DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

Idm-E NO._____

DMEA NO. 4955

Application
- [x] Denied
- [ ] Withdrawn

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

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

Folder No. 1:

Left Side

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

Right Side

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

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

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab) 6-27-58
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports

- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

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

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

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

17963

Form MF-103
Revised Oct. 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1035.3
Approval expires June 30, 1958

APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER I, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed)

Monto Mineral Company
Potosi
Missouri

Oscar A. Oesterle, Agent

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APPLICANT NOT TO USE THIS BLOCK

Docket Number	4955
Date Received	3-10-58
Government Participation %	50
Region	IV
Division Code	500

BUSINESS ORGANIZATION (Check one)

- Individual [ ]
- Corporation [X]
- Partnership [ ]
- Other (Specify) [ ]

State in which firm is organized: Missouri

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

Name	Address	Title
Oscar A. Oesterle	Berryman Route Potosi, Missouri	President and Manager
Henry A. Oesterle	P. O. Box 638 Henryetta, Oklahoma	Vice-President
Carl W. Oesterle	2720 North I Street Fort Smith, Arkansas	Secretary and Treasurer

Mineral(s) for which you wish to explore: Lead and zinc

Estimated Cost of Project: $ 10,000.00

LOCATION OF PROPERTY

Name	County	State
Krueger Tract	Washington	Missouri

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-I, Revised, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit four copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.*

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.

February 24, 1958
Dated

Oscar A. Oesterle
BY *(Signature)*

President
Title

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (courthouse, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2*(a)*.

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *property boundaries* or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs *for each item of the work proposed in 4(a)* under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category *(a)* below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories *(b)* through *(g)*.

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. *(Note* – If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired – i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6*(d)*, describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6*(e)*. Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

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)* State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order–I, Revised.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

INT.-DUP. SEC., WASH., D.C. 25960

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MONTO MINERAL COMPANY
POTOSI, MISSOURI
OSCAR A. OESTERLE, AGENT

APPLICATION FOR AID IN AN EXPLORATION PROJECT

1. APPLICANT'S PROPERTY RIGHTS:

(a) 160 acres located in Northeast Quarter of Section 24, Township 37, North Range 1 East, Washington County, Missouri

(b) Krueger tract; Eye Mine

(c) Lessee

(d) None

2. PHYSICAL DESCRIPTION

(a) The lease has a shaft 112 feet deep. Forty-eight (48) drill holes, six of which were drilled by John Terril of Potosi, Missouri; five holes showed good ore in an area 150 feet in diameter. Before 1915 Galena was mined on this tract. In 1916 Mr. Terril bought this acreage and in 1917 sank a shaft to a depth of 112 feet, and did a small amount of drifting on the 100 foot level. This tract is located on the Shirley fault. In 1917 Mr. Terril shipped about 100 tons to mills in the vicinity of Joplin, Missouri, where a recovery of 15,000 lbs. of lead was made. The shaft passed through rich lead and zinc ore from the 25 foot level to a depth of 80 feet.

In 1930 T. J. Mateer drilled fourteen (14) holes; twelve of these holes encountered ore.

In 1942 Jess Flannery drilled four (4) holes, two of which were check holes on old holes. The other two were not drilled deep enough to reach the ore body.

The U.S.B.M. undertook an exploration project, started drilling in December, 1943, and was finished in February, 1944, 1,010 feet in the five holes completed; one hole, No. 31, encountered good ore. Holes No. 29, 30 and 33 cut low grade ore; the remaining hole cut only traces of lead and zinc.

Subsequently, a core drilling project was authorized in November. Drilling was begun in December, 1946, without interruption when the nineteenth hole was completed in April. Holes 34 and 46 cut good ore; seven holes cut low grade ore; the remaining penetrated only traces of lead and zinc.

(b) None

(c) In 1917 Mr. Terril shipped about 100 tons to mills in the vicinity of Joplin, Missouri, where a recovery of 15,000 lbs. of lead was made. Ref: R.I. 4292, July, 1948

MONTO MINERAL COMPANY
POTOSI, MISSOURI
OSCAR A. OESTERLE, AGENT

APPLICATION FOR AID IN AN EXPLORATION PROJECT

2. PHYSICAL DESCRIPTION (Continued)

(d) Ore reserve in 48 drill holes and the shaft were figured as each drill hole and shaft being in the center of a 50x50 square; each one foot depth of ore, at 12½ cubic feet to one ton ore = 200 tons ore; total thickness in drill hole determined by Homer J. Ballinger in his Table 1, Pertinent Data, Private Drilling on Page 6 of R.I. 4292 and Table 2, Pertinent Data, Bureau of Mines Drilling on Page 7 of R.I. 4292.

Recapitulation of Ore Tonnage

By John Terril - Churn drilling	27,300
By T. J. Mateer - Churn drilling	35,100
By U.S. Bureau of Mines - Churn drilling	6,000
By U.S. Bureau of Mines - Core drilling	25,000
	93,400
Shaft sunk by John Terril - ore from 25 foot level to 78 foot level as last sample, although ore is said to go to 90 foot level	10,600
Total Tonnage	104,000

(e) Figure 2, R.I. 4292; bedded deposit

(f) Drilling proves area mineralized; samples taken from holes designated on map in R.I. 4292

(g) Please refer to R.I. 4292, July, 1948

3. ACCESSIBILITY OF PROJECT

(a) Mr. Oscar A. Oesterle, Berryman Route, Potosi, Missouri. From the junction of highways 8 and 21 in Potosi, Missouri, go Southwest on Highway 8 approximately six miles, turn North between driveway of Raymond Brewer house and Troy Eye house; follow road to mine.

(b) Shipping and supply points at Potosi, Missouri or Mineral Point, Missouri. Present employees reside in vicinity of Potosi and Mineral Point, within ten mile radius of mine.

4. THE EXPLORATION PROJECT

(a) Churn drill holes checking the Mateer drilling and Terril drilling. Ref. Figure 2, R.I. 4292. Approximately 3,000 foot of drilling.

(b) Road already available.

(c) Work will start immediately on execution of contract. Drilling time approximately one week per hole; total time approximately two months. Churn and core drilling for check of deep ore to be done in 1959.

MONTO MINERAL COMPANY
POTOSI, MISSOURI
OSCAR A. OESTERLE, AGENT

APPLICATION FOR AID IN AN EXPLORATION PROJECT

5. EXPERIENCE

Mr. Oscar A. Oesterle will supervise. Has been interested in mining in Tri-State area since 1920. No actual mining experience.

6. ESTIMATE OF COSTS

(a) Drilling contractor - Marshall Eye; approximately $2.00 per foot of drilling.

Assay - Bruce Williams Laboratory, Joplin, Missouri; cost approximately $1.00 per foot of drilling in ore zone.

(b) Supervision - Oscar A. Oesterle; $99.00 per month.

Engineer -LaVern Markos - $500.00 per month; or County Engineer, if available; fee not known.

(c) All materials and supplies furnished by drilling contractor.

(d) Furnished by drilling contractor.

(e) None.

(f) None.

(g) None.

7. (a) Yes.

(b) Furnish share of costs by providing money.

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CALCULATION OF MINABLE ORE RESERVES OF THE KRUEGER ZINC DEPOSIT

The calculation of the minable ore reserves in the Krueger Zinc Deposit was made at the request of Mr. Oscar A. Oesterle, Lessee. This report was undertaken for the purpose of evaluating the worth of the property based on a previous investigation by the United States Bureau of Mines.

Exploration by the Bureau of Mines took place between the years 1943 to 1947. A total of 24 drill holes were put down at this time. Prior to the work done by the Bureau, 24 holes had been drilled. Six of these holes were drilled by John Terril of Potosi, in 1916. Fourteen holes were drilled by T. J. Mateer in 1930, and the remaining four holes were drilled by Jess Flannery in 1942.

The data obtained from all of the drilling is contained in the Bureau of Mines Report of Investigations, R. I. 4292, entitled Investigation of the Krueger Zinc Deposit, Washington County, Missouri.

Minable ore reserves, based on information in the Bureau of Mines. R.I. 4292, were calculated on the following basis.

1) 3.60% minimum metalliz Zn and/or Pb content.
2) 85% recover of base metals.
3) Values of metals based on Engineering and Mining Journal Quotations of May 9, 1957. Zinc priced at $0.06 per lb contained metal in a 60% concentrate. Lead priced at $0.12 per lb contained metal in an 80% concentrate.
4) Projection of ore values on a 50 foot radius from drill holes.
5) A minimum of 5 feet thickness of ore.
6) Volume calculated at 11 cubic feet of rock per ton of ore in places.

The following calculations, based on the above considerations, show a total of 154,095 tons of minable ore with an average grade of 4.43% metallic Zinc and 2.13% metallic lead. The average value per ton of ore is $8.93. The gross value of the minable ore amounts to $1,376,771.00.

TONS MINABLE ORE

HOLE #	%Zn	%Pb	THICKNESS (feet)	TONS ORE	TONS X %Zn	TON X %Pb
7	10.14	-	7.5	5,355	54,300	-
8	4.57	8.66	32.5	23,100	105,500	200,000
	5.69	-	5.0	3,570	20,300	-
10	2.32	2.67	15.0	10,720	24,900	28,600
13	5.52	-	17.5	12,500	69,000	-
14	4.31		6.0	4,280	18,430	
15	3.65		10.5	7,500	27,400	
16	3.62		20.0	14,280	51,700	
17	4.05		10.0	7,140	28,900	
31	4.72		10.0	7,140	33,700	
34	6.55	1.49	6.9	4,930	32,300	7,350
42	3.85		5.0	3,750	13,720	
46	6.01	.46	11.7	8,350	50,200	3,840
48	4.54		5.1	3,640	16,530	
Shaft	3.61	2.36	53.0	37,840	136,500	89,300
				154,095	683,380	329,090

Ave Zn % = 683,380/154,095 = 4.43

Ave Pb % = 329,090/154,095 = 2.13

Ave Grade - 154,095 tons - 4.43% Zn 2.13% Pb

La Vern J. Markos

MINING COSTS ESTIMATE

The Krueger Zinc Deposit contains two ore horizons. The major ore horizon occurs at depths of 135 to 190 feet, but a shallow ore zone at a depth of 30 to 110 feet overlies the deeper ore. For this reason, it is proposed to mine the deposit by two separate methods. The shallow body is to be mined by open pit methods and the deep ore body is to be mined by open stope methods.

The shallow ore zone appears to be the richer of the two ore bodies. Based on available data, the ore nearest the ground surface occurs in the vicinity of the old shaft where it rises to within 25 feet of the original ground surface. According to the Bureau of Mines Report the ore in the shaft occurs from 25 to 78 feet for a 53 foot face of ore averaging 3.61% Zn and 2.36% Pb. This portion of the shaft has been calculated to contain 37,840 tons of ore. Hole #8, which lies 30 feet north of the shaft, has 32.5 feet of ore averaging 4.57% Zn and 8.66% Pb from 77.5 to 110 feet and is estimated to contain 23,100 tons. Hole #6, which lies 90 feet south of the shaft, is estimated to contain 55 feet of 2.00% Zn and 2.00% Pb from 35 to 90 feet for a total of 38,500 tons of ore. Due to a small overlap of the projected ore bodies between the #6 hole and the shaft, the tonnage of #6 is reducted to 30,000 tons. The three holes combined are estimated to contain 90,940 tons of ore averaging 3.32% Zn and 3.84% Pb. The ore has an average value of $11.22 per ton and a gross value of $1,020,346.00.

The area encompassed by the above ore bodies comprises a block 215 feet long, 100 feet wide, and 110 feet deep. The direct overburden amounts to 28,565 cubic yards of material. Allowing for a 45 degree angle of repose, the amount of material it will be necessary to remove to expose the entire orebody to depth totals 231,146 cubic yards of rock and dirt in place.

The material to be removed to expose the ore will not be completely waste rock as the residuum, which caps the rock, to depth of 20 feet, contains an estimated 10 to 20% barite plus 1 to 2% combined lead and zinc. In addition the rock surrounding the orebody contains an estimated 10% barite and has seams and stringers of sphalerite and galena. It is probable that the cost of removal of the overburden will be offset by the recovery of mineral values contained in the material.

The cost of removal of the overburden is estimated to be $1.00 per cubic yard. The overall cost of removal will then be $231,146.00.

Mining and development of the cut will be done simultaneously. As the cost of development will be compensated for by recovery of the minerals contained in the overburden and this cost will not be calculated in with the costs of mining the ore.

Cost of Open Pit Mining

The shallow ore zone contains an estimated 90,940 tons of ore with an average value of $11.22 per ton and a gross value of $1,020,346.00. The cost of mining is based on 100 tons of ore per 8 hour day, five days per week, and is divided into direct and indirect expense.

DIRECT EXPENSE

1)	Labor - 2 men @ $16.00 per day	$32.00	
	Super. & Eng. $20.00 per day	20.00	$52.00
2)	Equip. & Mach. operating expense - less labor		
	Power Shovel 3/8 yd cap @ $4.50 hr.	36.00	
	1 dump truck 5 yd cap @ $2.00 hr.	16.00	
	Air compressor @ $1.25 hr.	10.00	
	Pumping water	5.00	
	Explosives, drill bits, maintenance of equipment and machinery, incidentals	31.00	98.00
	Total		150.00

INDIRECT EXPENSE

Indirect expenses to cover office expenses, taxes depreciation and amortization are estimated to be $0.25 per ton. 25.00

Total mining costs $175.00

Total direct cost of mining 90,940 tons	$136,410.00
Total indirect cost	22,735.00
Overall cost of mining open pit	$159,145.00

ESTIMATED COMBINED MINING AND MILLING COSTS

Milling costs are estimated not to exceed $1.50 per ton of ore.

Total milling costs @ $1.50 per ton	$136,410.00
Total mining costs	159,145.00
Total mining and milling costs	$295,555.00
Cost of mining and milling equipment (est)	$100,000.00
Combined cost of mining and milling	$395,555.00
Gross value of ore in reserve	$1,020,346.00
Less cost of mining and milling	395,555.00
Undiscounted operating profit	$ 624,791.00

At the rate of 100 tons per day, 5 days per week, the life of the open pit is calculated to be 3½ years.

LaVern J. Markos

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CALCULATION OF MINABLE ORE RESERVES OF THE KRUEGER ZINC DEPOSIT

The calculation of the minable ore reserves in the Krueger Zinc Deposit was made at the request of Mr. Oscar A. Oesterle, Lessee. This report was undertaken for the purpose of evaluating the worth of the property based on previous investigation by the United State Bureau of Mines.

Exploration by the Bureau of Mines took place between the years 1943 to 1947. A total of 24 drill holes were put down at this time. Prior to the work by the Bureau, 24 holes had been drilled. Six of these holes were drilled by John Terrill of Potosi, in 1916. Fourteen holes were drilled by T. J. Mateer in 1930, and the remaining four holes were drilled by Jess Flannery in 1942.

The data obtained from all of the drilling is contained in the Bureau of Mines Report of Investigations, R. I. 4292 entitled Investigation of the Krueger Zinc Deposit, Washington County, Missouri.

Minable ore reserves, based on date in the Bureau of Mines R.I. 4292, were calculated on the following bases.

1) 3.60% minimum metallic Zn and/or Pb content
2) 85% recovery of base metals
3) Values based on Engineering and Mining Journal Quotations of December, 1956. Zinc priced at $0.07 per lb contained metal in a 60% concentrate.
   Lead priced at $0.125 per lb contained metal in an 80% lead concentrate.
4) Projection of ore values on a 50 foot radius from drill holes.
5) A minimum of 5 feet thickness of ore.
6) Volume calculated at 11 cubic feet of rock per ton of ore in place.

The following calculations, based on the above considerations, show a total of 154,095 tons of minable ore with an average grade of 4.43% metallic Zinc and 2.13% metallic lead. The average value per ton of ore is $9.85. The gross value of the minable ore amounts to $1,517,950.00.

TONS MINABLE ORE

HOLE #	% Zn	% Pb	THICKNESS (feet)	TONS ORE	TONS X % Zn	TONS X % Pb
7	10.14	-	7.5	5,355	54,300	-
8	4.57	8.66	32.5	23,100	105,500	200,000
	5.69	-	5.0	3,570	20,300	-
10	2.32	2.67	15.0	10,720	24,900	28,600
13	5.52	-	17.5	12,500	69,000	-
14	4.31		6.0	4,280	18,430	
15	3.65		10.5	7,500	27,400	
16	3.62		20.0	14,280	51,700	
17	4.05		10.0	7,140	28,900	
31	4.72		10.0	7,140	33,700	
34	6.55	1.49	6.9	4,930	32,300	7,350
42	3.85		5.0	3,750	13,720	
46	6.01	.46	11.7	8,350	50,200	3,840
48	4.54		5.1	3,640	16,530	
Shaft	3.61	2.36	53.0	37,840	136,500	89,300
				154,095	683,380	329,090

Ave Zn % = 683,380/154,095 = 4.43

Ave Pb % = 329,090/154,095 = 2.13

Ave. Grade - 154,095 tons - 4.43% Zn - 2.13% Pb.

TONS MINEABLE ORE

BASIS: Ore projected on a 50' radius from drill hole. Tonnage calculated on basis of 11' cubic feet of rock per ton.

HOLE #	% Zn	% Pb	THICKNESS (feet)	TONS ORE	TONS (%Zn)	TONS (% Pb)
7	10.14	-	7.5	5,355	54,300	-
8	4.57	8.66	32.5	23,100	105,500	200,000
	5.69	-	5.0	3,750	20,300	-
10	2.32	2.67	15.0	10,720	24,900	28,600
13	5.52	-	17.5	12,500	69,000	-
14	4.31	-	6.0	4,280	18,430	-
15	3.65	-	10.5	7,500	27,400	-
16	3.62	-	20.0	14,280	51,700	-
17	4.05	-	10.0	7,140	28,900	-
31	4.72	-	10.0	7,140	33,700	-
34	6.55	1.49	6.9	4,930	32,300	7,350
42	3.85	-	5.0	3,570	13,720	-
46	6.01	.46	11.7	8,350	50,200	3,840
48	4.54	-	5.1	3,640	16,530	-
Shaft	3.61	2.36	53.0	37,840	136,500	89,300
				154,095	683,380	329,090

AVERAGE GRADE: - 154,095 tons - 4.43% Zn - 2.13% Pb

AVERAGE VALUE PER TON ORE

BASIS: Metal Price based on E. M. J. December 1956, quotations.

Metallic Zinc = $0.07 per lb.
" Lead = 0.125 per lb.

Recovery based at 85%

HOLE #	% Zn	% Pb	% RECOVERABLE Zn	/ Pb	LBS. METAL Zn	/ Pb	VALUE TON	TONS ORE	TOTAL VALUE
7	10.14	-	8.61	-	172.2	-	$12.05	5,355	$ 64,500
8	4.57	8.66	3.88	7.36	77.6	147.2	23.81	23,100	550,000
	5.69	-	4.83	-	96.6	-	6.75	3,570	24,100
10	2.32	2.67	1.98	2.27	39.6	45.4	8.44	10,720	90,000
13	5.52	-	4.68	-	93.6	-	6.55	12,500	81,800
14	4.31	-	3.66	-	73.2	-	5.12	4,280	21,900
15	3.65	-	3.10	-	62.0	-	4.33	7,500	32,500
16	3.62	-	3.07	-	61.4	-	4.30	14,280	61,300
17	4.05	-	3.44	-	68.8	-	4.82	7,140	34,400
31	4.72	-	4.00	-	80.0	-	5.60	7,140	40,000
34	6.55	1.49	5.57	1.26	111.4	25.2	10.97	4,930	54,000
42	3.85	-	3.27	-	65.4	-	4.58	3,750	17,150
46	6.01	.46	5.11	.39	102.9	7.8	8.05	8,350	67,200
48	5.10	-	4.33	-	86.6	-	6.07	3,640	22,100
Shaft	3.61	2.36	3.07	2.06	61.4	41.2	9.44	37,840	357,000
								154,095	$1,517,950

AVE. VALUE PER TON ORE = $9.85

AVE. GRADE = 154,095 tons - 4.43% Zn - 2.13% Pb

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MONTO MINERAL COMPANY

Churn Drill Logs, Krueger Tract

Drilling prior to 1943

Northeast Quarter of Section 24, Township 37 North, Range 1 East, Washington County, Mo.

Verbal description of holes 1 to 6 by John Terril

Hole 1	Thickness(feet)	Remarks
Interval - feet		
149 - 174	25	8% Zinc - Shines lead
174 - 186	12	Blank
Hole 2		
107 - 112	5	10% lead and zinc
162 - 181	19	10% Red zinc - no lead
181 - 196	15	Much iron, no lead or zinc.
Hole 3		
82 - 93	11	10% lead - some zinc
93 - 97	4	Rock
97 - 101	4	10% lead, some zinc.
101 - 112	3	10% red zinc
137 - 148	12	10% zinc
148 - 164	16	Barren
Hole 4		
0 - 96	96	Blank
Hole 5		
139 - 146.5	7.5	10% Zinc
Hole 6		
35 - 90	55	Mixed ore (good)

R.l. 4292

Mr. Homer Ballinger in his report of Investigations of the Krueger Zinc Deposit, Washington County, Mo. on page 6, Table 1 Pertinent data, private drilling estimated the assay value of zinc and lead.

Hole 1 - 25'	thickness	Zinc assay	4.13%,	Lead	0.80%
2 - 5'	"	" "	5.00%,	"	5.00%
2 - 19'	"	" "	4.13%,	"	0.80%
3 - 15'	"	" "	___%	"	10.00%
3 - 12'	"	" "	4.13%	"	0.80%
4 - 96'	"	Traces only - not assayed			
5 - 7.5'	"	Zinc only	10%	Lead	0.00
6 - 55'	"		2%	"	2.00%

MONTO MINERAL COMPANY

It appears to lessee that Mr. Ballinger's estimated assay on the 6 drill holes that John Terril drilled are pure guesses. It would seem that Mr. Terril's guess on drill hole No. 5 of 10% zinc and Mr. J. T. Mateer No. 7 drill hole with assay value of 10.14 aine ore coming in at same depth in both No. 5 and No. 7 - 139' to 146½' was awfully good.

I therefore think new drilling should be done to check both Mr. Terril's 6 holes and Mr. Mateer's 14 drill holes.

In the fall of 1950, I uncovered a drill hole 65 feet south of the shaft. Mr. Terril came out several times to see what I was doing and told me that No. 6 drill hole was much closer to the shaft than indicated. I therefore assumed that in the U.S.B.M. Figure 2 Drilling on Krueger Tract should have No. 6 where No. 13 is located and No. 13 where No. 6 appears on the map.

In the Picher Oklahoma field milling of millions of tons of ore the recovery of zinc and lead was 1.7 as much as the assay of drill holes. At Baxter Springs, Kansas field of 1.3 times assay value of drill holes whereas, in the Waco area North of Joplin the recovery was only seven tenths of drill hole assays. The only explanation I have was the heavy water encountered in Picher Ikla. and Baxter area of S.E. Kansas, washed away some of the cuttings. Whereas, the recovery of zinc and lead in Waco area is what I would anticipate on the Krueger tract in Washington County, Missouri, for there is very little water to contend with.

Based on the U. S. B. Mines of 5 churn drill holes and 19 core drill holes with only three good holes No. 31 by churn drilling and Nos. 34 and 46 core drilling out of 24 holes is not very attractive at present prices of zinc and lead.

MONTO MINERAL COMPANY

DRILL HOLES - By T. J. MATEER

Drill Hole	Interval Assay	% Zinc	% Lead	Depth Feet	No. Assays	Comments
No. 7	139 to 146½ Ft.	10.14	None	190	1	1 None
	77½ to 87½ "	3.43	"	175	1)	
No. 8	87½ to 110 "	5.07	12.51	"	1)	No. 8 Assays 3
	(155½ to 160 "	5.69	0.05	"	1)	
No. 9	(170 to 175 "	2.59	-	187½	1)	No. 9 Assays 2
	(177½ to 182½ "	3.43	-	"	1)	
	(137½ to 140 "	6.61	0.05	202½	1)	
No. 10	(157½ to 165 "	3.43	5.36	"	1)	No. 10 Assays 3
	(170 to 172½ "	3.63	-		1)	No. 10 check hole drill stem lost Note: I think check hole can be disregarded.
No. 11	145 to 147½ "	1.85	-	200	1)	No. 11 Assays 1
No. 12	None	None	-	162½	None	
No. 13	(142½ to 147½ "	6.07			1)	No. 13 Assays 2
	(150 to 160 "	6.93	0.41	175	1)	
No. 14						
	(147½ to 150 "	5.07	0.07	180	1)	
	(157½ to 162½ "	5.17			1)	No. 14 Assays 2
No. 15	152 to 162½ "	3.65		178	1)	No. 15 Assays 1
	(170 to 172½"	3.46		200	1)	
No. 16	(172½ to 180 "	4.27			1)	No. 16 Assays 3
	(180 to 190 "	3.17			1)	
No. 17	140 to 150 "	4.05		187½	1)	No. 17 Assays 1
No. 18	No assays			197½		No. 18 None
No. 19	157 to 167½ "	1.59		175	1)	No. 19 Assays 1
No. 20	152½ to 170 "	1.98		180		No. 20 None
No. 21	No Assays	No Assays		110		No. 21 None
No. 22				115		No. 22 None
						19 Assays

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MONTO MINERAL COMPANY

SHAFT SAMPLES 1/ Krueger Shaft

Sample No.	Depth From	Feet To	Analysis and Assay % $CaCo_3$	$Mg\ Co_3$	$Al_2\ O_3$	$Sl\ O_2$	$BASO_4$	ZN	FE	PB
1.	25	28	17.83	15.07	0.19	1.68	11.96	16.60	8.40	8.40
2.	30	33	7.46	8.18	0.11	1.01	19.52	18.36	7.90	
3.	40	43	12.18	10.77	1.15	5.24	15.08	18.10	10.50	
4.	75	78	25.49	21.24	0.44	2.98	15.28	10.76	8.50	

1/ Samples were blasted from mineralized sections of the shaft wall rock. They do not reflect the true grade over the indicated interval owing to the spotty characteristics of the ore.

The late Mr. Ed. Ellis who operated mines in the Tri State District calculated the average grade of samples No. 1, 2 and 3 from the 25 ft. level to 43 ft. level or a face of 18 feet. Nine (9) feet of which was assumed to be barren of all ore. This is not the case as no difference was noticed by Oscar L. Oesterle to the 60 ft. level in the shaft. However, assuming 9 feet of the 18 feet face to be barren Mr. Ellis average for Barytes, zinc and lead was 8.84% zinc 6.9% lead and 7.76% $BASO_4$. At the time Mr. Ellis made this calculation he was in charge of the Reconstruction Finance Corporation, Joplin Office, with offices in the Miner's Bank Building and was their chief Engineer. At the time of his death some two years ago he was with the Bureau of Mines located in Boston, Mass.

0

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
Box 431
Joplin, Missouri
July 31, 1958

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

Re: DMEA-4955(Lead-Zinc)
Monto Mineral Company
Krueger Tract
Washington County, Missouri

Dear Sirs:

Enclosed are photo copies of a letter received yesterday from the cited Applicant with a letter by Dr. Muilenburg giving some additional geologic information, which presumably is intended to supplement the information available to you as mentioned in the July 24 letter from Mr. Mittendorf to the Applicant.

Sincerely yours,

Clinton C. Knox

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

encls.

cc: DMEA Op.Com.
King,USGS,Denver
Amos,USGS,Knoxville

8/4 J. g. 225
Lwry 500

225

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
Box 431
Joplin, Missouri
July 31, 1958

Mr. Oscar A. Oesterle
President
Monto Mineral Company
Berryman Route
Potosi, Missouri

Re: DMEA-4955(Lead-Zinc)
Monto Mineral Company
Krueger Tract
Washington County, Missouri

Dear Mr. Oesterle:

This will acknowledge receipt yesterday of your letter enclosing the original of a letter from Dr. Muilenburg to you giving additional geologic observations on the subject tract.

Photo copies of both have been made and sent for the file information of the DMEA Offices in Washington and the U. S. Geological Survey Offices in Denver and Knoxville.

The original of the letter from Dr. Muilenburg is returned herewith for your keeping.

Please be assured that all of us concerned with the DMEA program, which has been terminated, appreciate receiving this additional information, and that the unability to approve your application proposal was sincerely regretted.

With best personal regards, I am,

Sincerely yours,

CCK/id

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

encl.

cc: DMEA Op.Com.(2) w/cy inc. none.
King,USGS,Denver " " "
Amos,USGS,Knoxville " " "
4955 file

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DIVISION OF MINERAL
TECHNOLOGY
JUL 30 1958
BUREAU OF MINES
JOPLIN, MO.

Potosi, Missouri
July 26th, 1958

Clinton C. Knox, Executive Officer
D.M.E.A. Field Team, Region IV
P. O. Box 431
Joplin, Missouri

Dear Mr. Knox:

I am enclosing the original letter I recently received from Doctor Garrett A. Muilenburg, which expresses his views as to possible mineralization on my lease, West of Potosi on Highway 8, known as the Krueger lease.

Yours truly,

Oscar A. Oesterle

Oscar A. Oesterle

OAO?alj

GARRETT A. MUILENBURG
GEOLOGIST
ROLLA, MISSOURI

RECEIVED
DIVISION OF MINERAL
TECHNOLOGY

JUL 30 1958

BUREAU OF MINES
JOPLIN, MO.

July 21, 1958

Mr. O. A. Oesterle
Potosi, Missouri

Dear Mr. Oesterle:

The following comments which express my views as to possible mineralization on you property, known as the Krueger lease, west of Potosi on Highway No. 8, may of interest to you and may be helpful in making application for a Government loan for further exploration and development.

The land lies along the Shirley fault and although the exact position of the fault can not be determined from surface evidence there are indications that it passes through the area which has been explored by recent drilling. I believe that most of the holes thus far drilled are on the down-thrown side, on which side the Eminence dolomite is exposed at the surface. The cuttings from several of the later drill holes suggest that these may have enter-the Potosi at a higher elevation and therefore these holes may have passed through the fault zone.

Although known orebodies in Washington County are not directly connected with faulting, drilling on your property, including that done by the U.S.Bureau of Mines and that which you did in May, 1958, has proved that there is extensive mineralization in this area which lies almost astride of the Shirley fault. The drilling completed to date has demonstrated commercial ore in quantity sufficient for a small scale mining operation.

It would be desirable to lay out a development program in this ore and also to carry on more exploratory work extending northward from the presently drilled area. Several drill holes on the north showed strong mineralization at the lower(200' plus) level. I would recommend that this area be further explored to determine the extent of the deeper mineralization.

It is my thought that there may considerable mineralization close to the Eminence-Potosi contact which I believe was encountered in several of the later holes. The Potosi appeared to be high in these holes suggesting that they may be in the upthrown side of the fault. There is evidence of porosity at and near this contact which together with the broken ground adjacent to the fault would make favorable conditions for mineral deposition.

Very truly yours

Garrett A. Muilenburg

DMEA Form 7
(12-56)

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Date	Surname	Code
7/21	Griswold	500
	Martin	130
	Copes	130
	Nelson	130
7/23	Johnson	110
23	Mittendorf	100 #B
		225

JUL 24 1958

Mr. Oscar A. Oesterle,
President
Monto Mineral Company
Berryman Route
Potosi, Missouri

Re: Docket No. DMEA-4955 (Lead-Zinc)
Monto Mineral Company
Krueger Tract
Washington County, Missouri

Dear Mr. Oesterle:

We regret that we were unable to completely process your application for exploration aid prior to June 30, 1958, the termination date for approving new contracts, as announced by the enclosed copy of a news release of June 6, 1958.

However, had the processing been completed, we would have been unable to approve a project based upon the information available to us in Washington concerning your property.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing the exploration plan to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

Enclosure
WRGriswold/er 7/21/58
Copy to: Docket
Admr R File
Up. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region IV (2)
Chron.

8623

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

July 23, 1958

Memorandum for the Docket

From: Director, Division of Base Metals

Subject: Justification for Denial of Application
Docket No. DMEA 4955
Monto Mineral Company (Lead-Zinc)

The original application smacked of development drilling, to augment the size of a proven ore body. Consequently, Mr. Bishop recommended denial on such ground.

On the other hand, Nelson recommended a field referral. We believed that Nelson's point was well taken, since the Applicant stated that of his total holding of 160 acres, all past drilling had been done on only a 3½ acre area. Hence it seemed possible that, with Field Team advise, the project could perhaps be revamped so as to be truly of an exploratory nature.

However, the June 27, 1958, memorandum of Mr. Knox states (page 2):

> "with the present market outlook, the Applicant did not feel that at this time he would be justified in revising the application as suggested to present a worthwhile and unexplored target".

In view of the above, nothing is left but denial.

W. R. Griswold

W. R. Griswold,

COPY

DMEA

JUL 21 1958

INITIALS CODE

7/21 B 220

7/21 WRG 500

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

July 21, 1958

Re: DMEA 4955; Lead-Zinc
Monto Mineral Company
Potosi, Missouri

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Review of the field examiner's report dated June 27, and received Washington June 30, 1958

The field examiner cites seven holes drilled on the Krueger deposit by the applicant subsequent to submission of his application for DMEA assistance to accomplish the same objective. The drilling obviates further consideration of the application.

In my memorandum dated March 12, I submitted an opinion that the project was a component of ore development rather than exploration and consequently outside the sphere of DMEA authority. The subsequent drilling by the applicant, his recall of the application, and Mr. Knox's economic and geologic evaluations seem irrelevant.

O. M. Bishop

O. M. Bishop

cc: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Callaway
F I L E S

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DATE	INITIALS	CODE
7/10	B	922 a
7/11	[illegible]	500

IN REPLY REFER TO:

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

July 9, 1958
Re: DMEA 4955
Monto Mineral Co.
Krueger Tract-Eye Mine
Washington Co., Mo.
$10,000 - Zinc-Lead

Memorandum

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

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

Subject: Review of Field Team Report

The applicant requested assistance in checking the results of previous drilling and shaft work by 3,000 feet of churn drilling. The previous private work had indicated a small tonnage of ore. Bureau of Mines drilling increased the tonnage slightly and indicated a possible second center of worthwhile mineralization. The proposed drilling would have tested the fringes of the two centers.

While awaiting action on the application, the applicant drilled 7 holes in the vicinity of the shaft orebody and effected the desired end. The indicated and inferred tonnage, as estimated by the applicant, was increased from 104,000 tons of 2 to 3.84% Pb and 3 to 4.4% Zn to 280,000 tons of material containing 3.62% zinc and 1.25% Pb.

The applicant having obtained a part of the information he was seeking has no alternate program to propose as of this time. The engineer examiner recommends that the application be disposed of by denying it without prejudice.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
Box 431
Joplin, Missouri
June 27, 1958

6/30	C	220
7/2	2+B	130
7/3	C	220
7/7	wpb.	500

ON-SITE Report

Memorandum

To: DMEA Operating Committee, Interior Building, Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region IV

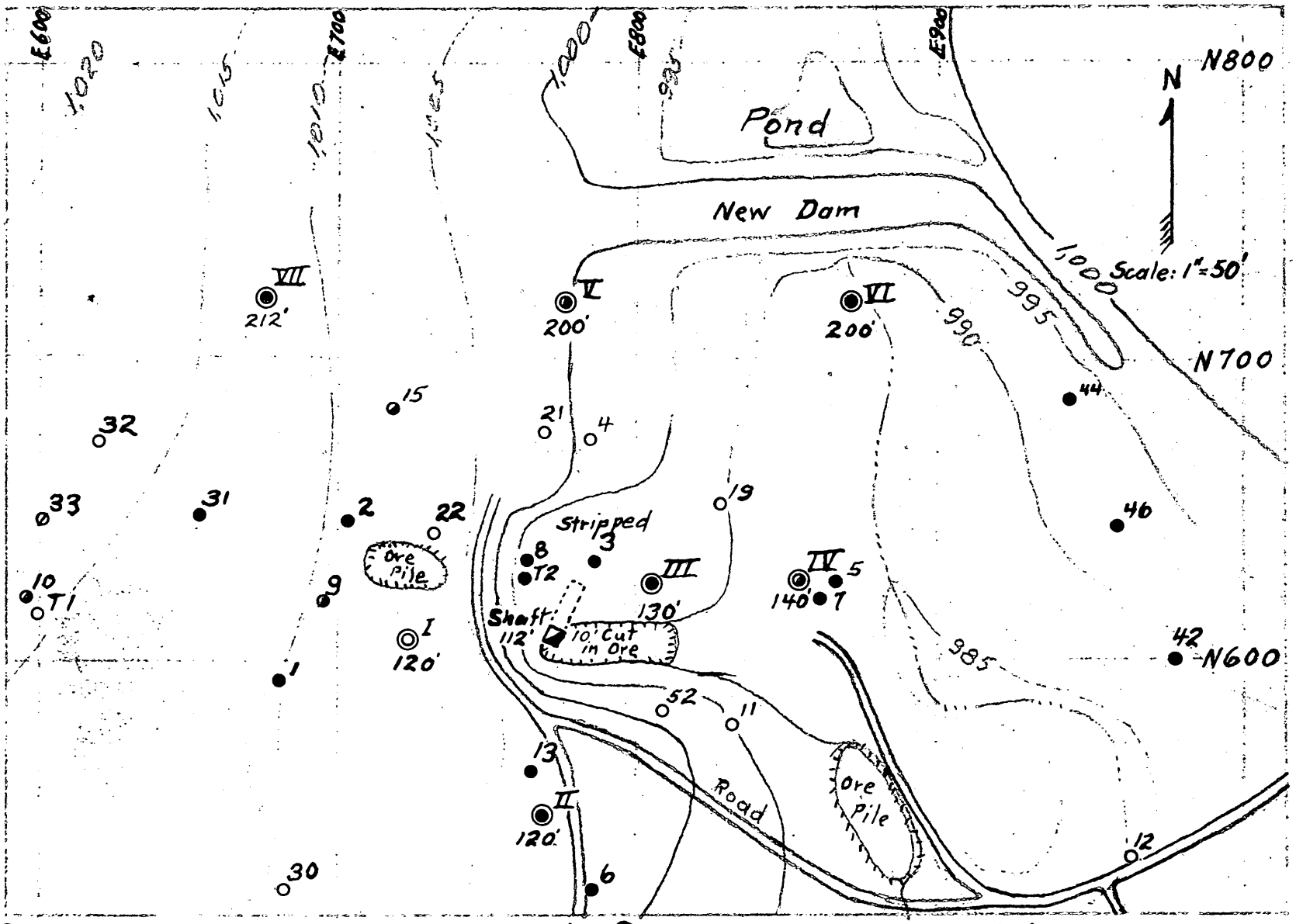
Subject: Field examination report
Application Docket No. DMEA-4955(zinc-lead)
Monto Mineral Company, Potosi, Mo.
Krueger tract - Eye mine
NE/4 sec. 24, T. 37 N., R. 1 E., Washington County, Mo.

Summary, Conclusions and Recommendations

Development drilling of seven holes in the Krueger deposit (Bureau of Mines R.I. 4292) by the applicant during April and May, 1958, subsequent to your March 13 referral to the Field Team, appears substantially to have reached the project objectives of the application proposal. Reserves of this sphalerite-galena-barite ore deposit in the relatively shallow Eminence-Potosi(Upper Cambrian) strata now were assured according to calculations of the applicant's engineer, totaling 280,000 tons with an average metallic content of 3.62 percent zinc and 1.25 lead.

Mining and stockpiling(pending higher prices and development of a practical beneficiation method) on the exposed shallowest lens of that ore has been resumed by the applicant in the strip-pit and cut he started 6 years ago at the collar of the shaft(see attached sketch map).

Reviewed by
DMEA OPERATING COMMITTEE
7-2-58
(date)



○ Holes drilled to 1947 (sketch from U.S.B.M. R.I. 4292)

◎ Holes churn drilled April-May, 1958

● Plus 7' of 4 percent Zn + Pb

◐ About 7' of 2 to 4 percent Zn + Pb

⊘ "Shines" to 2 percent Zn and Pb

○ Blank holes

DMEA Application Docket No. 4955, Monto Mineral Co.

The Kreuger Zinc-Lead-Barite Deposit

NE/4 Sec. 24, T. 37N., R. 1E., Washington County, Mo.

Knox 6/13/58

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DATE	INITIALS	[illegible]

Of the numerous such deposits known and mined in earlier days in eastern Missouri, none have produced significantly, and generally none are any longer regarded as worthwhile exploration targets. The old idea that these shallow, spotty, stringer or pod-like deposits in some way at depths were related to important deeper deposits like in the Bonneterre dolomite of the Lead Belt proper, are proven a fallacy. Although this and adjacent tracts of the 1,500-acre Krueger properties lie on a general course between the Indian Creek mine and the recently discovered new, or Viburnum lead belt, no data on strata below the Potosi were found available.

With the present market outlook, the applicant did not feel that at this time he would be justified in revising the application as suggested to present a worthwhile and unexplored target.

Therefore, denial of the application proposal without prejudice to the property is recommended.

The Field Examination

The Krueger property is along paved State Highway 8, about 5 miles west of the town of Potosi. The mine is 1/4 mile north of the highway; Mr. Oesterle maintains a part-time residence in the Krueger cottage about 1/2 mile to the southeast.

After being notified that the application, dated February 24, 1958, had been referred to the Field Team instead of immediately being approved, Mr. Oscar A. Oesterle, President and Agent of the applicant

company, announced in the Field Team Office on March 27, 1958, that he would do part of the proposed churn drilling immediately at his own expense, and in a letter later that day, formally requested that further processing of the application be held in abeyance pending receipt of the drilling results.

Therefore, in passing by the project on April 11 when churn drilling of the third hole was found to be in progress, I stopped to visit briefly with Mr. Marshall Eye, the drilling contractor, and to see the work which had been done since my previous visit there in 1952. Mr. Eye, who has resided nearby all his life, explained to me much of the history of the so-called Eye mine on which some of the early drilling and the shaft sinking in 1917 are said to have been accomplished with his supervision. Much of the success then and now in finding and developing ore is attributed to his "witching" ability with a peach twig.

Again passing there on June 13, 1958, I spent part of that forenoon with Mr. Oesterle some two weeks after the seven holes reportedly aggregating 1,122 feet of churn drilling, had been completed. On June 6 he had brought to me in Joplin a copy of all the assay certificates(reproduced and appended hereafter for your record). Significant ore indications are shown in five of these holes. He showed me the seven hole locations which are indicated approximately on my attached sketch map. The logs of

the holes, however, which were to have been prepared by Mr. L. J. Markos, an engineering student said to be in the employ of the applicant on a consulting basis to watch the sampling by the driller, have not been forthcoming. The piles of drill hole cuttings remaining at the locations seemed to confirm that the shallower ore-bearing material is the Eminence strata; the deeper, probably Potosi. Anyhow, such records probably would not meet Government requirements and would have no bearing on any future exploration proposal.

Mr. Oesterle stated that recent ore reserve calculations by Mr. Markos taking results of the seven new holes into account in addition to all previous data in Bureau of Mines R.I. 4292, assured 280,000 tons of ore containing an average of 3.62 percent zinc and 1.25 lead. That appears plausible assuming that the ore lenses are not spotty on the indicated various horizons, and actually do not prove to be confined only to fracture intersections and stringers of the obviously complex but yet uncharted Shirley fault system. Also, realization of much return from this finely disseminated sphalerite, galena and barite ore deposit depends much on success of Bureau of Mines' beneficiation research said to be in progress in the Rolla Laboratories.

Under the present circumstances, however, Mr. Oesterle indicated that he would not feel justified in making any further financial outlay other than that required to continue employing one miner and one equipment operator.

They were employed recently to rehabilitate and operate the applicant's 3/8-yard diesel-powered shovel, a bulldozer, a compressor and wagon drill on the exposed deposit at the shaft where further stripping, ore mining and stockpiling had been resumed June 10. A dismantled mill had been hauled to the site some three years ago but its erection may never be justified. Otherwise, the equipping has been nominal all with well-used and worn items, and the work to date including the new dam for flood control and eventual water supply for a mill, are indicated sufficiently on the attached sketch map for the purposes of this memorandum report.

The applicant indicated accord with my contention that any eventual new exploration proposal on the Krueger tracts might include a close-grid land magnetometer survey and core drilling to the Pre-Cambrian basement rocks on the basis of any significant magnetic anomaly that became evident.

A copy of the lease from the Krueger estate, which evidently has been in effect over the past 6 or 7 years, has not been made available for scrutiny by the Field Team, but the applicant assured that it was equitable and in good standing, and that adjoining tracts of the large Krueger acreage in addition to the 160 acres now under lease, were available for lease to the applicant.

Clinton C. Knox

Clinton C. Knox

Map attached
Assays appended

cc: DMEA Op.Com.(3)
King,USGS,Denver
Amos,USGS,Knoxville
4955 file

THE BRUCE WILLIAMS LABORATORIES
Joplin, Missouri

Mr. Oscar A. Oesterle
Potosi, Missouri

4-19-58

Drill Hole No. 2

		ZINC	IRON	LEAD
790515	75 ft.	None	1.60	None
516	80 ft.	None	5.00	None
517	82½ft.	None	3.00	0.01
518	85 ft.	0.08	4.60	0.04
519	87½ft.	1.28	7.80	0.21
520	90 ft.	0.98	8.90	0.21
521	92½ft.	0.82	9.00	0.19
522	95 ft.	0.60	9.10	0.25
523	97 ft.	0.48	8.40	0.16
524	100 ft.	0.38	6.00	0.07
525	105 ft.	0.58	2.90	0.04
526	107½ft.	11.10	6.20	0.79
527	110 ft.	11.00	5.60	0.82
528	115 ft.	3.34	4.30	0.21
529	120 ft.	0.48	3.70	0.06
530	122½ft.	None	6.80	0.06

Barium Sulphate Composite 3.36
CF-nls 65-1000

Bruce Williams

THE BRUCE WILLIAMS LABORATORIES
Joplin, Missouri
May 8, 1958

Mr. Oscar Oesterle
Potosi, Missouri

			IRON	ZINC	LEAD	GERMANIUM	BARIUM SULPHATE
791281	Hole #3	30 - 35	6.90	0.42	0.11		
282		35 - 40	3.90	1.20	0.07		
283		40 - 45	3.54	0.48	0.05		
284		45 - 50	3.14	0.18	0.04		
285		50 - 55	6.32	1.46	0.09		
286		55 - 60	3.78	0.32	0.06		
287		60 - 65	5.42	0.14	0.07		
288		65 - 70	4.58	0.24	0.05		
289		70 - 75	6.10	0.14	0.06		
290		75 - 80	3.78	0.30	0.03		
291		80 - 85	2.70	0.14	0.04		
292		85 - 90	14.82	1.42	0.13		
293		90 - 95	22.62	1.48	0.20		
294		95 - 100	14.10	1.24	0.13		
295		100 - 105	15.46	3.96	0.14		
296		105 - 110	5.02	0.34	0.06		
297		110 - 115	2.38	0.06	0.06		
298		115 - 120	5.78	0.18	0.07		
299		120 - 125	4.98	0.04	0.06		
300		125 - 130	1.74	1.08	0.07		
Composite Sample above hole			6.98			0.0008	1.74
301	Hole #4	100 - 105	3.98	0.10	0.07		
302		105 - 110	2.06	0.06	0.05		
303		110 - 115	4.40	0.06	0.08		
304		115 - 120	4.72	0.12	0.20		
305		120 - 125	4.34	0.44	1.02		
306		125 - 130	1.70	0.12	0.11		
Composite sample of above hole			3.56			0.0003	0.55
307	Hole #5	150 - 155	0.86	2.14	0.06		
308		155 - 160	0.66	1.58	0.02		
309		160 - 165	0.86	5.42	0.02		
310		165 - 170	2.46	2.26	0.01		
311		170 - 175	1.46	0.76	0.07		
312		175 - 180	1.04	4.60	0.04		
313		180 - 185	2.26	3.62	0.04		
314		185 - 190	1.14	0.58	0.03		
Composite sample of above hole			1.32			0.0011	0.50

THE BRUCE WILLIAMS LABORATORIES

Bruce Williams

THE BRUCE WILLIAMS LABORATORIES
Joplin, Missouri

Monto Minerals Company
c/o Mr. Oscar Oesterle
Potosi, Missouri

5-21-58

			ZINC	LEAD
791936	Hole No. 7	125-130	0.84	0.70
937		130-135	0.74	0.17
938		135-140	1.64	0.08
939		140-145	0.64	0.08
940		145-150	0.32	0.02
941		155-160	0.48	0.31
942		180-185	4.60	0.02

fc/jf 66-323

Bruce Williams

THE BRUCE WILLIAMS LABORATORIES
Joplin, Missouri

Monto Minerals Company
c/o Oscar A. Oesterle
Potosi, Missouri

5-21-58

			ZINC	IRON	LEAD	GERMANIUM	CADMIUM	BARIUM SULPHATE
791880	Hole #6	180 - 185	8.40	1.26	0.18			
881		185 - 190	6.80	1.16	0.08			
882		190 - 195	2.24	1.18	0.02			
883		195 - 200	1.08	0.96	0.04			
Composite on above hole						0.0009	0.07	1.94
791884	Hole #7	195 - 200	0.98	2.36	0.02			
885		200 - 202½	12.76	3.88	0.02			
886		202½-205	18.00	4.10	0.02			
887		205-207½	2.18	2.84	0.03			
888		207½-210	1.08	1.28	0.02			
Composite on above hole						0.0010	0.08	0.54

fc/jf
66-304

Bruce Williams

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
Box 431
Joplin, Missouri
March 28, 1958

DMEA
31 1958
3/31 wpd. 500

Memorandum

To: Dewey H. Amos, U. S. Geological Survey, Carbondale, Ill.

From: Executive Officer, DMEA Field Team, Region IV

Subject: Request to hold in abeyance Application DMEA-4955 Monto Mineral Co.,(lead-zinc) Krueger tract, Washington County, Mo.

Since my March 24 letter to you about the tentative plan to make our preliminary examination of this Applicant's property on April 11, the Applicant came to this office yesterday and brought the letter of which a copy is attached hereto. I believe you will find it self-explanatory and probably decide that we should hold our examination and further processing of this application proposal in abeyance for the foreseeable future.

Mr. Oesterle has decided to further chrun drill the holes proposed in the application next week entirely at his own account and stated that he will endeavor to retain Dr. Garrett A. Muilenburg, retired Assistant State Geologist as geologic consultant to possibly prepare a revised application proposal if and when justifiable.

A copy of this memo, with two copies of Mr. Oesterle's March 27 letter are also being furnished for the information of the DMEA Operating Committee.

CCK/id

Clinton C. Knox

encl.

cc: DMEA Op.Com.(2) w/2 cy encl.
4955 file

(COPY)id

MONTO MINERAL COMPANY
Producers of
Zinc and Lead Concentrates -- Iron and Barite
Phone HE 8-3964
--
Potosi, Mo.

March 27, 1958

DMEA
MAR 31 1958
CODE

Mr. Clinton C. Knox
Executive Officer
Defense Minerals Exploration Administration
P. O. Box 431
Joplin, Missouri

Dear Mr. Knox:

Following our discussion in your office today, I believe it is advisable at this time to request that you hold my application proposal on the Krueger tract, Washington County, Missouri, (your Docket No. DMEA 4955), in abeyance for a while until I have done some of the preliminary check drilling and obtained further geological information on which to revise the exploration plan.

Yours very truly,

/s/ Oscar A. Oesterle
/t/ Oscar A. Oesterle, President

MONTO MINERAL COMPANY

OAO B

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Box 431
Joplin, Missouri
March 18, 1958

DMEA
RECEIVED MAR 21 1958

3/21	C	220
3/24	cmb	500

Memorandum

To: Dewey H. Amos, USGS, Carbondale, Illinois

From: Executive Officer, DMEA Field Team, Region IV

Subject: Field referral - DMEA-4955(lead-zinc)
Monto Mineral Company - Krueger Tract
Washington County, Missouri

Furnished herewith is the second Field Team copy of subject application and pertinent correspondence from Washington for your review. Here, also for your information, is our office copy of Bureau R.I. 4292 on which the application mostly is based.

If you can arrange the time in connection with our April joint inspections of the East Missouri projects, undoubtedly we should make the Field examination for this application. Upon receiving your advice, I will notify the Applicant accordingly, well in advance, so that he can be present whenever you and I can examine the property.

With reference to the postscript on the DMEA referral letter, I am inclined to agree with Bishop insofar as the application proposal could not be regarded as "exploration". No doubt, results of some of the early exploratory holes may need checking for reliability, and no doubt proper exploration program could be designed on the inferred extensions of the indicated reserves there. Of course, we never previously have considered that the Eminence and Potosi deposits would be worthwhile exploration targets,, but this appears to be one of the best of them.

Also furnished herewith for your information are the fifth copies of each of St. Joe's February MF-104s on Project Idm-E1064, -E1068, and -E1073(DMEA-4381, -4382, -4383) received here March 11.

CCK/id

Clinton C. Knox

encls. 4

cc: DMEA Op.Com.(2)
4955 file
4581 file

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Griswold	500
3/12	Selfridge	130
"	Johnson	110
"	Gutenstein	100
3/13	C	220
		500
3/12	Lamb	130
3/12	Killsgaard	130

MAR 13 1958

Mr. Oscar A. Oesterle,
President
Monte Mineral Company
Berryman Route
Potosi, Missouri

Re: Docket No. DMEA-4955 (Lead-Zinc)
Monte Mineral Company
Krueger Tract
Washington County, Missouri

Dear Mr. Oesterle:

We have received your letter of March 7 and your application for Government assistance to explore the cited property. After review by the Base Metals Division the application is now being referred to:

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

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

Sincerely yours,

(for)

Administrator

WRGriswold:ms 3/12/58
Copies: Docket
Admr. R. File
Operating Committee
Mr. Bishop, USBM
Mr. Killsgaard, USGS
chron.
Field Team, Region IV

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Drawer	500
3/12	[illegible]	130
"	Johnson	110
"	Chittendon	100
		220
		500

MAR 13 1958

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

Re: Docket No. DMFA-4955 (Lead-Zinc)
Monte Mineral Company
Krueger Tract
Washington 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 recommendations. Copies of memoranda dated March 12 by M. L. Nelson, Geological Survey and O. M. Bishop, Bureau of Mines, relating to the project are enclosed for your information.

We are also enclosing an extra copy of the application for use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (HB)

Approved:

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

Thor H. Kiilsgaard (HB)
Member, Geological Survey

WRGriswold:ms 3/12/58
Copies: Docket
Admr. R. File
Oper. Comm.
Mr. Bishop, USBM
Mr. Killsgaard, USGS

Enclosures: 5

PS: We are not fully in accord with the contention of Mr. Bishop that the project is merely development work, since the applicant states that most of the area is still unexplored.

8623

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 12 1958

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

March 12, 1958

Re: DMEA 4955; Zinc-Lead
Monto Mineral Company
Potosi, Missouri
Oscar A. Oesterle, Agent

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Application dated February 24, 1958 for DMEA aid in an exploration project proposed by reference company. Application received Washington, March 10, 1958.

The applicant proposes 3,000 feet of churn drilling at an estimated total cost of $10,000 to check previously drilled ore intersections. All information in the application indicates the project is a component of ore development and no exploratory function would be served by the proposed drilling. This interpretation places the project outside the sphere of DMEA authority, and I therefore recommend denial.

O. M. Bishop

O. M. Bishop

cc: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Callaway
F I L E S

Office Mail Sort
DMEA
RECEIVED MAR 12 1958
3/12 C
250
500

IN REPLY REFER TO:

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

March 12, 1958
Re: DMEA 4955
Monto Mineral Co.
Kruger Tract, Washington Co., Mo.
$10,000.00 - Lead & Zinc

Memorandum

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

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

Subject: Review of application

The applicant requests assistance in checking by 3,000 feet of churn drilling the results of previous drilling.

The previous drilling and a 112-foot shaft indicate the existence of 104,000 tons of material assaying according to various estimates from 2 to 3.84% lead and 3 to 4.4% zinc.

Referral of the application to the Field Team is recommended.

N. E. Nelson

N. E. Nelson

Monto Mineral Company

PRODUCERS OF
Zinc and Lead Concentrates — Iron and Barite

PHONE HE 8-3964

POTOSI, MO.

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 10 1958
DATE | INITIALS | CODE

March 7th, 1958

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

Dear Mr. Mittendorf:

Under separate cover am air mailing our Application For Aid in an Exploration Project because:

Mr. Terrils estimate of assay value could be out of line and Mr. Homer J. Ballinger, Author of R.I. 4292 - 1948, after oral interview with Mr. Terril ascribes certain assay values to the 6 drill holes Mr. Terril drilled. He never questioned Mr. Terrils statement of ore depth.

In 1930, Mr. T. J. Mateer drilled 14 holes 12 of which encountered ore. In 175 ft. of ore only 19 assays were made. I think a great many more assays should have been made.

Although at this time we are more interested in the ore above the 112 foot level I think all drill holes should be drilled to the Potosi formation.

It appears that the shallow ore carries more lead than the lower ground and we will mine using open pit methods. The lower ground will be mined in convential manner.

We started an open cut 130 feet East of the shaft and have stock piled ore taken out at 45 ft. East of the shaft at the 30 ft. level, rich lead was found mixed with zinc and barite. Zinc assays showed 17% zinc, 3.12% lead, 12.60% Iron and Barite 6.30%.

We believe that drilling approximately 10 to 12 holes as marked will prove 40,000 square feet of good shallow ore.

All 48 drill holes from 1917 to date are all in an area of 3½ acres, leaving 156½ acres that should be prospected.

In 1959, we want to check the Bonne Terre formation, because the St. Joe Lead Co. has drilled several holes just north of our north line. The nearest drill hole 200 ft. from our Northeast corner. The big St. Joe Lead Co. Mill is 7 to 8 miles from our acreage.

March 7th, 1958

Mr. C. O. Mittendorf, Administrator

If the proposed drilling is successful in proving the Terril and Mateer drilling and also proving a larger area I can promise that active mining will be undertaken at once and a mill erected as quickly as possible. Expect to be in production by fall.

In our Aid application my brother Carl was named Secy. - Treas., however, he resigned and his duties assumed by my brother Edgar of Henryetta Okla. The Aid Application was prepared in my Auditor's office in Joplin, Mo. Mr. Marshal Eye's price for drilling is $2.25 per foot, as this is what St. Joe Lead Co. pays his son in Southwest part of County. The Bruce Williams Laboratories price for assaying each sample for zinc-lead, iron and barite is $5.50 per sample.

On my return trip from Joplin Mo. I stopped at Rolla Mo. and called on Mr. Geehan, Chief of the U. S. B. M. I had phoned him from Joplin and asked him if they had any maps that would be useful.

A copy of his letter is attached to our Aid Application. While there I called on Mr. Morris Fine, who is in charge of the testing laboratory. While Mr. L. J. Markos was in our employ he took a generous sample of the ore in the cut and which he diluted with waste rock for testing. His sample analized 13% zinc. Mr. Fine showed me that the average zinc concentrates ranged from Plus 61% to 65% zinc with 86% average recovery. Mr. Fine estimated lead content at 1%. I will ask the Bureau to assay for Germanium. As Mr. Knickerbocker, former chief at Rolla advised me that one sample assayed o.39% Germanium. The average in Picher District in Oklahoma is 0.012%. If this assay would hold up when in production this may prove a source of additional revenue.

If, Mr. Mittendorf you would like to have me come to Washington, I will be pleased to come.

Yours sincerely,

Oscar A. Oesterle

OSCAR A. OESTERLE
Potosi, Missouri
Berryman Rt.

OAO/alj

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Mines
P.O. Box 136
Rolla, Missouri

February 24, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 10 1958
DATE | INITIALS | CODE

Mr. O. A. Oesterle
Shirley Route
Potosi, Missouri

Dear Mr. Oesterle:

Pursuant to our discussion by telephone last week regarding the Krueger tract, Washington County, Missouri, we have searched our files without success for a large-scale map of this property. The only maps now available are those shown in Report of Investigations 4292, "Investigation of the Krueger Zinc Deposit, Washington County, Missouri".

About 10 years ago a fire in the top floor of this station destroyed many of our maps and records. We are reasonably sure that the working maps of the Krueger tract were stored there, so it must be presumed that they were consumed by the fire.

Sincerely yours,

Robert W. Geehan, Chief
Division of Mineral Technology
Region IV

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

March 11, 1958

Monto Mineral Company
Potosi, Missouri

Attention Mr. Oesterle

Subject: DMEA-4955

Gentlemen:

Your application for exploration assistance, dated February 24, 1958 submitted to our office at Washington, D. C. has been assigned Docket Number DMEA-4955 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, Director
Operations Control and
Statistics Division

Copy to: Region IV

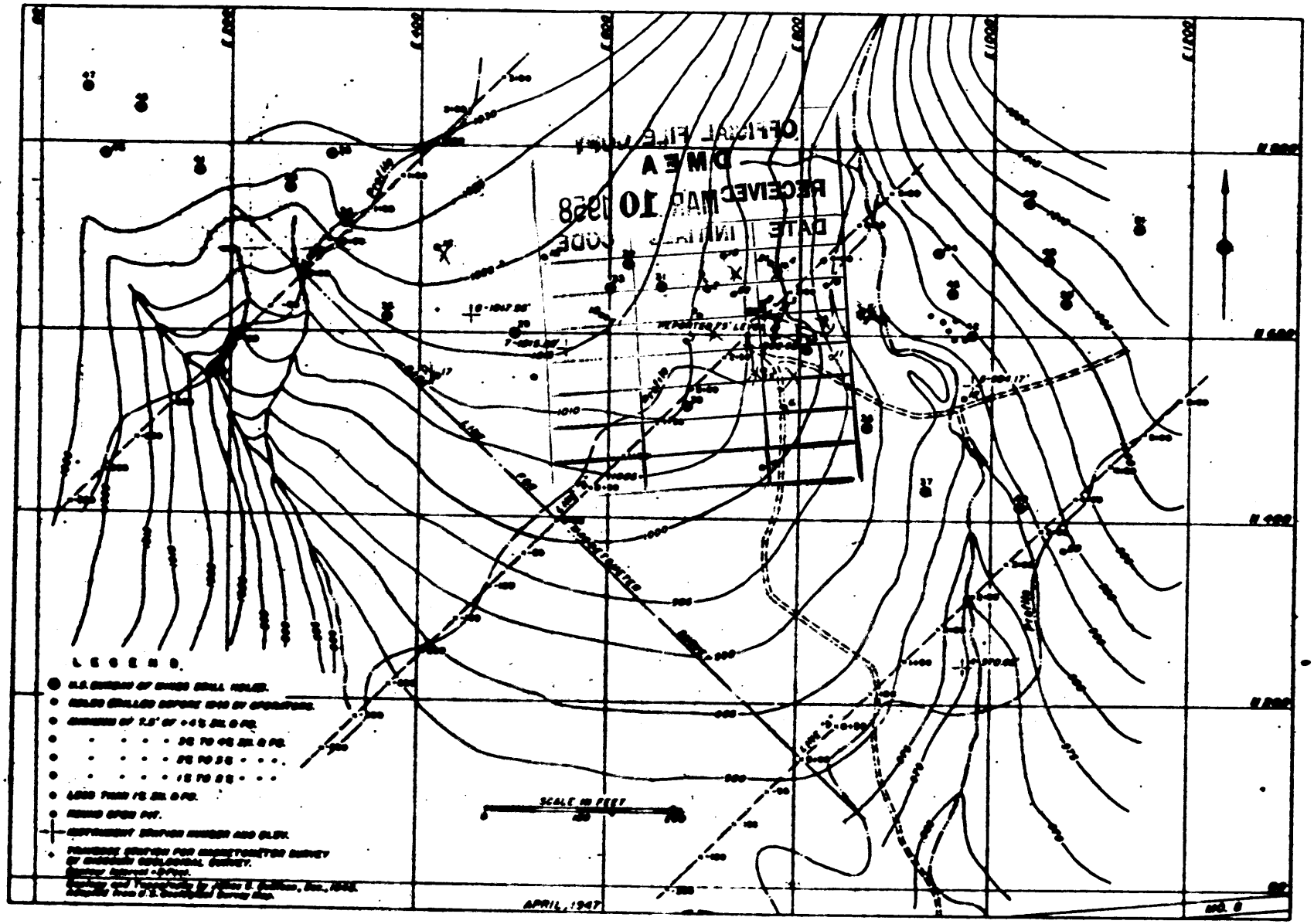

Figure 2. - Drilling on Krueger tract.

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DMEA
RECEIVED MAR 10 1958

DATE	INITIAL	CODE