DMEA Form 1

DEFENSE MINERALS EXPLORATION ADMINISTRATION
Control Slip

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DMEA Docket No. 4520

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Routing Slip

To:	500	Date	10/26/56
To:	Op. Comm	Date	11/13/56
To:	F.E. Johnson	Date	11-14-56
To:	Tom	Date	11-14-56
To:	Base Metals	Date	11/15/56
To:	130	Date	5-20-57
To:	100	Date	5-22-57
To:		Date	
To:		Date	
To:		Date	
To:		Date	
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DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 4520

Application (~~Denied~~
(Withdrawn ✓
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
Reports of Royalty Review
Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
Report of Review
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments (latest on top)
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
✓Leases and assignments of leases
✓Application and attachments
(3) Envelope for maps

Right Side

Project summary
Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

Final Field Team Report (Tab)
Operator's Final Report
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
X On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order)
Interim Summary Reports by W. O. Engineers

Right Side

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

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

RECEIVED
MINERALS TECHNOLOGY
DIVISION

FEB 19 1957

BUREAU OF MINES
JOPLIN, MO.

Docket No. DMEA-4520

SUPPLEMENT: to page 5, Shelton & Fleischaker DMEA Application

Reference: Selection #2, (SW¼, SW¼, Sec. 18, T29N, R32W)

The geologic cross sections 1-1' and 2-2', shown on the accompanying map, indicate a definite slumpage of the beds occurring over almost the entire area of this fourty acre tract. There is abundant evidence from past drilling to show that this slump extends beyond the limits of this tract and onto several of the adjoining fourtys. I would therefore recommend that the slump be test drilled as a whole, rather than restricting the drilling to one corner of the main fourty acre tract. This would be in keeping with our larger objective of determining the economic potential of the entire favorable structure. Extensions of the slump are indicated to the West on the Stella Boyd acerage, to the SSE on the Tinsley lease, and possibly to the NE on the J. C. Rowe land.

There is no "rule of thumb" for determining the location of ore bodies in relation to the shale slumps. We know however that the proximity of slumpage and the attendant chertification of the beds are prime requisites for the formation of ore bodies in the Joplin district. Past mining history indicates that ore bodies may lie either on the interior, immediately adjacent to, or extend across the boundaries of these shale slumps. From a study of the relation of old mine workings to the shale slumps, it would seem that the most likely method of attacking the location of ore would be to drill just inside of the main break-over of beds into the slump. On this basis I have marked twelve (12) prospect hole locations on the map for the Tinsley acerage.

You will note two locations on the Stella Boyd land to the West. Although we do not have this acerage under lease at the present time, I understand that it is available. The Tinsley drilling should determine the advisability of drilling these two holes.

Seen & returned 3/4/57 to Mr. Ames, U.S.B.S.

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MINERALS TECHNOLOGY
DIVISION

FEB 19 1957

BUREAU OF MINES
JOPLIN, MO.

SUPPLEMENT: to pages 5, 6, & 7. Shelton & Fleischaker

Reference: Selections #3 & #4. (NE¼, SW¼, & NW¼, SE¼, Sec. 18)

Structural indications are that "selections" #3 & #4 should also be considered as a unit. The slump shown to the North by drill holes CR-2 and CR-3, (Geo. W. Ball and O.L. Farmer leases) probably swings around the nose between drill hole 5 (J.C. Rowe lease) and the old ore hole on the Baltzell land. As we have no lease on the Baltzell acerage, I would recommend the line hole location shown on the map. If this hole shows favorably, we will probably want to drill the location shown on the Baltzell land. The other holes located on the J.C. Rowe land are along the probable extensions of the shale structure, both to the North-west and South-west.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
OCT 26 1956

Airmail

October 24, 1956

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

Re: New Application for lead-zinc exploration
Shelton & Fleischaker, Partners
719 First National Bank Bldg., Joplin, Mo.
Virginia mine
Purcell, Jasper County, Mo.
(DMA-1088X, Contract Idm-E122)

Dear Sirs:

Forwarded herewith is the original of the cited application. Two copies are forwarded under separate cover by regular mail; one copy is retained by this Field Team Office.

You will note that some exploration work was done under Docket DMA-1088X, Project Contract Idm-E122, on a small area in one of the tracts included in this application. Through the efforts of engineers formerly familiar with the preliminary explorations by National Lead Company (St. Louis S. & R. Co.), on other tracts of this application some additional data has been found available.

I believe a new geologic appraisal of all the tracts included in this application now is waranted in the light of this new data in addition to that in the docket material of the previously Certified project.

Sincerely yours,

Clinton C. Knox

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

CCK/enn

encl.(1)
cc: DMEA Op.Com.(2)w/2 copies of Appl.by reg.mail
Laurence, USGS, Knoxville
Pend.Appl.file

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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MINERALS TECHNOLOGY
DIV.
OCT 26 1956
BUREAU OF MINES
JOPLIN, MO.

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

Not to be filled in by applicant.

Docket No. 4520
Metal or Mineral Lead-Zinc
Date Received 10-26-56
Estimated Cost $15,435
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: J. G. Shelton and Jack Fleischaker, 714-19 First National Building, Joplin, Missouri, a partnership consisting of J. G. Shelton (116½ North Main Street, Webb City, Missouri) and Jack Fleischaker (320 North Moffet, Joplin, Missouri).

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract See Exhibit A.

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessees of the mineral interest.

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

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

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

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

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

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

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

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

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

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

(*c*) The work will start within 90 days and be completed within 24 months from the date of an exploration project contract.

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

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

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). See page 8, Otto Ruhl letter.

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. See page 8, Otto Ruhl letter.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. None.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. Drilling equipment will be furnished by drilling contractor.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. None.

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

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

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

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

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

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

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated October 24, 1956

L. G. Shellers
(Applicant)

By Jack Lonesdale

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

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

EXHIBIT "A"

RECEIVED
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Leases are held on the following tracts: (1) Garrison land - all except the West 20 acres of the Northeast Quarter (NE¼) of Section 24, Township 29, Range 33, containing 140 acres more or less in Jasper County, Missouri. (2) The Tinsley land - all of the Southeast Quarter (SE¼) except 16 acres East of the old railroad right-of-way of the Northwest Quarter (NW¼) of the Northeast Quarter (NE¼) and the Northwest Quarter (NW¼) and the West half (W½) of the Northeast Quarter (NE¼), also the Southeast Quarter (SE¼) of the Northeast Quarter (NE¼) all in Section 19, Township 29, Range 32, also the South half (S½) of the Southwest Quarter (SW¼) of Section 18, Township 29, Range 32, a total of 500 acres in Jasper County, Missouri. (3) Weaver land - all of the East half (E½) of the Northwest Quarter (NW¼) of the Southeast Quarter (SE¼) except 240 feet by 375 feet in the Southwest (SW) corner, all in Section 18, Township 29, Range 32 containing 18 acres more or less in Jasper County, Missouri. (4) Tapp land - all of the North half (N½) of the Northeast Quarter (NE¼) of the Southeast Quarter (SE¼) and the Southeast Quarter (SE¼) of the Northeast Quarter (NE¼) of Section 18, Township 29, Range 32, containing 60 acres more or less in Jasper County, Missouri. (5) Rowe land - Northeast Quarter (NE¼) of the Southwest Quarter (SW¼) except the North ten acres thereof, containing 30 acres more or less in Section 18, Township 29, Range 32 in Jasper County, Missouri. (6) Farmer land - Southwest Quarter (SW¼) of the Northeast Quarter (NE¼) and all that part of the Northeast Quarter (NE¼) of the Northeast Quarter (NE¼) lying on the South side of Spring River, all in Section 18, Township 29, Range 32, in Jasper County, Missouri, also that part of the Southeast Quarter (SE¼) of the Southeast Quarter (SE¼) of Section 7, lying South of Spring River and that part of the Northwest Quarter (NW¼) of the Northwest Quarter (NW¼) of Section 17 lying South of Spring River, all in Township 29, Range 32, containing 80 acres more or less in Jasper County, Missouri.

Contracts for mining leases are held on the following tracts: (1) Orr land - All of the Northeast Quarter (NE¼) of the Northeast Quarter (NE¼) of Section 19, Township 29, Range 32 in Jasper County, Missouri, except 5 acres in the Northeast (NE) corner, said 5 acres described as being at the Northeast (NE) corner of said Section 19, Township 29, Range 32, thence South 642 feet, thence North 89 degrees, 49 minutes West 339.25,feet, thence North 642 feet, thence South 89 degrees, 49 minutes East 339.25 feet. (2) Perry land - South half (S½) of the Southeast Quarter (SE¼) in Section 18, Township 29, Range 32, containing 80 acres more or less in Jasper County, Missouri.

Applicants believe that the following land can be leased if government aid is obtained: (1) Ball land - All of the East half (E½) of the Northeast Quarter (NE¼) of Section 18, and the North 10 acres of the Northeast Quarter (NE¼) of the Southwest Quarter (SW¼) of Section 18, Township 29, Range 33, containing 90 acres in Jasper County, Missouri. (2) Plank land - the East half (E½) of the West half (W½) of the Northwest Quarter (NW¼) of the Southeast Quarter (SE¼) containing 10 acres in Section 18, Township 29, Range 32 in Jasper County, Missouri.

October 23, 1956

TO WHOM IT MAY CONCERN:

J. G. Shelton, the operating partner of Shelton and Fleischaker, will generally supervise the work of the prospecting project. He has had many years of experience in mining operations in the Tri-State Mining District prior to 1926. He was an active contractor in sinking mining shafts for various mining companies in the district. From 1926 to 1928 he contracted two shafts for M & H Zinc Company and acted as ground foreman for mining operations at Baxter Springs, Kansas. In 1929 he acted as superintendent for the Metals Exploration Company in Picher, Oklahoma. From 1933 to 1935 he was part owner and ground foreman for the New Deal Mining Company and since that time has been engaged in leasing for himself and for the following companies: Eagle-Picher Mining and Smelting Co., Picher, Oklahoma; the Childress Royalty Company, Joplin, Missouri; St. Louis Smelting and Royalty Company, Baxter Springs, Kansas; Rialto Mining Company, Cardin, Oklahoma. He submits the following as references: H. M. Harrison, Eagle-Picher Mining and Smelting Co., Cardin, Oklahoma; R. K. Stroup, Eagle-Picher Mining and Smelting Co.; George M. Fowler, geologist, First National Bank Building, Joplin, Missouri; Harry Easley, Home Land and Loan Company, Webb City, Missouri.

Respectfully submitted,

J. G. Shelton

J. G. Shelton

October 23, 1956

TO WHOM IT MAY CONCERN:

Jack Fleischaker, a partner with J. G. Shelton in the Application, is a lawyer practicing in Joplin, Missouri, where he has been engaged in the law practice since April of 1937. He was born in Joplin, Missouri, in 1912 and has resided in this vicinity all of his life. He took his pre-law and first two years of law work at the University of Missouri and graduated from the Washington University in St. Louis in 1937. He is engaged in general law practice with considerable experience in property law. He is presently a member of the firm of Roberts and Fleischaker with offices in the First National Building, Joplin, Missouri. His experience in the mining field is limited completely to his experience in the practice of mining law. References: First National Bank of Joplin, Joplin, Missouri; Thomas Cusack, Accountant, Joplin, Missouri; H. Ludmeyer, President, May's Drugs, Joplin, Missouri.

Respectfully submitted,

Jack Fleischaker

Jack Fleischaker

October 19, 1956

Mr. Harold W. Sheeran
1136 Elm Street
Miami, Oklahoma

TO WHOM IT MAY CONCERN:

Mr. J. G. Shelton and Mr. Jack Fleischaker have requested me to be the consulting geologist in connection with an ore-exploration project to be carried on in the Neck City, Missouri area, and having agreed to do so, I herewith submit a summary of my experience and qualifications.

In 1950, I graduated as a geologist from the University of Notre Dame and in 1952 I received a M. A. in economic geology from the University of Toronto. While in school, I had approximately one year aggregate experience in Canadian field geology, including reconaissance, mapping and exploration work for the Ontario Department of Mines. In 1952 I took a position on the geologic staff of Eagle-Picher Mining and Smelting Company at Picher, Oklahoma and remained with that company until April of 1954 when I resigned. Since that time I have operated as an independent lead and zinc mine operator in the Picher field, doing occasional consulting work as time permitted.

I have examined the records in connection with the Neck City exploration project, including old production records, available drill records and maps, and I believe that an exploration project is warranted and that the possibility of discovering new ore bodies and extending and defining known mineralized areas is good. Production records of the original mining company and the past history of the Neck City area as a whole indicate that the ores will probably be of a relatively high value and will allow for a good margin of profit per rock ton mined.

I believe that I am fitted by my experience and training to act as the consulting engineer in this project and I would like to have the opportunity to be so employed.

Respectfully submitted,

Harold W. Sheeran

Harold W. Sheeran,
Mining Geologist

HWS:lss

Shelton - Fleischaker

CONTRACT FOR MINING LEASE

THIS CONTRACT, made and entered into this 27th day of September, 1956, by and between CHARLES T. ORR, JR., as first party, and J. G. SHELTON and JACK FLEISCHAKER, as second parties,

W I T N E S S E T H

That first party does hereby give and grant to second parties the right, for a period of one (1) year from the date hereof, to go upon the following described lands in Jasper County, Missouri, to-wit:

> All of the Northeast Quarter (NE¼) of the Northeast Quarter (NE¼) of Section 19, Township 29, Range 32 in Jasper County, Missouri, except five (5) acres in the Northeast corner, said five (5) acres being described as beginning at the Northeast corner of said Section 19, Township 29, Range 32, thence South 642 feet, thence North 89 degrees, 49 minutes, West 339.25 feet, thence North 642 feet, thence South 89 degrees, 49 minutes, East 339.25 feet,

and to drill, search and prospect for lead and zinc ores and other minerals thereon during such period on the following terms and conditions:

1. Second parties shall commence the work of prospecting said land for lead and zinc ores and other minerals within ninety (90) days from the date hereof and shall carry on such prospecting and drilling continuously and shall not suspend the same for longer than thirty (30) days at any one time.

2. Second parties shall not have the right to sink any shafts or to remove any ores or minerals from said lands during the term of this contract.

3. All prospecting done hereunder shall be carried on in a miner-like way and manner and a copy of the log of each hole drilled on said lands shall be furnished to first party, together with the location thereof. If cuttings from any hole shall be assayed, a copy of the assay certificate shall also be furnished to first party.

4. First party hereby reserves all uses of said land not necessary for said prospecting operations and reserves all rock, tailings, sands, sludge and slimes now on the surface of said lands, with the right to remove the same at will.

5. If second parties shall perform all the conditions of this contract in good faith and shall, during the term hereof, discover and develop lead and zinc ores or other minerals in sufficient quantities in the opinion of a competent mining engineer or geologist, to be selected by second parties, to make the mining and marketing thereof profitable, then first party agrees to execute and deliver to second parties a mining lease on said lands in the form of that certain mining lease attached hereto and made a part hereof, such lease to run for a

period of ten (10) years, and so long thereafter as ores and minerals shall be produced and to reserve to first party a royalty of five per cent (5%) of the gross sale price of all lead and zinc concentrates produced and sold from said lands.

6. If second parties shall fail to fulfill and comply with any of the terms and conditions herein mentioned, this constract shall thereupon end and terminate at the option of first party.

EXECUTED by the parties hereto the day and year first above written.

_____
First Party

_____

_____
Second Parties

MINING LEASE

THIS INDENTURE, Made this ..... day of ....., 19 56, by and between CHARLES T. ORR, JR.

hereinafter (whether one or more) referred to as Lessor, and J. G. SHELTON and JACK FLEISCHAKER 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

All of Northeast Quarter (NE¼) of Northeast Quarter (NE¼) of Section 19, Township 29, Range 32 in Jasper County, Missouri, except five (5) acres in Northeast corner, said five (5) acres being described as beginning at Northeast corner of said Section 19, Township 29, Range 32, thence South 642 feet, thence North 89 degrees, 49 minutes, West 339.25 feet, thence North 642 feet, thence South 89 degrees, 49 minutes, East 339.25 feet.

of Section 19, Township 29, Range 32, and containing ..... acres, more or less.

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at ..... Bank, at ....., State of ....., on or before the tenth (10th) day of each month, a royalty of Five (5%) per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within ninety (90) 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $....., in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at ..... or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker

Lessee

Charles T. Orr, Jr.

Lessor

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared ..... and .....to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.
(he / his)

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires.....

.....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for the County and State aforesaid, came..... and ..... who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires.....

.....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19....., personally appeared..... and .....his wife, to me known to be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as..... free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires.....

.....
Notary Public.

NO.....

MINING LEASE

FROM

TO

Dated....., 19.....
Section..... Township..... Range.....
County.....
No. Acres.....

STATE OF..... } SS.
COUNTY OF.....

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

THE JOPLIN PRINTING CO., JOPLIN, MO.

RECORDED
OCT 26 1956

Shelton - Fleischaker

CONTRACT FOR MINING LEASE

THIS CONTRACT, made and entered into this 28th day of September, 1956, by and between Esther Atkinson Perry, a single woman, as first party, and J. G. SHELTON and JACK FLEISCHAKER, as second parties

W I T N E S S E T H

That first party does hereby give and grant to second parties the right, for a period of one (1) year from the date hereof, to go upon the following described lands in Jasper County, Missouri, to-wit:

South Half (S½) of the Southeast Quarter (SE¼) of Section 18, Township 29, Range 32, containing 80 acres, more or less,

and to drill, search and prospect for lead and zinc ores and other minerals thereon during such period on the following terms and conditions:

1. Second parties shall commence the work of prospecting said land for lead and zinc ores and other minerals within ninety (90) days from the date hereof and shall carry on such prospecting and drilling continuously and shall not suspend the same for longer than thirty (30) days at any one time.

2. Second parties shall not have the right to sink any shafts or to remove any ores or minerals from said lands during the term of this contract.

3. All prospecting done hereunder shall be carried on in a miner-like way and manner and a copy of the log of each hole drilled on said lands shall be furnished to first party, together with the location thereof. If cuttings from any hole shall be assayed, a copy of the assay certificate shall also be furnished to first party.

4. First party hereby reserves all uses of said land not necessary for said prospecting operations and reserves all rock, tailings, sands, sludge and slimes now on the surface of said lands, with the right to remove the same at will.

5. If second parties shall perform all the conditions of this contract and in good faith and shall, during the term hereof, discover and develop lead and zinc ores or other minerals in sufficient quantities in the opinion of a competent mining engineer or geologist, to be selected by second parties, to make the mining and marketing thereof profitable, then first party agrees to execute and deliver to second parties a mining lease on said lands in the form of that certain mining lease hereto attached and made a part hereof, such lease to run for a period of ten (10) years, and so long thereafter as ores and minerals shall be produced and to reserve to first party a royalty of five per cent (5%) of the gross sale price of all lead and zinc concentrates produced and sold from said lands.

6. If second party shall fail to fulfill and comply with any of the terms and conditions herein mentioned, this contract shall thereupon end and terminate at the option of the first party.

EXECUTED by the parties hereto the day and year first above written.

_____
First Party

_____

_____
Second Parties

MINING LEASE

THIS INDENTURE, Made this ..... day of ....., 19 56, by and between

Esther Atkinson Perry,

hereinafter (whether one or more) referred to as Lessor, and J. G. SHELTON and JACK FLEISCHAKER 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

(South) S $\frac{1}{2}$ of the SE$\frac{1}{4}$ (Southeast Quarter).

of Section 18, Township 29, Range 32, and containing 80 acres, more or less.

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at ..... Bank, at ....., State of ....., on or before the tenth (10th) day of each month, a royalty of Five (5) per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within six months 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $20.00, in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten (10) years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at ..... or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker

Lessee

Esther Atkinson Perry

Lessor

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared

..... and .....to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they (he) executed the same as their (his) free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires.....

.....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for the County and State aforesaid, came..... and .....
who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires.....

.....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19.....,
personally appeared..... and .....his wife, to me known to be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as..... free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires.....

.....
Notary Public.

NO.....

MINING LEASE

FROM

TO

Dated....., 19.....
Section..... Township..... Range.....
County.....
No. Acres.....

STATE OF.....
COUNTY OF..... } SS.

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

THE JOPLIN PRINTING CO., JOPLIN, MO.

OCT 26 1988
DEPARTMENT

Shelton- Fleischaker

MINING LEASE

THIS INDENTURE, Made this 23rd day of June, 1956, by and between

Hugh Garrison and Faye Garrison, husband and wife

hereinafter (whether one or more) referred to as Lessor, and J. G. Shelton and Jack Fleischaker 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

All except the West 20 acres of the Northeast Quarter of Section 24, Township 29, Range 33, containing 140 acres more or less

of Section 24, Township 29, Range 33, and containing 140 acres, more or less.

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at Merchant and Miners Bank, at Webb City, State of Missouri, on or before the tenth (10th) day of each month, a royalty of Five (5) per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within six months 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $35.00, in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten (10) years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at _____ or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker

Lessee

Hugh Garrison

Faye Garrison

Lessor

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared

..... and ..... to me known to be the persons described in and who
he his
executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires..... .....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for

the County and State aforesaid, came..... and .....
who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires..... .....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19.....,

personally appeared..... and .....his wife, to me known to

be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as.....
free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires..... .....
Notary Public.

NO.....

MINING LEASE

FROM

TO

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

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

County.....

No. Acres.....

STATE OF..... } SS.
COUNTY OF.....

This instrument was filed on record on the.....

day of....., 19.....

at.....o'clock.....M., and duly recorded

in Book..... Page.....of

the records of this office.

By....., Deputy.

When recorded

Return to.....

THE JOPLIN PRINTING CO., JOPLIN, MO.

Shelton - Fleischaker

MINING LEASE

THIS INDENTURE, Made this 10th day of May, 19 56, by and between

John B. Tinsley & Ruth W. Tinsley, husband and wife

hereinafter (whether one or more) referred to as Lessor, and J. G. Shelton and Jack Fleischaker 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

All of the SW¼ except 16 acres East of the Old Railroad right of way of the NW¼ of the NE¼ and the NW¼ and W½ of the NW¼ also SW¼ of the NW¼ all in Section 19, Township 29, Range 32. Also S½ of SW¼ of Section 18, Township 29, Range 32. A total of 500 acres.

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

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at The Central National Bank, at Carthage, State of Missouri, on or before the tenth (10th) day of each month, a royalty of Five Per Cent per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within Six Months 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $62.50, in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten (10) years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at Carthage, Missouri or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker Lessee

John B. Tinsley

Ruth W. Tinsley

Lessor

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared

..... and .....to me known to be the persons described in and who
he his
executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires..... .....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for

the County and State aforesaid, came..... and .....
who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires..... .....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19.....,

personally appeared..... and .....his wife, to me known to

be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as.....
free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires..... .....
Notary Public.

NO.....

MINING LEASE

FROM

TO

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

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

..... County.....

No. Acres.....

STATE OF.....
COUNTY OF..... } SS.

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

THE JOPLIN PRINTING CO., JOPLIN, MO.

Shelton - Fleischaker

MINING LEASE

THIS INDENTURE, Made this 23rd day of August, 19 56, by and between

Earl E. Weaver and Orpha Weaver, husband and wife.

hereinafter (whether one or more) referred to as Lessor, and J. G. Shelton and Jack Fleischaker 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

East half (E½) of the Northwest quarter (NW¼) of the Southeast Quarter (SE¼), except Two hundred forty feet (240') by Three hundred seventy-five feet (375') in the Southwest Corner of Section Eighteen (18), Township Twenty-nine (29), Range Thirty-two (32), containing Eighteen (18) acres more or less, Jasper County, Missouri

of Section 18, Township 29, Range 32, and containing 18 acres, more or less.

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at _____ Bank, at _____, State of _____, on or before the tenth (10th) day of each month, a royalty of five (5%) per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within six (6) months 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $9.00, in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten (10) years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at _____ or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker

Lessee

Earl E. Weaver

Orpha Weaver

Lessor

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared

..... and .....to me known to be the persons described in and who
he his
executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires..... .....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for

the County and State aforesaid, came..... and .....
who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires..... .....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19.....,

personally appeared..... and .....his wife, to me known to

be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as.....
free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires..... .....
Notary Public.

NO.....

MINING LEASE

FROM

TO

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

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

..... County.....

No. Acres.....

STATE OF..... } SS.
COUNTY OF.....

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

THE JOPLIN PRINTING CO., JOPLIN, MO.

Shelton - Fleischaker

MINING LEASE

THIS INDENTURE, Made this 20th day of June, 19 56, by and between

Harvey Tapp and Julia Tapp, his wife

hereinafter (whether one or more) referred to as Lessor, and J. G. Shelton and Jack Fleischaker 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

All of the North Half of the Northeast Quarter of the Southeast Quarter and the Southeast Quarter of the Northeast Quarter of Section 18, Township 29, Range 32, containing 60 acres more or less

of Section 18, Township 29, Range 32, and containing 60 acres, more or less.

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at State Bank of Brownsdale Bank, at Brownsdale, State of Minnesota, on or before the tenth (10th) day of each month, a royalty of Five per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within six months 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $15.00, in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten (10) years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker

Lessee

Harvey Tapp

Julia Tapp

Lessor

RECEIVED
OCT 26 1956

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared

.....and .....to me known to be the persons described in and who
he his
executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires.....

.....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for

the County and State aforesaid, came..... and .....
who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires.....

.....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19.....,

personally appeared..... and .....his wife, to me known to

be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as.....
free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires.....

.....
Notary Public.

NO.....

MINING LEASE

FROM

TO

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

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

County.....

No. Acres.....

STATE OF.....
COUNTY OF..... } SS.

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

THE JOPLIN PRINTING CO., JOPLIN, MO.

Shelton - Fleischaker

MINING LEASE

THIS INDENTURE, Made this 27th day of September, 19 56, by and between

J. C. Rowe and Ethel Rowe, husband and wife.

J. G. Shelton and Jack Fleischaker

hereinafter (whether one or more) referred to as Lessor, and 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

Covering the Northeast Quarter (NE¼) of the Southwest Quarter (SW¼), except North ten (10) acres, containing 30 acres, more or less, of Section Eighteen (18), Township Twenty-nine (29), Range Thirty-two (32), Jasper County, Missouri.

of Section 18, Township 29, Range 32, and containing 30 acres, more or less.

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at Merchants and Miners Bank, at Webb City, State of Missouri, on or before the tenth (10th) day of each month, a royalty of five (5) per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within six (6) months 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $7.50, in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten (10) years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker

Lessee

J. C. Rowe

Ethel Rowe

Lessor

RECEIVED
OCT 26 1956

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared

..... and .....to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires..... .....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for the County and State aforesaid, came..... and ..... who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires..... .....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19....., personally appeared..... and .....his wife, to me known to be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as..... free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires..... .....
Notary Public.

NO.....

MINING LEASE

FROM

TO

Dated....., 19.....
Section..... Township..... Range.....
..... County.....
No. Acres.....

STATE OF..... } SS.
COUNTY OF.....

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

THE JOPLIN PRINTING CO., JOPLIN, MO.

Shelton - Fleischaker

MINING LEASE

THIS INDENTURE, Made this 3rd day of October, 19 56, by and between

O. L. Farmer and Evelyn Wright Farmer, husband and wife.

J. G. Shelton and Jack Fleischaker

hereinafter (whether one or more) referred to as Lessor, and 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 ten years from the date hereof, the following described land (for the purposes hereof considered as one parcel) situated in Jasper County, State of Missouri to-wit:

The Southwest quarter (SW¼) of the Northeast Quarter (NE¼) and all that part of the Northeast quarter (NW¼) of the Northeast Quarter (NE¼) lying on south side of Spring River, all in Section Eighteen (18), Township Twenty-nine (29), Range Thirty-two (32), Jasper Co., Missouri. ALSO that part of the Southeast Quarter (SE¼) of the Southeast Quarter (SE¼) of Section Seven (7), lying south of Spring River, and that part of the Northwest Quarter (NW¼) of Northwest Quarter (NW¼) of Section Seventeen (17), lying south of Spring River, all in Township Twenty-nine (29), Range Thirty-two (32), Jasper County, Missouri. 80

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

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 at any time during the term hereof or within one year after the termination of this lease.

3. IN CONSIDERATION WHEREOF, Lessee agrees to pay unto Lessor at The Central National Bank, at Carthage, State of Missouri, on or before the tenth (10th) day of each month, a royalty of Six (6%) per centum of the gross sale price of all the lead and zinc concentrates produced and sold from said land during the preceding month with the privilege to Lessee to consume such concentrates and pay Lessor said percentage of the market price thereof as royalty thereon. For the protection of the Lessor and to the end that there may be no dispute as to the market price of 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 hereby 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.

"Lead and Zinc Concentrates" is hereby defined to mean the saleable zinc and/or lead minerals as recovered at the mill or concentrating plant where treated, including, in addition to lead or zinc, any and all other metals or elements contained in such concentrates, whether or not such metals or elements, by presently known or by future discovered methods of recovery, are valuable.

For the purpose of royalty payments the sale price shall include any premium money received from any governmental agency, up to but not exceeding the amount of premium money on which royalty may be paid under law or valid regulation issued by any governmental agency having jurisdiction thereof.

4. Lessor agrees to pay Lessor's proportionate part of any 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.

5. 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.

6. All mining operations shall be carried on in a miner-like and workman-like manner and may be conducted by shaft and underground tunnels or excavating in the manner known as strip or open-pit mining, and in the event of any strip or open-pit mining Lessee shall not be liable for damages done to the surface of said lands on account of such mining.

7. It is further understood and agreed that all ores mined from the lands covered hereby may be cleaned and prepared for market on this or other lands within or without the local area within which the lands covered hereby are located, as may be deemed desirable by Lessee, as an independent operation, or in a mill or mills in which other ores are being treated, commonly referred to as a central concentrating plant and that such plant or plants may be located on these lands, with the right to treat ores from other lands therein. If said central concentrating plant shall be equipped with automatic weighing and sampling devices, then such ores shall be weighed, assayed, treated, handled and concentrates determined, sold and accounted for in the manner which is now or may hereafter be established as standard method and practice thereat. If said central plant shall not be equipped with automatic weighing and sampling devices, then the ores mined from the lands covered hereby shall not be commingled with ores from other lands before or during milling, nor shall any concentrates recovered therefrom be commingled with the concentrates recovered from ores from other lands, and said concentrates shall be sold and accounted for separately from any other concentrates.

8. If ores and rock from the lands covered hereby are milled on other lands the tailings, rock and other by-products resulting therefrom shall belong to the owner of such other lands or of the lands upon which same are deposited, and if ores and rock from this or other lands are milled upon the lands, covered hereby all such materials shall belong to Lessor, provided, however, Lessee shall at all times during the life of this lease have the right to remill said tailings and other by-product materials, and during the period of such remilling operation Lessee shall be relieved from the obligation to conduct prospecting or mining operations, and provided further, Lessee shall at all times during said period have the right to remove and sell said tailings and other by-product materials upon the payment of a royalty at the rate above specified on all such sales.

9. Lessee shall have the right to use underground tunnels or drifts for haulage-ways of ores from other lands and to remove ores and minerals mined on the lands covered hereby through a shaft or shafts on adjoining lands and to hoist ores and minerals mined on adjoining lands through a shaft or shafts on this land, provided the ores and minerals mined on the lands covered hereby shall not be commingled with other ores and minerals except as above provided.

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

11. The Lessee shall commence prospecting or mining upon said lands within six months 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, suspensions of operations for said last mentioned cause shall not continue longer than six (6) months without the written consent of Lessor.

12. If prospecting or mining operations should not be commenced on said land within the time hereinbefore provided and Lessee shall pay or tender to Lessor the sum of $20.00, in the manner hereinafter provided, such payment or tender shall operate as a rental for three (3) months from and after the period of time last above stated, and the same shall also cover the right and privilege in the Lessee to defer the commencing of said prospecting or mining operations for and during the said three (3) months period. In like manner and upon like payments or tenders, the commencement of prospecting or mining operations may be further deferred or suspended after having been commenced, for like periods, successively during the term of ten (10) years from the date hereof. All rentals due hereunder may be paid by Lessee's check mailed, postage prepaid, to Lessor at ..... or to the bank hereinbefore mentioned, or its successors, for Lessor's credit, on or before the date any such rentals shall become payable.

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

13. 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.

14. After the expiration of the term hereinbefore fixed, this lease shall continue in force and effect so long thereafter as 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.

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

16. Lessee shall pay for damages caused by operations hereunder to growing crops and/or any improvements on said land.

17. In case of failure of Lessee to keep and perform the terms of this lease, Lessor may give thirty days' written notice of the violation complained of, and if such violation or default is not removed within said period this lease shall thereupon terminate, at the option of the Lessor which remedy shall be exclusive.

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

19. 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 hereto have duly executed this indenture the day and year first above written.

J. G. Shelton

Jack Fleischaker — Lessee

O. L. Farmer

Evelyn Wright Farmer

Lessor

MISSOURI FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of.....19....., before me personally appeared

..... and .....to me known to be the persons described in and who
he his
executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in said county the day and year last above written.

My term expires..... .....
Notary Public.

KANSAS FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

BE IT REMEMBERED, That on this.....day of....., 19....., before me a Notary Public in and for

the County and State aforesaid, came..... and .....
who are personally known to me to be the same persons who executed the foregoing instrument of writing, and who duly acknowledged the execution of the same.

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

My commission expires..... .....
Notary Public.

OKLAHOMA FORM OF ACKNOWLEDGMENT

STATE OF.....
COUNTY OF..... } SS.

Before me, Notary Public, in and for said County and State, on this.....day of....., 19.....,

personally appeared..... and .....his wife, to me known to

be the identical persons who executed the within and foregoing instrument and acknowledged that..... executed the same as.....
free and voluntary act and deed, for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal upon the date last above written.

My commission expires..... .....
Notary Public.

NO.....

MINING LEASE

FROM

TO

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

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

..... County.....

No. Acres.....

STATE OF..... } SS.
COUNTY OF.....

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

THE JOPLIN PRINTING CO., JOPLIN, MO.

JOSEPH C. BARTON
MINING ENGINEER
OIL & MINERAL RESERVES
UNITED STATES & FOREIGN
P. O. BOX 1660
TUCSON, ARIZONA

May 21 1956

Mr. J. G. Shelton
116 1/2 North Main
Webb City, Missouri

Dear Buck:

I have just returned from Old Mexico and find your data on the Weaver land. I do not quite understand the mineralization that the drill holes indicate. I suggest that you take the sketch I sent you. I figured that type of ore mined may extend east and south as I showed by the arrows in two places.

If I had the time, I would try to detail the work you have done but I am leaving tomorrow on a long trip again.

I have three large concessions in Mexico -rutile, sodium sulphate , and gold. The rutile looks extremely good and it will produce an extremely large tonnage. The cost per ton is about $75. delivered and the price is over $210. a ton. I hope to be producing in 1957.

Enclosed are two maps and 32 pages of log sheets.

Best of good wishes,

Cordially

J.C.B. per E.M.

Joseph C. Barton

JCB:em

P. S. Hope to see you in August.

JOSEPH C. BARTON
MINING ENGINEER
OIL & MINERAL RESERVES
UNITED STATES & FOREIGN
P. O. BOX 1600
TUCSON, ARIZONA

May 1, 1956

Mr. Buck Shelton,
Webb City, Missouri.

Dear Buck:

I was indeed pleased to have your letter when I returned from a long foreign trip and to know that you are making money.

I am planning on being in Joplin in August for a few days and hope to see you then.

Enclosed, is a rough sketch of the drilling you asked about. The only shines we got were in nos. 6, 21, 2, 3, and 4, as shown on the sketch.

The Weaver may extend south east and the Orr may also make to the south east.

We drilled it only for large possibilities to establish a pattern for further consideration in that part of the country but found the patterns too small for our consideration.

Do hope you find something up there to your liking.

With the best of good wishes.

Sincerely,

Joseph C. Barton

Joseph C. Barton

JCB:cm

OTTO RUHL
CONSULTING MINING ENGINEER
JOPLIN, MO.

RECEIVED
MINERALS TECHNOLOGY
DIVISION
OCT 24 1956
BUREAU OF MINES
JOPLIN, MO.

July 19, 1956

Messrs. Shelton and Fleischaker
Joplin, Missouri

Gentlemen:

Complying with your instructions I have made an analysis of the geology and drilling evidence upon your leases and submit the results in the following report.

Lease Acreage - Location - Accessability - Transportation

The leases lie in sections 18 and 19 in Twp. 29N, R. 32 West and in sections 24 and 13, Twp. 29N, R. 33 West, Jasper County, Mo. These are shown on an attached map. Also copies of the leases are attached hereto. These leases total slightly more than 900 acres.

Your leases are located approximately half way between the mining camps of Oronogo and Neck City, the distance being from one and a half to two miles from each. To the West about the same distance away lie the Kansas Ex. Mines.

Two north and south hard surfaced highways skirt this acreage on the east and west and an east-west road cuts directly through the acreage which gives access to every part of the leases. The Frisco railway runs through Oronogo, one and a half miles to the south and there is ample switching facilities at that point. Mine and mill supply centers are in Webb City and Joplin, Mo. at a distance of 5 to 7 miles.

History of Mining Activity in the Area

The three groups of mines at Oronogo, Neck City and the Kansas Ex. represent three of the best developed and most productive areas in the Joplin District. Some of the largest and richest orebodies in the entire Tri-State field have been mined at these camps. Your leases therefore are in proximity to exceptionally good productive territory. In addition there has been one producing mine upon your lease, known as the R. G. Weaver land. This Virginia or Weaver mine, was developed by drilling in 1911 by a group of Webb City and Neck City mine operators. The original company records of stockholder meetings show the names of A. M. Gibson, C. B. Guinn, O. J. Gosch, S. Nilson, C. A. Fisher and J. W. Weaver as stockholders. Development of shafts and the building of a mill took place in 1911 and production began the last two months of that year. The mine was active up to the first quarter of 1913 when a flood on Spring River caused a cave-in at the north end of the mine workings which flooded the property and shut down the mine.

The original account books of the corporation have been examined and

the record of sales of concentrates show a total of 1054 tons of zinc concentrates and 416 tons of lead concentrates over the entire period of operations. The mine superintendent's operation book shows a record of ore hoisted from the beginning in November 1911 to July 1912, but the pages of the book are torn out from July 1912 for the remainder of the operating period. The record shows the ore was hoisted in units of 1,000-pound cans or buckets. These cans, used in the district in 1912, were rated at 1,000-pounds but the average of the field shows that seldom did they contain more than 800 pounds and often only 600 pounds. This lower average from the rated capacity was due to the character of the ore being in large lumps and broken pieces with many voids in each can hoisted and also to the fact that mine inspectors insisted that cans never be filled more than four inches from the rim of the can. Adopting a measure of 800 pounds to the can gives a total of 16,758 tons of ore hoisted. The production of concentrates for the same period was 356 tons of zinc concentrates and 218 tons of lead concentrates. On this basis and assuming a mill efficiency of 75 per cent which is probably high for those years of small, ill equipped mills, this operation shows that this ore carried 4.57 per cent of zinc blende and lead sulphide. It is apparent from the record that the percentage of lead sulphide in this ore was very much higher than the average of the field.

This is the only part of the leases which shows any production but the record does give an idea of the character of the ore in that part of the district.

The ore was mined at a floor level of 165 feet. The mine's location, topographically, is in the floor of Spring River valley, with a sea level elevation of 900 feet at the mine shaft collars. This would place the ore level at 735 feet. Careful logging of some recent drill holes in the vicinity of the shafts shows the top of the Grand Falls Chert at 720-foot level. This means that the Virginia mine's orebody was in what is known as the M-bed horizon, 15 feet above the N.O.P. & Q. beds of the Grand Falls Chert in which occur the "Sheet ground" orebodies of the field.

This mine was developed with a minimum of drill prospecting and no records are available from this prospecting for present day study. However, a mine map of the underground workings is available and these workings are shown on the map in this report.

Drill Prospecting Evidence

Over the years a number of individuals and mining companies have become interested in this area. On the Virginia 40, the Hartford Mining Co. of Joplin drilled two holes near the Northwest corner of the lease of which we have one record and the drill hole location. This record shows the best face of ore and the best ore content by assay of any record we have available on this acreage. This drilling inspired the Childress interests to drill two additional holes in the immediate vicinity to the Southeast of the known

Otto Ruhl
Consulting Mining Engineer
Joplin, Mo.

Hartford #1 hole. These two records showed only traces of ore but the logs are valuable in indicating character of the rock formations and geology.

A driller by the name of T. R. Crampton drilled three holes on the Virginia 40, numbered CR-1, CR-2 and CR-3 on our map and two of them, along the West line, are valuable in showing structure. These records are available for study.

Mr. Shelton and his associates have drilled a number of holes on the Virginia 40 and they are located on our map as S-1, S-2, etc. These records are also available for study. Mr. Shelton's more recent records, available from a DMEA project, are shown as D-1, D-2, etc. on our map and show a small extension of the orebody toward the South of the old workings.

On the Oll Rogers land, immediately East of the Virginia 40, the Eagle-Picher Mining Co. drilled four holes which are shown as EP-1, EP-2, etc. on our map. These logs are especially valuable because they have been carefully logged geologically and give good evidence of the depth of the various rock horizons and provide a yard-stick for comparison with other holes in the area.

Chas. T. Orr, a mining man of long experience, purchased a large acreage in the area some time about 1914 to 1916. This land you now have under lease from the Tinseley family who acquired it from the Orr family some years ago. Mr. Orr drilled a number of holes on this land. No written logs are available for study but a number of the old locations and the numbers of several holes, with their depths and ore showings, are found on the old working map of the St. Louis S. & R. Co. which also drilled a number of holes on this tract. The Orr holes are marked Old 7, Old 8, etc. while the St. Louis S. & R. Co. are marked in numerals alone on our map. Practically all the records of the St. Louis company are available for study. In addition to drilling on the Orr tract, the St. Louis company also drilled on the Arey and Perry tracts and these numbers are shown in numerals and the records are attached hereto.

In addition to the above drilling there have been scattered holes sunk over the area and some of the locations are shown on the map but no written records are available, and our only knowledge about them is from some driller or other interested individual who has given Mr. Shelton some information about whether ore was present or not. Such evidence has little value in laying out a drilling program, except it may give a general location of some mineralization in a given area.

Topography and Geology

The leases lie on the South side of Spring River, extending from the valley floor at 900 foot sea level up the drainage slope to the 970 foot sea level elevation.

For a base map we have taken the map of the Missouri Geological Survey showing the topography and surface geology of that portion of the Joplin mining district lying in Missouri. The scale was changed from 4 inches to the mile to 1 inch equals 400 feet. The geology is the work of Joseph Thiel,

Otto Ruhl
Consulting Mining Engineer
Joplin, Mo.

an employed geologist of the Missouri Geological Survey for many years in the Joplin District. The mapping of the area covered by your leases shows that the surface formations generally disclose Mississippian rocks and soils, but trending across the country is an irregular band of Cherokee shale which apparently fills an old erosion drainage valley existing on the surface of the Mississippian beds before the deposition of the Cherokee shale of Pennsylvanian age. This old drainage channel has varying widths and meanders, just like modern stream erosion and the shale content now outlines these on the surface of this area. These old channels also mark the areas where underground drainage and solution action were most effective in creating underground openings by solution of limestones, breaking up of flint beds into fracture zones and providing places for the reception of ore deposits if and when underground water carried mineralizing waters through such places. Solution action is often very marked under shale outliers and slumpage of the shale from its normal level or thickness often pin-points the location of the orebodies, in the form of runs, circles or irregular shapes formed by the deposition of ore in the openings or crevices formed by solution action or ground movement. In view of these facts it appears to us that any drilling done in the search of ore should be done inside or immediately adjacent to the outline of the shale areas on these leases. The drilling done in the past has already disclosed in several instances shale slumpages and favorable solution action in the customary ore horizons and actual mineralization in a few holes. With this basis of understanding and using the drilling evidence already accumulated we will point out the following locations where conditions seem most favorable for discovering a new orebody upon these leases.

No. 1 Selection

The W½ SW¼ NE¼ Sec. 18.

Here the surface geologic mapping outlines the shale trough as occupying 50 per cent of the 40 acre tract. A productive mine was developed on the East twenty acres. Cross section Q-Q indicates in the two Crampton drill holes, CR-2 and CR-3 a slumpage of the shale from 95 feet in CR-3 to 107 feet in CR-2. Solution action is evident to 125 feet in CR-3 and down to 165 feet in CR-2. Cross section R-R consists of three holes North of Section Q-Q. All three holes lie east of the margin of the shale as mapped at this point. The holes, however, show extremely open ground to 95 feet in drill hole 2-C and to 115 feet in drill hole 1-C and down to 195 feet in Hartford #1 hole. The dip is northwestward toward the shale trough. In addition the last hole shows very good ore from 145 feet to 195 feet. The ore assays for 50 feet. Hole 1-C shows zinc shines from 155 to 175 feet. The mineralization in these two holes lies at 765 to 725 feet sea level which is the M-bed horizon, considered the most productive bed in the district. To the West across the property line on the Geo. Ball 40 is an old spring which was undoubtedly fed from the underground water circulating within the old erosion channel now filled with Cherokee shale. This is further evidence of open ground toward the shale margin and possible mineralization. Therefore it would seem wise to me to extend Cross section Q-Q northward toward the Hartford #1 hole and to add the Geo. Ball 40 to your lease acreage and run a series of holes southwestward from the Hartford #1 hole into the shale area. If spaced 100 feet apart, these holes would number nine and should determine whether or not

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Consulting Mining Engineer
Joplin, Mo.

this might prove a good site for more intensive drilling to block out an ore-body. Nine holes to an average depth of 200 feet would be 1800 feet of drilling and would test the ground to the top of the Grand Falls Chert.

Number 2 Selection

The SW¼ SW¼ Sec. 18.

This 40 acre tract would seem to be covered entirely by Cherokee shale. Previous drilling indicates a total of 16 drill holes put down here, part of them structure holes only. These have been grouped in cross sections B-B, C-C and D-D. These sections are drawn on lines running northeast-southwest and are more or less parallel to each other. Section B-B shows a shale depth of 40 feet in Drill Hole 16, dropping to 65 feet in Drill Holes 18 and 22 and on down to 115 feet in Drill Hole 21, the lowest point in the shale. Then it rises to 75 feet in Drill Hole 5 and on up to 21 feet in Drill Hole 3. In Drill Hole 21 the open ground goes down to 207½ feet. The Old Orr Holes 6, 7, 8 and 9 have no written records but the St. Louis S. & R. Co.'s old working map shows that Old 8 has zinc and lead shines at 207 to 240 feet. Old 9 hole has zinc shines at 195 to 207½ feet. Old Hole 7 had ore from 204 to 207 feet. This section therefore indicates a distinct slumpage of the shale at the center of the section, very good ground preparation and some mineralization in the slumped zone at 207 to 240 feet. This level is 765 to 732 sea level and is in the M-Bed, slightly above the Grand Falls Chert.

Section D-D paralleling B-B and at a distance of 750 feet away also shows the same pattern of slumpage which is from 57 feet to 153 feet and then back up to 107 feet. Only one hole has been put down any distance below the shale. This hole shows no ore but does penetrate open, selvage and boulder ground to a depth of 240 feet. Here again there is proper ground preparation for ore deposition in the M-Bed.

Cross section C-C lies between B-B and D-D and is only a short section but it, too, has a distinct slump in the shale. The evidence shows there is a deepening of the shale in these three sections along a line drawn from number 9 hole on D-D to 21 on B-B. This line would indicate the slumpage is at least 750 feet long. The same open ground and characteristic solution action are evident in both sections and some mineralization in the holes along B-B. It would seem wise therefore that a short section of three holes be placed on either side of section B-B at a distance of about 100 feet immediately opposite Old 7 and 8 drill holes. These holes should be approximately 230 feet deep to penetrate to the top of the Grand Falls Chert. This would aggregate 1380 feet of drilling at this point.

Number 3 Selection

The NE¼ SW¼ Sec. 18.

This tract has only three drill logs available for evidence and they are

structure holes for developing the shale slumpage only. They are illustrated in cross section F-F. However, there is oral evidence of three ore holes and a shaft put down to open up the ore so discovered. Mr. Shelton remembers that these early holes did show ore and that the shaft also penetrated some ore but was never worked as a producing shaft.

The hole logs in cross section F-F show the shale dropping from 23 feet in drill hole 3 to 50 feet in drill hole 4 and rising again to 18 feet in drill hole 5.

All these facts seem to warrant sinking a number of drill holes along Section F-F from the shaft northeastward toward drill hole 5 to determine the extent of the shale slumpage and to test the M-bed mineralization at this point.

It also seems significant that drill hole 1 in the southeast corner of the Arey land and illustrated in section E-E shows 45 feet of shale. It would seem wise therefore to drill a series of holes from the shaft toward this hole 1 and if a general slumpage of the shale is disclosed by such work to extend the work northwest from the shaft also to the limit of the slumpage area. A total of seven holes would seem desirable as a minimum and some of these might be used only as structure holes in the preliminary work. An estimate of 1400 feet of drilling is made for this particular area.

Number 4 selection

The NW$\frac{1}{4}$ SE$\frac{1}{4}$ Sec. 18.

This 40 acres is divided into three ownerships. The East 20 acres is owned by Earl Weaver and this tract you have under lease. The West 20 acres is divided equally between a Mr. Baltzell and Margaret Eck and no lease has so far been taken on this land. A very considerable amount of drilling has already been done on the Earl Weaver 20 and it is shown in cross sections H-H along the South line of the tract, and cross-sections I-I, K-K and L-L immediately South of the Virginia 40.

On the Eck ten acres only drill hole S-11 is found and on the Baltzell tract there is a hole in the center of the North five acres of which there is no written record, but which is reported to have shown good ore. This report does not cover the depth, thickness or richness of the ore nor do we have any idea of the characteristics of the formations at this point. Drill Hole cross sections I-I, K-K and L-L in the north portion of the Earl Weaver tract have been put down in a diligent search for an extension of the Virginia orebody southward in conjunction with cross sections M-M, N-N and O-O on the R. G. Weaver land. Part of these holes were put down under a DMEA project and such holes are numbered from D-1 to D-16. This drilling, while showing some mineralization, has not disclosed a continuous orebody. Nor does the evidence to date give a clear picture of whether there may be some connection with any other slumpage area which might prove worthwhile. The depth of shale in section O-O and N-N does show a continuation of the slumpage and disturbed formations but only one hole in each section discloses any workable ore and this ore apparently lies on the East side of the deep shale center. Cross section M-M just South of N-N still shows

the shale slumpage but there is a distinct hardening up of the ore beds and mineralization is almost nil in all the holes of the section. Section L-L which is practically on the line between the two tracts still carries satisfactory evidence of shale slumpage and holes S-10, S-4 and D-7 show mineralization but only D-7 indicates ten feet of workable ore in the M-Bed. Again this ore is shown on the East side of the center line of slumpage. Unfortunately drill hole D-16 was lost in drilling when the driller lost a string of tools in the hole and the hole was never completed.

Section K-K, consisting of only three holes indicates a general change in the shale slumpage pattern. Here the shale has risen on the Eastern end of the section to 37 feet but drops down to 80 feet in drill hole D-15. Only drill hole D-8 shows a trace of mineralization at the ore level.

Section I-I still shows the shale slumpage from 60 feet on the East end of the section to 70 feet on the West end. Mineralization is shown only sparsely at the ore level in D-11 and D-12. Drill hole D-14 was never sunk any deeper than 70 feet which was the bottom of the shale.

The evidence from this series of sections seems to indicate that the shale slumpage is swinging Westward into the Eck land and in the direction of the Baltzell drill hole. In view of this fact it would seem advisable to extend the section I-I westward with new drilling toward the Baltzell hole. However, you have no leases on the Eck and Baltzell tracts at the present time. If this 20 acres is ever leased at a future time at least five holes would seem advisable for drilling west of drill hole D-14 and this would require 1000 feet of work.

Number 5 Selection

The N½ NE¼ SE¼ Sec. 18.

This twenty acre tract shows the shale extends almost entirely across the tract in its longest dimension. But there is no drilling upon it to show underground conditions. Since it is in such close proximity to the Virginia orebody it would be advisable to drill at least two cross sections of three holes each in a north and south direction to determine whether favorable conditions prevail for ore deposition. These holes should be structure holes to determine shale slumpage. Should these holes prove up deep slumpage, other holes might be drilled to see if mineralization has taken place in the M-Bed horizon. These holes will probably not exceed 90 feet in depth for the structure drilling and a total of 500 feet is indicated. An additional 400 feet is set up for deeper work.

Number 6 Selection

Remainder of the acreage.

Any prospecting on the remainder of the lease acreage must be based wholly upon the geological distribution of Cherokee shale as shown upon the

Otto Ruhl
Consulting Mining Engineer
Joplin, Mo.

surface of the area. Such work would necessarily have to be confined to structure or "Shale drilling". The following areas all have shale deposition across them:

NE¼ NW¼ Sec. 19, Twp. 29N R 32 W. Jasper County, Mo.

NE¼ NE¼ " " " " " " " " " "
"

NE¼ SE¼ " " " " " " " " " "

It would require from six to nine holes upon each 40 acre tract to do the preliminary structure drilling and they would probably average from 50 to 80 feet in depth. Until the disclosures of underground conditions from this drilling are made it will be impossible to intelligently estimate the general drilling required for further work. Hence no estimate for this general acreage is made at this time.

Resume of Desirable Drilling and Costs

Areas	Deeper Drilling	Shale Drilling
Selection No. 1 - W½ SW¼ NE¼ Sec. 18	1,800	
Selection No. 2 - SW¼ SW¼ Sec. 18	1,380	
Selection No. 3 - NE¼ SW¼ Sec. 18	1,400	
Selection No. 4 - NW¼ SE¼ Sec. 18	1,000	
Selection No. 5 - N½ NE¼ SE¼ Sec. 18	400	500
Total Footage	5,980	500
Cost of deeper drilling at $2.00 per foot	$11,960.00	
Cost of Shale drilling at $1.25 per foot	625.00	
Total cost drilling	$12,985.00	
General Supervision - Ten months-part time for oversight, sampling, etc.	1,000.00	
Consulting Engineer-part time-Ten months, for logging holes, spotting holes, final report	1,000.00	
Surveying-Maps, etc.	250.00	
Assaying - 100 samples at $2.00 each	200.00	
TOTAL COST	$15,435.00	

Respectfully submitted,

Otto Ruhl

Otto Ruhl
Consulting Mining Engineer

OR:tl

Logg[illegible] by: M. M. Hall

Date: Oct. 9, 1951

Hole No. D-1

Location: SE 1/4 sec. 18, T 29 N, R 32 W
County: Jasper
Property: Shelton Land

Started: Sept. 27, 1951
Completed: Oct. 8, 1951
Struck water:
Water stands: 10'
Driller: Elrod
Helper:

Coordinate located from: SE cor. SW 1/4, sec. 18
Coordinate location: N - 353'; W - 395'
Collar elevation: 891.5'
8 1/4 casing: 18'
6 1/4 casing: 59'
Cased: No.

Feet From	Feet To		Description
0	5		brown clay
5	20		creek gravel
20	50		black shale, mundic
50	55		black shale, grey lime, brown chert
55	60		brown and white chert, grey lime
60	70		grey lime, white and brown chert
70	75		grey lime, white and brown chert, some clay
75	85		white and grey chert, little brown chert, mundic
85	105		grey and brown lime, little blue-grey chert, mundic
105	120		white chert, light grey lime, mundic
120	125		grey chert, some lime, tiff, mundic, small selvage seams, opening
125	130		grey blue chert
130	135		grey chert, lime, selvage, tiff, opening
135	140		white chert, lime, mundic
140	145		white chert, lime, mundic, trace zinc
145	150		white lime, chert
150	155	Grand falls	blue and white chert and lime, shines jack & lead
155	157½		white and grey chert and lime, sand, sh. lead & jack
157½	160		white chert and lime, trace jack and lead
160	162½		white chert, trace jack and lead
162½	165		white chert and lime, trace jack, mundic
165	167½		grey and white chert, fair jack, trace lead, mundic
167½	170		grey chert, lots mundic, shine jack
170	172½		grey lime, grey and white chert, shine jack, mundic
172½	175		brown and white chert, brown lime, thin shine jack, mundic

Assay: Yes

Feet From	Feet To	Zinc	Lead
162½	165	0.88	0.11
165	167½	0.96	0.08
167½	170	0.38	0.02
170	172½	1.00	0.03
172½	175	0.78	0.04
total:	12½ feet	0.80	0.06

Logged by: H. M. Hall

Date: Oct. 24-31, 1951

Hole No. D-2
Location: SW¼ SE¼, Sec. 18, T 29 N, R 32 W
County: Jasper
Property: Buck Shelton Land

Started: Oct. 9, 1951
Completed: Nov. 1, 1951
Struck water: 45'
Water stands: 20'
Driller: Percy Howey
Helper:

Coordinate located from: SE cor. SW ¼ NE¼ Sec. 18
Coordinate location: N-298': W-452'
Collar elevation: 891.5'
8 ¼ casing: 18'
6 ¼ casing: 47'
Cased: No

Feet From	Feet To		Description
0	5		soft brown clay and gravel
5	10		tan clay and gravel
10	15		brown clay and gravel
		top of Cherokee	
15	20		black shale & gravel
20	25		black shale, less gravel, mundic
25	30		black shale, mundic
30	35		black shale, brown chert (approx. 50%-50%), mundic
35	40		black shale, less brown chert, mundic
		top of Warsaw	
40	45		blue & brown chert, some black shale, mundic
45	50		blue & brown chert (approx. 50%-50%), black shale, mundic
50	55		grey chert, mundic
55	60		brown & grey chert (approx. 50%-50%), fossiliferous, mundic, little lime
60	65		grey chert, some lime
65	70		brown silicious lime, fossiliferous, grey chert
70	75		grey chert, some lime
75	80		soft grey lime, speckled grey & blue chert
80	85		very soft grey lime, speckled grey & blue chert
85	90		very soft grey lime, speckled grey & white chert, mundic
90	95		blue & tan chert, brown-grey lime
95	100		grey lime, grey, tan & speckled chert
100	105		speckled tan & brown, & grey & dark grey chert, brown lime, opening
		top of Short Creek	
105	110		tan-grey chert & grey lime
110	115		grey lime, dark blue and light tan chert
115	125		tan-grey lime, grey & white chert
125	130		same with some dark blue chert
130	135		tan-grey lime & white chert
135	145		tan-grey lime, little white chert
145	150		tan-grey lime, little blue chert
150	155		tan lime, brown & grey-white chert
155	160		same with trace black jack
		top of Grand Falls	
160	165		white chert, grey chert, shines lead and black jack
165	167½		white and grey chert, little lime, trace black jack & lead

Feet From	To	Description
167½	170	white, grey, brown chert, selvage, lime, trace black jack and lead
170	172½	brown & white chert, little lime, faint trace lead & black jack
172½	180	brown & white chert with grey lime increasing at depth

Note: Reeds Spring not penetrated.

Assay: Yes

Feet From	To	Zinc	Lead
160	165	3.20	0.78
165	167½	0.84	1.19
167½	170	1.12	0.15

SHELTON MINING CO., INC.

Farmer Lease

Hole D-3 Location:

Started: 11/13/51 Completed: 11/30/51
Casing Record: 28 ft. - 8 in., 90 ft.- 6 in.
Size Hole 90 ft. - 8 in. Hole 173 ft. 6 in.
Water encountered: 25 ft.
Water Stands at 10 ft.
Contractor: Fountain Drilling Co.-- Driller, Percy Howey

0-15	Soil & clay
23	Creek gravel
40	Black shale, mundic
55	Gray, soft, lime and flint, mundic
75	Gray, soft, flint
85	Gray & white soft flint
105	White & Gray lime & flint, mundic
115	White & gray hard lime & flint
120	" " " " "
145	White & gray hard flint
150	White hard flint, mundic
167½	Gray hard flint
173	Gray hard flint & lime

Hole completed- 173 ft.

SHELTON MINING COMPANY

Hole No. D-4

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Location:

Land: O. L. Farmer
Contractor: Fountain Drilling Co. Driller: Percy Howey
Started: 12-3-51 Completed: 12-14-51
Casing Record: No casing used
Size of hole: 100' 8" 91' 6"
Water encountered: 35 ft.
Water stands: 10'

0-10	Soil and clay
20	black shale
30	black shale, little creek gravel
40	gray shale
50	black shale, mundic
65	lime & flint, gray, soft & mundic
80	gray, soft, lime & flint
100	soft, gray flint
150	hard, gray & white flint
155	gray & brown hard flint
165	hard, gray & white flint, green selvage
185	hard, gray flint
191	soft, gray & yellow flint

Hole completed at 191 ft.

SHELTON MINING CO., INC.

Hole No. D-5

Location:

Land: O. L. Farmer
Contractor: Fountain Drilling Co. Driller: Percy Howey
Started: 12-19-51 Completed: Dec. 29-51.
Casing Record: 110' 6" used.
Size of Hole: 110'-8", 66' 6"
Water encountered: 50'
Water stands: 12'

0-5	Soil and clay
20	Yellow clay
35	black shale
45	gray shale
50	black shale and mundic
55	gray lime and flint and mundic
100	soft gray flint
110	gray and white flint
115	yellow, gray and white flint
140	gray and white flint, hard
150	gray and yellow flint, hard
160	gray flint, hard
165	white flint, hard
176	gray flint, hard

SHELTON MINING CO., INC.

Farmer Land

Hole No. D-6

Contractor: Fountain Drilling Co.
Driller: Percy Howey
Date Started: 1/3/52 Completed: 1/11/52
Casing Record: 117 ft 6 in.
Size of hole: 117 ft. 8 in. - 191 ft. 6 in.
Water encountered: 55 ft.
Water stands: 12 ft.

0 - 20	yellow soil and clay
35	gray shale
50	black shale
55	black shale, mundic
60	soft gray & white flint, mundic
75	soft gray & white lime & flint, mundic
85	soft lime & flint, gray - mundic & selvage
90	soft gray flint, & lime
95	soft gray flint, selvage
115	soft gray flint
135	hard gray & white flint, mundic
150	hard white & yellow flint, mundic
160	hard gray & white lime & flint, mundic
170	hard gray & white flint, mundic, traces of lead
175	hard brown & gray lime & flint
185	hard brown & white lime & flint
191	hard brown & gray lime & flint

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SHELTON MINING COMPANY

Exhibit_____

Hole No. 1

Location: 80' East and 30' South of well
Land: B. G. Weaver- Lease--J. G. Shelton

Started: 6/3/42 St. Louis
Completed: 6/5/42

0	10	Brown soil
	17	brown shale
	20	Creek gravel
	30	black shale
	50	gray shale
	65	black shale & mundic
	70	Gray flint & mundic

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Exhibit _____

SHELTON MINING COMPANY

Hole No. 2

Location: 160' South and 20' East of Well
Land--R. G. Weaver--Lease--J. G. Shelton

Struck water at 15'
Stands at 10'

Started: 6/8/42 St. Louis
Completed: 7/6/42

0	15	Soil
	20	gravel
	35	gray shale
	45	blue shale
	55	black shale and flint
	70	brown flint, medium hard
	90	gray flint, medium hard
	100	white flint, medium hard
	115	gray flint, shelly
	120	brown flint, medium hard
	152	gray flint, medium hard
	161	gray flint, medium hard tr. zn.
	166	gray flint, soft--good zn.- 4.47%
	169	gray flint, soft--good zn.- 1.29%
	175	brown flint, hard- tr. zn.
	180	gray flint, shelly - tr. zn.
	190	brown lime, medium hard
	200	gray flint, medium hard
	220	brown flint, hard
	230	gray lime (50%) blue flint, soft
	235	brown lime, medium hard
	252	brown & gray flint, hard

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SHELTON MINING COMPANY

Exhibit _____

Hole No. 3

Location: 135 ft. S and 70 ft. E of Hole No. 2
Land: R. G. Weaver -- Lease--J. G. Shelton

Struck water at 20 ft. St. Louis
Stands at 15 ft.

Started: 7/7/42
Completed: 7/20/42

0	15	Soil and clay
	20	Creek gravel
	50	Blue soapstone & mundic
	70	Gray flint
	80	Hard gray flint
	100	Shelly flint
	135	Hard gray flint
	140	Hard gray lime
	155	Hard gray flint
	175	Gray flint
	180	Gray and brown flint, gray lime (10%) fair shines

Assay	Pb	Zn
155- 157¼	0.02	1.65
160	0.03	1.02
162½	0.18	1.50
165	0.12	1.23
167½	0.14	2.10
170	0.06	1.92
172½	0.03	1.59
175	0.05	1.50

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Exhibit _____

SHELTON MINING COMPANY

Hole No. 4

Location: 136' W of Hole No. 3 and 164' N. of fence south end of lease.
Land: R. G. Weaver--Lease--J. G. Shelton

Struck water 20' St. Louis
Stands at 10'

Started; 7/22/42
Completed: 8/8/42

0	12	Soil
	15	Gravel
	35	Brown shale
	55	Black shale
	80	Blue and white flint
	115	Gray and white flint
	125	Blue and white shelly flint
	160	Gray flint
	162½	Gray lime (60%) and flint
	175	Gray flint tr. lead- zn. shines
	180	brown and gray flint

No assays.

Page: _____

Exhibit: _____

SHELTON MINING COMPANY

Hole No. 5

Land- R. G. Weaver--Lease--J. G. Shelton

Water level 6 ft.

Driller- Shouse

Started: 6/10/43
Completed: 6/21/43

0- 12	Soil, clay
15	gravel, water
22	grey flint, grey lime
28	opening- yellow mud
38	grey brown flint, grey lime
45	grey, blue flint, grey lime
60	grey lime, grey, brown flint
65	grey lime, grey, white flint
70	opening- lost cuttings
78	open ground, mud
90	loose white flint, sand lime, yellow mud
92½	white flint, grey lime
95	grey lime, grey flint, some blue flint
105	grey, white flint
115	grey, white flint, grey lime
130	white, grey flint
145	grey lime, grey, white flint
155	brown, grey lime
160	grey lime, white flint, shale seams
165	white, grey flint, grey lime
167	glassy, white grey flint
168	brown lime, white flint

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Exhibit: _____

SHELTON MINING COMPANY

Hole No. 6

Land- Weaver--Lease, J. G. Shelton

Water stands 6 ft.

Driller--C. O. Ewers

Started: 6/23/43
Completed: 7/1/43

0	9	Soil and clay
	14	gravel
	30	gray shale, mundic
	45	blue shale, mundic, water 45-46
	48	gray lime, gray flint & shale
	52	soft opening--no cuttings
	68	gray lime, white flint, mundic
	87½	shelly, dark gray flint, some white flint
	105	white & some gray flint
	135	gray white flint, gray lime & some brown flint
	152½	white gray flint, gray lime
	155	brown gray white flint, some gray lime
	157½	white gray flint, gray lime, jack shines
	160	white gray flint, gray lime, traces jack
	163	gray flint, brown lime

Assay	Zinc
152½-155	0.26

Assay by Bruce Williams Laboratories.

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Exhibit: _____

SHELTON MINING COMPANY

Hole No. 7

Land--R. G. Weaver--Lease, J. G. Shelton

Water level 10 ft.

Driller--Shouse

Started: 7/2/43
Completed: 7/6/43

0	4	Tailings
	20	soil, clay
	22½	gravel & water
	25	gravel--grey lime boulders
	40	grey shale, mundic
	52½	blue shale, mundic
	60	grey flint, lime boulders, mundic
	80	grey white flint, some grey lime
	100	gray, light blue flint
	115	white grey flint, shelly
	120	dark grey, brown, white flint, gray lime shelly
	135	light blue, grey, some brown flint shelly
	145	glassy, grey, white flint
	150	white, grey flint, mundic, thin trace zinc
152½	155	white, grey, brown flint, mundic, zinc shines
	157½	white, grey, brown flint, good zinc shines, thin trace lead
	160	white, grey, brown flint, good zinc, trace lead, mundic
	162½	white, grey, brown flint, good zinc shines, thin trace lead mundic
165	167½	white, grey flint, grey lime, good zinc shines mundic
	170	white, grey flint, extra good zinc, fair lead shines, mundic
	172½	white, grey, light brown flint, good zinc shines, mundic
	175	grey lime, grey flint, zinc trace, mundic

Assay	Zinc	Lead
155-157½	0.56	-
157½-160	1.36	
160-162½	0.66	
162½-165	1.10	
165-167½	0.48	0.17
167½-170	4.40	0.57
170-172½	1.52	0.13

Assayed by Bruce Williams Laboratories

Page _____

Exhibit _____

SHELTON MINING COMPANY

Hole No. 8

Land--R. G. Weaver--Lease--J. G. Shelton

Water level 12 ft.

Driller--Shouse

Started: 7/7/43
Completed: 7/13/43

0- 15	Soil & clay
20	Gravel shale gray lime mundic
35	gray shale, mundic
50	blue shale mundic
70	gray lime, white flint, mundic, shelly
75	dark gray flint, gray lime
90	dark gray, light gray brown flint
95	gray, light blue, some brown flint
110	shelly, dark, light gray flint, sandy, lime, green selvage
130	dark gray, white, light blue flint
140	gray, white, brown flint
145	white, gray, brown flint, tiff & mundic
150	brown, gray, white flint, sandy lime, few zinc shines
152½	brown, gray, white flint, sandy lime, few lead shines, trace zinc
155	lost cutting--opening 154-155
157½	gray, white flint
160	gray, brown flint, some brown lime
165	brown lime, gray flint
168	gray flint, good zinc
171	dark gray lime

Assay	Zinc	Lead
165-168	6.80	1.10

Assay by Bruce Williams Laboratories

Page _____

Exhibit _____

SHELTON MINING COMPANY

Hole No. 9

Land--R. G. Weaver--Lease, J. G. Shelton

Water level 25 ft.

Driller--Dixon, Jenkins & Bennett

Started: 1/17/44
Completed: 1/26/44

0 - 14	surface & yellow clay
30	grey shale & iron
50	black sticky shale & iron
55	grey & blue flint & dark lime & iron
60	white & grey flint, grey lime & iron
65	white & gray flint & iron
70	white & blue flint & iron
85	gray & white spotted flint
90	blueish grey flint
105	blue & gray spotted flint
115	blue & gray flint & selvage
120	grey & blue flint & rusty flint
125	blue & grey flint
135	blue & grey flint & grey lime
145	grey lime & grey flint
150	grey lime & grey flint
155	grey lime & little grey & white flint
165	grey lime
170	grey lime & grey flint
175	grey flint & little grey lime
180	white & grey flint & brown lime

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SHELTON MINING COMPANY

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Hole No. 10

Land--Weaver

Contractors: Bennett & Jenkins

Driller--Frank Gross

Water level 35 feet

Started: 1/1/44
Completed: 1/14/44

0	15	surface & yellow clay
	30	gray shale
	50	blue shale & iron
	55	dark lime, white flint, tiff, iron
	70	blue and white flint
	90	white & blue spotted gray flint, loose iron
	100	gray & white flint & iron, selvage
	110	gray lime & some white flint
	120	gray lime, boulders & white flint
	140	white & gray spotted flint & gray lime
	150	white flint & gray lime
	160	white & gray flint, selvage, tiff
	165	brown lime
	170	brown lime & white flint, selvage
	175	gray & white flint, trace zinc & lead
	182	yellow & white flint loose

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Exhibit ____

SHELTON MINING COMPANY

Hole No. 1

Land--Weaver
Location: about middle of forty by big rock on top of hill
Driller: T. L. Crampton

Struck water at 60 ft. Geo. Ball
Water stands at 40 ft.

Started: December 18, 1916
Completed: December 28, 1916

0	15	Soil and gravel
	40	black lime boulders
	110	lime and flint rifs
	121	yellow flint
	160	lime and flint
	190	lime
	195	water flint and lime
	200	water flint and brown lime

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Exhibit:_____

SHELTON MINING COMPANY

Hole No. 2

Land--Weaver--Virginia Lease

Struck water at 30', stands at 25'

Started: 6/17/16 Hartford M. Co.
Completed: 7/17/16

0	20	Soil, gravel and red mud
	45	Gray lime, white & blue flint boulders, red mud
	85	Blue & white flint, limestone boulders & red mud
	95	Blue & white flint, boulders, red mud & tiff
	100	Blue & white flint, lime & spar boulders & red mud
	140	White & blue flint & gray spar
	155	White shelly flint & red mud
	160	White & blue flint, spar, lime, zinc & lead shines
	161	" " " " " fair zinc & lead
	164	" " " " " " " "
	167	" " " " " " " "
	170	" " " " " " " "
	173	" " " " " " " "
	176	" " " " " little mundic, zinc & lead
	179	" " " " " " " " "
	182	" " " " " " " " "
	185	" " " " " " " " "
	188	" " " " " " " " "
	191	" " " " " " " " "
	195	" " " " " extra good zinc & lead
	201	White flint and brown lime

Assays		Iron	Lead	Blende
155	161	1.17	0.15	3.00
161	164	1.42	0.05	3.90
164	167	1.20	0.10	5.40
167	170	0/90	0.05	4.72
170	173	1.12	0.15	5.77
173	176	0.72	nil	5.25
176	179	0.50	"	3.82
179	182	0.60	"	4.20
182	185	0.52	"	3.67
185	188	0.62	0.05	4.65
188	191	0.65	nil	5.17
191	195	1.00	0.02	4.35

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Exhibit _____

SHELTON MINING COMPANY

Hole No. 2

Land--Weaver

Location: 350 ft. north of Southwest corner and 80 east

Driller--T. L. Crampton Geo. Ball

Started: December 29, 1916
Completed: January 3, 1917

0	6	Soil
	12	Pink shale
	63	Soapstone black
	70	Hard white shale
	107	Black soapstone
	120	Soft lime flint with soap
	165	Flint lime and selvage
	180	Flint and lime
	185	White flint
	191	Flint soft lime
	200	Hog Chow flint

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Exhibit_____

SHELTON MINING COMPANY

Hole No. 3

Land--Weaver

Location - 30 ft. north of Southwest corner and 20 ft east.

Driller-- T. L. Crampton Geo. Ball

Started: January 5, 1917
Completed: January 11, 1917

0	12	Soil and clay
	21	White soap stone
	50	Soapstone
	55	Soft lime
	95	Black soap
	115	Soft yellow and white flint
	125	Lime flint and selvage
	140	White shelly flint
	155	Nice lime blue flint
	200	yellow flint and gravel

Struck water at 55 ft., water stands at 25 ft.

Page _____

Exhibit _____

SHELTON MINING COMPANY

Hole No. 1

Land: Weaver

Driller: Earl Bennett--Childress

Struck water at 45
Stands at 30

Started: 8/3/37
Completed: 8/11/37

0	25	Sand and clay
	30	Boulders and red mud
	35	" " " "
	40	" " " "
	45	" " " "
	50	Shelly flint, red mud
	55	Shelly flint, lime boulders
	60	" " " "
	65	Mud and boulders
	70	Shelly flint and mud
	75	" " "
	80	" " "
	85	Gray lime shelly flint
	90	Gray lime shelly flint, red mud & tiff
	95	" " " " " " "
	100	Gray lime shelly flint, red mud & tiff
	105	" " " " " " "
	110	" " " " " " "
	115	" " " " " " "
	120	Gray lime, blue and white flint
	125	" " " " "
	130	Gray lime, white shelly flint & tiff
	135	White & blue flint, hard rib
	140	Gray lime, gray and blue shelly flint
	145	Shelly flint, red mud
	150	White and blue flint
	155	White and blue flint
	160	White and blue flint, few zn sh.
	162½	Gray lime, selvage, blue & white flint, zn. sh.
	165	Gray lime, blue and white flint & tiff, zn. sh.
	167½	Yellow, blue and white flint, zn. sh.
	170	Gray lime blue and white flint, zn. sh.
	175	Gray lime white flint, zn. sh.
	180	Gray lime, blue and white flint

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Exhibit ___

SHELTON MINING COMPANY

Hole No. 2

Land: Weaver

Driller: Earl Bennett--Childress

Struck water at 45
Stands at 30

Started 8/12/37
Completed 8/30/37

0	23	Clay and soil
	25	Gray lime, yellow flint, red mud
	30	Gray lime, white flint
	35	Gray lime selvage seams, white flint
	40	Gray lime shelly flint, red mud
	50	Gray lime, shelly flint, red mud
	65	Blue flint, gray lime
	80	Shelly flint, gray lime, red mud
	95	Hard grey lime, blue flint
	100	Shelly flint, red mud
	110	Soft lime
	120	Shelly flint lime
	145	Blue flint gray lime
	160	Shelly flint soft lime selvage seams
	170	Brown lime, tiff
	180	Gray lime, yellow flint
	185	Gray lime, white flint
	195	Black lime, white flint

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: A. J. Perry Lease: St. Louis S. & R. Co. Date: July 29th, 1942

Location of Hole: 45 ft. East and 65 ft. South of NW Corner of East 40 acres

Hole No. 1 Contractor: Mo. Drilling Co.

Driller: C. A. Buhler Helper: George Douglas

Date Started: 7/18/42 Date Finished: 7/18/42 Struck Water at 20 ft.
Stands at 15 ft.

0	9	Surface & clay
9	15	Clay & surface boulders
15	21	Clay & flint boulders
21	26	Lime & flint

26 ft. @ .60	$15.60
8 hrs. excess moving time @ 2.50	20.00
Total	$35.60

O.K. S. C. Sandusky 7/29/42

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: A. J. Perry Lease: St. Louis S & R Co. Date: July 29th, 1942

Location of Hole: 794 ft. South and 28 ft. West of Hole No. 1

Hole No. 2 Contractor: Mo. Drilling Co.

Driller: C. A. Buhler Helper: George Douglas

Started: 7/21/42 Struck water at 31 ft.
Finished: 7/22/42 Stands at 15 ft.

0	6	Surface & clay
6	28	Shale & mundic
28	31	Shale, flint boulders & mundic
31	40	Shale & mundic
40	45	Flint & lime

45 ft. @ $.60	$27.00	
15 hrs excess moving time:	37.50	(@2.50)
Total	$64.50	

O.K. S. C. Sandusky 7/29/42

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: A. J. Perry Lease: St. Louis S & R Co. Date: Aug. 1st, 1942

Location of Hole: 80 ft. East and 94 ft. North of SW Corner of each 40 acres

Hole No. 3 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Date Started: 7/24/42 Struck water at 25, 100'
Date Finished: 7/31/42 Stands at 15'

0	3	Soil
3	10	Clay & boulders
10	50	Shale & mundic, boulders
50	70	Gray lime, gray flint, boulders, mundic
70	85	Gray lime, gray flint, mundic
85	95	Gray flint, gray lime, mundic
95	105	Gray & blue flint, gray lime, mundic
105	110	" " " " " "
110	115	" " " " " " glauconite
115	120	" " " " " " "
120	125	Gray lime, white & blue flint, mundic, glauconite
125	155	White & gray flint, gray lime, " "
155	160	White, gray & blue flint
160	170	White & gray flint, crevices, few cuttings
170	175	Crevices, lost cuttings
175	180	Gray, white, rusty flint
180	199	Yellow & blue flint, crevices, mundic
199	204	Brown lime (80%), white & blue flint

Crevice 170' to 175' was filled with lime boulders and drilled out, so some gray lime in next run did not belong there.

204 ft. @ 1.25 $255.00

O. K. S.C. Sandusky 8/1/42

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Mrs. Nellie Arey Date: April 23, 1942

Location of Hole: Approximately 240 ft. West and 145 ft. North of SE Fence corner

Hole No. 1 Contractor: J. L. Caplinger

Driller: J. L. Caplinger Helper: Cordie Cavener

Date Started: April 23, 1942 Struck water at 30 ft.
Date Finished: April 24, 1942 Stands at 12 ft.

0	5	Soil & black mud,	soft
5	20	Yellow mud	"
20	25	Blue soapstone	"
25	35	Yellow mud	"
35	45	Brown mud and boulders	"
45	51	Blue lime	hard

51 ft. @ $.60 $30.60

O.K. S. C. Sandusky, 4/27/42

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Mrs. Nellie Arey Date: April 24, 1942

Location of Hole: Approximately 140 ft. South and 95 ft East of Hole No. 1

hole No. 2 Contractor: J. L. Caplinger

Driller: J. L. Caplinger helper: Cordie Cavener

Date Started: April 24, 1942 Struck water at 23 ft.
Date Finished: April 24, 1942 Stands at 15 ft.

0	5	Soil & surface flint
5	15	Yellow clay, soft
15	20	Brown rotten flint, soft
20	23	Yellow clay, soft
23	28	Gray & brown lime & mixed flint, hard

The last 5 ft. of this hole seems to be layer formation, hard layers of lime and medium layers of flint. Hole was drilled 5 ft. east of where original location was made. 28 ft. @ .60 $16.80

O.K. S. C. Sandusky 4/27/42

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DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Mrs. Nellie Arey Date: Aug. 19, 1942

Location of Hole: 200 ft. west and 250 ft. north of No. 1

Hole No. 3 Contractor: Leonard Meares

Driller: George Meares Helper: Lee Brooks

Date Started: 8/18/42
Date Finished: 8/19/42

0	18	Soil and clay
18	23	Flint

23 ft @ .60	$13.80
11 hrs excess moving time	27.50
Total	$41.30

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Mrs. Nellie Arey Date Aug. 22, 1942

Location of Hole: 78 ft. East and 185 ft. North of No.3

Hole No. 4 Contractor: Leonard Meares

Driller: George Meares Helper: Lee Brooks

Date Started: 8/20/42
Date Finished: 8/22/42

0	9	Soil and clay
9	50	Shale & mundic
50	55	Flint

55 ft @ $0.60	$33.00
6 hrs extra moving time @2.50	15.00
Total	$48.00

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Mrs. Nellie Arey Date: Aug. 25, 1942

Location of Hole: 50 ft. West and 50 ft. South of NE Corner

Drill Hole No. 5 Contractor: Leonard Meares

Driller: George Meares Helper: Lee Brooks

Date Started: 8/24/42 Struck water at ---
Date Finished: 8/25/42

0	18	Soil and clay
18	23	Flint

23 ft. @ $0.60	$13.80
9 hrs extra moving time at $2.50	22.50
	$36.30

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date June 8, 1942

Location of Hole: 505 ft. West and 395 ft. South of NE Cor. of SE¼ SW¼ Sec. 18-29N. 32W.

Hole No. 1. Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: C. A. Buhler

0	3	Black soil
3	10	Yellow clay, flint boulders
10	15	Gray lime

15 ft. at 60¢---$9.00
Bonus for
under 60 ft 10.00
19.00
Plus moving
time 45.00
64.00

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S & R Co. Date June 8, 1942

Location of Hole S 20 degrees 400 ft. from No. 1

Hole No. 2 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: C. A. Buhler

0	2	Soil
2	14	Yellow clay & flint boulders
14	15	soap mud
15	20	gray lime

20 ft at 60¢--------	$12.00
Bonus for under 60 ft	10.00
	$22.00

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S & R Co. Date June 8, 1942

Location of Hole: N 82 degrees W. 290 ft. from No. 2

Hole No. 3 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: C. A. Buhler

0	2	Yellow clay, surface boulders
2	9	Purple clay
9	16	Yellow clay, flint boulders
16	21	Gray lime

21 ft. at 60¢-----	$12.60
Bonus for under 60 ft	10.00
	$22.60

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S& R Co. Date: June 15, 1942

Location of Hole: N. 82 degrees W-200 ft. from No. 3

Hole No. 4 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: C. A. Buhler

0	3	Soil and boulders
3	10	Soapstone
10	25	Yellow clay & flint boulders
25	30	Gray lime & gray flint

30 ft @ 60¢-------	$18.00
Bonus for under 60 ft	10.00
	$28.00

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S & R Co. Date: June 15, 1942

Location of Hole: N. 82o W 200 ft from No. 4.

Hole No. 5 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: C. A. Buhler

0	2	Soil
2-	15	Yellow clay
15	20	Yellow clay & boulders
20	45	Shale, mundic, flint boulders
45	50	Gray flint, mundic & shale
50	63	Gray & blue flint, boulders, mundic, shale
63	70	Gray & blue flint, mud seams
70	75	Gray & blue flint, gray lime

75 ft @ 60¢ $45.00

DRILL RECORD
ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S & R Co. Date: July 2, 1942

Location of Hole: 500 ft South and 600 ft. East of NWCor SW¼ of SW¼ Sec 1829W 32W

Hole No. 6 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

0	1	Soil & rock
1	3	Red clay & rock
3	20	Yellow clay
20	30	Light shale & mundic
30	45	Dark shale & mundic
45	60	Gray soapstone & mundic
60	70	Dark shale & mundic
70	80	Light shale & mundic
80	107	Dark shale & mundic
107	112	Gray flint, some white flint, mundic

112 ft at 60¢	$67.20
15 hrs moving time	37.50
	$104.70

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: July 2, 1942

Location of Hole: 440 ft. East and 260 ft. South of NW Cor NE¼ NW¼ Sec 19 29W-32W

Hole No. 7 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

0	1	Soil
1	3	River gravel
3	26	Yellow clay & boulders
20	31	Gray lime & boulders rolling in

31 ft at 60¢	$18.60
25 hrs moving time	62.50
	$81.10

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S & R Co. Date: July 2, 1942

Location of Hole: 360 ft N. and 360 ft W. of SE Cor NW¼ Sec. 19 29W-32W

Hole No. 8 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

0	1	Soil
1	7	River gravel & clay
7	22	Clay & boulders
22	45	Dark shale & mundic, boulders
45	65	Light shale & mundic
65	75	Dark shale & mundic
75	80	Gray lime

80 ft at 60¢	$48.00
10 hrs moving time	25.00
	$72.00

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: July 16, 1942

Location of Hole: 690' S. & 210' E. of NW Cor. SW $\frac{1}{4}$ SW$\frac{1}{4}$ Sec. 18, T 29N, R 32W

Hole No. 9 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

Date started: July 1 Struck water at 36'
Date finished: July 8 Water stands at 30'

0	1	Soil
1	9	River gravel & mundic
9	24	Yellow clay & boulders
24	50	Clay & light shale, boulders, mundic
50	100	Dark shale, mundic & boulders
100	130	" " " "
130	135	" " " " and lime boulders
135	140	" " " " " tiff
140	145	" " " " gray selvage
145	153	" " " " " flint
153	158	gray flint and mundic " "

158 ft. at 60¢	$94.80
12 hrs moving time	30.00
	$124.80

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Charles T. Orr Lease: St. Louis S&R Co. Date: Aug. 17, 1942

Location of Hole: 171 ft S. and 233 ft. E. of No. 9

Hole No. 10 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

Date Started: Aug 12 Struck water at 40'
Date Finished: Aug 15 Stands at 15'

0	2	Soil
2	10	Orange clay, gravel
10	20	Yellow clay, rock
20	40	Light shale coal
40	45	Light shale, lime boulders, mundic
45	50	Dark shale, lime boulders, mundic
50	65	Dark shale, coal, lime boulders, mundic
65	80	Dark shale, selvage, mundic, lime boulders
85	95	Dark shale, lime & mundic boulders
95	100	Dark shale, mundic boulders, gray selvage
100	121	Dark shale, mundic & gray selvage
121	126	Gray & brown lime, white flint, mundic (shale falling)

126 ft. @ 60¢	$75.60
16 hrs moving time	37.50
	$113.10

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Charles T. Orr Lease: St. Louis S&R Co. Date: Aug. 21, 1942

Location of Hole: 306 ft. S. and 94 ft East of No. 10

Hole No. 11 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

Date started: Aug 18, 1942 Struck water at 30'
Date finished: Aug 18, 1942 Stands at 16'

0	1	Soil
1	18	Clay, yellow
18	25	Dark gray soapstone
25	30	Yellow clay & rock
30	35	Blue shale
35	40	" "
40	45	" " mundic
45	50	" " "
50	55	" " "
55	60	" " "
60	65	Dark blue shale, mundic
65	70	Light gray shale, lime boulders, mundic
70	75	Gray lime & white flint

75 ft at 60¢	$45.00
5 hrs moving time	12.50
	$57.50

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Charles T. Orr Lease: St. Louis S&R Co. Date: August 21, 1942

Location of Hole: 169 ft West and 295 ft South of No. 9

Hole No. 12 Contractor Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

Date Started: Aug 19, 1942 Struck water at 45'
Date Finished: Aug 20, 1942 Stands at 50'

0	1	Soil
1	7	River gravel & red clay
7	15	Yellow clay
15	25	Pink clay boulders
25	30	Dark brown shale, mundic
30	40	Dark blue shale, mundic
40	55	Light gray shale, "
55	60	Dark gray shale, "
60	70	Light blue shale, gray flint, gray lime, boulders, mundic
70	75	Dark shale, gray flint, gray lime, tiff, mundic
75	80	Dark shale, mundic & boulders
80	85	" " " gray lime, gray flint
85	91	Gray lime, white & gray flint, mundic

91 ft at 60¢	$54.60
3 hrs moving time	7.50
	$62.10

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S & R Co. Date: Sept. 3, 1942

Location of Hole: 170 ft N. and 80 ft E. of No. 12

Hole No. 13 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geor. Douglas

Date Started: 8/19/42 Struck water at 35'
Date Finished: 8/20/42 Stands at 30'

0	1	Soil
1	7	Red clay & river gravel
7	11	Yellow clay
11	14	Pink clay
14	27	Yellow clay
27	30	Black mud and coal
30	45	Gray shale & coal
45	50	Blue mud & coal
50	60	Gray shale, coal, white flint boulders
60	65	Dark gray shale, " " "
65	70	" " " " " "
70	75	" " " gray lime, tiff, mundic
75	85	" " " ", white flint, mundic
85	90	Gray shale, brown flint, mundic
90	100	Gray shale, gray lime, tiff, white flint
100	105	Blue shale, mundic, gray lime, tiff
105	109	Dark shale, gray flint, mundic tiff
109	114	White & gray flint, little gray lime, mundic

114 ft. at 60¢	$68.40
3 hrs moving time	7.50
	$75.90

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: Sept. 3, 1942

Location of Hole: 110 ft. South and 43 Ft. East of No. 12

Hole No. 14 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

Date Started: 8/21/42 Struck water at ----
Date Finished: 8/23/42

0	1	Soil
1	6	River gravel and red clay
6	20	Yellow clay
20	40	Gray soapstone & boulders
40	55	Dark gray shale, mundic, lime boulders
55	60	Gray flint, gray lime, boulders
60	65	Gray, white flint, boulders & gray lime
65	70	Gray, white, brown flint, little gray lime

70 ft. at 60¢	$42.00
2 hrs moving time	5.00
	$47.00

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: Sept. 3, 1942

Location of Hole: 247 ft. South and 80 ft. West of No. 11

Hole No. 15 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

Date Started: 8/29/42 Struck water at 45'
Date Finished: 8/29/42 Stands at 30'

0	2	Soil & creek gravel
2	10	Yellow clay
10	20	Dark brown & gray clay
20	30	Dark shale & mundic
30	45	Dark shale, flint boulders, mundic
45	50	Gray & white flint

50 ft at 60¢	$30.00
7 hrs moving time	17.50
	$47.50

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DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: Sept. 3, 1942

Location of Hole: 663 ft South and 95 ft East of No. 14

Hole No. 16 Contractor: Mo. Drilling Company

Driller: David Taylor Helper: Geo. Douglas

Date Started: 8/31/42 Struck water at 36'
Date Finished: 9/1/42

0	1	Soil
1	9	Red clay & river gravel
9	15	Red clay & rock
15	19	Yellow clay
19	25	Dark shale
25	35	Brownish shale & rock
35	40	Yellow clay & boulders
40	45	Gray & white flint, gray lime

45 ft at 60¢	$27.00
3 hrs extra moving	7.50
	$34.50

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: Sept. 18, 1942

Location of Hole: 400 ft East of No. 16

Hole No. 17 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Date Started: 9/2/42 Struck water at 36'
Date Finished: 9/4/42

0	1	Soil & rocks
1	5	Orange-reddish clay
5	15	Gray clay & boulders
15	36	Yellow clay & flint boulders
36	41	Gray & white rusty flint, gray lime

41 ft at 60¢	$24.60
8 hrs moving time	20.00
	$44.60

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: Sept. 18, 1942

Location of Hole: 211 Ft. N. and 37 ft E. of Hole No. 17

Hole No. 18 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Date Started: 9/7/42 Struck water at 45 ft.
Date Finished: 9/9/42 Stands at 30 ft.

0	2	Soil
2	15	Yellow clay & rock
15	25	Gray, brown clay, boulders
25	30	Dark gray shale
30	35	Dark shale, boulders, mundic
35	40	Dark shale, flint boulders, mundic
40	45	Brown mud, gray lime & white flint, mundic
45	55	White, gray rusty flint boulders, brown mud, gray lime boulders, mundic
55	65	Brown mud, gray, white flint boulders, dark shale, mundic
65	70	White, gray, brown flint, tiff & mundic, gray lime

70 ft at 60¢	$42.00
2 hrs moving time	5.00
	$47.00

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S&R Co. Date: Sept. 18, 1942

Location of Hole: 43 ft. South and 66 ft. West of Hole No. 6

Hole No. 19 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: Geo. Douglas

Date Started: 9/12/42 Struck water at 36 ft.
Date Finished: 9/18/42 Stands at 14 ft.

0	1	Soil
1	15	Yellow clay & creek gravel
15	20	Dark gray mud and boulders
20	30	Gray soapstone
30	40	Dark shale and mundic
40	50	Light shale and mundic, boulders
50	70	Dark shale, mundic, lime boulders
70	95	Light shale, mundic boulders
95	100	Dark shale, mundic boulders
100	110	Dark shale, flint boulders, mundic
110	115	Gray & white flint, brown lime, mundic & tiff
115	125	white, gray & brown flint, gray lime, mundic
125	130	" " " " " " "
130	135	White, gray flint, mundic, gray lime
135	140	White, gray flint, gray lime, mundic
140	155	Gray, white, blue & brown flint, mundic
155	165	Gray, white, brown flint, mundic, selvage seams, shale, loose
165	170	Gray, blue, white, brown flint, selvage, lots of mundic, loose ground
170	175	White, gray, blue, brown flint, selvage, lots of mundic, loose ground
175	190	White, gray, blue flint, selvage, mundic
190	195	White, gray flint, gray selvage, mundic
195	200	Gray, white flint, gray selvage, mundic
200	205	White, gray, brown flint boulders, gray selvage
205	210	White, gray, brown flint, selvage & mundic
210	215	Gray, white, brown, blue flint, mundic & selvage
215	220	White, blue flint, gray selvage
220	240	White, gray flint, gray lime, lots of mundic, shale rolling in.

240 ft. at 1.25 $300.00

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Chas. T. Orr Lease: St. Louis S & R Co. Date Oct. 19, 1942

Location of Hole: 300 ft. South and 220 ft. West of Hole No. 5 (8.4 ft. E of old No. 7)

Hole No. 21 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: G. Douglas

Date Started: 10/7/42 Struck Water at 30' & 35'
Date Finished: 10/16/42

0	2	Soil
2	15	Yellow clay & boulders, river gravel
15	30	Brownish shale & boulders
30	40	Gray shale, mundic & boulders
40	45	Blue shale, mundic & boulders
45	90	Gray " " "
90	95	Dark blue shale, boulders, lots of mundic
95	100	Gray & white flint, mundic, hard
100	105	White & gray flint, " "
105	110	Dark shale, gray & white flint, lots of mundic, loose
110	115	Gray & white flint, selvage, mundic loose
115	120	White & gray flint, gray lime (40) selvage & mundic, loose ground
120	125	Gray & white flint, gray lime (5%) selvage & mundic, loose ground
125	130	Gray & white flint, selvage & mundic, loose
130	135	
135	140	Gray, white & blue flint, selvage & mundic, loose
140	150	Gray & white flint, little mundic hard
150	160	Gray, white, brown & blue flint, gray selvage, mundic, loose
160	165	Gray selvage, gray & white flint, mundic
165	170	Gray, brown, white & blue flint, brown lime, gray selvage, loose
170	175	Gray, white, blue flint, mundic med. hard
175	180	White, gray & little blue flint, gray selvage
180	185	Gray & white flint, mundic
185	190	White & gray flint, gray lime, mundic
190	195	Gray & white flint, gray lime shale, selvage, mundic, shale falling from above hard
195	200	White, gray, brown, blue flint, shale gray selvage & mundic shale falling hard
200	202½	Same formation as 195-200, hard
202½	205	Gray, white, brown flint, gray selvage, shale, mundic, shale falling
205	207½	Mundic, selvage (shale falling), gray, brown, white flint, gray lime, shale
207½	210	Gray, white, brown flint, selvage, shale & mundic (shale falling)
210	215	White, gray brown flint, gray lime, selvage, mundic (shale falling)
215	220	White, brown, gray flint, gray lime, shale, selvage & mundic (shale falling)

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Charles T. Orr Lease: St. Louis S & R Co. Date: Oct. 31, 1942

Location of Hole: 50 ft. South of No. 18

Hole No. 22 Contractor: Mo. Drilling Co.

Driller: Davis Taylor Helper: George Douglas

Date Started: 10/23/42 Struck Water at 40' and 45'
Date Finished: 10/27/42

0	1	Soil and rock
1	5	Red clay & rock
5	10	Yellow clay & rock
10	20	Yellow grayish clay & rock
20	25	Light gray shale & mundic
25	44	Dark blue shale & mundic
44	50	Yellow brownish mud, rocks & mundic
50	60	Brownish mud & rocks
60	64	Yellow mud, rocks, gray & white flint, mundic
64	69	Gray & white flint, little mundic

69 ft. at 60¢	$41.40
15 hrs moving time	45.00
	$86.40

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Charles T. Orr Lease: St. Louis S & R Co. Oct. 31, 1942

Location of Hole: 302 ft. South and 81 Ft. West of No. 17

Hole No. 23 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Date started: 10/27/42 Struck water at (none)
Date finished: 10/29/42

0	1½	Soil & gravel
1½	5	River gravel & clay
5	10	Yellow clay & gravel
10	25	Light gray clay & boulders
25	30	Flint boulders & yellow clay
30	35	Gray & white flint, gray lime

35 ft. at 60¢	$21.00
12 hrs moving time	36.00
	$57.00

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Stella Boyd Lease: J. G. Shelton Date: Aug. 14, 1942

Location of Hole: 514 ft. S. and 235 ft. W of NE Cor. of SE$\frac{1}{4}$ SE$\frac{1}{4}$ Sec. 13- 29N-33W

Hole No. 1 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Date Started: Aug. 4, 1942 Struck water at 40 ft.
Stand Finished: Aug. 7, 1942 Stands at 15 ft.

0	3	Soil & river clay
3	10	Red clay & boulders
10	25	Yellow clay & boulders
25	30	Red clay & boulders
30	35	Light shale & boulders, mundic
35	40	Dark shale, gray selvage, coal & mundic
40	50	Light shale & mundic
50	55	Dark shale, boulders, coal & mundic
55	60	Dark shale, mundic
60	65	Gray shale, mundic
65	70	Light shale, gray lime, mundic
75	80	Light shale, brown lime, mundic & tiff
80	95	Gray shale, mundic
95	100	Gray shale, gray lime boulders
100	120	Gray shale, mundic, gray lime boulders
120	125	Dark gray shale, gray lime boulders & mundic
125	135	Light gray shale, lime boulders & mundic
135	140	Gray lime, dark shale & mundic

140 ft at 60¢	$84.00
15 hrs moving time	37.50
	$121.50

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: Stella Boyd Lease: J. G. Shelton Date: Sept. 3, 1942

Location of Hole: 632 ft. South and 167 ft. East of No. 1

Hole No. 2 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Date Started: 8/25/42
Date Finished: 8/27/42

0	1	Soil
1	10	River gravel & red clay
10	15	Red clay & boulders
15	20	Yellow clay
20	25	Yellow clay & soapstone
25	30	Gray shale & rock, mundic
30	50	Dark shale & mundic
50	57	Gray & white flint boulders, lime, dark shale & mundic
57	62	Gray & white flint, gray lime, mundic

62 ft. at 60¢	$37.20
5 hrs excess moving time	12.50
	$49.70

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: E. E. Weaver Lease: J. G. Shelton Date: July 16, 1942

Location of Hole: 200' West and 50' North of SE Corner

Hole No. 1 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Date Started: July 10 Struck water at 45'
Date Finished: July 10

0	3	Soil
3	16	Grayish yellow clay, boulders & mundic
16	35	Light shale & mundic
35	53	Dark shale & mundic & lime
53	58	Gray lime & mundic

58 ft at 60¢	$34.80
8 hrs excess moving time	20.00
	$54.80

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: E. E. Weaver Lease: J. G. Shelton Date: July 16, 1942

Location of Hole: 245 ft. West of No. 1

Hole No. 2 Contractor: Mo. Drilling Co.

Driller: David Taylor Helper: George Douglas

Started: July 11 Struck water at 38-39'

0	2	Soil & rocks
2	16	Yellow clay & boulders
16	20	Light shale & mundic
20	35	Dark shale & mundic
35	38	Dark shale, mundic, lime boulders
38	43	Gray lime & mundic

43 ft. at 60¢	$25.80
6 hrs excess moving time	12.50
	$38.30

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: R. G. Weaver Lease: J. G. Shelton Date: June 11, 1942

Location of Hole: 80 ft East and 30 ft. South of well

Hole No. 1 Contractor: Leonard Meares

Driller: Albert Brown Helper: L. Meares

Date Started: 6/3/42
Date Finished: 6/5/42

0	10	Brown soil
10	17	Brown shale
17	20	Creek gravel
20	30	Black shale
30	50	Gray shale
50	65	Black shale & mundic
65	70	Gray flint & mundic

70 ft. at 60¢ $42.00

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: R. G. Weaver Lease: J. G. Shelton Date: July 6, 1942

Location of Hole: 160 ft. South and 20 ft. East of well

Hole No. 2 Contractor: Leonard Meares

Driller: George Meares helper: A. J. Brown

Date Started: 7/8/42 Struck water at 15'
Date Finished: 7/16/42 Stands at 10 '

0	15	Soil
15	20	Gravel
20	35	Gray shale
35	45	Blue shale
45	55	Black shale & flint
55	70	Brown flint, medium hard
70	90	Gray flint, medium hard
90	100	White flint, " "
100	115	Gray flint, shelly
115	120	Brown flint, medium hard
120	152	Gray flint, medium hard
152	161	Gray flint, medium hard, traces zinc
161	166	Gray flint, soft, good zinc, (4.47%)
166	169	Gray flint, soft, good zinc (1.29%)
169	175	Brown flint, hard, traces zinc
175	180	Gray flint, shelly, traces zinc
180	190	Brown lime, medium hard
190	200	Gray flint, medium hard
200	220	Brown flint, hard
220	230	Gray lime (50%), blue flint, soft
230	235	Brown lime, medium hard
235	252	Brown & gray flint, hard

252 ft. at $1.25	$315.00
Building road ½ day with truck	7.50
Moving-10 hrs	25.00
	$347.50

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: R. G. Weaver Lease: J. G. Shelton Date: July 20, 1942

Location of Hole: 135 ft. South and 70 ft. East of Hole No. 2

Hole No. 3 Contractor: Leonard Meares

Driller: George Meares Helper: Albert Brown

Date Started: 7/7/42 Struck water at 20'
Date Finished: 7/20/42 Stands at 15'

Used 96 ft. 6¼ in. casing

0	15	Soil & clay
15	20	Creek gravel
20	50	Blue soapstone, mundic
50	70	Gray flint
70	80	Hard gray flint
80	100	Shelly flint
100	135	Hard gray flint
135	140	Hard gray lime
140	155	Hard gray flint
155	175	Gray flint, fair zinc
175	180	Gray & brown flint, gray lime (10%), shines zinc

180 ft. at $1.25 $225.00

DRILL RECORD

ST. LOUIS SMELTING & REFINING COMPANY

Land: R. G. Weaver Lease: J. G. Shelton Date 8/10/42

Location of Hole: 136 ft. West of #3 & 16 ft. North of fence at S end of lease

Hole No. 4 Contractor: Leonard Meares

Driller: George Meares Helper: L. Meares

Date Started: 7/22/42 Struck water at 20'
Date Finished: 8/8/42 Stands at 10'

60 ft $6\frac{1}{4}$ in casing used

0	12	Soil
12	15	Gravel
15	35	Brown shale
35	55	Black shale
55	80	Blue & white flint
80	115	Gray & white flint
115	125	Blue & white shelly flint
125	160	Gray flint
160	$162\frac{1}{2}$	Gray lime (60%) and flint
$162\frac{1}{2}$	175	Gray flint, trace lead, shines zinc
175	180	Brown & gray flint

180 ft. at $1.25 $225.00

South Neck City District
Property: Rogers Drill owner: John M. Scott
Begun 10/15/36 Finished 10/27/36 Water 20'
Runner: John Hodson NE¼ Sec. 18-29-32
Location: 461' East 261' South of Virginia Mill Shaft

Depth From	To	Formation
0	12	Soil & chat
12	15	Lime and flint boulders and mud
15	20	Gray lime, gray flint
20	35	Gray lime, gray and blue flint
35	40	Gray and green lime, gray flint
40	75	Gray lime, gray flint
75	80	Brown lime oolite
80	110	Gray lime, gray flint
110	115	Gray lime, gray and green flint
115	120	Gray and blue lime, gray flint
120	125	Brown lime, gray flint
125	130	Gray flint, little gray lime
130	135	Gray lime, gray flint
135	147½	Brown lime, little gray flint, tiff
147½	150	Brown and gray lime, gray flint
150	153	Brown and gray lime
153	160	Brown and gray lime, gray flint
160	170	Gray, white and little brown flint
170	180	Brown lime, white flint
180	185	White flint, brown lime
185	200	Gray, light blue and brown flint
200	203	Gray, light blue water flint, brown lime
203	208	Gray and blue flint, little brown lime
208	212	Dark blue and gray flint, little brown lime
212	221	Dark blue flint, gray lime

Property: Rogers South Neck City Dist. Driller: John Hodson
Begun 10/28/36 Finished, 11/16/36 Water 12'
Location 300' West of No. 1, 316' E. -208' S. of Virginia Mill shaft

Depth From	To	Formation
0	15	Soil, clay and gravel
15	18	Clay and boulders
17	23	Gray lime, gray flint
23	35	Gray lime, blue and gray flint
35	40	Gray and green lime, gray and blue flint
40	45	Gray lime, gray flint
45	50	Gray lime & little gray flint
50	70	Gray lime, gray flint
70	75	Gray flint, gray lime
75	85	Brown lime, little gray flint oolite
85	95	Gray lime, gray flint
95	120	Gray lime, little gray flint
120	135	Gray lime, gray flint
135	145	Brown and gray lime, gray flint
145	155	Gray and brown lime, gray and brown flint
155	162½	Gray and brown flint, gray lime, tr. of mundic
162½	167	Gray and light blue-gray lime, mundic
167	170	Gray flint, gray and brown lime, mundic
170	172½	Rotten white flint brown and gray flint, mundic
172½	177½	Rotten white flint, mundic, tiff, few zinc traces
177½	180	Rotten white flint, gray lime, mundic
180	182½	Rotten white flint, gray and green lime, mundic
182½	185	White and gray flint, gray and green lime, mundic
185	187½	Dead gray flint, little gray lime, mundic
187½	190	Dead gray flint, mundic
190	192½	Gray and a little brown flint, brown lime, mundic
192½	195	Gray flint, dark gray lime
195	200	White and gray flint, gray lime
200	205	Gray and dark blue flint, gray lime
205	214	Dark gray lime, gray flint
214	218	Gray lime, dark blue flint

Property: Rogers South Neck City Dist. Driller: John Hodson
Begun 11/17/36 Finished 11/20/36
Location: 390' East, 227' South of Virginia M.S.

Depth From-To		Formation
0	5	Gravel
5	7½	Yellow clay
7½	24	Gray lime and light blue flint

Hole abandoned account of "High Line".

South Neck City District
Property: Rogers Drill Owner: John Hodson
Begun 11/20/36 Finished 12/8/36 Water 12'
Location: 200' North of No. 2

Depth From	To	Formation
0	12	Surface and mud
12	16	Gray lime and flint boulders, creek gravel
16	30	Black shale, mundic
30	38	Gray lime, gray flint, shale seams, mundic
38	65	Gray and light blue flint, shale seams, mundic
65	70	Gray, light blue and yellow stained flint
70	75	Blue and gray flint, gray lime
75	80	Blue and gray flint, gray lime, shale seams
80	85	Gray and blue flint, gray lime
85	90	Gray flint
90	95	Gray lime, gray flint
95	120	Blue and gray flint, gray lime
120	135	Gray lime, gray flint
135	148	Gray flint, little gray lime
148	158	Gray flint, little gray lime
158	163	Gray and blue flint, little gray lime, mundic, few zinc
163	177	Gray blue flint, mundic
177	184	Blue gray flint, mundic
184	190	Blue gray flint, gray lime, mundic

SHELTON MINING CO. INC.

Earl Weaver Lease

Hole: D-16

Started: 10/8/52 Completed: 10/13/52
Contractor: Fountain Drilling Co. Driller: Arnold Johnson
Casing: 50 ft 8 in, 95 ft. 6¼ in.
Water: Encountered at 38 ft., stands at 20 ft.

0	10	Surface soil & yellow clay
	20	Light shale, mundic
	38	Dark shale, mundic
	60	Soft gray lime and flint, mundic
	100	Soft gray flint, mundic
	105	Brown lime, gray flint, boulders, mud, mundic

(Lost drill tools in this hole.)

SHELTON MINING CO., INC.

Earl Weaver Lease

Hole D-15

Started: 9-30-52, Completed 10-7-52
Contractor: Fountain Drilling Co. Driller: Arnold Johnson
Casing: 131'6¼"
Size of Hole: 10" to 85', 8" to 131'
Water Encountered at 50', stands at 20'

0	5	Surface soil and clay
	15	Clay and gravel
	40	Light shale, mundic
	50	Blue shale, mundic
	80	Gray lime and flint, caving, mundic
	120	Gray and white flint, caving, mundic
	140	Brown lime, gray and white flint, mundic, hard
	145	Brown lime, blue and white flint, mundic
	167½	Brown lime, gray, brown, blue and white flint, mundic
	172½	Gray and white flint, gray lime, mundic
	177½	Gray and white flint, gray and brown lime, mundic
	185	Brown lime, gray white and brown flint, mundic
	195	Gray and white flint, brown lime, mundic

SHELTON MINING CO., INC.

Earl Weaver Lease

Hole D-14

Started: 9/23/1952 Completed: 9/24/1952
Contractor: Fountain Drilling Co. Driller: Arnold Johnson
No. casing used.
Size of hole: 8"
Water encountered at 70'
Water stands 20'

0	5	Surface soil and clay
5	10	Creek gravel and clay
10	20	Light shale, mundic
20	25	Dark shale, mundic
25	55	Light shale, "
55	70	Blue shale, gravel and mundic
70	75	Gray, white and blue flint, gray lime and caving.

SHELTON MINING CO. INC.

Earl Weaver Lease

Hole No. D-13

Started 8/26/1952 Completed 9/16/1952
Contractor: Fountain Drilling Co. Driller, Arnold Johnson
Casing Record: 86'-8" casing, 139½'-6½" casing, 159'- 4 7/8 casing.
Size of Hole: Same as above.
Water encountered at 70'.
Water stands at 20'.

0	5	Surface soil and clay
5	10	Creek gravel and clay
10	20	Light shale and mundic
20	25	Dark shale and mundic
25	55	Light shale and mundic
55	70	Blue shale, gravel and mundic
70	105	Gray and white flint, mundic, caving ground
105	140	Gray, white and blue flint, some lime, mundic, caving ground
140	160	Gray, white and blue flint, mundic, soft and caving
160	170	Gray, white and blue flint, hard.
170	175	Gray lime, gray and white flint, hard.
175	180	Gray and white flint, soft and caving. Mundic.

SHELTON MINING COMPANY, INC.

Earl Weaver Lease

Hole D-12

Started: 4/17/52 Completed: 5/5/52
Contractor: Fountain Drilling Co. Driller: Percy Howey
Casing: 75'- 8", 125'- 6", 185'- 4 7/8"
Water: Encountered at 65', stands at 12'

0	10	Soil and clay
10	25	Black shale
25	35	Lime, gray and black shale
35	55	Gray shale
55	65	Black shale, mundic
70	90	Gray and white flint, soft, mundic
90	100	Lime, gray flint, soft, mundic
100	145	Gray and white flint, soft, mundic
145	155	Lime, gray and blue flint, soft, mundic
155	165	Gray and white flint, soft, mundic
165	175	Gray flint, mundic, zinc shines
175	177½	Gray and white flint, soft, mundic
177½	180	Lime, brown and gray flint, hard
180	185	Gray flint, hard

SHELTON MINING CO., INC.

Hole No. D-11

Earl Weaver Land

Contractor: Fountain Drilling Co. Driller: Percy Howey

Started: 4/1/52 Completed: 4/11/52
Casing record: 56 ft. 8 in, 93 ft. 6 in
Sizes of Hole: 93 ft 8 in, 206 ft. 6 in.
Water encountered: 60 ft.
Water stands: 10 ft.

0	10	Soil & clay
	15	Black shale
	25	Shale & creek gravel, mundic
	45	Gray shale, mundic
	60	Blue shale, mundic
	70	Gray soft lime & flint, mundic
	85	Gray & white soft flint, mundic
	95	Gray and white & blue flint, mundic
	115	Gray & white flint
125	Gray & white lime & flint	
	150	Hard gray & white flint
	160	Brown & gray flint
	175	Gray flint, traces of zinc
	180	Gray & blue flint
	185	Gray & white flint, mundic
	195	White & brown flint, mundic
	200	Gray & white flint
	206	White & dark gray flint

SHELTON MINING CO., INC.

Earl Weaver Lease

Hole D-10

Started: 3/13/52 Completed: 3/28/52
Contractor: Fountain Drilling Co. Driller: Percy Howey
Casing record: 50 ft 8 in, 90 ft. 6 in
Sizes of hole: 87 ft 8 in, 216 ft. 6 in.
Water encountered: 44 ft.
Water stands at 12 ft.

0	10	Soil & clay
	30	Black shale, mundic
	44	Blue shale, mundic
	50	Gray flint, mundic
	65	Soft gray & blue lime & flint, mundic
	75	Soft gray & blue flint, mundic
	80	Gray blue & white flint, mundic
	85	Gray flint, mundic
	90	Soft brown & gray flint, brown selvage
	95	Gray & white lime & flint
	100	Gray & yellow lime & flint
	105	Gray & white lime & flint
	125	Gray lime & flint
	130	Brown, gray & white lime & flint
	135	Hard gray & white flint
	145	Hard gray lime & flint
	175	Hard gray lime & flint, selvage
	180	Gray & white lime & flint, selvage
	190	Gray & white & brown flint
	195	Gray & white lime & flint
	210	Brown, gray & white flint
	216	Gray flint

SHELTON MINING CO., INC.

EARL WEAVER LEASE

Hole: D-9

Started: 2/15/52 Completed 3/12/52
Contractor: Fountain Drilling Co. Driller: Percy Howey
Casing Record: 60 ft 8 in, 85 ft. 6 in
Sizes of Hole: 85 ft. 8 in, 160 ft. 6 in.
Water encountered: 37 ft.
Water stands at 15 ft.

0	15	Yellow soil & clay
	37	Black shale
	60	Soft gray lime & flint, mundic
	85	Soft gray & white flint, mundic
	95	Hard gray lime & flint, mundic
	100	Hard gray & white flint, mundic
	135	Hard gray lime & flint, mundic
	145	Soft gray & yellow lime & flint, selvage & mundic
	160	Soft gray, blue & yellow flint

SHELTON MINING CO., INC.

Earl Weaver Lease

Hole No. D-8

Started: 2/6/52 Completed: 2/13/52
Contractor: Fountain Drilling Co. Driller: Percy Howey
Casing record: 120' 6 in.
Sizes of Hole: 120 ' 8 in, 180 ' 6 in
Water encountered: 45 ft.
Water stands: 12 ft.

0	15	Yellow soil & clay
	25	Gray shale
	45	Black shale
	55	Gray soft flint, mundic
	70	Gray soft lime & flint, mundic
	85	Gray soft flint
	90	Gray soft flint, selvage
	95	Gray soft flint, mundic & selvage
	110	Gray soft lime & flint
	140	Gray & white flint, mundic
	150	White flint, mundic
	167½	White & gray flint, mundic
	170	White & gray flint, traces lead & zinc
	175	White & gray flint, lead shines & fair zinc
	177½	White & gray flint, traces of lead & zinc
180		Gray & brown lime & flint

	Zinc	Lead
167½-170	0.96	0.13
170-172½	1.96	0.12
172½-175	0.96	0.03
175-177½	0.62	0.04

Assay by Bruce Williams Laboratories

SHELTON MINING CO., INC.

Earl Weaver Land

Hole No. D-7

Contractor: Fountain Drilling Co. Driller: Percy Howey
Started: 1/15/52 Completed: 1/31/52
Casing: 115 ft. 6 in.
Sizes of hole: 115 ft 8 in, 275 ft. 6 in
Water: Encountered at 45 ft., stands at 12 ft.

0	5	Yellow soil & clay
	15	Sand rock, creek gravel, flint boulders
	25	Gray shale
	40	Black shale
	44	Black shale, boulders, mundic
	65	Gray lime and flint, mundic
	80	Soft gray flint
	90	Soft gray lime & flint
	110	Soft gray and white flint, mundic, selvage
	120	Soft gray and white flint, mundic
	135	Hard gray flint
	145	Hard white flint
	160	Hard gray and white flint
	165	Hard gray flint, traces of lead and zinc
	167½	Soft gray and white flint, lead and zinc shines
	170	Soft white flint, fair zinc, traces of lead
	175	Soft white flint, traces of lead and zinc
	185	Hard gray and brown flint, mundic
	210	Hard gray and brown flint
	220	Gray and brown flint
	225	Dark gray flint
	240	Brown and blue lime and flint
	245	Brown and gray lime and flint
	255	Gray lime and flint
	260	Gray flint
	265	Gray flint, traces of zinc
	275	Gray flint

Assay by Bruce Williams Laboratories

	Zn.	Pb.
160.0-165.0	.64	.04
165.0-167.5	3.88	.67
167.5-170.0	3.56	.23
170.0-172.5	1.22	.06
12.5'	2.33	.25

Shine Holes

ORR - No 6 - 107-112 .33 ZNS
" No 21 - 195-200 .63 " .05 pbs
200-202½ 1.05 .12
202½-205 .99 .05
205-207½ 1.20 .04
207½-222 TR TR.

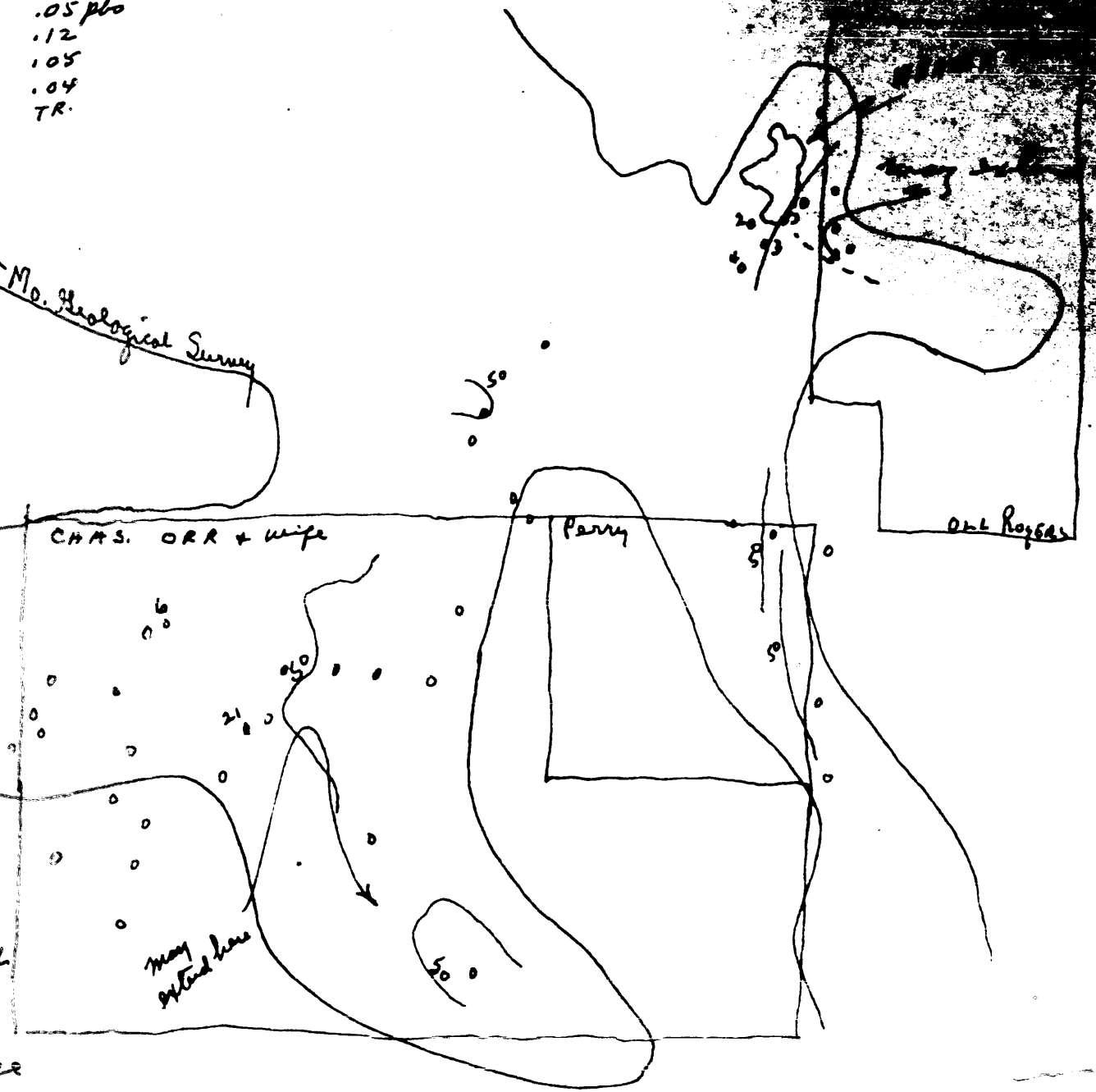
Shale Cortlan - Mo. Geological Survey

WEAVER

		ZNS
No 2	152-161	TR
	161-166	4.47
	166-169	1.29
	169-180	—

		ZNS	pbs
No 3	155-157½	1.65	.02
	157½-160	1.02	.03
	160-162½	1.56	.18
	162½-165	1.23	.12
	165-167½	2.10	.14
	167½-170	1.92	.06
	170-172½	1.59	.03
	172½-175	1.50	.05
	175-177½	.72	.03
	177½-180	TR	Sh

No 4
162½-175 Sh TR



Beeks: If you will send me the drill Holes & location which you have drilled it may be possible that I could make worthwhile suggestions.

DMRA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/16	[illegible]	130
16	[illegible]	100
8/19	[illegible]	220
		225

500

AUG 19 1957

4520

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

Re: Docket No. DMRA-1008 (Zinc-Lead)
Shelton Mining Company, Inc.
Shelton Mining Company Leases
Jasper County, Missouri
Contract No. Idm-E122

Dear Mr. Knox:

We have your Semi-Annual Report on Certified Project for the Shelton Mining Company, dated July 31, 1957, with your comments concerning the Shelton and Fleischaker application, Docket No. DMRA-4520.

We are somewhat at a loss as to the cause of your concern. Field Team reports are, at all times, considered as being of a confidential nature. In your May 31 memorandum, you recommended that the application be denied without prejudice. However, denials, with or without prejudice, must be based upon evidence or lack of evidence pertaining to the merits of the property concerned.

We make a straight denial because the evidence suggests that a proposed project is not warranted; we make a "denial without prejudice" because we lack sufficient evidence to form an opinion. In this instance we could not make a denial without prejudice since, in Item 6 of your May 31 recommendations, you state your conviction that six drill holes are warranted.

We were therefore left with no alternative other than to consider the application as being withdrawn. We obviously cannot make a withdrawal arbitrarily, without good and sufficient reasons, and the only reasons we know of were those cited in your May 31 memorandum.

8623

Since they were statements which you attributed to the Applicant himself, made in the Field Team office, he has little ground for complaint if we accepted his own statements at face value.

We further note the statement "if DMEA had shown any promptness in complying with the application proposal". The application was received by us on October 26, 1956, it was referred to the Field Team on November 15, 1956. On May 22, 1957, we wrote inquiring as to its status. Your memorandum, dated May 31, 1957, was received by us June 17 and, after clearance with the commodity members, our withdrawal letter was sent out July 11. All in all we must conclude that this Applicant has little ground for grievance. We have tried to handle the matter at this end in an expeditious manner and it is evident from your May 31 narrative that both Dewey Amos and yourself went to considerable pains to assist the Applicants in every possible manner, at all times. However, since you state Mr. Shelton is an elderly gentleman, we must be tolerant.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCB)

APPROVED:

/s/ O. M. Bishop (GCB)
Member, Bureau of Mines

W. P. Williams (GCB)
Member, Geological Survey

WRGriswold/er 8/15/57
Copy to: Docket (2) - DMEA-4520
Admr R File
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Op. Committee
Chron.

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

Re: Docket No. DMEA-4520 (Lead-Zinc)
J. G. Shelton and Jack Fleischaker
Virginia Mine
Jasper County, Missouri

Dear Mr. Knox:

This is with reference to the cited project. In your memorandum, dated May 31, 1957, we note your recommendations for denial of this application. It is our opinion that this application should not be denied, but should be withdrawn, especially in view of your recommendation, item 6, page 2.

If the application is to be withdrawn, the Applicant should be contacted and should request such action in writing.

Sincerely yours,

NOT USED J.G.
SEE LETTER TO SHELTON
July 11, 1957

Chairman, Operating Committee

APPROVED:

JWAlt/er 7/2/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Member, Bureau of Mines

Member, Geological Survey

DMEA Form 7
(12-56)

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Date	Surname	Code
7/10	Hugoschud	500
7/11	Johnson	110
"	Mittenberg	100
		225

JUL 11 1957

Mr. J. G. Shelton
714 - 19 First National Building
Joplin, Missouri

Re: Docket No. DMEA-4520 (Lead-Zinc)
J. G. Shelton and Jack Fleischaker
Virginia Mine
Jasper County, Missouri

Dear Mr. Shelton:

With reference to the cited application, we have been advised by Mr. Clinton C. Knox, Executive Officer, DMEA Field Team, Region IV, that you are not prepared to proceed with the project, at this time. He stated that churn drill contractors are not available, that your consulting geologist is occupied elsewhere, and that neither you nor your partner have taken action to validate your leases.

We are therefore, considering your application as having been withdrawn and are placing it in the inactive file. Nevertheless, please be assured that we would be glad to give full consideration to your application at any time when you might be in a position to proceed with the work.

Sincerely yours,

C. O. Mittenbergh (for)

Administrator

WRGriswold/er 7/10/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region VI (2)
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
500		

July 10, 1957

Memorandum

To: Director, Division of Operation Control and Statistics

From: Director, Division of Base Metals

Subject: Withdrawal of Application, Docket No. DMEA-4520, J. C. Shelton and Jack Fleischaker, Virginia Mine, Jasper County, Missouri, Lead-Zinc.

Please consider the cited application as having been withdrawn.

W. R. Griswold (er)

W. R. Griswold

8623

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

June 26, 1957

Re: DMEA 4520; Pb-Zn; $15,435
J. G. Shelton and
Jack Fleischaker
Virginia Mine
Jasper County, Mo.

Memorandum

To: W. R. Griswold, DMEA

From: A. D. McMahon, USBM

Subject: Review of Field Team Report, dated May 21, 1957, received June 20, 1957

The applicant proposed 6,480 feet of churn drilling (33 holes) to test a sink-type structure 3/4 miles southwest of the Virginia Mine.

The Executive Officer of the DMEA Field Team (Knox - USBM) concludes that although geologic evidence may warrant drilling in the best defined of the sink structures, he notes that the exploration potential of the property is not "such as to warrant plans for milling facilities." Knox recommends denial of the application without prejudice on the grounds that the applicants have not perfected their leases, that their geologist who was to have supervised the program is leaving the Tri-State area, that contract drills may not be available, and that metal prices have dropped making the exploration unattractive to the applicants.

Since the applicants have called these items to Mr. Knox's attention it seems appropriate to write them, notifying them that their application must be denied unless they show they can secure drill bids, competent supervisory help and have valid leases within a reasonable time.

A. D. McMahon

A. D. McMahon

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DMEA
RECEIVED JUN 26 1957

DATE	INITIALS	CODE
6/26	C	220
6/26	JWA	500

cc: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Bishop
Files

IN REPLY REFER TO:

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

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 26 1957

DATE	INITIALS	CODE
6/26	C	220
6/26	Jure	500

June 25, 1957
Re: DMEA 4520
J.G. Shelton and
Jack Fleischaker
Virginia Mine
Jasper County, Mo.
$15,435.00 - Lead-Zinc

~~Memorandum~~

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

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

Subject: Review of Field Team Report

The applicants requested assistance in exploring by churn drilling ground southwest of the Virginia Mine.

The Executive Officer recommended an alternative program to the applicants to which they were agreeable, but for various reasons set forth on pages 1 and 2 of the report certain conditions were not met and others are now unfavorable. Therefore, the officer recommends that the application be denied without prejudice.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

May 31, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED

DATE		CODE
6-17	C	220
		130
6/20	C	220
6/26 6/21	JWA	500

ON-Site Report.

Memorandum

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

From: Executive Officer, DMEA Field Team, Region IV

Subject: Field Team Report - Virginia Mine, Jasper County, Mo.
Application Docket DMEA-4520(lead-zinc)
J. G. Shelton and Jack Fleischaker, Partners
714-19 First National Bank Building, Joplin, Mo.

Summary and Conclusions

According to the application, zinc-lead mineralization reportedly found by some of the prospect drilling up to 1942 in an indicated irregular sink-type structure, warranted extending Virginia mine exploration 3/4 mile southwestward. Some submarginal zinc ore was indicated beside the old worked out Virginia mine by project churn drilling in 1952 under DMA Contract Idm-E122(Docket No. 1088X), as Certified May 7, 1953. Geologically, the Field Team agree that some exploratory drilling now appears justifiable only in the best defined part of the sink structure about 3/4 mile southwest of that previous project area .

Recommendations

Denial of the application proposal without prejudice to the involved properties is recommended for the following reasons:

1. As reiterated by Mr. J. G. Shelton in the Field Team Office May 29, neither he nor his partner applicant have taken any action toward validating their leases. He said that they would and could, however, if positively assured of a DMEA project contract.

Reviewed by
DMEA OPERATING COMMITTEE
6-21-57
(date)

2. Mr. Shelton also said that their consulting geologist, Mr. Harold Sheeran had purchased an interest in a lead mining operation in Wisconsin and would be employed there most of the time henceforth, and likely no other suitable technical supervision would be found available here for the Applicant's proposed project.

3. The churn drilling contractors who submitted bids last March upon this Applicant's invitations have been recruited for two-year contracts on the DMEA projects of St. Joseph Lead Co. in Eastern Missouri.

4. The recent disasterous drop in zinc price and apparent zinc surplus seem to make it impractical at this time for these Applicants to launch an exploration project.

5. There are no mills operating, or in operating condition, in southwestern Missouri, and thus no practical arrangements could be made for treating any ore that might be found in this Virginia mine area. Certainly the exploration potential for this Applicant's proposed project is not such as to warrant any plans for ever installing milling facilities there.

6. Geologically, I am convinced that the best defined part of the sink structure, 3/4 mile southwest of the Virginia mine, warrants exploratory drilling of six wide-spread holes, each about 240 feet in depth, on a preliminary stage, on which results might further justify as many as 11 additional holes on a secondary stage of a well planned exploration program.

The Application

This application for DMEA assistance on a proposed $15,435 churn drilling exploration project for zinc-lead ore was received by the Field Team from the Applicant partners in person on October 24, 1956, and forwarded to Washington for preliminary processing. The application proposal was for a total of 6,480 feet of churn drilling in holes to range from 50 to 240 feet in depth to explore parts of sections 18 and 19, T.29N., R.32W., and parts of sections 13 and 24, T.29N., R.33W., Jasper County, Missouri, a sector of the Tri-State zinc mining district.

Upon referral of the application to me by DMEA November 15, 1956, I was certain that a Field Team examination of the properties would serve no useful purpose. Otherwise, heeding the suggestions in the Washington referral letter and accompanying reviews of the Survey and Bureau Members of the DMEA Lead-Zinc Division, I discussed the inadequacies of the application with Messrs. Shelton and Fleischaker and Mr. Harold Sheeran, the consulting geologist then representing them, and furnished the Survey Member of the Field Team its copy of the application and all other pertinent data found available in the Joplin Office.

The seven-page report appended hereto for your supplemental file information on this case, was prepared and submitted to me January 8, 1957, by Dewey Amos, USGS, Carbondale, Illinois. We were substantially in agreement that no further DMEA exploration assistance is justifiable in the immediate vicinity of the Virginia mine explored under the DMA Contract Idm-E122, but that, geologically, a modified program of drilling appeared justifiable 3/4 mile to the southwest where National Lead Company(St. Louis Mining Division), under Mr. Joseph C. Barton, had done some prospect drilling in 1942.

On February 16, I outlined to Mr. Fleischaker the Field Team's suggested modification of the application proposal and reiterated that to favorably present any such logical appearing program proposal, proper maps, geologic sections, proposed drill hole sites, realistic bids from reliable churn drill contractors and all other essential information should be furnished. He said arrangements would be made for Mr. Sheeran to handle preparation of all those necessary requirements. Then, in one of the frequent visits of Mr. Shelton to the Field Team Office which have continued from 1951 up to the present, he expressed much dissatisfaction with the project proposal in the application as prepared by Mr. Otto Ruhl, the mining engineer originally employed by the applicant partners at the instigation of Mr. Fleischaker. Thus, on February 19, 1957, Mr. Sheeran brought a revised application proposal, map and geologic section to the Field Team Office, copies of which were made and furnished the Survey Member and DMEA on March 4, 1957. Dewey Amos, USGS, tentatively agreed in principal with 17 of the total 19 drill hole sites proposed by Mr. Sheeran.

In subsequent discussions with the Applicant's representatives, I favored a proposal for a provisional two-stage project with only six wide-spread holes in the first stage to be churn drilled in the best defined part of the indicated sink structure, 3/4 mile southwest of the Virginia mine. Then, if justifiable, not in excess of 11 holes might be drilled in other locations to be selected(see attached map). My suggested modification of the application proposal, of course, was explained as contingent upon the Applicant's concurrence, obtaining of acceptable bids from three reliable drilling contractors, suitable proof that the applicant's leases had been properly validated, and agreement upon realistic project cost estimates and work specifications. A joint Field Team Report was rough drafted to support tentative recommendations for limited approval if the applicationthus further could be supplemented. Mr. Sheeran indicated that the Applicant would concur with my suggestions, and bids from the drilling contractor's were furnished March 15(copies enclosed herewith).

In recent frequent visits to the Field Team Office, however, Mr. Shelton explained that: (1) all of those drillers had moved away entering into other contracts mostly on DMEA projects of the St. Joseph Lead Co. in Eastern Missouri; (2) Mr. Sheeran had purchased an operating interest in a Wisconsin lead-zinc mine and did not expect to have much time left available for consulting work here; and (3) the recent zinc

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Mr. Shelton
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Lead Co. in Easte
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zinc and lead price drops were very discouraging for this proposed exploration. He also indicated that the required validation of the leases involved would not be justifiable unless positively assured of financial exploration assistance.

It seemed clear that the joint Field Team Report, as rough drafted, no longer was appropriate so, in response to your May 22 letter requesting its submittal, this memorandum with a recommendation for denial is prepared instead.

Clinton C. Knox

Clinton C. Knox

encl. 14

cc: DMEA Op.Com.(2)
Laurende,USGS,Knoxville w/map & Amos' report
Amos, " " " " " "
4520 file

RECEIVED
MINERALS TECHNOLOGY
DIVISION

JAN 8 1957

BUREAU OF MINES
JOPLIN, MO.

Location

Exploration assistance is requested to drill for zinc and lead between Oronogo and Neck City, Jasper County, Missouri. Work is proposed on five tracts of land, some of which are not contiguous. The specific locations of the five areas are as follows:

(1) Area 1. W 1/2, SW 1/4, NE 1/4, sec. 18, T. 29 N., R. 32 W. and the adjacent E 1/2, SE 1/4, NW 1/4, sec. 18, T. 29 N., R. 32 W.

(2) Area 2. SW 1/4, SW 1/4, sec. 18, T. 29 N., R. 32 W. and the adjacent W 1/2, SE 1/4, SW 1/4, sec. 18, T. 29 N., R. 32 W.

(3) Area 3. NE 1/4, SW 1/4, sec. 18, T. 29 N., R. 32 W. except for the north ten acres.

(4) Area 4. NW 1/4, NW 1/4, SE 1/4 sec. 18, T. 29 N., R. 32 W.

(5) Area 5. SE 1/4, NE 1/4, sec. 18, T. 29 N., R. 32 W. and the adjacent N 1/2, NE 1/4, SE 1/4, sec. 18, T. 29 N., R. 32 W.

Applicants' Property Rights

Area 1. The eastern half of the area (designated R. G. Weaver tract on map submitted with application) is held by lease from O. L. Farmer and wife. No property rights are held by the applicants on the western half but they state a lease could be obtained if exploratory assistance is secured.

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DATE		CODE

Area 2. This entire area is held by lease from John B. Tinsley and wife.

Area 3. The area is held by lease from J. C. Rowe and wife.

Area 4. No properties rights are held by the applicants on this tract.

Area 5. This area is held by lease from Harvey Tapp and wife.

In addition to the properties held as noted above, the applicants have mining leases on other properties in the vicinity. Some of the tracts are contiguous to those on which exploration is proposed. The aggregate land held is slightly over 900 acres.

All of the leases are for a ten year period and all contain a clause requiring commencement of work on the property within six months after the effective date of the lease. As the applicants have not signified any evidence of having done any recent work, most of the leases are now void and the remainder soon will be.

Applicants' Proposal

The applicants propose to churn drill a total of 33 holes totaling 6,480 feet. Total cost for this drilling is estimated at $15,435.00. Some of the holes are proposed to obtain structural information (known locally as shale drilling) rather than to explore for commercial mineralization. Provision is

made to deepen those hole drilled for structural data to the ore-bearing horizon, if favorable structural conditions are discovered. Proposed drill sites are shown on the map attached to the application.

A summary of proposed drilling in the various areas follows:

Area	No. Proposed Holes	Average Depth per Hole	Total Estimated Drill Footage
1	9	200	1800
2	6	220-230	1380
3	7	200	1400
4	5	200	1000
5	6	90	900

Competency of Applicant

The applicant is a partnership consisting of J. G. Shelton and Jack Fleischaker. Mr. Shelton was a partner in a former DMEA contract (Idm-E122) conducted in the vicinity of the proposed exploration which was terminated when the operator failed to complete the contract. Mr. Fleischaker is a prominent local attorney and apparently reputable. The applicants plan to employ Mr. Harold Sheeran as geologist and technical supervisor if an exploration contract is executed. He has had considerable experience in this district and appears to be quite capable.

Access

Access is readily available to near all the areas of proposed drilling by numerous secondary roads. The terrain is relatively level, making drill sites readily accessible

to drilling equipment.

Availability of Supplies, Manpower, etc.

Most types of mining equipment and supplies are locally available, as well as skilled labor. The latter would be of no direct concern as the applicants contemplate letting of an independent contract for drilling. Sufficient water is present in nearby streams for drilling purposes. Nearby mills do custom work.

Past Work

Numerous holes have been drilled on and adjacent to all five areas of proposed exploration, in most cases without too much success (locations of these holes are shown on the map attached to the application). Admittedly, many were drilled only for structural control (shale slumpage) and did not penetrate the mineralized horizons but past experience has been that mineralization rarely occurs beneath areas lacking favorable overlying structure. Logs of many of these holes were available to the writer.

Past production was obtained from the Weaver (Virginia) mine just east of Area 1 and north of Areas 4 and 5. The past history of this mine is adequately given in the consulting engineer's report attached to the application.

A total of 15 holes were drilled immediately south of the Weaver mine under DMEA contract Idm-E122. Although a

certification of discovery was issued based on this work, the mineralization is not of commercial grade and tonnage under present or forseeable future economic conditions.

Geology

The area of proposed exploration is in the northeastern part of the Tri-State district on the west flank of the Ozark uplift. A map of sections 1 to 36, T. 29 N., R. 32 W. published by the Missouri Geological Survey and Water Resources Branch on a scale of 1:15,840 gives the detailed areal geology and the locations of mining and mineralized areas.

Stratigraphy of the area is discussed in considerable detail in numerous publications on the district. A generalized stratigraphic section in the vicinity of proposed work is as follows:

System	Formation and Lithology	Approximate Thickness in Feet
Recent	alluvium	0 - 40
Pennsylvanian	Cherokee shale	0 - 90
unconformity		
Mississippian	Chester limestone	20 - 40
	Boone gp. Warsaw limestone (beds B to J)	70 - 90
	Boone gp. Keokuk formation (beds K to Q) (beds N to Q called Grand Falls chert)	80 - 100
	Boone gp. Reed Springs formation	110 - 130
	Boone gp. Fern Glenn limestone	?

The surface of the leased land consists of rocks of upper Mississippian age traversed by a northwest trending belt of Cherokee shale which exists as an erosional outlier. The shale apparently fills an old pre-Pennsylvanian stream channel

developed on the Mississippian surface. Extensive solution openings and underground drainage channels occur in the Mississippian limestones beneath this and other pre-Pennsylvanian drainage channels in the vicinity. Such openings have provided the sites for mineralization. Normally, there has been considerable post-depositional slumpage of the shale above the solution cavities. This is the basis of the so-called structural or shale drilling of the district.

The ore minerals are sphalerite with subordinate galena. Major production in this part of the district in recent years has been from blanket-type (locally called sheet ground) deposits in the M bed of the Keokuk formation. Lesser amounts have been obtained from disseminated-type deposits in the Reed Springs formation and from irregular shaped bodies ("runs", "circles", etc.) in various limestone beds immediately beneath the Cherokee shale (locally called broken-ground deposits). Usually, the country rock within and adjacent to mineralization is silicified and dolomitized to various degrees. Such alteration offers an excellent guide as to proximity to mineralization in the area.

Any drilling should be directed primarily toward exploration for M-bed mineralization. A consideration of the mode of occurrence and past experience and production suggests all work should be confined to or near to areas of Cherokee shale. A study of the distribution of mineralization in the general vicinity indicates that the mineralization is

more extensive and intense beneath or near junctions of the pre-Pennsylvanian streams. It is the opinion of the writer that exploration should be concentrated in such areas.

Recommendations

As all five areas contain depressions having remnants of shale deposition, all are potential areas of mineralization. Areas 2, 3, and 4 appear more favorable, being at apparent junctions of the pre-Pennsylvanian drainage system.

Based on geologic data and inference alone a limited exploratory drilling program may be warranted. If all other aspects of the application are acceptable, the following drilling is suggested.

Area 1. No work

Area 2. A total of seven holes are recommended. A study of previously drilled holes and of the shale distribution indicates that possibly more favorable subsurface conditions would be encountered if the fences of drill holes were parallel to those proposed by the applicants but about 400 feet to the northwest. 7

Area 3. A total of seven holes as located on the applicants' map. 7

Area 4. A total of five holes as located on the applicants' map. 5

19

Area 5. No work.

All holes should be bottomed at the base of the M-bed.

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MINERALS TECHNOLOGY
DIVISION

MAR 15 1957

BUREAU OF MINES
JOPLIN, MO.

Joplin, Mo.
Mar. 8, 1957

Jack Fleischaker and
Glenn Shelton,
Joplin, Mo.

Dear Sirs:

I wish to submit my bid on drilling to be done north of Oronogo, Missouri. My bid is One Dollar and Ninety-five Cents per foot.

Thanking you for any consideration you may give me, I am

Yours truly,

Harold Bell
Harold F. Bell

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DATE | CODE

RECEIVED
MINERALS TECHNOLOGY
DIVISION

MAR 15 1957

BUREAU OF MINES
JOPLIN, MO.

SHOUSE BROS. DRILLING CO.
1041 WASHINGTON AVE.
BAXTER SPRINGS,
KANSAS

March 12, 1957

Shelton & Fleischaker
First National Bank Bldg.
Joplin, Missouri

re: DMEA Loan Application: Drilling Bid

Dear Sirs:

In accordance with your request, we are quoting our price and terms for drilling in the Shelton & Fleischaker leases.

Drilling by the foot, $2.50 per foot. Any hour work will be $7.00 per hour. We will furnish machines, tools, and casing. Any casing left in a hole by request will be billed at the current price.

To continue the custom of this area, we will carry Public Liability and Property Damage on our company, in addition to Workmans Compensation.

Thank you for this opportunity to quote our price and terms. We will be pleased to do your work, if our equipment is available.

Shouse Bros. Drilling Co.

By C. R. Shouse

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DATE	INITIALS	CODE

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MINERALS TECHNOLOGY
DIVISION

MAR 15 1957

BUREAU OF MINES
JOPLIN, MO.

EARL J. VAUGHT
Drilling Contractor
Phone 180
Baxter Springs, Kansas

March 13, 1957

Jack Fleishaker
Attorney at Law
First National Bank Bldg.
Joplin, Missouri

Dear sir:

With reference to:

SHELTON AND FLEISHAKER
DMEA Loan Appl.

Herein is my bid in connection with proposed prospect drilling on Orr land and Aroy land. Location: Tract 3 miles N, 0-1/2 mi. E, of Oronogo. 19 holes proposed, average depth of 200 feet:

$2.55 per foot.

I will furnish all equipment and workmen's compensation.

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RECEIVED JUN 18 1957
DATE | INITIALS | CODE

Earl J. Vaught

Earl J. Vaught

DMEA Form 7
(12-56)

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Date	Surname	Code
5/20	[illegible]	500
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5/22	[illegible]	130
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"	[illegible]	100
5/23	[illegible]	225
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MAY 22 1957

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

Re: Docket No. DMEA-4520 (Lead-Zinc)
J. G. Shelton and Jack Fleischaker
Virginia Mine
Jasper County, Missouri

Dear Mr. Knox:

Will you please advise us regarding the status of the cited project. On November 15, 1956, this application for Government exploration assistance was referred to your office for consideration, a field examination of the property if warranted, and recommendation.

In the DMEA Activities report for April, it is stated:

"Work was continued on the engineering section of the Field Team's joint report."

We would appreciate receiving the Field Team's report and recommendation at your earliest convenience.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

JWAlt/er 5/20/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

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

Thor H. Kiilsgaard (THK)
Member, Geological Survey

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

March 4, 1957

FILE COPY
DMEA
RECEIVED MAR 6 1957

DATE	INITIALS	CODE
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3/11/57

Mr. Dewey Amos, Geologist
U. S. Geological Survey
Department of Geology
Southern Illinois University
Carbondale, Illinois

Re: DMEA 4520(lead-zinc)
Shelton & Fleischaker, Partners
Virginia Mine
Jasper County, Missouri

Dear Dewey:

Furnished herewith for any comments you might wish to make is a copy of a supplement to the subject application, a map, and three geologic sections submitted February 19 on behalf of this Applicant by its Consulting Geologist, Mr. Harold Sheeran.

Frankly, I have not had time to do anything in the way of completing a joint Field Team Report on this application. Also, it is advisable that the Applicant obtain bids from three reliable churn drilling contractors, particularly since prices reportedly have been rising.

Also, enclosed herewith is a carbon copy of the parts of the reports you prepared and submitted to me January 8. In case you should feel that the changes in the drilling plan proposed in this supplemental data by Mr. Sheeran are well justified, I believe you could indicate so by a slight amount of editing on Page 7 of this copy of your report. Please understand that I have not had time to study these proposed changes and I certainly do not wish to imply here that I think we should concur with them. However, I suppose DMEA Applicants have the right to ask for a change of plans or geologic concepts.

Also enclosed herewith is your copy of our Joint Field Team Examination Report on Application DMEA-4582, St. Joseph Lead Co., submitted to Washington February 28. I hope you find it gives accurate coverage of your part of the report which I received February 4. A copy of yours with your tracing of the map is also returned herewith for your record.

Also enclosed are the second Field Team copies of pertinent correspondence, memorandum reviews, and the proposed contract offered St. Joseph Lead Company as recommended in our report on Application DMEA-4581.

Sincerely yours,

CCK/jd

Clinton C. Knox

Encls

cc: DMEA Op.Com(2) w/supplment & maps
Laurence,USGS,Knoxville
4520, 4581, 4582

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

RECEIVED NOV 26 1956 D.M.E.A.

Docket

November 23, 1956

Memorandum

To: Robert A. Laurence, U. S. Geological Survey, Knoxville, Tenn.

From: C. C. Knox

Subject: Application, Docket DMEA-4520, Shelton & Fleischaker, Purcell Areas, Jasper County, Missouri

I note on the Field referral of the subject application, received here while I have been on a weeks' annual leave, that copies of it and the reviews by Bishop and Williams were sent to you.

Probably you forwarded them to Dewey Amos but because of several aspects of this application mentioned in the reviews and referral letter, I believe you might like to glance through some of the pertinent material first, rather than have me send it direct to Dewey.

I talked with Messrs. Shelton and Fleischaker, the applicant partners, and their geologist, Mr. Harold Sheeran, this morning upon returning to work here. Should we decide to recommend some sort of a DMEA project contract on any part of their leases, the necessary map will be prepared, the owner's Consents To Lien possibly can be obtained, and bids from three independent drilling contractors can be procured. The standard drilling prices in the Tri-State, however, has been $1.95 to $2.00 per foot, but I heard rumors today that it was being raised about ten cents.

Under ordinary circumstances, I have no doubt that we might be justified in recommending approval of this application at least in part. I believe very little would be gained by a Field geologic examination by Dewey or one of your other men. There seems to be sufficient geologic data available for a comprehensive study and I believe the drill logs will afford reasonably accurate contouring on the base of the Pennsylvanian shale without resorting to any further shallow structural drilling. Because the present leases are not exactly contiguous, probably we should only consider the proposed drilling on the Rowe and the north 80 acres of the Tinsley property, assuming that you think drilling near the Virginia mine was insufficient detail as evidenced by the certification having been made there under the previous DMA contract.

I assure you, however, that I want to leave the geologic evaluation of this drilling proposal entirely up to you or Dewey Amos. If it should be your opinions that the proposed drilling is justifiable purely from a geologic standpoint, then I will concern myself entirely with ironing out the other somewhat unfavorable aspects of this application.

Assuming that you have not received a copy of this application and other background information, for your information and for forwarding to Dewey Amos, if you deem justifiable, the following are enclosed:

1. Field Teams' final report and pertinent correspondence file, DMA-1088X, Contract Idm-E122.

2. Operator's final report on the above mentioned project.

3. Joplin copy of application DMEA-4520.

4. Geological map, Missouri Geological Survey, T. 29 N., R. 32 W.

I have outlined the Applicant's existing leases on the above mentioned map which gives all known geologic and topographic features of that area in considerable detail.

I might add that the new exploration proposed in this application reportedly will be under the technical supervision of Mr. Harold Sheeran who seems to be a capable geologist with considerable experience on local Eagle-Picher operations; management will be controlled by Mr. Jack Fleischaker, a new partner in the firm and one of the most capable attorneys in this region.

Also, I wish to take this opportunity to thank you for the copy of your November 20 memorandum regarding the St. Joe Lead Co. application DMEA-4443.

Regarding the Helen H. Mining Co. application DMEA-4478 on which Dewey furnished me the geologic section for the Field Team examination report November 6, the first proposed hole near the north end of the Karcher mine already has been drilled by the Applicant with ore indications that reportedly were astounding.

The Applicant's representative assured me last week that copies of all data on that hole would be furnished us as soon as typed. Obviously some changes then must be made in the rough draft of our joint Field Team report and recommendations.

Although that hole admittedly was only about 100 feet south of a blank stope face, as of the date of the application, I do not believe we would call that development drilling because a responsible mining concern ordinarily would not do development work where no ore was known as was the case there at the time.

Knox

Clinton C. Knox

encl.(4)
cc: DMEA Op.Com.(2) ✓
Amos,USGS,Champaign
4520 file
4478 file

File Copy
Surname

J. and Fairwell
Kiilsgaard
Lamb
Selfridge
Johnson

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

NOV 15 1956

Mr. J. G. Shelton
714 - 19 First National Building
Joplin, Missouri

Re: Docket No. DMEA-4520 (Lead-Zinc)
J. G. Shelton and Jack Fleischaker
Virginia Mine
Jasper County, Missouri

Dear Mr. Shelton:

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

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

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

Sincerely yours,

G. D. Mittendorf

Administrator

JWAlt/er 11/13/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region IV (1)
Region V (1) via Mr. Kiilsgaard
Chron.

P.G.

File Copy
Snrname

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

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

NOV 15 1956

Re: Docket No. DMEA-4520 (Lead-Zinc)
J. Q. Shelton and Jack Fleischaker
Virginia Mine
Jasper County, Missouri

Dear Mr. Knox:

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

In the event that you should consider the application favorably, the Applicants should be requested to obtain Consent To Lien and Subordination Agreements from the owners of the properties. Also, the map submitted with the application is poorly prepared and does not show the property lines of the various leases as stated in the application. The section corners should be marked showing which four sections have a common corner. The section number should not be placed in the center of the section. Furthermore, the names of the leases on the map do not correspond to those listed by the Applicants. The map should show the location of the holes which were drilled under the terms of Contract No. Idm-E122, Docket No. DMA-1088. The location of the proposed holes should also be shown. This map should be of a size that prints of it could be attached to a contract in the event that the Applicants should be granted Government exploration assistance.

If you should consider the application favorably, the Applicants should be requested to obtain, if possible, three independent bids for the churn drilling.

Copies of memoranda dated October 26 and November 2, 1956, by O. M. Bishop, Bureau of Mines, and W. P. Williams, Geological Survey, respectively, relating to the project, are enclosed for your information.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

APPROVED:

Frank D. Lamb
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

JWAlt/er 11/13/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region V (1) - Chron.

P. S. One copy of this letter, with attachments, has been sent to Mr. Robert A. Laurence, Executive Officer, Region V, Knoxville, Tennessee.

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

IN REPLY REFER TO:

RECEIVED NOV 5 1956 D.M.E.A.

November 2, 1956

Received by D.M.E.A. 11/9/56

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review of application, DMEA 4520, Shelton & Fleischaker, Virginia Mine, Neck City area, Tri-state district, Jasper County, Missouri, (lead-zinc).

The applicant proposes to explore for lead-zinc deposits on properties in the near vicinity of the old Virginia mine which has not produced ore for forty years.

Part of the property described in the application was the site of exploration under DMA 1088X, Contract Idm-E122. Mr. J. G. Shelton, partner in the subject application, was the Operator under the former contract.

The former project was certified by the Government as a discovery before the completion of the work. The total amount of drilling authorized by Contract Idm-E122 was never completed by the Operator. In spite of the Certification of Discovery the former project did not find minable ore under present metal prices. The Operator completed 15 drill holes, then stopped work without permission of the Government. By assay the best material penetrated ran 6.80 percent zinc and 1.10 percent lead. Those values were found in only one hole over a three foot thickness. All the other holes were either barren or weakly mineralized. Over minable tonnages the grade would approach 1.30 percent zinc and 0.18 percent lead. The Notice of Termination issued the Operator by the Government on February 24, 1953, states, "Results of the exploration work performed by you under the subject contract do not appear favorable enough to warrant an extension . . . of the contract."

The applicant proposes to expend a total of $15,435 for 6,480 feet of churn drilling. Drilling to determine the depth and amount of Cherokee shale slumping is an accepted exploration practice in the Tri-state district. Such preliminary "structural" drilling is done to define areas which may subsequently be intensively drilled in the effort to find mineralized ground. Under such procedure much of the applicant's proposal consists of "structural" drilling which would have as its primary target, not ore deposits -- which belong in a later drilling phase, but the disposition and configuration of the incumbent Cherokee shale.

Under the topographic and geologic conditions involved I doubt that little, if any, additional information would be obtained by dispatching an examining team to the property. It is my opinion that the preliminary drilling envisioned by the applicant would not result in a significant discovery. If the structure of the shale is determined, followed by more intensive deeper drilling, chances for discovery would be better. In short, a complete exploration program has not been presented by the applicant.

Denial of the subject application seems indicated. If the applicant were to perform the "structural" drilling on his own account with favorable results, additional drilling with DMEA participation could be much more easily justified. It would probably not, however, be appropriate for DMEA to suggest such action to the applicant.

I recommend that the application be referred to the Field Team for additional analysis and comment.

W. P. Williams

W. P. Williams

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

RECEIVED NOV 1 1956 D.M.E.A.

October 26, 1956

Re: DMEA 4520; Lead-zinc;
$15,435
Virginia Mine
(Secs. 24 & 13, T29N, R33W.)
Jasper County, Missouri

Memorandum

To: W. R. Griswold, DMEA

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

Subject: Application dated October 24, 1956 and received October 26, 1956.

The partnership of Shelton and Fleischaker have leased some 900 acres of land between Oronogo and Neck City, Missouri in the vicinity of former producing mines. One small producer, the Virginia or Weaver mine, is included in the tract.

A number of drill exploration programs, including that undertaken under Contract Idm E-122 (DMA 1088x) have been inconclusive with relation to the presence or absence of ore, but have revealed structural conditions and non-continuous mineralization, which should aid in choosing the best areas for further exploration.

The applicant proposes 6,480 feet of relatively shallow drilling to test 5 tracts in section 18, T29N., R32W., such drilling with engineering and sampling to cost $15,435. One thousand of the 6,480 feet are predicted upon the partnership acquiring a lease on the 20 acres comprising the W$\frac{1}{2}$, SE$\frac{1}{4}$ Sec. 18.

The application as proposed appears to have much merit. I recommend that it be referred to the field for geologic appraisal.

O. M. Bishop

O. M. Bishop

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

October 26, 1956

Mr. J. G. Shelton
714-19 1st Natl. Bldg.
Joplin, Missouri

Subject: DMEA-4520
Re: Exploration Assistance
Virginia Mine

Dear Mr. Shelton

Your application for exploration assistance, dated October 24, 1956 submitted to our office at Joplin, has been assigned Docket Number DMEA-4520 and referred to the Base Metals Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

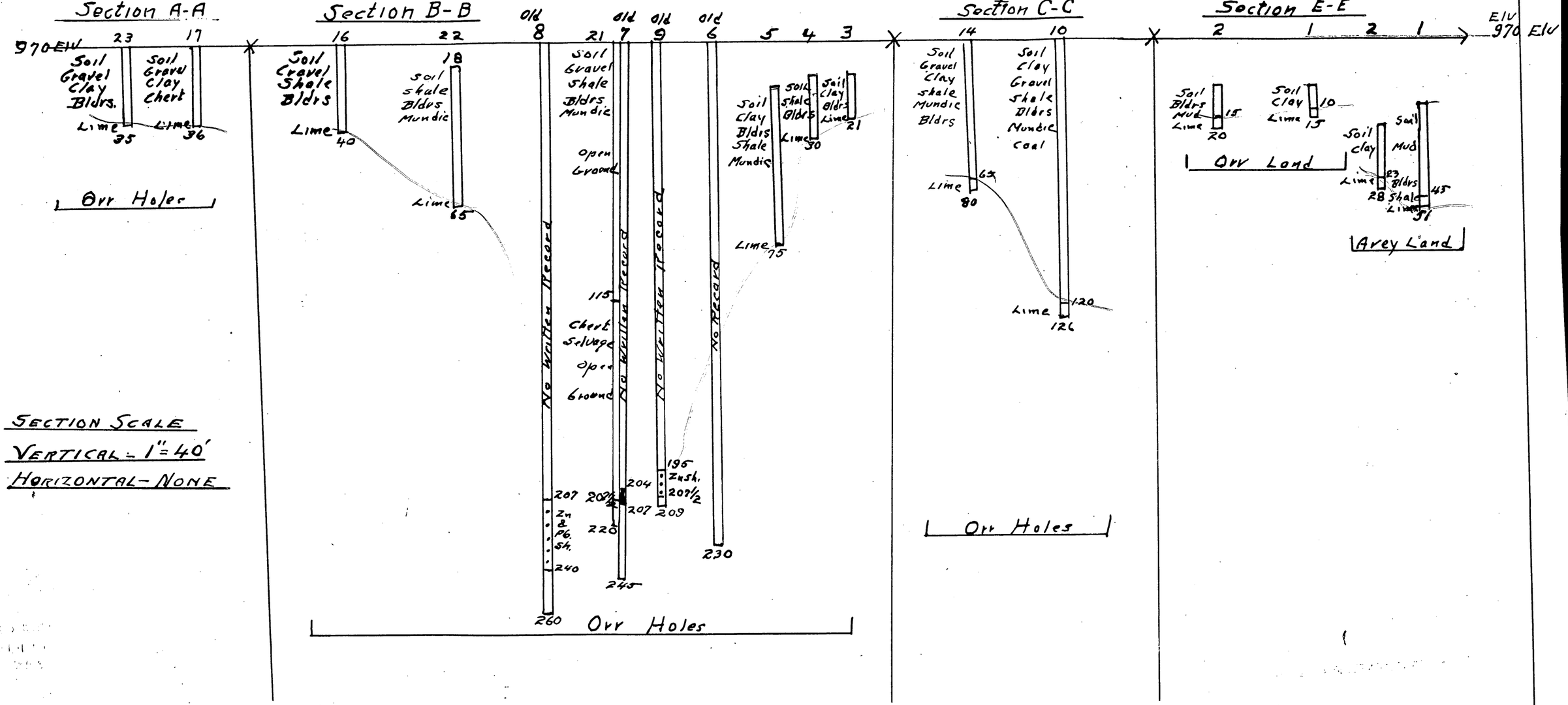
Allen S. Dakan, Chief
Operations Control and
Statistics Division

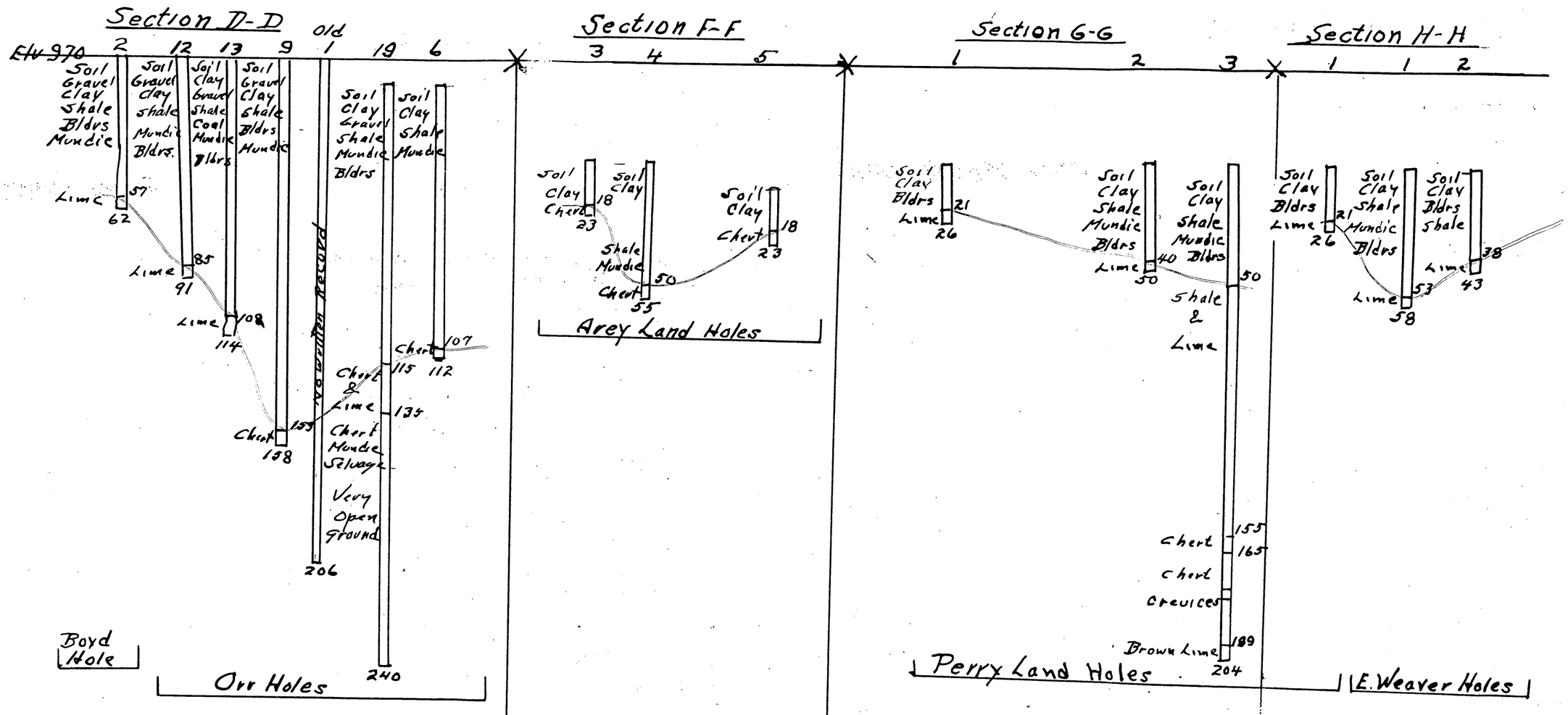
Copy to:

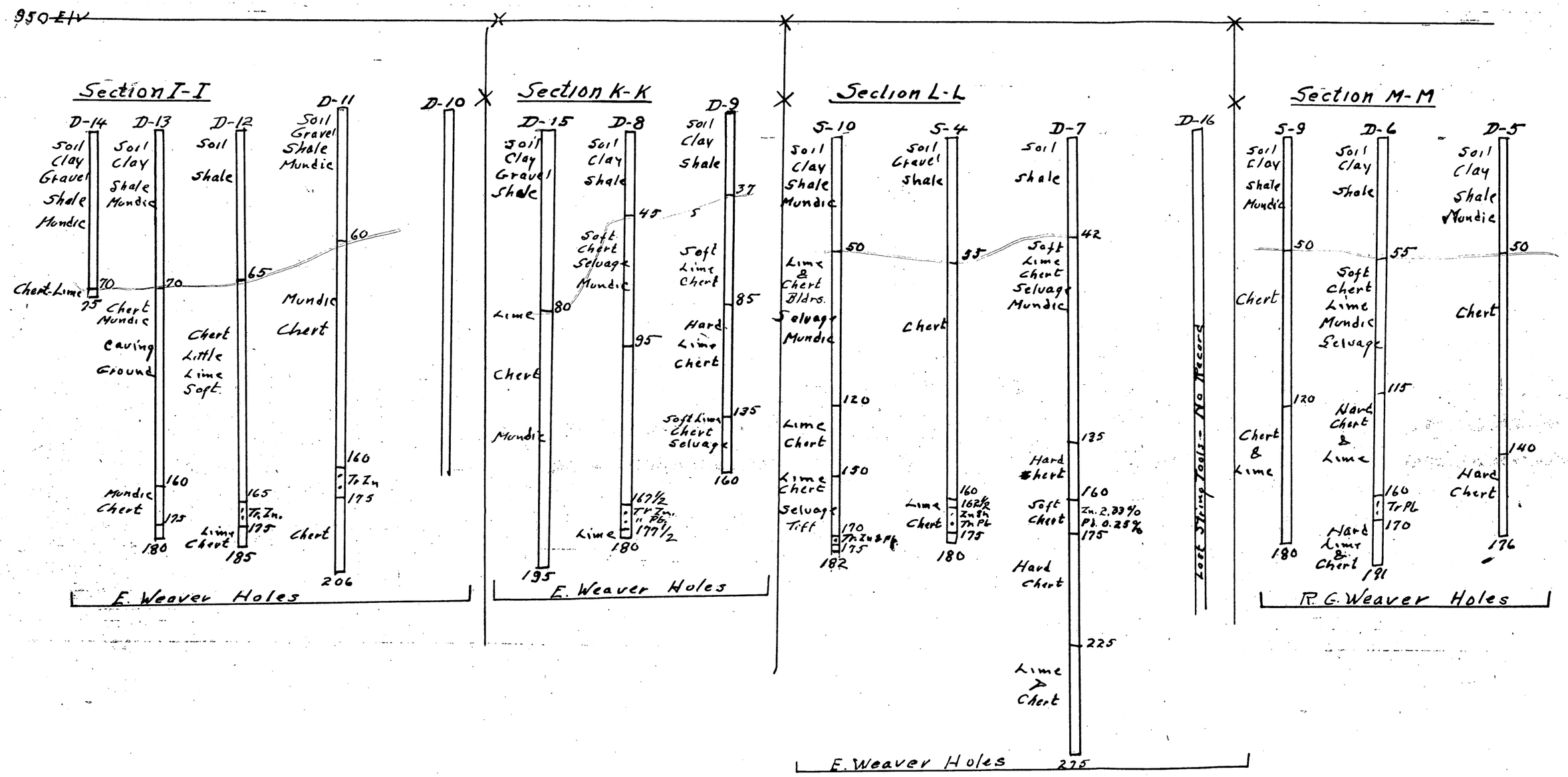
Region IV. Joplin, Missouri

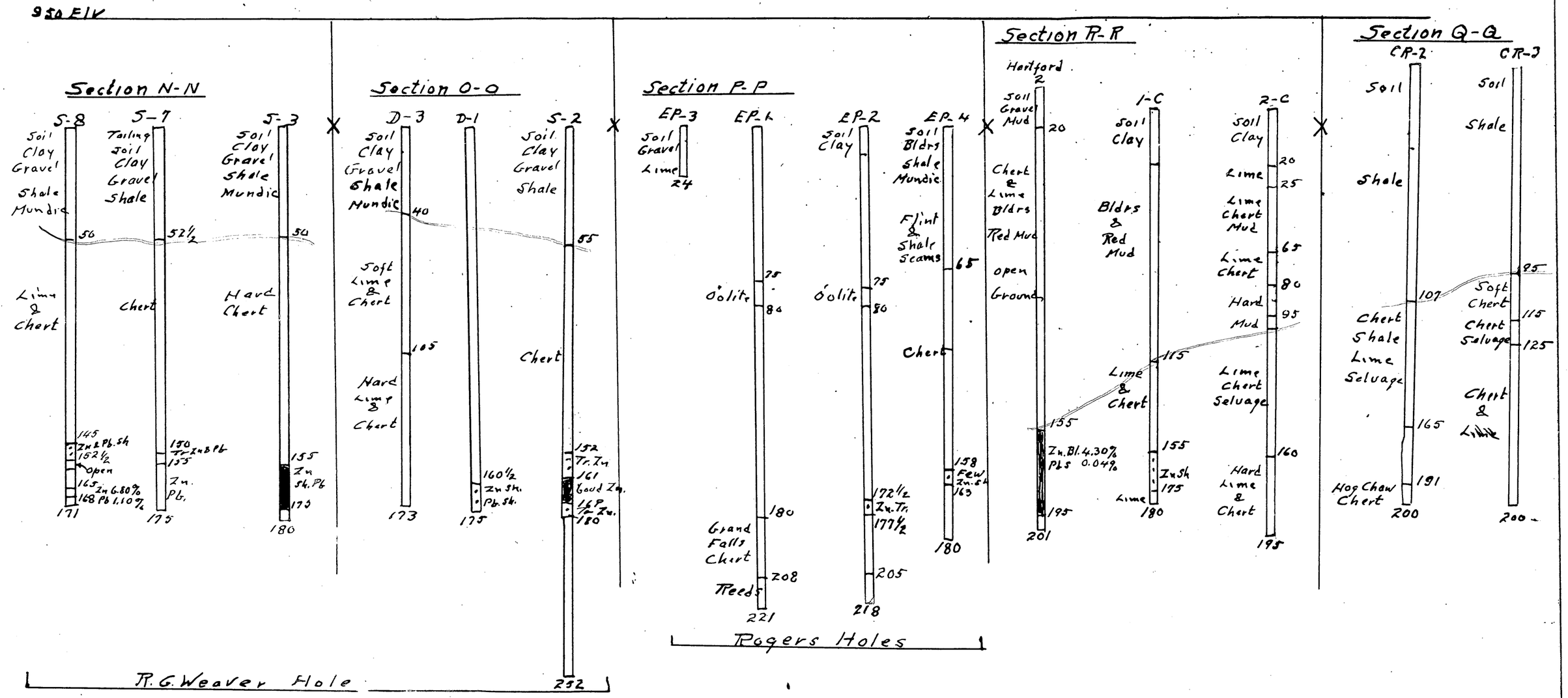
Code 500

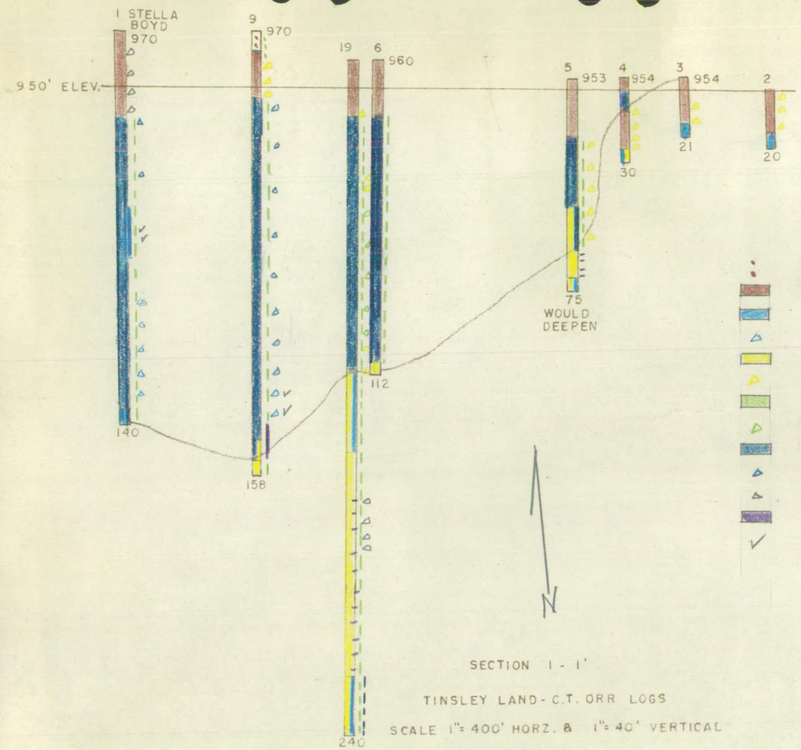
3571


Section A-A
Section B-B
Section C-C
Section E-E
970 Elv
Elv 970 Elv
23
17
Soil Gravel Clay Bldrs.
Soil Gravel Clay Chert
Lime 35
Lime 36
Orr Holes
16
22
18
Soil Gravel Shale Bldrs
Soil Shale Bldrs Mundic
Lime 40
Lime 65
Old 8
Old 7
Old 9
Old 6
21
5
4
3
Soil Gravel Shale Bldrs Mundic
Open Ground
115
Chert Salvage
Open Ground
No Written Record
No Written Record
No Written Record
No Written Record
207
202½
204
207
220
245
195 Zn sh.
207½
209
230
Zn & Pb. sh.
240
260
Soil Clay Bldrs Shale Mundic
Soil Shale Bldrs
Soil Clay Bldrs Lime
Lime 30
21
Lime 75
Orr Holes
14
10
Soil Gravel Clay shale Mundic Bldrs
Soil Clay Gravel Shale Bldrs Mundic Coal
Lime 65
Lime 80
120
Lime 126
Orr Holes
2
1
2
1
Soil Bldrs Mud Lime 15
20
Soil Clay Lime 10
15
Orr Land
Soil Clay
Soil Mud
Lime 23
28 Bldrs Shale
45
Lime 51
Avey Land
SECTION SCALE
VERTICAL = 1" = 40'
HORIZONTAL - NONE
TRIM LINE


Section D-D
Elv 970
2
12
13
9
old 1
19
6
Soil Gravel Clay Shale Bldrs Mundic
Lime 57 62
Soil Gravel Clay Shale Mundic Bldrs.
Lime 85 91
Soil Clay Gravel Shale Coal Mundic Bldrs
Lime 108 114
Soil Gravel Clay Shale Bldrs Mundic
Chert 155 158
No written Record
Soil Clay Gravel Shale Mundic Bldrs
Chert & Lime 115 135
Chert Mundic Selvage
Very Open Ground
206
240
Soil Clay Shale Mundic
Chert 107 112
Boyd Hole
Orr Holes
Section F-F
3
4
5
Soil Clay Chert 18 23
Soil Clay
Shale Mundic
Chert 50 55
Soil Clay Chert 18 23
Arey Land Holes
Section G-G
1
2
3
Soil Clay Bldrs Lime 21 26
Soil Clay Shale Mundic Bldrs Lime 40 50
Soil Clay Shale Mundic Bldrs
50
Shale & Lime
Chert 155 165
Chert
Crevices
Brown Lime 189 204
Perry Land Holes
Section H-H
1
1
2
Soil Clay Bldrs Lime 21 26
Soil Clay Shale Mundic Bldrs
Lime 53 58
Soil Clay Bldrs Shale
Lime 38 43
E. Weaver Holes


950 E/V
Trim Line
Section I-I
D-14
Soil
Clay
Gravel
Shale
Mundic
Chert-Lime
70
75
D-13
Soil
Clay
Shale
Mundic
70
Chert
Mundic
Caving
Ground
160
Mundic
Chert
175
180
D-12
Soil
Shale
65
Chert
Little
Lime
Soft
165
Tr. Zn.
175
Lime
Chert
185
D-11
Soil
Gravel
Shale
Mundic
60
Mundic
Chert
160
Tr. Zn
175
Chert
206
E. Weaver Holes
D-10
Section K-K
D-15
Soil
Clay
Gravel
Shale
Lime
80
Chert
Mundic
195
D-8
Soil
Clay
Shale
45
Soft
Chert
Selvage
Mundic
95
167½
Tr Zn.
" Pb.
177½
Lime
180
D-9
Soil
Clay
Shale
37
5
Soft
Lime
Chert
85
Hard
Lime
Chert
135
Soft Lime
Chert
Selvage
160
E. Weaver Holes
Section L-L
S-10
Soil
Clay
Shale
Mundic
50
Lime
&
Chert
Bldrs.
Selvage
Mundic
120
Lime
Chert
150
Lime
Chert
Selvage
Tiff
170
Tr. Zn & Pb
175
182
S-4
Soil
Gravel
Shale
55
Chert
160
Lime
162½
Zn 8%
Chert
Tr Pb
175
180
D-7
Soil
Shale
42
Soft
Lime
Chert
Selvage
Mundic
135
Hard
Chert
160
Soft
Chert
Zn. 2.33%
Pb. 0.25%
175
Hard
Chert
225
Lime
&
Chert
275
E. Weaver Holes
D-16
Lost String Tools - No Record
Section M-M
S-9
Soil
Clay
Shale
Mundic
50
Chert
120
Chert
&
Lime
180
D-6
Soil
Clay
Shale
55
Soft
Chert
Lime
Mundic
Selvage
115
Hard
Chert
&
Lime
160
Tr Pb
170
Hard
Lime
&
Chert
191
D-5
Soil
Clay
Shale
Mundic
50
Chert
140
Hard
Chert
176
R. G. Weaver Holes


950 E IV
Trim Line
Section N-N
S-8
Soil
Clay
Gravel
Shale
Mundic
56
Lime & Chert
145
Zn & Pb. Sh
152 1/2
Open
165 Zn 6.80%
168 Pb 1.10%
171
S-7
Tailing
Soil
Clay
Gravel
Shale
52 1/2
Chert
150
Tr. Zn & Pb
155
Zn.
Pb.
175
S-3
Soil
Clay
Gravel
Shale
Mundic
50
Hard Chert
155
Zn
Sh. Pb
175
180
R. G. Weaver Hole
Section O-O
D-3
Soil
Clay
Gravel
Shale
Mundic
40
Soft Lime & Chert
105
Hard Lime & Chert
173
D-1
160 1/2
Zn Sh.
Pb. Sh.
175
S-2
Soil
Clay
Gravel
Shale
55
Chert
152
Tr. Zn
161
Good Zn.
165
Tr. Zn.
180
232
Section P-P
EP-3
Soil
Gravel
Lime
24
EP-1
25
Oolite
80
Grand Falls Chert
180
208
Reeds
221
EP-2
Soil
Clay
75
Oolite
80
172 1/2
Zn. Tr.
177 1/2
205
218
EP-4
Soil
Bldrs
Shale
Mundic
Flint & Shale Seams
65
Chert
158
Few Zn. Sh
163
180
Rogers Holes
Section R-R
Hartford 2
Soil
Gravel
Mud
20
Chert & Lime Bldrs
Red Mud
open
Ground
155
Zn. Bl. 4.30%
Pbs 0.04%
195
201
1-C
Soil
Clay
Bldrs & Red Mud
115
Lime & Chert
155
Zn Sh
175
Lime
180
2-C
Soil
Clay
20
Lime
25
Lime Chert Mud
65
Lime Chert
80
Hard Mud
95
Lime Chert Seluage
160
Hard Lime & Chert
195
Section Q-Q
CR-2
Soil
Shale
107
Chert
Shale
Lime
Seluage
165
Hog Chow Chert
191
200
CR-3
Soil
Shale
95
Soft Chert
Chert
115
Chert Seluage
125
Chert & Lime
200



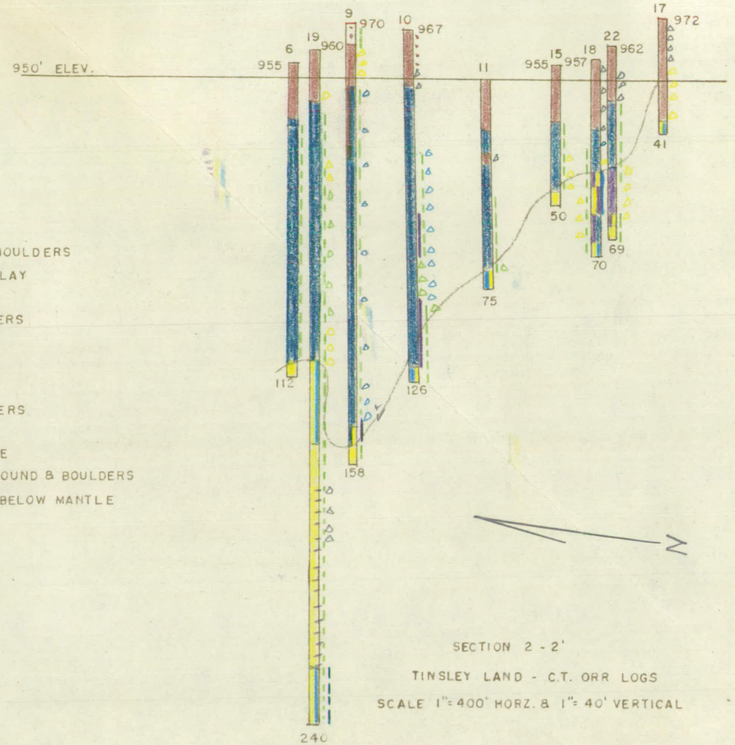
SECTION 1 - 1'

TINSLEY LAND - C.T. ORR LOGS

SCALE 1" = 400' HORZ. & 1" = 40' VERTICAL

LEGEND

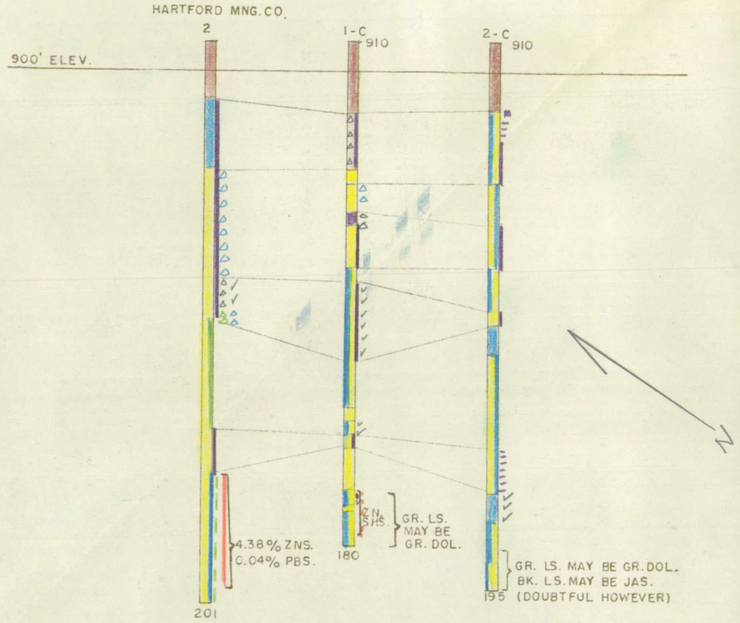
- RIVER GRAVEL & BOULDERS
- SURFACE SOIL & CLAY
- LIMESTONE
- LIMESTONE BOULDERS
- CHERT
- CHERT BOULDERS
- MARCASITE
- MARCASITE BOULDERS
- SHALE
- BOULDERS IN SHALE
- LOOSE OR OPEN GROUND & BOULDERS
- SELVAGE OR MUD BELOW MANTLE
- CALCITE



SECTION 2 - 2'

TINSLEY LAND - C.T. ORR LOGS

SCALE 1" = 400' HORZ. & 1" = 40' VERTICAL



R. G. WEAVER LEASE

SCALE 1" = 40' HORZ. & 1" = 40' VERTICAL

GEOLOGIC SECTIONS BY HAROLD SHEERAN

SUPPLEMENTING APPLICATION OF SHELTON AND FLEISHAKER, PARTNERS

JASPER COUNTY, MO.

DOCKET DMEA-4520

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MINERALS TECHNOLOGY
DIVISION

FEB 19 1957

BUREAU OF MINES
JOPLIN, MO.

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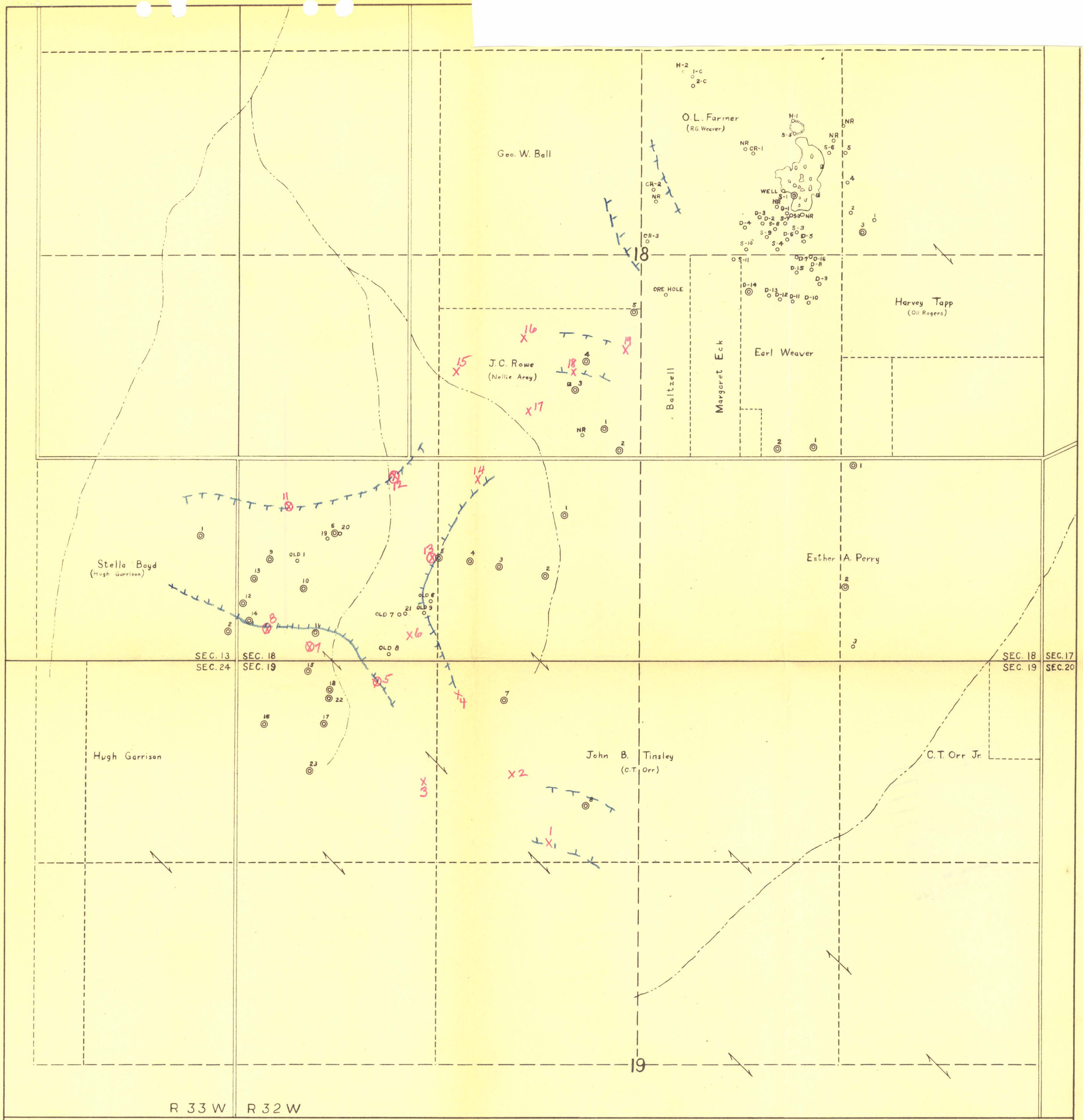
RECEIVED MAR 6 1957

DATE	INITIALS	CODE



Indicated sinks

Drill Holes to Ore Horizon

Shale or Structure Drill Holes

Proposed "Stage I" hole sites

Tentative "Stage II" drill hole sites

Scale
1" = 400'

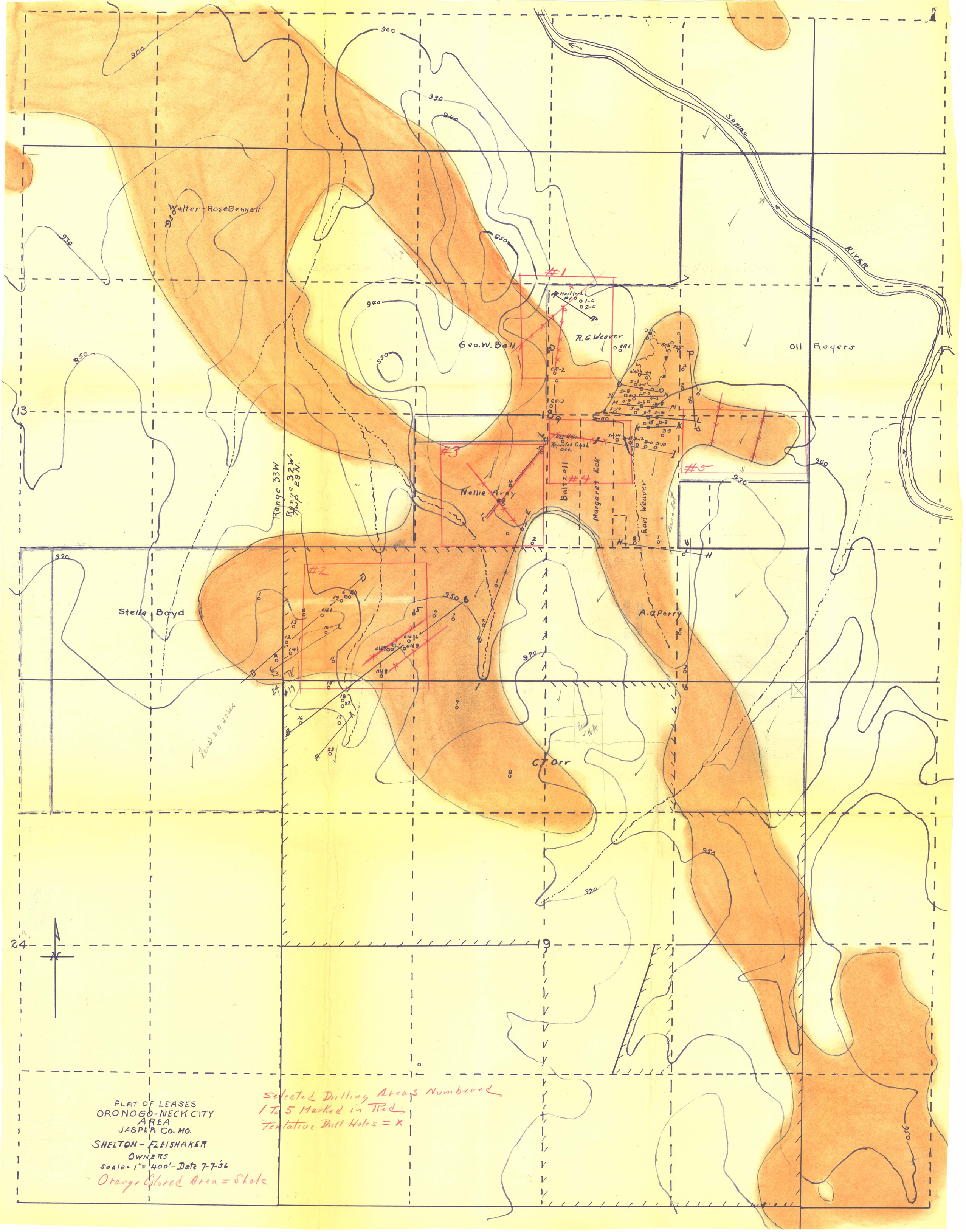
0 100 200 400 800

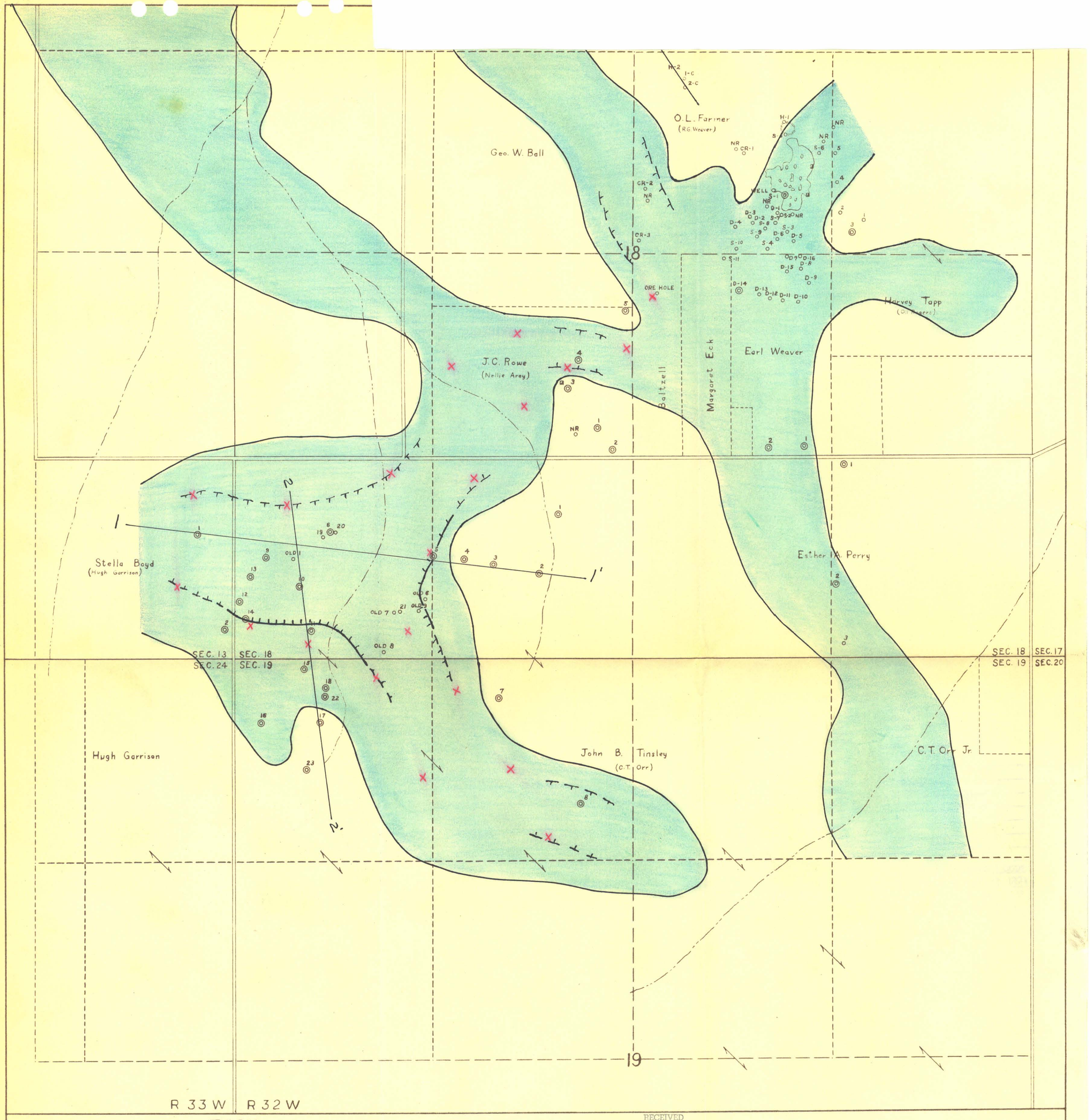
DMEA - 4520

Oronogo-Neck City Area
Jasper County, Missouri
Shelton-Fleishaker Leases

2-10-57

H.W.S.


Walter-Rose Bennett
Geo. W. Ball
R. G. Weaver
Oil Rogers
Nellie Arey
Baltzell
Margaret Eck
Earl Weaver
Stella Boyd
A. Q. Perry
C. T. Orr
Spring River
Range 33W
Range 32W
Twp 29N.
#1
#2
#3
#4
#5
Hartford #1
1-C
2-C
CR-2
CR-3
Old Hole Reported Coal ore
Well
N
PLAT OF LEASES
ORONOGO-NECK CITY
AREA
JASPER CO. MO.
SHELTON-FLEISHAKER
OWNERS
Scale 1" = 400' - Date 7-7-36
Orange Colored Area = Shale
Selected Drilling Areas Numbered
1 To 5 Marked in Red
Tentative Drill Holes = X



PROPOSED HOLES

Drill Holes to Ore Horizon

Shale or Structure Drill Holes

BOUNDARIES OF SLUMPS

PROBABLE BOUNDARIES OR EXTENSIONS OF SLUMPS

APPROXIMATE AREA OF SHALE

Scale
1" = 400'

0 100 200 400 800

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JOPLIN, MO.

Oronogo-Neck City Area
Jasper County, Missouri
Shelton-Fleishaker Leases

2-10-57

HWS