the Southeast Quarter (SE¼) of the Northwest Quarter (NW¼), Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, described as follows: Beginning at the Northeast corner of said quarter section and run thence South on the quarter section line Six Hundred (600) feet; thence due West in a straight line to the center of a small stream of water known as "Mineral Branch"; thence up the center of said branch, with the meanderings thereof, to a point where said branch intersects a certain

mining claim owned by C.C. Keadle, W.F. Housley, James M. Housley and Evander T. Hously; thence Southeasterly along the boundary line of said mining claim to the Southeast corner thereof; thence Northeasterly along the Southeast boundary line of said mining claim Nine Hundred Thirty-Four (934) feet and Ten (10) inches, to the North line of said quarter section, at a point, Seventy (70) feet West from the Northeast Corner of said quarter section and point of beginning; thence due East in a straight line Seventy (70) feet to the place of beginning.

Also, part of the Southeast Quarter (SE¼) of the Northwest Quarter (NW¼), Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, described as follows: Beginning at a point Seventy (70) feet West of the Northeast Corner of said Forty (40); thence South Forty-Eight (48) degrees West, Nine Hundred Thirty-Four (934) feet and Ten (10) inches to a stake; thence North Forty-Two (42) degrees West Eight Hundred (800) feet to a stake; thence North Forty-Eight (48) degrees East Ninety-Seven (97) feet and Eight (8) inches to a stake set in the North boundary line of said Forty (40) acre tract; thence East with the North boundary line aforesaid to the place of beginning, containing Seven (7) acres and Three Hundred and Three (303) square feet, more or less.

Also, a certain mining claim on Keadle Lode, described as follows: Commencing at a Water Oak tree about Six Hundred (600) yards Northeasterly from W.J. Lookadoo's Mill, the place of discovery; thence running Three Hundred (300) feet Southwesterly to set stake at Southwest end center line commencing at discovery, thence running Twelve Hundred (1200) feet Northeasterly to Northeast end center line stake and Three Hundred (300) feet off each side of the center of the lode, including all parallel lines, dips, angles and spurs within said boundary, corners described as follows: Northeast Corner set stake, Northwest Corner set stake, Southwest Corner set stake, Southeast Corner set stake, situated in Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West.
The above tracts of land containing 14.41 acres, more or less, and being the property formerly known as the Housley Mine.

The West Half (W½) of the West Half (W½) of the Northeast Quarter (NE¼) and the West Fifty-Five (55) Yards of the East Half (E½) of the West Half (W½) of the Northeast Quarter (NE¼) of Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, containing Fifty (50) Acres.

The West Half (W½) of the Northeast Quarter (NE¼) of the Northwest Quarter (NW¼) of Section Thirty-One (31), Township Four (4) South of Range Twenty-One (21) West, containing Nineteen and 61/100th (19.61) Acres.

The Lessor hereby gives and grants unto Lessee, for said term, the exclusive right and license to prospect and mine said land for lead and zinc ores, together with the right and license to prepare for market on said premises and remove and sell all lead and zinc concentrates produced from said ores, with the right to construct buildings or other structures and to make excavations, openings, stockpiles, dumps, ditches, drains, roads, tracks, and other improvements upon said premises, including the use of water in said operations, and to place such machinery thereon as Lessee may deem necessary for efficiently prospecting and mining said land and treating the ores mined therefrom with the right in Lessee to remove all property so placed thereon with 120 days after the termination.

3.

IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor as a condition to this Lease, a minimum royalty of $6,000.00 per year, payable in equal monthly installments of $500.00 in advance, to the credit of the Lessor at The Arkansas National Bank of Hot Springs, Hot Springs, Arkansas, said payments to commence sixty (60) days after the date of signing this Lease; and to pay on or before the tenth (10th) day of each month, a rpyalty of ten (10) per centum of all moneys received for the lead and zinc concentrates produced and sold from said land during the preceding month, together with Lessee's portion of any premium or bonus paid thereon, with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon, said prepaid minimum royalty of $500.00 per month to be credited upon earned royalty of ten per cent (10%) on ore produced in any calendar year, with monthly statements adjusting said balances due the Lessor. For the protection of the Lessor and to the end

that there may be no dispute as to the market price of concentrates so consumed, it is expressly agreed that if Lessor be not satisfied with the market price used in making royalty settlements, Lessor shall have and herevy agrees to take said percentage of said concentrates, or concentrates of like quality, in lieu of said royalty, at the bins where stored and further agrees to give written notice at once in the event Lessor is not satisfied as aforesaid.

4.

A part of the consideration for this lease is the purchase by the Lessee from the Lessor of the mill and equipment located on said property for the price of $10,000.00 cash, which shall become due and payable to Lessor sixty (60) days after the date of signing this lease, provided however that if this lease shall be terminated before the end of this aforesaid sixty (60) day period, or if this lease shall be cancelled and released to Lessor before said sixty (60) day period, then the obligation to sell and buy between the parties shall thereupon terminate.

5.

Lessee agrees to pay all taxes assessed or levied by the State in which said lands are located or any subdivision thereof, or by the Federal Government against the ores and/or concentrates produced from the lands covered hereby, except the Lessor will contribute an amount equal to that assessed against said lands and paid by her during the year 1950.

6.

The Lessee will keep accurate books showing quantities and kinds of concentrates produced from said lands, and sold or consumed, when and to whom sold, and the money received from sales and such books of account shall be open to inspection by Lessor at all reasonable hours.

7.

All mining operations shall be carried on in a miner-like and workman-like manner.

8.

It is further understood and agreed that all ores mined from the lands covered hereby shall be cleaned and prepared for market on this land.

9.

The Lessee hereby covenants and agrees to indemnify and save harmless the Lessor from any loss, cost or damage by reason of any injury sustained by the public or any individual as a result of the Lessee's operations on the demised premises.

10.

The Lessee covenants and agrees to carry public liability and workmen's compensation insurance covering its activities on the demised premises. The Lessee shall comply with all local, state and federal laws and regulations pertaining to such operations.

11.

Lessee agrees that during the period of prospecting as above set out, and during operations hereunder, to keep a watchman on said premises at all times, at its expense, to guard and protect the property.

12.

The Lessee shall commence prospecting or mining upon said lands within thirty (30) days from the date hereof, such prospecting or mining shall be carried on continuously and shall not be suspended at any time for longer than thirty days except on account of unavoidable accidents, strikes or other conditions beyond the control of Lessee, and except that when the sale value of the concentrates produced from said premises is such that mining thereof cannot be profitably carried on by Lessee, operations may be suspended until prices improve

so that mining can be profitably conducted; provided, suspension of operations for said last mentioned cause shall not continue longer than ninety (90) days without the written consent of Lessor.

13.

Lessor shall have the right to enter upon said land for the purpose of inspecting and examination, not unnecessarily interfering with the prospecting and mining operations of Lessee.

14.

Lessee shall furnish Lessor a true copy of the log of each drill hole put down on said land by Lessee, showing any assays made of cuttings therefrom, and shall, upon request of Lessor, furnish print of any underground workings on said land at least once each three months' period, and a map showing definite location of each drill hole.

15.

After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as the payments to Lessor continue and ore shall be produced therefrom by the Lessee, or Lessee shall continue prospecting or mining operations on said land or any part thereof, in good faith.

16.

Lessor hereby warrants and agrees to defend the title to the lands herein described.

17.

The Lessee shall not have the right to assign or sublet this lease, or any portion of the acreage covered hereby, except with the written consent of the Lessor.

18.

In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written

notice of the violations complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

19.

The Lessee may at any time, if Lessee desires to do so, pay all royalties then due, surrender and terminate this Lease by giving thirty days' written notice of intention to do so and thereupon Lessee shall be relieved from all obligations hereunder, with like effect as if this Lease had not been made.

20.

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

IN WITNESS WHEREOF the parties have hereunto set their hands and seals.

Mrs. Lena D. Price-Williams , LESSOR

James V. Reynolds

Frank Eichelberger

Estey A. Julian
LESSEE

Item 8.

Newly formed partnership not yet in operation, but adequate funds are available to match government.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Item 9

Applicant is prepared to invest $7,500 which is sufficient to pay 50 percent of total cost of project.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Ore will be milled on the property and the concentrates hauled by truck to railroad for shipment to smelter. Railroad at Amity, Arkansas which is eight miles from the mine on a good gravel road.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Exploration will be conducted to block out reserves of lead and zinc.

J. E. & R. Mines
P. O. Box 1043
Joplin, Missouri
Telephone #7050

We intend to set turbine pumps, de-water and carefully examine this mine. It was examined by two top field engineers of the Eagle-Picher Company shortly before the roof fall occurred and they estimated 75,000 rock tons of 10 percent lead-zinc ore was in sight. It has not been examined or operated since the roof fall was caught up and we intend to explore underground to obtain enough information to initiate a 2,000 foot core drill program to determine the size and depth of the ore body so that we can plan an intelligent mining program. We expect to have the mine de-watered and examined within 30 days and to complete our core drill program within 30 days additional which would enable us to start mining operations within 60 days after the de-waterin is complete.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

The geology of the area can briefly be described as follows:

It is located on the south limb of the Mozarn synclinorium which is at the southeast border of the Ouachita Mountain Province. The Paleozoic formations of this area have been highly folded and faulted by pressure from the southeast. The resultant structure is that of parallel east-west trending synclines and anticlines. The sediments dip steeply on the limbs of the structures. Many of the folds have been overturned so that both limbs dip to the south. The parallel folds are reflected in the topography which consists of moderately rugged parallel east-west trending ridges and valleys. The main stratigraphic horizons exposed in the area of the mineral deposit are the Stanley shale and the Arkansas Novaculite. The Stanley shale has a stratigraphic thickness of 3 to 4 thousand feet in this localized area and is comprosed essentially of a dark grey fissle shale but with two or three dominant sandstone members from 100 to 300 feet in thickness. The Novaculite is principally chert with a stratigraphic thickness of less than 1,000 feet. It lies stratigraphically below the Stanley shale and is of Devonian age.

The general area is one of wide spread hydrothermal and some igneous activity. The Magnet Cove Intrusive and the large Arkansas barite deposits lie to the Northeast near the eastern extremity of the Mazarn syncline. To the south and west are located the Arkansas cinnabar deposits, the diamond bearing peridotite near Murfreesboro, and buried igneous plugs near Nashville and Lockeburg. In the Ouachita provine are also found antimony deposits, vein varitem and other lead and zinc deposits. All of these points bring out the wide spread extent of magmatic and hydrothermal activity of the region.

The ore deposit apparently occurs in one of the sandstone members of the Stanley shale adjacent to an east-west trending thrust fault(?). The deposit consists of several veins occurring in a fractured zone of the sandstone. This zone is estimated to be about 50 feet in thickness. The strike length is unknown but is apparently several hundred feet in an east-west direction. The dip has not been definitely determined but is known to be quite steep and probably not far from vertical.

As far as structural conditions are concerned, and in view of the unquestionable hydrathermal original of the mineralization, there is reason to believe that the mineralization may persist in depth for at least a few and possibly several hundred feet.

The geological basis of the project is outlined above, plus the fact, as outlined in the Eagle-Picher report attached, that the area is richly mineralized.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone 7050

COPY

EXCERPTS FROM REPORT ON HOUSELY MINE

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

The property is located about twenty-two miles southwest of Hot Springs, Arkansas and is situated in Section 31, Township 4, South, Range 21 West, Hot Springs County.

Several trips have been made to inspect this property to observe the progress of the development work being done.

There are three ore veins exposed on the surface, outcrops occurring in the creek bed which flows through a narrow valley. The north side of the valley is a sand stone ridge; the south side is novaculite, the mineralization occurs in veins between ribs of carbon shale.

These veins all increase in width with depth and are confined in a fracture zone about fifty feet in width. It is possible that the three veins will converge at greater depth to make one vein.

At this time, neither the State nor the Government Geological Survey have a comprehensive report on the geological structure of this area and our time was too limited to assign any of our staff to make a detailed study.

A tunnel has been cut in the hillside S 20 degrees E for a distance of 150 feet. At 120 feet a small vein was cut which has the same strike as a vein that was cut in a cross cut 40 feet in from the tunnel portal. This vein also ties in to the one opened up in No. Four Shaft. In the tunnel the vein is 2"

to 6" wide and carries some lead and zinc.

No. 4 Shaft is bottomed at 110 feet and about 200 feet of main haulage drift has been driven and two veins both approximately 40 feet long and two veins were cut. These veins show about 5 feet of mineralization and will assay not less than 10% zinc and lead.

At the eastern end of the haulage drift another vein was cut which I believe is No. 2 which is the same as opened in the cross cuts at the extreme west end of the haulage drift. No. 3 vein is cut and more development should be done at both ends of the main drift to determine the width and strike of the veins.

Further study should be made to determine if the shale outcrop east of the tunnel will cut off or divert the vein at right angles.

At this time, I believe that sufficient ore is exposed in the four stopes in the northwest cross cuts to yield about 75,000 tons of ore that should produce 7500 tons of lead and zinc concentrates. The possibility of two more stopes being opened in the main drift should add to this tonnage.

If operations are contemplated under the present set-up, the following ~~xxxxx~~ suggestions are made:

Install adequate pumping equipment to insure continuous mining operation, the shaft should be sunk to the 200 ft. level and cross cuts driven to cut the vein if it exists at that depth and at least 6 producing stopes opened up to insure a steady tonnage to the mill which should be not less than 150 tons per day.

It would be advisable to prospect by means of surface diamond drilling rather than continue work in the present shaft, as drilling may show that vein continuation and width may increase with depth and an entirely different shaft location would be necessary for economic mine development and mining.

S.S. Clarke

a.	3 man pump crew for 50 man hour shifts	@ $12.00 per shift	$600
	3 man mucking crew for 30 full shifts	@ 36.00 per shift	1080
b.	2 Supervisors for 60 days	@ 350.00 per month	1400
c.	Necessary repairs to hoister, etc.		200
d.	Installation of pumps, motors, etc. including transportation from Joplin, Missouri		1500
e.	None		
f.	50 KVA motor generator (Diesel)		1000
g.	All machinery at 1950 rental rates as compiled by Associated Equipment Distributors		
	315 C.F.M. Portable compressors	30 days	393
	2 - Pomona turbine pumps	60 days	1500
	2 - Rock drills	30 days	200
	2 - Trucks	60 days	600
h.	Cost of duel, powder and miscellaneous supplies		500
i.	Core drilling		6027
		Total	15,000

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Time Schedule

First 30 days - De-watering	5,000
Second 30 Prospecting and core drilling	10,000

Mining to start immediately thereafter

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. dma 1054

Date received 4-23-51

Participation

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri

Name and address of applicant

Date April 18, 1951

FILL IN THIS BLOCK

Date of application April 18, 1951

Estimated cost $15,000

Mineral or metal Lead-Zinc

Percentage of Government participation 50%

Location of mine Sect. 31, Twp 4 South
Range 21 W. Hot Springs County, Arkansas

Date of filing MF-100 April 18, 1951

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing. Attached

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. See item 8
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

See item 9

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property. See description on lease attached

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons. State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled. See item 15

*16. History:

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted See item 20

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it See item 21

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. See item 22

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each. See item 23

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. See item 24

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

J E & R Mines
(Name of company)

By J W Rogers
(Signature of authorized official)

4/18/51
(Date)

Partner
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

7

Lease in good standing

dma 1054

MINING LEASE

THIS INDENTURE, Made this 10th day of April, 1951, by and between MRS. LENA D. PRICE-WILLIAMS of Hot Springs, Arkansas, hereinafter referred to as Lessor, and JAMES V. REYNOLDS of Joplin, Missouri; FRANK EICHELBERGER of Spokane, Washington; and ESTEY A. JULIAN of San Francisco, California, hereinafter referred to as Lessee, WITNESSETH:

1.

That in consideration of the covenants and agreements hereinafter set out, to be kept and performed by Lessee, Lessor does hereby lease unto Lessee for prospecting and mining for lead and zinc ores, for five (5) years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Hot Spring County, State of Arkansas, to-wit:

The SW¼ of the SW¼ of Section 30, Township 4 South, Range 21 West, 56.89 Acres.

The NW¼ of the NW¼ of Section 31, Township 4 South, Range 21 West, 55.4 Acres.

Part of the Northwest Quarter (NW¼) of the Southwest Quarter (SW¼) of Section 31, Township 4 South of Range 21 West, more minutely described to-wit: Beginning at the Northeast Corner of said tract thence West to the Northwest Corner of said tract, thence South to the Southwest corner of said tract thence East to the Southeast Corner of said tract, thence North with the creek to the place of beginning, the West bank of said creek to be the East line of tract herein conveyed, containing 54 Acres, more or less.

The Northwest Quarter (NW¼) of the Southeast (SE¼), 40 Acres; and also a tract of land 165 yards wide East and West extending clear across the East side of the Southwest Quarter (SW¼) of the Northeast Quarter (NE¼), 15 Acres, all of said lands being in Section 31, Township 4 South of Range 21 West, containing in the aggregate 55 Acres, more or less.

A part of the Southeast Quarter (SE¼) of the Northwest Quarter (NW¼), Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, described as follows: Beginning at the Northeast corner of said quarter section and run thence South on the quarter section line Six Hundred (600) feet; thence due West in a straight line to the center of a small stream of water known as "Mineral Branch"; thence up the center of said branch, with the meanderings thereof, to a point where said branch intersects a certain

Dma 1054 (Cont.)

F 56

MINING LEASE

THIS INDENTURE, made this 10th day of April, 1951,

by and between MRS. ANNA E. MILES-HILLMAN of Hot Springs, Arkansas, hereinafter referred to as Lessor, and JAMES V. HAWKINS of Joplin, Missouri; FRANK SIGMUND of Boulder, Montana; and BETTY A. DULIAN of San Francisco, California, hereinafter referred to as Lessee, WITNESSETH:

I.

That in consideration of the covenants and agreements hereinafter set out, to be kept and performed by Lessee, Lessor does hereby lease unto Lessee for prospecting, mining for lead and zinc ores, for five (5) years from the date hereof, the following described land (for the purposes hereof referred to as the "premises") situated in Hot Spring County, State of Arkansas, to-wit:

The SE¼ of the SW¼ of Section 30, Township 4 South, Range 21 West, 39.49 acres.

The NE¼ of the NW¼ of Section 31, Township 4 South, Range 21 West, 39.4 acres.

Part of the northwest quarter (NW¼) of the southwest quarter (SW¼) of Section 31, Township 4 South of Range 21 West, more minutely described to-wit: Beginning at the southwest corner of said tract thence East to the northwest corner of said tract, thence South to the southwest corner of said tract thence East to the southeast corner of said tract, thence North with the creek bottom close of beginning, the said tract of said creek to be the East line of tract herein conveyed, containing 34 acres, more or less.

The northwest quarter (NW¼) of the southwest (SW¼), 40 acres; and also a tract of land 165 yards wide East and West extending over across the East side of the Southwest quarter (SW¼) of the northwest quarter (NW¼), 15 acres, all of said land being in Section 31, Township 4 south of Range 21 West, containing in the aggregate 55 acres, more or less.

A part of the Southeast quarter (SE¼) of the northwest quarter (NW¼), section twenty-one (21), Township four (4) South, Range twenty-one (21) West, described as follows: Beginning at the Northwest corner of said quarter section and run thence North on the quarter section line 594 feet (594) feet; thence due East in a straight line to the center of a small stream of water known as "Mineral Branch"; thence on the center of said branch, with the meandering thereof, to a point where said branch intersects a section

mining claim owned by C.C. Keadle, W.F. Housley, James M. Housley and Evander T. Housley; thence Southeasterly along the boundary line of said mining claim to the Southeast corner thereof; thence Northeasterly along the Southeast boundary line of said mining claim Nine Hundred Thirty-Four (934) feet and Ten (10) inches, to the North line of said quarter section, at a point, Seventy (70) feet West from the Northeast Corner of said quarter section and point of beginning; thence due East in a straight line Seventy (70) feet to the place of beginning.

Also, part of the Southeast Quarter (SE¼) of the Northwest Quarter (NW¼), Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, described as follows: Beginning at a point Seventy (70) feet West of the Northeast Corner of said Forty (40); thence South Forty-Eight (48) degrees West, Nine Hundred Thirty-Four (934) feet and Ten (10) inches to a stake; thence North Forty-Two (42) degrees West Eight Hundred (800) feet to a stake; thence North Forty-Eight (48) degrees East Ninety-Seven (97) feet and Eight (8) inches to a stake set in the North boundary line of said Forty (40) acre tract; thence East with the North boundary line aforesaid to the place of beginning, containing Seven (7) acres and Three Hundred and Three (303) square feet, more or less.

Also, a certain mining claim on Keadle Lode, described as follows: Commencing at a Water Oak tree about Six Hundred (600) yards Northeasterly from W.J. Lookadoo's Mill, the place of discovery; thence running Three Hundred (300) feet Southwesterly to set stake at Southwest end center line commencing at discovery, thence running Twelve Hundred (1200) feet Northeasterly to Northeast end center line stake and Three Hundred (300) feet off each side of the center of the lode, including all parallel lines, dips, angles and spurs within said boundary, corners described as follows: Northeast Corner set stake, Northwest Corner set stake, Southwest Corner set stake, Southeast Corner set stake, situated in Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West.
The above tracts of land containing 14.41 acres, more or less, and being the property formerly known as the Housley Mine.

The West Half (W½) of the West Half (W½) of the Northeast Quarter (NE¼) and the West Fifty-Five (55) Yards of the East Half (E½) of the West Half (W½) of the Northeast Quarter (NE¼) of Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, containing Fifty (50) Acres.

The West Half (W½) of the Northeast Quarter (NE¼) of the Northwest Quarter (NW¼) of Section Thirty-One (31), Township Four (4) South of Range Twenty-One (21) West, containing Nineteen and 61/100th (19.61) Acres.

mining claim owned by G.C. Ferris, E.F. Moseley, James K. Moseley and Hoander T. Moseley; thence southwesterly along the boundary line of said mining claim to the Southeast corner thereof; thence Northwesterly along the Southeast boundary line of said mining claim Nine Hundred Thirty-Four (934) feet and Ten (10) inches, to the North line of said quarter section, at a point, Seventy (70) feet West from the Northeast Corner of said quarter section and point of beginning; thence due West in a straight line seventy (70) feet to the place of beginning.

Also, part of the Southeast Quarter (SE¼) of the Northeast Quarter (NE¼), Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) East, described as follows: Beginning at a point Seventy (70) feet West of the Northeast Corner of said Forty (40); thence South Forty-Eight (48) degrees East, Nine Hundred Thirty-Four (934) feet and Ten (10) inches to a stake; thence North Forty-Two (42) degrees E at Eight Hundred (800) feet to a stake; thence North Forty-Eight (48) degrees East Ninety-Seven (97) feet and Eight (8) inches to a stake not in the North boundary line of said Forty (40) acre tract; thence East with the North boundary line aforesaid to the place of beginning, containing Seven (7) acres and Three Hundred and Three (303) square feet, more or less.

Also, a certain mining claim or lode, described as follows: Commencing at a Water Oak tree about Six Hundred (600) yards Northeasterly from L.O. Lockhart's mill, the place of discovery; thence running Three Hundred (300) feet Southeasterly to set stake at Southwest and center line corner at discovery; thence running Twelve Hundred (1200) feet Northeasterly to Northeast and center line stake and Three Hundred (300) feet off each side of the center of the lode, including all parallel lines, dips, angles and spurs within said boundary, more described as follows: Northeast Corner set stake, Northwest Corner set stake, Southwest Corner set stake, Southeast Corner set stake, situated in Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West.

The above tracts of land containing 14.41 acres, more or less, and being the property formerly known as the Hoander Mine.

The West Half (W½) of the West Half (W½) of the Northeast Quarter (NE¼) and the West Fifty-Five (55) Yards of the East Half (E½) of the West Half (W½) of the Northeast Quarter (NE¼) of Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, containing 27.75 (30) acres.

The West Half (W½) of the Northeast Quarter (NE¼) of the Northwest Quarter (NW¼) of Section Thirty-One (31), Township Four (4) South of Range Twenty-One (21) West, containing Nineteen and 37/100th (19.37) acres.

2.

The Lessor hereby gives and grants unto Lessee, for said term, the exclusive right and license to prospect and mine said land for lead and zinc ores, together with the right and license to prepare for market on said premises and remove and sell all lead and zinc concentrates produced from said ores, with the right to construct buildings or other structures and to make excavations, openings, stockpiles, dumps, ditches, drains, roads, tracks, and other improvements upon said premises, including the use of water in said operations, and to place such machinery thereon as Lessee may deem necessary for efficiently prospecting and mining said land and treating the ores mined therefrom with the right in Lessee to remove all property so placed thereon with 120 days after the termination.

3.

IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor as a condition to this Lease, a minimum royalty of $6,000.00 per year, payable in equal monthly installments of $500.00 in advance, to the credit of the Lessor at The Arkansas National Bank of Hot Springs, Hot Springs, Arkansas, said payments to commence sixty (60) days after the date of signing this Lease; and to pay on or before the tenth (10th) day of each month, a royalty of ten (10) per centum of all moneys received for the lead and zinc concentrates produced and sold from said land during the preceding month, together with Lessee's portion of any premium or bonus paid thereon, with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon, said prepaid minimum royalty of $500.00 per month to be credited upon earned royalty of ten per cent (10%) on ore produced in any calendar year, with monthly statements adjusting said balances due the Lessor. For the protection of the Lessor and to the end

that there may be no dispute as to the market price of concentrates so consumed, it is expressly agreed that if Lessor be not satisfied with the market price used in making royalty settlements, Lessor shall have and herevy agrees to take said percentage of said concentrates, or concentrates of like quality, in lieu of said royalty, at the bins where stored and further agrees to give written notice at once in the event Lessor is not satisfied as aforesaid.

4.

A part of the consideration for this lease is the purchase by the Lessee from the Lessor of the mill and equipment located on said property for the price of $10,000.00 cash, which shall become due and payable to Lessor sixty (60) days after the date of signing this lease, provided however that if this lease shall be terminated before the end of this aforesaid sixty (60) day period, or if this lease shall be cancelled and released to Lessor before said sixty (60) day period, then the obligation to sell and buy between the parties shall thereupon terminate.

5.

Lessee agrees to pay all taxes assessed or levied by the State in which said lands are located or any subdivision thereof, or by the Federal Government against the ores and/or concentrates produced from the lands covered hereby, except the Lessor will contribute an amount equal to that assessed against said lands and paid by her during the year 1950.

6.

The Lessee will keep accurate books showing quantities and kinds of concentrates produced from said lands, and sold or consumed, when and to whom sold, and the money received from sales and such books of acoount shall be open to inspection by Lessor at all reasonable hours.

that there may be no dispute as to the market price of concentrates so computed, it is expressly agreed that if Lessor be not satisfied with the market price used in making royalty settlements, Lessor shall have and hereby reserves to take said percentages of said concentrates, or concentration of like quality, in lieu of said royalty, at the bins where stored and further agrees to give written notice at once in the event Lessor is not satisfied as aforesaid.

4.

A part of the consideration for this lease is the purchase by the Lessee from the Lessor of the mill and equipment located on said property for the price of $10,000.00 cash, which small become due and payable to Lessor ninty (60) days after the date of signing this lease, provided however that if this lease shall be terminated before the end of this aforesaid ninty (60) day period, or if this lease shall be cancelled and released to Lessor before said ninty (60) day period, then the obligation to mill and pay between the parties shall thereupon terminate.

5.

Lessee agrees to pay all taxes assessed or levied by the State in which said lands are located or any subdivision thereof, or by the Federal Government against the ores and/or concentrates produced from the lands covered hereby, except the Lessor will contribute an amount equal to that assessed against said lands and paid by her during the year 1950.

6.

The Lessee will keep accurate books showing quantities and kinds of concentrates produced from said lands, and sold or consumed, when and to whom sold, and the money received from sales and such books of account shall be open to inspection by Lessor at all reasonable hours.

7.

All mining operations shall be carried on in a miner-like and workman-like manner.

8.

It is further understood and agreed that all ores mined from the lands covered hereby shall be cleaned and prepared for market on this land.

9.

The Lessee hereby covenants and agrees to indemnify and save harmless the Lessor from any loss, cost or damage by reason of any injury sustained by the public or any individual as a result of the Lessee's operations on the demised premises.

10.

The Lessee covenants and agrees to carry public liability and workmen's compensation insurance covering its activities on the demised premises. The Lessee shall comply with all local, state and federal laws and regulations pertaining to such operations.

11.

Lessee agrees that during the period of prospecting as above set out, and during operations hereunder, to keep a watchman on said premises at all times, at its expense, to guard and protect the property.

12.

The Lessee shall commence prospecting or mining upon said lands within thirty (30) days from the date hereof, such prospecting or mining shall be carried on continuously and shall not be suspended at any time for longer than thirty days except on account of unavoidable accidents, strikes or other conditions beyond the control of Lessee, and except that when the sale value of the concentrates produced from said premises is such that mining thereof cannot be profitably carried on by Lessee, operations may be suspended until prices improve

so that mining can be profitably conducted; provided, suspension of operations for said last mentioned cause shall not continue longer than ninety (90) days without the written consent of Lessor.

13.

Lessor shall have the right to enter upon said land for the purpose of inspecting and examination, not unnecessarily interfering with the prospecting and mining operations of Lessee.

14.

Lessee shall furnish Lessor a true copy of the log of each drill hole put down on said land by Lessee, showing any assays made of cuttings therefrom, and shall, upon request of Lessor, furnish print of any underground workings on said land at least once each three months' period, and a map showing definite location of each drill hole.

15.

After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as the payments to Lessor continue and ore shall be produced therefrom by the Lessee, or Lessee shall continue prospecting or mining operations on said land or any part thereof, in good faith.

16.

Lessor hereby warrants and agrees to defend the title to the lands herein described.

17.

The Lessee shall not have the right to assign or sublet this lease, or any portion of the acreage covered hereby, except with the written consent of the Lessor.

18.

In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written

notice of the violations complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

19.

The Lessee may at any time, if Lessee desires to do so, pay all royalties then due, surrender and terminate this Lease by giving thirty days' written notice of intention to do so and thereupon Lessee shall be relieved from all obligations hereunder, with like effect as if this Lease had not been made.

20.

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

IN WITNESS WHEREOF the parties have hereunto set their hands and seals.

Mrs. Lena D. Price-Williams , LESSOR

James V. Reynolds

Frank Eichelberger

Estey A. Julian
LESSEE

notice of the violations complained of, and if such violation or default is not remedied within said period this lease shall, upon terminate, at the option of the lessor which remedy shall be exercised.

19.

The lessee may at any time, if lessee desires to do so, pay all royalties then due, surrender and terminate this lease by giving thirty days' written notice of intention to do so and thereupon lessee shall be relieved from all obligations hereunder, with like effect as if this lease had not been made.

20.

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

In WITNESS WHEREOF the parties have hereunto set their hands and seals.

Geo. Louis D. Price-Williams, Lessor

Jerne V. Reynolds

Frank Eichelberger

Esther A. Julian
Lessee

Item 8.

Newly formed partnership not yet in operation, but adequate funds are available to match government.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Item 9

Applicant is prepared to invest $7,500 which is sufficient to pay 50 percent of total cost of project.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Ore will be milled on the property and the concentrates hauled by truck to railroad for shipment to smelter. Railroad at Amity, Arkansas which is eight miles from the mine on a good gravel road.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Exploration will be conducted to block out reserves of lead and zinc.

J. E. & R. Mines
P. O. Box 1043
Joplin, Missouri
Telephone #7050

We intend to set turbine pumps, de-water and carefully examine this mine. It was examined by two top field engineers of the Eagle-Picher Company shortly before the roof fall occurred and they estimated 75,000 rock tons of 10 percent lead-zinc ore was in sight. It has not been examined or operated since the roof fall was caught up and we intend to explore underground to obtain enough information to initiate a 2,000 foot core drill program to determine the size and depth of the ore body so that we can plan an intelligent mining program. We expect to have the mine de-watered and examined within 30 days and to complete our core drill program within 30 days additional which would enable us to start mining operations within 60 days after the de-waterin is complete.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

The geology of the area can briefly be described as follows:

It is located on the south limb of the Mozarn synclinorium which is at the southeast border of the Ouachita Mountain Province. The Paleozoic formations of this area have been highly folded and faulted by pressure from the southeast. The resultant structure is that of parallel east-west trending synclines and anticlines. The sediments dip steeply on the limbs of the structures. Many of the folds have been overturned so that both limbs dip to the south. The parallel folds are reflected in the topography which consists of moderately rugged parallel east-west trending ridges and valleys. The main stratigraphic horizons exposed in the area of the mineral deposit are the Stanley shale and the Arkansas Novaculite. The Stanley shale has a stratigraphic thickness of 3 to 4 thousand feet in this localized area and is composed essentially of a dark grey fissle shale but with two or three dominant sandstone members from 100 to 300 feet in thickness. The Novaculite is principally chert with a stratigraphic thickness of less than 1,000 feet. It lies stratigraphically below the Stanley shale and is of Devonian age.

The general area is one of wide spread hydrothermal and some igneous activity. The Magnet Cove Intrusive and the large Arkansas barite deposits lie to the Northeast near the eastern extremity of the Mazarn syncline. To the south and west are located the Arkansas cinnabar deposits, the diamond bearing peridotite near Murfreesboro, and buried igneous plugs near Nashville and Lockeburg. In the Ouachita provine are also found antimony deposits, vein varitem and other lead and zinc deposits. All of these points bring out the wide spread extent of magmatic and hydrothermal activity of the region.

The ore deposit apparently occurs in one of the sandstone members of the Stanley shale adjacent to an east-west trending thrust fault(?). The deposit consists of several veins occurring in a fractured zone of the sandstone. This zone is estimated to be about 50 feet in thickness. The strike length is unknown but is apparently several hundred feet in an east-west direction. The dip has not been definitely determined but is known to be quite steep and probably not far from vertical.

As far as structural conditions are concerned, and in view of the unquestionable hydrathermal original of the mineralization, there is reason to believe that the mineralization may persist in depth for at least a few and possibly several hundred feet.

The geological basis of the project is outlined above, plus the fact, as outlined in the Eagle-Picher report attached, that the area is richly mineralized.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone 7050

COPY

EXCERPTS FROM REPORT ON HOUSELY MINE

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

The property is located about twenty-two miles southwest of Hot Springs, Arkansas and is situated in Section 31, Township 4, South, Range 21 West, Hot Springs County.

Several trips have been made to inspect this property to observe the progress of the development work being done.

There are three ore veins exposed on the surface, outcrops occurring in the creek bed which flows through a narrow valley. The north side of the valley is a sand stone ridge; the south side is novaculite, the mineralization occurs in veins between ribs of carbon shale.

These veins all increase in width with depth and are confined in a fracture zone about fifty feet in width. It is possible that the three veins will converge at greater depth to make one vein.

At this time, neither the State nor the Government Geological Survey have a comprehensive report on the geological structure of this area and our time was too limited to assign any of our staff to make a detailed study.

A tunnel has been cut in the hillside S 20 degrees E for a distance of 150 feet. At 120 feet a small vein was cut which has the same strike as a vein that was cut in a cross cut 40 feet in from the tunnel portal. This vein also ties in to the one opened up in No. Four Shaft. In the tunnel the vein is 2"

to 6" wide and carries some lead and zinc.

No. 4 Shaft is bottomed at 110 feet and about 200 feet of main haulage drift has been driven and two veins both approximately 40 feet long and two veins were cut. These veins show about 5 feet of mineralization and will assay not less than 10% zinc and lead.

At the eastern end of the haulage drift another vein was cut which I believe is No. 2 which is the same as opened in the cross cuts at the extreme west end of the haulage drift. No. 3 vein is cut and more development should be done at both ends of the main drift to determine the width and strike of the veins.

Further study should be made to determine if the shale outcrop east of the tunnel will cut off or divert the vein at right angles.

At this time, I believe that sufficient ore is exposed in the four stopes in the northwest cross cuts to yield about 75,000 tons of ore that should produce 7500 tons of lead and zinc concentrates. The possibility of two more stopes being opened in the main drift should add to this tonnage.

If operations are contemplated under the present set-up, the following ~~xxxxx~~ suggestions are made:

Install adequate pumping equipment to insure continuous mining operation, the shaft should be sunk to the 200 ft. level and cross cuts driven to cut the vein if it exists at that depth and at least 6 producing stopes opened up to insure a steady tonnage to the mill which should be not less than 150 tons per day.

It would be advisable to prospect by means of surface diamond drilling rather than continue work in the present shaft, as drilling may show that vein continuation and width may increase with depth and an entirely different shaft location would be necessary for economic mine development and mining.

S.S. Clarke

a.	3 man pump crew for 50 man hour shifts	@ $12.00 per shift	$600
	3 man mucking crew for 30 full shifts	@ 36.00 per shift	1080
b.	2 Supervisors for 60 days	@ 350.00 per month	1400
c.	Necessary repairs to hoister, etc.		200
d.	Installation of pumps, motors, etc. including transportation from Joplin, Missouri		1500
e.	None		
f.	50 KVA motor generator (Diesel)		1000
g.	All machinery at 1950 rental rates as compiled by Associated Equipment Distributors		
	315 C.F.M. Portable compressors	30 days	393
	2 - Pomona turbine pumps	60 days	1500
	2 - Rock drills	30 days	200
	2 - Trucks	60 days	600
h.	Cost of duel, powder and miscellaneous supplies		500
i.	Core drilling		6027
		Total	15,000

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Time Schedule

First 30 days - De-watering	5,000
Second 30 Prospecting and core drilling	10,000

Mining to start immediately thereafter

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. dma 1054

Date received 4-23-51

J. E. & R. Mines
P.O.Box 1043
Joplin, Missouri

Name and address of applicant

Date April 18, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
E.A. Julian #1 Montgomery Street San Francisco, California	Partner	none					
Frank Eichelberger 320 Symons Building Spokane, Washington	Partner	none					
J.V.Reynolds 420 School Street Joplin, Missouri	Partner	none					
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)		none	none	none	none
2. Quantity of product processed (specify unit of measure and type of process)		none	none	none	none
3. Quantity and grade of product sold or shipped (specify units of measure)		none	none	none	none

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)	75,000	Pr 10% Zn	$15.00	15.00	5.00 per RT

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

J E & R Mines
(Name of company)

By J V Raymond
(Signature of authorized official)

4/18/51
(Date)

Partner
(Title)

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—63792-1

dmd 1054

1. Material Produced

   a. Mine products - lead and zinc

   b. None

J. E. & R. Mines
Box 1043
Joplin, Missouri
Telephone #7050

2. Housley Mine - Price-Williams Mine. Shaft mine - Fissure formation.

a. No map available

b. No map available

c. No map available

d. No map available

Mine is flooded. Plan of de-watering to use two turbine pumps with 6" and 8" column - 10" bowls. Pumps to be belt driven. Power two 65 H.P. Waukesha Industrial Power units.

Total approximate gallonage - 1800 gpm at 135 feet.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone 7050

a. Mine located 8 miles N.W. of Amity, Arkansas
(Missouri Pacific R.R.)

b. Hot Springs, County

c. Section 31, Twp. 4 South, Range 21 West

d. Hot Springs County, Arkansas

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

a. Property not now in operation

b. Lessee

J.E. & R. Mines
P.O. Box 1083
Joplin, Missouri
Telephone #7050

Property not in production

Production hoped for by June 30, 1951

J. E. & R. Mines
P.O. Box 1043
Joplin, Mi souri
Telephone #7050

6. Experience of Operators.

The operators will be headed by Frank Eichelberger and E.A. Julian, both well known and experienced consulting and operating mining engineers. Mr. Eichelberger is chief consulting engineer and general manager of the Vermont Copper Company. Mr. Julian is Executive Vice President of The Goldfield Consolidated Mines Company. The third partner is J.V. Reynolds an experienced operator in Tri-State field, former district manager of United Zinc Smelting Corporation, Century Lead & Zinc Company and Goldfield Consolidated Mines Company. All three partners are members of A.I.M.E.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

COPY

EXCERPTS FROM REPORT ON HOUSELY MINE

- - - - - - - - - -

The property is located about twenty-two miles southwest of Hot Springs, Arkansas and is situated in Section 31, Township 4, South, Range 21 West, Hot Springs County.

Several trips have been made to inspect this property to observe the progress of the development work being done.

There are three ore veins exposed on the surface, outcrops occurring in the creek bed which flows through a narrow valley. The north side of the valley is a sand stone ridge; the south side is novaculite, the mineralization occurs inveins between ribs of carbon shale.

These veins all increase in width with depth and are confined in a fracture zone about fifty feet in width. It is possible that the three veins will converge at greater depth to make one vein.

At this time, neither the State nor the Government Geological Survey have a comprehensive report on the geological structure of this area and our time was too limited to assign any of our staff to make a detailed study.

A tunnel has been cut in the hillside S 20 degrees E for a distance of 150 feet. At 120 feet a small vein was cut which has the same strike as a vein that was cut in a cross cut 40 feet in from the tunnel portal. This vein also ties in to the one opened up in No. Four Shaft. In the tunnel the vein is 2"

to 6" wide and carries some lead and zinc.

No. 4 Shaft is bottomed at 110 feet and about 200 feet of main haulage drift has been driven and two veins both approximately 40 feet long and two veins were cut. These veins show about 5 feet of mineralization and will assay not less than 10% zinc and lead.

At the eastern end of the haulage drift another vein was cut which I believe is No. 2 which is the same as opened in the cross cuts at the extreme west end of the haulage drift. No. 3 vein is cut and more development should be done at both ends of the main drift to determine the width and strike of the veins.

Further study should be made to determine if the shale outcrop east of the tunnel will cut off or divert the vein at right angles.

At this time, I believe that sufficient ore is exposed in the four stopes in the northwest cross cuts to yield about 75,000 tons of ore that should produce 7500 tons of lead and zinc concentrates. The possibility of two more stopes being opened in the main drift should add to this tonnage.

If operations are contemplated under the present set-up, the following suggestions are made:

Install adequate pumping equipment to insure continuous mining operation, the shaft should be sunk to the 200 ft. level and cross cuts driven to cut the vein if it exists at that depth and at least 6 producing stopes opened up to insure a steady tonnage to the mill which should be not less than 150 tons per day.

It would be advisable to prospect by means of surface diamond drilling rather than continue work in the present shaft, as drilling may show that vein continuation and width may increase with depth and an entirely different shaft location would be necessary for economic mine development and mining.

S.S. Clarke

HISTORY

a. Operated sporadically in early 1940's with little or no technical guidance and without mechanization of any kind. The mining was done in a haphazard manner causing a major fall which stopped operations. This fall was at least partially caught up but not mined afterward.

b. There have been no other operations in this area.

c. Attached herewith is copy of a report by Mr. Sim Clark, chief operations engineer for the Eagle Picher Company.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Monthly production of 4,000 rock tons of ten percent combined lead-zinc values estimated

J. E. & R. Mines

B.O. Box 1043

Joplin, Missouri
Telephone #7050

The geology of the area can briefly be described as follows: It is located on the south limb of the Mozarn synclinorium which is at the southeast border of the Ouachita Mountain Province. The Paleozoic formations of this area have been highly folded and faulted by pressure from the southeast. The resultant structure is that of parallel east-west trending synclines and anticlines. The sediments dip steeply on the limbs of the structures. Many of the folds have been overturned so that both limbs dip to the south. The parallel folds are reflected in the topography which consists of moderately rugged parallel east-west trending ridges and valleys. The main stratigraphic horizons exposed in the area of the mineral deposit are the Stanley shale and the Arkansas Novaculite. The Stanley shale has a stratigraphic thickness of 3 to 4 thousand feet in this localized area and is comprised essentially of a dark grey fissle shale but with two or three dominant sandstone members from 100 to 300 feet in thickness. The Novaculite is principally chert with a stratigraphic thickness of less than 1,000 feet. It lies stratigraphically below the Stanley shale and is of Devonian age.

The general area is one of wide spread hydrothermal and some igneous activity. The Magnet Cove Intrusive and the large Arkansas barite deposits lie to the Northeast near the eastern extremity of the Mazarn syncline. To the south and west are located the Arkansas cinnabar deposits, the diamond bearing peridotite near Murfreesboro, and buried igneous plugs near Nashville and Lockeburg. In the Ouachita provine are also found antimony deposits, vein baritem and other lead and zinc deposits. All of these points bring out the wide spread extent of magnatic and hydrothermal activity of the region.

b. No assay plans or sections available.

Purpose of this exploration is to determine the ore reserves.

Further Information

The ore deposit apparently occurs in one of the sandstone members of the Stanley shale adjacent to an east-west trending thrust fault(?). The deposit consists of several veins occurring in a fractured zone of the sandstone. This zone is estimated to be about 50 feet in thickness. The strike length is unknown but is apparently several hundred feet in an east-west direction. The dip has not been definitely determined but is known to be quite steep and probably not far from vertical.

As far as structural conditions are concerned, and in view of the unquestionable hydrathermal original of the mineralization, there is reason to believe that the mineralization may persist in depth for at least a few and possibly several hundred feet.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Network of good all-weather gravel and concrete roads in area.

Mine located on good gravel road 8 miles from Missouri Pacific R.R. at Amity, Arkansas and is 22 miles Southwest of Hot Springs, Arkansas.

Housing available at Point Cedar located 2 miles from mine.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Annual rainfall is 50 - 55 inches per year in this area. Small perennial stream crosses property 150 feet from mill and mine will furnish 200-250 G.P.M. at all times.

J.E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Power is not available on property, but applicant will furnish 50 K.V.A. Diesel electric generating set.

J.E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Mine has not operated for years, so no payroll schedules or time-keeper lists are available.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Equipment and facilities now available on property

are as follows:

INVENTORY OR EQUIPMENT AND BUILDINGS

One pump house - frame building with corrugated roofing, containing:
1 International 4 cylinder motor with clutch and pulley driving 6" Pomona pump. 10" Belt. With cooling water and piping system.
One machine drill complete with 3 changes of stell up to 8 feet, piping and air hose to reach ends of all drifts.
Track system in all drifts with 3 cars and four 750# cans.
All Necessary picks, shovels and hammers.
One 8" x 8" slide valve Freeman air hoist, with 5/8" iron-spin cable, 24" sheave and safety hook.
One frame building with composition and corrugated roofs, containing:
One 65 H.P. Holt engine with cooling water tank and piping system.
One 250 foot Chicago Pneumatic compressor with unloader and belt, and 4' x 8' receiver, and with complete system of air piping to the hoist and to the mine.
One Blacksmith forge and anvil
One lot miscl. Shop tools
One 12' x 12' frame building, change house for miners.
One 12' x 14' frame building, office.
List and description of mill building and equipment:
One mill building, 24' x 60' x 16' high, with corrugated galvanized iron roofing.
Vertical book boxing on three sides.
One ore hopper, 11' x 12', 100 ton capacity.
One lean to-for mill engine. Corrugated and galvanized roof.
One Carterville 9" x 16" Blake type primary crusher.
One set Carterville 30" x 14" Cornish type gear driven crushing rolls.
One set 36" Rogers type crushing rolls.
One 18" elevator, with new belt.
One 10" elevator, with used belt.
One 4 cell rougher jig, 32" x 36". Jig irons
One 5 cell cleaner jig, 30" x 36" Jig irons.
One screen 4' x 8', with new screens
Three rebuilt bachart tables
Complete set of used pulleys, shafting and gears, and new belts, for the operation of the entire mill.
One 100 H.P. LeRoi mill engine with tank and piping for cooling system, and with clutch and pulley,
All necessary shovels, wheelbarrows, small tools and a one ton crab.
One 3" discharge American centrifugal pump, belt driven by a 20 H.P. rebuilt Reo engine. Connected with a 5" Suction with a 6" foot valve and with 6" discharge pipe to mill. Discharge approximately 100 feet long.
New International Motor - Diesel 1946 - Approx. 50 H.P .
Delco light system and other new equipment.

Equipment and buildings are in fair condition, but will require some repairs. In addition to the above described equipment the following is available for use:

50 KVA Diesel electric plant
315 C.F.M. Portable compressor
Two trucks
One 6" Pomona turbine pump
One 8" Pomona turbine pump
One 3 drum slusher hoist
Miscellaneous tools.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Equipment and facilities now available on property

are as follows:

INVENTORY OF MACHINERY AND EQUIPMENT

One pump house - frame building with corrugated roofing, containing:
1 horizontal 4 cylinder motor with clutch and pulley
driving 6" Pomona pump. 10" belt. With cooling water and
piping system.
One machine drill complete with 3 changes of steel up to 8 feet,
piping and air hose 4, reach rods of all shifts.
Wrench system in all drifts with 3 camp and four TNT cans.
All Necessary picks, shovels and barrows.
One 8" x 8" slide valve Freeman air hoist, with 3/8" iron-main cable, 24"
sheave and safety hook.
One frame building with compartment and corrugated roofs, containing:
One 35 H.P. Hoff engine with cooling water tank and piping system.
One 250 foot Gardner Denver compressor with water and belt,
and 4' x 8' receiver, and with complete system of air piping to
the hoist and to the mine.
One Blacksmith forge and anvil
One lot misc. Hand tools
One 12' x 12' frame building, change house for miners.
One 12' x 14' frame building, office.
Lists and description of mill building and equipment:
One mill building, 24' x 60' x 36' high, with corrugated galvanized iron roofing,
vertical book binding on three sides.
One ore hopper, 11' x 12', 100 ton capacity.
One loam to-for mill engine. Corrugated and galvanized roof.
One Gardnerville 20" x 15" Blake type primary crusher.
One set Gardnerville 30" x 14" Cornish type gear driven crushing rolls.
One set 36" Hoyers type crushing rolls.
One 48" elevator, with new belt.
One 10" elevator, with used belt.
One 4 roll rougher jig, 32" x 36", 4 in frame
One 5 cell cleaner jig, 30" x 36" 4 in frame.
One screen 4' x 6', with new coarbone
Three rebuilt bumper tables
Complete set of used pulleys, shafting and gears, and new belts, for the
operation of the entire mill.
One 100 H.P. Hoff mill engine with tank and piping for cooling system, and
with clutch and pulley.
All necessary shovels, wrenches, small tools and a one ton crane.
One 20" Gardnerville American centrifugal pump, belt driven by a 20 H.P. Lenhart
Gas engine. Connected with a 6" suction with a 6" foot valve and with 6" discharge
pipe to mill. Discharge approximately 400 feet long.
New International Motor - Diesel 7D6 - Amount. 20 H.P.
Delco light system and other new equipment.

Equipment and buildings are in fair condition, but will
require more repairs. In addition to the above described equipment
the following is available for use:

20 KVA Diesel electric plant
315 C.F.M. Portable compressor
Two trucks
One 6" Pomona turbine pump
One 4" Pomona turbine pump
One 3 drum slusher motor
Miscellaneous tools.

G. E. H. Jones
P.O. Box 1042
Joplin, Missouri
Telephone 4/0272

K-103-3
(1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. dma 1054

Date received 4-23-51

Participation

J. P. & R. Illnos
P.O. Box 103
Joplin, Missouri

Name and address of applicant

Date April 10, 1951

FILL IN THIS BLOCK

Date of application April 10, 1951

Estimated cost $15,000

Mineral or metal Lead-Zinc

Percentage of Government participation 50%

Location of mine Sect. 31, Twp 4 South
Range 21 W. Hot Springs County, Arkansas

Date of filing MF-100 April 10, 1951

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing. Attached

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. See item 8
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

See item 9

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property. See description on lease attached

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons. State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled. See item 15

*16. History:

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See item 20

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. See item 21

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. See item 22

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each. See item 23

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. See item 24

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

J E + R Mines
(Name of company)

By J W Ringwood
(Signature of authorized official)

4/18/51
(Date)

Partner
(Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

7 Lease good standing

dma 1054

MINING LEASE

THIS INDENTURE, Made this 10th day of April, 1951, by and between MRS. LENA D. PRICE-WILLIAMS of Hot Springs, Arkansas, hereinafter referred to as Lessor, and JAMES V. REYNOLDS of Joplin, Missouri; FRANK EICHELBERGER of Spokane, Washington; and ESTEY A. JULIAN of San Francisco, California, hereinafter referred to as Lessee, WITNESSETH:

1.

That in consideration of the covenants and agreements hereinafter set out, to be kept and performed by Lessee, Lessor does hereby lease unto Lessee for prospecting and mining for lead and zinc ores, for five (5) years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Hot Spring County, State of Arkansas, to-wit:

The SW¼ of the SW¼ of Section 30, Township 4 South, Range 21 West, 56.89 Acres.

The NW¼ of the NW¼ of Section 31, Township 4 South, Range 21 West, 55.4 Acres.

Part of the Northwest Quarter (NW¼) of the Southwest Quarter (SW¼) of Section 31, Township 4 South of Range 21 West, more minutely described to-wit: Beginning at the Northeast Corner of said tract thence West to the Northwest Corner of said tract, thence South to the Southwest corner of said tract thence East to the Southeast Corner of said tract, thence North with the creek to the place of beginning, the West bank of said creek to be the East line of tract herein conveyed, containing 54 Acres, more or less.

The Northwest Quarter (NW¼) of the Southeast (SE¼), 40 Acres; and also a tract of land 165 yards wide East and West extending clear across the East side of the Southwest Quarter (SW¼) of the Northeast Quarter (NE¼), 15 Acres, all of said lands being in Section 31, Township 4 South of Range 21 West, containing in the aggregate 55 Acres, more or less.

A part of the Southeast Quarter (SE¼) of the Northwest Quarter (NW¼), Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, described as follows: Beginning at the Northeast corner of said quarter section and run thence South on the quarter section line Six Hundred (600) feet; thence due West in a straight line to the center of a small stream of water known as "Mineral Branch"; thence up the center of said branch, with the meanderings thereof, to a point where said branch intersects a certain

mining claim owned by C.C. Keadle, W.F. Housley, James M. Housley and Evander T. Housely; thence Southeasterly along the boundary line of said mining claim to the Southeast corner thereof; thence Northeasterly along the Southeast boundary line of said mining claim Nine Hundred Thirty-Four (934) feet and Ten (10) inches, to the North line of said quarter section, at a point, Seventy (70) feet West from the Northeast Corner of said quarter section and point of beginning; thence due East in a straight line Seventy (70) feet to the place of beginning.

Also, part of the Southeast Quarter (SE¼) of the Northwest Quarter (NW¼), Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, described as follows: Beginning at a point Seventy (70) feet West of the Northeast Corner of said Forty (40); thence South Forty-Eight (48) degrees West, Nine Hundred Thirty-Four (934) feet and Ten (10) inches to a stake; thence North Forty-Two (42) degrees W st Eight Hundred (800) feet to a stake; thence North Forty-Eight (48) degrees East Ninety-Seven (97) feet and Eight (8) inches to a stake set in the North boundary line of said Forty (40) acre tract; thence East with the North boundary line aforesaid to the place of beginning, containing Seven (7) acres and Three Hundred and Three (303) square feet, more or less.

Also, a certain mining claim on Keadle Lode, described as follows: Commencing at a Water Oak tree about Six Hundred (600) yards Northeasterly from W.J. Lookadoo's Mill, the place of discovery; thence running Three Hundred (300) feet Southwesterly to set stake at Southwest end center line commencing at discovery, thence running Twelve Hundred (1200) feet Northesterly to Northeast end center line stake and Three Hundred (300) feet off each side of the center of the lode, including all parallel lines, dips, angles and spurs within said boundary, corners described as follows: Northeast Corner set stake, Northwest Corner set stake, Southwest Corner set stake, Southeast Corner set stake, situated in Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West.
The above tracts of land containing 14.41 acres, more or less, and being the property formerly known as the Housley Mine.

The West Half (W½) of the West Half (W½) of the Northeast Quarter (NE¼) and the West Fifty-Five (55) Yards of the East Half (E½) of the West Half (W½) of the Northeast Quarter (NE¼) of Section Thirty-One (31), Township Four (4) South, Range Twenty-One (21) West, containing Fifty (50) Acres.

The West Half (W½) of the Northeast Quarter (NE¼) of the Northwest Quarter (NW¼) of Section Thirty-One (31), Township Four (4) South of Range Twenty-One (21) West, containing Nineteen and 61/100th (19.61) Acres.

The Lessor hereby gives and grants unto Lessee, for said term, the exclusive right and license to prospect and mine said land for lead and zinc ores, together with the right and license to prepare for market on said premises and remove and sell all lead and zinc concentrates produced from said ores, with the right to construct buildings or other structures and to make excavations, openings, stockpiles, dumps, ditches, drains, roads, tracks, and other improvements upon said premises, including the use of water in said operations, and to place such machinery thereon as Lessee may deem necessary for efficiently prospecting and mining said land and treating the ores mined therefrom with the right in Lessee to remove all property so placed thereon with 120 days after the termination.

3.

IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor as a condition to this Lease, a minimum royalty of $6,000.00 per year, payable in equal monthly installments of $500.00 in advance, to the credit of the Lessor at The Arkansas National Bank of Hot Springs, Hot Springs, Arkansas, said payments to commence sixty (60) days after the date of signing this Lease; and to pay on or before the tenth (10th) day of each month, a royalty of ten (10) per centum of all moneys received for the lead and zinc concentrates produced and sold from said land during the preceding month, together with Lessee's portion of any premium or bonus paid thereon, with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon, said prepaid minimum royalty of $500.00 per month to be credited upon earned royalty of ten per cent (10%) on ore produced in any calendar year, with monthly statements adjusting said balances due the Lessor. For the protection of the Lessor and to the end

that there may be no dispute as to the market price of concentrates so consumed, it is expressly agreed that if Lessor be not satisfied with the market price used in making royalty settlements, Lessor shall have and herevy agrees to take said percentage of said concentrates, or concentrates of like quality, in lieu of said royalty, at the bins where stored and further agrees to give written notice at once in the event Lessor is not satisfied as aforesaid.

4.

A part of the consideration for this lease is the purchase by the Lessee from the Lessor of the mill and equipment located on said property for the price of $10,000.00 cash, which shall become due and payable to Lessor sixty (60) days after the date of signing this lease, provided however that if this lease shall be terminated before the end of this aforesaid sixty (60) day period, or if this lease shall be cancelled and released to Lessor before said sixty (60) day period, then the obligation to sell and buy between the parties shall thereupon terminate.

5.

Lessee agrees to pay all taxes assessed or levied by the State in which said lands are located or any subdivision thereof, or by the Federal Government against the ores and/or concentrates produced from the lands covered hereby, except the Lessor will contribute an amount equal to that assessed against said lands and paid by her during the year 1950.

6.

The Lessee will keep accurate books showing quantities and kinds of concentrates produced from said lands, and sold or consumed, when and to whom sold, and the money received from sales and such books of account shall be open to inspection by Lessor at all reasonable hours.

7.

All mining operations shall be carried on in a miner-like and workman-like manner.

8.

It is further understood and agreed that all ores mined from the lands covered hereby shall be cleaned and prepared for market on this land.

9.

The Lessee hereby covenants and agrees to indemnify and save harmless the Lessor from any loss, cost or damage by reason of any injury sustained by the public or any individual as a result of the Lessee's operations on the demised premises.

10.

The Lessee covenants and agrees to carry public liability and workmen's compensation insurance covering its activities on the demised premises. The Lessee shall comply with all local, state and federal laws and regulations pertaining to such operations.

11.

Lessee agrees that during the period of prospecting as above set out, and during operations hereunder, to keep a watchman on said premises at all times, at its expense, to guard and protect the property.

12.

The Lessee shall commence prospecting or mining upon said lands within thirty (30) days from the date hereof, such prospecting or mining shall be carried on continuously and shall not be suspended at any time for longer than thirty days except on account of unavoidable accidents, strikes or other conditions beyond the control of Lessee, and except that when the sale value of the concentrates produced from said premises is such that mining thereof cannot be profitably carried on by Lessee, operations may be suspended until prices improve

so that mining can be profitably conducted; provided, suspension of operations for said last mentioned cause shall not continue longer than ninety (90) days without the written consent of Lessor.

13.

Lessor shall have the right to enter upon said land for the purpose of inspecting and examination, not unnecessarily interfering with the prospecting and mining operations of Lessee.

14.

Lessee shall furnish Lessor a true copy of the log of each drill hole put down on said land by Lessee, showing any assays made of cuttings therefrom, and shall, upon request of Lessor, furnish print of any underground workings on said land at least once each three months' period, and a map showing definite location of each drill hole.

15.

After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as the payments to Lessor continue and ore shall be produced therefrom by the Lessee, or Lessee shall continue prospecting or mining operations on said land or any part thereof, in good faith.

16.

Lessor hereby warrants and agrees to defend the title to the lands herein described.

17.

The Lessee shall not have the right to assign or sublet this lease, or any portion of the acreage covered hereby, except with the written consent of the Lessor.

18.

In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written

notice of the violations complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

19.

The Lessee may at any time, if Lessee desires to do so, pay all royalties then due, surrender and terminate this Lease by giving thirty days' written notice of intention to do so and thereupon Lessee shall be relieved from all obligations hereunder, with like effect as if this Lease had not been made.

20.

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

IN WITNESS WHEREOF the parties have hereunto set their hands and seals.

Mrs. Lena D. Price-Williams , LESSOR

James V. Reynolds

Frank Eichelberger

Estey A. Julian
LESSEE

Item 8.

Newly formed partnership not yet in operation, but adequate funds are available to match government.

J. E. & R. Lines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Item 9

Applicant is prepared to invest $7,500 which is sufficient to pay 50 percent of total cost of project.

J. B. & R. Hines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Ore will be milled on the property and the concentrates hauled by truck to railroad for shipment to smelter. Railroad at Amity, Arkansas which is eight miles from the mine on a good gravel road.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Exploration will be conducted to block out reserves of lead and zinc.

J. E. & R. Mines
P. O. Box 1043
Joplin, Missouri
Telephone #7050

We intend to set turbine pumps, de-water and carefully examine this mine. It was examined by two top field engineers of the Eagle-Picher Company shortly before the roof fall occurred and they estimated 75,000 rock tons of 10 percent lead-zinc ore was in sight. It has not been examined or operated since the roof fall was caught up and we intend to explore underground to obtain enough information to initiate a 2,000 foot core drill program to determine the size and depth of the ore body so that we can plan an intelligent mining program. We expect to have the mine de-watered and examined within 30 days and to complete our core drill program within 30 days additional which would enable us to start mining operations within 60 days after the de-waterin is complete.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

The geology of the area can briefly be described as follows:

It is located on the south limb of the Mozarn synclinorium which is at the southeast border of the Ouachita Mountain Province. The Paleozoic formations of this area have been highly folded and faulted by pressure from the southeast. The resultant structure is that of parallel east-west trending synclines and anticlines. The sediments dip steeply on the limbs of the structures. Many of the folds have been overturned so that both limbs dip to the south. The parallel folds are reflected in the topography which consists of moderately rugged parallel east-west trending ridges and valleys. The main stratigraphic horizons exposed in the area of the mineral deposit are the Stanley shale and the Arkansas Novaculite. The Stanley shale has a stratigraphic thickness of 3 to 4 thousand feet in this localized area and is comprosed essentially of a dark grey fissle shale but with two or three dominant sandstone members from 100 to 300 feet in thickness. The Novaculite is principally chert with a stratigraphic thickness of less than 1,000 feet. It lies stratigraphically below the Stanley shale and is of Devonian age.

The general area is one of wide spread hydrothermal and some igneous activity. The Magnet Cove Intrusive and the large Arkansas barite deposits lie to the Northeast near the eastern extremity of the Mazarn syncline. To the south and west are located the Arkansas cinnabar deposits, the diamond bearing peridotite near Murfreesboro, and buried igneous plugs near Nashville and Lockeburg. In the Ouachita provine are also found antimony deposits, vein varitem and other lead and zinc deposits. All of these points bring out the wide spread extent of magmatic and hydrothermal activity of the region.

The ore deposit apparently occurs in one of the sandstone members of the Stanley shale adjacent to an east-west trending thrust fault(?). The deposit consists of several veins occurring in a fractured zone of the sandstone. This zone is estimated to be about 50 feet in thickness. The strike length is unknown but is apparently several hundred feet in an east-west direction. The dip has not been definitely determined but is known to be quite steep and probably not far from vertical.

As far as structural conditions are concerned, and in view of the unquestionable hydrathermal original of the mineralization, there is reason to believe that the mineralization may persist in depth for at least a few and possibly several hundred feet.

The geological basis of the project is outlined above, plus the fact, as outlined in the Eagle-Picher report attached, that the area is richly mineralized.

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone 7050

22 Cont'd

COPY

EXCERPTS FROM REPORT ON HOUSELY MINE

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

The property is located about twenty-two miles southwest of Hot Springs, Arkansas and is situated in Section 31, Township 4, South, Range 21 West, Hot Springs County.

Several trips have been made to inspect this property to observe the progress of the development work being done.

There are three ore veins exposed on the surface, outcrops occurring in the creek bed which flows through a narrow valley. The north side of the valley is a sand stone ridge; the south side is novaculite, the mineralization occurs in veins between ribs of carbon shale.

These veins all increase in width with depth and are confined in a fracture zone about fifty feet in width. It is possible that the three veins will converge at greater depth to make one vein.

At this time, neither the State nor the Government Geological Survey have a comprehensive report on the geological structure of this area and our time was too limited to assign any of our staff to make a detailed study.

A tunnel has been cut in the hillside S 20 degrees E for a distance of 150 feet. At 120 feet a small vein was cut which has the same strike as a vein that was cut in a cross cut 40 feet in from the tunnel portal. This vein also ties in to the one opened up in No. Four Shaft. In the tunnel the vein is 2"

to 6" wide and carries some lead and zinc.

No. 4 Shaft is bottomed at 110 feet and about 200 feet of main haulage drift has been driven and two veins both approximately 40 feet long and two veins were cut. These veins show about 5 feet of mineralization and will assay not less than 10% zinc and lead.

At the eastern end of the haulage drift another vein was cut which I believe is No. 2 which is the same as opened in the cross cuts at the extreme west end of the haulage drift. No. 3 vein is cut and more development should be done at both ends of the main drift to determine the width and strike of the veins.

Further study should be made to determine if the shale outcrop east of the tunnel will cut off or divert the vein at right angles.

At this time, I believe that sufficient ore is exposed in the four stopes in the northwest cross cuts to yield about 75,000 tons of ore that should produce 7500 tons of lead and zinc concentrates. The possibility of two more stopes being opened in the main drift should add to this tonnage.

If operations are contemplated under the present set-up, the following ~~xxxxx~~ suggestions are made:

Install adequate pumping equipment to insure continuous mining operation, the shaft should be sunk to the 200 ft. level and cross cuts driven to cut the vein if it exists at that depth and at least 6 producing stopes opened up to insure a steady tonnage to the mill which should be not less than 150 tons per day.

It would be advisable to prospect by means of surface diamond drilling rather than continue work in the present shaft, as drilling may show that vein continuation and width may increase with depth and an entirely different shaft location would be necessary for economic mine development and mining.

S.C. Clarke

a.	3 man pump crew for 50 man hour shifts	@ $12.00 per shift	$600
	3 man mucking crew for 30 full shifts	@ 36.00 per shift	1080
b.	2 Supervisors for 60 days	@ 350.00 per month	1400
c.	Necessary repairs to hoister, etc.		200
d.	Installation of pumps, motors, etc. including transportation from Joplin, Missouri		1500
e.	None		
f.	50 KVA motor generator (Diesel)		1000
g.	All machinery at 1950 rental rates as compiled by Associated Equipment Distributors		
	315 C.F.M. Portable compressors	30 days	393
	2 - Pomona turbine pumps	60 days	1500
	2 - Rock drills	30 days	200
	2 - Trucks	60 days	600
h.	Cost of duel, powder and miscellaneous supplies		500
i.	Core drilling		6027
		Total	15,000

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

Time Schedule

First 30 days - De-watering	5,000
Second 30 Prospecting and core drilling	10,000

Mining to start immediately thereafter

J. E. & R. Mines
P.O. Box 1043
Joplin, Missouri
Telephone #7050

m MF-100
arch 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. dma 1054

Date received 4-23-51

J. L. G. B. Mace
P.O. Box 1049
Joplin, Missouri

Name and address of applicant

Date April 10, 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124–A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
B.A. Julian 71 Montgomery Street San Francisco, California	Partner	none					
Frank Eichelberger 320 Symons Building Spokane, Washington	Partner	none					
J.V. Reynolds 420 School Street Joplin, Missouri	Partner	none					
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)		none	none	none	none
2. Quantity of product processed (specify unit of measure and type of process)		none	none	none	none
3. Quantity and grade of product sold or shipped (specify units of measure)		none	none	none	none

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)	75,000	10% Cu	15.00	15.00	5.00 per T

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

J. E. & R. Mines
(Name of company)

By J. V. Campbell
(Signature of authorized official)

4/18/51
(Date)

Partner
(Title)

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—63792-1

dma 1054

1. Material Produced

   a. Mine products - lead and zinc

   b. None

J. E. & R. Mines
Box 1043
Joplin, Missouri
Telephone #7050

2. Housley Mine - Price-Williams Mine. Shaft mine - Fissure formation.

a. No map available

b. No map available

c. No map available

d. No map available

Mine is flooded. Plan of de-watering to use two turbine pumps with 6" and 8" column - 10" bowls. Pumps to be belt driven. Power two 65 H.P. Waukesha Industrial Power units.

Total approximate gallonage - 1800 gpm at 135 feet.

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a. Mine located 8 miles N.W. of Amity, Arkansas
(Missouri Pacific R.R.)

b. Hot Springs, County

c. Section 31, Twp. 4 South, Range 21 West

d. Hot Springs County, Arkansas

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a. Property not now in operation

b. Lessee

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Property not in production

Production hoped for by June 30, 1951

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6. Experience of Operators.

The operators will be headed by Frank Eichelberger and E.A. Julian, both well known and experienced consulting and operating mining engineers. Mr. Eichelberger is chief consulting engineer and general manager of the Vermont Copper Company. Mr. Julian is Executive Vice President of The Goldfield Consolidated Mines Company. The third partner is J.V. Reynolds an experienced operator in Tri-State field, former district manager of United Zinc Smelting Corporation, Century Lead & Zinc Company and Goldfield Consolidated Mines Company. All three partners are members of A.I.M.E.

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COPY

EXCERPTS FROM REPORT ON HOUSELY MINE

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The property is located about twenty-two miles southwest of Hot Springs, Arkansas and is situated in Section 31, Township 4, South, Range 21 West, Hot Springs County.

Several trips have been made to inspect this property to observe the progress of the development work being done.

There are three ore veins exposed on the surface, outcrops occurring in the creek bed which flows through a narrow valley. The north side of the valley is a sand stone ridge; the south side is novaculite, the mineralization occurs in veins between ribs of carbon shale.

These veins all increase in width with depth and are confined in a fracture zone about fifty feet in width. It is possible that the three veins will converge at greater depth to make one vein.

At this time, neither the State nor the Government Geological Survey have a comprehensive report on the geological structure of this area and our time was too limited to assign any of our staff to make a detailed study.

A tunnel has been cut in the hillside S 20 degrees E for a distance of 150 feet. At 120 feet a small vein was cut which has the same strike as a vein that was cut in a cross cut 40 feet in from the tunnel portal. This vein also ties in to the one opened up in No. Four Shaft. In the tunnel the vein is 2"

to 6" wide and carries some lead and zinc.

No. 4 Shaft is bottomed at 110 feet and about 200 feet of main haulage drift has been driven and two veins both approximately 40 feet long and two veins were cut. These veins show about 5 feet of mineralization and will assay not less than 10% zinc and lead.

At the eastern end of the haulage drift another vein was cut which I believe is No. 2 which is the same as opened in the cross cuts at the extreme west end of the haulage drift. No. 3 vein is cut and more development should be done at both ends of the main drift to determine the width and strike of the veins.

Further study should be made to determine if the shale outcrop east of the tunnel will cut off or divert the vein at right angles.

At this time, I believe that sufficient ore is exposed in the four stopes in the northwest cross cuts to yield about 75,000 tons of ore that should produce 7500 tons of lead and zinc concentrates. The possibility of two more stopes being opened in the main drift should add to this tonnage.

If operations are contemplated under the present set-up, the following suggestions are made:

Install adequate pumping equipment to insure continuous mining operation, the shaft should be sunk to the 200 ft. level and cross cuts driven to cut the vein if it exists at that depth and at least 6 producing stopes opened up to insure a steady tonnage to the mill which should be not less than 150 tons per day.

It would be advisable to prospect by means of surface diamond drilling rather than continue work in the present shaft, as drilling may show that vein continuation and width may increase with depth and an entirely different shaft location would be necessary for economic mine development and mining.

S.S. Clarke

HISTORY

a. Operated sporadically in early 1940's with little or no technical guidance and without mechanization of any kind. The mining was done in a haphazard manner causing a major fall which stopped operations. This fall was at least partially caught up but not mined afterward.

b. There have been no other operations in this area.

c. Attached herewith is copy of a report by Mr. Sim Clark, chief operations engineer for the Eagle Picher Company.

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Monthly production of 4,000 rock tons of ten percent combined lead-zinc values estimated

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The geology of the area can briefly be described as follows: It is located on the south limb of the Mazarn synclinorium which is at the southeast border of the Ouachita Mountain Province. The Paleozoic formations of this area have been highly folded and faulted by pressure from the southeast. The resultant structure is that of parallel east-west trending synclines and anticlines. The sediments dip steeply on the limbs of the structures. Many of the folds have been overturned so that both limbs dip to the south. The parallel folds are reflected in the topography which consists of moderately rugged parallel east-west trending ridges and valleys. The main stratigraphic horizons exposed in the area of the mineral deposit are the Stanley shale and the Arkansas Novaculite. The Stanley shale has a stratigraphic thickness of 3 to 4 thousand feet in this localized area and is comprised essentially of a dark grey fissle shale but with two or three dominant sandstone members from 100 to 300 feet in thickness. The Novaculite is principally chert with a stratigraphic thickness of less than 1,000 feet. It lies stratigraphically below the Stanley shale and is of Devonian age.

The general area is one of wide spread hydrothermal and some igneous activity. The Magnet Cove Intrusive and the large Arkansas barite deposits lie to the Northeast near the eastern extremity of the Mazarn syncline. To the south and west are located the Arkansas cinnabar deposits, the diamond bearing peridotite near Murfreesboro, and buried igneous plugs near Nashville and Lockeburg. In the Ouachita provine are also found antimony deposits, vein baritem and other lead and zinc deposits. All of these points bring out the wide spread extent of magnatic and hydrothermal activity of the region.

b. No assay plans or sections available.

Purpose of this exploration is to determine the ore reserves.

Further Information

The ore deposit apparently occurs in one of the sandstone members of the Stanley shale adjacent to an east-west trending thrust fault(?). The deposit consists of several veins occurring in a fractured zone of the sandstone. This zone is estimated to be about 50 feet in thickness. The strike length is unknown but is apparently several hundred feet in an east-west direction. The dip has not been definitely determined but is known to be quite steep and probably not far from vertical.

As far as structural conditions are concerned, and in view of the unquestionable hydrathermal original of the mineralization, there is reason to believe that the mineralization may persist in depth for at least a few and possibly several hundred feet.

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Network of good all-weather gravel and concrete roads in area.

Mine located on good gravel road 8 miles from Missouri Pacific R.R. at Amity, Arkansas and is 22 miles Southwest of Hot Springs, Arkansas.

Housing available at Point Cedar located 2 miles from mine.

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Annual rainfall is 50 - 55 inches per year in this area. Small perennial stream crosses property 150 feet from mill and mine will furnish 200-250 G.P.M. at all times.

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Power is not available on property, but applicant will furnish 50 K.V.A. Diesel electric generating set.

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Mine has not operated for years, so no payroll schedules or time-keeper lists are available.

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Equipment and facilities now available on property are as follows:

INVENTORY OR EQUIPMENT AND BUILDINGS

One pump house - frame building with corrugated roofing, containing:
1 International 4 cylinder motor with clutch and pulley driving 6" Pomona pump. 10" Belt. With cooling water and piping system.
One machine drill complete with 3 changes of stell up to 8 feet, piping and air hose to reach ends of all drifts.
Track system in all drifts with 3 cars and four 750# cans.
All Necessary picks, shovels and hammers.
One 8" x 8" slide valve Freeman air hoist, with 5/8" iron-spin cable, 24" sheave and safety hook.
One frame building with composition and corrugated roofs, containing:
One 65 H.P. Holt engine with cooling water tank and piping system.
One 250 foot Chicago Pneumatic compressor with unloader and belt, and 4' x 8' receiver, and with complete system of air piping to the hoist and to the mine.
One Blacksmith forge and anvil
One lot miscl. Shop tools
One 12' x 12' frame building, change house for miners.
One 12' x 14' frame building, office.
List and description of mill building and equipment:
One mill building, 24' x 60' x 16' high, with corrugated galvanized iron roofing.
Vertical book boxing on three sides.
One ore hopper, 11' x 12', 100 ton capacity.
One lean to-for mill engine. Corrugated and galvanized roof.
One Carterville 9" x 16" Blake type primary crusher.
One set Carterville 30" x 14" Cornish type gear driven crushing rolls.
One set 36" Rogers type crushing rolls.
One 18" elevator, with new belt.
One 10" elevator, with used belt.
One 4 cell rougher jig, 32" x 36". Jig irons
One 5 cell cleaner jig, 30" x 36" Jig irons.
One screen 4' x 8', with new screens
Three rebuilt bachart tables
Complete set of used pulleys, shafting and gears, and new belts, for the operation of the entire mill.
One 100 H.P. LeRoi mill engine with tank and piping for cooling system, and with clutch and pulley,
All necessary shovels, wheelbarrows, small tools and a one ton crab.
One 3" discharge American centrifugal pump, belt driven by a 20 H.P. rebuilt Reo engine. Connected with a 5" Suction with a 6" foot valve and with 6" discharge pipe to mill. Discharge approximately 100 feet long.
New International Motor - Diesel 1946 - Approx. 50 H.P .
Delco light system and other new equipment.

Equipment and buildings are in fair condition, but will require some repairs. In addition to the above described equipment the following is available for use:

50 KVA Diesel electric plant
315 C.F.M. Portable compressor
Two trucks
One 6" Pomona turbine pump
One 8" Pomona turbine pump
One 3 drum slusher hoist
Miscellaneous tools.

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