MME Form 9
Rev. Mar. 59

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Minerals Exploration

DMEA-4286

OFFICIAL DOCKET FILE

Contract No. ~~xxxxx~~Idm -E982 Docket No. ~~MME~~

Application
- [ ] 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- [ ] Withdrawn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
- [x] Certification of Discovery] 11-24-59
- [ ] Closing Letter]
- [x] Cost Audits 11-12-59
- [x] Termination ~~Notice or~~ Agreement] 7-10-59
- [ ] Recision Notice]
- [ ] Assignment of Contract
- [x] Contract Amendments
- [x] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and Attachments

Right Side

- [x] Project Summary (final) 9-29-60
- [x] Work Completed Analysis (final)
- All other material filed in chronological order including the following reports if checked:
- [ ] Field Team Semiannual Report for Certified Project
- [x] Final Field Team Report (Tab) USGS 3-6-61
- [x] Operator's Final Report (Tab) #1 (Maps #3)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam. Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. 2 : Reports
- [ ] Analysis of Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

- [ ] Field Team Semiannual Report for Certified Project
- [x] Field Team Interim Reports
- [x] Operator's Monthly Reports with Transmittal, Narrative and Maps

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

Folders No. _____ : Settlement Sheets

Folders No. 3 : Drill Logs and maps

Folders No. 4 : Royalty Material - Settlement Sheets and Report on Certified project

52615

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Washington office pertaining to Contract Idm-8982, Docket DMEA-4286 (zinc), dated July 30, 1956, with

The New Jersey Zinc Company
160 Front Street
New York 38, New York
and
Jefferson City, Tennessee

for the purpose of determining the amount of royalty payable to the U. S. Government on sales of minerals from property referred to as the Big War Creek Area located in Hawkins and Hancock Counties, Tennessee, during the period July 30, 1956, through July 1, 1960.

A certification of discovery or development was issued on November 24, 1959, and, in accordance with Articles 6 and 13, Annex I, and Amendment No. 6 of the contract, royalty is payable on all minerals produced from the land described in Article 2, as amended, of the contract for a period of 32 years from the date of the contract or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. A Report of Review dated November 12, 1959, indicated accepted costs under the exploration contract amounting to $91,374.67 with the Government's contribution on a 50 percent basis being $45,687.33.

The status of the project, the scope of review, and the reasons therefor are stated on page 2.

This review established no sales subject to the Government's royalty for the period. Accordingly, as of July 1, 1960, the royalty account of this project was found to be:

Total Royalty Payable	$ -0-
Total Royalty Paid	-0-
Balance of Royalty Due	$ -0-

March 26, 1962

E. D. Talbert, OME Auditor

Idm-E982 The New Jersey Zinc Company DMEA-4286

STATUS OF PROJECT, SCOPE OF REVIEW
AND REASONS THEREFOR

This contract provides that the Operator, as principal if the producer or as surety if not the producer, shall pay to the Government a percentage royalty on all mineral production until July 30, 1988, from (1) the lands thereunder, (2) the parcel of land deleted by Amendment No. 11, if the Operator or any of its subsidiaries acquires any interest in such parcel or production therefrom, and (3) any contiguous lands in which the Operator acquires any interest within 10 years from the date of the contract. Limestone and dolomite products derived from processing ores are included as minerals.

At the time this contract was executed, the land thereunder consisted of 13 tracts aggregating approximately 1,027.45 acres, from which a rectangular area containing 31 acres, more or less, was specifically excluded from the contract. Amendments to the contract added 2 tracts totalling 235.45 acres, deleted 1 tract of 197 acres, and reduced the excluded area to 24 acres, more or less. Of the total of approximately 1,065.9 acres (including the excluded 24 acre area), as of September 1959, the Operator held 2 tracts aggregating 39.79 acres in fee, owned the mineral and mining rights in 10 tracts totalling 955.11 acres, more or less, held 1 tract of about 25 acres under option, and had no interest in 1 tract of about 46 acres. The usual contractual requirement for Consents to Lien was waived.

Exploration work under the contract was terminated May 29, 1959. No minerals were produced during the exploration work. Examinations of the property and conferences with the Operator's officials have found that the property has remained inactive since cessation of the exploration work.

This review was made in lieu of an on-site audit of the Operator's accounts and records for the following reasons:

(1) No minerals have been produced during the period covered by this review;

(2) The property has been inactive since May 1959; and

(3) The administrative cost to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible royalty which might be disclosed.

11/19 J. Lynch Hoffland

Sollers

App'd. Sol. of: Talbert Selfridge

SOLICITOR

NOV 18 1959

INTERIOR DEPT.

CERTIFICATION BY THE UNITED STATES OF AMERICA OF A DISCOVERY OR DEVELOPMENT UNDER AN EXPLORATION PROJECT CONTRACT

To The New Jersey Zinc Company
160 Front Street
New York 38, New York

Pursuant to the provisions of Exploration Project Contract No. Idm-E982, dated July 30, 1956, Docket No. DMEA-4186, hereinafter called the "contract," between The New Jersey Zinc Company, a New Jersey corporation, and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien therefor and on the land described in the contract, the Government considers and therefore certifies that discovery or development from which production may be made has resulted from the exploration work.

The nature of said discovery or development is described broadly or indicated as follows:

Diamond drilling has proved the existence of zinc ores occurring as fracture fillings and replacements in the lower Mascot and Kingsport formations.

Date: NOV 2 4 1959

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Office of Minerals Exploration

WRGriswold/gla
11-17-59
cc to: Operator
Clarence A. Fredell, Dir.
Tech. Res. & Dev. Div.
DMS, GSA
OME Field Team, Region V (2)
Contract Adm. & Audit Division
Finance Office
Director's Reading File
Operating Committee
Frank D. Johnson
Frank D. Lamb, USBM
Harold Kirkemo, USGS
Docket
Code 500
Chron

MME FORM 6 REFERENCE SLIP

REV. 2-59 OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. Mr. Johnson	11/12	
2. ~~Mr. Selfridge~~		
3. ~~Mr. Griswold~~		
4.		
5.		
FROM: E. D. Talbert	11/12	

FOR: Check items for action desired

____ Action ____ Reply for signature of ____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

INT.-DUP. SEC., WASH., D.C. M50943

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF REVIEW

I have reviewed the Monthly Reports of:

The New Jersey Zinc Company
Jefferson City, Tennessee

pertaining to Exploration Project Contract No. Idm-2932, DMEA No. 4286, including Amendments Nos. 1 through 11, for March 1957 to May 1959, inclusive, covering a zinc project in the Big War Creek Area, Hawkins and Hancock Counties, Tennessee.

My review included an examination of the Monthly Reports (Forms MF-104) and supporting documents, comparison of the claimed costs with the contract and pertinent schedules, verification of work performed by reference to Field Team reports and correspondence, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the reasons given in the attached schedule.

The findings of this review are stated in the following summary and the attached schedule:

Total cost billed by Operator		$91,374.67
Exceptions:		
Prior to this review	$ -0-	
Herewith	-0-	-0-
Total acceptable cost		$91,374.67

The contract calls for a 50 percent contribution of the allowable costs by the Government. Therefore, if the project is otherwise accepted as having met the terms of the contract, payments as follows are valid and proper:

Payable on audited claim	$45,687.33
Paid to date	43,632.12
Balance due Operator	$ 2,055.21

E. D. Talbert

E. D. Talbert, OME Auditor

November 12, 1959

Reasons for Report of Review in lieu of a final audit:

(a) the Monthly Reports were supported by documentary evidence of that portion ($83,197.90) of the acceptable costs covering work performed at unit rates under independent contract;

(b) the balance ($8,176.77) of the acceptable costs was under a contract provision for contribution by the Government on the basis of fixed unit costs for work performed; and

(c) the administrative cost to the Government of an audit would be excessive in relation to the estimated amount of possible exceptions.

Acceptable Costs:

Category (1) Independent Contracts -

Overburden drilling		1,125'		
Diamond drilling,	NX	81'	@ $2.75/ft.	$69,506.25
" "	BX	1,221'		
" "	AX	22,843'		
" "	EX	961'	@ $2.65/ft.	2,546.65
" "	AX	3,715'	@ $3.00/ft.	11,145.00
Total (34 holes)		29,951'		$83,197.90
Incidental Allowance		29,951'	@ $ .27/ft.	8,086.77
Samples Assayed		90	@ $1.00/ea.	90.00
Total				$91,374.67

Government's copy

V. Lynch
Hoffland
Asst. U. Sol. Off.
Fairbank
Selfridge

TERMINATION AGREEMENT

It is agreed this 10th day of July, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E982, (Docket No. DMEA-4286), dated July 30, 1956, as amended, hereinafter called the "Contract," that:

1. Effective May 29, 1959, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and hereby terminated.

2. The Government shall contribute only to the actual costs and fixed unit costs of work performed prior to said effective date.

3. The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the rendering of the final report and final account.

4. All rights of the Government respecting certification of discovery or development, percentage royalty and liens to secure the payment thereof, reports (including preservation of the Operator's records), accounts, audits, and the right to recover any overpayment are hereby preserved.

5. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Termination Agreement.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By J. B. Sweeney

Title VICE PRESIDENT

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 11

It is agreed this 10th day of July, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract No. Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, hereinafter called the "Contract," is further amended, effective May 28, 1959, as follows:

The following land parcel is hereby deleted from the land referred to in Amendment No. 5 of the Contract and designated on the map AX-TENN-101 which is a part of the Contract as "Sam Price and Orville Helton 197A". The land is further identified as follows:

Name of Property Owner	Approximate Acreage
Sam Price and Orville J. Helton	197 acres

The Operator:

(a) certifies that the land has no known value for mineral production;

(b) has, prior to the execution of this amendment, surrendered or otherwise disposed of all its interest, title, and equity in such land, and any minerals produced therefrom, including any option, lease or permit thereto, without any consideration whatsoever, including future compensation, for such surrender or disposition, other than relief from the cost of maintaining such interest;

(c) agrees that no benefit from such land or any production of minerals therefrom will accrue to the Operator or to any of its subsidiaries, directly or indirectly, during the period expiring thirty-two years from the date of this Contract;

Selfridge
Insured
Talbut

(d) agrees that if the Operator or any of its subsidiaries acquires any interest, title, or equity in such land or any minerals produced therefrom, or derives any benefit therefrom, before the expiration of thirty-two years from the date of this Contract, the land with respect to which such interest, title, or equity is acquired, and any minerals produced therefrom shall be deemed subject to this Contract and any certification from the date that the Operator or its subsidiaries acquired such interest, title, or equity, or any benefit therefrom, until the expiration of thirty-two years from the date of this Contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Office of
Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By N Sordum

Title VICE PRESIDENT

Government's copy

J. Lynch
Hoffland
Asp'd. Sol. Off.
Maxwell
Talbot
Selfridge

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 10

It is agreed this 8th day of May, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, is further amended, effective March 1, 1959, as follows:

In Amendment No. 3, dated September 18, 1957, item 2 "Estimated Cost of the Project" contains the following stipulation:

"5000 feet of diamond drilling from 1000-foot to 1500-foot depth:

AX size @ $3.00/ft. $15,000.00
EX size @ $2.90/ft."

The above stipulation is deleted and the following is substituted:

"5000 feet of diamond drilling at depths in excess of 1000 feet:

AX size @ $3.00/ft. $15,000.00
EX size @ $2.90/ft."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank P. Johnson
Acting Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By [signature]

Title VICE PRESIDENT

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAY 26 1959

DATE	INITIALS	CODE

Government's copy

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 15 1958

DATE	INITIALS	CODE

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 9

It is agreed this 26th day of September, 1958, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, and The New Jersey Zinc Company, that Exploration Project Contract No. Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, is further amended, effective July 30, 1956, as follows:

1. In Annex I of the Contract, a portion of the land described under "Excluded Land" in Annex I is hereby added as land which is the subject of the Contract, as follows:

"Beginning at a point in the center of the Big War Creek road 1750' N 58° W from the intersection of Big War Creek and Clinch Valley Roads; thence S 61° W 170' to a point; thence N 29° W 700' to a point; thence N 61° E 380' to a point; thence S 29° E 700' to a point; thence S 61° W 210' to the beginning containing 6.1 acres more or less."

2. In Annex I, under "Excluded Land", the description of the land is revised to read as follows:

""(A point in the center of the Big War Creek road 1750' N 58° W from the intersection of Big War Creek and Clinch Valley Roads was used as the beginning of the original excluded area. The excluded area, as hereby revised, refers to this point.) Beginning at a point S 61° W 170' of the point in the center of Big War Creek road referred to above; thence N 29° W 700' to a point; thence N 61° E 380' to a point in the original excluded boundary; thence with the original boundary four courses as follows N 29° W 575' to a point; thence S 61° W 1080' to a point; thence S 29° E 1275' to a point; thence N 61° E 700' to the beginning containing 24 acres more or less."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the fixed unit cost of any unit of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C O Mitchendorf
ACTING Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By J J Goodwin

Title VICE PRESIDENT

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 8

It is agreed this 1st day of May, 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and The New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, hereinafter called the "Contract," is further amended, effective April 1, 1958, as follows:

1. (a) Work under the Contract shall be suspended during the period beginning May 1, 1958, and ending not later than November 1, 1958.

(b) The Government will not contribute to any costs incurred by the Operator during the period of suspension or to any costs of rehabilitation or repair which in its opinion would not have occurred if there had been no suspension of work.

(c) The Operator at its own cost and expense, without contribution by the Government, during the period of suspension shall preserve and protect the project work and any property in which the Government has an interest.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

THE NEW JERSEY ZINC COMPANY

BY [signature]

Title VICE PRESIDENT

By [signature]
Administrator, Defense Minerals Exploration Administration

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EXPLORATION PROJECT CONTRACT

THE NEW JERSEY ZINC COMPANY

DOCKET No. DMEA-4286

Amendment No. 7

It is agreed this 20th day of March 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that exploration Contract Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, is further amended as follows:

In Annex I of the contract, there is added the following parcel of land, designated on the map AX-TENN-101 as "AMYX", and further identified as follows:

Name of Property Owner	Approximate Acreage
George L. Amyx, et al (Surface) The New Jersey Zinc Co., (Mineral and mining rights)	38.45

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the fixed unit cost of any item, or the cost of any item designated as "maximum."

Executed in quintuplicate the day and year first above written.

THE NEW JERSEY ZINC CO.

By: F. Johnson

Title: VICE PRESIDENT

THE UNITED STATES OF AMERICA

By: Robert A. Lawrence
Executive Officer, Field Team
Defense Minerals Exploration
Administration, Region V

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Government's copy

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 6

It is agreed this 21st day of March, 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, is further amended as follows:

1. The date fixed in Article 3 for completion of the work is extended from May 1, 1958, to July 1, 1959.

2. The maximum period for royalty payments and the lien to secure the payment thereof, provided for in Article 8(b)(2) of the Contract, is increased from thirty (30) to thirty-two (32) years from the date of the Contract.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the amount of any item designated as "maximum".

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
ACTING Administrator, Defense Minerals Exploration Administration

THE NEW JERSEY ZINC COMPANY

By W F Johnson
Title VICE PRESIDENT.

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EXPLORATION PROJECT CONTRACT

THE NEW JERSEY ZINC COMPANY

Docket No. DMEA-4286

AMENDMENT No.5

It is agreed this 2nd day of December 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that exploration Contract Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, is further amended as follows:

In Annex I of the contract, there is added the following parcel of land, designated on the map AX-TENN-101 which is a part of the contract as "Sam Price & Orville Helton 197A" and further identified as follows:

Name of Property Owner	Approximate Acreage
Sam Price and Orville J. Helton	197 acres

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the fixed unit costs or of any item designated as "maximum."

Executed in quintuplicate the day and year first above written.

THE NEW JERSEY ZINC CO.

By [signature]

Title: VICE PRESIDENT

THE UNITED STATES OF AMERICA

By Robert A. Lawson

Executive Officer, DMEA
Field Team, Region V

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 4

It is agreed this 25th day of October, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and the New Jersey Zinc Company, that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended is further amended as follows:

In Exhibit "A" under the heading, Description of the Work:

1. The second paragraph,

"Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds."

is revised to read:

"Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed, dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds or plunging at a high angle to the strike into the dip of the beds."

2. The third paragraph (as revised by Amendment No. 1),

"A series of widely spaced dip fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

Long
Langer
Appd. Solicitor
Sullivan
Talbot
Selfridge
Johnson

is further revised to read:

> "A series of widely spaced dip and strike fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C O Mitchendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J Godwin

Title VICE PRESIDENT

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Brown
Hoffman
Talbot
Selfridge

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 3

It is agreed this 18th day of September, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government", and The New Jersey Zinc Company, hereinafter called the "Operator", that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, hereinafter called the "Contract", is further amended, effective July 30, 1956, as follows:

1. In Exhibit "A", under Description of the Work, the ninth paragraph is deleted, and the sixth paragraph is revised to read as follows:

"Diamond drilling shall be done with AX size, or larger, coring bits, except when it is not feasible to complete a hole with AX size. With Government approval, the hole may be reduced with EX casing and completed with EX size bits. The Government will not contribute to the cost of drilling any hole which is not completed. All drill holes shall be logged and all drill core shall be made available to the Government for examination. All significantly mineralized core shall be split and one half thereof shall be properly sampled and the samples assayed for zinc; no sample shall be taken representing more than five feet of core length. All assays shall be submitted monthly to the Government, together with the logs of the drill holes and proper plan maps and sections showing the progress of the work and the sample locations. The remaining half of all significantly mineralized core shall be furnished to the Government upon request."

2. Under Estimated Cost of the Project, Category (1), Independent Contracts is revised to read as follows:

"30,000 feet of overburden drilling and diamond drilling to 1,000-foot depth:

AX size @ $2.75/ft.	$82,500.00	
EX size @ $2.65/ft.		

"5,000 feet of diamond drilling from 1,000-foot to 1,500-foot depth:

AX size @ $3.00/ft.	15,000.00	$97,500.00
EX size @ $2.90/ft.		

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all other charges which may be incurred by the diamond drill contractor.

"Neither the cost nor value of casing left in drill holes at option of Operator will be accepted as a charge to the contract."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
ACTING Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By [illegible]

Title VICE PRESIDENT

Docket Copy

EXPLORATION PROJECT CONTRACT

THE NEW JERSEY ZINC COMPANY

Docket No.4286

AMENDMENT No.2

It is agreed this 16th day of August 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company that Exploration Project Contract Idm-E982, Docket No.DMEA-4286, dated July 30, 1956, is hereby further amended as follows:

In Article 3, the dates for beginning and completing the work are changed from September 1, 1956 and September 1, 1957, respectively, to May 1, 1957 and May 1, 1958 respectively.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the amount of any item designated as "maximum."

Executed in sextuplicate the day and year first above written.

THE NEW JERSEY ZINC CO.

By [signature]

Title VICE PRESIDENT

THE UNITED STATES OF AMERICA

By Robert A. Lawson

Executive Officer, Defense Minerals Exploration Administration, Region V

RECEIVED AUG 20 1956

Docket Copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

Initials 8/8/56
"Appr. Sol. Off."
Approved
Talbot
Selfridge
Gibson

Amendment No. 1

It is agreed this 13th day of August, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, is amended as follows:

On page one of Exhibit "A", the third paragraph which reads as follows:

> "A series of widely spaced dip fences shall be drilled, with holes spaced at between 200-and 300-foot intervals on the fences, unless in the opinion of the Government spacing as close as 100 feet is a necessity."

is deleted and the following paragraph is substituted:

> "A series of widely spaced dip fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the amount of any item designated as "maximum."

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. W. Mitteudorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J. B. Goodwin

Title VICE PRESIDENT

Docket Copy

RECEIVED
JUL 24 1956

MF-200
(Revised June 1954)

Docket No. DMEA 4286

Commodity Zinc

Contract No. Idm-E 982

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]

It is agreed this JUL 30 1956 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] THE NEW JERSEY ZINC COMPANY, a New Jersey corporation, whose mailing address is 160 Front Street, New York, 38, N. Y., hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200), the attached Exhibit "A," Annex I, and map

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Tennessee, County of Hawkins, Hancock, and is described in Annex I.[3]

(b) The Operator represents and undertakes that: (See Annex I)

(1) The Operator is the [4] owner and optionee/ of [5] in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] See Annex I, [7] recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: Interests of owners of optioned tracts

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

of the land (lessor, seller, optionor, etc.), are attached, as follows: Consents to Lien of owners of optioned tracts are waived.

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 8, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 8(b)(1). See Annex I.

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Zinc. The work to be performed is described in Exhibit "A." The Operator on or before September 1, 1956 shall commence the work, and on or before September 1, 1957 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall ~~either~~ have completed the work ~~or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A"~~ See Article 13.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Independent contracts.*—To the extent that the allowable costs are estimated in Exhibit "A" with express reference to performance by independent contractors on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations), the work may be so performed; but if the reference in Exhibit "A" to any such independent contract requires the Government's approval thereof, payments under such contract will not be allowable costs unless the Government gives its written approval of the contract. Any such independent contract shall refer to some specific and identifiable part of the work, and shall be subject to all of the pertinent terms and conditions of this exploration contract; but the Government shall not be considered a party thereto, and its rights under this contract, including the right to terminate its contributions, shall not be affected thereby. Regardless of the provisions of any such independent contract and regardless of the Government's approval thereof, the Government will participate in payments to the independent contractor only on account of work performed in accordance with the provisions of this exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable.

(c) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $107,150.00 The Government shall contribute 50 percent of the allowable costs as they are incurred in a total sum not in excess of $53,575.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work or not in excess of the amount of the Government's contribution to the cost of property which is or may become subject to disposal as provided in Article 9(c), whichever is greater. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 7(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. "Costs incurred" mean costs that have been paid or have become due and payable, or that in the opinion of the Government have become an obligation. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Estimated costs.*—(a) *Categories of costs.*—The allowable costs of the work to which the Government shall contribute are limited to those that are direct, reasonable, necessary, and that are estimated in Exhibit "A" by categories as specified in this article. If any category or subcategory is omitted from the estimate of costs, or if the word "none" is annexed to the listing thereof, costs under such category or subcategory are not allowable. Any excess over any estimate which is indicated as the maximum of any category, subcategory, or item, either as to requirement or related cost, and any excess over the estimated total allowable cost of the work, shall not be allowable. Any excess over the estimate of any category, subcategory, or item, either as to requirement or related cost, not indicated as a maximum shall be allowable within the limit of the estimated total allowable cost of the work. To the extent that excesses over maximums other than the estimated total allowable cost of the work may be necessary for the performance of the work, the Operator shall incur such excesses for his own account without contribution by the Government; [redacted]. See Article 13.

To the extent specified in this article or in Exhibit "A" the following categories, subcategories, and elements thereof are maximums; but if not so specified either here or in Exhibit "A" they are not maximums, and may be exceeded within the limit of the estimated total allowable cost of the work:

CATEGORY (1)—INDEPENDENT CONTRACTS.—Work to be performed under independent contracts (see Article 4(b)). The estimated total amount of this category and the estimated cost of each unit of work for performance under an independent contract are maximums.

CATEGORY (2)—PERSONAL SERVICES.

Subcategory (a)—Supervision.—All elements of this subcategory (number of supervisors, periods of employment, rates of pay, and total) are maximums.

Subcategory (b)—Technical services.—All elements of this subcategory (number of technicians, periods of employment, rates of pay, and total) are maximums.

Subcategory (c)—Labor.

CATEGORY (3)—OPERATING MATERIALS AND SUPPLIES.—Includes such items as drill bits and steel, explosives, fuel, pipe, power, small tools costing less than $50 each, timber, track.

CATEGORY (4)—OPERATING EQUIPMENT.

Subcategory (a)—Rental.—The number of each object to be rented [6 mine cars, 1 truck], the rate of rental [$100 per month, $5 per hour], and the total of this subcategory are maximums.

Subcategory (b)—Purchases.—The estimated total of this subcategory is a maximum.

Subcategory (c)—Depreciation.—All elements of this subcategory (time periods, rate of depreciation, and subcategory total) are maximums.

CATEGORY (5)—INITIAL REHABILITATION AND REPAIRS.—Estimates under this category include all requirements and related costs, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The estimated total of this category is a maximum.

Subcategory (a)—Initial rehabilitation and repairs of existing buildings, fixtures, and installations (exclusive of mine workings).—The estimated total of this subcategory is a maximum.

Subcategory (b)—Initial rehabilitation and repairs of operating equipment.—The estimated total of this subcategory is a maximum.

CATEGORY (6)—NEW BUILDINGS, FIXTURES, AND INSTALLATIONS (EXCLUSIVE OF MINE WORKINGS).—Estimates under this category include all requirements and related costs, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The estimated total of this category is a maximum.

CATEGORY (7)—MISCELLANEOUS.—Repairs and maintenance (other than initial) of operating equipment, analytical work, prints and other reproductions, accounting, Operator's share of payroll taxes, liability insurance covering employment, travel, communications, and any other items of requirement or cost that do not fall within any of the first 6 categories.

THE ESTIMATED TOTAL ALLOWABLE COST of the work is a maximum.

(b) *Nonallowable costs.*—The following costs are not allowable for contribution by the Government:

(1) *Costs of the land,* such as rental, depreciation, depletion, or other cost of acquiring, owning, or holding possession;

(2) *Indirect costs,* such as general overhead, corporate management, interest, taxes (other than payroll and sales taxes), insurance (other than liability insurance covering employment), damages to persons, damages to property (other than necessary repairs or replacements of equipment or other property used in the work);

(3) *Previous work* performed or costs incurred before the date of this contract; and

(4) *Deferred payments.*—Any costs incurred by the Operator under any rental-purchase agreement, installment-purchase agreement, or any agreement for the purchase of goods under the provisions of which payment of the full purchase price is deferred more than 90 days from the delivery of the goods; unless the purchase agreement is approved by the Government in writing.

(c) *Reductions in costs.*—The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original estimated total cost. This provision does not apply to receipts from production which are subject to the Government's percentage royalty under the provisions of Article 9.

See Article 13.

ARTICLE 7. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. If the Government elects to audit said records and accounts relating to the exploration work by certified public accountant, it may do so as a cost of the work to which the Operator shall contribute. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government. If work under this contract is carried on in conjunction with any other operations, or if labor, supervision, services, materials, supplies, equipment, facilities, or other requirements for carrying on the work are also used in connection with other operations, the costs shall be segregated and accounted for on a basis and by methods and accounts that are satisfactory to and approved by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing detailed costs incurred during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and costs incurred for each type of work; and (3) a Narrative Report of the work performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and related costs incurred.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records, or accounts.

ARTICLE 8. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 7) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ~~ten~~ 10 years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. **See Article 13.**

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing. **See Article 13.**

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value therof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½)

percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 9. *Interests in purchased property.*—(a) *Title and ownership.*—All costs under this contract shall be incurred by the Operator in the Operator's own name and for the Operator's own account; but any property acquired to the cost of which the Government contributes shall belong to the Operator and the Government jointly in proportion to their respective contributions, although title thereto shall be taken in the name of the Operator.

(b) *Preservation of property.*—Until the final disposal of any property in which the Government has an interest the Operator shall preserve and protect same for the best interest of the Government, any reasonable and necessary costs thereof to be treated as an allowable cost of the project. After the completion of the work or termination of the Government's obligation to contribute, or when such property is not in use for or needed for the work, the Operator shall neither use it without the written consent of the Government nor without paying a reasonable rental to be fixed by the Government for its interest.

(c) *Disposal of property.*—Upon the completion of the work or termination of the Government's obligation to contribute to costs, or when the property is no longer needed for the work, the Operator shall promptly dispose of salable or salvageable property in which the Government has an interest for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator or the Government at a price at least as high as could be obtained from others, unless the Government in writing waives its interest in any such property. Without advance approval of the sales price by the Government the Operator shall not sell at any price any item of property the cost of which was more than $500, and shall not sell at less than 25 percent of the purchase price any item of property which cost $500 or less. The Government, in lieu of approving the sales price for any such item, may itself purchase the item at the best price which the Operator is able to obtain or himself cares to give. Property remaining upon any termination of the work shall be considered in groups or categories (such as drill steel, or explosives, or pipe, or rails), and if the original cost of the remaining unexpended portion of any such group or category is less than $50, the Government waives its interest therein. If necessary to accomplish the disposal of any item the Operator shall dismantle and sever it from the land, the cost thereof to be treated as a cost of the project.

(d) *Default of the Operator re disposal.*—If within 90 days after the completion of the work or termination of the Government's obligation to contribute to costs, or after the property is no longer needed for the work, or after such further time as the Government may in writing allow, the Operator has failed to sell or otherwise liquidate or dispose of any property in which the Government has an interest, the Government, at any time prior to final settlement under the contract, may pursue one of the following two courses: (1) the Government, by written notice to the Operator, may place upon such property what in its opinion is a fair valuation thereof, not in excess of the cost less 1.66 percent per month from the

date such property was purchased under this contract to the termination of said 90-day period; and such property shall thereupon be considered and accounted for as having been purchased by the Operator at the valuation so fixed by the Government; or (2) the Government may enter and take possession of such property wherever it may be found, and remove and dispose of it for the joint account of the parties.

ARTICLE 10. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon: (1) the Government shall be free of all obligation to contribute to costs not then incurred other than such as may be allowable under the provisions of the contract as necessary and incidental to winding up, reporting, and accounting; and (2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon: (1) the Government shall be relieved of all obligation to contribute to costs not incurred when the notice was given, other than such as may be allowable by the provisions of the contract as necessary and incidental to winding up, reporting, and accounting; and (2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 10 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 11. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 12. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 13. *Changes and added provisions.*— (a) Categories (2) through (7) of Article 6(a) are deleted. (b) To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract. The Government will contribute to the fixed unit costs as they accrue, on the basis of units of work actually performed. The fixed unit costs include all costs of the work necessary to complete the project. (c) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted. (d) In Article 6(c), the reference to Article 9 is changed to Article 8. (e) In Article 8(b): (1) the word "minerals" includes limestone and dolomite products produced in processing ore; and (2) the words "ten years" are changed to "thirty years." (f) The following clause is added to Article 8(c): Provided, however, That so long as the Operator operates smelting facilities as an integrated part of its business, the settlement made by the Operator's smelter to its mine or mill on the ore or concentrates subject to the Government's royalty shall be, for the purpose of calculating the royalty payable to the Government under this contract, on the same settlement basis that the said smelter makes to its independent suppliers under the schedule most favorable to any independent supplier, or should gross income from mining operations for percentage depletion purposes in Federal income tax determination show a greater value for ore or concentrate sales than that value which would result from applying the smelter schedule most favorable to an independent supplier, the greater value will be used as the basis for calculating royalty payable to the Government. (g) In Article 3 the alternative to completing the work is deleted.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O P Mittendorf

Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY
(Operator)

By S S Goodwin

VICE PRESIDENT

I, Walter R. Anyan, certify that I am the secretary of the corporation named as Operator herein; that S. S. Goodwin who signed this contract on behalf of the Operator, was then Vice President of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Walter R. Anyan

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70617-1

RECEIVED
JUL 24 1956

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMRA-4286

ANNEX I

The land referred to in Article 2 consists of certain tracts in Hawkins and Hancock Counties, Tennessee. Some of the tracts are owned in fee simple by the Operator, in some tracts the Operator owns the mineral and mining rights, and in still other tracts the Operator has the right to explore for minerals under lease-option contracts, which provide that it may purchase all mineral and mining rights (including limited surface privileges). The tracts are listed as follows:

A. Land Owned in Fee Simple by Operator

1. Approximately 37.8 acres of land described in the Abstractor's Certificate of Title dated October 11, 1955, in behalf of Myrtle Drummon (single).

2. Approximately 1.99 acres of land described in the Warranty Deed dated October 14, 1953, between Birdie Smith (widow) and the New Jersey Zinc Company.

B. Land in which the Operator Owns the Mineral and Mining Rights

1. Approximately 139.4 acres of land described in a Warranty Deed dated June 23, 1955, between I. D. Price, Jr. and wife, Katherine, and Ruble Price and wife, Carolyn, and the New Jersey Zinc Company.

2. Approximately 1.26 acres of land described in a Warranty Deed dated October 14, 1953, between Birdie Smith (widow) and the New Jersey Zinc Company.

C. Lands on which the Operator has Right to Prospect for Minerals, plus Option to Purchase Mineral and Mining Rights

1. Approximately 46 acres owned by Eugene Clonce (single), described in Contract and Agreement dated February 28, 1956, between the owner and the Operator.

2. Approximately 60 acres owned by Guy Seals and wife, Virgie Richardson, described in Contract and Agreement dated April 2, 1952, between the owners and the Operator.

3. Approximately 25 acres owned by Sam H. Price and wife, Victoria W., described in Contract and Agreement dated March 27, 1952, between the owners and the Operator.

4. Approximately 25 acres owned by Ruth Short Bloomer and husband, Ellabugh, described in Contract and Agreement dated January 28, 1956, between the owners and the Operator.

5. Approximately 25 acres owned by Cameron Short and wife, Winnie Pearson, described in Contract and Agreement dated January 28, 1956, between the owners and the Operator.

6. Approximately 100 acres owned by O. M. Swaney and wife, Bonnie Brewer, described in Contract and Agreement dated September 29, 1955, between the owners and the Operator.

7. Approximately 400 acres owned by Harve Lawson and wife, Nancy, described in Contract and Agreement dated March 27, 1952, between the owners and the Operator.

8. Approximately 86 acres owned by Ephriam Clonce and wife, Virginia, described in Contract and Agreement dated March 10, 1956, between the owners and the Operator.

9. Approximately 80 acres owned by Lewis Setzer and wife, Mary, described in Contract and Agreement dated September 5, 1951, between the owners and the Operator.

Copies of all instruments listed above are contained in Docket No. DMMA-4286, and the land descriptions therein are incorporated herein by reference.

All of the tracts of land referred to in Annex I appear on the attached map entitled "The New Jersey Zinc Company, Big War Creek Area, Rogersville, Tennessee." On this map, the lands owned in fee simple by the Operator are outlined in yellow color, the lands in which the Operator owns the mineral and mining rights are outlined in orange color, and the lease-option lands are outlined in blue color.

<u>Excluded Land</u>

The map referred to in this Annex I shows a tract outlined in brown color, labelled "Area to be excluded from DMMA contract." This area has already been diamond drilled by the Operator, no work under the contract will be performed within its boundaries, and it is specifically excluded from the "land" referred to in Article 2 of this contract. The boundaries of this excluded tract are as follows:

> "BEGINNING at a point in the center of the Big War Creek road 1750 feet N 58° W from the intersection of the Clinch Valley and Big War Creek road; thence 210 feet N 61° E to a point; thence 1875 feet N 29° W to a point; thence 1080 feet S 61° W to a point; thence 1875 feet S 29° E to a point; thence 870 feet N 61° E to the BEGINNING, containing 31 acres, more or less."

Special Agreement Concerning Land

1. In the event the Operator or any subsidiary thereof at any time during the period expiring ten years from the date of this contract acquires any interest, title, or equity, in any lands contiguous to the premises described in this contract, it is agreed that such contiguous lands shall thereupon become subject to the provisions of this contract, and the parties hereto shall promptly execute amendments to this contract listing such contiguous lands as lands included in this contract.

2. It is further agreed that the Operator may, at any time before the expiration of sixty days following the conclusion or termination of exploration work performed pursuant to the terms of this contract, request the Government to delete from this contract such of the land described in the lease-option contracts listed in this Annex I, or in any amendments thereto, as has no known value for mineral production. The Government will promptly prepare amendments removing the specified land from the contract, which amendments shall provide that the Operator:

(a) certifies the lands have no known value for mineral production;

(b) has, prior to the execution of the respective amendment, surrendered or otherwise disposed of all its interest, title, and equity in such land, and any minerals produced therefrom, including any option, lease, or permit thereto, without any consideration whatsoever, including future compensation, for such surrender or disposition, other than relief from the cost of maintaining such interest;

(c) agrees that no benefit from such land or any production of minerals therefrom will accrue to the Operator or to any of its subsidiaries, directly or indirectly, during the period expiring thirty years from the date of this contract; and

(d) agrees that if the Operator or any subsidiary thereof acquires any interest, title, or equity in such land or any minerals produced therefrom, or derives any benefit therefrom, before the expiration of thirty years from the date of this contract, the land with respect to which such interest, title, or equity is acquired, and any minerals produced therefrom, shall be deemed subject to this contract and any certification from the date that the Operator or any subsidiary thereof acquired such interest, title, or equity, or any benefit therefrom, until the expiration of thirty years from the date of this contract, or until the total net amount contributed by the Government without interest is fully repaid, which ever occurs first.

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4886

EXHIBIT "A"

Description of the Work

The purpose of the project is to explore for ores of zinc by diamond drilling (and such churn drilling of overburden as may be required).

Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds.

A series of widely spaced dip fences shall be drilled, with holes spaced at between 200- and 300-foot intervals on the fences, unless in the opinion of the Government spacing as close as 100 feet is a necessity.

The space intervals between the various fences shall not be less than 500 feet, except upon written approval in advance by the Government.

It is estimated that the average depth of the drill holes will be approximately 800 feet and that the maximum depth of any hole will be approximately 1300 feet. It is believed that approximately 44 holes will be required. Not more than 35,000 feet of drilling shall be performed: Provided, however, That the Operator may, upon the written approval of the Government, perform more than 35,000 feet of drilling so long as the total cost of all drilling work allowable under the contract is not exceeded.

All diamond drilling shall be done with AX size, or larger, core recovering drills and coring bits.

The initial holes to be drilled under the contract are roughly indicated on the attached map.

All diamond drilling, including the locations and depths of holes are subject to prior Government approval.

All drill holes shall be logged geologically and all drill core shall be made available to the Government for examination. All significantly mineralized core shall be properly sampled and the samples assayed for zinc. Assays, together with the geological logs of drill holes, shall be reported to the Government, together with proper plan maps and sections showing the progress of the work.

Drilling will not be done at locations closer than 200 feet from property lines.

The project work shall be supervised at all times by competent engineers or geologists.

Estimated Cost of the Project

Actual Costs

Category (1) Independent Contracts

Overburden drilling and diamond drilling to 1000-foot depth, 30,000 feet @ $2.75/ft.	$82,500.00	
Diamond drilling from 1000-foot to 1500-foot depth 5000 feet @ $3.00	15,000.00	
The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all other charges which may be incurred by the diamond drill contractor.		
Neither the cost nor value of casing left in drill holes at option of Operator will be accepted as a charge to the contract.		$97,500.00
Categories (2) through (7)	None	

Fixed Unit Costs (See Article 13 of the contract)

Incidental allowance for each foot of drilling completed, 35,000 feet @ $0.27/ft.	9,450.00	
200 Samples assayed @ $1.00/each sample	200.00	9,650.00
Estimated Total Cost of Project		$107,150.00
Government Participation @ 50%		$ 53,575.00

Contract Division

CERTIFICATION BY THE UNITED STATES OF AMERICA
OF A DISCOVERY OR DEVELOPMENT UNDER
AN EXPLORATION PROJECT CONTRACT

To: The New Jersey Zinc Company
160 Front Street
New York 38, New York

Pursuant to the provisions of Exploration Project Contract No. Idm-E982, dated July 30, 1956, Docket No. IMEA-4286, hereinafter called the "contract," between The New Jersey Zinc Company, a New Jersey corporation, and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien therefor and on the land described in the contract, the Government considers and therefore certifies that discovery or development from which production may be made has resulted from the exploration work.

The nature of said discovery or development is described broadly or indicated as follows:

Diamond drilling has proved the existence of zinc ores occurring as fracture fillings and replacements in the lower Mascot and Kingsport formations.

Date: [illegible]

WRgriswold/gla
11-17-59

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Office of
Minerals Exploration

cc to: Operator
Clarence A. Fredell, Dir.
Tech. Res. & Dev. Div.
DMS, GSA
OME Field Team, Region V (2)
Contract Adm. & Audit Division
Finance Office
Director's Reading File
Operating Committee
Frank E. Johnson
Frank D. Lamb, USBM
Harold Kirkemo, USGS
Docket
Code 500
Chron

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

Mr. G. S. Goodwin
Vice President
The New Jersey Zinc Company
160 Front Street
New York 38, New York

NOV 25 1959

Re: Docket No. [illegible]-4285 (Zinc)
The New Jersey Zinc Company
Big Gap Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. [illegible]-1952

Dear Mr. Goodwin:

Enclosed is a certification of discovery or development that covers all the land described in Article 2 of the contract.

By the terms of the Exploration Project Contract, as amended, and the certification, all minerals mined or produced from July 30, 1956, to July 30, 1958, are subject to the Government's percentage royalty as set forth in the contract until the sum of $45,867.33 is repaid to the Government.

Royalty payments should be made to the Executive Officer, GSE Field Team, Region V, Room 11, Post Office Building, Knoxville 2, Tennessee, by the purchaser with checks drawn payable to the Office of Minerals Exploration. The purchaser should be advised to deduct royalties from the amount due on each shipment and send the check directly to the Executive Officer. Each check should be accompanied by suitable sales evidence - such as copies of settlement sheets - showing the name of the purchaser, the quantity and grade of the products sold, and the price and charges, certified to be correct by the purchaser.

You are requested to notify the Executive Officer of any changes in ownership or production rights that may have any effect on the Government's right to its percentage royalty. Your attention is called particularly to Article 2 (d) of the contract relating to the preservation of the Government's right to a percentage royalty on production. Also when production starts, please notify the Executive Officer. Thereafter, if production ceases for any extended period, please notify him accordingly at six-month intervals.

Sincerely yours,

Frank E. Johnson

Acting Director

Enclosure

Harold Kirkham, USGS
Div. of Contract Adm. & Audit
GSE Field Team, Region V (2)
Docket
Code 300

Merlewold/gla 11-17-59
cc to: Director's Reading File
Frank E. Johnson
Operating Committee
Frank D. Lamb, USGS

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

HORSE HEAD PRODUCTS ®

OFFICE OF THE
VICE PRESIDENT

100 FRONT STREET

NEW YORK 38, N.Y.

RECEIVED
MAY 10 1956

May 9, 1956

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

Big War Creek Area, Sector II
Copper Ridge Belt, Tennessee

Dear Sirs:

Submitted herewith on behalf of The New Jersey Zinc Company is an application for aid in an exploration project pursuant to DMEA Order I, under the Defence Production Act of 1950, as amended, and prepared in accordance with Form MF-103 in quadruplicate.

Pending your acceptance and approval of this application, we are ready to proceed with the project. Therefore, your attention to this matter at some early date would be very much appreciated.

Very truly yours,

S. S. Goodwin
Vice President

SSGei

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ATTACHMENTS

Form MF-103

Sheet #1 - CORPORATION OFFICERS

Sheet #2 - APPLICANT'S PROPERTY RIGHTS

Sheet #3 - PHYSICAL DESCRIPTION

Sheet #4 - DESCRIPTION OF THE EXPLORATION PROJECT

Sheet #5 - ESTIMATED COSTS

ENCLOSURES

Exhibit A - Contract agreements with property owners

Exhibit B - Three (3) diamond drilling quotations on proposed exploratory drilling

Figure 1 - MAP - Eastern Tennessee District Showing Project Area

Figure 2 - PROPERTY MAP - Big War Creek Area, Sector II

Figure 3 - Rake Section on some Diamond Drill Holes

Figure 4 - Dip Section on some Diamond Drill Holes

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
MAY 10 1956

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

Not to be filled in by applicant

Docket No. DMEA-4286
Metal or Mineral Zinc
Date Received 5-10-56
Estimated Cost $115,180
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: The New Jersey Zinc Company
160 Front Street
New York 38, N. Y.

(*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. A New Jersey Corporation

(*c*) If a corporation, add to above statement, titles, names and addresses of officers. See Sheet No.1, attached

(*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 Sheet No. 2, attached

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise See Sheet No. 2, attached

(*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. See Exhibit "A" and Sheet No. 2, attached

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

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

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. See Sheet No. 3

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. See Sheet No. 3

(*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 Sheet No. 3, attached

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See Sheet No. 3, attached

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

See Sheet No. 3, attached

16—66551-1

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

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

(*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 Sheet No. 4, attached.

(*c*) The work will start within 10 days and be completed within 12 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 Sheet No.4, attached

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: See Sheet 5 attached

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

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

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

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

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

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

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

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

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

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

[X] Money [ ] 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 9 May, 1956

(Applicant)

By [signature]

VICE PRESIDENT

THE NEW JERSEY ZINC COMPANY

160 FRONT ST., NEW YORK 38, N. Y.

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

Sheet No. 1

No. 1 of Instructions

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MAY 10 1956

(c) Names, Titles and Addresses of Officers

Mr. R. L. McCann, President	160 Front St., New York
Mr. C. Howard George, Executive Vice President	ditto
Mr. S. S. Goodwin, Vice President	ditto
Mr. Walter R. Anyan, Secretary	ditto
Mr. E. E. Schwegler, Comptroller	ditto
Mr. Samuel Riker, Treasurer	ditto
Mr. R. G. Kenly, Vice President	ditto
Mr. F. H. Baxter, Vice President	ditto
Mr. L. F. Johnson, Vice President	ditto
Mr. P. M. Ginder, Vice President	ditto
Mr. R. A. Oberfell, Assistant Secretary	ditto
Mr. W. L. Brookfield, Assistant Secretary	ditto
Mr. W. W. Gamwell, Assistant Treasurer	ditto

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

Sheet No. 2

No. 3 of Instructions

Applicant's Property Rights

(a) The properties proposed for exploration and an area to be excluded are shown on the accompanying strip map, Figure 2. The legal description of each property is included in the legal instruments which comprise "Exhibit A" of this application.

The description of the area to be excluded (outlined in brown on the accompanying strip map, Figure 2) follows:

// BEGINNING at a point in the center of the Big War Creek road, 1750 feet N 58° W from the intersection of the Clinch Valley and Big War Creek roads; thence 210 feet N 61° E to a point; thence 1275 feet N 29° W to a point; thence 1080 feet S 61° W to a point; thence 1275 feet S 29° E to a point; thence 870 feet N 61° E to the BEGINNING, containing 31 acres, more or less.//

(c) Properties in the project area consist of approximately 1026 acres which are controlled by The New Jersey Zinc Company as follows:

(1) The mineral and mining rights of one tract containing approximately 140 acres are owned. (See property outlined in orange, Figure 2);

(2) Options which provide for exclusive prospecting and purchase rights are held on eight tracts containing approximately 846 acres (see properties outlined in blue, Figure 2); and

(3) Two tracts containing approximately 40 acres are owned in fee simple (see properties outlined in yellow, Figure 2).

Sheet No. 2 (Continued)

No. 3 of Instructions

Applicant's Property Rights

Property Owner	Acreage	Legal Instrument
Clonce, Eugene	46	Option Contract
Seals, Guy	60	" "
Price, Sam	25	" "
Bloomer, Ellahugh	25	" "
Short, Cameron	25	" "
The New Jersey Zinc Co. Mineral and Mining Rights	139.4	Warranty Deed
The New Jersey Zinc Co. Mineral and Mining Rights	1.26	" "
The New Jersey Zinc Co. (fee)	1.99	" "
" " " " "	37.8	Abstractor's Certificate of Title
Swaney. O. M.	100	Option Contract
Lawson, Harvey	400	" "
Clonce, Ephriam	86	" "
Setsor, Lewis	80	" "

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

Sheet No. 3

No. 4 of Instructions

Physical Description

(a) To our knowledge, there had been no exploration for or mining of zinc ore in the project area prior to 1952. From 1952 to April, 1956, 38 diamond drill holes, totalling 18,550 feet, were drilled by The New Jersey Zinc Company.

(b) There has been no production of zinc or related ores from the project area. Diamond drilling by The New Jersey Zinc Company has indicated approximately 250,000 tons of ore containing 5% zinc.

(c) The project area, known generally as the Big War Creek area, lies in the northeastern part of the Copper Ridge Belt in Hawkins and Hancock, Counties, Tennessee, (see index map, Figure 1). In this district, as in the Mascot-Jefferson City District approximately 30 miles to the southwest, zinc mineralization occurs in the Mascot and Kingsport limestones and dolomites of the Knox group. These formations crop out near the crest of Copper Ridge and dip southeasterly at an angle of approximately 40 degrees. This steep dip carries the favorable horizons to great depths in relatively short distances from the outcrop (see sections, Figures 3 and 4). The orebodies consist of extensive bedded deposits of sphalerite which occurs as both breccia fillings and replacements in dolomite. The mineralization appears related, generally, to zinc-rich soils which have been derived from favorable stratigraphic horizons of the Kingsport formation (see plan, Figure 2).

Diamond drilling by The New Jersey Zinc Company has revealed strong zinc mineralization in portions of the Kingsport formation of the project area (see sections, Figures 3 and 4). A potential ore tonnage which will support an independent mining and milling operation in the area is a reasonable expectation. The purpose of the proposed exploration program is to determine the gross ore potential of the project area. The delimiting of individual orebodies is not contemplated.

Sheet No. 3 (Continued)

No. 4 of Instructions

Physical Description

(d) The project area is about 12 miles northwest of Rogersville, Tennessee (see index map, Figure 1). Rogersville is served by the Southern Railway and a network of state and federal highways.

(e) Ample manpower and facilities are available for use in the exploration of the project area. Local manpower and water is adequate for mining. Rogersville, Tennessee serves as a source of supplies, materials and equipment. Ample electric power facilities are available in the area for mining and milling purposes.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

Sheet No. 4

No. 5 of Instructions

The Exploration Project

(b) Diamond drilling is proposed to explore the project area. A series of widely-spaced dip fences are planned with holes spaced at 200 and 300 foot intervals on the fences (see proposed holes, Figure 2). The fences are located, wherever practical, to take advantage of holes drilled previously. Spacing as close as 100 feet may be used in the most favorable locations as indicated by the results of the initial widely spaced holes. The program will require a total of approximately 35,000 feet of diamond drilling, of which 20,000 feet will be drilled on the widely spaced dip fences. The deepest drilling is expected to penetrate between 1000 and 1300 feet. The average depth of the holes should be approximately 800 feet.

(d) The New Jersey Zinc Company has had wide experience in large-scale exploration programs in East Tennessee, as well as many other mining districts in the U. S., and Canada. This project will be under the supervision of Mr. Johnson Crawford, Superintendent for Tennessee Operations, who has been active in Tennessee mining and exploration for over 25 years.

Sheet No. 5

No. 6 of Instructions

Estimated Cost

(a) Independent Contracts

The estimated costs are based on drilling rates for the Copper Ridge Belt as established by competitive bidding between the E. J. Longyear Company, the Joy Manufacturing Company, and Southeastern Diamond Drilling Company as summarized in the tabulation below. The detailed proposals comprise Exhibit "B" of this application.

AX Core	Longyear	Joy	Southeastern
0- 500'	$2.75/foot	$2.75/foot	No Bid
500-1000'	2.75/foot	3.25/foot	" "
1000-1500'	3.00/foot	3.75/foot	" "
1500-2000'	3.50/foot	4.25/foot	" "

Diamond Drilling (largely AX-Core recovery)

Overburden	$2.75/foot
AX Core	
0-1000'	2.75/foot
1000-1500'	3.00/foot
BX Core 0-1000'	3.05/foot

Estimated Cost per foot:

Diamond drilling	$2.85/foot
Service Charge	.10/foot
	$2.95/foot

Estimated Contract Cost:

35,000 feet @ $2.95/foot - - - - - -$103,250.00

(b) Labor, Supervision, Consultants

Supervision

1 Geologist - full time - 12 months - -$6,000.00

Sheet No. 5 (Continued)

No. 6 of Instructions

Estimated Cost

Technical Service

2 Surveyors - 30% time-12 months - - -) $3,500.00
1 draftsman - 30% time-12 months - - -)

(c) Operating Materials and Supplies

Core Boxes and Miscellaneous Supplies - 350.00

(d) Operating Equipment

Automobile expense - 10,000 miles
@ .08/mile - - - - - - - - - - - - - - - 800.00

(e) Rehabilitation and Repairs

None

(f) New Buildings and Improvements

None

(g) Miscellaneous

Chemical assays - 350 @ $1.00 -	$350.00	
Accounting and Secretarial charges: $30.00/month-12 months - - - -	360.00	
Workmen's Compensation - 1% x $9,500.00 - - - - - - - - -	95.00	
Insurance, payroll taxes, 5% x $9,500.00 - - - - - - - - -	475.00	
	$1,280.00	
		1,280.00

Total Estimated Cost of Project - - - - $115,180.00

In above estimate geologist was reduced to 2/3 time. or $4000, payroll tax reduced accordingly by $100. Total service charges, excluding assaying = $9480 or 27¢ p. ft. "Service charge" of 10¢ per ft. disallowed.

THE ... PRINTING COMPANY
... PORT ... NEW YORK 33, N. Y.

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 11

It is agreed this 10th day of July, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract No. Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, hereinafter called the "Contract," is further amended, effective May 28, 1959, as follows:

The following land parcel is hereby deleted from the land referred to in Amendment No. 5 of the Contract and designated on the map AX-TENN-101 which is a part of the Contract as "Sam Price and Orville Helton 197A". The land is further identified as follows:

Name of Property Owner	Approximate Acreage
Sam Price and Orville J. Helton	197 acres

The Operator:

(a) certifies that the land has no known value for mineral production;

(b) has, prior to the execution of this amendment, surrendered or otherwise disposed of all its interest, title, and equity in such land, and any minerals produced therefrom, including any option, lease or permit thereto, without any consideration whatsoever, including future compensation, for such surrender or disposition, other than relief from the cost of maintaining such interest;

(c) agrees that no benefit from such land or any production of minerals therefrom will accrue to the Operator or to any of its subsidiaries, directly or indirectly, during the period expiring thirty-two years from the date of this Contract;

Selfridge
Wisnyed
Talbut

(d) agrees that if the Operator or any of its subsidiaries acquires any interest, title, or equity in such land or any minerals produced therefrom, or derives any benefit therefrom, before the expiration of thirty-two years from the date of this Contract, the land with respect to which such interest, title, or equity is acquired, and any minerals produced therefrom shall be deemed subject to this Contract and any certification from the date that the Operator or its subsidiaries acquired such interest, title, or equity, or any benefit therefrom, until the expiration of thirty-two years from the date of this Contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Office of
Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By [signature]

Title VICE PRESIDENT

Government's copy

J. Lynch
Hoffman
App'd. Sol. Off.
Samuel
Talbot
Selfridge

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 10

It is agreed this 8th day of May, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, is further amended, effective March 1, 1959, as follows:

In Amendment No. 3, dated September 18, 1957, item 2 "Estimated Cost of the Project" contains the following stipulation:

"5000 feet of diamond drilling from 1000-foot to 1500-foot depth:

AX size @ $3.00/ft. $15,000.00
EX size @ $2.90/ft."

The above stipulation is deleted and the following is substituted:

"5000 feet of diamond drilling at depths in excess of 1000 feet:

AX size @ $3.00/ft. $15,000.00
EX size @ $2.90/ft."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank C. Johnson
Acting Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By [illegible]

Title VICE PRESIDENT

Government's copy

OFFICIAL FILE COPY
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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 9

It is agreed this 26th day of September, 1958, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, and The New Jersey Zinc Company, that Exploration Project Contract No. Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, is further amended, effective July 30, 1956, as follows:

1. In Annex I of the Contract, a portion of the land described under "Excluded Land" in Annex I is hereby added as land which is the subject of the Contract, as follows:

"Beginning at a point in the center of the Big War Creek road 1750' N 58° W from the intersection of Big War Creek and Clinch Valley Roads; thence S 61° W 170' to a point; thence N 29° W 700' to a point; thence N 61° E 380' to a point; thence S 29° E 700' to a point; thence S 61° W 210' to the beginning containing 6.1 acres more or less."

2. In Annex I, under "Excluded Land", the description of the land is revised to read as follows:

""(A point in the center of the Big War Creek road 1750' N 58° W from the intersection of Big War Creek and Clinch Valley Roads was used as the beginning of the original excluded area. The excluded area, as hereby revised, refers to this point.) Beginning at a point S 61° W 170' of the point in the center of Big War Creek road referred to above; thence N 29° W 700' to a point; thence N 61° E 380' to a point in the original excluded boundary; thence with the original boundary four courses as follows N 29° W 575' to a point; thence S 61° W 1080' to a point; thence S 29° E 1275' to a point; thence N 61° E 700' to the beginning containing 24 acres more or less."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the fixed unit cost of any unit of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
ACTING Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By _____

Title _____

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 8

It is agreed this 1st day of May, 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and The New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, hereinafter called the "Contract," is further amended, effective April 1, 1958, as follows:

1. (a) Work under the Contract shall be suspended during the period beginning May 1, 1958, and ending not later than November 1, 1958.

(b) The Government will not contribute to any costs incurred by the Operator during the period of suspension or to any costs of rehabilitation or repair which in its opinion would not have occurred if there had been no suspension of work.

(c) The Operator at its own cost and expense, without contribution by the Government, during the period of suspension shall preserve and protect the project work and any property in which the Government has an interest.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

THE NEW JERSEY ZINC COMPANY

BY [signature]

Title VICE PRESIDENT

By [signature]
Administrator, Defense Minerals Exploration Administration

Government Copy

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EXPLORATION PROJECT CONTRACT

THE NEW JERSEY ZINC COMPANY

DOCKET No. DMEA-4286

Amendment No. 7

It is agreed this 20th day of March 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that exploration Contract Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, is further amended as follows:

In Annex I of the contract, there is added the following parcel of land, designated on the map AX-TENN-101 as "AMYX", and further identified as follows:

Name of Property Owner	Approximate Acreage
George L. Amyx, et al (Surface) The New Jersey Zinc Co., (Mineral and mining rights)	38.45

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the fixed unit cost of any item, or the cost of any item designated as "maximum."

Executed in quintuplicate the day and year first above written.

THE NEW JERSEY ZINC CO.

By: R F Johnson

Title:

THE UNITED STATES OF AMERICA

By: Robert A. Lawrence

Executive Officer, Field Team
Defense Minerals Exploration
Administration, Region V

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Selfridge

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 6

It is agreed this 21st day of March, 1958, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, is further amended as follows:

1. The date fixed in Article 3 for completion of the work is extended from May 1, 1958, to July 1, 1959.

2. The maximum period for royalty payments and the lien to secure the payment thereof, provided for in Article 8(b)(2) of the Contract, is increased from thirty (30) to thirty-two (32) years from the date of the Contract.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the amount of any item designated as "maximum".

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By W F Johnson
VICE PRESIDENT.

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EXPLORATION PROJECT CONTRACT

THE NEW JERSEY ZINC COMPANY

Docket No. DMEA-4286

AMENDMENT No. 5

It is agreed this 2nd day of December 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that exploration Contract Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, is further amended as follows:

In Annex I of the contract, there is added the following parcel of land, designated on the map AX-TENN-101 which is a part of the contract as "Sam Price & Orville Helton 197A" and further identified as follows:

Name of Property Owner	Approximate Acreage
Sam Price and Orville J. Helton	197 acres

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the fixed unit costs or of any item designated as "maximum."

Executed in quintuplicate the day and year first above written.

THE NEW JERSEY ZINC CO.

By [signature]

Title: _____

THE UNITED STATES OF AMERICA

By Robert A. Lawson
Executive Officer, DMEA
Field Team, Region V

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 4

It is agreed this 25th day of October, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and the New Jersey Zinc Company, that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended is further amended as follows:

In Exhibit "A" under the heading, Description of the Work:

1. The second paragraph,

"Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds."

is revised to read:

"Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed, dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds or plunging at a high angle to the strike into the dip of the beds."

2. The third paragraph (as revised by Amendment No. 1),

"A series of widely spaced dip fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

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is further revised to read:

> "A series of widely spaced dip and strike fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C O Mitchendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J Goodwin

Title [illegible]

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RECEIVED OCT 7 1957
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Brown
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Faldet
Selfridge

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 3

It is agreed this 18th day of September, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government", and The New Jersey Zinc Company, hereinafter called the "Operator", that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, hereinafter called the "Contract", is further amended, effective July 30, 1956, as follows:

1. In Exhibit "A", under Description of the Work, the ninth paragraph is deleted, and the sixth paragraph is revised to read as follows:

"Diamond drilling shall be done with AX size, or larger, coring bits, except when it is not feasible to complete a hole with AX size. With Government approval, the hole may be reduced with EX casing and completed with EX size bits. The Government will not contribute to the cost of drilling any hole which is not completed. All drill holes shall be logged and all drill core shall be made available to the Government for examination. All significantly mineralized core shall be split and one half thereof shall be properly sampled and the samples assayed for zinc; no sample shall be taken representing more than five feet of core length. All assays shall be submitted monthly to the Government, together with the logs of the drill holes and proper plan maps and sections showing the progress of the work and the sample locations. The remaining half of all significantly mineralized core shall be furnished to the Government upon request."

2. Under Estimated Cost of the Project, Category (1), Independent Contracts is revised to read as follows:

"30,000 feet of overburden drilling and diamond drilling to 1,000-foot depth:

AX size @ $2.75/ft. EX size @ $2.65/ft.	$82,500.00	

"5,000 feet of diamond drilling from 1,000-foot to 1,500-foot depth:

AX size @ $3.00/ft. EX size @ $2.90/ft.	15,000.00	$97,500.00

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all other charges which may be incurred by the diamond drill contractor.

"Neither the cost nor value of casing left in drill holes at option of Operator will be accepted as a charge to the contract."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
ACTING Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By [illegible]

Title VICE PRESIDENT

Docket Copy

EXPLORATION PROJECT CONTRACT

THE NEW JERSEY ZINC COMPANY

Docket No.4286

AMENDMENT No.2

It is agreed this 16th day of August 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company that Exploration Project Contract Idm-E982, Docket No.DMEA-4286, dated July 30, 1956, is hereby further amended as follows:

In Article 3, the dates for beginning and completing the work are changed from September 1, 1956 and September 1, 1957, respectively, to May 1, 1957 and May 1, 1958 respectively.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the amount of any item designated as "maximum."

Executed in sextuplicate the day and year first above written.

THE NEW JERSEY ZINC CO.

By [signature]

Title VICE PRESIDENT

THE UNITED STATES OF AMERICA

By Robert A. Lawson

Executive Officer, Defense Minerals Exploration Administration, Region V

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EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

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Selfridge
Johnson

Amendment No. 1

It is agreed this 13th day of August, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, is amended as follows:

On page one of Exhibit "A", the third paragraph which reads as follows:

> "A series of widely spaced dip fences shall be drilled, with holes spaced at between 200-and 300-foot intervals on the fences, unless in the opinion of the Government spacing as close as 100 feet is a necessity."

is deleted and the following paragraph is substituted:

> "A series of widely spaced dip fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the amount of any item designated as "maximum."

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O P Mittendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J M Boodemer

Title VICE PRESIDENT

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MF-200
(Revised June 1954)

Docket No. DMEA [redacted]

Commodity [redacted]

Contract No. Idm-E 982

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

EXPLORATION PROJECT CONTRACT[1]

It is agreed this JUL 30 1956 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] [redacted], whose mailing address is [redacted], hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200), the attached Exhibit "A," Annex I, and [redacted]

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of [redacted], County of [redacted], and is described in Annex I.[3]

(b) The Operator represents and undertakes that: (See Annex I)

(1) The Operator is the [4] [redacted] of [5] ..... in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] [redacted], [7] ..... recorded in Book ....., page ....., official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: [redacted]

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

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of the land (lessor, seller, optionor, etc.), are attached, as follows: Consents to Lien of owners of optioned tracts are waived.

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 8, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 8(b)(1). See Annex I.

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of Zinc. The work to be performed is described in Exhibit "A." The Operator on or before September 1, 1956 shall commence the work, and on or before September 1, 1957 (unless the Operator's obligation to prosecute the work is terminated—see Article 10) shall ~~either~~ have completed the work ~~or shall have incurred allowable costs (see Article 6) in a sum not less than the estimated total allowable cost set forth in Exhibit "A."~~ See Article 13.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Independent contracts.*—To the extent that the allowable costs are estimated in Exhibit "A" with express reference to performance by independent contractors on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations), the work may be so performed; but if the reference in Exhibit "A" to any such independent contract requires the Government's approval thereof, payments under such contract will not be allowable costs unless the Government gives its written approval of the contract. Any such independent contract shall refer to some specific and identifiable part of the work, and shall be subject to all of the pertinent terms and conditions of this exploration contract; but the Government shall not be considered a party thereto, and its rights under this contract, including the right to terminate its contributions, shall not be affected thereby. Regardless of the provisions of any such independent contract and regardless of the Government's approval thereof, the Government will participate in payments to the independent contractor only on account of work performed in accordance with the provisions of this exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable.

(c) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—The estimated total allowable cost of the project, set forth in Exhibit "A," is the sum of $07,150.00. The Government shall contribute 50 percent of the allowable costs as they are incurred in a total sum not in excess of $3,575.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last

voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work or not in excess of the amount of the Government's contribution to the cost of property which is or may become subject to disposal as provided in Article 9(c), whichever is greater. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 7(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. "Costs incurred" mean costs that have been paid or have become due and payable, or that in the opinion of the Government have become an obligation. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Estimated costs.*—(a) *Categories of costs.*—The allowable costs of the work to which the Government shall contribute are limited to those that are direct, reasonable, necessary, and that are estimated in Exhibit "A" by categories as specified in this article. If any category or subcategory is omitted from the estimate of costs, or if the word "none" is annexed to the listing thereof, costs under such category or subcategory are not allowable. Any excess over any estimate which is indicated as the maximum of any category, subcategory, or item, either as to requirement or related cost, and any excess over the estimated total allowable cost of the work, shall not be allowable. Any excess over the estimate of any category, subcategory, or item, either as to requirement or related cost, not indicated as a maximum shall be allowable within the limit of the estimated total allowable cost of the work. To the extent that excesses over maximums other than the estimated total allowable cost of the work may be necessary for the performance of the work, the Operator shall incur such excesses for his own account without contribution by the Government; [redacted]. See Article 13.

To the extent specified in this article or in Exhibit "A" the following categories, subcategories, and elements thereof are maximums; but if not so specified either here or in Exhibit "A" they are not maximums, and may be exceeded within the limit of the estimated total allowable cost of the work:

CATEGORY (1)—INDEPENDENT CONTRACTS.—Work to be performed under independent contracts (see Article 4(b)). The estimated total amount of this category and the estimated cost of each unit of work for performance under an independent contract are maximums.

CATEGORY (2)—PERSONAL SERVICES.

Subcategory (a)—Supervision.—All elements of this subcategory (number of supervisors, periods of employment, rates of pay, and total) are maximums.

Subcategory (b)—Technical services.—All elements of this subcategory (number of technicians, periods of employment, rates of pay, and total) are maximums.

Subcategory (c)—Labor.

CATEGORY (3)—OPERATING MATERIALS AND SUPPLIES.—Includes such items as drill bits and steel, explosives, fuel, pipe, power, small tools costing less than $50 each, timber, track.

CATEGORY (4)—OPERATING EQUIPMENT.

Subcategory (a)—Rental.—The number of each object to be rented [6 mine cars, 1 truck], the rate of rental [$100 per month, $5 per hour], and the total of this subcategory are maximums.

Subcategory (b)—Purchases.—The estimated total of this subcategory is a maximum.

Subcategory (c)—Depreciation.—All elements of this subcategory (time periods, rate of depreciation, and subcategory total) are maximums.

CATEGORY (5)—INITIAL REHABILITATION AND REPAIRS.—Estimates under this category include all requirements and related costs, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The estimated total of this category is a maximum.

Subcategory (a)—Initial rehabilitation and repairs of existing buildings, fixtures, and installations (exclusive of mine workings).—The estimated total of this subcategory is a maximum.

Subcategory (b)—Initial rehabilitation and repairs of operating equipment.—The estimated total of this subcategory is a maximum.

CATEGORY (6)—NEW BUILDINGS, FIXTURES, AND INSTALLATIONS (EXCLUSIVE OF MINE WORKINGS).—Estimates under this category include all requirements and related costs, such as labor, materials and supplies, and supervision at a rate not higher than provided for in Category (2), and shall not be duplicated under any other category. The estimated total of this category is a maximum.

CATEGORY (7)—MISCELLANEOUS.—Repairs and maintenance (other than initial) of operating equipment, analytical work, prints and other reproductions, accounting, Operator's share of payroll taxes, liability insurance covering employment, travel, communications, and any other items of requirement or cost that do not fall within any of the first 6 categories.

THE ESTIMATED TOTAL ALLOWABLE COST of the work is a maximum.

(b) *Nonallowable costs.*—The following costs are not allowable for contribution by the Government:

(1) *Costs of the land,* such as rental, depreciation, depletion, or other cost of acquiring, owning, or holding possession;

(2) *Indirect costs,* such as general overhead, corporate management, interest, taxes (other than payroll and sales taxes), insurance (other than liability insurance covering employment), damages to persons, damages to property (other than necessary repairs or replacements of equipment or other property used in the work);

(3) *Previous work* performed or costs incurred before the date of this contract; and

(4) *Deferred payments.*—Any costs incurred by the Operator under any rental-purchase agreement, installment-purchase agreement, or any agreement for the purchase of goods under the provisions of which payment of the full purchase price is deferred more than 90 days from the delivery of the goods; unless the purchase agreement is approved by the Government in writing.

(c) *Reductions in costs.*—The Operator shall account for and give the Government credit for any incidental benefits, credits, or money received in the ordinary course of business in prosecuting the work (as by salvage or sale of materials or equipment, furnishing of room or board, furnishing of power or services to third persons, rebates or discounts on purchases, etc.), in the same ratio in which the Government contributes to costs; and such amounts shall be treated as a reduction in costs incurred so that they are available for use within the limit of the original estimated total cost. This provision does not apply to receipts from production which are subject to the Government's percentage royalty under the provisions of Article 9.

See Article 13.

ARTICLE 7. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. If the Government elects to audit said records and accounts relating to the exploration work by certified public accountant, it may do so as a cost of the work to which the Operator shall contribute. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government. If work under this contract is carried on in conjunction with any other operations, or if labor, supervision, services, materials, supplies, equipment, facilities, or other requirements for carrying on the work are also used in connection with other operations, the costs shall be segregated and accounted for on a basis and by methods and accounts that are satisfactory to and approved by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing detailed costs incurred during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and costs incurred for each type of work; and (3) a Narrative Report of the work performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and related costs incurred.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records, or accounts.

ARTICLE 8. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 7) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of [redacted] years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. See Article 13.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except*, that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer*, sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing. See Article 13.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value therof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½)

percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 9. *Interests in purchased property.*—(a) *Title and ownership.*—All costs under this contract shall be incurred by the Operator in the Operator's own name and for the Operator's own account; but any property acquired to the cost of which the Government contributes shall belong to the Operator and the Government jointly in proportion to their respective contributions, although title thereto shall be taken in the name of the Operator.

(b) *Preservation of property.*—Until the final disposal of any property in which the Government has an interest the Operator shall preserve and protect same for the best interest of the Government, any reasonable and necessary costs thereof to be treated as an allowable cost of the project. After the completion of the work or termination of the Government's obligation to contribute, or when such property is not in use for or needed for the work, the Operator shall neither use it without the written consent of the Government nor without paying a reasonable rental to be fixed by the Government for its interest.

(c) *Disposal of property.*—Upon the completion of the work or termination of the Government's obligation to contribute to costs, or when the property is no longer needed for the work, the Operator shall promptly dispose of salable or salvageable property in which the Government has an interest for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator or the Government at a price at least as high as could be obtained from others, unless the Government in writing waives its interest in any such property. Without advance approval of the sales price by the Government the Operator shall not sell at any price any item of property the cost of which was more than $500, and shall not sell at less than 25 percent of the purchase price any item of property which cost $500 or less. The Government, in lieu of approving the sales price for any such item, may itself purchase the item at the best price which the Operator is able to obtain or himself cares to give. Property remaining upon any termination of the work shall be considered in groups or categories (such as drill steel, or explosives, or pipe, or rails), and if the original cost of the remaining unexpended portion of any such group or category is less than $50, the Government waives its interest therein. If necessary to accomplish the disposal of any item the Operator shall dismantle and sever it from the land, the cost thereof to be treated as a cost of the project.

(d) *Default of the Operator re disposal.*—If within 90 days after the completion of the work or termination of the Government's obligation to contribute to costs, or after the property is no longer needed for the work, or after such further time as the Government may in writing allow, the Operator has failed to sell or otherwise liquidate or dispose of any property in which the Government has an interest, the Government, at any time prior to final settlement under the contract, may pursue one of the following two courses: (1) the Government, by written notice to the Operator, may place upon such property what in its opinion is a fair valuation thereof, not in excess of the cost less 1.66 percent per month from the

date such property was purchased under this contract to the termination of said 90-day period; and such property shall thereupon be considered and accounted for as having been purchased by the Operator at the valuation so fixed by the Government; or (2) the Government may enter and take possession of such property wherever it may be found, and remove and dispose of it for the joint account of the parties.

ARTICLE 10. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon: (1) the Government shall be free of all obligation to contribute to costs not then incurred other than such as may be allowable under the provisions of the contract as necessary and incidental to winding up, reporting, and accounting; and (2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon: (1) the Government shall be relieved of all obligation to contribute to costs not incurred when the notice was given, other than such as may be allowable by the provisions of the contract as necessary and incidental to winding up, reporting, and accounting; and (2) the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 10 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 11. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 12. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 13. *Changes and added provisions.*— (a) Categories (2) through (7) of Article 6(a) are deleted. (b) To the extent that costs are set forth in Exhibit "A" as "Fixed Unit Costs" they are in lieu of the actual costs that otherwise would be allowable costs of the project under Article 6 of the contract. The Government will contribute to the fixed unit costs as they accrue, on the basis of units of work actually performed. The fixed unit costs include all costs of the work necessary to complete the project. (c) That part of the last sentence in the first paragraph of Article 6(a) commencing after the semicolon, is deleted. (d) In Article 6(c), the reference to Article 9 is changed to Article 6. (e) In Article 8(b): (1) the word "minerals" includes limestone and dolomite products produced in processing ore; and (2) the words "ten years" are changed to "thirty years." (f) The following clause is added to Article 8(e): Provided, however, That so long as the Operator operates smelting facilities as an integrated part of its business, the settlement made by the Operator's smelter to its mine or mill on the ore or concentrates subject to the Government's royalty shall be, for the purpose of calculating the royalty payable to the Government under this contract, on the same settlement basis that the said smelter makes to its independent suppliers under the schedule most favorable to any independent supplier, or should gross income from mining operations for percentage depletion purposes in Federal income tax determination show a greater value for ore or concentrate sales than that value which would result from applying the smelter schedule most favorable to an independent supplier, the greater value will be used as the basis for calculating royalty payable to the Government. (g) In Article 3 the alternative to completing the work is deleted.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. Mittendorf

Administrator, Defense Minerals Exploration Administration

THE NEW JERSEY ZINC COMPANY
(Operator)

By J. Goodwin

VICE PRESIDENT

I, Walter R. Anyan, certify that I am the secretary of the corporation named as Operator herein; that S. S. Goodwin who signed this contract on behalf of the Operator, was then Vice President of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Walter R. Anyan

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70617-1

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. EMEA-4286

EXHIBIT F

The land referred to in Article 2 consists of certain tracts in Hawkins and Hancock Counties, Tennessee. Some of the tracts are owned in fee simple by the Operator, in some tracts the Operator owns the mineral and mining rights, and in still other tracts the Operator has the right to explore for minerals under lease-option contracts, which provide that it may purchase all mineral and mining rights (including limited surface privileges). The tracts are listed as follows:

A. Land Owned in Fee Simple by Operator

1. Approximately 37.8 acres of land described in the Abstracter's Certificate of Title dated October 11, 1955, in behalf of Myrtle Drinnon (single).

2. Approximately 1.99 acres of land described in the Warranty Deed dated October 14, 1953, between Birdie Smith (widow) and the New Jersey Zinc Company.

B. Land in which the Operator Owns the Mineral and Mining Rights

1. Approximately 139.4 acres of land described in a Warranty Deed dated June 23, 1955, between T. D. Price, Jr. and wife, Katherine, and Ruble Price and wife, Carolyn, and the New Jersey Zinc Company.

2. Approximately 1.26 acres of land described in a Warranty Deed dated October 14, 1953, between Birdie Smith (widow) and the New Jersey Zinc Company.

C. Lands on which the Operator has Right to Prospect for Minerals, plus Option to Purchase Mineral and Mining Rights

1. Approximately 46 acres owned by Eugene Clonce (single), described in Contract and Agreement dated February 28, 1956, between the owner and the Operator.

2. Approximately 60 acres owned by Guy Seals and wife, Virgie Richardson, described in Contract and Agreement dated April 2, 1952, between the owners and the Operator.

3. Approximately 23 acres owned by Sam H. Price and wife, Victoria W., described in Contract and Agreement dated March 27, 1952, between the owners and the Operator.

4. Approximately 25 acres owned by Ruth Short Bloomer and husband, Ellabugh, described in Contract and Agreement dated January 28, 1956, between the owners and the Operator.

5. Approximately 25 acres owned by Cameron Short and wife, Winnie Pearson, described in Contract and Agreement dated January 28, 1956, between the owners and the Operator.

6. Approximately 150 acres owned by O. M. Swaney and wife, Bonnie Brewer, described in Contract and Agreement dated September 29, 1955, between the owners and the Operator.

7. Approximately 400 acres owned by Harve Lawson and wife, Nancy, described in Contract and Agreement dated March 27, 1952, between the owners and the Operator.

8. Approximately 86 acres owned by Ephriam Clonce and wife, Virginia, described in Contract and Agreement dated March 10, 1956, between the owners and the Operator.

9. Approximately 80 acres owned by Lewis Setzer and wife, Mary, described in Contract and Agreement dated September 5, 1951, between the owners and the Operator.

Copies of all instruments listed above are contained in Docket No. DMEA-4286, and the land descriptions therein are incorporated herein by reference.

All of the tracts of land referred to in Annex I appear on the attached map entitled "The New Jersey Zinc Company, Big War Creek Area, Rogersville, Tennessee." On this map, the lands owned in fee simple by the Operator are outlined in yellow color, the lands in which the Operator owns the mineral and mining rights are outlined in orange color, and the lease-option lands are outlined in blue color.

Excluded Land

The map referred to in this Annex I shows a tract outlined in brown color, labelled "Area to be excluded from DMEA contract." This area has already been diamond drilled by the Operator, no work under the contract will be performed within its boundaries, and it is specifically excluded from the "land" referred to in Article 2 of this contract. The boundaries of this excluded tract are as follows:

> "BEGINNING at a point in the center of the Big War Creek road 1750 feet N 58° W from the intersection of the Clinch Valley and Big War Creek road; thence 210 feet N 61° E to a point; thence 1275 feet N 29° W to a point; thence 1080 feet S 61° W to a point; thence 1275 feet S 29° E to a point; thence 870 feet N 61° E to the BEGINNING, containing 31 acres, more or less."

Special Agreement Concerning Land

1. In the event the Operator or any subsidiary thereof at any time during the period expiring ten years from the date of this contract acquires any interest, title, or equity, in any lands contiguous to the premises described in this contract, it is agreed that such contiguous lands shall thereupon become subject to the provisions of this contract, and the parties hereto shall promptly execute amendments to this contract listing such contiguous lands as lands included in this contract.

2. It is further agreed that the Operator may, at any time before the expiration of sixty days following the conclusion or termination of exploration work performed pursuant to the terms of this contract, request the Government to delete from this contract such of the land described in the lease-option contracts listed in this Annex I, or in any amendments thereto, as has no known value for mineral production. The Government will promptly prepare amendments removing the specified land from the contract, which amendments shall provide that the Operator:

(a) certifies the lands have no known value for mineral production;

(b) has, prior to the execution of the respective amendment, surrendered or otherwise disposed of all its interest, title, and equity in such land, and any minerals produced therefrom, including any option, lease, or permit thereto, without any consideration whatsoever, including future compensation, for such surrender or disposition, other than relief from the cost of maintaining such interest;

(c) agrees that no benefit from such land or any production of minerals therefrom will accrue to the Operator or to any of its subsidiaries, directly or indirectly, during the period expiring thirty years from the date of this contract; and

(d) agrees that if the Operator or any subsidiary thereof acquires any interest, title, or equity in such land or any minerals produced therefrom, or derives any benefit therefrom, before the expiration of thirty years from the date of this contract, the land with respect to which such interest, title, or equity is acquired, and any minerals produced therefrom, shall be deemed subject to this contract and any certification from the date that the Operator or any subsidiary thereof acquired such interest, title, or equity, or any benefit therefrom, until the expiration of thirty years from the date of this contract, or until the total net amount contributed by the Government without interest is fully repaid, which ever occurs first.

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4806

EXHIBIT "A"

Description of the Work

The purpose of the project is to explore for ores of zinc by diamond drilling (and such churn drilling of overburden as may be required).

Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds.

A series of widely spaced dip fences shall be drilled, with holes spaced at between 200- and 300-foot intervals on the fences, unless in the opinion of the Government spacing as close as 100 feet is a necessity.

The space intervals between the various fences shall not be less than 500 feet, except upon written approval in advance by the Government.

It is estimated that the average depth of the drill holes will be approximately 800 feet and that the maximum depth of any hole will be approximately 1300 feet. It is believed that approximately 44 holes will be required. Not more than 35,000 feet of drilling shall be performed: Provided, however, That the Operator may, upon the written approval of the Government, perform more than 35,000 feet of drilling so long as the total cost of all drilling work allowable under the contract is not exceeded.

All diamond drilling shall be done with AX size, or larger, core recovering drills and coring bits.

The initial holes to be drilled under the contract are roughly indicated on the attached map.

All diamond drilling, including the locations and depths of holes are subject to prior Government approval.

All drill holes shall be logged geologically and all drill core shall be made available to the Government for examination. All significantly mineralized core shall be properly sampled and the samples assayed for zinc. Assays, together with the geological logs of drill holes, shall be reported to the Government, together with proper plan maps and sections showing the progress of the work.

Drilling will not be done at locations closer than 200 feet from property lines.

The project work shall be supervised at all times by competent engineers or geologists.

Estimated Cost of the Project

Actual Costs

Category (1) Independent Contracts

Overburden drilling and diamond drilling to 1000-foot depth, 30,000 feet @ $2.75/ft.	$82,500.00	
Diamond drilling from 1000-foot to 1500-foot depth 5000 feet @ $3.00	15,000.00	
The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all other charges which may be incurred by the diamond drill contractor.		
Neither the cost nor value of casing left in drill holes at option of Operator will be accepted as a charge to the contract.		$97,500.00
Categories (2) through (7)	None	

Fixed Unit Costs (See Article 13 of the contract)

Incidental allowance for each foot of drilling completed, 35,000 feet @ $0.27/ft.	9,450.00	
200 Samples assayed @ $1.00/each sample	200.00	9,650.00
Estimated Total Cost of Project		$107,150.00
Government Participation @ 50%		$ 53,575.00

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MAY 1 0 1956

[illegible]

THIS CONTRACT AND AGREEMENT made and entered into on this 1st day of February, 19[illegible], by and between [illegible] of [illegible] County, Tennessee, hereinafter called the Owner, party of the first part, and [illegible], a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Company:

W I T N E S S E T H

That for and in consideration of the sum of [illegible] ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the party of the first part grants unto the party of the second part for a period of [illegible] from the date hereof, with the privilege of extension for [illegible] not to extend beyond [illegible] 1961, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, [illegible] rocks of any kind, including limestone, in, under or on the following described premises:

LYING in the [illegible] Civil District of [illegible] County, Tennessee, containing [illegible] acres more or less, and bounded generally as follows:

[illegible]

[illegible]

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

STATE OF TENNESSEE

[illegible] COUNTY

Personally appeared before me, [illegible], a Notary Public in [illegible] County and State, the within named bargainor, EUGENE [illegible] (SPOLE), with whom I am personally acquainted, and who acknowledged that he executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 28th day of [illegible].

Notary Public.

[illegible]

[illegible]
[illegible] of Tennessee
[illegible] 5-1609

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 2nd day of April 1952, by and between GUY SEALS and wife, VIRGIE RICHARDSON SEALS of ~~Sullivan~~ Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC EXPLORATION COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond April 2nd, 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 60 acres, more or less, and bounded generally as follows:

THE NEW JERSEY ZINC CO. INC.
160 FRONT ST., NEW YORK 38, N. Y.

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On the North by the lands of Price and possibly others;
On the East by the lands of Eugene Clonce;
On the South by the lands of Sam Price and possibly others; and
On the West by the lands of Sam Price.

For title reference see Deed Book 94, Page 28, Register's Office for Hawkins County, Tennessee. See also Deed Book 92, pages 211, 212, and 213.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, and the right to purchase surface acreage in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant to the party of the second part during said periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and enure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

In Witness Whereof, the Owners and parties of the first part have hereunto set their signatures the day and date first above written.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

Guy Seals
Guy Seals.

Virgie Richardson Seals
VIRGIE RICHARDSON SEALS

STATE OF TENNESSEE
COUNTY OF Hawkins

Personally appeared before me, B. J. Ramsey Jr. a Notary Public in and for said County and State, the within named bargainors, GUY SEALS AND WIFE, VIRGIE RICHARDSON SEALS with whom I am personally acquainted and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this ~~and~~ 8th day of April 1952.

B. J. Ramsey Jr.
Notary Public.

Commission Expires: July 9, 1953

Qualified in Hawkins County under the Provisions of Tennessee Code Section 5904.1 et seq.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 27th day of March 1952, by and between SAM H. PRICE and wife, VICTORIA W. PRICE of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC EXPLORATION COMPANY, a New Jersey Corporation authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond March 27th, 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 25 acres, more or less, and bounded and described as follows:

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

BEGINNING on a rock at the pike road corner of said land conveyed to W. B. Short; thence Northwardly with said W. B. Short's line to the top of Copper Ridge, Jeff Prices line; thence Eastwardly with the top of said ridge to R. L. Seal corner; thence Southwardly with said Seals line to the pike road; thence down said road to the BEGINNING corner, containing 25 acres, more or less.

Owners acquired title to the above described premises by Deed of Henley Drinnon and wife, dated March 26, 1929 and of record in the Register's Office for Hawkins County, Tennessee in Deed Book _____, Page _____, to which reference is made.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, and the right to purchase the entire surface area of the above described premises, in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant to the party of the second part during said periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned Agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and enure to the benefit of the parties hereto their heirs, executors, administrators, successors and assigns.

THE NEW JERSEY ZINC C
160 FRONT ST., NEW YO

In Witness Whereof, the Owners and parties of the first part have hereunto set their signatures the day and year first above written.

Sam H. Price

Sam H. Price.

Victoria W. Price

Victoria W. Price, parties of the first part.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Don S. Catlett, a Notary Public in and for said County and State, the within named bargainors, SAM H. PRICE AND WIFE, VICTORIA W. PRICE, with whom I am personally acquainted and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hawkins County, Tennessee on this 27th day of March 1952.

Don S. Catlett

Notary Public.

Commission Expires:4-6-54

Qualified in Hawkins County
under the Provisions of Tennessee
Code Section 5904.1 et seq.

(Seal)

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

RECEIVED
MAY 10 1956

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 28th day of January, 1956, by and between RUTH SHORT BLOOMER and husband, ELEANOR BLOOMER of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company.

W I T N E S S E T H

That for and in consideration of the sum of One ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond January, 28, 1961, upon payment of sums of money agreed upon, the exclusive right and option to prospect all minerals, metals, ores, and bearing materials, and rocks of any kind, including limestone, on, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 25 acres, more or less and bounded generally as follows:

On the North by the lands of Sam Price;
On the East by the lands of Sam Price;
On the South by the Church Valley Road; and
On the West by the lands of Cameron Short.

THE NEW JERSEY ZINC COMPANY
120 BROADWAY, NEW YORK 38, N.Y.

Owners acquired title to the above described property by the following deeds of conveyance of Record in the Register's Office for Hawkins County, Tennessee as follows: (1) Deed of W. B. Short, et ux., dated November 27, 1946, Deed Book 99, Page 234 and (2) Deed of W. B. Short and wife, dated December 20, 1950, Deed Book 107, Page 505.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant unto the party of the second part during said periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this Option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and inure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the Owners and parties of the first part have hereunto set their signatures the day and year first above written.

Ruth Short Blosser
Ruth Short Blosser.

C. Clabaugh Blosser
Clabaugh Blosser.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, RUTH SHORT BLOOMER AND HUSBAND, ELLAHUGH BLOOMER, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 28th day of January, 1956.

Ben S. Catlett
Notary Public.

Commission Expires: 4-16-58

Qualified in Hawkins County
under the Provisions of Tennessee
Code, Sections: 8-1609, et seq.

STEWART TITLE GUARANTY
[illegible] PORT CH., NEW YORK 36, N. Y.

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 28th day of January, 1956, by and between CAMERON SHORT and wife, WINNIE PEARSON SHORT, of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond January 28, 1961, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 28 acres, more or less, and bounded generally as follows:

On the North by the top of Copper Ridge and the lands of Sam Price;
On the East by the lands of Mrs. Ruth Short Bloomer;
On the South by the Clinch Valley Road; and
On the West by the lands of G. L. Amyx.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

Owners acquired title to the above described premises by Deed of W. B. Short, et ux., of Record in the Register's Office for Hawkins County, Tennessee in Deed Book 107, Page 196, to which reference is here made.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant to the party of the second part during said periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and enure to the benefit of the parties hereto their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the Owners and parties of the first part have hereunto set their signatures the day and date first above written.

Cameron Short
Cameron Short.

Winnie Pearson Short
Winnie Pearson Short.

[illegible]
[illegible] FRONT ST., NEW YO[illegible]

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, CARMERON SHORT AND WIFE, WINNIE PEARSON SHORT, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 23th day of January, 1956.

Ben S. Catlett
Notary Public.

Commission Expires: 4-16-58

Qualified in Hawkins County
under the Provisions of Tennessee
Code Sections: 8-1609, et seq.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

W A R R A N T Y D E E D

THIS INSTRUMENT made and entered into on this 23rd day of June, 1955, by and between I. D. PRICE, JR. and wife, KATHERINE PRICE and RUBLE PRICE and wife, CAROLYN PRICE, of Hawkins County, Tennessee, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR cash and other good and valuable considerations in hand paid, receipt of which is hereby acknowledged, the parties of the first part have this day granted, bargained and sold and do by these presents grant, bargain, sell and convey unto the party of the second part, its successors and assigns forever, all the minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or upon the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee on Copper Ridge, adjoining the lands

THE TITLE GUARANTEE COMPANY
100 BROADWAY, NEW YORK 5, N.Y.

Sam Price, George Amyx,
of Lee Smith Heirs, Myrtle Drinnon,/Mary Bloomer,
Wilder, Pearson, John Gwinn, and possibly others, and
more particularly described as follows:

BEGINNING at a 12 inch Sourwood tree on the top of Copper Ridge, corner to John Gwinn and to the Lee Smith Heirs; thence with the line of the Smith Heirs N. 62-35 E, 609.9 feet to a marked 10 inch white oak, corner to the Smith Heirs and to Myrtle Drinnon; thence with the line of Drinnon first, S. 01-18 W. 1377.5 feet to an old fence corner; thence N. 62-36 E. 1935.0 feet to the center of the Big War Creek Road, corner to Drinnon and to The New Jersey Zinc Company; thence with the line of The New Jersey Zinc Company, first along said Road, S. 40-25 E. 84.1 feet; thence S. 37-08 E. 187.0 feet; thence S. 30-11 E. 111.4 feet; thence S. 21-00 E. 46.0 feet; thence S. 24-41 E. 88.6 feet; thence leaving said Road and crossing a falls in Big War Creek N. 58-57. E. 81.2 feet to a 14 inch Elm tree; thence with the foot of the hill, line of The New Jersey Zinc Company, first, N. 30-38 W. 384.0 feet to a 24 inch Buckeye tree; thence N. 34-33 W. 115.0 feet; thence N. 31-40 W. 107.6 feet to an 18 inch Oak Tree, thence N. 37-20 W. 71.1 feet to the beginning of an old Mill Race; thence with the Eastern edge of the Mill Race, first, N. 36-48 W. 229.2 feet; thence N. 41-25 W. 86.0 feet; thence N. 40-17 W. 78.1 feet; thence N. 31-28 W. 35.6 feet; thence N. 23-07 W. 40.2 feet; thence N. 12-08 W. 34.3 feet; thence N. 04-30 W. 23.5 feet corner to The New Jersey Zinc Company and to Mrs. B. Smith; thence with the line of Smith, first, N. 01-28 E, 159.4 feet to a 12 inch white oak tree opposite the Smith Residence; thence N. 01-31 E. 109.9 feet to a 30 inch Walnut tree; thence N. 19-40 W. 162.3 feet to the end of the Mill Race; thence N. 29-24 W. 34.4 feet corner to Smith and to Sam Price; thence with the line of Price, first, N. 63-56 E. 151.3 feet; thence S. 55-57 E. 52.3 feet; thence N. 81-54 E. 388.2 feet

to a 36 inch Oak tree corner to Price and to George Amyx; thence with the line of Amyx S. 27-19 E. 2223.3 feet to the center of Big War Creek opposite a 36 inch Sycamore tree, and corner to Mary Bloomer; thence with the center of said Creek and the line of bloomer, first, S. 69-57 W. 155.3 feet; thence S. 60-43 W. 147.4 feet; thence S. 53-08 W. 147.5 feet corner to Drinnon; thence with the line of Drinnon, along the center of said Creek, N. 31-40 W. 62.5 feet; thence N. 42-15 W. 247.6 feet; thence N. 31-57 W. 107.1 feet; thence N. 26-16 W. 100.9 feet to the intersection of said Creek and a branch, corner to Drinnon and to Mary Bloomer; thence with the line of Bloomer, along the center of said Branch, first, S. 70-44 W. 276.7 feet; thence S. 27-46 W. 55.4 feet; thence S. 08-31 E. 147.8 feet; thence S. 29-03 W. 33.6 feet; thence S. 56-28 W. 120.1 feet, thence N. 89-11 W. 49.1 feet; thence S. 53 39 W. 137.1 feet; thence S. 17-41 W. 164.3 feet; thence S. 02-41 W. 361.3 feet; thence S. 17-05 W. 107.9 feet; thence S. 02-35 W. 64.4 feet; thence S. 61-12 E. 82.6 feet; thence S. 06-04 E. 193.2 feet; thence S. 06-21 E. 86.1 feet; thence S. 14-25 W. 135.6 feet; thence S. 21-16 E. 54.1 feet; thence S. 29-31 E. 249.6 feet to a point opposite an old fence post, corner to bloomer and to Sterling Wilder; thence leaving said Branch, and with the line of Wilder, first, S. 34-11 W. 88.5 feet to a fence corner; thence with the fence of Wilder, N. 47-17 W. 61.0 feet to a 30 inch Elm tree, thence N. 43-21 W. 243.7 feet; thence N. 31-51 W. 100.4 feet to a 12 inch Hackberry tree; thence S. 53-19 W. 300.5 feet; to a 6 inch twin Cucumber tree; thence S. 24-36 E. 313.0 feet to the center of the Clinch Valley Road, corner to Wilder and to T. Pearson; thence along the center of said Road and with the line of Pearson, S. 63-23 W. 244.4 feet corner to Pearson and to John Gwinn; thence leaving said Road, and with the line fence of Gwinn N. 26-15 W. 2538.7 feet to two 3 inch poplar trees, thence N. 00-09 W. 1052.4 feet to the BEGINNING, containing 139.4 acres, more or less.

[illegible] LIBRARY [illegible]
[illegible] BROAD ST., NEW YORK [illegible]

I. D. Price, Jr. and Ruble Price acquired title to the above described premises by the Last Will and Testament of Stoke Holton, deceased, recorded in the County Court Clerk's Office for Hawkins County, Tennessee in Will Book 4, Page 531, to which reference is here made.

Together with the right to prospect for, mine, mill and remove the minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, and the right to utilize and divert such water as may be upon or appurtenant to the premises, and the right to draw into any water course on said premises any water from operations conducted thereon or therein, the right to enter upon the premises with workmen, tools, rigs, and appliances and remove the same, and the free and uninterrupted right of ingress and egress in, on, from, through, under and upon said premises for said purposes, or any thereof, and for the purpose of carrying on mining operations on, in, or under any other properties in which the Zinc Company, its successors or assigns, may have or acquire mineral or mining rights and may desire to reach or mine directly or indirectly through the above described premises, and all other rights and privileges necessary or convenient in order to exercise the rights hereinabove set forth.

It is understood that one of the considerations for this conveyance is that the party of the second part covenants and agrees for itself, its successors and assigns, to pay for all damage done by its prospecting and mining activities to the surface, growing crops,

fences, buildings and structures located on the above described premises.

Should the owner of the mineral and mining interests and the owners of the surface right be unable to agree upon the amount or extent of such damage, the same shall be determined by arbitration, the then owners of the surface to select one arbitrator, the then owners of the mineral and mining interests to select one arbitrator, and the two arbitrators so selected to select a third arbitrator. The award made by said arbitrators shall be binding and conclusive on the respective parties.

TO HAVE AND TO HOLD said mineral and mining interests with all hereditaments and appurtenances thereto belonging, to the said party of the second part, its successors and assigns, forever.

And the parties of the first part covenant to and with the party of the second part, its successors and assigns, that they are lawfully seized and possessed of said mineral and mining interests, that they have a good and lawful right to sell and convey the same, that the same is clear and unencumbered, except for 1955 State and County taxes which Grantors agree to pay, and that they will forever warrant and defend the title thereto against the lawful claims and demands of all persons whomsoever.

THE TITLE GUARANTEE AND TRUST COMPANY
[illegible] NEW YORK, N. Y.

IN TESTIMONY WHEREOF, the parties of the first part have hereunto set their signatures, this the day and date first above written.

I. D. Price Jr.
I. D. Price Jr.

Katherine Price
Katherine Price.

Ruble Price
Ruble Price.

Carolyn Price
Carolyn Price.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, I. D. PRICE, JR., and wife, KATHERINE PRICE, and RUBLE PRICE and wife, CAROLYN PRICE, with whom I am personally acquainted, and who acknowledged that they executed the foregoing instrument for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 23rd day of June, 1955.

Ben S. Catlett
Notary Public.

(Seal)

Commission Expires:

Qualified in Hawkins County
under the Provisions of Tennessee
Code, Section 5904.1 et seq.

RECEIVED
MAY 10 1956

WARRANTY DEED

THIS INDENTURE made and entered into on this 14th day of December 1953, by and between BIRDIE SMITH (WIDOW) (one and the same person as Burdy Smith), party of the first part, of Hawkins County, Tennessee, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part.

WITNESSETH

That for and in consideration of the sum of ONE ($1.00) DOLLAR cash and other good and valuable considerations in hand paid, receipt of which is hereby acknowledged, the party of the first part has this day granted, bargained and sold and does by these presents grant, bargain, sell and convey unto the party of the second part, its successors and assigns forever, the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, on Big War Creek, adjoining the lands of Stone Melton heirs, Lee Smith heirs, Myrtle Shannon, and the remaining land of the Grantor, more particularly described as follows:

> BEGINNING at an iron pin in the center of Big War Creek, corner in the line of Lee Smith heirs; thence with the line of Birdie Smith, N. 81-11 E. 25.3 feet to a 12 inch walnut tree; thence N. 81-11 E. 35.5 feet crossing the public road to a marked rock

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

outcrop at the Eastern edge of the mill race, corner to Birdie Smith and to Stoke Holton Heirs; thence meandering with the Eastern edge of the mill race, (line of Holton) first, S. 04-30 E. 25.5 feet; thence S. 12-08 E. 34.3 feet; thence S. 23-07 E. 40.2 feet; thence S. 31-28 E. 35.6 feet; thence S. 40-17 E. 78.1 feet; thence S. 41-05 E. 56.0 feet; thence S. 36-48 E. 229.2 feet to the end of the mill race; thence meandering with the bottom of the hill, (line of Holton), first, S. 37-28 E. 71.1 feet to an 16 inch oak tree; thence S. 31-40 E. 157.6 feet; thence S. 34-33 E. 115.0 feet to a 24 inch buckeye tree; thence S. 34-33 E. 338.0 feet to a 14 inch elm tree; thence across the falls in Big War Creek (line of Holton) S. 57-41 E. 61.2 feet to a point in the center of the public road; thence with the center of said road (line of Holton), first, N. 24-44 W. 31.4 feet; thence N. 21-00 W. 43.0 feet; thence N. 30-11 W. 111.4 feet; thence N. 37-08 W. 157.0 feet; thence N. 40-25 W. 84.1 feet to a stake, corner to Holton and to Myrtle Drinnon; thence continuing with the center of said road, (line of Drinnon), N. 36-52 W. 125.0 feet; thence N. 25-17 W. 45.9 feet; thence N. 00-26 W. 73.6 feet to a point in the center of Big War Creek; thence with the center of said creek (line of Drinnon), N. 43-15 W. 337.9 feet; thence N. 24-31 W. 122.1 feet to a point opposite a marked hickory tree, corner to Drinnon and to Joe Smith Heirs; thence continuing with the center of said creek (line of Joe Smith Heirs) N. 14-55 E. 35.3 feet to the BEGINNING, containing 1.99 acres, more or less.

Being a part of the same property acquired by Harvey Smith and wife, Burdy (Birdie) Smith by Deed of Joe Carter and wife, Martha Carter, dated September 17, 1920, and of Record in the Register's Office for Hawkins County, Tennessee in Deed Book 35, Page 319, to which reference is here made. Harvey Smith is deceased, and Burdy (Birdie) Smith is sole owner as surviving tenant by the entirety.

For the further consideration of ONE ($1.00) DOLLAR cash and other good and valuable considerations in hand paid, receipt of which is hereby acknowledged, the party of the first part has this day granted, bargained and sold and does by these presents grant, bargain, sell and convey unto the party of the second part, its successors and assigns forever, all the minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or upon the following described premises:

PHENIX LITHOGRAPHING COMPANY
[illegible] ST., NEW YORK 38, N. Y.

SITUATE in the Third Civil District of Hawkins County, Tennessee, on Big War Creek, adjoining the lands of Stoke Helton Heirs, Lee Smith Heirs, Sam Price, and the tract of land above conveyed, more particularly described as follows:

> BEGINNING at a point in the center of Big War Creek, corner to Lee Smith Heirs and to Sam Price, thence with the line of Price, first, N. 73-35 E. 22.7 feet to the center of the public road; thence N. 73-35 E. 22.6 feet to a stake, corner to Price and to Stoke Helton Heirs; thence with the line of Helton first, S. 29-24 E. 34.4 feet to the end of the mill race; thence meandering with the Eastern edge of the mill race, S. 13-40 E. 162.3 feet to a 30 inch walnut tree; thence S. 01-31 W. 109.9 feet to a 12 inch white oak tree; thence S. 01-28 W. 159.4 feet to a marked rock outcrop; thence with the line of the tract of land above conveyed S. 81-11 W. 55.5 feet, crossing the public road, to a 12 inch walnut tree; thence with said line S. 81-11 W. 25.8 feet to an iron pin in the center of Big War Creek, corner in the line of Lee Smith Heirs; thence with the center of said creek (line of Lee Smith Heirs) N. 12-21 W. 442.1 feet to the point of BEGINNING, containing 1.26 acres, more or less.

Being a part of the same property acquired by Harvey Smith and wife, Burdy (Birdie) Smith by Deed of Joe Carter and wife, Martha Carter, dated September 17, 1920, and of Record in the Register's Office for Hawkins County, Tennessee in Deed Book 55, Page 319, to which reference is here made. Harvey Smith is deceased, and Burdy (Birdie) Smith is sole Owner as surviving tenant by the entirety.

Together with the right to prospect for, mine, mill and remove the minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, and the right to utilize and divert such water as may be upon or appurtenant to the premises, and the right to draw into any water course on said premises any water from operations conducted thereon or therein, and the right to enter upon the premises with workmen,

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

tools, rigs, and appliances and remove the same, and the free and uninterrupted right of ingress and egress in, on, from, through, under and upon said premises for said purposes, or any thereof, and for the purpose of carrying on mining operations on, in or under any other premises in which the Mine Company, its successors or assigns, may have or acquire mineral or mining rights and may desire to reach or mine directly or indirectly through the above described premises, and all other rights and privileges necessary or convenient in order to accomplish the purposes mentioned herein.

It is understood that one of the consideration for this conveyance is that the party of the second part covenants and agrees for itself, its successors and assigns, to pay for all damage done by its prospecting and mining activities to the surface, growing crops, fences, buildings and structures located on that portion of the above described premises, title to which the Mine Company does not acquire hereunder.

Should the owner of the mineral and mining interests and the owner of the surface right be unable to agree upon the amount or extent of such damage, the same shall be determined by arbitration, the then owner of the surface to select one arbitrator, the then owner of the mineral and mining interests to select one arbitrator, and the two arbitrators so selected to select a third arbitrator. The award made by said arbitrators shall be binding and conclusive on the respective parties.

TO HAVE AND TO HOLD said property, rights and interests, with all hereditaments and appurtenances thereto belonging, to the said party of the second part, its successors and assigns, forever.

[illegible] MFG CO
[illegible] NEW YORK [illegible]

And the party of the first part covenants to and with the party of the second part, its successors and assigns, that she is lawfully seized and possessed of said property, rights and interests, that she has a good and lawful right to sell and convey the same, that the same is clear and unencumbered, and that she will forever warrant and defend the title thereto against the lawful claims and demands of all persons whomsoever.

IN TESTIMONY WHEREOF, the party of the first part has hereunto set her signature, this the day and date first above written.

Birdie Smith
Birdie Smith.

STATE OF TENNESSEE
HAWKINS COUNTY

Personally appeared before me, Ben S. Pettitt, a Notary Public in and for said County and State, the within named bargainor, BIRDIE SMITH (WIDOW) (one and the same person as Hardy Smith), with whom I am personally acquainted, and who acknowledged that she executed the foregoing instrument for the purposes therein contained and expressed.

Witness my hand and official seal in Hawkins County on this 14th day of December 1953.

Ben S. Pettitt
Notary Public.

Commission expires: 4-6-54

Qualified in Hawkins County
under the provisions of Tennessee
Code Section 5904.1 et seq.

RECEIVED
MAY 1 0 1956

ABSTRACTORS' CERTIFICATE OF TITLE

We hereby certify to THE NEW JERSEY ZINC COMPANY, that the title to the premises described in Schedule "A" hereof has been examined by the undersigned, and that a good title thereto in fee simple, clear of all encumbrances and defects, except as noted below, is on the date hereof vested in and can be conveyed by MYRTLE DRINNON (Single).

SCHEDULE "A"

SITUATE in the Third Civil District of Hawkins County, Tennessee, containing 10 acres more or less, adjoining the Lands of Stoke Helton and others and described as follows:

> BEGINNING on the North by Stoke Helton and others and on a poplar corner to Old Johnson line; thence Northwardly with the line of the Manerva Amyx heirs Land to the top of Copper Ridge to H. L. Smiths line, thence to two chestnut oaks, thence Eastwardly with the said Smith line to and across the creek, thence up the creek with J. I. Odens line to Stokly Helons line; thence Westwardly a straight line to the BEGINNING corner.

Myrtle Drinnon acquired title to the above described property by Deed of James H. Drinnon, dated July 7, 1936, and recorded in Deed Book 97, Page 159, Register's Office for Hawkins County, Tennessee.

SCHEDULE "B"

ENCUMBRANCES:

1. TAXES: 1955 County taxes in the amount of $18.26, assessed against this and other property, payable on or before March 1, 1956 without penalty.

2. OPTION CONTRACT: Contract and Agreement with the New Jersey Zinc Exploration Company, dated December 1, 1950, Recorded in Misc Book _____, Page _____.

NOTE: The deed of conveyance from James H. Drinnon to Myrtle Drinnon Page 1 of the abstract, retains a life estate in the Grantor. Our information is that James H. Drinnon is deceased, and this fact will be established by proper affidavit before closing.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

NOTE: See the discrepancies in the dates of the instruments on Pages 10 and 11 of the abstract and the note on Page 12 concerning an apparent missing conveyance in the chain of title.

Any state of facts an accurate survey would show.

This certificate is based upon an examination of all record evidence of title in the County in which the real estate is situated.

IN TESTIMONY WHEREOF, we hereby certify this 11th day of October, 1955.

_____

_____
Attorneys.

[illegible] AND COMPANY
[illegible] ST., NEW YORK 38, N. Y.

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 29th day of September, 1955, by and between O. M. SWANEY and wife, BONNIE BREWER SWANEY, of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR cash and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for a further period not to extend beyond September 29, 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rock of every kind, in, under or on the following described premises:

SITUATE in the ThirdCivil District of Hawkins County, Tennessee, containing 100 acres, more or less, on the South side of Copper Ridge, and bounded generally as follows:

On the North by the top of Copper Ridge;
On the East by the lands of Sam. Price;
On the South by the Lands of S. M. Pearson Heirs; and
On the West by the lands of Harve Lawson and
Ephraim Lance.

Being the same property conveyed to Bonnie Brewer Swaney by Deed of E. C. Brewer, dated August 21, 1967, and of Record in the Register's Office for Hawkins County, Tennessee in Deed Book 90, Page 268, to which reference is here made.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant to the party of the second part during said periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials, and rock of every kind, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this Option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and enure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the Owners and parties of the first part have hereunto set their signatures the day and date first above written.

C. M. Swaney

C. M. Swaney

Bonnie Brewer Swaney

Bonnie Brewer Swaney

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, C. M. SWANEY AND WIFE, BONNIE BREWER SWANEY, with whom I am personally acquainted and who acknowledged that they executed the foregoing instrument for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 29th day of September, 1955.

Ben S. Catlett
Notary Public.

Commission Expires: 4-16-58

Qualified in Hawkins County
under the provisions of Tennessee
Code Section 5904. 1 et seq.

THE NAT[illegible] BANK OF [illegible]
[illegible] FRONT [illegible] TENNESSEE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 27th day of March 1952, by and between HARVE LAWSON and wife, NANCY LAWSON, of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC EXPLORATION COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond March 27th 1957, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee on the North side of the Clinch Valley Road and more particularly described as follows:

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

BEGINNING at a set stone at the corner of the lands of Dr. Swanny on a bank on the North side of the Clinch Valley Road; thence Northwardly with a wire fence and Dr. Swanay's line 283½ poles to two Chestnuts on top of Copper Ridge and known as the Brewer and Cantrell corner; thence South 67 West 14 poles to a stake; South 84 West 29½ poles to four Dogwoods; thence South 74 West 9½ poles to a bunch of Chestnuts; thence South 66½ West 20 poles to a stake; thence South 57 West 14 poles to a stake; thence South 51 West 13 poles to a Chestnut and Sassafras, corner to Anderson and Holton; thence South 30 East 69 poles to a large Chestnut, the old Hawk corner; thence South 75 West 106 poles to the Cantrell and Day corner; thence South 26 East 193 poles to a Redbud, Day's corner; thence North 57 East 24 poles to a stake; thence Southwardly with the fence and Day's line to a set stone at the Clinch Valley Public Road; thence Eastwardly with the Clinch Valley road approximately .7 mile to the BEGINNING corner, containing approximately 400 acres, more or less.

Owners acquired title to the above described property by Deed of George H. Baker and wife, et al., dated July 22, 1949 and of Record in the Register's Office for Hawkins County, Tennessee in Deed Book 104, Page 362 to which reference is here made.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress and the right to purchase seventy (70) acres of the surface area in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant to the party of the second part during said periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and enure to the benefit of the parties hereto their heirs, executors, administrators, successors and assigns.

In Witness Whereof, the Owners and parties of the first part have hereunto set their signatures the day and year first above written.

Harve Lawson
Harve Lawson.

Nancy Lawson
Nancy Lawson, parties of the first part.

STATE OF TENNESSEE

HAWKINS COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, HARVE LAWSON AND WIFE, NANCY LAWSON, with whom I am personally acquainted and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 27th day of March 1952.

Ben S. Catlett
Notary Public.

Commission Expires: 4-6-54.

Qualified in Hawkins County
under the provisions of Tennessee
Code Section 5904.1 et seq.

(Seal)

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

RECEIVED
MAY 1 0 1956

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this [illegible] day of March, 1956, by and between LILLIAN CLONCH and wife, VIRGINIA CLONCH, of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company.

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR cash in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond March 11, 1959, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, rare earths, refractory materials, and rocks of any kind, including limestone, in, under or on the following described premises.

Situated in the Second Civil District of Hancock County, Tennessee, bordering the Hawkins County line, and being all that portion of the Owners farm lying North of the Clinch Valley Road, containing 36 acres, more or less, and bounded generally as follows:

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

On the North by the lands of Harvey Walker, Louis Sutton and R. D. Wolfe;
On the East by the lands of Harvey Lawson;
On the South by the Church Valley Road; and
On the West by the lands of Homer Sexton and Roy Bailey.

Being a portion of the same property acquired by Virginia Clence by [illegible] in the last will of her father, and by [illegible] Clence and wife Virginia Clence by Deed of Gift dated May, Order January 6, 1941, recorded in the Register's Office for Sullivan County, Tennessee in Book 17, Page 166.

Together with the right to prospect for, mine, mill and remove the minerals; water rights, the free and uninterrupted right of ingress and egress, and the right to purchase the entire surface area of the above described premises, in accordance with the terms of an agreement of even date herewith entered into between the parties hereto.

And the parties of the first part also grant to the party of the second part during said periods the right to prospect for, explore and mine all minerals, bauxite, clay, ore-bearing materials, and rocks of any kind, including fluorspar, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This contract and agreement and each and every provision thereof shall be binding upon and enure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the owners and parties of the first part have hereunto set their signatures the day and date first above written.

Ephraim Clence
Ephraim Clence

Virginia Clence
Virginia Clence

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, _____, a Notary Public in and for said County and State, the within named bargainors, EPHRAIM CLONCH AND WIFE, VIRGINIA CLONCH, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 10th day of March, 1956.

Ben L. Collett
Notary Public.

Commission Expires: 4-16-58

Qualified in Hancock County
under the Provisions of Tennessee
Code, Section 8-1009 et seq.

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 5th day of September 1951, by and between LEWIS SETSOR and wife, MARY SETSOR of Hancock County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC EXPLORATION COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond September 5, 1956, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Second Civil District of Hancock County, Tennessee being all the farm lands of the Owners lying along Copper Ridge, containing by estimation 80 acres, more or less, and bounded generally as follows:

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N.Y.

RECEIVED
MAY 1 0 1956

On the North by the lands of Williams;
On the East by the lands of Coy Hicks and Ephrion Clance;
On the South by the lands of Clance; and
On the West by the lands of R. D. Wolfe and Gordon.

Owners acquired title to the above described premises by the following deeds of conveyance, of record in the Register's Office for Hancock County, Tennessee, to which reference is here made: (1) Deed of Harvey Wilder and William Ashe, dated _____, Deed Book _____, Page _____; and (2) Deed of Alice Ashe, dated November 19, 1927, Deed Book _____ Page _____.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant to the party of the second part during said periods the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials and rocks of any kind, including limestone, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this option Contract and Agreement are fully set out in the Agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and enure to the benefit of the parties hereto their heirs, executors, administrators, successors and assigns.

LEE BROM St., NEW YORK 36, N.Y.

In Witness Whereof, the Owners and parties of the first part have hereunto set their signatures the day and year first above written.

Lewis Setsor.

Mary Setsor, parties of the first part.

STATE OF TENNESSEE

HANCOCK COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, LEWIS SETSOR and wife, MARY SETSOR, with whom I am personally acquainted and who acknowledged, that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal in Hancock County, Tennessee on this _____ day of September 1951.

Notary Public.

Commission Expires: 4-6-54.

Qualified in Hancock County
under the Provisions of Tennessee
Code Section 5904.1 et seq.

RECEIVED
MAY 1 0 1956

EXHIBIT "B"

E. J. LONGYEAR COMPANY

DIAMOND DRILL MANUFACTURERS
CORE DRILLING CONTRACTORS
MINING ENGINEERING AND
GEOLOGICAL CONSULTANTS

GENERAL OFFICE
FOSHAY TOWER
MINNEAPOLIS 2, MINNESOTA
TELEPHONE: MAIN 2447
CABLE: LONGEAR

March 15, 1956

The New Jersey Zinc Company
160 Front Street
New York, New York

Attention: Mr. A. E. Turner
Assistant Manager of Purchasing

Gentlemen:

Diamond Drilling -
Copper Ridge Belt, Tennessee - 1-X-524

1. Pursuant to your letter of March 9th, we are pleased to present below our proposal for your contemplated exploratory drilling program which is to be carried out in the above-described area.

2. We understand that the work as now planned will consist of a possible aggregate footage of 90,000 feet to be distributed as follows: 35,000 feet - Eidson area, Hawkins County, Tennessee, and 35,000 feet - Independence area, Hancock County, Tennessee; that holes are expected to average 700 to 800 feet in depth; that the formation to be drilled will consist of the Knox dolomite and other formations typical of these areas. We further understand that the water required for the drilling operations is available within a maximum distance of 5,000 feet of any proposed drill hole, and that you wish to have the work carried on simultaneously in the two areas.

3. For this work we propose to furnish four complete Longyear diamond core drill units, together with the necessary accessory equipment required to accomplish the work as planned. We further propose to supply all service equipment required for moving the equipment from one location to another, and other services and facilities needed in connection with supplying water for our drilling purposes. We also propose to operate the drills on a two shift basis providing sufficient experienced drillers are available.

4. We will carry public liability insurance covering personal injury and property damage, and Workmen's Compensation insurance, and also, all-risk insurance on the drilling equipment protecting against loss by theft, fire, flood, land-slides and other similar hazards.

We will also assume and pay any and all Old Age Benefit, Unemployment and Social Security taxes and contributions imposed by federal or state authorities.

Certificates showing the coverage referred to will be furnished upon request.

5. Based upon the conditions as outlined above, and upon examination of the properties involved, we are pleased to quote as follows:

6. Invoices covering work performed will be prepared in accordance with your instructions.

7. After completion of the first 20,000 feet of drilling, it is understood and agreed that we would review our operating costs and if conditions would permit, would make a reduction in the drilling rates for the balance of the footage contemplated under this program.

8. The above quoted drilling rates are based on wage rates currently being paid in the Southeast District. If for any reason it becomes necessary to adjust the wages being paid our workmen because of demands of labor union or otherwise, it is agreed and understood that the Longyear Company reserves the right to request a proportionate increase in drilling rates to cover the resulting increased operating expense.

9. Drill cores are to be placed in receptacles furnished by you at each drill hole location and transported to point of permanent storage as provided for herein.

10. We very much appreciate being afforded the opportunity to consider this work. Should our proposal be found acceptable, we are prepared to furnish the equipment from our Wax Meadows warehouse and commence the drilling operations promptly after receipt of official notice to proceed.

Very truly yours,

E. J. LONGYEAR COMPANY

E. J. Gleason, Manager
Contract Drilling Division

JG:bal

ACCEPTED:

THE NEW JERSEY ZINC COMPANY

By: _____

Date: _____

a) Overburden Drilling

0 - 200 feet in depth, measured from the collar of the hole..... $2.75 per foot

b) Diamond Core Drilling

0 - 1000 feet in depth, measured from the collar of the hole -

EX-size, recovering core approximately 7/8" in diameter..... $2.65 per foot

AX-size, recovering core approximately 1-3/16" in diameter..... $2.75 per foot

BX-size, recovering core approximately 1-5/8" in diameter..... $3.05 per foot

1,000 - 1,500 feet in depth -

EX-size..... $2.90 per foot

AX-size..... $3.00 per foot

1500 - 2000 feet in depth -

BX-size..... $3.40 per foot

AX-size..... $3.50 per foot

c) Drill Hole Surveying with Mann compass.. $5.00 per hour

d) Delays for your convenience or for which you are responsible..... $5.00 per hour

e) Hauling drill core from drill hole locations to core storage shed..... $1.25 per hour

f) Casing left in drill holes at your request:

EX-size..... $1.47 per foot
AX-size..... $1.54 per foot
BX-size..... $1.96 per foot

g) Cleaning up of drill hole locations will be carried out at the sole expense of the Goodyear Company.

h) Reaming, casing, and cementing, when required, will be carried out at the sole expense of the Goodyear Company.

i) Capping holes..... $3.45 per hour, plus cost of caps and other materials used.

March 26, 1956

The New Jersey Zinc Company
160 Front Street
New York 38, N. Y.

Attention: Mr. A. E. Turner, Assistant Manager of Purchasing

Dear Mr. Turner:

We wrote to you on March 21, 1956 advising why we were unable to submit our drilling proposals on your diamond drilling programs in (1) The Copper Ridge Belt and (2) In Wythe and Smyth Counties Virginia.

The writer spent most of Friday March 23rd in going over your proposed drilling in the Mascot Sector - Tennessee with (1) Mr. A. D. Hoagland and Mr. Johnson Crawford in their office at Jefferson City, Tennessee and (2) Mr. Kendall, Geologist, took me over the proposed drilling areas in the field. These men left "no stone unturned" to see that the writer received the necessary information for us to compile the enclosed proposal. The writer tried to get this off to you on Saturday, but, with our office closed and those concerned being away for the week end, was not able to do so. Our proposal is being air mailed to you immediately.

We want to thank you for extending your kind invitation to us in this regard. We have found this work of much interest and would like to do it for you. We hope our proposal meets with your approval.

Respectfully submitted, we remain

Very truly yours,

SOUTHEASTERN DIAMOND DRILLING CO.

J. P. Jennings, Jr., Geologist

JPJ/rw
Enclosure

JOY MANUFACTURING COMPANY
900 WOODLAND AVENUE
MICHIGAN CITY, INDIANA
TELEPHONE 7-7231

EXECUTIVE OFFICES
HENRY W. OLIVER BUILDING
PITTSBURGH 22, PA.

March 26, 1956

[illegible]

[illegible] Corporation
[illegible] Street
New York 36, N. Y.

Attention: Mr. A. E. Kraus
Asst. Mgr. of Purchasing

Subject: Diamond Drilling
Copper Ridge Unit - [illegible]

Gentlemen:

In compliance with your request, we wish to set forth below prices and conditions covering a minimum of 20,000 feet of core drilling in the Ironwood and Marquette County, Michigan area.

	AX Core	BX Core
From surface to 500 ft.	$ 48.75 ft.	$ 52.50 ft.
From 500. to 1000. ft.	3.25 "	3.50 "
From 1000. to 1500. ft.	3.75 "	3.50 "
From 1500. to 2000. ft.	4.25 "	4.00 "

Reaming - AX hole for AX casing	$72.00 ft.
Reaming - BX hole for BX casing	101.75 "
Core ring holes	$37.50 per in.

We will pump water for drilling purposes provided that the holes are spotted not more than 5,000 feet from an adequate source of supply.

If it is your desire to save cores of the drilling, then it will be necessary that you furnish the proper containers for same.

We will furnish two drills for the proposed drilling in the Ironwood Area, and two drills for the proposed drilling in the Ishpeming Area, and will conduct the drilling operations on the basis of two 8-hour shifts per day per drill, and not less than six days per week.

[illegible]

[illegible]

[illegible]

Very truly,

[illegible]

[illegible]
[illegible]
[illegible] Division

[illegible]

MAR 30 1953
DIV.

DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 4286

DO NOT DETACH THIS SLIP

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

cy USGS: CY B MINES: CY REGION V

This document has been recorded as Exploration

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

Routing Slip

To:	500	Date	5/11/56
To:	Op. Comm.	Date	5/31/56
To:	F.E. Johnson	Date	6-1-56
To:	[illegible]	Date	6-1-56
To:	Base Metals	Date	6/4/56
To:	Legal	Date	6/14/56
To:	Base Metals	Date	6/22/56
To:	Op. Comm	Date	6/25/56
To:	Base Metals	Date	6/29/56
To:	Op. Comm.	Date	7/26/56
To:	F.E. Johnson	Date	7/27/56
To:	[illegible]	Date	7-27-56
To:	130	Date	9-18-57
To:	100	Date	9-18-57
To:	130	Date	10-25-57
	110		10-25-57
	130		3-21-58
	100		3-21-58
	130		7-9-59
	100		7-10-59

DO NOT DETACH

CONTROLLED DOCUMENT

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

United States Department of the Interior

GEOLOGICAL SURVEY
BOX 25046 M.S. 922
DENVER FEDERAL CENTER
DENVER, COLORADO 80225
BRANCH OF CENTRAL MINERAL RESOURCES

IN REPLY REFER TO:

(303) 236-5608

February 4, 1989

Re: DMEA 4286 (zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Cos.,
Tennessee
Contract Idm E-950

Mr. T. J. Montgomery
Property Superintendent
Inspiration Mines, Inc.
P.O. Box "S"
Claypool, Arizona 85532

Dear Mr. Montgomery:

Under the terms of the contract and the Certification of Possible Production, the certification period and royalty due if there had been production, has expired as of July 30, 1988.

According to present records, the Government retains no claims or liens against the property subject to the contract or any production therefrom. Therefore, we are closing our books and records on this contract.

Sincerely yours,

David A. Lindsey

David A. Lindsey, for
J. William Hasler, Chief
Office of Minerals Exploration

DALindsey:js

Copies to: G. H. Allcott
H. A. Tourtelot
D. A. Lindsey
Robert Edwards
J. W. Hasler

United States Department of the Interior

GEOLOGICAL SURVEY
BOX 25046 M.S. 922
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

September 23, 1987

Re: DMEA 4286 (zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Cos., Tenn.
Contract Idm E 982

Mr. T. J. Montgomery
Property Superintendent
Inspiration Mines, Inc.
P.O. Box S
Claypool, AZ 85532

Dear Mr. Montgomery:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

Rec'd 10/8/87
OME

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since Aug. 1, 1984, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No X☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? -NO- If so, please give details.

2. Since Aug. 1, 1984, has there been any production from the land subject to the contract? Yes ☐ No X☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since Aug. 1, 1984, has any production been transported through workings (*see of contract*)? Yes ☐ No X☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name Thomas J. Montgomery	*Title* Property Superintendent
Address P. O. Box "S" Claypool, Arizona 85532	*Date* 06 October 1987

United States Department of the Interior
GEOLOGICAL SURVEY
BOX 25046 M.S. 922
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

September 23, 1987

Re: DMEA 4286 (zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Cos., Tenn.
Contract Idm E 982

Mr. T. J. Montgomery
Property Superintendent
Inspiration Mines, Inc.
P.O. Box 5
Claypool, AZ 85532

Dear Mr. Montgomery:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since Aug. 1, 1984, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

Has any contiguous Land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract ? - NO -
If so, please give details

2. Since Aug. 1, 1984, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since Aug, 1, 1984, has any production been transported through workings (*see of contract*)? Yes ☐ No ☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name Thomas J. Montgomery	*Title* Property Superintendent
Address P.O. Box "S" Claypool, Arizona 85532	*Date* 06 October 1987

United States Department of the Interior

GEOLOGICAL SURVEY
BOX 25046 M.S. 939
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Sept 28, 87

~~August 6~~, 1986

Re: DMEA 4286 (zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Cos., Tenn.
Contract Idm E 982

Mr. T. J. Montgomery
Property Superintendent
Inspiration Mines, Inc.
P.O. Box 1559
Claypool, Arizona 85532

RECEIVED
AUG 21 1986

Dear Mr. Montgomery:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

JWH:js

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since August 1, 1983, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reazquired since the date of the contract? If so, please give details.

2. Since August 1, 1983, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since August 1, 1983, has any production been transported through workings (*see of contract*)? Yes ☐ No ☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name	Title
Thomas J. Montgomery	Property Supt
Address	**Date**
Box 5, Claypool Ariz 85532	August 19, 1986

United States Department of the Interior

GEOLOGICAL SURVEY
BOX 25046 M.S. 939
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

August 6, 1986

Re: DMEA 4286 (zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Cos., Tenn.
Contract Idm E 982

Mr. T. J. Montgomery
Property Superintendent
Inspiration Mines, Inc.
P.O. Box 1559
Claypool, Arizona 85532

RECEIVED
AUG 21 1986

Dear Mr. Montgomery:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

JWH:js

Form MME 63
(Mar 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since August 1, 1983, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reazquired since the date of the contract? If so, please give details.

2. Since August 1, 1983, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since August 1, 1983, has any production been transported through workings (*see of contract*)? Yes ☐ No ☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name	Title
Thomas J. Montgomery	Property Supt
Address	**Date**
Box 5, Claypool Ariz 85532	August 19, 1986

United States Department of the Interior
GEOLOGICAL SURVEY
BOX 25046 M.S. 939
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

IN REPLY REFER TO

August 5, 1983

Mr. T. J. Montgomery
Property Superintendent
Inspiration Mines, Inc.
P.O. Box 1559
Claypool, Arizona 85532

Re: DMEA 4286 (zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract Idm E-982

Dear Mr. Montgomery:

Thank you for sending two copies each of the two Warranty Deeds conveying the above-referenced property to Inspiration Mines, Inc. pursuant to our request of July 19, 1983.

Should there be any production before the royalty obligation period ends on July 30, 1988, royalty payments should be made payable and mailed to:

Chief, Office of Minerals Exploration
U.S. Geological Survey M.S. 939
Denver Federal Center - Box 25046
Building 25, Rm. 2502
Denver, Colorado 80225

The purchaser should be advised to deduct royalties from the amount due on each shipment. Each check should be accompanied by suitable sales evidence - such as copies of settlement sheets - showing the name of the purchaser, the quantity and grade of the products sold, and the price and charges, certified to be correct by the purchaser.

Sincerely yours,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

JWH:js

cc: R. Marshall, Vice President, The New Jersey Zinc Company
John J. Ellis, Vice President, Inspiration Mines, Inc.
A. T. Ovenshine, Reston
C. H. Thorman, Denver

INSPIRATION MINES, INCORPORATED

P. O. BOX 1559 CLAYPOOL, ARIZONA 85532

1 August 1983

RECEIVED
AUG 3 1983

United States Department of the Interior
Geological Survey
Box 25046, M.S. 933
Denver Federal Center
Denver, Colorado 80225

Attn: Mr. J. William Hasler

Re: DMEA 4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract Idm E-982

Dear Mr. Hasler:

I am replying to your letter of July 19, 1983, to Mr. John Ellis. As per your request in the letter, I am enclosing two copies each of the two Warranty Deeds conveying the property to Inspiration Mines, Inc. One Deed conveys the property in Hawkins County and the other the property in Hancock County.

Please note the last paragraph on page 3 of each document which preserves the Government's right to a percentage royalty on production as specified in the contract.

Yours truly,

INSPIRATION MINES, INC.

T. J. Montgomery

T. J. Montgomery
Property Superintendent

TJM:jab
Enclosures

xc: Mr. J. Ellis

This instrument prepared by:
J. Christopher Kirk
McCampbell & Young
P.O. Box 550
Knoxville, TN 37901

SPECIAL WARRANTY DEED

THIS DEED made as of the 11th day of July, 1983, by and between Gulf & Western Industries, Inc., a Delaware Corporation, authorized to do business in Tennessee, party of the first part, and INSPIRATION MINES, INC., a Delaware Corporation, authorized to do business in Tennessee, party of the second part:

W I T N E S S E T H

That for and in consideration of the sum of ten ($10.00) Dollars, cash in hand paid and other good and valuable considerations, the receipt of which is hereby acknowledged, the party of the first part has this day granted, bargained, and sold and does by these presents grant, bargain, sell and convey unto the party of the second part its successors and assigns, subject to the reservation and exception hereinafter set out, all its right, title and interest in and to all land, real property rights and interests, tenements and hereditaments of the party of the first part situate, lying and being the First, Second and Third Districts of Hancock County, Tennessee, including without limitation all metals, minerals, ores, ore-bearing materials and rocks of any and every kind, including limestone, in, under or upon the same, and all mines, mining rights, water rights, buildings, dwellings, physical plants and facilities, and other improvements thereon.

The property hereby conveyed includes, without limitation, all property acquired by party of the first part and its predecessor in title, The New Jersey Zinc Company, a New Jersey Corporation, under and by virtue of the instruments recorded in the Register's Office for Hancock County, Tennessee, listed in Exhibit "A" attached hereto, being 3,137.47 acres more or less, and excluding and excepting all property listed therein as heretofore conveyed away, and all of which are made a part hereof, and to which instruments reference is hereby made for a more complete description thereof. Reference is also made to the following documents evidencing successions to title:

(1) Agreement of Merger dated November 30, 1965, merging The New Jersey Zinc Company, a New Jersey Corporation, into Gulf & Western Industries, Inc., the surviving corporation.

(2) Deed from Gulf & Western Industries, Inc., to ZINMINCO, INC., a Delaware Corporation, dated February 25, 1966, Deed Book 29, Page 204.

(3) Change of name by Charter Amendment, from ZINMINCO, INC., to The New Jersey Zinc Company, a Delaware Corporation, dated June 9, 1966, File No. 1082, in the Office of the Secretary of State, State of Tennessee.

(4) Merger of The New Jersey Zinc Company into Gulf & Western Industries, a Delaware Corporation, dated May 24, 1974, Miscellaneous Book 14, Page 444.

Party of the first part, however, specifically reserves and excepts to itself its successors and assigns forever, all its right, title and interest, in fee simple in and to the freehold mineral estate in all oil and gas, and all hydrocarbons, minerals and substances associated with the extraction thereof, on, in or under the properties herein described and conveyed.

Party of the first part covenants and warrants that the location of any drill site or service installation in regard to oil and gas prospecting or production by party of the first part or its successors and assigns pursuant to the reservation contained herein shall require party of the second part's consent; provided however, that any such consent shall not be unreasonably delayed or withheld. The withholding of consent to the location of any such site or installation within any of the following perimeters, both surface or subsurface, shall be deemed reasonable:

(a) 200 feet from any house or other building, barn or structure now on the land;

(b) 200 feet from any use or restriction heretofore reserved by party of the first part's predecessors in interest or such other areas where such predecessors in interest have agreed to waive the use of the surface thereof by written instrument recorded in the records of the county where the land affected thereby is located; or

(c) 500 feet from active or projected subsurface mining operations or an area of the surface or subsurface where such surface or subsurface mining operation will be adversely affected thereby. The determination by party of the second part of active surface or subsurface mining operation area or projected surface or subsurface mining operation areas shall be made by the party of the second part as a prudent mining operator.

It is the intention of the party of the first part to convey to party of the second part, subject to the reservation and exception above set out, all its right, title and interest in all of the land and real property rights and interests acquired by party of the first part from or through its division, The New Jersey Zinc Company, or the predecessor in interest of said division, The New Jersey Zinc Company, a Corporation, in said Hancock County, Tennessee, whether described in the instruments hereinbefore referred to or otherwise.

To have and to hold the same, together with all the hereditaments and appurtenances thereto belonging or in any wise appertaining, to the party of second part its successors or assigns forever.

Party of the second part, however, by accepting this conveyance, covenants and agrees on behalf of itself its successors and assigns to be bound by, and does hereby assume, all of the terms, covenants and conditions contained in all conveyances referred to and listed in Exhibit "A" attached hereto and further subject to the right of the US Department of the Interior to a percentage royalty on production and lien

for the payment thereof, under party of the first part's agreement with the Defense Minerals Exploration Administration of the US Department of the Interior, dated respectively May 10, 1956, (Contract #Idm E-950) May 22, 1956, (Contract #Idm E-956) June 30, 1958, (Contract #Idm E-982) and February 26, 1958, (Contract #Idm E-1174), and to indemnify and save harmless party of the first part, its successors and assigns, from any and all liabilities hereafter accruing under the provisions of said conveyances.

And the party of the first part, for itself and its successors does hereby covenant with the party of the second part, its successors and assigns that the party of the first part has not made, done, executed or suffered any act or thing whereby the above described premises or any part thereof now are or at any time hereafter shall or may be imperiled, charged or encumbered in any manner whatsoever except for 1983 taxes, which are prorated, and the matters set out above, and the party of the first part will warrant and defend its title thereto against the lawful demands of all persons claiming by, through or under the party of the first part, but not further or otherwise.

IN WITNESS WHEREOF, the party of the first part has caused this deed to be signed by its respective officers, duly authorized as of the date first above written.

GULF & WESTERN INDUSTRIES, INC.

By: George Gottesman

Its: Vice President

INSPIRATION MINES, INC.

By: J. Elles

Its: Vice President

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STATE OF TENNESSEE)
COUNTY OF KNOX)

Personally appeared before me, the undersigned authority, a Notary Public in and for said County and State, George Yarbenet, Vice President, with whom I am personally acquainted, and who, upon oath, acknowledged himself to be Vice President of Gulf & Western Industries, Inc., the within named bargainor, a corporation, and that he as such Vice President, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Vice President.

Witness my hand and official seal at office, this the 11th day of July, 1983.

Maxine W. Harris
Notary Public

My Commission Expires: 12-27-86

STATE OF TENNESSEE)
COUNTY OF KNOX)

Personally appeared before me, the undersigned authority, a Notary Public in and for said County and State, John Ellis, Vice President, with whom I am personally acquainted, and who, upon oath, acknowledged himself to be Vice President of Inspiration Mines, Inc., the within named bargainor, a corporation, and that he as such Vice President being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Vice President.

Witness my hand and official seal at office, this the 11th day of July, 1983.

Maxine W. Harris
Notary Public

My Commission Expires: 12-27-86

I hereby swear or affirm that the actual consideration or true value of this transfer, whichever is greater, is $500,000.00. Affiant J. Ellis.
Subscribed and sworn to before me this 11th day of July, 1983.

Maxine W. Harris
Notary Public

My Commission Expires: 12-27-86

RESPONSIBLE TAXPAYER:
Inspiration Mines, Inc.
P.O. Box 1559
Claypool, Arizona 85532

RSM032/I/7/11/83

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EXHIBIT A

Hancock County

TO DEED DATED July 11, 1983 FROM GULF & WESTERN INDUSTRIES, INC. TO INSPIRATION MINES, INC.

Grantor	Date of Deed	Recorded In Deed Book	Page
James Brewer, et ux	3/10/61	26	132
W. M. Brewer, et ux	7/10/61	26	319
Ephraim Clonce, et ux	3/3/59	24	153
Easter V. Wolfe Collins, et ux	5/5/59	24	237
Guy Dalton, et ux	11/23/55	21	91
D. H. Darnell, et ux	5/14/57	22	288
Mattie Pearl Drinnon	5/10/60	25	129
Floyd Edens, et ux	5/27/57	22	294
Ralph Garrett, et ux	5/27/57	22	298
E. F. Gilliam, et ux	8/1/57	22	382
Henry Gilliam, et ux	11/15/57	23	30
W. B. Gordon, et al	6/18/52	18	262
Jack Greene, et ux	11/23/55	21	89
Flora Williams Horton, et al	5/7/57	22	284
George M. Horton, et ux	7/10/61	26	316
L. W. Horton, et ux	5/31/61	26	288
M. B. Horton	4/29/57	22	269
W. H. Horton, et ux	6/10/57	22	372
Roy Hurley, et ux	2/3/61	26	78
Charlie Johns, et ux	9/18/52	18	393
Kyle Johns, et ux	2/20/62	25	460
George H. Lamb, et al	8/1/56	22	20
Mitch Lamb, et ux	8/21/67	21	397
Lewis Setsor, et ux	9/1/56	22	17
Lewis Tunmire, et al	10/27/61	26	386
Mack Tunmire, et al	7/11/60	25	201
Vickie Parker Tunmire, et al	7/11/60	25	214
Willis Tunmire, et ux	7/11/60	25	199
Gale Walker, et ux	7/10/52	18	314
Grant Walker, et ux	5/31/52	18	241
Alice Cope Wilder, et ux	8/28/56	22	14
R. L. Williams, et al.	5/3/61	26	293
Lewis Winstead, et ux	12/29/52	19	46
Lewis Winstead, et ux (Quitclaim Deed and Release)	9/18/72	Misc. 10	4
Lewis Winstead, et ux	11/23/55	21	87

Barnett Wolfe, et ux	3/14/60	25	79
Leonard Williams, et ux	9/18/56	22	37
Bud Wolfe, et al	9/3/52	18	326
Cordie Wolfe, et al	5/25/56	21	343
David Wolfe, et ux	9/26/56	22	34
Henrietta Wolfe, et al	8/16/57	22	395
Jep H. Wolfe, et al	9/26/56	22	40
John B. Wolfe, et al	9/3/52	18	330
L. N. Wolfe, et ux	6/18/52	18	256
L. N. Wolfe, et ux	8/18/56	21	394
L. N. Wolfe	10/5/56	22	66
Mattie Wolfe	7/25/58	23	325
Roy D. Wolfe, et ux	6/11/56	21	351

EXCLUDING AND EXCEPTING such portions of the foregoing lands, or interests therein, as have been heretofore conveyed by the following deeds to Grantees named:

Grantee	Date of Deed	Recorded In Deed Book	Page
Hancock County Board of Education	3/6/58	23	270
Hancock County, Tennessee	8/30/62	Misc. 8	335
MOOSELMAC Corporation	6/30/67	Misc. 9	131
Hancock County Board of Education	3/11/68	29	440
State of Tennessee	3/10/69	Misc. 9	345
Ralph D. Seal, et ux	4/6/82	50	5

STATE OF TENNESSEE, HANCOCK COUNTY

I, or we hereby swear or affirm that the actual consideration for this transfer or value of the property transferred, whichever is greater is $500,000.00 which amount is equal to or greater than the amount which property transferred would command at a fair voluntary sale.

R. D. Bridges
Affiant

Amt. Tax Paid $ 1,300.00

Subscribed and sworn to before me this the 12 day of July 1983

Hugh E. Hopkins, Reg

STATE OF TENNESSEE
HANCOCK COUNTY

Filed for record on the 12 day of July 1983 at 2:30 P M

Noted ... 4 ... page 251

and recorded in Deed Book 52

Page 127 Verified.

Hugh E. Hopkins, Register

Reg. Fee 21.00

St. Rev. 1,300.00

Clk's Fee 50

This instrument prepared by
Christopher Kirk
McCampbell & Young
P.O. Box 550
Knoxville, TN 37901

HAWKINS COUNTY

Book 277
Page 585

277-585

SPECIAL WARRANTY DEED

THIS DEED made as of the 11th day of July, 1983, by and between Gulf & Western Industries, Inc., a Delaware Corporation, authorized to do business in Tennessee, party of the first part, and INSPIRATION MINES, INC., a Delaware Corporation, authorized to do business in Tennessee, party of the second part:

W I T N E S S E T H

That for and in consideration of the sum of ten ($10.00) Dollars, cash in hand paid and other good and valuable considerations, the receipt of which is hereby acknowledged, the party of the first part has this day granted, bargained, and sold and does by these presents grant, bargain, sell and convey unto the party of the second part its successors and assigns, subject to the reservation and exception hereinafter set out, all its right, title and interest in and to all land, real property rights and interests, tenements and hereditaments of the party of the first part situate, lying and being the Third District of Hawkins County, Tennessee, including without limitation all metals, minerals, ores, ore-bearing materials and rocks of any and every kind, including limestone, in, under or upon the same, and all mines, mining rights, water rights, buildings, dwellings, physical plants and facilities, and other improvements thereon.

The property hereby conveyed includes, without limitation, all property acquired by party of the first part and its predecessor in title, The New Jersey Zinc Company, a New Jersey Corporation, under and by virtue of the instruments recorded in the Register's Office for Hawkins County, Tennessee, listed in Exhibit "A" attached hereto, being 3,070.27 acres more or less, and excluding and excepting all property listed therein as heretofore conveyed away, and all of which are made a part hereof, and to which instruments reference is hereby made for a more complete description thereof. Reference is also made to the following documents evidencing successions to title:

(1) Agreement of Merger dated February 25, 1966, Charter Book 2, Page 371, merging The New Jersey Zinc Company, a New Jersey Corporation, into Gulf & Western Industries, Inc., the surviving corporation.

(2) Deed from Gulf & Western Industries, Inc., to ZINMINCO, INC., a Delaware Corporation, dated January 25, 1966, Deed Book 147, Page 483.

(3) Change of name by Charter Amendment, from ZINMINCO, INC., to The New Jersey Zinc Company, a Delaware Corporation, dated June 9, 1966, File No. 1082, in the Office of the Secretary of State, State of Tennessee. Charter Book 2, Page 371.

(4) Merger of The New Jersey Zinc Company into Gulf & Western Industries, a Delaware Corporation, dated May 24, 1974, Deed Book 274, Page 245.

Party of the first part, however, specifically reserves and excepts to itself its successors and assigns forever, all its right, title and interest, in fee simple in and to the freehold mineral estate in all oil and gas, and all hydrocarbons, minerals and substances associated with the extraction thereof, on, in or under the properties herein described and conveyed.

Party of the first part covenants and warrants that the location of any drill site or service installation in regard to oil and gas prospecting or production by party of the first part or its successors and assigns pursuant to the reservation contained herein shall require party of the second part's consent; provided however, that any such consent shall not be unreasonably delayed or withheld. The withholding of consent to the location of any such site or installation within any of the following perimeters, both surface or subsurface, shall be deemed reasonable:

(a) 200 feet from any house or other building, barn or structure now on the land;

(b) 200 feet from any use or restriction heretofore reserved by party of the first part's predecessors in interest or such other areas where such predecessors in interest have agreed to waive the use of the surface thereof by written instrument recorded in the records of the county where the land affected thereby is located; or

(c) 500 feet from active or projected subsurface mining operations or an area of the surface or subsurface where such surface or subsurface mining operation will be adversely affected thereby. The determination by party of the second part of active surface or subsurface mining operation area or projected surface or subsurface mining operation areas shall be made by the party of the second part as a prudent mining operator.

It is the intention of the party of the first part to convey to party of the second part, subject to the reservation and exception above set out, all its right, title and interest in all of the land and real property rights and interests acquired by party of the first part from or through its division, The New Jersey Zinc Company, or the predecessor in interest of said division, The New Jersey Zinc Company, a Corporation, in said Hawkins County, Tennessee, whether described in the instruments hereinbefore referred to or otherwise.

To have and to hold the same, together with all the hereditaments and appurtenances thereto belonging or in any wise appertaining, to the party of second part its successors or assigns forever.

Party of the second part, however, by accepting this conveyance, covenants and agrees on behalf of itself its successors and assigns to be bound by, and does hereby assume, all of the terms, covenants and conditions contained in all conveyances referred to and listed in Exhibit "A" attached hereto and further subject to the right of the US Department of the Interior to a percentage royalty on production and lien

for the payment thereof, under party of the first part's agreement with the Defense Minerals Exploration Administration of the US Department of the Interior, dated respectively May 10, 1956, (Contract #Idm E-950) May 22, 1956, (Contract #Idm E-956) June 30, 1958, (Contract #Idm E-982) and February 26, 1958, (Contract #Idm E-1174), and to indemnify and save harmless party of the first part, its successors and assigns, from any and all liabilities hereafter accruing under the provisions of said conveyances.

And the party of the first part, for itself and its successors does hereby covenant with the party of the second part, its successors and assigns that the party of the first part has not made, done, executed or suffered any act or thing whereby the above described premises or any part thereof now are or at any time hereafter shall or may be imperiled, charged or encumbered in any manner whatsoever except for 1983 taxes, which are prorated, and the matters set out above, and the party of the first part will warrant and defend its title thereto against the lawful demands of all persons claiming by, through or under the party of the first part, but not further or otherwise.

IN WITNESS WHEREOF, the party of the first part has caused this deed to be signed by its respective officers, duly authorized as of the date first above written.

GULF & WESTERN INDUSTRIES, INC.

By: [illegible]

Its: Vice President

INSPIRATION MINES, INC.

By: [illegible]

Its: Vice President

STATE OF TENNESSEE)
COUNTY OF KNOX)

Personally appeared before me, the undersigned authority, a Notary Public in and for said County and State, George Yarbenet, Vice President, with whom I am personally acquainted, and who, upon oath, acknowledged himself to be Vice President of Gulf & Western Industries, Inc., the within named bargainor, a corporation, and that he as such Vice President, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Vice President.

Witness my hand and official seal at office, this the 11th day of July, 1983.

Mayme W. Harris
Notary Public

My Commission Expires: 12-27-86

STATE OF TENNESSEE)
COUNTY OF KNOX)

Personally appeared before me, the undersigned authority, a Notary Public in and for said County and State, John Ellis, Vice President, with whom I am personally acquainted, and who, upon oath, acknowledged himself to be Vice President of Inspiration Mines, Inc., the within named bargainor, a corporation, and that he as such Vice President being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as Vice President.

Witness my hand and official seal at office, this the 11th day of July, 1983.

Mayme W. Harris
Notary Public

My Commission Expires: 12-27-86

I hereby swear or affirm that the actual consideration or true value of this transfer, whichever is greater, is $600,000.00. Affiant J. Ellis
Subscribed and sworn to before me this 11th day of July 1983.

Mayme W. Harris
Notary Public

My Commission Expires: 12-27-86

RESPONSIBLE TAXPAYER:
Inspiration Mines, Inc.
P.O. Box 1559
Claypool, Arizona 85532

RSM032/J/7/11/83

580

EXHIBIT A

TO DEED DATED July 11, 1983, FROM GULF & WESTERN INDUSTRIES, INC. TO INSPIRATION MINES, INC. Hawkins County

Grantor	Date of Deed	Recorded In Deed Book	Page
June G. Altom, Clerk and Master (Sharp)	6/23/55	118	194
June G. Altom, Clerk and Master (Greene)	8/11/55	118	399
June G. Altom, Clerk and Master	5/7/57	122	325
George L. Amyx, et al	3/15/58	124	307
Maggie Bloomer, et al	10/1/62	135	214
Mary Wolfe Bloomer, et al	2/3/68	152	446
Ruth Short Bloomer, et al	8/23/57	123	175
Eugene Clonce	2/24/61	131	55
Horace L. Davis, et ux	10/17/61	132	446
Mrs. Martin Davis, et al	4/4/53	112	458
Nettie Bloomer Davis, et al	6/12/61	131	504
Myrtle Drinnon	11/7/55	119	161
Hawkins County, et al	2/1/52	109	442
Carson Jones, et ux	7/31/69	166	452
John H. Jones, et ux	7/31/59	166	447
John C. Lawson, et ux	5/27/55	118	105
Nancy Lawson	3/23/57	122	156
[illegible] Mahan	5/20/55	117	561
Ross Moneyhun	12/28/62	135	440
New Jersey Zinc Exploration Company to New Jersey Zinc Company	4/30/52	114	384
I. D. Price, Jr., et al	6/23/55	118	196
J. K. Price, et al	4/4/55	117	377
Sam Price, et al	3/23/57	122	154
Leona Quarry, et ux	5/20/55	118	107
Linda Gay Jones Richardson, et ux	7/31/69	166	443
Guy Seals, et ux	3/30/57	122	194
Cameron Short, et al	1/27/61	130	557
Birdie Smith	12/14/53	114	345
Mrs. Bonnie Brewer Swaney, et ux	9/23/57	123	273
Genelle Jones Trent, et ux	5/27/55	118	109
Ollie Trent, et al	11/16/57	123	436
U. S. Steel Corp.	5/5/61	131	398

EXCEPTING AND EXCLUDING such portions of the foregoing lands, or interests therein, as have been heretofore conveyed by the following deeds to Grantees named:

Grantee	Date of Deed	Recorded In Deed Book	Page
Trustees of Friendship Baptist Church	5/6/71	186	509
United States of America	10/19/71	188	488

NOTE: A portion of the property listed herein is subject to the outcome of a lawsuit styled as:

New Jersey Zinc Division, a
Division of Gulf + Western Industries, Inc.
vs
Ima Lee Eshleman, L. D. Carpenter and
Randy Carpenter, cause no. 8084, pending
in the Chancery Court for Hawkins County, Tennessee

RECEIVED FOR RECORD 12TH
DAY OF JULY 19 83
AT 12:30 P M.
GALE B. CARPENTER

United States Department of the Interior
GEOLOGICAL SURVEY
BOX 25046 M.S. 933
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

IN REPLY REFER TO

July 19, 1983

Mr. John J. Ellis, Vice President
Inspiration Mines Inc.
P.O. Box 1559
Claypool, Arizona 85532

Re: DMEA 4286 (zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract Idm E-982

Dear Mr. Ellis:

This office has just been advised through the law offices of McCampbell and Young, Knoxville, Tennessee, that the New Jersey Zinc Company has conveyed its real property in Hancock and Hawkins Counties, Tennessee to Inspiration Mines Inc., subject to the above-referenced contract.

Enclosed is a copy of the certification of discovery or development that covers all the land described in Article 2 of the contract.

By the terms of the Exploration Project Contract, as amended, and the certification, all minerals mined or produced from July 30, 1956 to July 30, 1988, are subject to the Government's percentage royalty as set forth in the contract until the sum of $45,687.33 is repaid to the Government.

Royalty payments should be made payable to Chief, Office of Minerals Exploration, and mailed to the U.S. Geological Survey, Mail Stop 933, Denver Federal Center, Building 25, Rm. 2502, Denver, Colorado 80225. The purchaser should be advised to deduct royalties from the amount due on each shipment. Each check should be accompanied by suitable sales evidence - such as copies of settlement sheets - showing the name of the purchaser, the quantity and grade of the products sold, and the price and charges, certified to be correct by the purchaser.

Your attention is called to Article 2(d), particularly, of the contract, relating to the preservation of the Government's right to a percentage royalty on production.

Pursuant to Article 2(d) of the contract, please furnish this office with two copies of the instrument of conveyance showing the lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and payment thereof.

When production starts, please notify this office. Thereafter, if production ceases for any extended period, please notify this office at six-month intervals.

Sincerely yours,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

JWH:js

Enclosures

cc: A. T. Ovenshine
C. H. Thorman

Robert P. Marshall, Vice President
The New Jersey Zinc Company
G & W Natural Resources Group
One Commerce Place
Nashville, Tennessee 37239

Rec'd 7/13/83
C ME

July 11, 1983

United States Department of Interior
Geological Survey
P. O. Box 25046 M.S.933
Denver Federal Center
Denver, Colorado 80225

Re: DMEA 4286, 4850, 4177 and 4153 (zinc)
Contract Nos. Idm-E-982, Idm-E-1174,
Idm-E-956, Idm-E-950

Gentlemen:

Please be advised that on the date hereof The New Jersey Zinc Company has conveyed subject to the above referenced contracts all of its real property in Hancock, Hawkins and Grainger Counties, Tennessee, to Inspiration Mines, Inc., which has on the date hereof assumed the said contracts. All correspondence relating to the above contracts should hereafter be addressed to Inspiration Mines, Inc., P. O. Box 1559, Claypool, Arizona, 85532, Attention John Ellis, Vice President.

Yours truly,

THE NEW JERSEY ZINC COMPANY

By Robert Marshall
Vice President

INSPIRATION MINES, INC.

By J Ellis
Vice President

G+W Natural Resources Group
GULF + WESTERN INDUSTRIES INC

The New Jersey Zinc Exploration Company

June 2, 1983

Mr. J. William Hasler, Chief
Office of Minerals Exploration
United States Department of the Interior
Geological Survey
Box 25046 M.S. 933
Denver Federal Center
Denver, CO 80225

Dear Mr. Hasler:

RE: DMEA (zinc) contracts

Enclosed herewith are status reports for DMEA contracts with the New Jersey Zinc Company for projects located in Tennessee and Virginia. The Tennessee reports are for Contracts DMEA 4177, 4286, 4153, 4119, and 4850. The Virginia reports are for Contracts DMEA 5008 and 4681.

Sincerely,

William T. Hill
Vice President - Exploration
G+W Natural Resources Group

WTH/rb
Enclosure

cc: J. E. Nelson
Bruce Granoff

One Commerce Place • Nashville, Tennessee 37239 • (615) 259-1000

United States Department of the Interior

GEOLOGICAL SURVEY
BOX 25046 M.S. 933
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

May 9, 1983

Re: DMEA 4286 (zinc)
New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tenn.
Contract No. Idm-E-982

Mr. Frederic H. Main
Vice President, Mining
G & W Natural Resources Group
One Commerce Place
Nashville, Tennessee 37239

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

Form MME 63
(May 1970)

April 26, 1982

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since April 26, 1982, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details.

2. Since April 26, 1982, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since April 26, 1982, has any production been transported through workings (*see of contract*)? Yes ☐ No ☐

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name William T Hill	Title V.P. Exploration
Address Natural Resources Group, GHR ONE COMMERCE PLACE NASHVILLE, TENN 37239	Date 5/16/83

United States Department of the Interior
GEOLOGICAL SURVEY
BOX 25046 M.S. 933
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

April 9, 1982

Re: DMEA 4286 (zinc)
New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tenn.
Contract No. Idm E 982

Mr. Frederic H. Main
Vice President, Mining
G & W Natural Resources Group
One Commerce Place
Nashville, TN 37239

Dear Mr. Main:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely,

J. William Hasler

J. William Hasler, Chief
Office of Minerals Exploration

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since July 10, 1978, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details.

2. Since July 10, 1978, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings (*see* , has any production been transported through *of contract*)? Yes ☐ No ☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name	Title
Frederic H. Main	Vice President, Mining
Address Gulf + Western Natural Res. Grp.	**Date** April 26, 1982

One Commerce Place
Nashville, TN 37239

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

IN REPLY REFER TO: Office of Minerals Exploration
Mail Stop 953

July 10, 1978

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

Note new address on reply

Mr. K. R. Winslow
Executive Vice President - Mining
The New Jersey Zinc Company
65 E. Elizabeth Avenue
Bethlehem, Pennsylvania 18018

Dear Mr. Winslow:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since August 9, 1976, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☑

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details. Yes ___ No ✓

2. Since August 9, 1976, has there been any production from the land subject to the contract? Yes ☐ No ☑

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser *(name and address)*	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity *(tons)*	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings *(see* , has any production been transported through *of contract)*? Yes ☐ No ☐

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name K. R. Winslow	*Title* Vice President - Mining
Address G+W Natural Resources Group 2200 First American Center, Nashville, TN 37238	*Date* July 17, 1978

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

IN REPLY REFER TO: Office of Minerals Exploration

July 30, 1976

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

Mr. K. R. Winslow
Vice President and General
Manager - Mining
New Jersey Zinc Company
P.O. Box 32
Jefferson City, Tennessee 37760

Dear Mr. Winslow:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since February 4, 1975, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☑

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details Yes / / No /✓/

2. Since February 4, 1975, has there been any production from the land subject to the contract? Yes ☐ No ☑

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser *(name and address)*	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity *(tons)*	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings *(see* , has any production been transported through *of contract)*? Yes ☐ No ☑

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by: K R Winslow

Name K. R. Winslow	*Title* Executive Vice President - Mining
Address 65 E. Elizabeth Ave. Bethlehem, Pa. 18018	*Date* August 9, 1976

OFFICIAL COPY
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United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VIRGINIA 22092

IN REPLY REFER TO: Office of Minerals Exploration

January ~~24~~ 31, 1975

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

Mr. K. R. Winslow
Division Manager of Mines
The New Jersey Zinc Company
Jefferson City, Tennessee 37760

Dear Mr. Winslow:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo, Chief
Office of Minerals Exploration

Send Copy to R. A. Lawrence

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since August 2, 1973, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details Yes / / No /X/

2. Since August 2, 1973, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser *(name and address)*	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity *(tons)*	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings *(see* , has any production been transported through *of contract)*? Yes ☐ No ☐

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name K R Cumlow	*Title* Vice President & General Manager - Mining
Address New Jersey Zinc Company P.O. Box 32 Jefferson City, Tenn 37760	*Date* February 4, 1975

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

IN REPLY REFER TO: Office of Minerals Exploration

July 30, 1973

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

Mr. K. R. Winslow
Division Manager of Mines
The New Jersey Zinc Company
Jefferson City, Tennessee 37760

Dear Mr. Winslow:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Copy to Region IV

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

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Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since 9/15/72), has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details. Yes / / No / X /

2. Since 9/15/72, has there been any production from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser *(name and address)*	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity *(tons)*	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since , has any production been transported through workings *(see of contract)*? Yes ☐ No ☐

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name	*Title*
K R Wemslow	
Address	*Date* 8/2/73

July 30

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

IN REPLY REFER TO: Office of Minerals Exploration

SEPT 11, 1972

Mr. K. R. Winslow
Division Manager of Mines
The New Jersey ZincCompany
Jefferson City, Tennessee 37760

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-K982

Rec'd. 9/19/72
copy to
R IV

Dear Mr. Winslow:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo
Chief, Office of
Minerals Exploration

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since August 17, 1971, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☐

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details. Yes ☐ No ☐

2. Since August 17, 1971, has there been any production from the land subject to the contract? Yes ☐ No ☐

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser *(name and address)*	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity *(tons)*	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings *(see* , has any production been transported through *of contract)*? Yes ☐ No ☐

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name	*Title*
Address	*Date* 9/15/72

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

IN REPLY REFER TO: Office of Minerals Exploration

July 30, 1971

Mr. K. R. Winslow
Division Manager of Mines
The New Jersey Zinc Company
Jefferson City, Tennessee 37760

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties, Tennessee
Contract IdmE-982

AUG 20 1971
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Dear Mr. Winslow:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to R-IV

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since August 10, 1970, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☑

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details. Yes / / No / ✓ /

2. Since August 10, 1970, has there been any production from the land subject to the contract? Yes ☐ No ☑

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser *(name and address)*	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity *(tons)*	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings *(see* , has any production been transported through *of contract)*? Yes ☐ No ☑

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name K. R. Winslow	*Title* Manager of Mines
Address Jefferson City, Tennessee	*Date* August 17, 1971

United States Department of the Interior

GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

IN REPLY REFER TO: Office of Minerals Exploration

July 28, 1970

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Mr. K. R. Winslow
Division Manager of Mines
The New Jersey Zinc Company
Jefferson City, Tennessee 37760

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-5962

Dear Mr. Winslow:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

copy to R-IV

Form MME 63
(May 1970)

REQUEST FOR INFORMATION ON CERTIFIED PROJECT OR PROJECT UNDER ROYALTY AGREEMENT

1. Since July 24, 1969, has there been a change in ownership, lease, or sublease? *If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before.* Yes ☐ No ☑

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details. Yes ☐ No ☑

2. Since July 24, 1969, has there been any production from the land subject to the contract? Yes ☐ No ☑

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

Purchaser (*name and address*)	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity (*tons*)	Estimated Grade	Location
Ore			
Concentrates			
Other			

3. Since workings (*see* , has any production been transported through *of contract*)? Yes ☐ No ☐

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name K R Winslow Mr. K. R. Winslow	*Title* Divisional Manager of Mines
Address THE NEW JERSEY ZINC COMPANY Jefferson City, Tennessee	*Date* August 10, 1970

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
ROOM 11 POST OFFICE BLDG.
KNOXVILLE, TENN. 37902

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 8 1969

INITIALS	CODE
gla	130
HK	110
	220

August 7, 1969

Memorandum

To: Harold Kirkemo, Chief
Office of Minerals Exploration, U. S. Geological Survey
Washington, D. C. 20242

From: Robert A. Laurence
Branch of Eastern Mineral Resources
U. S. Geological Survey, Knoxville, Tennessee 37902

cy made for 63 file

Subject: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tenn.
Contract Idm-E982

Copy of the Form MME-63, addressed to Johnson Crawford, New Jersey Zinc Company for DMEA-4286 (Idm-E-982) has been received.

Mr. Crawford is retiring in a few months, and is currently convalescing from a severe illness. He has been succeeded at Jefferson City by K. R. Winslow, whose title is Division Manager of Mines. All correspondence concerning DMEA contracts with New Jersey Zinc Company in Tennessee should now be addressed to Mr. Winslow.

Bob

Robert A. Laurence
Geologist
Branch of Eastern Mineral Resouces

IN REPLY REFER TO:
Office of Minerals Exploration

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

July 18, 1969

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 1 1969

INITIALS	CODE
gla	130
HK	170
	220

Mr. Johnson Crawford
Manager - Tennessee Operations
The New Jersey Zinc Company
Jefferson City, Tennessee 37760

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

Dear Mr. Crawford:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to R-IV

MME Form 63
Revised 7-65

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since August 8, 1968, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☒
Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details.

2. Since August 8, 1968, has there been any production from the land subject to the contract? Yes ☐ No ☒

   A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

   B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since , has any production been transported through workings (see of contract)? Yes ☐ No ☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by: K R Winslow

Name K. R. Winslow Title Divisional Manager of Mines

Address Jefferson City, Tenn. Date July 24, 1969

OME SURNAME COPY

110

220

140 Bliss Long

110

220

Mr. Johnson Crawford
Manager-Tennessee Operations
The New Jersey Zinc Company
Jefferson City, Tennessee 37760

Re: DMEA-4268 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

Dear Mr. Crawford:

Thank you for returning the completed MME Form 63 reporting on production and changes in land interest under the subject contract since October 12, 1967.

We note in the enclosure with the report that fee simple title to a tract of land--Mary Wolfe Bloomer, et al., 39.78 acres, was purchased by deed dated February 3, 1968, by New Jersey Zinc Company.

Since this land was not acquired within ten years from the date of the contract and was never included under the contract itself or any amendments thereto, it does not come within the provisions of the "Special Agreement Concerning Land," and need not, therefore, be included under the terms of the contract.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

FEJohnson/gla:8-13-68
Rewritten:RBliss/jfg:8-16-68
cc: Director's rdg file
Economic Geology file
OME dkt
OME rdg file
OME Reg. IV w/cy MME Form 63 and enclosures

130

IN REPLY REFER TO:
Office of Minerals Exploration

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

July 30, 1968

The New Jersey Zinc Company

Jefferson City, Tennessee 37760

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

OFFICIAL COPY
O. M. E.
RECEIVED
AUG 12 1968
INITIALS | CODE
gla | 130
| 110
| 130
| 220

Sincerely yours,

Frank E. Johnson

Frank E. Johnson
Chief, Office of
Minerals Exploration

copy to Reg. IV

MME Form 63
Revised 7-65

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since October 12, 1967, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes [X] No [ ]

   Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details. See attached sheet

2. Since October 12, 1967, has there been any production from the land subject to the contract? including limestone and dolomite Yes [ ] No [X]

   A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

   B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since , has any production been transported through workings (see of contract)? Yes [ ] No [X]

   If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name Johnson Crawford Title Manager - Tennessee Operations The New Jersey Zinc Company

Address Jefferson City, Tennessee Date August 8, 1968

Since October 12, 1967, the fee simple title to the following property, which has not been added to the contract by amendment, has been purchased by The New Jersey Zinc Company.

Mary Wolfe Bloomer, et al, 39.78 acres. Fee simple title purchased by deed to The New Jersey Zinc Company dated February 3, 1968, and recorded in Deed Book 152, Page 446, of the Register's Office of Hawkins County, Tennessee. The general bounds of this property are shown on the accompanying map.

8/12/68
Contract does not [illegible]
for [illegible]
[illegible]
[illegible]

RECEIVED
OCT 18 1967
U.S. Geological Survey
Geologic Division
Knoxville, Tenn.

IN REPLY REFER TO:
Office of Minerals Exploration

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

September 29, 1967

The New Jersey Zinc Company

Jefferson City, Tennessee 37760

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

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Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

copy to Region IV

MME Form 63
Revised 7-65

REQUEST FOR INFORMATION ON CERTIFIED PROJECT
AND PROJECT UNDER ROYALTY AGREEMENT

1. Since **January 1966**, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☒

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details

2. Since **January 1966**, has there been any production **including limestone and dolomite** from the land subject to the contract? Yes ☐ No ☒

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since , has any production been transported through workings (see of contract)? Yes ☐ No ☒

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name *Johnson Crawford* Title *Manager - Tennessee Operations*

Address *Jefferson City, Tennessee* Date *October 12, 1967*

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

January 11, 1966

Re: **DMEA-4286 (Zinc)**
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties, Tennessee
Contract Idm-E982

The New Jersey Zinc Company

Jefferson City, Tennessee

Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

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MME Form 63
Revised 7-65

DMEA-4286
Idm-E982

REQUEST FOR INFORMATION ON CERTIFIED PROJECT
AND PROJECT UNDER ROYALTY AGREEMENT

1. Since **October 1964**, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes [ ] No [x]

Has any contiguous land not now in the contract been acquired or any land formerly in the contract reacquired since the date of the contract? If so, please give details. Yes/ /No/x/

2. Since **October 1964**, has there been any production **including limestone and dolomite** from the land subject to the contract? Yes [ ] No [x]

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since , has any production been transported through workings (see of contract)? Yes [ ] No [x]

If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by: Frederick T. Fischer

Name **Frederick T. Fischer** Title **Resident Exploration Geologist**

Address **Jefferson City, Tenn.** Date **January 17, 1966**

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

September 14, 1964

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

The New Jersey Zinc Company

Jefferson City, Tennessee

Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

George C. Selfridge

George C. Selfridge, Chief
Division of Exploration Operations

OFFICIAL FILE COPY
O. M. E
RECEIVED OCT 5 1964

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10/5		80.0
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		120
		230

MME Form 63
Revised 3-62

DMEA-4286
Idm-E982

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since December 1963, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☑
Has there been any change in the status of the various properties since Amendment No. 11, dated July 10, 1959, deleted the Sam Price and Orville J. Helton parcel of 197 acres?

2. Since December 1963, has there been any production from the land subject to the contract? Yes ☐ No ☑

   A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

   B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since , has any production been transported through workings (see of contract)? Yes ☐ No ☑

   A. If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name [signature] Title Chief Geologist-Tennessee

Address Jefferson City, Tennessee Date October 2, 1964

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

November 14, 1963

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract Idm-E982

The New Jersey Zinc Company

Jefferson City, Tennessee

Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

F. M. Murphy, Acting Chief
Division of Minerals

OFFICIAL FILE COPY
O. M. E
RECEIVED DEC 8 1963

DATE	INITIALS	CODE
12/4		

MME Form 63
Revised 3-62

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since August 16, 1962, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☒

2. Since August 16, 1962, has there been any production from the land subject to the contract? Yes ☐ No ☒

   A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

   B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity	Estimated Grade	Location
Ore	Tons		
Concentrates	Tons		
Other	Tons		

3. Since , has any production been transported through workings (see of contract)? Yes ☐ No ☒

   A. If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name [signature] Title Chief Geologist-Tennessee

Address Jefferson City, Tennessee Date December 2, 1963

4511

THE NEW JERSEY ZINC COMPANY

(ESTABLISHED 1848)

Telephone
JEFFERSON CITY
475-2052

JEFFERSON CITY, TENNESSEE

OFFICIAL FILE COPY
O. M. E
RECEIVED AUG 20 1962

DATE	INITIALS	CODE
8/20		800
8/20		100
8/21		110
		120
		500
		720

August 16, 1962

Mr. W. R. Griswold, Chief
Division of Minerals
Office of Mineral Exploration
United States Department of Interior
Washington 25, D. C.

Dear Mr. Griswold:

Enclosed, herewith, are the data you requested in yours of August 13, 1962 relative to the following:

DMEA-4286 (Zinc)
Big War Creek Area
Idm-E982.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Assistant Manager of Mines

A.D.Hoagland/jf

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

August 13, 1962

Re: DMEA-4286 (Zinc)
The New Jersey Zinc Co.
Big War Creek Area
Hawkins & Hancock
Counties, Tennessee
Contract Idm-E982

The New Jersey Zinc Company

Jefferson City, Tennessee

Gentlemen:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief
Division of Minerals

OFFICIAL FILE COPY
O. M. E
RECEIVED AUG 20 1962

DATE	INITIALS	CODE

MME Form 63
Revised 3-62

DMEA-4286
Idm-E982

REQUEST FOR INFORMATION ON CERTIFIED PROJECT
AND PROJECT UNDER ROYALTY AGREEMENT

1. Since **July 1, 1960**, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes [x] No [ ]

The New Jersey Zinc Company has exercised its options to purchase the mineral and mining rights to the Cameron Short (16.09 acres) and Eugene Clonce (43.49 acres) properties.

2. Since **July 1, 1960**, has there been any production from the land subject to the contract? Yes [ ] No [x]

A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity	Estimated Grade	Location
Ore	Tons		
Concentrates	Tons		
Other	Tons		

3. Since , has any production been transported through workings (see of contract)? Yes [ ] No [x]

A. If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name A. D. Hoagland Title Chief Geologist

Address Jefferson City, Tennessee Date August 16, 1962

4511

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/20	Selfridge	720
		225

APR 20 1962

Memorandum

To: Chief, Fiscal Section, Division of Administrative Services, Office of the Secretary

From: Chief, Division of Field Operations, OME

Subject: DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract Idm-E982

Enclosed for your files is the original of a Report of Royalty Review on the subject contract.

George C. Selfridge

Enclosure

GCSelfridge/hb (4/20/62)
cc to: Docket DMEA-4286
Director's Reading File
CA&A Division
G.C.Selfridge
R. A. Laurence, Reg. IV, w/cy of Report of Royalty Review dtd 3/26/62 & orig. cy of memo dtd 4/20/62 to Chf., Div. of Field Operations from CA&A Div.
Avery Reed, USBM, Reg. IV, w/cy of ea. item sent to Mr. Laurence.

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
		220

APR 20 1962

Memorandum

To: Chief, Division of Field Operations

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMSA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract Idm-3982

Enclosed are the original and two copies of a Report of Royalty Review covering the subject Region IV contract. If you concur in the facts stated therein, please make the following distribution:

(a) Original to the Fiscal Section, Division of Administrative Services, Office of the Secretary; and

(b) Two copies to Region IV files.

This report is for OME record purposes only; therefore, no copy has been provided for the Operator.

As evidence of your concurrence, a copy of your memorandum transmitting the original of the report to the Department's Fiscal Section should be furnished this Division. If for any reason you do not concur, the original and both copies should be returned to this Division with your comments.

Enclosures

EDTalbert/ama 4-19-62

cc:
Docket
Director's Reading File
CA & A Division
Mr. Rothrock

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ROOM 11 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
IN REPLY REFER TO:
O. M. E
RECEIVED MAR 8 1961

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March 6, 1961		
3/9		800
		220

Memorandum

To: George C. Selfridge, Chief, Division of Field Operations
OME, Washington, D. C.

Through: R.A.L. Robert A. Laurence, USGS, Knoxville, Tennessee

From: HW Helmuth Wedow, Jr., USGS, Knoxville, Tennessee

Subject: Geologic Review---DMEA-4286, Idm-E982 (Zinc)
Big War Creek area
Hawkins and Hancock Counties, Tennessee
The New Jersey Zinc Company

This memorandum is submitted in lieu of the Geology and Ore Reserves Section of the Formal Field Team Final Report on the subject project in response to the memorandum of L. G. Houk of May 19, 1960.

The Big War Creek DMEA project area is in the well known but newly developed Copper Ridge zinc district of East Tennessee. It lies about three miles northeast of the New Jersey Zinc Company's Flat Gap mine at Treadway. The exploration targets, as elsewhere in the district, are within the uppermost 1,000 feet of the Knox dolomite group (Longview, Kingsport, and Mascot formations) of Early Ordovician age which is overlain by basal beds of the Middle Ordovician Chickamauga limestone group. The two groups are separated by one of the most significant unconformities in the Paleozoic

FINAL FIELD REPORT

systems of the southern Appalachian region. The Copper Ridge zinc district has a structural setting that is essentially homoclinal, striking northeast and dipping southeast, in the Copper Creek thrust shingle. Locally the strike and dip of the bedrock formations averages about N. 60° E., 45° SE. Relatively young, steeply dipping shear zones and tear faults with little stratigraphic displacement cut the beds at angles nearly normal to the strike. Local small warps, usually greatly obscured by the pronounced regional dip, also occur and have axial trends of various angles to the regional strike. Some minor faulting, other than the tear faults mentioned above, appear to be associated with the warping. Other, more detailed, aspects of the geologic setting are well summarized in the Operator's Final Report (Hoagland, 1959).

Prior to the DMEA project the Operator had drilled 38 holes in the project area; 19 of these were in or near the excluded area and discovered the Drinnon ore-body (fig. 1). The remaining 19 holes were in the southwestern part of the project area and were unsuccessful. The Drinnon ore-body showed a reserve of 250,000 tons with an average grade of about 5 percent zinc.

The DMEA project in the Big War Creek area consisted of 29,951 feet of diamond drilling in 34 holes. The locations of 29 of the holes are shown in figure 1; the remaining 5 holes are on 200-foot centers in a dip fence about 300 feet southwest of the area excluded for the DMEA contract. Hole depths ranged from 335 to 1,580 feet, averaging 881 feet. If the Operator's cut-off of 50 feet-percent

units (17 feet averaging 3 percent zinc) is used to classify ore holes, then the group of 34 holes consists of 3 showing ore, 12 in "shine ground", 8 with traces of sphalerite and 11 in barren rock. On the other hand, if 25 feet-percent units (10 feet with 2½ percent zinc) is used to designate ore-grade mineralization, as in other areas of East Tennessee, then 3 "shine" holes can be up-graded to ore classification for a total of 6 ore holes. Of the three ore bodies discovered by pre-DMEA and DMEA drilling in the Big War Creek area, two are entirely in the Kingsport formation; the third is chiefly in the lower part of the Mascot dolomite but extends downward into the upper or dolomitic member of the Kingsport. As in other mineralized sectors of the Copper Ridge district the ore bodies appear to be closely related to areas where solution-collapse phenomena developed sufficient fracture porosity for the entry of zinc-bearing solutions. Again, as in the other sectors of the district, the solution-collapse phenomena can be studied statistically through the analysis of the drill-hole penetration thicknesses of the upper and lower members of the Kingsport formation. The strongly mineralized holes in the Big War Creek area (table 1) seem to favor areas where the upper member of the Kingsport has thickened at the (see isochores of upper Kingsport, fig. 1) expense of the lower member. When the essentially barren holes in the fence southwest of the excluded area are eliminated from the computations (table 1) thickness relations of the upper and lower members to strong zinc intensity are even more striking. The cause of the anomalous thicknesses in the five southwestern holes is not yet known but may

be due to initial (pre-collapse) stratigraphic variations or even to misidentification of the controlling marker beds in the core.

Ore reserves of the Big War Creek area, calculated by the writer, agree in order of magnitude with those of the Operator (table 2), although the calculations were based on a somewhat different approach to the problem. The writer's estimates are based chiefly on the distribution of zinc intensity (fig. 1). Areas within the 50-unit contours were planimetered to determine areas underlain by "ore". Averages for each ore body were then made by weighting the main mineralized runs in each hole only by the thickness that would be included in the body to be mined.

The chief difference between the two estimates is in the Helton ore body where the writer has expanded the body to include the extremely strong "shine" found in Hole BW-49. This expansion is mainly because of the potential suggested by the favorable structural conditions encountered in this hole. The only other significant variation from the Operator's estimate is in the Seals orebody where the writer has made a different interpretation of the trend of the ore shown by Holes BW-37 and -40. At any rate, the total reserve of the area is probably in the range of 3/4 to 1 million tons of ore with a grade of about 4½ percent zinc.

In spite of the Operator's rather pessimistic opinion (Hoagland, 1959, p. 13) the Big War area still has a fair potential for a large tonnage ore body. If the hypothecated arcuate structural trend

indicated by upper Kingsport isochores (fig. 1) and by similar studies of the lower Kingsport and the ratio relations of the two members, it would seem that a sizeable ore body may be in the ground between Hole BW-47 and -57 on the north, and -46 and -53 on the south. The depths at which this body would lie, if situated as anticipated, would be roughly between 500 and 1,000 feet.

Although the contract lacked in excess of 5,000 feet of completion, the project was terminated at the Operator's request; sufficient ore had been discovered to warrant certification of the project.

Reference Cited

Hoagland, A. D., 1959, Big War Creek area, Copper Ridge Belt, Hawkins and Hancock Counties, Tennessee: Operator's Final Report on DMEA contract no. Idm-E982.

Table 1.--Partial statistical analysis of the relation of drill-hole penetration thicknesses of members of the Kingsport formation to distribution of total zinc intensity, Big War Creek area, Copper Ridge zinc district, Tennessee.

Classes of zinc intensity (feet-percent units)	No. of holes	Average thicknesses (feet) Upper member	Lower member	Total formation	Average ratio Uppermember:Lower member
		All DMEA holes			
0	11	176.5	145.5	322.0	1.21
Less than 1 - 10	9	172.7	156.6	329.3	1.10
11 - 50	8	175.0	149.5	324.5	1.17
More than 50	6	184.8	143.8	328.6	1.29
Average of all classes	34	176.6	149.1	325.7	1.18
		DMEA holes northeast of excluded area only			
0	6	165.7	148.1	313.8	1.12
Less than 1 - 10	8	170.4	156.6	327.0	1.09
11 - 50	8	175.0	149.5	324.5	1.17
More than 50	6	184.8	143.8	328.6	1.29
Average of all classes	29	173.5	150.0	323.5	1.16

Table 2.--Estimates of zinc ore reserves in the Big War Creek area, Copper Ridge zinc district, Tennessee.

	Operator's estimate			USGS estimate		
Orebody	Vertical thickness (feet)	Tonnage (short tons)	Grade (percent Zn)	Vertical thickness (feet)	Tonnage (short tons)	Grade (percent Zn)
Drinnon	25?	250,000	5	25	270,000	5.3
Helton	52	300,000	4.6	45	530,000	4.2
Seals	21	150,000	3.3	20	100,000	4.0
Total and average grade		700,000	4.5		900,000	4.5

Docket No. DMEA 4286
New Jersey Zinc Company
Big War Creek Area

The lands remaining in the contract, as of September 1959, are:

Owner of Mineral & Mining Rights	Surface Owner	Approx. Acreage	Remarks
New Jersey Zinc Co.	Lewis Setsor	70.44	
" " " "	Ephriam Clonce	72.23	
" " " "	Harve Lawson	354.0	
" " " "	O. M. Swaney	119.58	
" " " "	Mrs. Annis Helton	139.4 *	
" " " "	New Jersey Zinc Co.	39.79*	
" " " "	B. Smith	1.26	
" " " "	George Amyx	38.45	
Cameron Short	Cameron Short	16.09	N.J.Z. Option
New Jersey Zinc Co.	Ellahugh Bloomer	16.90	
New Jersey Zinc Co.	Sam Price	16.48	
" " " "	Guy Seals	65.57	
Eugene Clonce	Eugene Clonce	43.49	
Sub-Total		993.68	
Excluded Area		- 24.90 *	
Approximate Acreage under Contract		968.8	

* The Excluded Area of 24.9 acres is derived from parts of the two asterisked properties.

Stephen P. Holt
Stephen P. Holt
Aug. 3, 1960

Note
According to contract the following remains:

- Setsor 80 acre
- Clonce 86
- Lawson 400
- Swaney 100
- Price 139.4
- N.J.Z. 37.8
- N.J.Z. 1.99
- Smith 1.26
- Amyx 38.45
- Short 25.
- Bloomer 25.
- Price 25.
- Seals 60.
- Clonce 46

1,065.9
Exclude 24.
1,041.9

Initial 3/23/62

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
9/29	Houk	124
		500
	Miller	800
		~~120~~
10/3	Jones	~~110~~
		220
		~~[illegible]~~
		225

Project Summary Report

By: Lawrence G. Houk September 29, 1960

1. DMEA Docket No. 4286 (Zinc)
Contract Idm-E982
Operator: The New Jersey Zinc Company
160 Front Street
New York 38, New York

Operator's property rights:
(1) Owned in fee 39.79 Acres (2 tracts)
(2) Mineral and mining rights owned 140.6 acres (2 tracts)
(3) Right to prospect and mineral options 822 acres (9 tracts)
(4) Excluded from contract area 31 acres (1 tract)
(5) OCL waived. Special agreements on land.
60 days after termination to drop optioned tracts.

2. Contract dated July 30, 1956

Work authorized:

Independent contracts	
35,000' overburden drilling and diamond drilling to 1,000 feet @ $2.75	$82,500.00
5,000' Diamond drilling 1,000 to 1,500 feet @ $3.00	15,000.00
	$97,500.00
Fixed unit costs	
Incidental allowance 35,000 @ $0.27	9,450.00
Assays 200 @ $1.00	200.00
	$107,150.00
Government participation 50%	$ 53,575.00

Work completed:

Independent contracts 34 holes.	
26,236' drilling to 1,000' @ $2.746	$72,052.90
3,715' diamond drilling below 1,000 @ $3.00	11,145.00
Incidental allowance 29.951 @ $0.27	8,086.77
90 samples assayed @ $1.00	90.00
	$91,374.67
Government participation 50%	$45,687.33

43683

Amendments.

Amendment No. 1, August 13, 1956, changes spacing on dip fences.

Amendment No. 2, August 16, 1956, changes beginning date to May 1, 1957 and completion date to May 1, 1958.

Amendment No. 3, September 18, 1957, changes Exhibit "A" and estimated costs, category (1).

Amendment No. 4, October 25, 1957, In Exhibit "A" Description of work: (1) changes speculation on attitude of ore bodies. (2) changes Amendment No. 1 to include strike fences.

Amendment No. 5, December 2, 1957, Adds 197 acres (Tract AX-Tenn-101).

Amendment No. 6, March 21, 1958, Extends completion date to July 1, 1959 and royalty period to 32 years.

Amendment No. 7, March 20, 1958, adds land, 2 tracts, 38.45 acres.

Amendment No. 8, May 1, 1958, (1) Suspension from May 1, 1958, and ending not later than November 1, 1958.

Amendment No. 9, September 26, 1958.
(1) Portion of excluded land added 6.1 acres.
(2) Redescribes excluded land.

Amendment No. 10, May 8, 1959, changes Amendment No. 3 on drilling in excess of 1,000'. No cost changes.

Amendment No. 11, July 10, 1959, deletes 197 acres added in Amendment No. 5.

Termination Agreement July 10, 1959, effective May 29, 1959

3. Audit Certificate:
Report of Review dated November 12, 1959.

Total cost	$91,374.67
Gov. Part @ 50%	$45,687.33

4. Certification of discovery dated November 24, 1959.

Ore estimates (Operator's)
Area 1 300,000 Tons 4.6% Zn (650x100x52)
Area 2 150,000 Tons 3.3% Zn (800'x100'x21')

Ore estimates Field Team
Report not received from Wedow who followed the project.

In the opinion of the Acting Field Officer the Operator's assumptions, calculations and deductions are reasonable.

No production to date.

5. Comments:

How conducted - efficiently.
Operation - good.

The project was conducted in an efficient and economical manner. The reporting was good. The search for additional tonnage was successful. The ore localization was apparently influenced by a graben and in some areas with sedimentary brecciation. The amount of work did not outline the size or shape of the ore bodies. Additional diamond drilling will be required to fully establish additional ore reserves and grade.

A potential source of zinc and lead during high prices or a national emergency.

LGHouk:gad 9/29/60
Copy to: Dir. R. File
Mr. Johnson
Mr. Houk

☒ Audited

☒ Certified

WORK ANALYSIS SHEET - DMEA PROJECT

Analysis as of _____
Incl. Voucher for Final Audit

☒ Actual Cost

* ☒ Agreed Unit Costs

Name **THE NEW JERSEY ZINC COMPANY**

Docket No. 4,286

State **TENNESSEE**

Commodity **ZINC**

Idm-E No. 982

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting					
Raising					
~~Shafts~~ EX Drilling @ 2.65					
~~Winzes~~ Overburden + D.D. to 1000' Depth.	30,000' @ 2.75	$82,500.00	26,236	@ 2.746 72,052.90	
Drilling (Specify) Diamond 1000' to 1500' depth.	5,000' @ 3.00	15,000.00	3,715'	11,145.00	
~~Surface Excavation~~ Incidental allowances per foot drilled 35,000' @ 0.27 *		9,450.00	29,951'	8,086.77	
Underground Excavation					
Roads and Trails					
Operating Equipment Purchased					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify) 200 Assays @ 1.00 *		200.00	90.	90.00	
Totals		$107,150.00		91,374.67	

Amendment No. 1.- Holes in the dip fences may be as close as 100 fet apart.
Amendment No. 2.-Starting date changed to May 1,1957, and completion date is changed to May 1,1958.
Amendment No. 3-- Ex drilling clause added and cost of EX drilling.
Amendment No. 4-- Permission for drilling both dip and strike fences.
Amendment No. 5--Addition of property to the project.
Amendment No. 6 --Completion date extended to July 1, 1959,royalty payment period to 32 years
Amendment No. 7--Property added to the project.
Amendment No.8---Recess from May 1,1958 to November 1,1958.
Amendment No. 9--Revision of Excluded Land.
Amendment No. 10--A drilling clause of Amendment No. 3 is generalized.
Amendment No. 11--Deletion of land. Termination Agreement--dated-July 10, 1959.

Prepared by W. T. Hagerschoid

Rechecked by Mr. Griswold
10/3/60

71626

Actual Costs.

Overburden Drilling + D.D. to 1000' Depth.

30,000' @ $2.75 $82,500.00

D.D. from 1,000' to 1,500'

5,000' @ $3.00 15,000.00

Fixed Unit Costs.

Incidental allowances for each ft. of drilling.

35,000' @ $0.27 9,450.00

200 Assays for Zn @ 1.00 200.00

Total, $107,150.00

Spent.

1957 1958 1959

D.D. 0-1000 @ 2.75

D.D. 1000-1500 @ 3.00

Incidental Expenses @ $0.27

Assay @ 1.00

EX @ 2.65

OFFICIAL FILE COPY

Date	Surname	Code
11/17	[illegible]	500
11/19	[illegible]	140
	[illegible]	140
	[illegible]	140
11/24	[illegible]	800
11/24	[illegible]	130
11-24	[illegible]	130
11/24	[illegible]	130
		~~110~~ 215
11-25	gad	220
		500

NOV 25 1959

ASSOC. SOLICITOR
[illegible]

Mr. S. S. Goodwin
Vice President
The New Jersey Zinc Company
160 Front Street
New York 38, New York

SOLICITOR

NOV 18 1959

INTERIOR DEPT

Re: Docket No. IMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-E982

Dear Mr. Goodwin:

Enclosed is a certification of discovery or development that covers all the land described in Article 2 of the contract.

By the terms of the Exploration Project Contract, as amended, and the certification, all minerals mined or produced from July 30, 1956, to July 30, 1988, are subject to the Government's percentage royalty as set forth in the contract until the sum of $45,687.33 is repaid to the Government.

Royalty payments should be made to the Executive Officer, OME Field Team, Region V, Room 11, Post Office Building, Knoxville 2, Tennessee, by the purchaser with checks drawn payable to the Office of Minerals Exploration. The purchaser should be advised to deduct royalties from the amount due on each shipment and send the check directly to the Executive Officer. Each check should be accompanied by suitable sales evidence - such as copies of settlement sheets - showing the name of the purchaser, the quantity and grade of the products sold, and the price and charges, certified to be correct by the purchaser.

You are requested to notify the Executive Officer of any changes in ownership or production rights that may have any effect on the Government's right to its percentage royalty. Your attention is called particularly to Article 2 (d) of the contract relating to the preservation of the Government's right to a percentage royalty on production. Also when production starts, please notify the Executive Officer. Thereafter, if production ceases for any extended period, please notify him accordingly at six-month intervals.

Sincerely yours,

Frank E. Johnson

Acting Director

Enclosure

WRgriswold/gla 11-17-59
cc to: Director's Reading File
Frank E. Johnson
Operating Committee
Frank D. Lamb, USBM
Harold Kirkemo, USGS
Div. of Contract Adm. & Audit
OME Field Team, Region V (2)
Docket
Code 500

43683

MME Form 7
(10-58)

RECEIVED
NOV 25 1959
ASSOC. SOLICITOR
NATURAL RESOURCES

OFFICIAL FILE COPY

Date	Surname	Code
11/17	[illegible]	500
11/19	J. Lynch	140
	Hoffman	140
	Dallen	140
11/24	[illegible]	800
11/24	Selbridge	130
11-24	Lopez	130
11/24	Kirkemo	130
		~~110~~
11-24	gad	220
		500

Mr. Clarence A. Fredell, Director
Technical Research & Development Division
Defense Materials Service
General Services Administration
6018 GSA Building
Washington 25, D. C.

SOLICITOR

NOV 18 1959

INTERIOR DEPT.

Re: Docket No. MMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-E982

Dear Mr. Fredell:

Enclosed is a copy of a certification of discovery or development related to Exploration Project Contract No. Idm-E982.

The contract was dated July 30, 1956, with the Government participating to the extent of 50 percent in an exploration project estimated to cost $107,150.00. Actual expenditures were $91,374.67, with the Government's share being half of such amount, or $45,687.33.

The total amount of work provided for under the contract consisted of 35,000 feet of diamond drilling. Work actually completed consisted of 29,951 feet of such drilling.

The discovery consisted of zinc ores occurring as fracture fillings and replacements in the lower Mascot and Kingsport formations. The estimated ore reserve resulting from the work of exploration under the contract consisted of 450,000 tons having an average grade of 4.2 percent zinc.

Sincerely yours,

Frank E. Johnson

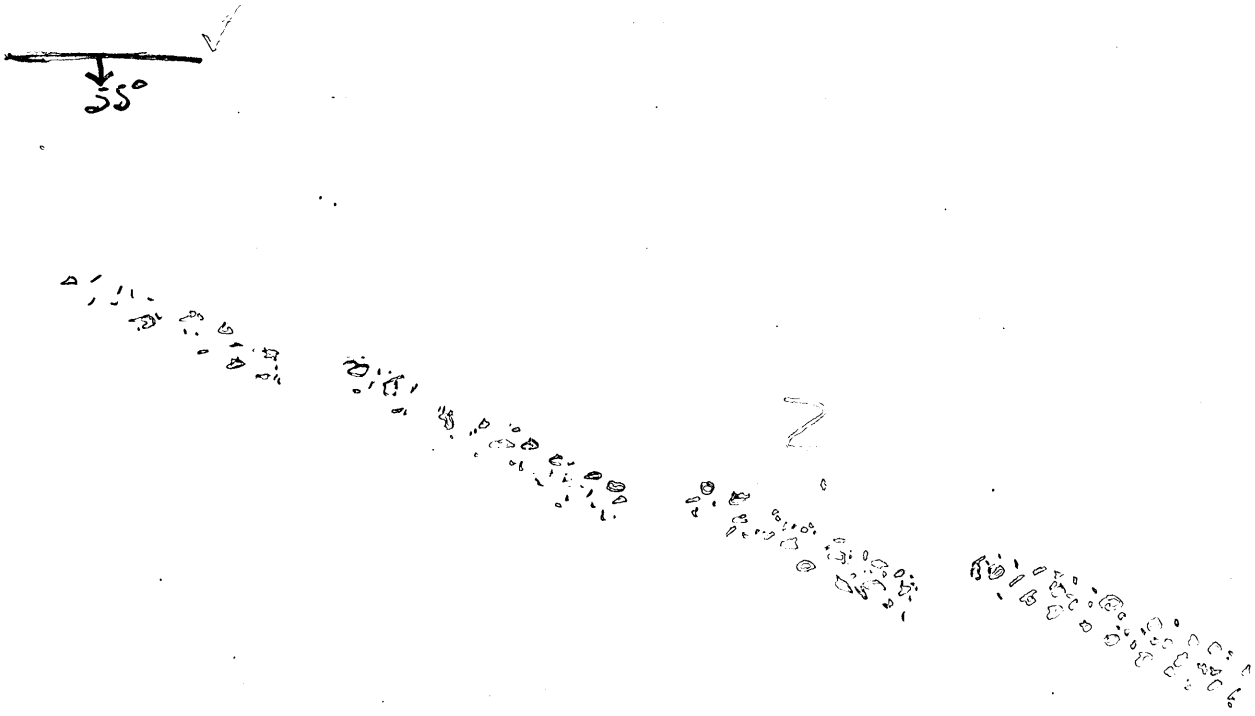
Acting Director

Enclosure
WRGriswold/gla 11-17-59
cc to: Director's Reading File
Frank E. Johnson
Operating Committee
Frank D. Lamb, USBM
Harold Kirkemo, USGS
OME Field Team, Region V (2)
Docket
Code 500

43683

Docket copy

Mr. Selfridge: 11/17/59



George:

I thought Hoaglund did a comprehensive job on the Final Report. I had supposed that the breccias commonly associated with ore were shattered flexure breccias, resulting from wrinkling of the beds, and lying at a low angle of incidence to the strike, as I have sketched. Hoaglund gives no indication as to the actual trace of these breccias, maybe he doesn't know. Anyway he seems sure they do not result from movement, rather probably from collapse due to underlying solution - but I don't think he has proven his point.

Eric.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

EXTRA COPY O. M. E. RECEIVED NOV 16 1959		
DATE	INITIALS	CODE
11/17	Received	500

November 12, 1959

Memorandum

To : E. D. Talbert, Contract Administration and Audit Division, OME - Washington

From: Executive Officer, OME - Region V-Knoxville, Tenn.

Subject: DMEA-4286, Idm-E982, zinc. The New Jersey Zinc Co. Big War Creek area, Hawkins and Hancock Counties, Tennessee

Your memorandum of August 6, 1959, to Mrs. Helen Miller, states that the Review in lieu of audit of the subject contract was completed.

The Operator's final engineering and geological report has now been received and was forwarded to the Operating Committee on November 10. The final (May) Voucher is still being held here.

A Report of Review is therefore requested.

Robert A. Laurence

RAL/zm
Opr. Com.-2
Lynch
Files

No reply necessary. See my memo 11/12/59 to Laurence
Talbert

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
11-12	gad	220
11/13	[illegible]	500

NOV 12 1959

Memorandum

To: Executive Officer, CME Field Team, Region V

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-3982

The recent receipt of the subject Operator's final report now permits the release of the Report of Review requested by your July 29 memorandum. The original and three copies are attached.

If you concur with the facts stated therein, please make the normal distribution. If for any reason you do not concur, please return the original and all copies to this Division with your comments.

Attachments

EDTalbert/ama
November 12, 1959

Copy to: Docket
Director's Reading File
CA & A Division
Mrs. Helen R. Miller

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 11 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

November 10, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 12 1959

DATE	INITIALS	CODE
11-17	gad	220
11/12	[illegible]	800
"	Dreisbach	500

Memorandum

To: Operating Committee, OME - Washington

From: OME Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982(zinc) The New Jersey Zinc Co. Big War Creek area, Hawkins & Hancock Counties, Tennessee

Enclosed are three copies of the Operator's final report on the Big War Creek project. The Operator estimates that the work resulted in indication of 450,000 tons @ 4.2% Zn. Added to what they had previously found and excluded from the contract area, this makes about 700,000 tons of ore. Considering its location, about two miles from the Flat Gap mill, it seems quite likely that this ore will be mined before July 30, 1988, the expiration of the royalty period. Therefore, we expect to recommend certification when the Field Team final report is submitted.

Robert A. Laurence
Robert A. Laurence
Executive Officer, OME, Reg.V

V. J. Lynch
V. J. Lynch, Member
U. S. Bureau of Mines

See Drill logs & Plan Map Folder #3

OPERATOR'S FINAL REPT

BIG WAR CREEK AREA

COPPER RIDGE BELT

HAWKINS & HANCOCK COUNTIES,

TENNESSEE

4286

DMEA Contract No. Idm E 982

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 12 1959

DATE	INITIALS	CODE

FINAL REPORT

RECEIVED
NOV 4 - 1959
U. S. Geological Survey
Geologic Library
Knoxville, Tenn.

A. D. Hoagland

September, 1959

List of Illustrations

Index Map	(AX-TENN-B-1289)	Following Page 1
Geology and Property Map	(AX-TENN-100-101)	Following Page 2
Stratigraphy	(AX-TENN-B-1340)	Following Page 5
Detailed Geology 100 Scale	(AX-TENN-645)	Envelope
Sections - Holes BW-24, 28, etc.	(AX-TENN-C-1263)	Envelope
Holes BW-33, 36, etc.	(AX-TENN-C-1269)	Envelope
Holes BW-40, 37, etc.	(AX-TENN-B-1296)	Following Page 10
Holes BW-40, 45, etc.	(AX-TENN-B-1338)	Following Page 10
Holes BW-45, 57, etc.	(AX-TENN-C-1352)	Envelope

Appendix

Detailed Drill Logs

Introduction

The Big War Creek Area is located on Copper Ridge in Hawkins and Hancock Counties, Tennessee. Big War Creek cuts through Copper Ridge about midway in the area. The Flat Gap Mine of The New Jersey Zinc Company is about 18,000 feet to the southwest of this point, a road distance of approximately 4.8 miles. The geographic relationship of the Big War Creek area to better known points in East Tennessee is shown by the index map (AX-TENN-B-1289) on the following page.

This report covers the exploration work done under DMEA contract No. Idm E 982. The work was started with the drilling of hole BW-24 in March, 1957, and finished with the completion of hole BW-57 in May, 1959. The contract was terminated under agreement dated July 10, 1959. Thirty-four diamond drill holes with a total of 29,951 feet were drilled under this agreement. The cost of this work, as provided under the contract, was $91,374.67, the government participation being 50% of this amount.

The Big War Creek contract area extends discontinuously along Copper Ridge a distance of about 13,500 feet from the Lewis Setsor property (N.J.Z. Co. mineral and mining rights) on the southwest to the Eugene Clonce property on the northeast. The group of properties originally in the contract

91374.67
45687.33

remain under the contract. In addition, after acquisition by The New Jersey Zinc Company of the mineral and mining rights, the George Amyx property was added to the contract by Amendment No. 7. The Sam Price-Orville Helton property was added by Amendment No. 5 and was later removed from the contract by Amendment No. 11. By Amendment No. 9 approximately 6.1 acres from the excluded area was added to the contract. The present status of property covered by the contract is shown on the map (AX-TENN-100 and AX-TENN-101, following page) and in the tabulation below:

Maps moved placed on top of work sheet of this folder under Project Summary SPH 8/8/60

Owner of Mineral & Mining Rights	Surface Owner	Approx. Acreage	Remarks
The New Jersey Zinc Co.	Lewis Setsor	70.44	
" " " " "	Ephriam Clonce	72.23	
" " " " "	Harve Lawson	354.0	
" " " " "	O. M. Swaney	119.58	
" " " " "	Mrs. Annis Helton	139.4 *	
" " " " "	The New Jersey Zinc Co.	39.79*	
" " " " "	B. Smith	1.26	
" " " " "	George Amyx	38.45	
Cameron Short	Cameron Short	16.09	N.J.Z.Option
The New Jersey Zinc Co.	Ellahugh Bloomer	16.90	
" " " " "	Sam Price	16.48	
" " " " "	Guy Seals	65.57	
Eugene Clonce	Eugene Clonce	43.49	
Sub-Total		993.68	
Excluded Area		- 24.90 *	
Approximate Acreage under Contract		968.8	

* The Excluded area of 24.9 acres is derived from parts of the two asterisked properties.

DOCKET NO. DMEA 4286
NEW JERSEY ZINC COMPANY
BIG WAR CREEK AREA

Map, No. AX TENN - 100-101, showing property remaining in contract as of September, 1959, moved from this position and filed at top, right side, of this No. 1 folder, immediately under project summary.

S. P. H.
8.2.60

History

In 1950-51, The New Jersey Zinc Company discovered a strong geochemical anomaly on the southwest side of Big War Creek in soils derived from weathering of the Kingsport formation. Outcroppings of this horizon which is known to be favorable for the localization of zinc mineralization, are extremely sparse in this area. Earlier, the cross valley of Big War Creek, a physiographic feature of possible structural significance, had focused some attention to the area. The geochemical data added stimulus to this interest and diamond drilling on the Myrtle Drinnon property was begun in February, 1952. By October of the same year, 19 holes had been drilled and exploration was recessed. Of these 19 holes, twelve penetrated significant mineralization and indicated a small steeply dipping zone with an average zinc content of about 5%. This zone was open to further extension both downdip and to the northeast and southwest on strike.

From April, 1953 to April, 1956, 19 holes were drilled on the Swaney, Lawson and Setsor properties. None of these holes found ore.

The next activity began in March, 1957 when drilling under DMEA contract Idm E 982 was undertaken. The purpose of this program was to obtain additional data towards establishing a basis for a gross evaluation of the tonnage potential of the area.

The exploration of the Big War Creek Area was accomplished under the general direction of Johnson Crawford. Others who participated in this investigation were F. H. Main, H. W. Miller, Keith McMurray, T. E. Wayland, R. C. Greene, E. W. Renshaw, W. J. Collette, and A. D. Hoagland.

Geology

The Big War Creek area is a northeast continuation of essentially the same geologic environment found at the Flat Gap Mine. The Copper Ridge monocline striking N 58° E and dipping 45° to the SE provides the structural framework. Faults of small displacement and minor flexures of dip and strike modify the general structure only slightly. The upper part of the Longview formation makes the crest of Copper Ridge but this formation crops out only in the steep valley of Big War Creek. The important zinc mineralization is found in the Kingsport and lower part of the Mascot formations which make up the southeast facing slopes of the ridge. These formations, except in the valley of Big War Creek, are concealed beneath a soil mantle up to 100 feet or more in thickness. The lower slopes are made up of the limestones and limey shales of the Middle Ordovician Chicamauga series. A minor erosional unconformity is present between the Mascot formation (top of Knox) and the overlying Chicamauga.

Stratigraphy

The detailed stratigraphic column on the following page (AX-TENN-B-1340) is a generalized graphic representation of the mineralized part of the section at Big War Creek. This involves the lower part of the Mascot formation (Oma) and all of the Kingsport formation (Ok). Mascot and Kingsport stratigraphy here is like that in adjacent areas of the Copper Ridge Belt and, in fact, has a striking similarity to that of the more distant Jefferson City - Mascot District. In general, the Mascot formation consists largely of fine-grained gray to buff dolomite with occasional sand grain horizons a few of which have considerable lateral extent and make excellent marker beds. The Kingsport, approximately 230 feet thick consists of an upper 100 to 110 feet of Mascot type lithology and a basal 120 to 130 feet (R and S beds) of interbedded limestone with thin beds and lenses of fine-grained dolomite. The limestone parts of the section are locally occupied by coarse crystalline dolomite and/or breccias of this material.

Structure

At Big War Creek the simple Copper Ridge monocline which dips an average of 45° to the S.E. is modified by small faults and minor flexures which are interpreted from diamond drill data (map AX-TENN-D-645). An unique interpretation of structure is not possible at the present time

because of the incompleteness of the data, because the deviations of the structures are small, and because accurate deflections of all drill holes were not determined (see holes BW-36, BW-39, BW-49, map D-645 and section C-1269 in envelope).

Minor structural deviations are associated with breccia zones of other than tectonic origin. These breccias are characterized by angular fragments of dolomite (rarely limestone) separated by a matrix of what appears to be clastic dolomite rock. Locally the matrix material is merely a finer grained breccia with fragments grading downward in size to the limit of detection with the unaided eye. The breccias that are found in the upper part of the Kingsport formation are characterized by fragments of the fine-grained, dense dolomite that is typical of this portion of the section. The breccias of the lower Kingsport are typically composed of a mixture of fine-grained with lesser numbers of coarse grained dolomite fragments. The latter are typically less angular having a greater tendency towards roundness. The matrix in the lower Kingsport breccia zones is commonly coarse grained crystalline dolomite.

The origin of these breccias is not known. Although there is local superimposed brecciation of tectonic origin on the breccias referred to above, they are not the result of fragmentation by tectonic forces. These early breccia

structures have been described as "dry breccias" and as "sedimentary breccias". Possible modes of origin are, (1) solution collapse structures or, (2) structures associated with sedimentation. Zinc mineralization is commonly associated with these "sedimentary breccias" and they appear to be one of the significant elements in its localization. It should be emphasized, however, that "sedimentary breccia" bodies are much more extensive than the zinc mineralization and they are probably, for the most part, barren.

The near surface part of the main mineralized zone appears to lie in and on the northeast side of a graben formed by two parallel faults trending S 70° W, and the coincidence of this structure with the apparent rake of the zone suggests a genetic relationship (map AX-TENN-D-645, in envelope).

An easterly projection of the graben lines up suggestively with faults closely associated with the mineralization found in holes BW-33 and BW-36. The graben relationship may not exist here, however, as the south sides of both faults are upthrown. Although the structural interpretation is subject to the limitations inherent in drill hole information as well as to errors of uncertain precision of data location, it appears, nevertheless, that the mineralization is localized along a zone of faults of minor stratigraphic offset.

Mineralization

Zinc mineralization of two general types is found. "R" and "S" bed ore of the lower Kingsport limestone is formed in medium to coarse grained dolomite bodies apparantly generally associated with "sedimentary breccias" as noted above.

The sphalerite in these horizons occurs as disseminations and bands, in part as interstitial and open space filling, in part as replacement of dolomite grains. The near surface part of the mineral zone on the west side of Big War Creek, and the zinc bearing zone on the Seals property in hole BW-40, etc., are in this category. Upper Kingsport and Lower Mascot mineralization occurs as fracture filling in fine-grained primary dolomites and, to some extent, at least, as filling in the residual openings of "sedimentary breccias". Replacement textures are essentially absent in this type which is best developed in holes BW-33 and BW-36. Both types of mineralization have more or less associated white gangue dolomite.

In holes BW-33 and BW-36 particularly, the mineralization is associated with brecciated ground with residual open space which has been only partly filled. White gangue dolomite is relatively less abundant in these holes, and it appears that the mineralization process was arrested before all of the openings were filled. Prominent fault breccias locally mineralized with sphalerite are present in these holes.

Within the favorable stratigraphic limits of the lower Mascot and Kingsport formations, the "sedimentary breccias" discussed above, appear to be the strongest factors in localization of the zinc mineralization. Faults are associated with the mineralization at Big War Creek, but the degree of control that they exercise over the localization is not clear. It is possible that they perform a fundamental function in the plumbing system for the ingress of mineralizers. It appears just as likely that many of the faults are subsidiary features related to the "sedimentary breccias", and that their role in mineral localization is a secondary or subservient one.

Weathering

Weathering is prominent in the mineralized zones to depths in excess of 300 feet below the surface. In the area west of Big War Creek, leaching of the mineralized zone has not been observed deeper than the 1350 foot elevation. Above this, leaching and oxidation may be expected to be significant.

Drill hole BW-18, just southwest of the projected trend of the main zone, encountered much open ground and "soft rock" at elevations below 1075 feet and the hole was abandoned because of the difficulty in passing through a cavity at an elevation of 802 feet. At this location, the expectant horizon is less than 50 feet below. Hole BW-18 is about 100 feet west of the bed at Big War Creek. The presence of large openings at this depth in close proximity to the mineral zone

indicate possible hydrologic problems in connection with mining. They also indicate the likelihood of local areas of oxidation and leaching to this depth.

In the BW-40 mineralized area (Seals property), oxidation, leaching and cave formation have been found to be extensive to depths of 600 feet (Elevation 1140') below the surface. This weathered condition made drilling very difficult locally. It is quite possible that some significant mineralization may have been missed because of the deep oxidation here.

The weathering in the Big War Area is an adverse factor, and it extends to somewhat greater depths than expected. It is not in itself, however, considered to be a major obstacle to the development of the area.

Geochemistry

As already noted, the discovery of strongly mineralized soil on the south side of Big War Creek over the sub-outcrop of the Kingsport formation furnished a major incentive for the initial exploration drilling. During the period covered by this report, auger drilling on the Seals property revealed an unusually strong sub-surface soil anomaly masked by very weakly mineralized surface soils. The discovery of the BW-40 mineralized zone was a direct result of this sub-surface geochemical investigation.

Summary of Results

Of the 34 holes drilled on this project, only three made penetrations of mineralization of economic thickness and grade. These holes, BW-33, BW-36 and BW-40 penetrated, respectively, 32 feet averaging 6.58% Zn, 98 feet averaging 4.52% Zn and 28 feet of 4.73% Zn.

Eight of the holes penetrated mineralization of sub-ore grade, yet of sufficient thickness or intensity to suggest a possible close association with ore.

Twelve of the holes found relatively minor scattered zinc mineralization and 11 holes were barren.

Maps AX-TENN-645 and AX-TENN-100 - AX-TENN-101 show the general arrangement of these holes. By itself, the drilling result described above appears inadequate for tonnage and grade estimates. When combined with the drill hole data from previously drilled holes at Big War Creek, the situation is somewhat better in that a substantially greater number of penetrations of possible ore grade and thickness are available. Thus, the interpretation that a body of mineable size and grade may be present around holes BW-33 and BW-36 receives substantial support even though continuity between the main mineralized body and the new one is not established. Similarly, the area associated with holes BW-40, BW-37, and BW-57 may be assumed to have more significance than these isolated holes by themselves would warrant.

In an effort to obtain some concept as to the order of magnitude of the mineralization in the area tested let us assume that there is a body of mineralization associated with holes BW-33, BW-36 and BW-55, and that each of these holes is a representative sample of this body both as to grade and thickness. Let it be further assumed that this body has an average width of 100 feet, length of 650 feet, and a thickness of 52 feet. This body would have about 300,000 tons of 4.6% Zn. Then similarly with respect to the BW-40 area, assume a body 800 feet long, 100 feet wide and 21 feet thick as sampled by holes BW-37, BW-40 and BW-57. This body would contain approximately 150,000 tons of 3.3% Zn. Combining these two, we get 450,000 tons of 4.2% Zn. It is emphasized that the geometry assumed in making these calculations is simply a device for representing the areal extent of the assumed mineralized bodies, and they would not be expected to conform to these simplified shapes and areas. The density of data upon which the above assumptions are made is so sparse as to indicate a relatively low order of certainty or precision concerning the deductions therefrom.

Drill holes, BW-24 to 28 inclusive (Section C-1263) established a fairly tight fence southwest of the main ore zone. Traces of sphalerite were found in only one hole (BW-27) the rest being barren. This negative drilling,

together with a very low order of zinc content in the soils, is evidence that the Big War mineralized zone does not have a southwesterly trend and discouraged further exploration in this direction.

Work was terminated on the Big War Creek project before the full allotment of footage under contract Idm E 982 was expended. This was done in spite of the fact that potential ore areas remained untested. The drilling had shown a spotty mineralization of relatively low density (only three holes out of 34 showed ore grade and thickness). The zone of greatest interest, (BW-33, BW-36) appears to be narrow, of erratic stratigraphic position, and its possible extension is quite deep in relation to its size.

Further drilling at Big War Creek would be expected to add by small increments to the presently known mineralized bodies. The large distance between these bodies plus their substantial depth in relationship to the relatively small tonnage, would make high development costs. Although this area has favorable features as a future zinc resource, its present economic aspects are not especially attractive.

Operating Committee

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 3 1959

DATE	INITIALS	CODE
11-3	gad	VVO
11/4	[illegible]	800
"	[illegible]	800

October 29, 1959

Mr. Johnson Crawford
Assistant Manager of Mines
The New Jersey Zinc Company
Jefferson City, Tennessee

Re: DMEA-4286 (zinc)
Big War Creek area
Hawkins and Hancock Counties,
Tennessee
Contract Idm-E982

Dear Mr. Crawford:

We are still holding in suspense the final (May 1959) voucher on the Big War Creek project, which we received on June 9, as we cannot approve the last payment before receiving the final report.

Will you please send me your final geologic and engineering report on this project at your earliest convenience? The final voucher will be processed promptly upon receipt of the report.

Sincerely yours,

Robert A. Laurence
Executive Officer, OME
Field Team, Region V

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/23	[illegible]	500
10/27	GCS	130
7/27	[illegible]	110
10/27	gad	220
		500

OCT 27 1959

Memorandum

To: Executive Officer, OME Field Team, Region V

From: Chairman, Operating Committee, OME

Subject: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-E982

The cited project was terminated July 10, 1959, effective as of May 29, 1959. Will you kindly advise this Operator that its final report should be forwarded to you without undue delay.

/s/ George C. Selfridge

(26B)

APPROVED:

Frank D. Lamb (26B)
Member, Bureau of Mines

Harold Kirkemo (26B)
Member, Geological Survey

WRGriswold/gla 10-23-59
cc to: Director's Reading File
Operating Committee
Mr. Bishop, USBM
Mr. Kirkemo, USGS
Docket
Chron

8623

OFFICIAL FILE COPY

Date	Surname	Code
8/6	gad	220
"	[illegible]	500

AUG 6 1959

CERTIFIED MAIL

Memorandum

To: Mrs. Helen R. Miller, Administrative Assistant
Bureau of Mines, Region V, Norris, Tennessee

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: Docket No. DMRA-4286 (Zinc)
New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-2982

The original of the final (May 1959) MF-104, MF-104A and attachments, together with 32 invoices from previously paid vouchers, which you submitted with your July 30 memorandum request for a Report of Review, are returned herewith.

The review in lieu of final audit has been completed but the Report of Review may not be issued at this time because Mr. Laurence's July 29 memorandum states that the Operator's final engineering and geological report has not been received. Instructions promulgated to the Field Team Executive Officers by the Operating Committee's letter of January 17, 1957, prohibit the issuance of a Report of Review prior to receipt of advice from the Executive Officer that the Operator's report has been received, waived, or charged against the Operator.

A copy of this memorandum is being sent to Mr. Laurence.

Enclosures

EDTalbert/GMcC
August 5, 1959

cc: Docket
Director's Reading File
CA & A Division
Mr. E. D. Talbert
Mr. Robert A. Laurence, Exec. Officer, OME Field Team, Region V

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

July 30, 1959

Memorandum

To: Operating Committee, OME - Washington, D. C.

From: Executive Officer, OME - Region V - Knoxville, Tenn.

Subject: DMEA-4286, Idm-E982-zinc. The New Jersey Zinc CO. Amendment No. 11. Signed Audit Copy.

Attached is the signed Audit copy of the subject amendment which was returned to the company for signature on July 24.

Robert A. Laurence

Robert A. Laurence

OFFICIAL FILE COPY
O. M. E.
RECEIVED AUG 3 1959

DATE	INITIALS	CODE
8-3	gad	VVO
8/4	[illegible]	800
8/4	[illegible]	500

EXTRA COPY
O. M. E.
RECEIVED AUG 3 1959

DATE	INITIALS	CODE
8/5	Freisner	500

July 29, 1959

Memorandum

To: E. D. Talbert, Contract Administration and Audit Division, OME - Washington

From: Executive Officer, OME Region V- Knoxville, Tenn.

Subject: Termination of Contract Idm-E982, DMEA-4286-zinc. The New Jersey Zinc Company, Hawkins & Hancock Counties, Tennessee.

Work on the subject contract was terminated May 29, 1959.

The following units of work have been acceptably performed, as verified by our Field Examiners:

1 - 29,951 feet of diamond drilling has been completed.

2 - 90 core samples have been analyzed.

The Operator's final engineering and geological report has not yet been received.

Operator's Monthly Report and Voucher for May 1959, is attached. A Report of Review is requested.

Robert A. Laurence

VJL/zm
Opr. Com-2
Finance
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

July 24, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED JUL 27 1959

DATE	INITIALS	CODE
7/27	C	220
"	[illegible]	~~500~~

Memorandum

To: Operating Committee, OME - Washington, D. C.

From: OME Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982-Zinc. The New Jersey Zinc Co.
Hancock & Hawkins Counties, Tennessee

Enclosed are the fully executed copies of Amendment No. 11, and the Termination Agreement for the subject contract, except for the Audit Copy of Amendment No.11, which the Operator failed to sign. This copy has been returned for signature and will be forwarded to you when we receive it.

The usual distribution of the other copies has been made.

Robert A. Laurence
Robert A. Laurence, Executive Officer
OME Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
O. M. E.
RECEIVED JUL 27 1959

DATE	INITIALS	CODE
7/27	C	220
7/27	[illegible]	800
7-28	Returned	~~500~~

July 24, 1959

Mr. F. H. Main
Assistant Manager of Exploration
The New Jersey Zinc Company
160 Front Street
New York 38, New York

Re: DMEA-4286 (zinc)
Big War Creek area
Hancock & Hawkins Counties
Contract Idm-E982

Dear Mr. Main:

The signed copies of the Termination Agreement and Amendment No. 11, sent with your letter of July 17, have been distributed to the various offices concerned. However, the Audit Copy, enclosed herewith was overlooked and was not signed for the Company.

Will you please have this copy signed by Mr. Goodwin, and return it to us.

Sincerely yours,

Robert A. Laurence
Executive Officer, OME
Region V

RAL/sm
cc
Lynch
Laurence
Operating Committee

Form 7
58)

OFFICIAL FILE COPY

Date	Surname	Code
7/8	Griswold	500
7/9	Talbot	800
7/10	GCS	130
7/10	Yopes	130
7/10	Johnson	110
7-10	gad	220
		500

JUL 10 1959

Memorandum

To: Executive Officer, OME Field Team, Region V

From: Chairman, Operating Committee, OME

Subject: Docket No. IMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-E982

With reference to your memorandum of June 1, we are enclosing the original and four copies of proposed Amendment No. 11 (2 pages) to the cited contract, which have been signed by the Acting Director for the Government.

We are likewise enclosing the original and four copies of a proposed Termination Agreement, which have also been signed by the Acting Director.

If these documents meet with your approval, kindly present them to the Operator for approval and signature and, when completed, distribute all the copies in the usual manner. Otherwise, and if any proposed changes should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the amendment and of the agreement are enclosed for Field Team use.

The amendment should be signed not later than the agreement.

/S/ George C. Selfridge (24B)

Enclosures

APPROVED:

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

Harold Kirkemo (24B)
Member, Geological Survey

WRGriswold/gla 7-8-59
Copies to: Director's Reading File
Operating Committee
Mr. Bishop, USBM
Mr. Kirkemo, USGS
Docket
Chron

43683

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 11

It is agreed this _____ day of _____, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract No. Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, hereinafter called the "Contract," is further amended, effective May 28, 1959, as follows:

The following land parcel is hereby deleted from the land referred to in Amendment No. 5 of the Contract and designated on the map AX-TENN-101 which is a part of the Contract as "Sam Price and Orville Helton 197A". The land is further identified as follows:

Name of Property Owner	Approximate Acreage
Sam Price and Orville J. Helton	197 acres

The Operator:

(a) certifies that the land has no known value for mineral production;

(b) has, prior to the execution of this amendment, surrendered or otherwise disposed of all its interest, title, and equity in such land, and any minerals produced therefrom, including any option, lease or permit thereto, without any consideration whatsoever, including future compensation, for such surrender or disposition, other than relief from the cost of maintaining such interest;

(c) agrees that no benefit from such land or any production of minerals therefrom will accrue to the Operator or to any of its subsidiaries, directly or indirectly, during the period expiring thirty years from the date of this Contract;

two

(d) agrees that if the Operator or any of its subsidiaries acquires any interest, title, or equity in such land or any minerals produced therefrom, or derives any benefit therefrom, before the expiration of thirty years

two

J. Lynch
Hoffmann
App'd. Sol. Off.
Norwood
Talbot

from the date of this Contract, the land with respect to which such interest, title, or equity is acquired, and any minerals produced therefrom shall be deemed subject to this Contract and any certification from the date that the Operator or its subsidiaries acquired such interest, title, or equity, or any benefit therefrom, until the expiration of thirty years from the date of this Contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
Acting Director, Office of
Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By_____

Title_____

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
7/8		500
		~~225~~

July 8 , 1959

Memorandum

To: The File

From: W. R. Griswold, Chief
Division of Minerals

Subject: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Con tract No. Idm-E982

The Amendment No. 11 is merely a routine land deletion.

The project is 84 percent complete and will be certified. The Operator desires to terminate, feeling that results have generally been disappointing. We see little reason to quarrel with its contention, since three holes in ore will allow us to certify. It seems likely that no major discovery is to be expected, whether or not the project was completed.

W R Griswold

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

JUL 7 1959

Memorandum

To: Acting Director, Office of Minerals Exploration

From: Acting Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-4286, The New Jersey Zinc Company, Termination Agreement and Amendment No. 11

There are attached an Amendment No. 11, and a Termination Agreement on the above named contract, as requested on your reference slip of July 1, 1959.

The amendment should be dated not later than the Termination Agreement.

J. L. Hofflund

J. L. Hofflund

Attachments

OFFICIAL FILE COPY
O. M. E.
RECEIVED JUL 8 1959

DATE	INITIALS	CODE

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code

June 30, 1959

Memorandum for the Dockets

From: Chief, Division of Base Metals

Subject: Phone Conversation with Executive Officer of Region V on
Docket No. 4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennesee
Contract No. Idm-E982

and

Docket No. DMEA-4580 (Zinc)
Benjamin H. Putnam, Assignee
Puncheon Camp Creek Prospect
Grainger County, Tennessee
Contract No. Idm-E1088

Mr. Lynch of Region V, phoned regarding the two referenced dockets. He was advised that we could not grant Putnam the requested year's extension of completion time but that perhaps a six months extension might be considered.

Re the New Jersey Zinc application for Termination Agreement, he was advised that this was in process.

W. R. Griswold

W. R. Griswold

WRG/er
CC: Dockets (2)
Dir Read File
Chron.

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code

500

June 30, 1959

Memorandum

To: Associate Solicitor, Division of Minerals Resources

From: Chief, Division of Minerals

Subject: Preparation of Amendment No. 11 and Termination Agreement for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-2982, Zinc.

Will you kindly prepare an Amendment No. 11 and also a Termination Agreement for the cited Contract, as outlined on the attached drafts.

W. R. Griswold

Attachments

WRGriswold/er
Copy to Docket
Dir Read File
Chron.

43683

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 11

It is agreed this _____ day of _____, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government" and the New Jersey Zinc Company, hereinafter called the "Operator", that Exploration Project Contract No. Idm-E982 (Docket No. DMEA-4286), dated July 30, 1956, as amended, hereafter called the "Contract" is further amended, as follows:

The following land parcel is hereby deleted from the land referred to in Amendment No. 5 of the Contract and designated on the map AX-TENN-101 which is a part of the contract as "Sam Price and Orville Helton 197A". The land is further identified as follows:

Name of Property Owner	Approximate Acreage
Sam Price and Orville J. Helton	197 acres

The Operator:

(a) Certifies that the land has no known value for mineral production.

(b) Has, prior to the execution of this amendment, surrendered or otherwise disposed of all its interest, title, and equity in such land, and any minerals produced therefrom, including any option, lease or permit thereto, without any consideration whatsoever, including future compensation, for such surrender or disposition, other than relief from the cost of maintaining such interest;

(c) Agrees that no benefit from such land or any production of minerals therefrom will accrue to the Operator or to any of its subsidiaries, directly or indirectly, during the period expiring thirty years from the date of this Contract;

(d) Agrees that if the Operator or any of its subsidiaries acquires any interest, title, or equity in such land or any minerals produced therefrom, or derives any benefit therefrom, before the expiration of thirty years from the date of this Contract, the land with respect to which such interest, title, or equity is acquired, and any minerals produced therefrom, shall be deemed subject to this Contract and any certification from the date that the Operator or its subsidiaries acquired such interest, title, or equity, or any benefit therefrom, until the expiration of thirty years from the date of this Contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

THE NEW JERSEY ZINC COMPANY

By_____
Title_____

By_____
Acting Director, Office of
Minerals Exploration

TERMINATION AGREEMENT

It is agreed this _____ day of _____, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government", and the New Jersey Zinc Company, hereinafter called the "Operator", parties to that certain Exploration Project Contract Idm-E982, (Docket No. DMEA-4286), dated July 30, 1956, as amended, hereinafter called the "Contract", that:

1. Effective May 29, 1959, the Contract and all obligations of the parties thereunder, except as otherwise herein expressely provided, shall be and hereby terminated.

2. The Government shall contribute only to the actual costs and fixed unit costs of work performed prior to said effective date.

3. The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the rendering of the final report and final account.

4. All rights of the Government respecting certification of discovery or development, percentage royalty and liens to secure the payment thereof, reports (including preservation of the Operator's records) accounts, audits, and the right to recover any overpayment, are hereby preserved.

5. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Termination Agreement.

IN WITNESS WHEREOF, these parties have executed this agreement as of the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
Acting Director, Office of
Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By_____

Title _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

June 1, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED JUN 3 1959

DATE	INITIALS	CODE
6/3	G	290
		130
6/5	Brewold	500

Memorandum

To: Operating Committee, OME - Washington, D. C.

From: Field Team, OME - Region V - Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982 (zinc) The New Jersey Zinc Co. Big War Creek area, Hawkins & Hancock Counties, Tennessee

Enclosed are the original and one copy of a letter from the Operator requesting termination of the subject contract. Please note that the Operator has already stopped drilling on the area.

We would modify the statement that no ore has been proved by the DMEA drilling. We believe that the zinc mineralization discovered in the four ore holes (using a different cutoff than the Operator uses), added to the previously known ore do constitute a discovery, though of an "indicated " rather than a "proven nature."

At present, this project is about 84% complete. Although additional ore may well be discovered if the remaining authorized footage is completed, it is not likely to make any major changes in the picture as it now stands. Therefore, although we would like to see the drilling completed, we have no strong objections to a termination at this time, and we recommend

preparation of a termination by mutual agreement, effective May 29, 1959. Certification will be recommended.

Regardless of whether or not termination is approved, an amendment should be drafted providing for the deletion of the Sam Price-Orville Helton property, in accordance with the "Special Agreement Concerning Land."

Robert A. Laurence
Robert A. Laurence
Executive Officer, OME
Region V

V. O. Lynch
V. O. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
160 FRONT STREET
NEW YORK 38, N.Y.

OFFICIAL FILE COPY
O. M. E.
RECEIVED JUN 3 1959

DATE	INITIALS	CODE

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee

May 29, 1959

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: BIG WAR CREEK PROJECT, TENNESSEE
DMEA-4286 - Idm E 982 - ZINC

Dear Mr. Laurence:

Drilling on the Big War Creek project in the Copper Ridge Belt was stopped with the completion of drill hole BW-57. Thirty-four holes were drilled on this project during the period from March, 1957 to May, 1959 with a total footage drilled of 29,246 feet. Total expenditures under the contract have been $91,374.67 of which 50% or $45,687.33 was paid by the government.

Eleven drill holes encountered zinc mineralization in significant amounts of which three drill holes penetrated mineralization of ore thickness and grade. The mineralization is present at random stratigraphic positions and a correlation of ore penetrations from hole to hole is highly uncertain.

Approximately 85% of the funds allocated under the contract have been expended to date. We believe the point of diminishing returns has been reached with respect to this project and do not consider further drilling warranted at the present time.

This is to advise you of our desire to terminate the subject contract without additional drilling. We consider that no ore has been proved by the DMEA drilling. Nevertheless, possible ore areas have been indicated which warrant further testing which might be done in connection with development of ore within the excluded area. ?

RECEIVED
JUN - 1 1959
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

The deletion of the Sam Price - Orville Helton property from the contract is requested. There is no known ore on this property and The New Jersey Zinc Company has terminated the option contracts covering same.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

A. D. Hoagland/jf
In Quadruplicate

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

May 21, 1959

OFFICIAL FILE COPY O. M. E. RECEIVED MAY 26 1959		
DATE	INITIALS	CODE
5/26	a	220
5/26	JB	130
		500

Memorandum

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

From: Executive Officer, OME Field Team, Region V, Knoxville

Subject: Amendment No. 10, DMEA-4286, Contract No. Idm-E982 (Zinc)
The New Jersey Zinc Company, 160 Front St., New York, N. Y.
Big War Creek Area, Hawkins and Hancock Counties, Tennessee

Enclosed are the signed Government and Audit copies of the subject Amendment.

The usual distribution of the other copies has been made by this office.

Robert A. Laurence

Robert A. Laurence

Attachments 2

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
5/7	[illegible]	500
5/7	Talbot	800
5/8	[illegible]	130
"	Johnson	110
		~~100~~
		~~HB~~
5/11	[illegible]	220
		500

500

MAY 8 1959

Memorandum

To: Executive Officer, OME Field Team, Region V

From: Chairman, Operating Committee, OME

Subject: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-8982

With reference to your memorandum of April 29, 1959, we are enclosing the original and four copies of a proposed Amendment No. 10 to the cited contract, which have been signed by the Acting Director, for the Government. Also enclosed are two extra copies for the use of the Field Team.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute all the copies in the usual manner. Otherwise, and if any proposed changes should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

/s/ George C. Selfridge (HB)

Enclosures

APPROVED:

(sgd.) G. W. Josephson (HB)
Member, Bureau of Mines

N. E. Nelson (HB)
Member, Geological Survey

WRGriswold/er 5/7/59
Copy to: Docket
Dir Read File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code

May 5, 1959

Memorandum for the Docket

From: Chief, Division of Base Metals

Subject: Justification for Amendment No. 10 for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-E982, Zinc.

The contract in question provided for diamond drilling to depths of 1500 feet. A few holes may require slightly greater depths, hence Amendment No. 10 has been prepared to so provide. Obviously, it is to the best interest of the Government that drill holes be advanced to depths warranted by the stratigraphic conditions encountered.

W. R. Griswold

W. R. Griswold

WRG/er
CC: Docket
Dir Read File
Chron.

43683

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
		500
		140
		500

April 30, 1959

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 10 for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-A982, Zinc.

Will you kindly prepare an amendment No. 10 to the cited contract along the lines of the attached rough draft?

W. R. Griswold

Attachment

WRGriswold/fw-4/29/59

cc: Docket
Dir.Read.File
Chron.

8623

DRAFT

AMENDMENT NO. 10

It is agreed this _____ day of _____, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government," and the New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract Ion-8908, Docket No. DMEA-4286, dated July 30, 1956, as amended, hereinafter called the "Contract," is further amended, effective March 1, 1959, as follows:

In Amendment No. 3, dated September 18, 1957, item 2 "Estimated Cost of the Project" contains the following stipulation:

"5000 feet of diamond drilling from 1000-foot to 1500-foot depth:

AX size @ $3.00/ft. $15,000.00
BX size @ $2.90/ft."

The above stipulation is deleted and the following is substituted:

"5000 feet of diamond drilling at depths in excess of 1000 feet:

AX size @ $3.00/ft. $15,000.00
BX size @ $2.90/ft."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

April 29, 1959

cy 800
OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 30 1959

DATE	INITIALS	CODE
4/30	G	220
5/4	GWB.	800

Memorandum

To: Operating Committee, OME, Washington 25, D. C.

From: Field Team, OME, Region V, Knoxville 2, Tennessee

Subject: Docket No. DMEA-4286, Contract No. Idm-E982 (Zinc)
The New Jersey Zinc Company, New York, New York
Big War Creek Area, Hawkins and Hancock Counties, Tennessee

Reference: Mr. Talbert's memo of April 23, 1959 to Mr. Griswold.

Review of the log of hole BW55 indicates that the "TR" zone was cut at 1440 feet depth; therefore it was necessary to exceed 1500 feet in order to assure full penetration of the ore zone. This may also be necessary in other holes on this project.

The stratigraphic interval between "TR" (top of "R" bed) and footwall is about 120 feet; where vertical holes penetrate steeply dipping beds, the drill-hole distance may exceed 150 feet.

Therefore, we recommend an amendment authorizing drilling beyond 1500 feet, as suggested by Mr. Talbert. Unit cost for this deeper drilling would be at the the same rate as the 1000 to 1500 foot category, $3.00 per foot. We do not anticipate a very large total of below -1500 drilling.

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch
V. J. Lynch
Member, Bureau of Mines

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/23	[illegible]	220
4/24	[illegible]	500

APR 23 1959

Memorandum

To: Mr. W. R. Griswold, Chief
Division of Base Metals

From: E. D. Talbert, Acting Chief
Division of Contract Administration and Audit

Subject: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee
Contract No. Idm-E982

Exhibit "A" of the subject contract estimates that "the maximum depth of any hole will be approximately 1300 feet". Amendment No. 3 provides maximum unit costs of $3.00/ft AX size and $2.90/ft. EX size for "diamond drilling from 1,000-foot to 1,500-foot depth".

No costs are authorized for drilling beyond 1,500 depths. However, the Operator's March 1959 MF-104, as approved by the Field Team, includes contribution by the Government to the entire cost of hole BW-55, which bottomed at 1,580 feet.

If it was the intent of the contract to allow costs for drilling to depths beyond 1,500 feet, an amendment setting forth the allowable unit costs for such depths is required. Mere deletion of the words "to 1,500-foot depth" apparently would suffice.

EDTalbert/ama
April 23, 1959

Copy to: Docket
Director's Reading File
CA & A Division
Mr. Laurence
Mrs. Miller

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 22 1959

DATE	INITIALS	CODE
1/22	C	220
1/23	[illegible]	500

January 20, 1959

Mr. Johnson Crawford
General Superintendent
The New Jersey Zinc Company
Jefferson City, Tennessee

Re: DMEA-4286, Idm-E982-zinc
Big War Creek area
Hawkins & Hancock Counties,
Tennessee

Dear Mr. Crawford:

In reviewing the monthly vouchers and progress reports (MF-104 and MF104A) on the subject contract it was found that several errors have been made in the "Units To Date Column" on forms MF-104A.

In the March 1958 report the figure 17,457 for "Supervision and Technical Services" should have been 17,451.

In the April 1958 report the figure for EX drilling should have been 782 instead of 658. This error has been carried on in all the reports to date.

The correct figures in the "Units to Date" column for December 1958 should have been: Drilling EX - 782; 0 to 1000 - 21,068; 1000 to 1500 - 2,544; Assays - 82; and Supervision & technical Services- 24,414.

Please correct your copy of the December MF-104A to conform with the above.

Sincerely yours,

Robert A. Laurence
Executive Officer, OME
Region V

WAR/mm
cc
Finance Office
Lynch
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
ROOM 2-B POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 15 1958

DATE	INITIALS	CODE
10/15	C	220
10/15	[illegible]	500

October 13, 1958

Memorandum

To: Operating Committee, OME - Washington

From: Executive Officer, OME - Region V - Knoxville, Tenn.

Subject: Signed Amendment, No.9. DMEA-4286, Idm-E982-zinc
The New Jersey Zinc Co., Big War Creek Area,
Hawkins and Hancock Counties, Tennessee

Attached are the original and Audit copies of the subject signed amendment.

The usual distribution of the other copies has been made by this office.

Robert A. Laurence
Robert A. Laurence
Executive Officer, OME
Region V

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-12	Turnwall	500
9-15	Chambers	800
9/26	Martin	130
9/26	Johnson	110
"	Hutchison	100
9/29	C	220
		500

SEP 29 1958

Mr. Robert A. Laurence
Executive Officer
OME Field Team, Region V
Room 2-B, Post Office Building
Knoxville 2, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-E982

Dear Mr. Laurence:

As recommended in your August 22 memorandum, we have prepared an amendment adding certain lands to the cited contract.

The original and four copies of a proposed Amendment No. 9 are enclosed, which have been signed by the Acting Director for the Government. Two extra copies are also enclosed for the use of the Field Team.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. In the event that the agreement is not satisfactory and cannot be amended within your delegated authority, return all copies with your recommendations concerning any modifications.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (SLB)

Enclosures
APPROVED:

Frank J. Cservenyak (SLB)
Member, Bureau of Mines

N. E. Nelson (SLB)
Member, Geological Survey

cc: [redacted]'s Reading File
[redacted] Operating Committee
[redacted], BLM
Mr. Kiilsgaard, USGS

8623

Amendment No. 9

effective July 20, 1958

Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-5		140

RECEIVED
INTERIOR DEPT.
SEP 8 1958
ASSOC. SOLICITOR
MINERAL RESOURCES

SEP 8 - 1958
SOLICITOR

September 5, 1958

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: W. R. Griswold, Director
Division of Base Metals

Subject: Preparation of Amendment No. 9

Docket No. DMEA-4286
Contract No. Idm-E982
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tennessee

Will you kindly prepare an Amendment No. 9 to the cited contract which will add the following land to the contract:

"Beginning at a point in the center of the Big War Creek road 1750' N58°W from the intersection of Big War Creek and Clinch Valley Roads; thence S 61° W 170' to a point; thence N 29° W 700' to a point; thence N 61° E 380' to a point; thence S 29° E 700' to a point; thence S 61° W 210' to the beginning containing 6.1 acres more or less."

~~Likewise the land excluded from the contract, as described on page 2 of Annex I of the contract, is revised as follows:~~

~~"The revised excluded area is described as follows:~~

(A point in the center of the Big War Creek road 1750' N 58° W from the intersection of big War Creek and Clinch Valley Roads was used as the beginning of the original excluded area. The excluded area, as now revised, ~~Proposed revised excluded area~~ refers to this point.) Beginning at a point S 61° W 170' of the point in the center of Big War Creek road

2. In Annex I, under "Excluded Land," the description of the land is revised to read as follows:

Stet
9/10

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referred to above; thence N 29° W 700' to a point; thence N 61° E 380' to a point in the original excluded boundary; thence with the original boundary four courses as follows N 29° W 575' to a point; thence S 61° W 1080' to a point; thence S 29° E 1275' to a point; thence N 61° E 700' to the beginning containing 24 acres more or less."

~~The effective date of the amendment should be July 30, 1956, the date of the contract.~~

This amendment shall not be [illegible] the Impel contract.

~~W. R. Griswold~~

Executed etc.

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

August 22, 1958

RECEIVED AUG

DATE	INITIALS	
8/25	C	220
		130
8/25	Iris	500

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982(zinc) The New Jersey Zinc Co., N. Y. Big War Creek area, Hawkins & Hancock Counties, Tenn.

Enclosed are the original and two copies of a letter from the Operator, requesting the addition of about 6.1 acres of contiguous property to the contract area.

In order to explore the ore in holes 33,36,29 and 30, it seems desireable to begin a strike fence which would intersect the dip fence half way between holes 33 and 36. The first hole on this fence will be 250 feet west of the dip fence, no hole is to be drilled at its intersection with the dip fence. As that would be less than 200 feet from the boundary, it is necessary to reduce the excluded area, as indicated on the Operator's map.

Drilling of the first hole on the strike fence is expected to begin this week, although the Operator was advised that no payment could be approved unless an amendment is executed.

We believe it is in the Government's interest to add this acreage, and to explore the area described above. Therefore, we recommend approval of an amendment authorizing such addition, to be effective August 21, 1958.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA - Reg. V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
160 FRONT STREET
NEW YORK 38, N.Y.

PLEASE ADDRESS REPLY TO
JEFFERSON CITY, TENNESSEE
August 21, 1958

RECEIVED AUG 25 1958

DATE	INITIALS	CODE

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DMEA 4286 (ZINC) IDM-E 982
BIG WAR CREEK AREA
HAWKINS AND HANCOCK COUNTIES, TENNESSEE

Dear Mr. Laurence:

Request is hereby made for inclusion under the subject contract of a part, containing 6.1 acres more or less, of the area excluded from the original contract as shown on the attached map AX Tenn 100. The mineral and mining rights to this property are owned by The New Jersey Zinc Company.

A description of the area to be added to the contract follows:

1 Beginning at a point in the center of the Big War Creek road 1750' N58°W from the intersection of Big War Creek and Clinch Valley Roads; thence S 61° W 170' to a point; thence N 29° W 700' to a point; thence N 61° E 380' to a point; thence S 29° E 700' to a point; thence S 61° W 210' to the beginning containing 6.1 acres more or less.

The revised excluded area is described as follows:

2 A point in the center of the Big War Creek road 1750' N 58° W from the intersection of big War Creek and Clinch Valley Roads was used as the beginning of the original excluded area. Proposed revised excluded area refers to this point. Beginning at point S 61° W 170' of the point in center of Big War Creek road referred to above; thence N 29° W 700' to a point; thence N 61° E 380' to a point in the original excluded boundary;

thence with the original boundary four courses as follows. N 29° W 575' to a point; thence S 61° W 1080' to a point; thence S 29° E 1275' to a point; thence N 61° E 700' to the beginning containing 24 acres more or less. //

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

A. D. Hoagland/dm
In Quadruplicate

RECEIVED
AUG 22 1958
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

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

DMEA

9

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5/19 cops. 226
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May 15, 1958

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA - Region V - Knoxville, Tenn.

Subject: Signed Amendments - The New Jersey Zinc Co.

Transmitted are the Government and Audit copies of the following amendments:

Idm-E937, DMEA-4126, (Amendment No. 10)

Idm-E982, DMEA-4286, (Amendment No. 8)

Robert A. Laurence

mm

cc
Finance Officer
Lynch
Files

Shirley

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4/30	[illegible]	500
"	[illegible]	800
4/30	[illegible]	130
5/1	[illegible]	110
"	[illegible]	100
5/2	[illegible]	220
		500

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MAY 2 1958

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-E982

Dear Mr. Laurence:

With reference to your April 18, 1958, memorandum covering the cited contract, we are enclosing the original and four copies of a proposed Amendment No. 8, which have been signed by the Administrator for the Government.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute all the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (SHB)

Enclosures

WRGriswold/er 4/30/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

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

Thor H. Kiilsgaard (SHB)
Member, Geological Survey

8623

Form 7
(2-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

April 24, 1958

Memorandum

To: Associate Solicitor, Division of Minerals Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendement No. 8 for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-E982, Zinc.

Will you please prepare an Amendment No. 8 to the cited contract which will recess the project from April 1, 1958 to November 1, 1958.

W. R. Griswold

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

April 18, 1958

DMEA
RECEIVED APR 21 1958
4/21 C 220
136
4/22 with. 500

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982 and DMEA-4586, Idm-E1071-zinc.
The New Jersey Zinc Company -
Big War Creek and Cedar Springs Areas, Tennessee

Enclosed are two letters from Mr. Johnson Crawford, General Superintendent, The New Jersey Zinc Company, requesting a recess of work in each of the subject contracts.

This matter was discussed with Mr. Griswold by telephone on April 15.

The Field Team recommends granting a recess for each contract until November 1, 1958 and a comparable extension of time for completion of each contract.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA
Field Team, Region V

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
CABLE ADDRESS
"JERSEZINC"
160 FRONT STREET
NEW YORK 38, N.Y.

HORSE HEAD PRODUCTS ®

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
April 15, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED APR 21 1958
DATE

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DMEA 4286 (ZINC) Idm E 982
BIG WAR CREEK AREA
HAWKINS AND HANCOCK COUNTIES, TENNESSEE

Dear Mr. Laurence:

Request is hereby made for a recess until November 1, 1958 of operation under the subject contract.

The present adverse conditions in the domestic zinc industry require a temporary curtailment of drilling on the Big War contract. During the recess period, additional geochemical work including auger drilling is planned. It is anticipated that as a result of this work, information will be acquired which will permit a more effective utilization of the diamond drill and improve the chances of a successful drilling result when operations are resumed.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

A.D.Hoagland/jf
In quadruplicate

RECEIVED
APR 17 1958
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

Operating Committee

COPY
DMEA
RECEIVED APR 14 1958
DATE | INITIALS | CODE
4/15 | | 220
4/15 | | 150

April 10, 1958

Mr. Johnson Crawford, General Superintendent
The New Jersey Zinc Company
Jefferson City, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Ion-2982

Dear Mr. Crawford:

This letter provides authorization to reduce the size of hole BW-47 to EX size below 329 feet, as provided in item 1 of Amendment No. 3.

Sincerely yours,

Robert A. Laurence
Executive Officer
DMEA Field Team, Region V

RAL/mg
cc - Operating Committee (2)
Finance Office
Mr. V. J. Lynch
Mr. L. E. Shirley
File

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

April 3, 1958

DMEA
RECEIVED APR 7
DATE
4/7 C. 220
4/7 Guard 500

Memorandum

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: Signed Amendment No.6. The New Jersey Zinc Company-DMEA-4286, Idm-E982-zinc. Big War Creek Area, Hancock and Hawkins Counties, Tennessee

Transmitted are two signed copies of the subject amendment. The usual distribution of the other copies has been made.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch
V. J. Lynch, Member
DMEA Field Team, Bureau of Mines

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

March 31, 1958

Memorandum

Approved by:

To: Operating Committee, DMEA - Washington

From: DMEA Field Team, Region V - Knoxville, Tennessee

Subject: Amendment No.7, DMEA-4286, Idm-E982-zinc.
The New Jersey Zinc Co., Big War Creek Project,
Hawkins and Hancock Counties, Tennessee

Attached are two copies of the subject amendment, signed by the Vice President of the Company. The usual distribution of the other copies has been made by this office.

Robert A. Laurence
Robert A. Laurence
Executive Officer, DMEA - Region V

V. J. Lynch
V. J. Lynch, Member
DMEA Field Team, Bureau of Mines

z

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

March 25, 1958

Memorandum for the Files

From: Director, Division of Base Metals

Subject: Phone conversation on Docket No. DMEA-4286, Zinc
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-E982

With reference to the March 20 letter of Mr. Laurence, the undersigned phone Mr. V. J. Lynch at Knoxville. We advised him that our Amendment No. 6 was already in the mail, hence their amendment to add land, referred to in the March 20 letter, should be made as Amendment No. 7.

WRG.

W. R. Griswold

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/21	[illegible]	500
3/21	Talbot	800
3/21	[illegible]	130
"	Johnson	110
		~~100~~
		~~HB~~
		220
		500

500

MAR 21 1958

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-E982

Dear Mr. Laurence:

With reference to your memorandum of March 11, we are enclosing the original and four copies of a proposed Amendment No. 6 to the cited contract. You will note all copies have been signed by the Administrator for the Government.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute all the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures
APPROVED:

P. F. Yopes (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

WRGriswold/er 3/21/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

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

March 20, 1958

DMEA
RECEIVED MAR 24 1958
DATE
3/24

Memorandum

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

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: Docket No. DMEA-4286, Contract No. Idm-E982 (Zinc)
The New Jersey Zinc Company, New York, New York
Big War Creek Area, Hawkins and Hancock Counties, Tenn.

The Operator has just succeeded in acquiring the mineral and mining rights to the George L. Amyx tract and in accordance with the terms of the "Special Agreement Concerning Land", has requested addition of this tract to the contract area. Accordingly, we have prepared and forwarded to the Operator for execution, Amendment No. 6.

Therefore, if the request for a time extension amendment, submitted with our memo of March 11 is approved, that amendment should be designated No. 7.

A copy of the warranty deed, containing the legal description of the Amyx property, is enclosed. The amendment will be sent to you as soon as it is returned by the Operator.

Robert A. Laurence
Robert A. Laurence
Executive Office

V. J. Lynch
V. J. Lynch, Member
Bureau of Mines

Enclosure

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 24 1958

DATE	INITIALS	CODE

W A R R A N T Y D E E D

THIS INSTRUMENT made and entered into on this 15th day of March, 1958, by and between GEORGE L. AMYX (WIDOWER), CHARLIE A. AMYX, DORA AMYX SETSOR, IRENE AMYX HURLEY, HAZEL AMYX HELTON and MILDRED AMYX OLDAM, of Hawkins County, Tennessee, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR cash and other good and valuable considerations in hand paid, receipt of which is hereby acknowledged, the parties of the first part have this day granted, bargained and sold and do by these presents grant, bargain, sell and convey unto the party of the second part, its successors and assigns forever, all the minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or upon the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, on the South side of the Clinch Valley Road, adjoining the lands of I. D. and Ruble Price, Sam Price, Cameron Short, Bloomer, Drinnon, Wilder and possibly others, and more particularly described as follows:

BEGINNING on a 36-inch oak stump and a corner to I. D. and Ruble Price, in the line of Sam Price, Northwest corner of the property here described; thence with the line of Sam Price three courses as follows: N. 66-56 E. 234.79 feet; N. 33-01 E. 233.52 feet; N. 42-35 E. 169.42 feet to a stake, a corner to Price and to Cameron Short; thence with the line of Short five courses as follows: S. 26-11 E. 2,594.22 feet; S. 41-42 W. 121.73 feet; S. 53-05 E. 98.78 feet; N. 45-46 E. 113.15 feet; S. 73-44 E. [illegible] to a point in the center of the Clinch Valley Road and a corner to Short, Bloomer and Drinnon; thence with the center of said road (line of Drinnon) three courses as follows: S. 42-22 W. 145.06 feet; S. 46-15 W. 154.32 feet; S. 5[illegible]-[illegible] W. 229.84 feet to a point in the center of said road, corner to Drinnon and Wilder; thence with the line of Wilder N. 29-34 W. 68.03 feet to a stake, corner to Wilder and to Mary Bloomer; thence with the line of Mary Bloomer N. 29-10 W. 717.32 feet to a stake, a corner to Mary Bloomer and to I. D. and Ruble Price; thence with the line of Price N. 27-19 W. 2,223.30 feet to the BEGINNING, containing [illegible] acres, more or less.

Grantor, George L. Amyx, is the widower of Lahrah (Laura) Amyx, deceased, and the remaining parties are her surviving children and all, heirs-at-law, they having acquired title to the aforesaid real estate upon her death by inheritance. Lahrah Amyx acquired title by Deed of William Davis, et ux., dated April 10, 1915, and of record in the Register's Office for Hawkins County, Tennessee, in Deed Book 61, Page 247, to which reference is hereby made.

Together with the right to prospect for, mine, mill and remove the minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, and the right to drill and divert such water as may be upon or appurtenant to the premises, and the right to draw into any water course on said premises any water

from operations conducted thereon or therein, the right to enter upon the premises with workmen, tools, rigs and appliances and remove the same, and the free and uninterrupted right of ingress and egress in, on, from, through, under and upon said premises for said purposes, or any thereof, and for the purpose of carrying on mining operations on, in, or under any other properties in which the Zinc Company, its successors or assigns, may have or acquire mineral or mining rights and may desire to reach or mine directly or indirectly through the above described premises, and all other rights and privileges necessary or convenient in order to exercise the rights hereinabove set forth.

It is understood that one of the considerations for this conveyance is that the party of the second part covenants and agrees for itself, its successors and assigns, to pay for all damage done by its prospecting and mining activities to the surface, growing crops, fences, buildings and improvements located on the above described premises.

Should the owner of the mineral and mining interests and the owners of the surface rights be unable to agree upon the amount or extent of such damage, the same shall be determined by arbitration, the then owners of the surface to select one arbitrator, the then owners of the mineral and mining interests to select one arbitrator, and the two arbitrators so selected to select a third arbitrator. The award made by said arbitrators shall be binding and conclusive on the respective parties.

TO HAVE AND TO HOLD said mineral and mining interests with all hereditaments and appurtenances thereto belonging, to the said party of the second part, its successors and assigns, forever.

And the parties of the first part covenant to and with the party of the second part, its successors and assigns, that they are lawfully seized and possessed of said mineral and mining interests, that they have a good and lawful right to sell and convey the same, that the same is clear and unencumbered, except for 1958 Taxes, which Grantors agree to pay, and that they will forever warrant and defend the title thereto against the lawful claims and demands of all persons whomsoever.

IN TESTIMONY WHEREOF, the parties of the first part have hereunto set their signatures, this the day and date first above written.

George L. Amyx.

Charlie A. Amyx.

Dora Amyx Teiser.

Irene Amyx Farley.

Hazel Amyx Helton.

Mildred Amyx Grant.

STATE OF TENNESSEE

_____ COUNTY

Personally appeared before me, _____, a Notary Public in and for said County and State, the within named bargainors, GEORGIA L. AMYX (WIDOWED), CHARLES A. AMYX, FONA AMYX SETSER, IRENE AMYX HURLEY, MABEL AMYX MELTON and MILDRED AMYX CLEAVE, with whom I am personally acquainted, and who acknowledged that they executed the foregoing instrument for the purposes therein contained and expressed.

Witness my hand and official seal at office on this _____ day of March, 1988.

_____
Notary Public.

Commission Expires:

Qualified in _____
County under the provisions
of Tennessee Code, Section
8-1009, et seq.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

March 17, 1958

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 6 for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-E982, Zinc.

Will you kindly prepare an Amendment No. 6 to the cited contract which would extend the completion period from May 1, 1958 to July 1, 1959.

Increase the repayment period from thirty to thirty one years.

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Docket
~~XXXXX~~
Chron.

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1305 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 13 1958

DATE		CODE
3/13	C	220
		130
	G	500

March 11, 1958

Memorandum

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

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: Docket No. DMEA-4286, Contract No. Idm-E982 (Zinc)
The New Jersey Zinc Company, New York, N. Y.
Big War Creek area, Hawkins and Hancock Counties, Tennessee

Enclosed are the original and two copies of a letter from the Operator, requesting extension of the completion date to July 1, 1959. As this would exceed two years, we are forwarding the request to you for appropriate action.

At present approximately 51% of the proposed footage has been drilled. It would obviously be unwise to attempt completion of the remaining 17,000 feet by May 1, 1958.

We consider the request to be a reasonable one, and recommend preparation of Amendment No. 6 to authorize the additional time.

Robert A. Laurence
Robert A. Laurence
Executive Officer

S A Feitler
S. A. Feitler for V. J. Lynch
Member, Bureau of Mines

Enclosures 3

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

CABLE ADDRESS
"JERSEZINC"

160 FRONT STREET

NEW YORK 38, N.Y.

HORSE HEAD PRODUCTS ®

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
March 5, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 13 1958
DATE | CODE

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DMEA 4286 (ZINC) Idm E 982
THE NEW JERSEY ZINC COMPANY
BIG WAR CREEK AREA
HAWKINS & HANCOCK COUNTIES, TENN.

Dear Mr. Laurence:

Request is hereby made for an amendment to the cited contract extending the completion date from May 1, 1958 until July 1, 1959. The reasons for this request are outlined below:

(1) Drilling progress on this project has been slower than anticipated. This is due, in part at least, to difficult drilling conditions caused by cavernous ground.

(2) Deep ore penetrations have been made in holes BW-33 and BW-36. To determine the significance of these penetrations, additional deep drilling, requiring more time for hole completion, is required.

(3) Amendment No. 5 added the Helton-Price property of about 197 acres to the project. The Amyx property of about 35 acres is now being purchased and will be added to the contract area, thus, further increasing the area to be investigated.

(4) In order to most efficiently utilize the footage remaining to be drilled on the Big War project, it is contemplated that the rate of drilling will be reduced from two operating drills to one operating drill. On a one drill basis, it is estimated that it will take at least until July 1, 1959 to complete the footage authorized by the Big War Creek contract.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

General Superintendent

RECEIVED
MAR 11 1958
U. S. Geological Survey
Knoxville, Tenn.

A. D. Hoagland/jf
In Quadruplicate

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 13 1958

DATE	INITIALS	CODE
3/13	C	22C
	~~C~~	~~500~~

March 11, 1958

Mr. Johnson Crawford
General Superintendent
The New Jersey Zinc Company
Jefferson City, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
Big War Creek Area
Hancock and Hawkins Counties,
Tennessee
Contract No. Ids-2982

Dear Mr. Crawford:

This will confirm the verbal approval given by Mr. Shirley for reducing hole No. BW-45 to EX size below 498 feet, as provided in paragraph 1 of Amendment No. 3.

Sincerely yours,

Robert A. Laurence
Executive Officer
DMEA Field, Region V

RAL/mg
cc - Mr. V. J. Lynch
Finance Office
Operating Committee (2)
Mr. L. E. Shirley
File

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 381 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

December 19, 1957

DMEA RECEIVED DEC 23 1957		
DATE	MINERALS	CODE
12/23	C	220
		130
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Memorandum

Approved:

To: Operating Committee, DMEA - Washington

From: Acting Executive Officer, DMEA - Region V - Knoxville, Tenn.

Subject: Amendment No.5, DMEA-4286, Idm-E982(zinc) The New Jersey Zinc Co. Big War Creek Area, Sector II, Hawkins and Hancock Counties, Tennessee

Attached is the original and one copy of the subject Amendment signed by the Vice President of the New Jersey Zinc Company.

V. J. Lynch

V. J. Lynch

Amendment

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 5 1957

DATE	INITIALS	CODE
12/5	C	220
12/5	~~[illegible]~~	500

December 3, 1957

Memorandum

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

From: Executive Officer, DMEA, Field Team, Region V

Subject: Docket No. DMEA-4286 (Zinc), Contract No. Idm-E982
The New Jersey Zinc Company
Big War Creek Area, Hawkins and Hancock Counties, Tennessee

Enclosed is a letter from the Operator requesting addition of adjoining property to the contract, and one copy of the option. A proposed amendment has been sent to the Operator, and the executed copies will be sent to you when they are received.

W. A. Beck for
Robert A. Laurence

Enclosures 2

X 1086G 24M 12-56

COPY

THE NEW JERSEY ZINC COMPANY

EXPLORATION DEPARTMENT

Jefferson City, Tennessee
November 29, 1957

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DOCKET NO. 4286 (ZINC)
BIG WAR CREEK AREA, TENNESSEE

Dear Mr. Laurence:

Subsequent to the acceptance of DMEA contract Idm E 982 for the Big War Creek area in the Copper Ridge Belt, Tennessee, an option was secured on the Sam Price and Orville Helton property of about 197 acres. The location of this property may be seen on map AX-TENN-101 which accompanies subject contract.

We wish, in accordance with the terms of this contract, to include the Price-Helton property within its scope. A print of the short form option contract covering this property is enclosed.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In duplicate

RECEIVED
-2 1957

7530-II-D-3

ORIGINAL FILE COPY
RECEIVED DEC 5 1957

DATE	INITIALS	CODE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 10th day of April, 1957, by and between SAM PRICE and wife, VICTORIA PRICE, and ORVILLE J. HELTON and wife, LILLIE BELLE HELTON, of Hawkins County, Tennessee, hereinafter called the Owners, parties of the first part, and THE NEW JERSEY ZINC COMPANY, a New Jersey Corporation, authorized to do business in the State of Tennessee, party of the second part, hereinafter called the Zinc Company:

W I T N E S S E T H

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable considerations in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant unto the party of the second part for a period of one year from the date hereof, with the privilege of extension for further periods not to extend beyond April 10, 1962, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the Third Civil District of Hawkins County, Tennessee, North of Clinch Mountain, and North of the Valley Road and more particularly described as follows:

BEGINNING at an iron stake, Northeastern corner of the lands of Vent Pearson, and wife, and in the line of John Quinn, and running thence in a Northwardly direction with the line of Quinn to a point, corner to Smith, Quinn and Murrell Heirs, and Brown Vineyard, in a Westwardly direction to a point in line of the lands of Bonnie Swaney; thence with the line of Swaney in a Southwardly direction to a point in the Northern edge of the Valley Road; thence with the Valley Road in an Eastwardly direction to the line of the lands of Vent Pearson and wife; thence with the fence line between parties of the first part and said Vent Pearson and wife, in a Northwardly direction to an iron stake in an East-West cross fence; thence with said East-West cross fence, line of Vent Pearson and wife, in an Eastwardly direction to the point of BEGINNING, containing, by estimation, approximately 197 acres, more or less.

Together with a right-of-way 16 feet in width through and across the lands of Vent Pearson and wife.

Orville J. Helton and wife, Lillie Belle Helton, acquired title to the above described premises by Deed of John Winstead Helton and wife, Bertha A. Helton, dated May 15, 1930, recorded in the Register's Office for Hawkins County, Tennessee, in Deed Book _____, Page _____. Orville J. Helton and wife, Lillie Belle Helton, conveyed the above described premises reserving unto themselves a one-half interest in the mineral and mining rights, to Sam Price and wife, Victoria Price, by Deed dated May 5, 1951, recorded in Deed Book _____, Page _____ of said Register's Office. Reference is here made to said deeds of conveyance for a more particular description.

Together with the right to prospect for, mine, mill and remove the same; water rights, the right of ingress and egress, in accordance with the terms of an Agreement of even date herewith entered into between the parties hereto. And the parties of the first part also grant to the party of the second part during said period the right to prospect for, explore and examine all minerals, metals, ores, ore-bearing materials, and rocks of any kind, including the same, in, under or on all of said premises, including the right to enter thereupon, to use available water and to remove samples, in accordance with the terms of the last mentioned agreement. The terms of this option Contract and Agreement are fully set out in the agreement of even date herewith, which is here referred to and made a part hereof as if fully set out at length.

This Contract and Agreement and each and every provision thereof shall be binding upon and ensure to the benefit of the parties hereto, their heirs, executors, administrators, successors and assigns.

In Witness Whereof, the Owners and parties of the first part have hereunto set their signatures the day and year first above written.

Sam Price
Sam Price.

Victoria Price
Victoria Price.

Orville J. Helton
Orville J. Helton.

Lillie Belle Helton
Lillie Belle Helton.

STATE OF TENNESSEE

Hawkins COUNTY

Personally appeared before me, Beus L. Cattett, a Notary Public in and for said County and State, the within named bargainors, SAM PRICE AND WIFE, VICTORIA PRICE, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this 2nd day of ~~April~~ May, 1957.

Beus L. Cattett
Notary Public.

Commission Expires: 4-16-58

Qualified under Tenn Code, Section 8-1609, et seq.

CERTIFIED FILE COPY
DMEA
RECEIVED DEC 5 1957

DATE	INITIALS	CODE

STATE OF TENNESSEE

Hamblen COUNTY

Personally appeared before me, Ben S. Collett, a Notary Public in and for said County and State, the within named bargainors, ORVILLE J. HELTON AND WIFE, LILLIE BELLE HELTON, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on this the 10th day of April, 1957.

Ben S. Collett
Notary Public.

Commission Expires: 4-16-58
Qualified under Code Section, 8-609 et seq.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROWNSHIRO POST OFFICE BLDG.
KNOXVILLE 2, TENN.

November 14, 1957

ORIGINAL RECEIVED
DMEA
RECEIVED NOV 18 1957

DATE	INITIALS	CODE
11-18	C	220
11/18	~~[illegible]~~	500

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Offdicer, DMEA - Knoxville, Tennessee

Subject: Signed Amendments - The New Jersey Zinc Company.

Transmitted are two signed copies each of the following amendments:

Idm-E~~4~~ 982, DMEA-4286, The New Jersey Zinc Co.
Amendment No.4. Big War Creek Area
Hawkins and Hancock Counties, Tennessee

Idm-E950, DMEA-4153, The New Jersey Zinc Co.
Amendment No.5. Independence Area-Sector I
Hancock County, Tennessee

The usual distribution of the other copies has been made by this office.

Robert A. Laurence

Robert A. Laurence

Amendments

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

November 7, 1957

11/12 C 220 ~~500~~

Mr. Johnson Crawford, Superintendent
The New Jersey Zinc Company
Jefferson City, Tennessee

Re: DMEA-4286 (Zinc)
Big war Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-5982

Dear Mr. Crawford:

This will constitute advance authorization (as required by Exhibit "A", fourth paragraph) to locate a strike fence beginning with a hole 300 feet southeast (down dip) from Hole No. 37, as discussed with Mr. Hoagland yesterday.

This spacing is approved in order to avoid the excessive footage which would be required if the fence was located 500 feet down the dip from Hole No. 37.

Sincerely yours,

Robert A. Laurence
Executive Officer
DMEA Field Team, Region V

RAL/mg
cc - Operating Committee (2)
Mr. V. J. Lynch
Mr. L. E. Shirley
Finance Office
File

IMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
10/24	Griswold	500
10/25	Falbrook	800
10/25	GCS	130
"	Johnson	110
"	Whitenbury	100
		~~HB~~
10/28	C	220
		500

500

OCT 28 1957

Mr. Robert A. Laurence
Executive Officer
IMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. IMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-E982

Dear Mr. Laurence:

With reference to your memorandum of September 23, we are enclosing the original and four copies of a proposed Amendment No. 4 (two pages), to the cited contract, which has been signed by the Administrator, for the Government.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute all the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GB)

Enclosures

WRGriswold/er 10/24/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

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

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

8623

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

October 15, 1957

Re: DMEA 4286; Idm-E982; Zinc
The New Jersey Zinc Co.
Big War Creek Area
Hancock & Hawkins Counties,
Tennessee

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Review of Field Team recommendation of 9/23/57 for amendment No. 4 to Contract Idm-E982

The Field Team recommends amendment No. 4, which authorizes exploration holes on the line of strike to better explore the potentialities of the area under investigation.

I concur with the Field Team recommendation for the amendment.

O. M. Bishop

O. M. Bishop

Copy to: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Bishop
F I L E S

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 1957

DATE	INITIALS	CODE
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10/15	WRG	500

OCT 9 1957

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4153 (Zinc)
The New Jersey Zinc Company
Independence Area
Hancock County, Tennessee
Contract No. Idm-E950

Dear Mr. Laurence:

We refer to your letter, dated September 23, 1957, concerning Amendment No. 4 of the cited contract.

You are authorized to strike out that portion of Amendment No. 4 which reads, "no sample shall be taken representing more than five feet of core length". If you do this, be sure that all signed copies of the amendment are initialed by both the Operator and yourself in the margin adjacent to the correction.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (HB)

WPKlugescheid/er 10/8/57
Copy to: Docket (2) - DMEA-4286
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron

APPROVED:

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

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

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

OFFICIAL FILE COPY
IN REPLY REFER TO:
DMEA
RECEIVED OCT 10 1957

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October 9, 1957

Memorandum

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

From: W. P. Williams, U. S. Geological Survey

Subject: Review recommendation for contract amendment, DMEA 4286, Idm-E982 (zinc), The New Jersey Zinc Company, Big War Creek area, Hancock and Hawkins Counties, Tennessee

The inspecting geologist reports, in his memo dated September 23, 1957, that proper exploration drilling in the Copper Ridge district should include the drilling, where indicated, of drill hole fences along the strike of the beds as well as parallel to the dip of the beds. Contract Idm-E982 specifies only dip fences of holes.

The inspecting geologist recommends amendment to Contract Idm-E982 to provide for optional strike fences of holes where needed. I agree with the recommendation for amendment of the contract.

W. P. Williams

W. P. Williams

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
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October 8, 1957

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 4 for Exploration Project Contract No. Idm-E982, The New Jersey Zinc Company, Docket No. DMEA-4286, Big War Creek Area, Hawkins and Hancock Counties, Tennessee (Zinc).

Will you kindly prepare an Amendment No. 4 for the cited contract as follows:

In Exhibit "A" of the contract, Description of the Work, paragraph 2 reads as follows:

"Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds."

This paragraph should be changed to read:

"Zinc ores in the Copper Ridge Belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed, dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds or plunging at a high

8623

angle to the strike into the dip of the beds."

Paragraph 3 of Exhibit "A" as amended by Amendment No. 1 reads as follows:

"A series of widely spaced dip fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

This paragraph is changed to read:

"A series of widely spaced dip and strike fences shall be drilled, with holes spaced not closer than 100 feet on the fences."

W. R. Griswold

WPKlugeshceid/er
Copy to: Docket
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 2508 FEC BLDG.
KNOXVILLE 2, TENN.

WASHINGTON 25, D.C.

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 7 1957

DATE	[illegible]	CODE
10/7	C	220
10/7	~~[illegible]~~	500

October 3, 1957

Memorandum

To: Operating Committee, DMEA - Washington

From: Executive Officer, DMEA - Region V - Knoxville

Subject: Amendment No.3. The New Jersey Zinc Co. DMEA-4286, Idm-E982-zinc. Hawkins & Hancock Counties, Tennessee.

Transmitted are two signed copies of the subject amendment. The usual distribution of the other copies has been made by this office.

Robert A. Laurence

Robert A. Laurence

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

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 25 1957

DATE	INITIALS	CODE
9/26	B	220
9/26	ary	130
		500

September 23, 1957

Memorandum

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

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982 (Zinc)
The New Jersey Zinc Company, New York, New York
Big War Creek area, Hancock and Hawkins Counties, Tenn.

Enclosed are two copies of a memorandum recommending preparation of amendment no. 4 to the subject contract to authorize the drilling of strike fences as well as dip fences. We think the change is justified by geologic data some of which have been developed since the beginning of the contract, and we recommend that the amendment be prepared and sent to us for forwarding to the Operator.

We have just forwarded amendment no. 3 to the Applicant for signature, although we do not favor the addition of the restrictive clauses contained in the fifth, sixth, and seventh sentences of the revised sixth paragraph. These were not requested in our recommendation of the amendment, and have no bearing on the purpose of the amendment.

Robert A. Laurence
Robert A. Laurence
Executive Officer

W. A. Beck
W. A. Beck for V. J. Lynch
Member, Bureau of Mines

Enclosures 2

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

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 25 1957

DATE	INITIALS	CODE

September 23, 1957

Memorandum

To: Field Team, DMEA, Region V, Knoxville, Tennessee

From: Helmuth Wedow, Jr.

Subject: DMEA-4286, Idm-E982 (Zinc)
The New Jersey Zinc Company
Big War Creek area, Hawkins and Hancock Counties, Tenn.

Recently the New Jersey Zinc Company discovered near-ore grade secondary zinc mineralization at depth in overburden in the Big War Creek area of the Copper Ridge district. This discovery resulted from experimental work on the persistence of surface geochemical soil anomalies with depth (3-D geochemistry). The main objective of this work by the Operator in the Copper Ridge district is chiefly to determine whether any trends of the anomalies can be ascertained and applied as guides to diamond drilling in the search for the possible bedrock mineral occurrences related to the surface anomalies.

Numerous auger holes were drilled by the Operator with jeep-mounted equipment during the past summer on the Guy Seals and adjacent Eugene Clonce tracts at the northeastern end of the Big War Creek DMEA area. (See Operator's map accompanying letter of September 3, 1957; transmitted to Operating Committee by Field Team with memorandum of September 4, 1957.) These auger holes penetrated to refusal depth, in some cases as much as 35-40 feet. The study target was the large low-grade anomaly straddling the trace of "TR" (top of R-bed, Kingsport formation) and the boundary of the two properties mentioned above. Many of the samples from the auger holes showed a general increase in zinc content with depth. In most cases the increase was from several ppm Zn in the near surface samples to asmuch as several thousand ppm Zn in the bottom samples. However, in three auger holes the amounts increased to several percent Zn and in one of the holes showed about 2-3 percent Zn over a thickness of about 20 feet in the bottom of the hole. The maximum value obtained in any single auger-hole sample was more than 7 percent Zn.

The three holes showing strong secondary zinc mineralization appear to fall in a line with an easterly trend. These data suggest the possibility that a sulfide-ore body with a similar trend and representing the down-dip extension of the secondary ore may be found in the underlying bedrock. However, as the data from the auger holes are only to the point of refusal of the drill and not to bedrock they are incomplete, and the easterly trend should be considered as only one of at least several possibilities.

To explore properly in the Copper Ridge district for ore bodies with possible high-dip components in their trends, it is necessary to drill essentially parallel to the strike, rather than parallel to the dip as specified in the contract. The first three holes (BW-31, -34, and -35) drilled to explore for the rake direction of possible mineralization related to the Seals anomaly at Big War Creek can be considered as part of a shallow strike fence. With the exception of Hole BW-35, as indicated in the Field Team's memorandum of September 4, 1957, these holes conform to the initial drilling pattern established for the contract area. None of the three holes, however, have intersected ore, and closer spacing of holes in the strike fence is necessary. If significant mineralization is discovered in further drilling on the strike line of Holes BW-31 to BW-35 and the trend is shown to have a high-dip component, then the best further exploration should consist of additional strike fences further down dip. The spacing of these additional strike fences and of the holes within each fence would, of course, depend upon the results of previous drilling.

In conclusion, it is strongly recommended that permission be granted the Operator to drill strike fences to explore for steeply dipping ore bodies in the Big War Creek area. To accomplish this permission it is further recommended that Paragraphs 2 and 3 of Exhibit A of the contract be amended to read as follows:

"Zinc ores in the Copper Ridge belt occur in the Mascot and Kingsport limestones and dolomites of the Knox formation. In the area in which the project work is to be performed dips are southeasterly at an angle of approximately 40 degrees and it is believed that ores may exist in elongated forms roughly parallel to the strike of the beds or plunging at a high angle to the strike into the dip of the beds.

"A series of widely spaced dip and strike fences shall be drilled, with holes spaced at between 200- and 300-foot intervals on the fences, unless in the opinion of the Government spacing as close as 100 feet is a necessity."

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/24	GCS	120
9/25	Talbert	800
"	Johnson	100
"	Mitchell	100
		220

September 24, 1957

Memorandum

To: Administrator

From: George C. Selfridge, Special Assistant

Subject: Amendment No. 3
Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties, Tennessee
Contract No. Idm-E982

Mr. Laurence telephoned on Friday, September 20, 1957, to discuss proposed Amendment No. 3 which was transmitted by the Operating Committee on September 18, 1957. He stated that the amendment carried a stipulation that no core samples should exceed five feet in length. He further mentioned that it was not company practice to limit core samples to five feet and that the original contract did not carry such a stipulation.

The writer explained to Mr. Laurence that Mr. Griswold was not here and that the writer had no recollection that the length of samples had ever been an issue with the New Jersey Zinc Company, but did recollect that other contracts or amendments had been changed with relation to sludge samples. The subject contract, which is dated July 30, 1956, was being amended at the same time as two other Base Metals' contracts in the Division were being amended. A standard paragraph covering the drill holes and cores was worked up and substituted in all three contracts. Because the subject contract was more than a year old, no thought was given to the lack of a reference relating to the length of core as this matter is of more recent origin. The writer suggested to Mr. Laurence that probably it would do no harm to submit the amendment to the company as Mr. Laurence explained that the company had just drilled its first ore hole under the contract. The suggestion was made after discussing what the effective date of the amendment was. The writer explained that if samples were taken at greater than five-foot lengths that probably the assays would not be paid. As they amount to only $1.00 each, it did not seem worth while to return the amendment for revision when only a few dollars might be deducted for assaying.

Mr. Laurence stated that he would consult with the company and if it had any objections to the amendment he would advise us.

George C. Selfridge

GCSelfridge/esf
cc Docket
Admr. R. File
Mr. Selfridge

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/17	Klugescheid	500
9/18	[illegible]	130
"	Johnson	110
		100
		225
		500

SEP 18 1957

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins & Hancock Counties,
Tennessee
Contract No. Idm-E982

Dear Mr. Laurence:

We refer to your memorandum of September 4, 1957. Will you kindly prepare recommendations for an amendment so that the strike fence in question may be drilled and that closer spacing of holes may be permitted if necessary.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (HB)

APPROVED:

P. F. Yopes (HB)
Member, Bureau of Mines

N. E. Nelson (HB)
Member, Geological Survey

WPKlugescheid/er 9/17/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/12	Klugaard	500
9/12	Talbut	800
9/18	GCS	130
"	Johnson	110
		~~100~~ 200
9/19	C	225
		500

500

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

SEP 18 1957

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-E982

Dear Mr. Laurence:

As recommended in your August 13 letter, we are enclosing the original and four copies of a proposed Amendment No. 3 (two pages), to the cited contract, which have been signed by the Administrator, for the Government.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute all the copies in the usual manner. Otherwise, and if any proposed change should lie beyond your delegated authority, all copies should be returned to us with your recommendations.

Two extra copies of the proposed amendment are enclosed for the use of the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

WRGriswold/er 9/12/57

Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures

APPROVED:

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

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

8623

Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4286

AMENDMENT NO. 3

It is agreed this _____ day of _____, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and The New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract Idm-E982, Docket No. DMEA-4286, dated July 30, 1956, as amended, hereinafter called the "Contract," is further amended, effective July 30, 1956, as follows:

1. In Exhibit "A", under Description of the Work, the sixth paragraph is revised to read as follows:

"All diamond drilling shall be done with AX size, or larger, core recovering drills and coring bits, except that where a hole cannot be continued AX without reaming, the hole may be reduced with EX casing to EX size and drilling continued with EX bits. The Government will not contribute to the costs of drilling any hole which is not completed."

2. Under Estimated Cost of the Project, Category (1), Independent Contracts is revised to read as follows:

"30,000 feet of overburden drilling and diamond drilling to 1,000-foot depth:

AX size @ $2.75/ft. EX size @ $2.65/ft.	$82,500.00	

"5,000 feet of diamond drilling from 1,000-foot to 1,500-foot depth:

AX size @ $3.00/ft. EX size @ $2.90/ft.	15,000.00	$97,500.00

"The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all other charges which may be incurred by the diamond drill contractor.

"Neither the cost nor value of casing left in drill holes at option of Operator will be accepted as a charge to the contract."

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, the amount of any item designated maximum, or the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By_____

Title_____

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

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 6 1957

DATE	INITIALS	CODE
9-6	C	220
9-6	WRB	500

September 4, 1957

Memorandum

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

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982 (Zinc)
The New Jersey Zinc Company, New York, New York
Big War Creek area, Hancock and Hawkins Counties, Tenn.

Reference is made to the last paragraph of interim report of August 29.

Enclosed are three copies of a letter from the Operator, requesting approval for location of three drill holes on a strike fence, as indicated on their maps. Also enclosed are copies of the Executive Officer's approval of these holes. Actually holes BW 31 and BW 34, which are almost 500 feet apart, probably do not require special approval, as they could be (and may turn out to be) initial holes on two dip fences 500 feet apart, but BW 35 is less than 500 feet from BW 34.

We are in agreement with the geologic reasoning advanced by both Mr. Wedow and Mr. Crawford in support of this modification of the original dip-fence plan. As we interpret the third, fourth and eighth paragraphs of Exhibit "A" to the contract, this slight modification of the plan does not require an amendment. If this is wrong, please advise us so that we may prepare recommendations for an amendment.

Robert A. Laurence
Robert A. Laurence
Executive Officer

W. A. Beck
W. A. Beck for V. J. Lynch
Member, Bureau of Mines

X 1086G 24M 12-55

THE NEW JERSEY ZINC COMPANY

OFFICIAL FILE COPY
C OMFEY
RECEIVED SEP 6 1957

DATE	INITIALS	CODE

Jefferson City, Tennessee

EXPLORATION DEPARTMENT

Jefferson City, Tennessee
September 3, 1957

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Subject: DOCKET DMEA-4286, Idm E 982 (ZINC)
BIG WAR CREEK AREA
HAWKINS AND HANCOCK COUNTIES, TENNESSEE

Dear Mr. Laurence:

In the subject contract, provision is made for drilling exploration fences of holes at right angles to strike with holes on the fences to be not closer than 100 feet apart and fences to be not closer than 500 feet apart. This pattern of drilling is premised on the concept that the major controlling elements for the ore trends in the Copper Ridge Belt are roughly parallel to formation strike.

In the first phase of our work under DMEA contract at Big War, a fence of holes was drilled southwest of the Big War ore zone. No ore was found and the evidence was strengthened for a dominantly dip direction to this orebody.

Recent auger drilling has shown strong subsurface zinc mineralization in the soils on the Seals property (see map AX-TENN-100 attached hereto). By analogy with the indicated trend of the Big War orebody as drilled out, a strong dip component might be expected with the ore related to the soil zinc on the Seals property. In any case, the most efficient manner of testing such a well defined target as this, is to drill a line of holes parallel to strike, just far enough down dip to penetrate the favorable horizon safely below the weathered zone. This is shown by the proposed fence including holes BW-31, BW-34 and BW-35 on AX-TENN-100. You will note that such a fence of holes will test a wide angle of possible

trend directions with a minimum of drill hole footage at the closest possible points to the actual target. Drilling at a spacing of 100 feet, especially in the central area of the fence, is required to test for ore zones which may be as narrow as 100 feet wide.

Permission is requested to drill, under the subject contract, the fence of holes essentially as shown on the attached map.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In quadruplicate

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

OFFICIAL FILE COPY
DMEA
RECEIVED SEP 6 1957

DATE	INITIALS	CC

September 4, 1957

Mr. Johnson Crawford
Superintendent for Tennessee
The New Jersey Zinc Company
Jefferson City, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee
Contract No. Idm-E982

Dear Mr. Crawford:

This letter will constitute Government approval of the location of holes BW 31, BW 34 and BW 35, as requested in your letter of September 3. The Field Team, after discussion with Mr. Hoagland and Mr. Wedow, agrees with the strike-fence approach to the area covered by these holes.

For the present, at least, no amendment is required to authorize these locations; if the results of these three holes indicate that there should be a major departure from the original plan in the location of future holes, we will then consider such an amendment.

Sincerely yours,

Robert A. Laurence
Executive Officer
DMEA Field Team, Region V

RAL/mg
cc
Operating Committee (2)
Finance Office
Lynch
Wedow
File

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

September 12, 1957

Memorandum for the Files

From: Director, Division of Base Metals

Subject: Justification for Amendment No. 3 for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-E982, Zinc.

Mr. Laurence, Executive Officer, DMEA Field Team, Region V, has noted that occasionally it becomes necessary to complete a hole using EX drilling. Hence, the amendment provides for payment in such instances.

W. R. Griswold

W. R. Griswold

WRG/ER
Copy to:
Docket
Adm. File
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

500

August 27, 1957

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 3 for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-E982, Zinc.

Will you kindly prepare an Amendment No. 3 to the cited contract along the lines of the attached draft.

W. R. Griswold

WRG/er
Copy to: Docket
Chron.

8623

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT
Date 8/5

Referred to:

1. ~~Mr. Rittendorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. ~~Docket Control Mails and Files~~
5. Division
6. ~~Docket Control Mails and Files~~
7. 500

Note comments in report regarding:

1. Requests
2. amendments
3.
4.

and take appropriate action.

Action taken by Division:

Robert L. Adams

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

OFFICIAL FILE COPY
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RECEIVED AUG 23 1957

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8/16	Com	100
8/19	uPY	500

August 13, 1957

Memorandum

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

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982 (Zinc)
The New Jersey Zinc Company, New York, N. Y.
Big War Creek area, Hancock and Hawkins Counties, Tennessee
Request for Amendment

Enclosed are three copies of the latest interim report on the subject exploration contract.

It was necessary to reduce Hole BW-31 to EX size due to blocking and poor core recovery. This has the approval of the Field Team, and we suggest that an amendment be drafted authorizing such reduction in size when necessary and when approved by the Government. Reduction to EX size under these conditions has already been authorized on several of the Tennessee and Virginia zinc projects either in the original contract or by amendment.

Drilling at this project is done by E. J. Longyear Company, whose bid accompanying the application was 10 cents per foot less for EX core than for AX. Therefore, this reduction should be applied to EX core authorized by the amendment.

It is also suggested that a similar amendment be prepared for each of the following contracts:

DMEA-4422, Idm-E1022, National Lead Company
DMEA-4153, Idm-E950 , The New Jersey Zinc Company
DMEA-4126, Idm-E937 , The New Jersey Zinc Company
DMEA-4173, Idm-E970 , The New Jersey Zinc Company

Only rarely is it necessary, on these jobs, to reduce a hole to EX size, but when it is actually necessary, payment for the EX core should be authorized. Unit costs should correspond to those given in bids accompanying the various applications.

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch
V. J. Lynch
Member, Bureau of Mines

Enclosures 3

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

August 27, 1956

Memorandum

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

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: DMEA-4286, Idm-E982 (Zinc)
The New Jersey Zinc Co., New York, N. Y.
Big War Creek Area, Hawkins and Hancock Counties, Tennessee

Enclosed are the original and two copies of Amendment No. 2 to the subject contract. Also, enclosed are three copies of the Operator's request for the amendment. Because of the difficulty of obtaining enough drill crews, we are in agreement with the Operator's request to delay start of this project until after completion or near-completion of their other Copper Ridge projects.

Robert A. Laurence
Robert A. Laurence
Executive Officer

Wm A Beck
Wm. A. Beck for V. J. Lynch
Member, Bureau of Mines

Enclosures 6

RECEIVED
AUG 29 1956

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

CABLE ADDRESS
"JERSEZINC"

100 FRONT STREET

NEW YORK 38, N.Y.

HORSE HEAD PRODUCTS

PLEASE ADDRESS REPLY TO

Jefferson City, Tennessee
August 15, 1956

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: DOCKET NO. DMEA 4286 (Zinc)
THE NEW JERSEY ZINC COMPANY
BIG WAR CREEK PROJECT
HAWKINS AND HANCOCK COUNTIES,
TENNESSEE

Dear Mr. Laurence:

The contract covering the cited project specifies starting and completion dates as September 1, 1956 and September 1, 1957. It is now evident that we will be unable to comply with these dates, and we, hereby, request that the contract be amended to provide for a starting date of May 1, 1957 and a completion date of May 1, 1958.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In Quadruplicate

RECEIVED
AUG 16 1956
U. S. Geological Survey
Geologic Division
Knoxville, Tenn.

File Copy
Surname
Murano
Selfridge
Griswold
Whitlenby

500

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

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties
Contract No. Idm-E982

Dear Mr. Laurence:

Referring to the cited contract, we are enclosing the Field Team and Finance Office copies of Amendment No. 1, which have been signed both by the Operator and the Government.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GB)

Enclosures

WRGriswold/er 8/24/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Aiilsgaard, USGS
Chron.

APPROVED:

FRANK D. LAMB (GB)
Member, Bureau of Mines

N. E. Nelson (GB)
Member, Geological Survey

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
100 FRONT STREET
NEW YORK 38, N.Y.

OFFICE OF THE
VICE PRESIDENT

HORSE HEAD PRODUCTS ®

Archivalid
Betty

August 20, 1956

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

Docket #D.M.E.A.-4286, IDM-E982 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties, Tenn.

Dear Sir:

Returned herewith are the original and four copies of Amendment #1 to Contract #IDM-E982, duly signed. We have retained the Operator's copy.

Very truly yours,

S. S. Goodwin
Vice President

JBC:ei

RECEIVED
AUG 22 1956

File Copy
Surname

Summerfield
Talbert
Selfridge
Johnson
Wettendorf

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

500

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

AUG 13 1956

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties
Contract No. Idm-5982

Dear Mr. Laurence:

With reference to your letter of July 31, covering drilling under the cited project, we are enclosing the original and five copies of Amendment No. 1 to the contract. We are also enclosing two extra copies of the amendment for the use of the Field Team.

If it meets with your approval, please present it to the Operator for signature and distribute the copies in the usual manner. However, if any of the amendment terms should not meet with your approval, and a proposed change should lie beyond your delegated authority, please return all copies to us, with your recommendations.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (46)

Enclosures

WRGriswold/er 8/10/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

FRANK D. LAMB (46)
Member, Bureau of Mines

N. E. Nelson (46)
Member, Geological Survey

R.G.L.

August 10, 1956

Memorandum for the Files

From: Chief, Base Metals Division

Subject: Preparation of Amendment No.1 for the following Dockets:

Docket No. DMEA-4153, The New Jersey Zinc Company, Independence Area, Hancock County, Tennessee, Contract No. Idm-2950, Zinc

Docket No. DMEA-4177, The New Jersey Zinc Company, Kidson Area, Hawkins County, Tennessee, Contract No. Idm-2956, Zinc

and

Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Contract No. Idm-2982, Zinc

We have three contracts with the New Jersey Zinc Company in the Copper Ridge Belt of Tennessee, all for diamond drilling in limestone for zinc. Hole depths are considerable, and probably will average around 1100 - 1200 feet.

Normally, we do not like to space deep holes too closely, for obvious reasons; certainly, we are not concerned with blocking out ore. However, in these instances the ore bodies of the area, so far as is presently known, occur as long, narrow "fingers" or "pencils", paralleling the strike. Hence, unless we allow a hundred-foot spacing of holes on the dip fences, we could entirely miss an ore body. Therefore, the three cited contracts are being amended accordingly.

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Dockets (3)
Base Metals (3)
Chron.

File Copy

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

August 3, 1956

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Chief, Base Metals Division

Subject: Preparation of Amendment No. 1 for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Zinc.

Will you kindly prepare an Amendment No. to the cited contract which will change Exhibit "A" as follows:

On page one of Exhibit "A", the third paragraph reads as follows:

" A series of widely spaced dip fences shall be drilled, with holes spaced at between 200 and 300 foot intervals on the fences, unless in the opinion of the Government spacing as close as 100 feet is a necessity."

This should be deleted and the following substituted:

"A series of widely spaced dip fenses shall be drilled,

with holes spaced not closer than 100 feet on the fences."

W. R. Griswold

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

RECEIVED
AUG - 1 1956

July 31, 1956

Memorandum

To: Operating Committee, DMEA - Washington

4286

From: DMEA Field Team, Region V

Subject: DMEA-4153, Idm-E950 (zinc) The New Jersey Zinc Co., New York, N.Y. Independence Area, Hancock County, Tenn.

Enclosed are 3 copies of a letter from the Operator, regarding an amendment to the subject contract and also to Idm-E956 and DMEA-4286, permitting spacing of holes as close as 100 feet on a fence without requiring specific written approval.

In a telephone conversation, Mr. Griswold suggested that an amendment probably is not necessary. We are in favor of approving the closer spacing in situations like those described by Mr. Crawford, and wish to avoid writing a specific approval for each hole so located. To date, we have written three such approvals for the Independence contract.

Please advise.

Robert A. Laurence
Executive Officer, DMEA
Region V

V. J. Lynch, Member
Bureau of Mines

RAL/am
cc:
Lynch
Files

X 1086G 24M 1-54

COPY

THE NEW JERSEY ZINC COMPANY

Jefferson City, Tennessee
EXPLORATION DEPARTMENT

Jefferson City, Tennessee
July 16, 1956

Mr. R. A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

Dear Mr. Laurence:

Re: DMEA - Idm-E950 (Zinc)
Independence Area
Hancock County, Tenn.

In the subject contract, Exhibit "A", paragraph 3, provision is made for drilling on fences at closer than 200 foot spacing only with the written approval of the government. Request is made, herewith, for amendment to this proviso so that drill holes may, when deemed necessary or advisable, be drilled as close together as 100 feet on fences. It is intended that the spacing of fences would remain generally at 1200 feet and not closer than 500 feet as provided by the contract.

Important reasons why it is desirable to drill as close as 100 feet on fences in certain situations are:

1. Orebodies of real significance are known in the Copper Ridge Belt that do not have a dip dimension in excess of 100 feet. If indications are secured in a drill hole that it is a "near miss", a hole 100 feet distant is indicated. A 200 foot interval could be too great.

2. The relationships of the ore to the structure, stratigraphy and alteration may be quite significant. Relationships of this kind can be determined by drilling in the ore area on approximate 100 foot spacing in the dip fences. A 200 foot spread is too gross to determine these factors.

The objective of the program is to determine the gross ore potential of the area under investigation with the greatest economy of drill hole expenditure and with minimum risk of missing significant ore occurrence. We believe this may be accomplished by drilling on 200 and 300 foot spacing on wide

spaced dip fences provided that in critical areas such as ore and mineralized zones, holes on 100 foot spacing are drilled to determine the significant structural, stratigraphic and alteration factors.

We would be pleased to discuss this matter with you at greater length if you wish to do so.

The situation respecting drill hole exploration practice is the same at the Eidson and Big War areas as it is at Independence. Amendments to these contracts, similar to that requested for Independence is also requested.

Yours very truly,

THE NEW JERSEY ZINC COMPANY

Johnson Crawford

Superintendent for Tennessee

A.D.Hoagland/jf
In quadruplicate

File Copy
Surname

Griswold
Selbredge
Hyslmann

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

JUL 30 1956

Mr. S. S. Goodwin, Vice President
and Manager of Mines
The New Jersey Zinc Company
160 Front Street
New York 38, New York

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee

Dear Mr. Goodwin:

Referring to your letter of July 23, we are enclosing the "Operator's Copy" of the cited contract which has been signed by the Government.

Sincerely yours,

Administrator

Enclosure

WRGriswold/bjl (7/26/56)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop
Mr. Kiilsgaard
Region V (2)
Chron.

R.C.L.

File Copy
Surname
Griswold
Selfridge
J. Johnson

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

500

JUL 30 1956

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee

Dear Mr. Laurence:

Enclosed are the Field Team and Finance Office copies of the cited contract, signed by the Operator and the Government. We are also enclosing two extra copies of Annex I, Exhibit "A", and the map for the use of the Field Team.

We note that various of the delineated preliminary drill holes are near boundary lines. Kindly advise the Operator that we do not approve of holes located closer than 200 feet to property limits. Likewise, we question giving approval to the fence of four drill holes located immediately east of the excluded area. Actually, such drilling would probably be of more benefit to the excluded area than anything else. We suggest that you advise the Operator that if it wishes to drill these four holes under the contract, the east boundary line of the excluded area should be moved westerly at least a hundred feet.

Sincerely yours,
George C. Selfridge (by ls)
Chairman, Operating Committee

Enclosures

APPROVED:
P. F. Yonge (by ls)
Member, Bureau of Mines
N. E. Nelson (by ls)
Member, Geological Survey

WRGriswold/bjl (7/26/56)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop
Mr. Kiilsgaard
Chron.

R.C.L.

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

HORSE HEAD PRODUCTS ®

OFFICE OF THE
VICE PRESIDENT

100 FRONT STREET

NEW YORK 38, N.Y.

RECEIVED
JUL 24 1956

July 23, 1956

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

RE: DOCKET #DMEA-4286 (ZINC)
THE NEW JERSEY ZINC COMPANY
BIG WAR CREEK AREA - SECTOR II
COPPER RIDGE BELT, TENNESSEE

Dear Sir:

Returned herewith are the original and five copies of a contract covering proposed exploration work on the subject area, in accordance with your letter dated June 29, 1956.

The contract meets with our approval, and we have no recommended changes. Accordingly, we have signed all copies and are returning them to you for dating and signature by the Government.

Very truly yours,

S. S. Goodwin
Vice President

JBC/alb
encs.

File Copy
Surname
Griswold
Chambers
Yager
Kiilsgaard
Selfridge
Fitzsimons

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

JUN 29 1956

Mr. S. S. Goodwin, Vice President
and Manager of Mines
The New Jersey Zinc Company
160 Front Street
New York 38, New York

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Area
Hawkins and Hancock Counties,
Tennessee

Dear Mr. Goodwin:

With reference to your letter of May 9, with which you submitted an application for Government assistance in the cited exploration project, we are enclosing the original and five copies of a contract covering the proposed work.

Please note that the contract has not been signed by the Administrator nor has it been dated. If it meets with your approval, please sign and return all copies to us for dating and signature by the Government. In case there should be any specifications in the contract which do not meet with your approval, please return all copies to us, unsigned, with your comments.

Sincerely yours,

G. O. Mittendorf

Administrator

Enclosures

WRGriswold/er 6/25/1956
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region V (2)
Chron.

File Copy
Surname

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

500

June 14, 1956

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Chief, Base Metals Division

Subject; Preparation of Contract for Docket No. DMEA-4286, The New Jersey Zinc Company, Big War Creek Area, Hawkins and Hancock Counties, Tennessee, Zinc

Will you kindly prepare a contract along the lines of the attached rough draft. Maps will be sent you in a day or so.

W. R. Griswold

W. R. Griswold

WRGriswold/er

Copy to: Docket
Base Metals Division
Chron.

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

RECEIVED
JUN 12 1956

Griswold
Betty

June 12, 1956

Re: DMEA-4286; Zinc
$115,180
The New Jersey Zinc Co.
Big War Creek Project
Hawkins & Hancock Counties,
Tennessee

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Review of Field Team report dated June 6, 1956

I concur with the Field Team in recommending approval of a contract similar to others in the Tennessee-Virginia area. The geologic environment, geochemical findings and the results of preliminary drilling in the Big War Creek area all point to potential discovery of significance.

O. M. Bishop

O. M. Bishop

Copy to - Mr. Kiilsgaard, Room 5224
Mr. Geehan
Division of Minerals
O. M. Bishop
Files

IN REPLY REFER TO:

Griswold

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

RECEIVED
JUN 13 1956

June 12, 1956

Re: DMEA 4286
New Jersey Zinc Co.
Big War Creek Area
Hancock and Hawkins Counties, Tenn.
$115,180.00 - Zinc

Memorandum

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

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

Subject: Review of Field Team memorandum

The memorandum was prepared and the recommendation of approval of the application made without benefit of a formal field examination, because the Executive Officer is well acquainted with the geology of the area and little more would be learned by an on the ground examination.

I concur with the recommendation of approval of the application of the Field Team.

N. E. Nelson

N. E. Nelson

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

Griswold

RECEIVED

ON SITE Report.

June 6, 1956

Memorandum

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

From: Field Team, DMEA, Region V, Knoxville, Tennessee

Subject: Field Examination Report, DMEA-4286 (Zinc)
The New Jersey Zinc Company, New York, N. Y.
Big War Creek area, Hancock and Hawkins Counties, Tennessee

This memorandum is submitted in lieu of the usual field examination report. A detailed field examination seems unnecessary in this case, as we are already familiar with the geologic conditions at the site. We visited the project area briefly, with Mr. Griswold on May 9, 1956. The area has been mapped by the Geological Survey, and the applicant's geological maps are consistent with the Survey's interpretation of the geology.

We recommend approval of a contract which could be essentially the same as those for DMEA-4153, Idm-E950 and DMEA-4177, which are in the same area and have very similar geologic conditions. Geologic probability of a significant discovery, as shown by geochemical prospecting and preliminary drilling, certainly is strong enough to warrant further drilling. The Copper Ridge district is the site of at least three zinc ore bodies discovered since 1940 by U. S. Steel Corp. and New Jersey Zinc Company.

We suggest the same type of modified long-form contract as used on Idm-E950, with the same estimated costs for drilling (since the drilling will be done by the same contractor at the same cost) and for other items.

Robert A. Laurence
Robert A. Laurence
Executive Officer

V. J. Lynch
V. J. Lynch
Member, Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE
6-11-56
(date)

File Copy
Surname

Griswold
Martin
Johnson

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

500

JUN - 1 1956

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Project
Hawkins and Hancock Counties, Tennessee

Dear Mr. Laurence:

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

Copies of memoranda dated May 17 and 25, 1956, by N. A. Nelson, Geological Survey, and O. M. Bishop, Bureau of Mines, respectively, relating to the project are enclosed for your information.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (DKB)

Enclosures

APPROVED:

/s/ Robert W. Geehan (DKB)
Member, Bureau of Mines

Thor H. Kiilsgaard (DKB)
Member, Geological Survey

WRGriswold/er 5/31/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

R.G.S.

File Copy
Surname
Griswold
Kuhon
Kilsgaard
Martin
KJZimmer

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

JUN - 1 1956

Mr. S. S. Goodwin, Vice President
The New Jersey Zinc Company
160 Front Street
New York 38, New York

Re: Docket No. DMEA-4286 (Zinc)
The New Jersey Zinc Company
Big War Creek Project
Hawkins and Hancock Counties,
Tennessee

Dear Mr. Goodwin:

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 has been referred to:

Mr. Robert A. Laurence
Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
Knoxville 2, Tennessee

If the Field Team requires additional information concerning your application, they will contact your Tennessee field office at an early date.

Sincerely yours,

G. O. Mittendorf (for)

Administrator

WRGriswold/er 5/31/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region V (2)
Chron.

R.S.S.

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

RECEIVED
MAY 25 1956

May 25, 1956

Re: DMEA-4286; zinc; $115,180
New Jersey Zinc Company
Big War Creek Project
Hawkins and Hancock Counties
Tennessee

Memorandum

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

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

Subject: Review of Application

The applicant proposes approximately 35,000 feet of diamond drilling to explore the Mascot and Kingsport limestones and dolomites of the Knox group in a 1026-acre tract.

The area has had no zinc production but on the basis of diamond drill holes, totaling 18,550 feet, the applicant estimates 250,000 tons of 5 percent zinc ore. Geochemical prospecting which preceded the drilling of these 38 holes and the findings in the drill holes supports the merit of additional drilling. The costs outlined appear in good order.

I recommend referral to the field team for review and recommendation, noting that the project proposal appears to have much merit.

O. M. Bishop

O. M. Bishop

Copy to: Division of Minerals
Branch of Base Metals (2)
Mr. Kiilsgaard
Mr. Geehan
Files

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

IN REPLY REFER TO:
RECEIVED
MAY 18 1956

May 17, 1956

Re: DMEA 4286
New Jersey Zinc Co.
Big War Creek Project
Hawkins and Hancock Counties,
Tennessee
$115,180.00 - 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 exploring by diamond drilling, 35,000 feet, four tracts of land. All tracts have been geochemically prospected.

Diamond drilling has been done on a relatively small area in the center of one tract. Of ten holes drilled, 5 showed ore. The area is to be excluded from the tract in which it occurs.

The tracts are in the same general area, Copper Ridge, as are the referenced tracts of applications 4153 and 4177.

Referral to the Field Team for processing in the manner of that accorded the earlier applications is recommended.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

C O P Y

~~WASHINGTON 25, D.C.~~
Room 13, Post Office Bldg.
Knoxville 2, Tenn.

March 16, 1956

Memorandum

To: Mr. C. O. Mittendorf, Administrator, DMEA - Washington

From: D.M.E.A. Field Team, Region V - Knoxville, Tennessee

Subject: Time for Repayment on Tennessee and Virginia Zinc Contracts.

As you know, we now have, in various stages of processing, 8 applications, from two different companies for drilling in Tennessee and Virginia for replacement-type zinc sulfide ore bodies. Total cost of these proposals is $1,611,677.00. In addition, we anticipate receipt of two more applications, for areas in Tennessee. A map being mailed under separate cover shows the locations of all these proposals, as well as mines now in operation and mills in operation or under construction, and of the current project, DMEA-2546.

Although we haven't any ore reserve figures to prove it, it is our opinion that none of the ore in any of these exploration areas is likely to be mined within the next ten years. The contract now in force with American Zinc Company of Tennessee (Idm-2676) contains a clause providing 30 years for repayment. It is our understanding that this term was based on the Operator's statement that they have now at least 30 years' reserves at their present milling capacity.

We recommended 30 years for the first two New Jersey Zinc projects because they are in the same general area as the West New Market project of American Zinc and one almost adjoins it. We do not know what New Jersey Zinc's reserves at Jefferson City are, but they are obviously quite substantial. American Zinc's new application is in this same area and should be treated the same as the others.

The second pair of New Jersey Zinc applications (DMEA-4153 and 4177) are in an outlying district. Although that Company is now developing a mine and building a mill at Flat Gap, in Hancock County, Tennessee the distance of these new applications from Flat Gap and the absence of railroads makes it seem quite probable that no ore discovered at Independence

or Edison is likely to be developed until enough is discovered to justify a separate mill in that area.

In Virginia, New Jersey Zinc's Beaver Creek application (DMEA-4178) is in an entirely new area. It is only four miles from a railroad, but is 100 miles by rail from the Company's Austinville mill. The other two Virginia areas (DMEA-4173 and 4176) proposed by this Company are 6 and 10 miles respectively from the railroad, and 16 and 25 miles from Austinville by road and 65 and 80 miles by rail.

It is our opinion that all these Tennessee applications, and probably the Virginia ones (if approved) as well, should be subject to a longer period of repayment than 10 years. We have no way of knowing what a correct period should be, in order to be consistent with contracts in other regions. Sales of crushed and ground limestone as by-products of zinc ore milling should also be subject to royalty repayment.

Robert A. Laurence
Executive Officer, DMEA
Field Team, Region V

V. J. Lynch, Member
Bureau of Mines

RAL/mm
cc:
Opr. Com.-2
Griswold
Kiilsgaard
Lynch
Files

May 11, 1956

Subject: DMEA 4286
Re: Exploration Assistance

New Jersey Zinc Company
160 Front Street
New York, New York

Gentlemen:

The receipt of your application dated May 9, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 4286 and referred to the Base Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

Qcu Chickamauga
Omo Mascot Formation
Qk Kingsport Formation
Qlv Longview Formation
Dip & Strike
Geochemical samples 300-900 ppm outlined in dashed line, over 900 ppm by solid line
Base TVA Quad & aerial photos
Property - P.M. Adams, J.F.P., H.W.M.
Geology - J. Rodgers (USGS), H.W.M., K.S.M.
Geochemical survey K.S.M.

Under Option
Mineral Rights Owned
Owned in Fee
Ore
Sub-Ore
Proposed

Area to be excluded from DMEA contract

Holes too close to property line

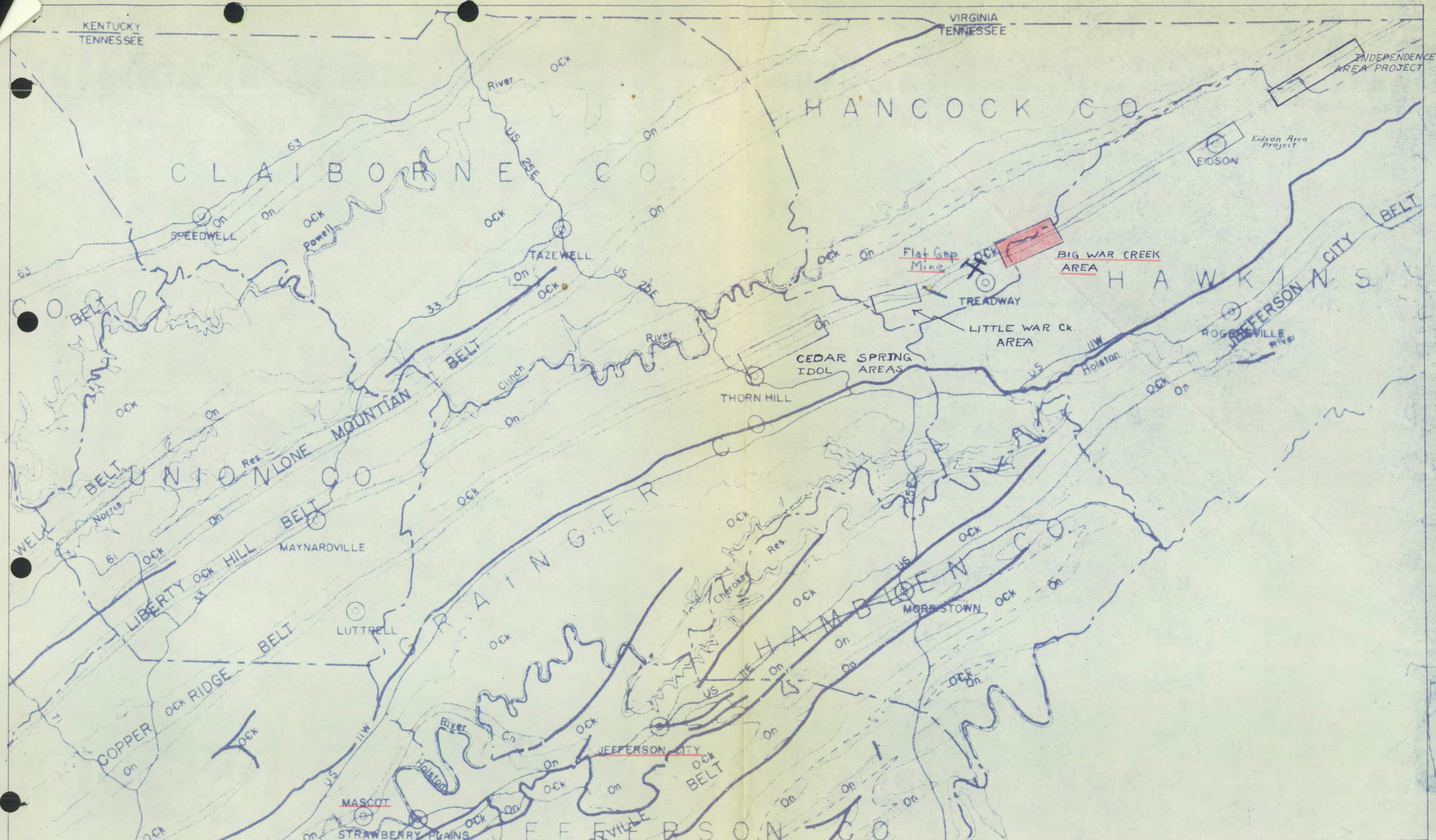
T.R.
HARV LAWSON
NUZ 400 A
SAM PRICE & ORVILLE HELTON
197 A
GWINN
E. CLONCE
NUZ 86 A
LEWIS SETSOR
NUZ 80 A
NUZ 100 A
MRS. O.M. SWANEY
SEE FIG. 4
SEE FIG. 3
SMITH
NUZ M&M
1.26 A
NUZ FEE
37.8 A
M. DRINNON
NUZ M&M
139.1 A
MRS. ANNIS HELTON
NUZ FEE
1.9 A
AMYX
MRS. MARY BLOOMER
CAMERON SHORT
NUZ 25 A
ELLAHUGH BLOOMER
NUZ 2.5 A
SAM PRICE
NUZ 2.5 A
GUY SEALS
NUZ 60 A
EUGENE CLONCE
NUZ
CLINCH VALLEY ROAD
Big War Creek

DMEA 4286

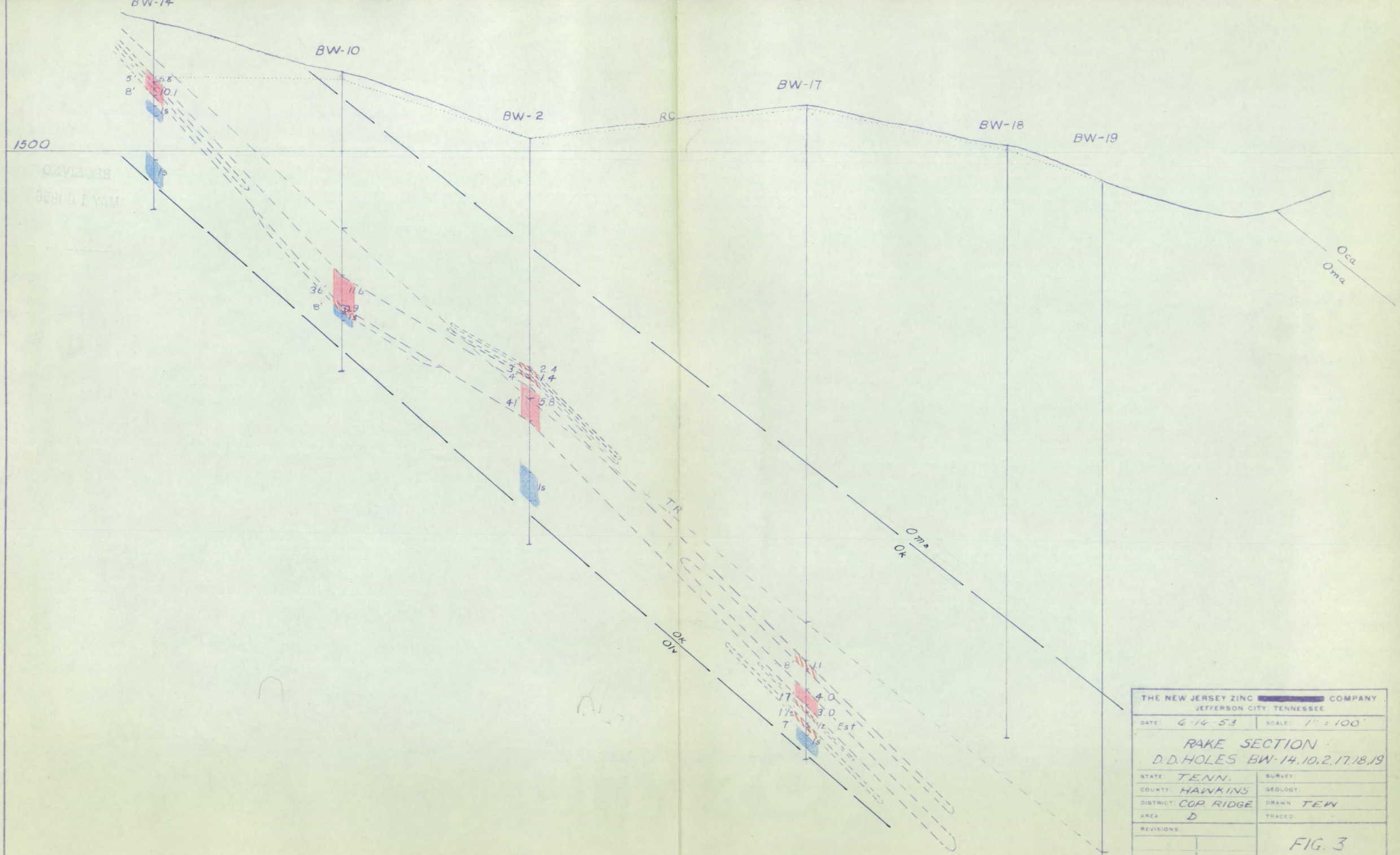
THE NEW JERSEY ZINC COMPANY ROGERSVILLE TENNESSEE	DRAWN SJL, JFP DATE 10-8-52 TRACED SCALE 1"=660'	COPPER RIDGE BELT SECTOR II SHEET 3NE	HANCOCK, HAWKINS CO'S, TENN. FILE NO. AX-TENN 101

POSTED TO DATE
1-56 TEN

THE NEW JERSEY ZINC COMPANY
ROGERSVILLE Big War Creek Area TENN.



THE NEW JERSEY ZINC CO. JEFFERSON CITY, TENNESSEE	EAST TENNESSEE ZINC DISTRICT	DRAWN - USGS TRACED - HW Mal SCALE - 1" = 4 mi	DATE 8-7-57 AX-TENN 8-1289



THE NEW JERSEY ZINC COMPANY
JEFFERSON CITY, TENNESSEE

DATE: 6-16-53	SCALE: 1" = 100'
RAKE SECTION D.D. HOLES BW-14, 10, 2, 17, 18, 19	
STATE: TENN.	SURVEY:
COUNTY: HAWKINS	GEOLOGY:
DISTRICT: COP. RIDGE	DRAWN: TEW
AREA: D	TRACED:
REVISIONS:	FIG. 3
REFERENCES: AX-TENN 828	

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

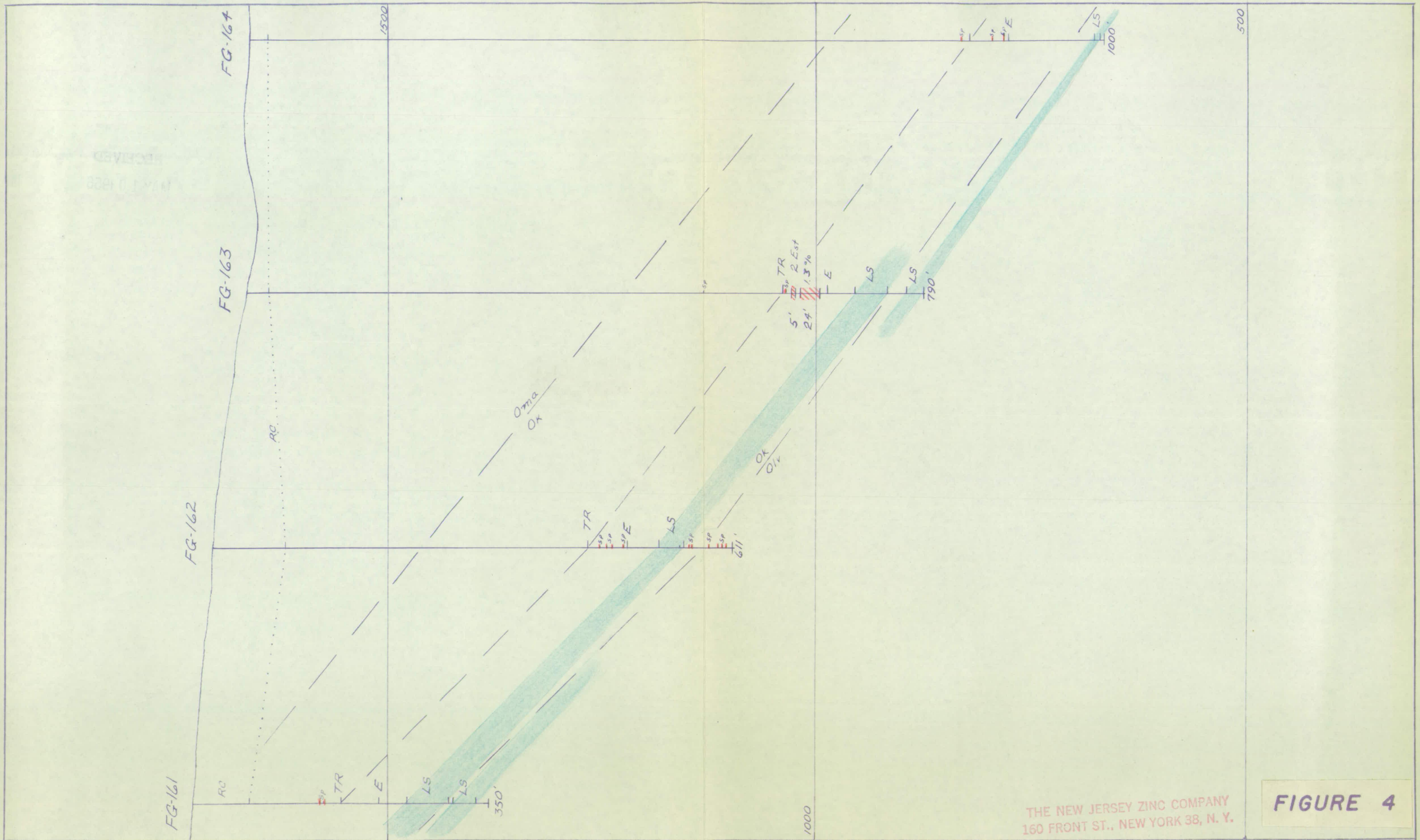


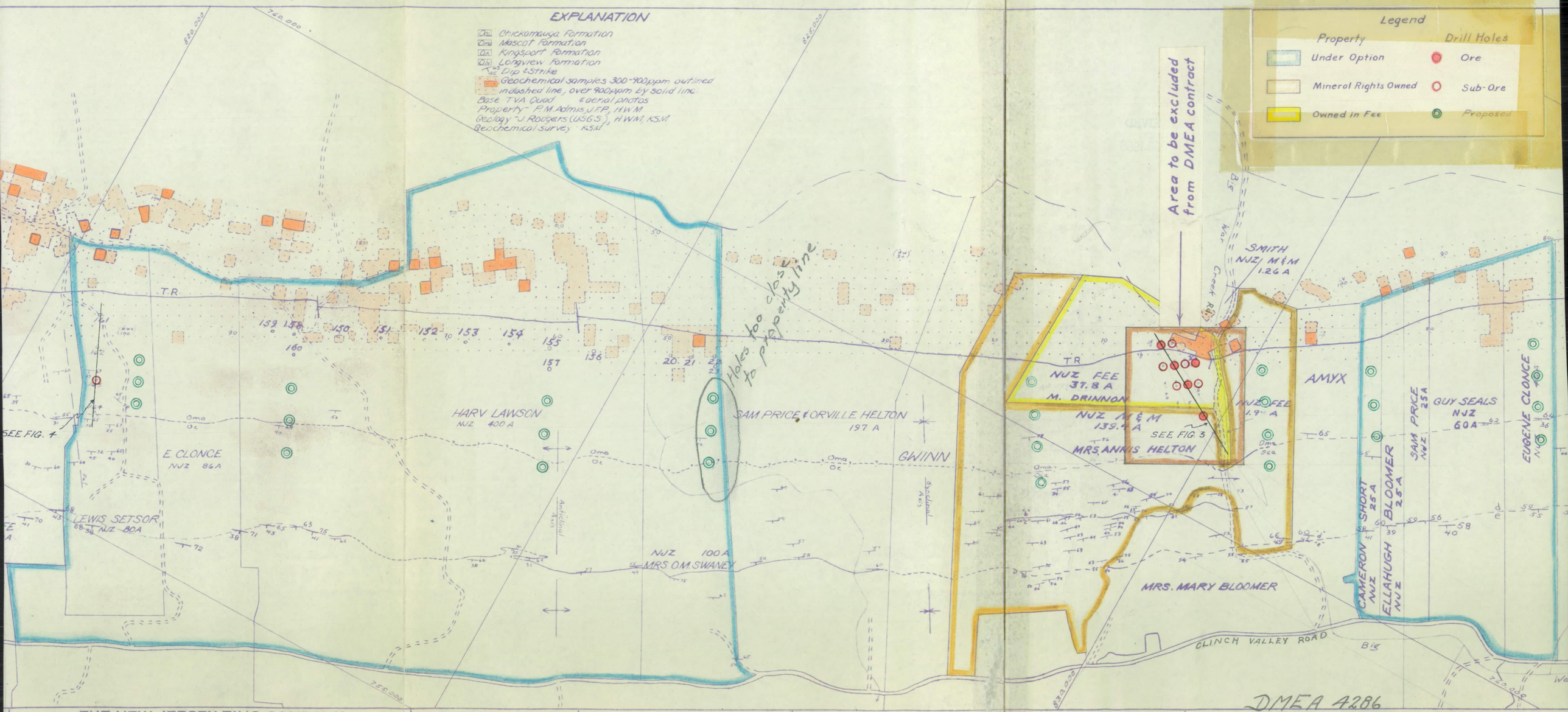
FIGURE 4

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN TEW DATE 2-23-56	DIP SECTION	DISTRICT COPPER RIDGE BELT
	JEFFERSON CITY TENNESSEE	TRACED SCALE 1" = 100'	SECTOR II AREA E	FILE NO. AX-TENN B 1151

EXPLANATION

- Occ Chickamauga Formation
- Oma Mascot Formation
- Ok Kingsport Formation
- Ol Longview Formation
- Dip & Strike
- Geochemical samples 300-900 ppm outlined in dashed line, over 900 ppm by solid line.

Base TVA Quad & aerial photos
Property - P.M. Admis, J.F.P., H.W.M.
Geology - J. Rodgers (USGS), H.W.M., K.S.M.
Geochemical survey - K.S.M.



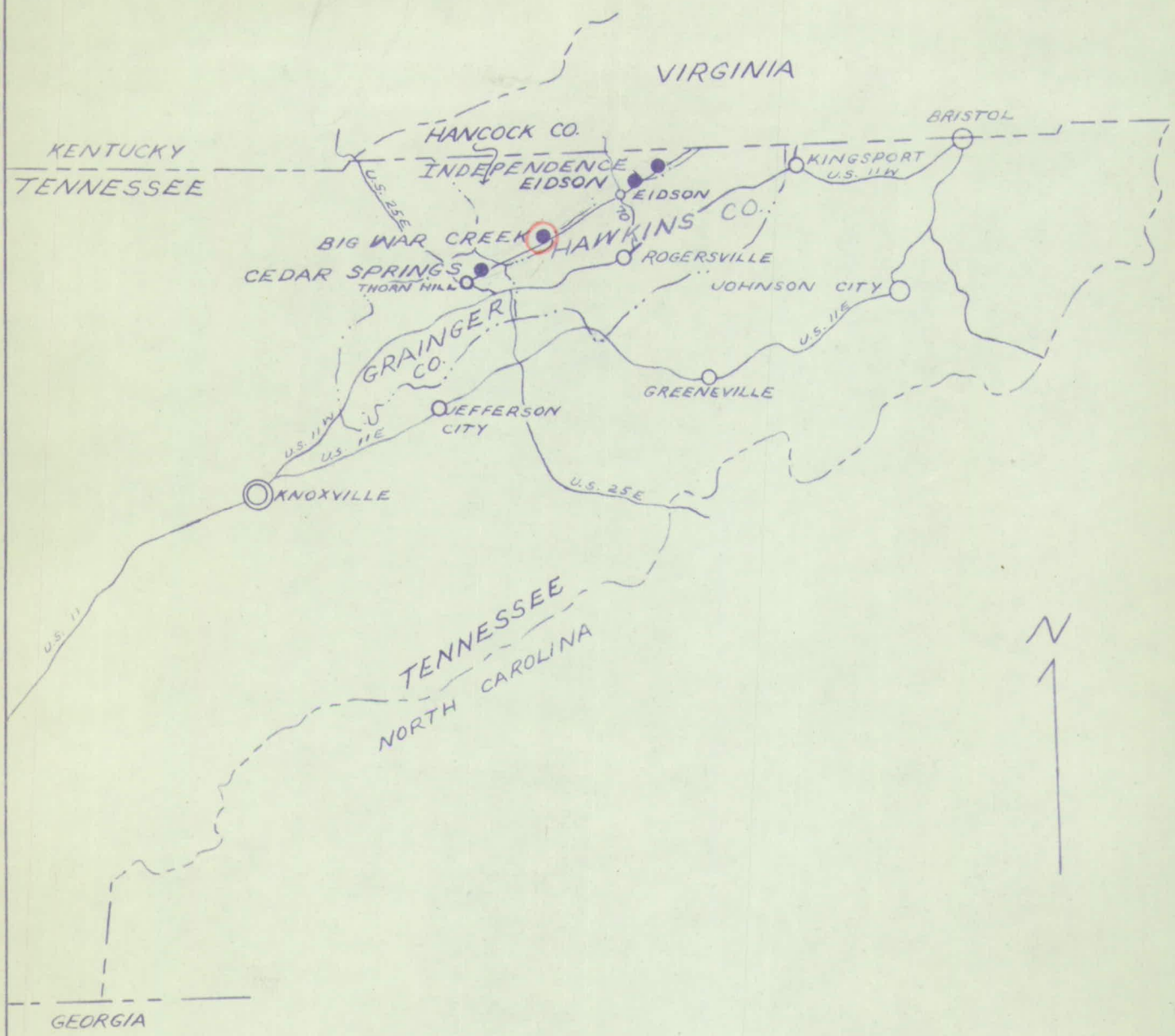
THE NEW JERSEY ZINC COMPANY ROGERSVILLE TENNESSEE	DRAWN SJL, JFP DATE 10-8-52 TRACED SCALE 1"=660'	COPPER RIDGE BELT SECTOR II SHEET 3NE	HANCOCK, HAWKINS CO'S, TENN. FILE NO. AX-TENN 101

POSTED TO DATE
1-56 TEN

DMEA 4286

THE NEW JERSEY ZINC COMPANY
ROGERSVILLE Big War Creek Area TENNESSEE

FIG. 1



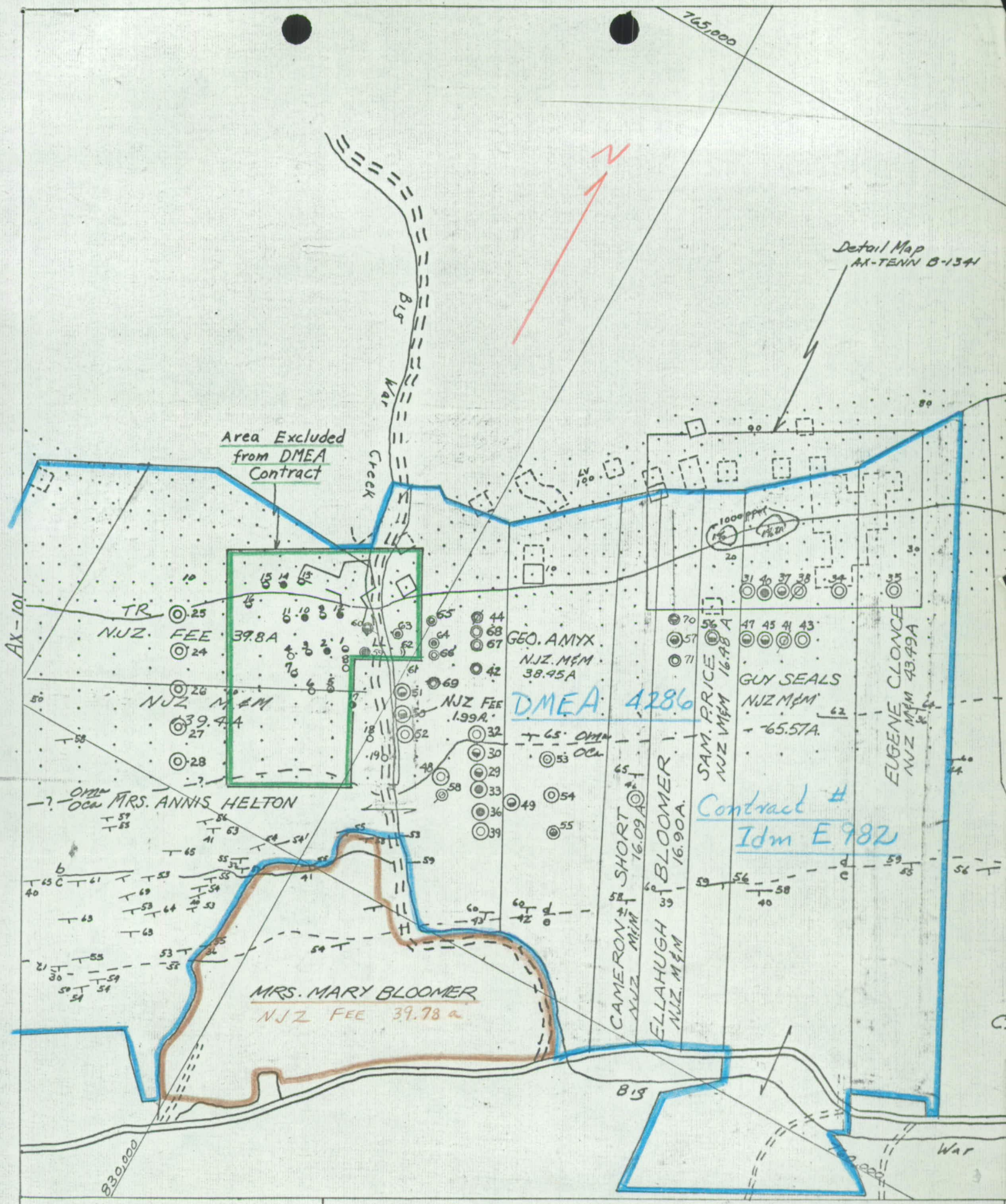
EXPLANATION

● - LOCATION OF PROJECT AREA

BASE - RAND-McNALLY ATLAS

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY JEFFERSON CITY TENNESSEE	DISTRICT EAST TENNESSEE
DRAWN DATE 1-23-56 TRACED TEW SCALE 1" = 22 mi.	INDEX MAP AREAS OF DMEA APPLICATIONS	FILE NO. AX-TENN A 1143



1" = 66.0'

THE NEW JERSEY ZINC COMPANY

ROGERSVILLE TENNESSEE

DMEA-4286

EXPLANATION

- Chickamauga Formation
- Miscot Formation
- Kingsport Formation
- Longview Formation
- Dip & Strike
- Geochemical samples 300-900ppm outlined (dashed line) over 900ppm by solid line.

Base - TVA Quad & aerial photos
Property - P.M. Adams, J.F.R., H.W.M.
Geology - J. Rodgers (USGS), H.W.M.
Geochemical survey - K.S.M.

POSTED TO DATE 3/30/62 T-5 TEN	THE NEW JERSEY ZINC COMPANY ROGERSVILLE TENNESSEE	DRAWN J.W.J. DATE 10-8-52 TRACED SCALE 1"=660'	COPPER RIDGE BELT SECTOR II SHEET 3NE
			HANCOCK, HAWKINS COS., TENN. FILE NO. AX-TENN 101

DRILLING

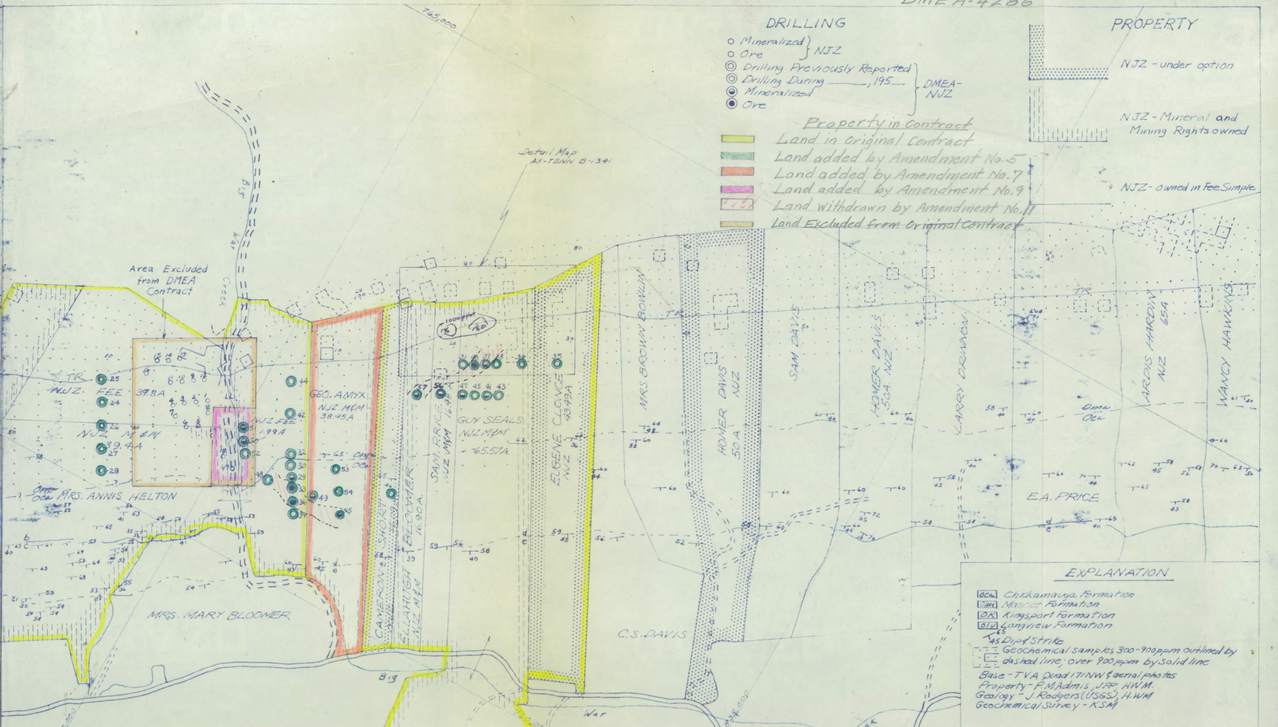
- Mineralized, Ore } NJZ
- Drilling Previously Reported, Drilling During ——, 195__ } DMEA-NJZ
- Mineralized, Ore

Property in Contract

- Land in Original Contract
- Land added by Amendment No. 5
- Land added by Amendment No. 7
- Land added by Amendment No. 9
- Land Withdrawn by Amendment No. 11
- Land Excluded from Original Contract

PROPERTY

- NJZ - under option
- NJZ - Mineral and Mining Rights owned
- NJZ - owned in fee simple



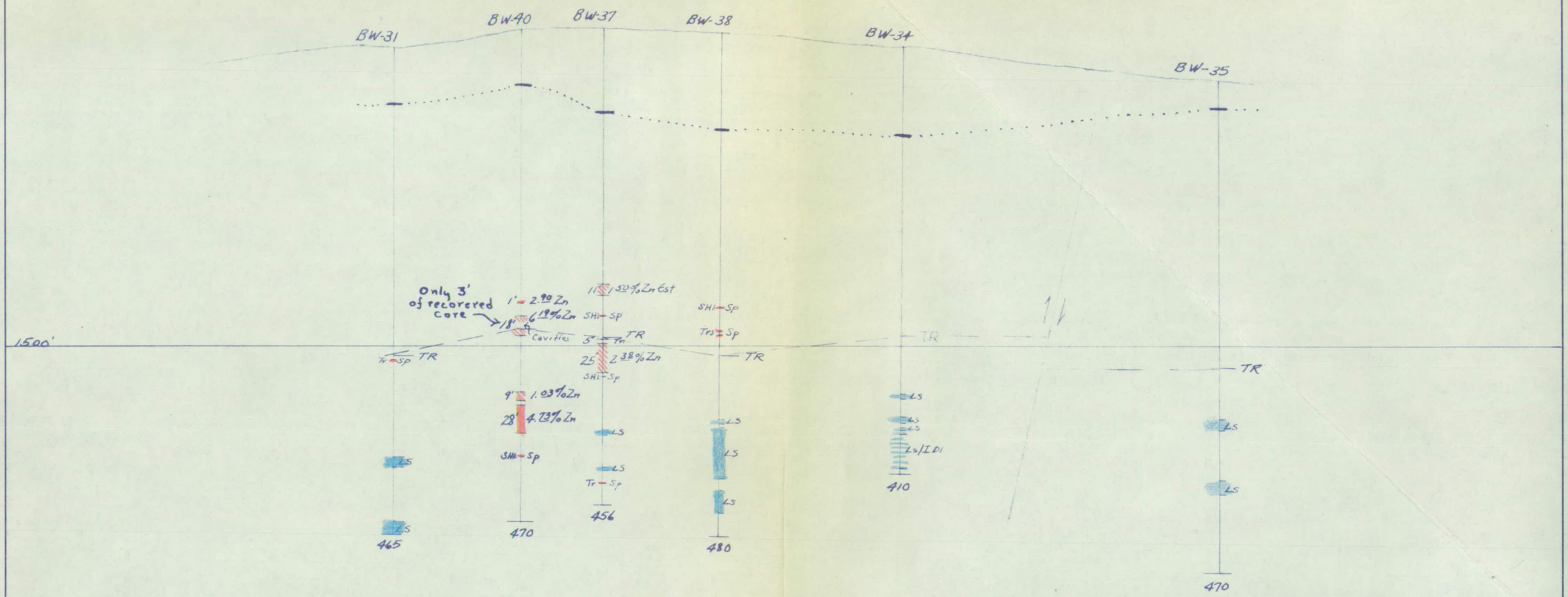
EXPLANATION

- Chickamauga Formation
- Miscot Formation
- Kingsport Formation
- Longview Formation
- Dip & Strike
- Geochemical samples 300-900ppm outlined by dashed line, over 900ppm by solid line.

Base - TVA Quad & TNW aerial photos
Property - P.M. Adams, J.F.R., H.W.M.
Geology - J. Rodgers (USGS), H.W.M.
Geochemical Survey - K.S.M.

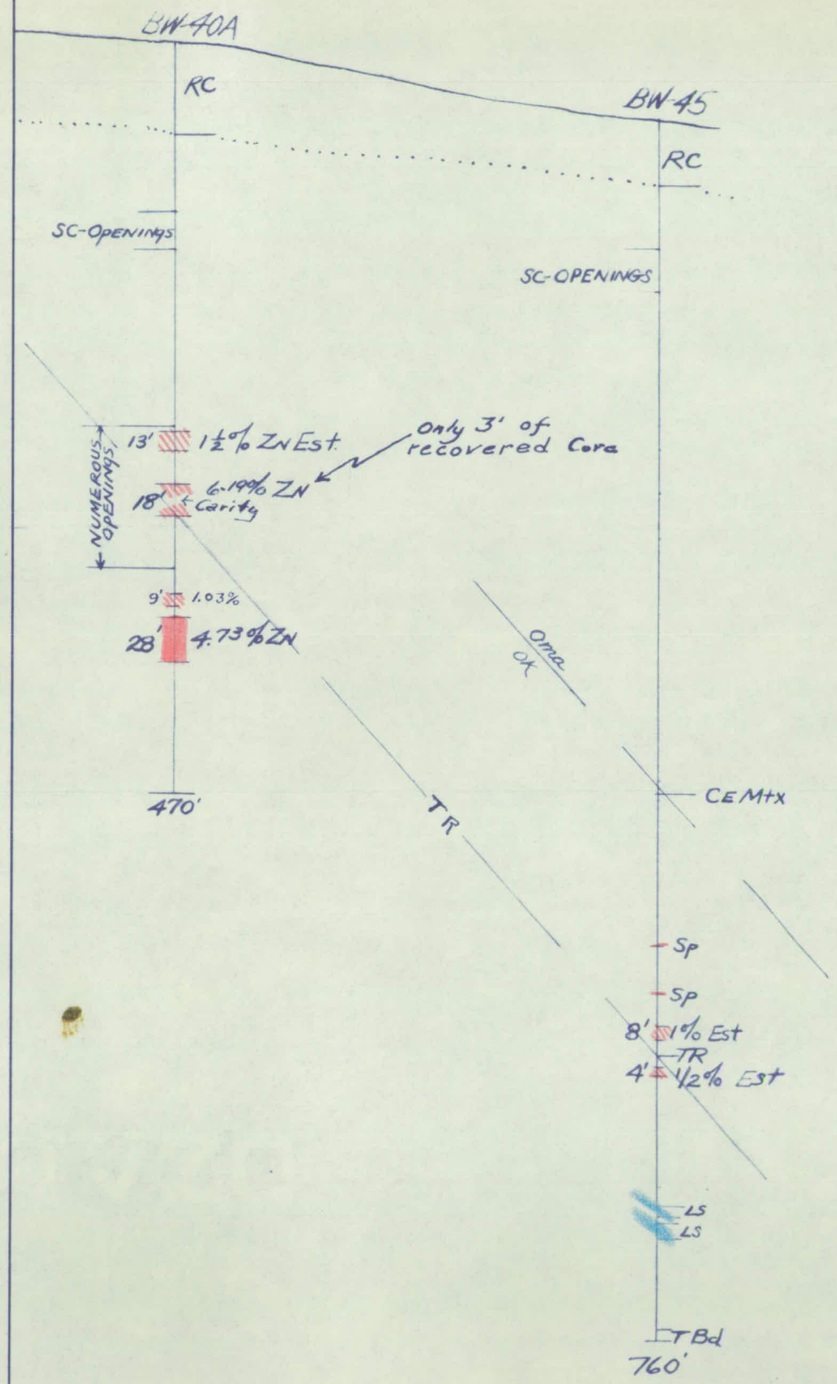
THE NEW JERSEY ZINC COMPANY ROGERSVILLE TENNESSEE	DRAWN J.F.R. DATE 4-25-53 TRACED W.W.C. SCALE 1"=660'	COPPER RIDGE BELT SECTOR II BIG WAR CRK. AREA	HAWKINS, HANCOCK COS. TENN. AX-TENN 100

Additions by - S.P. Holt



SERIAL NUMBER		DATE ISSUED		REFERENCE DRAWINGS	REVISIONS	THE NEW JERSEY ZINC COMPANY	DRAWN WJC	STRIKE SECTION: BW31, 40, 37, 38, 34, 35	DATE 8-29-57
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK. ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED. THIS DRAWING MUST BE RETURNED TO THE NEW JERSEY ZINC COMPANY.						JEFFERSON CITY, TENN	TRACED WJC	SECTOR II AREA D	SCALE 1" = 100
							CHECKED	COPPER RIDGE BELT	AX-TENN B-1296
							APPROVED		

X5453B 1M 11-54



SERIAL NUMBER		DATE ISSUED		REFERENCE DRAWINGS	REVISIONS	THE NEW JERSEY ZINC COMPANY JEFFERSON CITY, TENN	DRAWN WJC	DIP SECTION BW-40A-45 SECTOR II AREA D COPPER RIDGE BELT	DATE 2-13-58
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK. ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED. THIS DRAWING MUST BE RETURNED TO THE NEW JERSEY ZINC COMPANY.							TRACED		SCALE 1" = 100'
							CHECKED		AX-TENN B-1338
							APPROVED		

X5453B 1M 11-54

Drilling During
Mineralized
Ore

DMEA NJZ

NJZ - Mineral and Mining Rights owned

NJZ - owned in Fee Simple

Detail Map
AX Tenn B 1341

Area Excluded from DMEA Contract

Area to be added to contract

SMITH
NJZ M&M
1.26 A

TR.
NUZ FEE 37.8 A.

NUZ FEE 1.99

AMYX
NJZ M&M

SAM. PRICE
NJZ M&M 16.46 A

GUY SEALS
NJZ M&M
65.57 A

EUGENE CLONCE
NJZ 43.49 A

MRS. BROWN BOWLIN

HOMER DAVIS
NJZ
50 A

SAM DAVIS

HOMER DAVIS
50 A. NJZ

LARRY DRINNON

AROIS HARDIN
NJZ
65 A

NANCY HAWKINS
65 A. NJZ

MRS. ANNIS HELTON

MRS. MARY BLOOMER

CAMERON SHORT
NJZ
16.09 A

ELLAHUGH BLOOMER
NJZ
16.90 A

C.S. DAVIS

E.A. PRICE

Big War Creek

830,000

835,000

765,000

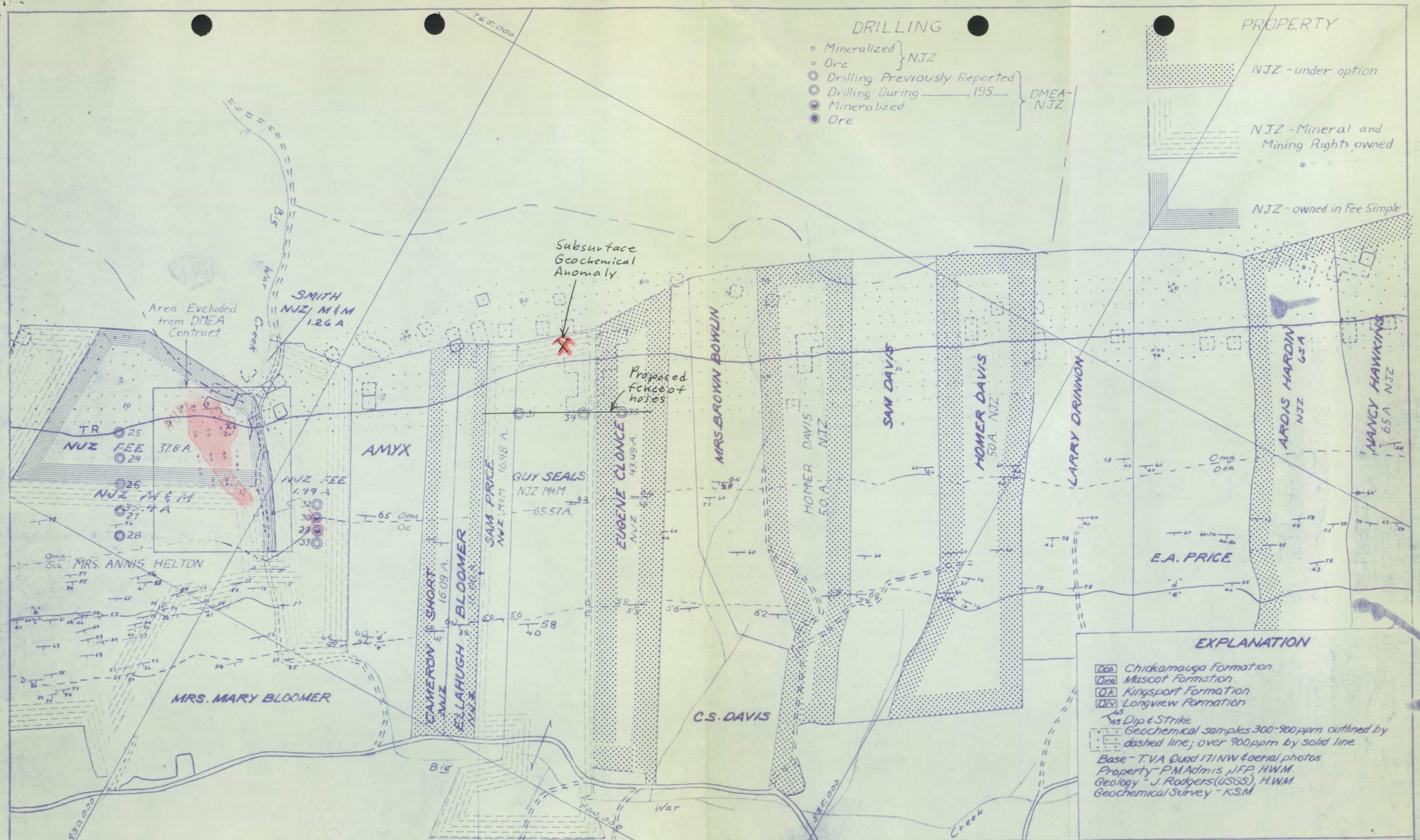
EXPLANATION

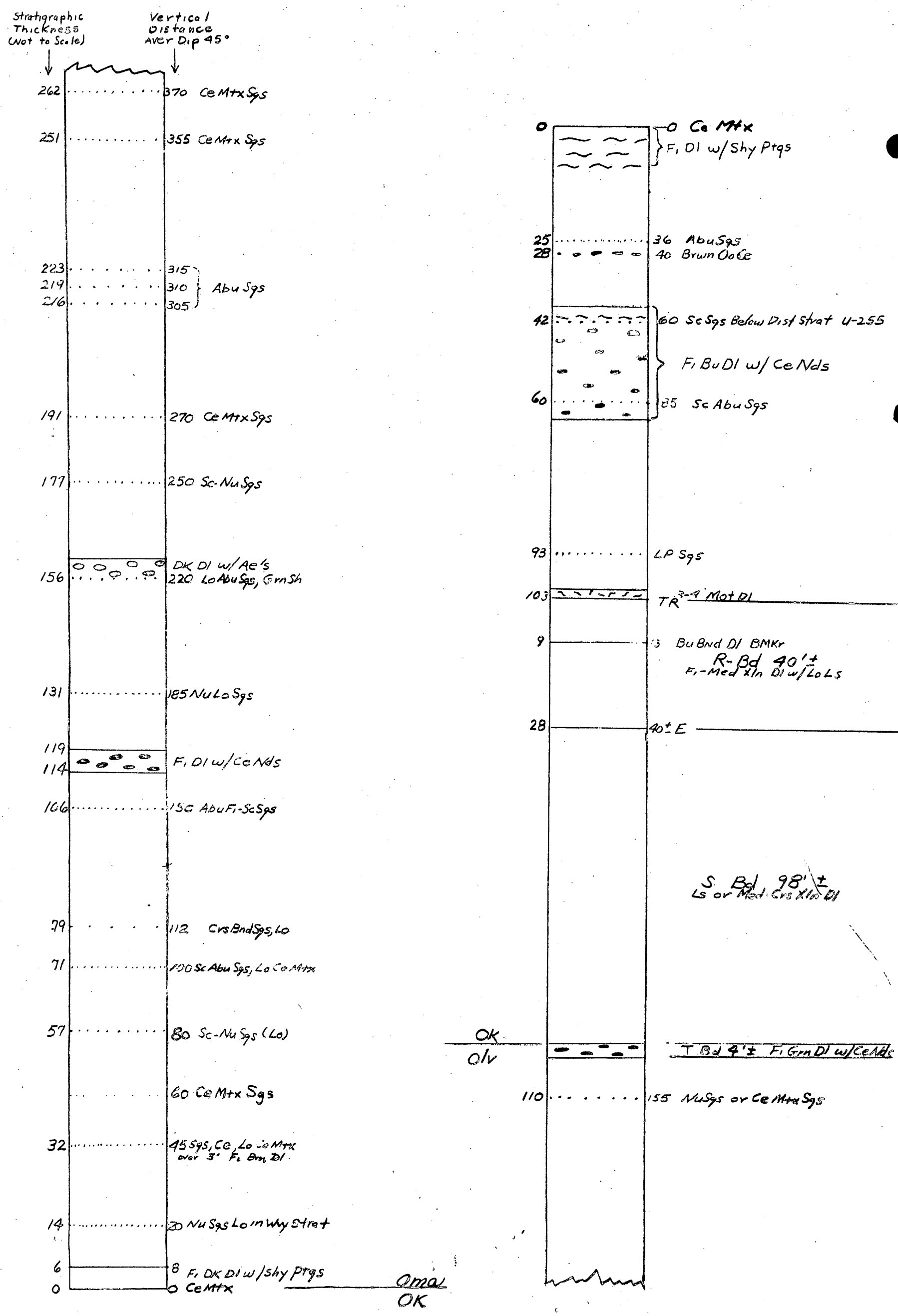
- Oca Chickamauga Formation
- Oma Mascot Formation
- Ok Kingsport Formation
- Olv Longview Formation
- 65/43 Dip & Strike
- Geochemical samples 300-900 ppm outlined by dashed line; over 900 ppm by solid line

Base - TVA Quad 171 NW & aerial photos
Property - P.M. Admis, J.F.P. H.W.M.
Geology - J. Rodgers (USGS), H.W.M.
Geochemical Survey - K.S.M.

BIG WAR CREEK AREA

POSTED TO DATE 1-56 TEW	THE NEW JERSEY ZINC COMPANY ROGERSVILLE TENNESSEE	DRAWN J.F.P. DATE 4-25-33 TRACED SJL, JFP SCALE 1" = 660'	COPPER RIDGE BELT SECTOR II SHEET 4NE	HAWKINS, HANCOCK COS, TENN. FILE NO. AX-TENN 100


DRILLING
Mineralized
Ore
NJZ
Drilling Previously Reported
Drilling During _____, 195__
Mineralized
Ore
DMEA-NJZ
PROPERTY
NJZ - under option
NJZ - Mineral and Mining Rights owned
NJZ - owned in Fee Simple
Subsurface Geochemical Anomaly
Proposed fence of holes
Area Excluded from DMEA Contract
SMITH NJZ M&M 1.26 A
TR
NJZ FEE 37.8 A.
NJZ M&M 53.4 A
NJZ FEE 1.99 A
AMYX
MRS. ANNIS HELTON
MRS. MARY BLOOMER
CAMERON SHORT NJZ 16.09 A.
ELLAHUGH BLOOMER NJZ
SAM PRICE NJZ M&M 16.46
GUY SEALS NJZ M&M 65.57 A.
EUGENE CLONCE NJZ 43.49 A
MRS. BROWN BOWLIN
HOMER DAVIS NJZ 50 A.
SAM DAVIS
C.S. DAVIS
HOMER DAVIS 50 A. NJZ
LARRY DRINNON
E.A. PRICE
ARDIS HARDIN NJZ 65 A
NANCY HAWKINS 65 A. NJZ
Big War Creek
EXPLANATION
Oca Chickamauga Formation
Oma Mascot Formation
Ok Kingsport Formation
Olv Longview Formation
Dip & Strike
Geochemical samples 300-900 ppm outlined by dashed line; over 900 ppm by solid line
Base - T.V.A. Quad 171 NW & aerial photos
Property - P.M. Adams, J.F.P., H.W.M.
Geology - J. Rodgers (USGS), H.W.M.
Geochemical Survey - K.S.M.
POSTED TO DATE
1-56 TEW
THE NEW JERSEY ZINC COMPANY
ROGERSVILLE TENNESSEE
DRAWN J.F.P. DATE 4-25-53
TRACED S.J.L., J.F.P. SCALE 1" = 660'
COPPER RIDGE BELT
SECTOR II SHEET 4NE
HAWKINS, HANCOCK COS., TENN.
FILE NO. AX-TENN 100



SERIAL NUMBER

DATE ISSUED

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REFERENCE DRAWINGS

REVISIONS

THE NEW JERSEY ZINC COMPANY

JEFFERSON CITY, TENN.

COLUMNAR SECTION
COPPER RIDGE BELT
BIG MIX CREEK AREA

DRAWN LLUC
TRACED WJC
CHECKED
APPROVED

DATE 2-17-58
SCALE 1" = 30'

AX-TENN B-1340

X5453B 1M 11-54

THE NEW JERSEY ZINC COMPANY
ROGERSVILLE TENNESSEE

DRAWN S.J.L., J.F.P. DATE 10-8-52
TRACED SCALE 1"=660'

COPPER RIDGE BELT
SECTOR II SHEET 3NE

HANCOCK, HAWKINS CO'S, TENN.
FILE NO. AX-TENN 101

POSTED TO DATE
1-56 TEN

DMEA 4286

THE NEW JERSEY ZINC COMPANY
ROGERSVILLE Big Wax Creek Area TENN.

Chickamauga
Mascot Formation
Kingsport Formation
Longview Formation
Dip & Strike
Geochemical samples 300-900 ppm outlined in dashed line, over 900 ppm by solid line.
Base TVA Quad Aerial photos
Property - F.M. Adams, J.F.P., H.W.M.
Geology - J. Rogers (USGS), H.W.M., K.S.M.
Geochemical survey - K.S.M.

Under Option
Mineral Rights Owned
Owned in Fee
Ore
Sub-Ore
Proposed

Area to be excluded from DMEA contract

Holes too close to property line

T.R.
159 158 150 151 152 153 154 155 157 160 136 20 21
HARV LAWSON
NUZ 400 A
SAM PRICE & ORVILLE HELTON
197 A
GWINN
E. CLONCE
NUZ 86A
SEE FIG. 4
LEWIS SETSOR
NUZ 80A
NUZ 100 A
MRS. O.M. SWANEY
Ordovician
Cambrian
Stoneland Ave.
T.R.
NUZ FEE
37.8 A
M. BRINNON
NUZ FEE
135 A
SEE FIG. 3
MRS. ANNIE HELTON
SMITH
NUZ M&M
1.26 A
AMYX
SAM PRICE
NUZ
2.5 A
GUY SEALS
NUZ
60 A
EUGENE CLONCE
NUZ
COMEROW
NUZ
SHORT
2.5 A
BLOOMER
2.5 A
ELLAHUGH
NUZ
MRS. MARY BLOOMER
CLINCH VALLEY ROAD
B.S.
Big War Creek

DMEA #286

THE NEW JERSEY ZINC COMPANY ROGERSVILLE TENNESSEE	DRAWN SJL, JFP DATE 10-8-52 TRACED SCALE 1"=660'	COPPER RIDGE BELT SECTOR II SHEET 3NE	HANCOCK, HAWKINS CO'S, TENN. FILE NO. AX-TENN 101	POSTED TO DATE 1-56 TEN	THE NEW JERSEY ZINC COMPANY ROGERSVILLE Big War Creek Area TENN.