DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE E1071 DMEA NO. 4586

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(Withdrawn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

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

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

Left Side

- Interim Royalty Audits
- Reports of Royalty Review
- Certification of Discovery 12-11-59
- Certificate of Audit (Final)
- Interim Audit(s)
- Report of Review 12-7-59
- Termination Notice or Agreement
- Recision Notice
- Assignment of Contract
- Contract Amendments (latest on top)
- Contract with all exhibits and annexes
- Owner's Consent to Lien
- Subordination Agreement
- Leases and assignments of leases
- Application and attachments
- (3) Envelope for maps

Right Side

- Project summary
- Work completed analysis
- All other material is filed in chronological order with correspondence including the following reports as checked:
  - Final Field Team Report (Tab)
  - Operator's Final Report 11-27-59 memo
  - (2R) Interim Reports
  - (2R) Operator's monthly reports and all attachments (latest on top)
  - On-site Exam Report(s) (Tab)
  - (4) Settlement Sheets
  - Annual reports on Cert. leases

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

Left Side

- Folder No. 2: (In chron. order) Interim Summary Reports by W. O. Engineers and drill logs accompanying Operator's final rep
- Folder No. 3: Maps/ ~~(Use pocket folder or envelope. Fold maps with and show reference to related document or correspondence.)~~
- Folder No. 4: Settlement Sheets
- Folder No. 5: Drill Logs

Right Side

~~Operator's Semi-Annual Report f~~ ~~Project~~, Field Team Interim rato Monthly Report with transmit ve, maps, and Field Team review.

MF-104

153602

Paid in Full May 18, 1979

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-R1071, Docket DMEA-4586 (zinc), dated March 29, 1957, with

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

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 Cedar Springs and Idol Areas located in Grainger County, Tennessee, during the period March 29, 1957, through July 1, 1960.

A certification of discovery or development was issued on December 11, 1959, and, in accordance with Articles 8, Annexes 1 and 2, 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 December 7, 1959, indicated accepted costs under the exploration contract amounting to $105,855.00 with the Government's contribution on a 50 percent basis being $52,927.50.

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 covered. 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-

E. D. Talbert
E. D. Talbert, OME Auditor

May 9, 1962

Idm-E1071 The New Jersey Zinc Company DMEA-4586

STATUS OF PROJECT, SCOPE OF REVIEW
AND REASONS THEREFOR

This contract provides that the Operator, as principal if the producer and as surety if not the producer, shall pay to the Government a percentage royalty on all minerals produced for a maximum of 32 years from (1) the lands thereunder, (2) any contiguous lands in which the Operator or any subsidiary acquires any interest before March 29, 1967, and (3) any lands deleted by Amendments Nos. 2, 5, and 7, if the Operator or any subsidiary acquires any interest in such lands or the production therefrom. The term "minerals" includes limestone and dolomite products derived from processing ores.

At the time this contract was executed, the land thereunder consisted of numerous tracts aggregating 699.62 acres, more or less, from which an area of approximately 11.4 acres was specifically excluded because of prior exploration drilling. Amendments to the contract added about 905.18 acres and deleted about 661 acres. Consents to Lien were waived.

According to the Operator's final report the 943.8 acres, more or less, remaining under the contract were held by virtue of purchase of the mineral and mining rights. A map attached to the report indicates that the Operator held, either by mineral rights in the entirety, a two-thirds mineral interest, or in fee simple, a considerable acreage contiguous to the land under the contract.

Exploration work under the contract was completed on July 14, 1959. No minerals were produced from the property during the exploration period. Examinations of the property and conferences with the Operator's officials have disclosed no production through the period covered by this review.

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; and

(2) 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.

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-R1071, DMEA No. 4586, including Amendments Nos. 1 through 7, for May 1957 to July 1959, inclusive, covering a zinc project in the Cedar Springs Area, Grainger County, 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		$105,855.00
Exceptions:		
Prior to this review	$ -0-	
Herewith	-0-	-0-
Total acceptable cost		$105,855.00

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	$ 52,927.50
Paid to date	52,470.91
Balance due Operator	$ 456.59

Pd. Apr. 12/11/59
See (final)
July '59 - MF-10

E. D. Talbert
E. D. Talbert, OME Auditor

December 7, 1959

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

(a) the Monthly Reports were supported by documentary proof of that portion ($97,500.00) of the costs covering work performed at unit rates under independent contract;
(b) the balance ($8,335.00) of the costs was under a contract provision for payment by the Government at 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 disallowances.

Acceptable Costs:

Independent Contracts - Drilling:	@ $2.65/ft.	@ $2.75/ft.	@ $5.00/ft.	Amount
Holes CS-17 through 42	140'	20,010'	1,176'	$ 58,926.50
Holes I-55 through 68	-	13,238'	1,434'	40,706.50
Totals	140'	33,248'	2,610'	99,633.00*
Less: Excess over allowable maximum of $97,500				2,133.00
Net acceptable drilling costs				97,500.00
Fixed Unit Costs -				
Incidental Allowance	35,000' @ $ .21/ft.			7,350.00
Assays	105 @ $1.00/sample			105.00
Core Boxes	500 @ $1.80/ea.			900.00
Total Acceptable Costs				$105,855.00

* Actual costs invoiced by drilling contractor (E. J. Longyear Company) aggregated:

Drilling -	Overburden	809'	@ $2.75	$ 2,224.75
	NX diamond	95'	@ 3.05	289.75
	BX "	891'	@ 3.05	2,717.55
	AX "	31,453'	@ 2.75	86,495.75
	AX "	2,610'	@ 3.00	7,830.00
	EX "	140'	@ 2.65	371.00
		35,998'		99,928.80
	Hauling cores	85 hrs.	@ $3.25	276.25
	Capping holes	41 hrs.	@ 3.25	133.25
	Surveying holes	6 hrs.	@ 5.00	30.00
	Tro-Pari surveys	5 hrs.	@ 12.50	62.50
Total				$100,430.80

Docket copy

Murphy
Leonard
J. Lynch
Vernon
Fred Sol. Off
Talbert
Selfridge

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. 14-01-0171, dated March 28, 1957, Serial No. [illegible], 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 fair share under 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 briefly or indicated as follows:

Core drilling from the surface performed under the contract resulted in the discovery of significant zinc ore deposits in the Ringwood Franklinite and dolomite formation of Precambrian age.

Dated: DEC 11 1959

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Bureau of
Mineral Exploration

FMMurphy/gla
12-4-59
cc to:
Operator
CAFredell, DMS, GSA
Docket
Finance Office
Div. of Contract Adm. & Audit
OME Field Team, Region V (2)
Director's Reading File
Frank E. Johnson
Operating Committee
Mr. Lamb, USBM
Mr. Kirkemo, USGS
Chron

December 4, 1959

Docket No. DMEA-4586 (Zinc)
Contract No. Idm-E1071
The New Jersey Zinc Company

JUSTIFICATION FOR CERTIFICATION

Under the subject contract and amendments, fourteen tracts of land totaling 1,603.76 acres were subordinated. During the contract period seven tracts, totaling 661.00 acres, were dropped from the contract when core drilling indicated that they were unfavorable for zinc deposition.

The project area, referred to as the Cedar Springs and Idol areas, lies along the southeast slope of Copper Ridge and is underlain in descending order by the Chickamauga, Mascot, Kingsport, and Upper Longview formations of limestones and dolomites. The Kingsport is the most favorable ore-bearing formation in this district and is about 210 feet thick in the project area.

The formation is divided into the Upper Kingsport (110'-120') and the Lower Kingsport (90'-100'). The lower 60'-80' in the Upper Kingsport is an important ore horizon, the sphalerite occurring in white gangue dolomite between breccia blocks of fine dolomite.

The Lower Kingsport consists of limestone with thin interbedded fine and coarse crystalline dolomite. The sphalerite occurs as replacement, and filling openings, in breccias in the coarse dolomite.

Prior to the contract the Operator drilled 16 holes in the Cedar Spring area and 52 holes in the Idol area. Under the contract, 33 holes in the Cedar Spring area and 9 holes in the Idol area were drilled. Of these, 7 penetrated commercial grade ore, 22 mineralized material, and 13 were barren. The holes averaged about 850 feet in depth.

In the Idol area, on the W. C. Stapleton tract, 5 holes (I-61, 62, 63, 64, and 66) penetrated an ore body, ranging from 20 to 100 feet in thickness, estimated to contain 739,474 tons of ore with a grade of 4.3 percent Zn.

In the Cedar Spring area, on the Robert Malicot tract, 2 holes (CS 37 and 41) penetrated ore. However, holes on adjacent fences found no ore that might be correlated with these findings.

The Operator plans to continue drilling in the project area and will undoubtedly find additional ore. The ore discovered on the Stapleton tract, added to ore discovered just outside of the project area prior to the contract, constitute a minable ore body.

F. M. Murphy

F. M. Murphy

Government's Copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DMEA-4586

AMENDMENT NO. 9

It is agreed this 3rd day of May, 1968, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government," and The New Jersey Zinc Company, hereinafter called the "Operator," that Exploration Project Contract No. Idm-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, hereinafter called the "Contract," is further amended, as follows:

The following parcel of land, shown outlined in orange on the map entitled "GRAINGER COUNTY, TENN., AX-TENN 106", attached and made a part hereof, is added to the land referred to in Article 2 of the Contract and described in Annex I.

Land in which the Operator owns the Mineral and Mining Rights
(totaling approximately 141.93 acres)

Approximately 141.93 acres described in Deed from Mrs. Forest Davidson, et al., to The New Jersey Zinc Company dated June 19, 1967, and recorded in Deed Book 99, page 457, of the Register's Office of Grainger County, Tennessee.

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 as "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
Chief, Office of Minerals Exploration
U. S. Geological Survey

THE NEW JERSEY ZINC COMPANY
By J. C. Alexander
Title Vice President

Bliss
Long
Johnson
Lovett
Nelson

RECEIVED
MAY 13 1963
NEW YORK ENG. CO.
EXPLORATION DEPT.
NEW YORK

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)
160 FRONT STREET
NEW YORK, NEW YORK 10038

NJZ

90

August 24, 1965

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U.S. Department of the Interior
U.S. Geological Survey
Washington 25, D. C.

Re: DMEA - 4586
Cedar Springs - Idol Area
Tennessee - Contract Idm-E1071

Gentlemen:

Enclosed herewith are four executed copies of Amendment No. 8 to the subject contract. We have retained the Operator's copy for our file.

Very truly yours,

Arnold Jansons
For Manager of Exploration

AJ/rms
Encl.

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U. S. GEOLOGICAL SURVEY
AUG 25 12 15 PM 1965
OFFICE OF THE DIRECTOR

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Government's Copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DMEA-4586

AMENDMENT NO. 8

It is agreed this 29th day of July, 1965, between the United States of America, acting through the Department of the Interior, U. S. Geological Survey, hereinafter called the "Government", and The New Jersey Zinc Company, hereinafter called the "Operator", that Exploration Project Contract No. Idm-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, hereinafter called the "Contract", is further amended, as follows:

The following parcels of land shown outlined in blue and yellow on the map entitled "The New Jersey Zinc Company, Rogersville, Tennessee, Copper Ridge Belt, Sector III, Sheet 5SW, Grainger Co., Tennessee, File No. AX - TENN 587", attached and made a part hereof are added to the land referred to in Article 2 of the Contract and described in Annex I.

A. Land Held In Fee Simple by Operator. Approximately 81.10 acres described in Deed from Mrs. R. G. Stapleton, et al. to the New Jersey Zinc Company dated April 3, 1965 and recorded in Deed Book 96, page 250, the Registrar's Office, Grainger County, Tennessee.

B. Lands on Which the Operator has Right to Prospect for Minerals, Plus Option to Purchase Mineral and Mining Rights (totalling approximately 425 acres).

1. Approximately 300 acres described in contract between Ora C. Wilkerson, et al. and the New Jersey Zinc Company executed August 22, 1964.

2. Approximately 125 acres described in the contract between Belle Kincaid and the New Jersey Zinc Company executed January 22, 1965.

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 as "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 Arthur A. Baker
Acting Director, U. S. Geological Survey

THE NEW JERSEY ZINC COMPANY

By J. Bosheem

Title VICE PRESIDENT

Kilsgaard
Long
Rogers
Selfridge
Johnson
Reeve

Government's Copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

AMENDMENT NO. 7

It is agreed this 18th day of September, 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-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, hereinafter called the "Contract", is further amended, as follows:

1. The following parcels of land, containing 32 acres more or less, are hereby deleted from the land referred to in Article 2 of the Contract and described in Annex I:

Name of Property Owner	Approximate Acreage
Nelson Dalton	12
Carl Holt	20
Total	32 Acres

2. The Operator:

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

(b) Certifies that, prior to the execution of this amendment, it has 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 there to, 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 lands or any production of minerals therefrom will accrue to the Operator or any of its subsidiaries, directly or indirectly, during the period expiring 32 years from the date of this contract;

J. Lynch
Hoffland
Seller
Asst. Sol.
Kingsbury
Frank
Talbert

(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 benefits therefrom, before the expiration of 32 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 32 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.

3. 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 as "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 George C. Selfridge
Acting Director, Office of
Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By [signature]

Title VICE PRESIDENT

Government's copy

J. Lynch
Hoffhard
App'd. Sol. Off.
Klugeschard
Selfridge
Talbot

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

AMENDMENT NO. 6

It is agreed this 5th day of June, 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-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, hereinafter called the "Contract", is further amended, as follows:

1. Item 3 of Amendment No. 5, is amended to read:

3. In Article 3 of the Contract the completion date shall be October 1, 1959.

2. Item 4(a)(ii) of Amendment No. 5 is changed to read:

(ii) Effective July 1, 1959, if the work is resumed on or before January 15, 1959, but is not completed on or before October 1, 1959.

3. Item 8 is added to Amendment No. 5, as follows:

8. In Article 8(b) of the Contract, as amended by paragraph 5 of Annex II, and by Amendment No. 3, item 2, the period of 31 years is changed to 32 years.

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 as "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 Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By [signature]

Title Vice President

OFFICIAL FILE COPY
O. M. E.
RECEIVED JUN 22 1959

DATE	INITIALS	CODE

Government's copy

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 9 1959

DATE	INITIALS	CODE

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

AMENDMENT NO. 5

It is agreed this 24th day of December, 1958, 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-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, is further amended effective April 1, 1958, as follows:

1. Amendment No. 4, executed on May 14, 1958, is hereby revoked and rescinded.

2. (a) Work under the Contract shall be suspended during the period beginning May 1, 1958, and ending not later than January 15, 1959.

(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 costs 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.

3. In Article 3 of the Contract the completion date shall be July 1, 1959.

4. It is the essence of this Contract that the work be resumed before the termination of the period herein fixed for suspension, and be completed before the termination of the period herein fixed for completion; and if it is not so resumed and so completed, in the manner required by the Contract, the following provisions shall thereupon become effective:

(a) The Contract and all obligations of the parties thereunder, except as hereinafter otherwise provided, shall be and are hereby terminated, as follows:

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EXPLORATION DEPT.
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(i) Effective May 1, 1958, if the work has not been resumed on or before January 15, 1959;

(ii) Effective July 1, 1959, if the work is resumed on or before January 15, 1959, but is not completed on or before July 1, 1959.

(b) The Government will contribute only to the allowable costs of any work performed prior to the relevant effective dates set forth under 4(a) above.

(c) 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.

(d) The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer (for example, if the Operator either transfers or fails to retain its interest in the land), shall pay to the Government the royalty on production provided for in the Contract, in the same manner and amount and for the full period provided for in the Contract, as amended, as if certification of discovery or development had been made, such certification being hereby waived by the Operator. In addition, all rights of the Government provided for in the Contract with respect to a certification of discovery or development, all rights of the Government as to reports (including preservation of Operator's records), audit, and recovery of any overpayment, are preserved.

(e) The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of the Contract, except as otherwise provided for in this Amendment No. 5.

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

(a) Paragraph No. 2 is revised to read: "A series of widely spaced dip and strike fences shall be drilled, with holes spaced at between 100- and 300-foot intervals on the fences."

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(b) Paragraph No. 3 is revised to read: "The space intervals between the various fences shall not be less than 400 feet".

(c) The approximate locations of the holes in the new areas, added to the Contract by paragraph 6 of this amendment, are shown on the attached map entitled "The New Jersey Zinc Company, Rogersville, Tennessee, Copper Ridge Belt, Sector II, Sheet 43W, Grainger County, Tenn., File No. AX-TENN-106",* but the actual locations, directions, inclinations, and depths of all holes are subject to prior Government approval.

6. The following parcels of land shown outlined in blue color on the map entitled "The New Jersey Zinc Company, Rogersville, Tennessee, Copper Ridge Belt, Sector II, Sheet 43W, Grainger County, Tenn., File No. AX-TENN-106" * attached and made a part hereof, are added to the land referred to in Article 2 of the Contract and described in Annex I.

<u>Land in which the Operator owns the Mineral and Mining Rights (totaling approximately 325.90 acres)</u>

(a) All the mineral and mining rights to land described in Warranty Deed dated March 2, 1956, from B. J. Jackson and wife, Martha Jackson. 84.11

(b) All the mineral and mining rights to land described in Warranty Deed, dated June 15, 1956, from Claude Jackson and wife, Cleo Jackson and Lon Wolfenbarger and wife, Nervie Wolfenbarger, excepting the following tract: 56.79

"Beginning at an iron pin, corner with the lands of Birdie Lamb and Parkson; thence N 53° 53' E, 482.90 feet with the line of Parkson to an iron pin; thence with the remaining lands of Lon Wolfenbarger as follows: S 20° 15' E, 207.26 feet to an iron pin; thence S 20° 31' E, 76.20 feet to an iron pin; thence S 59° 14' E, 99.63 feet to an iron pin; thence S 45° 13' E, 85.14 feet to an iron pin; thence S 16° 44' E, 176.39 feet to an iron pin; thence S 20° 32' E, 204.73 feet to an iron pin; thence S 43° 40' E,

*Figure 2.

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EXPLORATION DEPT.
NEW YORK

99.26 feet to an iron pin; thence S 50° 07' E, 227.56 feet to an iron pin; thence S 10° 05' E, 15.19 feet to an iron pin; thence S 32° 45' E, 170.99 feet to an iron pin; thence S 32° 45' E, 243.23 feet to an iron pin; thence S 55° 50' W, 676.41 feet to an iron pin, corner of the line of H. H. Wilmoth; thence with the line of Wilmoth N 27° 11' W, 543.97 feet to an iron pin; thence with the line of Wilmoth N 24° 47' W, 367.72 feet to an iron pin, corner with H. H. Wilmoth and Bridie Lamb; thence with the line of Birdie Lamb N 24° 00' W, 650.90 feet to the BEGINNING, containing 20.0 acres, more or less."

(c) All the mineral and mining rights to land described in Warranty Deed dated September 7, 1956, from W. C. Stapleton and wife, Mayme Stapleton and J. T. Harville and wife, Verdie Harville, excepting the following tract: 184.95

"Beginning at a point in the line of tract #3 of W. C. Stapleton and corner to Fields and Collins, thence N 68° 40' E, 391.10'; thence S 58° 52' E, 46.52'; thence S 51° 23' E, 18.05'; thence S 64° 37' E, 29.98'; thence S 70° 40' E, 112.76'; thence S 76° 49' E, 35.15'; thence S 85° 35' E, 26.62'; thence S 65° 17' E, 156.91'; thence S 45° 30' E, 177.46'; thence S 24° 41' E, 405.75'; thence N 52° 49' E, 193.97'; thence N 66° 29' E, 196.71'; thence N 35° 27' E, 163.32'; thence S 49° 01' E, 50.32'; thence S 36° 08' W, 139.35'; thence S 66° 10' W, 236.18'; thence S 52° 56' W, 195.48'; thence S 24° 58' E, 77.81'; thence S 43° 10' E, 912.49'; thence S 51° 35' W, 520.62'; thence N 42° 03' W, 1052.50'; thence N 41° 36' W, 922.09', to the BEGINNING, containing approximately 24 acres."

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EXPLORATION DEPT.
NEW YORK

Property held under Purchase Contracts conveying Mineral and Mining Rights

Name of Property Owner	Approximate Acreage
Frank J. Kincaid and wife, Mae Kincaid, and Mrs. Vara W. Trobaugh (widow)	233.33 acres

Copies of the Warranty Deeds and Purchase Contract are contained in Docket No. DMEA-4586 and the descriptions therein are incorporated herein by reference.

7. The following parcels of land, containing 344 acres more or less, are hereby deleted from the land referred to and described in Amendment No. 1 and shown on Figure 2 attached hereto and made a part hereof. These parcels of land are further identified as follows:

Name of Property Owner	Approximate Acreage
Carl V. Davidson	86 acres
Zilpha Cabbage	92 acres
B. E. Davidson	166 acres
Total	344 acres

The Operator:

(a) Certifies that the deleted 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 lands or any production of minerals therefrom will accrue to the Operator or any of its subsidiaries, directly or indirectly, during the period expiring 31 years from the date of this Contract;

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NEW JERSEY ZINC CO.
EXPLORATION DEP.
NEW YORK

Long
Seltzer
Klugscheid.
Maxwell
Chambers
Selfridge.

(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 31 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 31 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 total amount which the Government may be required to contribute, the amount of any item designated as "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 George C. Selfridge
ACTING Director, Office of Minerals Exploration

THE NEW JERSEY ZINC COMPANY

By J Bordeen

Title VICE PRESIDENT

RECEIVED
JAN 5 1933
NEW JERSEY ZINC CO.
EXPLORATION DEPT.
NEW YORK

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O. M. E.
RECEIVED NOV 20 1958

DATE	INITIALS	CODE

WARRANTY DEED

THIS INSTRUMENT made and entered into on this 2nd day of March, 1956, by and between B. J. JACKSON and wife, MATTIE JACKSON, of Grainger 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.

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 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 Fourth Civil District of Grainger County, Tennessee, on Copper Ridge, lying on both sides of the Ridge Road, being all the lands of the

Grantors, adjoining the lands of Lon Wolfenbarger, Parkson, Hayes, Holt, Dalton, Davidson, and possibly others, more particularly described as follows:

BEGINNING on a stake, corner to Lon Wolfenbarger; thence with the Line of Wolfenbarger N. 3-21 E. 637.81 feet to a stake, corner to Wolfenbarger; thence with the line of Wolfenbarger N. 2-10 W. 204.69 feet to an 18 inch black oak stump, corner to Wolfenbarger and to Parkson; thence with the line of Parkson N. 6-59 E. 937.30 feet to a 30 inch black oak stump, corner to Parkson and to Hayes; thence with the line of Hayes S. 69-23 E. 694.21 feet to an 18 inch black oak tree, corner to Hayes and to Holt; thence with the line of Holt S. 37-11 E. 453.18 feet to a 30 inch dead chestnut tree, corner to Holt; thence with the line of Holt S. 30-25 E. 567.76 feet to a point in the center of the Ridge Road; thence meandering with the center of said road (line of Holt) first, N. 52-02 E. 193.42 feet; thence N. 67-37 E. 34.87 feet; thence N. 24-31 E. 39.92 feet; thence N. 13-55 E. 45.12 feet; thence N. 06-32 E. 53.10 feet; thence N. 06-41 W. 105.40 feet to a point in the center of said road, corner to Holt; thence with the line of Holt, Dalton, and Davidson, S. 20-15 E. 1542.35 feet to a fence corner, corner to Dalton and to Davidson; thence with the line of Dalton, S. 64-10 W. 607.71 feet to a stake, corner to Dalton; thence with the line of Dalton S. 60-00 W. 763.24 feet to a corner in a rail fence, corner to Dalton; thence with the line of Dalton S. 28-45 E. 50.69 feet to a corner in a rail fence, corner to Dalton; thence with the line of Dalton S. 59-02 W. 143.49 feet to a corner in a rail fence, corner to Dalton and to Wolfenbarger; thence with the line of Wolfenbarger N. 42-05 W. 729.00 feet to a stake, corner to Wolfenbarger; thence with the line of Wolfenbarger N. 37-33 W. 123.14 feet to a stake, corner to Wolfenbarger; thence with the line of Wolfenbarger, crossing the Ridge Road, N. 43-01 W. 376.65 feet to the BEGINNING, containing 34.11 acres, more or less.

R. J. Jackson acquired title to a one-third interest in and to the mineral and mining rights and interests in the above premises by Deed of R. B. Jackson and wife, dated January 5, 1929, of Record in the Register's Office for Grainger County, Tennessee in Deed Book 56, Page 586, 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, and 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 the 1956 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.

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

B. J. Jackson
B. J. Jackson

Mattie Jackson
Mattie Jackson.

STATE OF TENNESSEE
GRAINGER COUNTY

Personally appeared before me, Ben S. Catlett a Notary Public in and for said County and State, the within named bargainors, B. J. JACKSON and wife, MATTIE JACKSON, 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 2nd day of March, 1956.

(Seal)

Ben S. Catlett
Notary Public.

Commission Expires: 4-16-58

Qualified in Grainger County
under the Provisions of Tennessee
Code, Section 8-1609, et seq.

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O. M. E.
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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 June, 1956, by and between CLAUDE JACKSON and wife, CLEO JACKSON, of Jefferson County Tennessee, LON WOLFENBARGER, and wife, NERVIE WOLFENBARGER, of Grainger 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, the following described premises:

SITUATE in the Fourth Civil District of Grainger County, Tennessee, near Idol, adjoining the lands of Birdie Lamb, Parkson, H. H. Wilmoth, the remaining lands of Lon Wolfenbarger and possibly others, and more particularly described as follows:

BEGINNING at an iron pin, corner with the lands of Birdie Lamb and Parkson; thence N. 53-53 E. 482.90 feet with the line of Parkson to an iron pin; thence with the remaining lands of Lon Wolfenbarger as follows: S. 20-15 E. 207.26 feet to an iron pin; thence S. 20-31 E. 76.20 feet to an iron pin; thence S. 59-14 E. 99.63 feet to an iron pin; thence S. 45-13 E. 85.14 feet to an iron pin; thence S. 16-44 E. 176.39 feet to an iron pin; thence S. 20-32 E. 204.73 feet to an iron pin; thence S. 43-40 E. 99.26 feet to an iron pin; thence S. 50-07 E. 227.56 feet to an iron pin; thence S. 10-03 E. 15.19 feet to an iron pin; thence S 32-45 E. 170.99 feet to an iron pin; thence S. 32-45 E. 243.23 feet to an iron pin; thence S. 55-50 W. 676.41 feet to an iron pin, corner in the line of H. H. Wilmoth; thence with the line of Wilmoth N. 27-11 W. 543.97 feet to an iron pin; thence with the line of Wilmoth N. 24-47 W. 367.72 feet to an iron pin, corner with H. H. Wilmoth and Birdie Lamb; thence with the line of Birdie Lamb N. 24-09 W. 650.90 feet to the BEGINNING, containing 20.0 acres, more or less.

Being a part of the same property conveyed to the Grantors by the following deeds, of record in the Register's Office for Grainger County, Tennessee: (1) Deed of Dave Jackson and wife to Claude Jackson and wife, dated January 4, 1950, Deed Book 80, Page 481; (2) Deed of B. J. Jackson and wife, to Claude Jackson and wife, dated March 2, 1950, Deed Book 80, Page 482; (3) Deed of Claude Jackson and wife, to Lon Wolfenbarger, dated December 29, 1953, Deed Book 83, Page 177.

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 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 Fourth Civil District of Grainger County, Tennessee, near Idol, adjoining the twenty acre tract of land above described, and the lands of Parkson, B. J. Jackson, Pleas Dalton, Jack Coffey, Walter Coffey, H. H. Wilmoth, and possibly others, more particularly described as follows:

BEGINNING at an iron pin in the line of H. H. Wilmoth, corner to the twenty acre tract of land above described; thence with the line of said tract of land as follows: N. 55-50 E. 676.41 feet to an iron pin; thence N. 32-45 W. 243.23 feet to an iron pin; thence N. 32-45 W. 170.99 feet to an iron pin; thence N. 10-05 W. 15.19 feet to an iron pin; thence N. 50-07 W. 227.56 feet to an iron pin; thence N. 43-40 W. 99.26 feet to an iron pin; thence N. 20-32 W. 204.73 feet to an iron pin; thence N. 16-44 W. 176.39 feet to an iron pin; thence N. 45-13 W. 85.14 feet to an iron pin; thence N. 59-14 W. 99.63 feet to an iron pin; thence N. 20-31 W. 76.20 feet to an iron pin; thence N. 26-15 W. 207.26 feet to an iron pin in the line of Parkson; thence with the line of Parkson N. 53-53 E. 929.17 feet to an 18 inch black oak stump, corner with Parkson and B. J. Jackson; thence with the line of B. J. Jackson five courses as follows: S. 2-10 E 204.69 feet to a stake; thence S. 3-21 W. 637.81 feet to a stake; thence S. 43-01 E. 376.65 feet to a stake; thence S. 37-33 E. 123.14 feet to a stake; thence S. 42-05 E. 729.00 feet to a stake, corner in a rail fence, and corner with B. J. Jackson and Pleas Dalton; thence with the line of Dalton, eight courses as follows:(S. 43-13 E. 62.90 feet to an iron pin; thence S. 54-41 W. 347.95 feet to an iron pin; thence S. 24-24 W. 154.21 feet to an iron pin; thence S. 35-25 E. 186.43 feet to an iron pin; thence S. 29-28 E. 63.52 feet to an iron pin; thence S. 00-38 W. 117.64 feet to an iron pin; thence S. 70-39 E. 205.58 feet to an iron pin; thence S. 34-58 E. 390.81 feet to an iron pin, corner with Pleas Dalton and Jack Coffey;) thence with the line of Coffey S. 46-31 W.

207.97 feet to an iron pin; thence with the line of Coffey S. 39-59 W. 460.20 feet to an iron pin, corner with Jack Coffey and Walter Coffey; thence with the line of Walter Coffey, N. 43-17 W. 510.45 feet to an iron pin; thence with his line S. 49-58 W. 93.42 feet to an iron pin, corner with H. H. Wilmoth in line of Walter Coffey; thence with the line of Wilmoth four courses as follows: N. 34-15 W. 471.42 feet to an iron pin; thence S. 51-47 W. 188.69 feet to an iron pin; thence N. 36-16 W. 368.04 feet to an iron pin; thence N. 27-11 W. 286.75 feet to the BEGINNING, containing 56.79 acres more or less.

Being a part of the same property conveyed to the Grantors by the following deeds, of record in the Register's Office for Grainger County, Tennessee: (1) Deed of Dave Jackson and wife, to Claude Jackson and wife, dated January 4, 1950, Deed Book 80, Page 481; (2) Deed of B. J. Jackson and wife, to Claude Jackson and wife, dated March 2, 1950, Deed Book 80, Page 482; (3) Deed of Claude Jackson and wife, to Lon Wolfenbarger, dated December 29, 1953, Deed Book 83, Page 177.

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, 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 that portion of the above described premises, title to which the Zinc 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.

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 property, rights, and interests, that they have a good and lawful right to sell and convey the same, that the same is clear and unencumbered except for 1956 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.

Claude Jackson and wife, Cleo Jackson are the owners and holders of five certain promissory notes secured by vendor's lien retained in the deed of Claude Jackson and wife to Lon Wolfenbarger of record in the Register's Office for Grainger County, Tennessee in Deed Book 83, Page 177. Said lien to the extent of the property, rights and interests herein conveyed is hereby released and discharged.

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

Claude Jackson
Claude Jackson

Cleo Jackson
Cleo Jackson

Lon Wolfenbarger
Lon Wolfenbarger

Nervie Wolfenbarger
Nervie Wolfenbarger

STATE OF TENNESSEE

JEFFERSON COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, CLAUDE JACKSON AND WIFE, CLEO JACKSON AND LON WOLFENBARGER AND WIFE, NERVIE WOLFENBARGER, 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 15th day of June, 1956.

Ben S. Catlett
Notary Public.

Commission Expires: 4-16-58

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WARRANTY DEED

THIS INSTRUMENT made and entered into on this 7th day of September, 1956, by and between W. C. STAPLETON and wife, MAYME STAPLETON and J. T. HARVILLE and wife, VERDIE HARVILLE of Grainger 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.

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 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 Fourth Civil District of Grainger County, Tennessee, on the Valley Road, adjoining the lands of Monk, Hensley, Fields and Collins, The New Jersey Zinc Company (formerly Carpenter), G. N. Milhorn, W. P. Coffey, Rucker, Eugene Jones, Mrs.

R. G. Stapleton, Frank Kincaid and possibly others,

and more particularly described as follows:

BEGINNING at an iron pin corner to Monk and Hensley and Northwest corner of the property here conveyed; thence N. 47-00 E. 1951.76 feet with the line of Hensley to an iron pin, corner to Hensley, Carpenter, and Fields and Collins; thence with the line of Fields and Collins three calls as follows: S. 21-48 E, 202.75 feet; S. 41-34 E. 590.67 feet; N. 68-40 E. 391.10 feet to a point in the center of a rural road; thence with the center of said rural road and the line of Fields and Collins, six calls as follows: S. 58-52 E. 46.52 feet; S. 51-23 E. 18.05 feet; S. 64-37 E. 29.98 feet; S. 70-40 E. 112.76 feet; S. 76-49 E. 35.15 feet; S. 85-35 E. 26.62 feet; thence with the line of Fields and Collins N. 65-17 E. 156.91 feet to an iron pin, corner to Fields and Collins and G. N. Milhorn; thence with the line of Milhorn five calls as follows: S. 45-30 E. 177.46 feet; S. 24-41 E. 405.75 feet; N. 52-49 E. 193.97 feet; N. 66-29 E. 196.71 feet; N. 35-27- E. 163.32 feet to a point in the center of the rural road, corner with The New Jersey Zinc Company (formerly Carpenter); thence with the center of said road and the line of The New Jersey Zinc Company S. 49-01 E. 50.32 feet to a point, corner to The New Jersey Zinc Company and G. N. Milhorn; thence with the line of Milhorn five calls as follows: S. 36-08 W. 139.35 feet; S. 66-10 W. 236.18 feet S. 52-56 W. 195.48 feet; S. 24-58 E. 77.81 feet; S. 43-10 E. 912.49 feet to an iron pin, corner to G. N. Milhorn and W. P. Coffey; thence with the line of Coffey eight calls as follows: S. 51-35 W. 520.62 feet; S. 43-16 E. 398.13 feet; S. 47-28 E. 979.77 feet; N. 48-57 E. 200.22 feet; S. 56-22 E. 14.79 feet; S. 33-54 E. 26.99 feet; S. 06-01 W. 16.11 feet; S. 25-54 E. 142.93 feet to the center of a County road; thence with the center of said county road and the line of Coffey four calls as follows: S. 13-27 W. 31.75 feet; S. 23-14 W. 109.60 feet; S. 10-02 W. 67.14 feet; S. 26-48 W. 140.23 feet to a point in the center of the Valley Road, corner to Coffey and Rucker; thence with the line of Rucker S. 04-48 W. 150.30 feet; thence with the line of Rucker and W. P. Coffey S. 37-38 W. 628.04 feet; thence with the line of W. P. Coffey S. 35-15 W. 365.01 feet to an iron pin, corner to W. P. Coffey and Eugene Jones; thence with the line of Jones N. 34-26 W. 554.29 feet to a point on the Southeast side of the Valley

Road; thence with the southeast side of said Road, and line of Eugene Jones two calls as follows: S. 51-47 W. 584.80 feet; S. 50-44 W. 820.69 feet to a point, a corner to Jones and to Mrs. R. G. Stapleton; thence with the line Mrs. R. G. Stapleton six calls as follows: N. 35-01 W. 36.00 feet; N. 35-28 W. 286.68 feet; N. 32-39 W. 486.60 feet; N. 03-35 W. 136.02 feet; N. 26-07 W. 96.59 feet; N. 39-41 W. 600.27 feet to an iron pin, corner to Mrs. R. G. Stapleton and Frank Kincaid; thence with the line of Kincaid five calls as follows: N. 51-15 E. 341.72 feet; N. 50-54 E. 779.56 feet; N. 42-37 W. 1539.01 feet; S. 48-54 W. 876.04 feet; N. 35-29 W. 687.02 feet to an iron pin, corner to Frank Kincaid and Monk; thence with the line of Monk N. 35-55 W. 336.63 feet to the BEGINNING, containing 208.95 acres, more or less.

125.32 acres
22.41 "
61.22 "
208.95 OK
24.00
184.95

W. C. Stapleton and wife acquired title to the above described premises in the following manner, by Deeds of record in the Register's Office for Grainger County, Tennessee: (1) To a four-fifths (4/5) interest in the mineral and mining rights and interests in 125.32 acres, more or less, by Deed of D. J. McGinnis, et ux., et al., dated August 14, 1941, Deed Book 71, Page 85, and by Deed of R. N. Stapleton, dated December 29, 1943, Deed Book 77, Page 449; (2) To a one-fourth (1/4) interest in the mineral and mining rights and interests in 22.41 acres, more or less, by Deed of G. L. Dalton, et ux., dated January 15, 1945, Deed Book 77, Page 447; (3) To 61.22 acres, more or less, by Deed of Fred Jackson, et ux., dated May 25, 1943, Deed Book 72, Page 234. J. T. Harville and wife acquired 1.3 acres, more or less, of the above described premises by Deed of W. C. Stapleton, et ux., dated March 19, 1955, Deed Book 84, Page 396.

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, 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 such rights and privileges appurtenant 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 rights be unable to agree upon the amount or extent of said 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.

J. T. Harville and wife, Verdie Harville, join in this Deed to convey the mineral and mining rights and interests herein described, in and to the 1.3 acres, more or less, of the above described property, which they acquired by Deed of W. C. Stapleton and wife which is referred to above.

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 as herein set forth, and the 1956 County Taxes which the 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.

W. C. Stapleton
W. C. Stapleton

Mayme Stapleton
Mayme Stapleton

J. T. Harville
J. T. Harville

Verdie Harville
Verdie Harville

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, B. J. Ramsey Jr. a Notary Public in and for said County and State, the within named bargainors, W. C. STAPLETON AND WIFE, MAYME STAPLETON AND J. T. HARVILLE AND WIFE, VERDIE HARVILLE, 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 7 day of September, 1956.

B. J. Ramsey Jr.
Notary Public.

Commission Expires: 4/20/57
Qualified in Grainger County.
under the provisions of Tennessee
Code, Sections 8-1609, et seq.

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O. M. E.
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DATE	INITIALS	CODE

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WARRANTY DEED

THIS INSTRUMENT made and entered into on this 5th day of May, 1956, by and between VENIE McGINNIS GILLENWATER, of Clermont, Florida, party 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.

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, her 1/5 undivided interest in 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 Fourth Civil District of Grainger County, Tennessee, adjoining the lands of Frank Kinkaid, W. C. Stapleton, Coffey, Fields, Harville, Hensley, Monk and possibly others, described as follows:

BEGINNING on a set stone in the South line of the Colby Dalton lands, also in E. Coffey's North line, this being a conditional corner made by R. L. McGinnis and N. P. Dalton, in the division of the Colby Dalton lands, running with a conditional line made by R. L. McGinnis and N. P. Dalton North 46 West 82 poles to a small peach tree, a set stone and a cliff of rocks; thence North 46 West 82 poles to a persimmon sprout and a set on a small ridge; thence North 64 East 24 poles to a set stone; thence South 40 East 20 poles to a locust stump and a set stone near a spring; thence North 64 East two poles to a set stone; thence North 40 West 20 poles to a set stone; thence North 64 East 22 poles to a persimmon tree; thence North 62 East 16 poles to a walnut; thence North 19 East 12 poles crossing the lick branch road to a small cedar; thence North 56 West 3 poles to a persimmon bush; thence South 17 West 12 poles to a small white oak; thence South 62 West 15 poles to aset stone; thence South 64 West 48 poles to a set stone; thence Northward to 3 persimmon saplings on the top of Copper Ridge, a conditional line corner, made by R. L. McGinnis, and N. P. Dalton; thence Northward crossing a hollow to a small white oak in Tolbert Leffew's line on the top of Daves Ridge; thence Westward with Leffew's line to J. M. Young line; thence Southward with Young's and Allen's line to Allen's corner; thence Westward with Allen's line to Wilkerson's line; thence Southward with Wilkerson's line crossing Copper Ridge to a double poplar Wilkerson's corner; thence Eastward with Wilkerson's line to Wilkerson's corner; thence Westward with Wilkerson's line to E. Coffey's line; thence Eastward with E. Coffey's line to the BEGINNING, containing 75 acres, more or less.

Venie McGinnis Gillenwater acquired title to a 1/5 undivided interest in the mineral and mining rights and interests as one of the five children and heirs at law of R. L. McGinnis, deceased. Grantor having reserved her 1/5 interest in the mineral and mining rights in a certain deed of conveyance of the surface to D. J. McGinnis and Robert S. McGinnis dated December 3, 1940, as appears of record in the Register Office for Grainger County, Tennessee in Deed Book 68, Page 543.

Together with all rights and privileges necessary or convenient in order to prospect for, mine, mill and remove said minerals, metals, ores, ore-bearing-materials and rock of every kind.

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 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 mineral and mining 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.

Venie McGinnis Gillenwater

Venie McGinnis Gillenwater.

STATE OF FLORIDA
COUNTY OF Lake

Personally appeared before me Louise M. Daland a Notary Public in and for said County and State, the within named bargainor, VENIE McGINNIS GILLENWATER, 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 at office on this 5th day of May, 1956.

Louise M. Daland
Notary Public.

Commission Expires: Sept. 15, 1958

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 20 1958

DATE	INITIALS	CODE

SUPPLEMENTAL CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 1st day of April 1958, by and between FRANK J. KINCAID and wife, IMA KINCAID of Grainger 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:

WITNESSETH

WHEREAS, the Owners and the Zinc Company entered into a certain contract and agreement under date of April 10th, 1953. The Short Form thereof of even date between the parties appears of record in the Register's Office for Grainger County, Tennessee in Misc. Book No. 17, Page 129. Both are incorporated by reference, and made a part hereof, as fully as if copied verbatim herein with respect to the following described premises:

SITUATE in the Fourth Civil District of Grainger County, Tennessee, on Copper Ridge, adjoining the lands of Nelson Collins, W. C. Stapleton, Mrs. H. C. Stapleton, Frank Kincaid (formerly Arthur Farmer), Bello Kincaid, Floyd Hayes, and possibly others, more particularly described as follows:

BEGINNING on an iron pin in the line of Nelson Collins, Northwest corner of the property here described; thence with the line of Collins seven courses as follows: N. 48-35 E. 254.75 feet; N. 35-35 E. 372.95 feet; N. 50-39 E. 574.21 feet; N. 47-12 W. 143.21 feet; N. 41-03 E. 460.82 feet; S. 48-15 E. 245.7 feet; N. 80-52 E. 1175.34 feet to an iron pin, a corner to Collins and to W. C. Stapleton; thence with the line of W. C. Stapleton five courses as follows: S. 35-29 E. 657.02 feet; N. 48-54 E. 876.04

feet; S. 42-37 E. 1539.01 feet; S. 50-54 W. 779.56 feet; S. 51-15 W. 341.72 feet to an iron pin, a corner to W. C. Stapleton and to Mrs. R. C. Stapleton; thence with the line of Mrs. R. C. Stapleton two courses as follows: S. 47-04 W. 1126.74 feet; S. 13-32 E. 659.62 feet; to an iron pin, a corner to Mrs. R. C. Stapleton and Frank Kincaid, (Formerly Arthur Farmer); thence with the line of Frank Kincaid four courses as follows: S. 50-53 W. 384.73 feet; S. 51-40 W. 284.85 feet; S. 51-28 W. 365.34 feet; S. 52-31 W. 482.79 feet to an iron pin, a corner to Frank Kincaid and Belle Kincaid; thence with the line of Belle Kincaid three courses as follows: N. 36- 05 W. 270.70 feet; N. 52-33 W. 461.05 feet; N. 07-46 W. 246.28 feet to an iron pin, a corner to Belle Kincaid and to Floyd Hayes; thence with the line of Hayes six courses as follows: S. 79-59 E. 122.48 feet; S. 89-11 E. 90.20 feet; N. 52-16 E. 256.64 feet; N. 53-39 E. 502.13 feet; N. 39-35 W. 219.02 feet; N. 38-45 W. 1146.98 feet to an iron pin, a corner to Hayes and Nelson Collins; thence with the line of Collins three courses as follows: N. 38-21 W. 912.16 feet; N. 39-03 W. 466.60 feet; N. 40-24 W. 427.70 feet to the BEGINNING, containing 233.33 acres, more or less.

Frank J. Kincaid and wife, acquired title to the surface of the above described premises and a one-half undivided interest in the mineral rights therein by deed of Vara M. Trabaugh, dated March 6, 1946, and of record in the Register's Office for Grainger County, Tennessee in Deed Book 75, Page 117.

WHEREAS, it is mutually agreed by and between the parties hereto to make certain and close a sale, fully consummating said sale with respect to the above described property on or before April 10th, 1960.

Now, therefore, in consideration of ONE ($1.00) DOLLAR cash and the tender by the Zinc Company to the Owners of the agreed consideration on or before April 10th, 1960, the Owners will deliver a good and sufficient deed conveying to the Zinc Company or its designee, with covenants of general warranty the above described property in accordance with the terms and provisions of the aforesaid Contract and Agreement of April 10th, 1953.

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DATE	INITIALS	CODE

The terms of this Supplemental 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. Otherwise than specified therein all the provisions of the aforesaid Contract and Agreement of April 10th, 1953 shall be in full force and effect.

This Supplemental 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.

Frank J. Kincaid
Frank J. Kincaid

Mae Kincaid
Mae Kincaid

STATE OF TENNESSEE

GRAINGER COUNTY

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

Witness my hand and official seal in Grainger County, Tennessee on this 2nd day of April 1958.

Ben S Catlett
Notary Public

Commission Expires: 4-16-58
Qualified in Grainger County
under the Provisions of Tennessee
Code Section 8-1609 et seq.

SUPPLEMENTAL CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 1st day of April 1958, by and between MRS. VANA M. TROBAUGH (WIDOW) of Hamblen County, Tennessee, hereinafter called the Owner, party 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

WHEREAS, the Owner and the Zinc Company entered into a certain contract and agreement under date of April 10th, 1953. The Short Form thereof of even date between the parties appears of record in the Register's Office for Grainger County, Tennessee in Misc. Book No. 17 Page 124. Both are incorporated by reference, and made a part hereof, as fully as if copied verbatim herein with respect to the following described premises:

SITUATE in the Fourth Civil District of Grainger County, Tennessee, on Copper Ridge, adjoining the lands of Nelson Collins, W. C. Stapleton, Mrs. R. G. Stapleton, Frank Kincaid (formerly Arthur Farmer), Belle Kincaid, Floyd Hayes, and possibly others, more particularly described as follows:

BEGINNING on an iron pin in the line of Nelson Collins, Northwest corner of the property here described; thence with the line of Collins seven courses as follows: N. 48-35 E. 254.75 feet; N. 35-35 E. 372.95 feet; N. 50-39 E. 574.21 feet; N. 47-12 W. 143.21 feet; N. 41-03 E. 460.82 feet; S. 48-15 E. 245.7 feet; N. 80-52 E. 1175.34 feet to an iron pin, a corner to Collins and to W. C. Stapleton; thence with the line of W. C. Stapleton five courses as follows: S. 35-29 E. 687.02 feet; N. 48-54 E. 876.04 feet; S. 42-37 E. 1539.01 feet; S. 50-54 W. 779.56 feet; S. 51-15 W. 341.72 feet to an iron pin, a corner

The terms of this Supplemental 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. Otherwise than specified therein all the provisions of the aforesaid Contract and Agreement of April 10th 1953 shall be in full force and effect.

This Supplemental 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 Owner and party of the first part has hereunto set her signature the day and year first above written.

Mrs. Vara W. Trobaugh

Mrs. Vara W. Trobaugh

STATE OF TENNESSEE

HAMBLEN COUNTY

Personally appeared before me, Lewis S. Noe County Court Clerk ~~a Notary Public in~~ and for said County and State, the within named bargainer, Mrs. Vara W. Trobaugh, widow, with whom I am personally acquainted and who acknowledged that she executed the foregoing Supplemental Contract and Agreement for the purposes therein contained and expressed.

Witness my hand and official seal at office on the 2nd day of April 1958.

Lewis S. Noe

~~Notary Public~~ County Court Clerk

~~Commission Expres:~~ _____

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Government's copy

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

AMENDMENT NO. 4

It is agreed this 14th day of May, 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 No. Idm-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, 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.

2. In Article 3 of the Contract, the period for completion is further extended from March 1, 1959, to July 1, 1959.

3. It is the essence of this contract that the work be resumed before the termination of the period herein fixed for suspension, and be completed before the termination of the period herein fixed for completion; and if it is not so resumed and so completed, in the manner required by the contract, the following provisions shall thereupon become effective:

(a) The contract and all obligations of the parties thereunder, except as hereinafter otherwise

JUN 13 1957
NEW JERSEY ZINC CO.
EXPLORATION DIV.
NEW YORK

provided, shall be and are hereby terminated, as follows:

(i) Effective May 1, 1958, if the work has not been resumed on or before November 1, 1958;

(ii) Effective July 1, 1959, if the work is resumed on or before November 1, 1958, but is not completed on or before July 1, 1959.

(b) The Government will contribute only to the allowable costs of any work performed prior to the relevant effective date set forth under 3(a) above.

(c) 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.

(d) The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer (for example, if the Operator either transfers or fails to retain its interest in the land), shall pay to the Government the royalty on production provided for in the contract, in the same manner and amount and for the full period provided for in the contract, as amended, as if certification of discovery or development had been made, such certification being hereby waived by the Operator. In addition, all rights of the Government provided for in the contract with respect to a certification of discovery or development, and all rights of the Government as to reports (including preservation of Operator's records), audit, and recovery of any overpayment, are preserved.

(e) The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of the Contract, except as otherwise provided for in this Amendment No. 4.

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 as "maximum", or the fixed unit cost of any item of work.

JUN 13
NEW JERSEY ZINC CO.
EXPLORATION
NEW YORK

App'd. Sol. Off.
Klugescheid
Talbut
Selfridge
Johnson

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O Mitchelson
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By R F Johnson

Title VICE PRESIDENT

executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Interim Emergency
Exploration Administration

THE NEW JERSEY ZINC COMPANY

_____

Attest _____

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JAN 13
NEW JERSEY ZINC
EXPLORATION
NEW YORK

Government's copy

App'd. Sol. Off.

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

AMENDMENT NO. 3

It is agreed this 24th 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 No. Idm-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, is further amended as follows:

1. In Article 3 of the Contract, the time for completion of the work is extended from July 1, 1958, to March 1, 1959.

2. In Article 8(b) of the Contract, as amended by paragraph 5 of Annex II, the period of 30 years is changed to 31 years.

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 as "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 P Mitendorf
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-4586

AMENDMENT NO. 2

It is agreed this 6th 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 No. Idm-E1071 (Docket No. DMEA-4586), dated March 29, 1957, as amended, is further amended as follows:

The following parcels of land, containing 285 acres more or less, are hereby deleted from the land referred to in the Contract, described in Annex I:

That land described under C2 of Annex I being the land described in the Contract and Agreement between Mrs. Forest Davidson, et al., and The New Jersey Zinc Company, dated February 15, 1956, and expiring February 15, 1958.

The Operator:

(a) Certifies that the deleted 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 lands or any production of minerals therefrom will accrue to the Operator or to any of its subsidiaries, directly or indirectly, during the period expiring 30 years from the date of this Contract;

Ruth
Bunger
"Appr. as to form"
Klugescheid.
Harwell
Colquitt
Selfridge
Johnson

(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 30 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 30 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 total amount which the Government may be required to contribute, the amount of any item designated as "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 Mittendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY

By J Boodwin

Title VICE PRESIDENT

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EXPLORATION PROJECT CONTRACT

THE NEW JERSEY ZINC COMPANY

Docket DMEA-4586

AMENDMENT No. 1

It is agreed this 2nd day of December, 1957, between the United States of American, acting through the Department of the Interior, Defense Minerals Exploration Administration, and The New Jersey Zinc Company, that exploration Contract Idm-E1071, (Docket No. DMEA-4586) dated March 29, 1957, be amended as follows:

In Annex I of the contract, there is added the following parcels of land, designated on Figure 2 of the contract (Map AX-TENN-105) as "Carl Davidson", Zilpha Cabbage" and "B. E. Davidson," and further identified as follows:

Name of Property Owner	Approximate Acreage
Carl V. Davidson	86 acres
Zilpha Cabbage	92 acres
B. E. Davidson	166 acres
	344

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 any item designated as "maximum."

Executed in quintuplicate the day and year first above written.

THE NEW JERSEY ZINC COMPANY

By [signature]

Title VICE PRESIDENT

THE UNITED STATES OF AMERICA

By [signature]
Executive Officer, DMEA
Field Team, Region V

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DATE	INITIALS	CODE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 5th day of November, 1957, by and between ZILPHA CABBAGE and husband, C. H. CABBAGE of Grainger 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 a further period not to extend beyond November 5, 1959, 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 Fourth Civil District of Grainger County, Tennessee, containing 92 acres, more or less and bounded generally as follows:

On the North by Hippher and others;
On the East by D. E. Davidson;
On the South by Carl Holt; and
On the West by Carl Davidson.

Zilpha Cabbage acquired title to the above described property by Deed of J. H. Davidson, et ux, et al, dated March 21, 1931, and of record in the Register's Office for Grainger County, Tennessee, in Deed Book 60, Page 71.

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 year first above written.

Zilpha Cabbage
Zilpha Cabbage

C. H. Cabbage
C. H. Cabbage

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DATE	INITIALS	CODE

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, Ben L. Catlett, a Notary Public in and for said County and State, the within bargainors, LILLIAN CARBAUGH AND HUSBAND, C. H. CARBAUGH, 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 Grainger County, Tennessee, on this 7 day of November, 1957.

Ben L. Catlett
Notary Public

Commission Expires: 4-16-58

Qualified in Grainger County
under the provision of Tennessee
Code Section 8-1609, et seq.

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RECEIVED DEC 5 1957

DATE	INITIALS	CODE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 5th day of November, 1957, by and between R. E. DAVIDSON and wife, LAURA DAVIDSON, of Grainger 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 a further period not to extend beyond November 5, 1959, 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 Fourth Civil District of Grainger County, Tennessee, containing 166 acres, more or less, and bounded generally as follows:

On the North by Singleton, Hipshier and others;
On the East by Dalton and Harrell;
On the South by Dalton and Carl Holt; and
On the West by Cabbage.

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DATE	INITIALS	CODE

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, Ben L. Catlett, a Notary Public in and for said County and State, the within named bargainors, B. E. DAVIDSON AND WIFE, LAURA DAVIDSON, 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 7 day of November, 1957.

Ben L Catlett
Notary Public.

Commission Expires: 4-16-58

Qualified in Grainger County
under the provision of Tennessee
Code, Section 8-1699, et seq.

B. E. Davidson acquired title to the above described premises by the following deeds of record in the Register's Office for Grainger County, Tennessee: (1) Deed of Samuel Hatfield, et ux., dated November 15, 1928, Deed Book 58, Page 211; (2) Deed of T. N. Lakins, et al., dated January 21, 1920, Deed Book 50, Page 236; and (3) Deed of J. H. Davidson, et ux., et al., dated March 21, 1931, Deed Book 60, Page 52.

Together with the rights 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 year first above written.

B. E. Davidson
B. E. Davidson.

Laura Davidson
Laura Davidson.

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DATE	INITIALS	CODE

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 5th day of November, 1957, by and between CARL V. DAVIDSON and wife, LEO DAVIDSON of Grainger 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 a further period not to extend beyond November 5, 1959, 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 Fourth Civil District of Grainger County, Tennessee, containing 86 acres, more or less and bounded generally as follows:

On the North by F. W. Dalton;
On the East by Cabbage;
On the South by Carl Holt; and
On the West by Allie and Garrett Dalton.

Carl V. Davidson acquired title to the above described property by Deed of J. H. Davidson, et ux, et al, dated March 21, 1931, and of record in the Register's Office for Grainger County, Tennessee, in Deed Book 60, Page 42.

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

Carl V. Davidson

Carl V. Davidson

Leo Davidson

Leo Davidson

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, Bess S. Catlett, a Notary Public in and for said County and State, the within bargainors, CARL V. DAVIDSON AND WIFE, LEO DAVIDSON, 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 Grainger County, Tennessee, on this 7 day of November, 1957.

Bess S. Catlett
Notary Public

Commission Expires: 4-16-58

Qualified in Grainger County
under the provision of Tennessee
Code Section 8-1609, et seq.

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 5 1957

DATE	INITIALS	CODE

Government's copy

OFFICIAL FILE COPY
DMEA
RECEIVED APR 29 1957

DATE	INITIALS	CODE
4/29/57	B	215

MF-200
(Revised June 1954)

Docket No. DMEA 4586

Commodity Zinc

Contract No. Idm-E 1071

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

EXPLORATION PROJECT CONTRACT[1]

It is agreed this 29 MAR 1957 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, New York, 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~~ Annex II, 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 Grainger, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] owner and optionee of [5] See Annex I 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 tracts listed in Sections B and C of Annex I

(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 1 JUL 1957 shall commence the work, and on or before July 1, 1958 (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 8) in an amount not less than the estimated total allowable cost set forth in Exhibit "A"~~ See Article 13 and Annex II.

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 $105,950.00. The Government shall contribute 50 percent of the allowable costs as they are incurred in a total sum not in excess of $52,975.00: *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 ~~except for any such necessary excesses in categories, subcategories, or items thereunder the Operator is not obligated to incur more than his agreed percentage of the estimated total allowable cost of the work~~ See Article 13 and Annex II

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 ~~X~~ 8. See Article 13 and Annex II.

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~~ 30 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 and Annex II

(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 and Annex II

(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.*—
See Annex II attached hereto as a part hereof.

Indrit 2
Lenger
"Appd. Sol. Gen."
Klugescheid
Approved
Champion
Selfridge
Johnson

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C D Mittendorf
Administrator, Defense Minerals
Exploration Administration

THE NEW JERSEY ZINC COMPANY
(Operator)

By Lindsay F. Johnson

Title VICE PRESIDENT

I, R. A. Oberfell, certify that I am the Assistant secretary of the corporation named as Operator herein; that Lindsay F. Johnson 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.

R. A. Oberfell

[CORPORATE SEAL]

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

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

ANNEX I

The land referred to in Article 2 consists of approximately 716 acres in Grainger County, Tennessee, about 2½ miles northeast of Thorn Hill, Tennessee, which are controlled by the Operator as listed below. The Deed Books cited below are on file in the Register's Office of Grainger County, Tennessee. Copies of the Contracts cited below are contained in Docket No. DMEA-4586, and the land descriptions therein are incorporated herein by reference. All of the tracts of land referred to in this Annex I appear on the attached map entitled "The New Jersey Zinc Company, Cedar Springs Area, Rogersville, Tennessee--Figure 2" which shows the areas and the various types of property rights.

A. Land held in Fee Simple by Operator (totalling approximately 17.2 acres).

1. Approximately 12.9 acres described in Warranty Deed from Elum Coffey and wife, Martha Harville Coffey, to The New Jersey Zinc Company, dated April 23, 1955, and recorded in Deed Book 84, page 455.

Included in selection p. 3

2. Approximately 4.3 acres described in Warranty Deed from Carlie Lane and wife, Lois Lane, to The New Jersey Zinc Company, dated July 6, 1955, and recorded in Deed Book 85, page 14.

B. Land in which the Operator owns the Mineral and Mining Rights (totalling approximately 139 acres).

1. All the mineral and mining rights on approximately 139.4 acres described in a Warranty Deed from Carlie Lane and wife, Lois Lane, to The New Jersey Zinc Company, dated July 6, 1955, and recorded in Deed Book 85, page 14.

C. Lands on which the Operator has Right to Prospect for Minerals, plus Option to Purchase Mineral and Mining Rights (totalling approximately 560 acres).

1. Approximately 20 acres described in Contract and Agreement between Carl and Hattie Holt and The New Jersey Zinc Company, dated May 28, 1956, which expires May 28, 1959. The Holts acquired this land by deed from Margaret Shockley, dated March 20, 1934, and recorded in Deed Book 63, page 153.

2. Two tracts containing a total of approximately 285 acres described in Contract and Agreement between Mrs. Forest

Davidson, et al., and The New Jersey Zinc Company, dated February 15, 1956, which expires February 15, 1958. This agreement also grants to the Operator the right to purchase 40 acres of the surface. The present owners inherited this land from the late J. R. Davidson who had acquired title by the following deeds:

Acquired from	Date	Deed Book	Page
William Wolfe, et ux.	December 16, 1939	66	566
B. E. Davidson, et ux., et al.	April 19, 1933	60	592
Cecil Dalton	November 4, 1933	60	594
J. H. Davidson, et ux., et al.	March 21, 1931	59	561
Lacy E. Dalton, et ux.	March 10, 1924	54	100
J. Tandy Dalton, et ux.	April 4, 1918	48	195
J. H. Davidson, et ux.	July 20, 1910	38	573

3. Approximately 92 acres described in Contract and Agreement between Woodrow Davidson (single) and Louisiana Davidson (widow) and The New Jersey Zinc Company, dated August 27, 1952, which expires August 27, 1957. The Davidsons acquired this land under the Will of Colbert Lakins, probated August 2, 1926 and recorded in County Clerk's Office, Grainger County, Tennessee in Will Book 5, page 88.

4. Approximately 151.63 acres, more or less, described in Contract and Agreement between Robert and Cora Mallicoat and The New Jersey Zinc Company, dated January 28, 1956, which expires January 28, 1959. This Agreement also grants to the Operator the right to purchase 3½ acres of the surface. The Mallicoats acquired this land from Lacy E. Dalton, et al., by deeds, dated May 25, 1945, and recorded in Deed Book 74, page 213 and in Deed Book 79, page 148.

5. Approximately 12 acres described in Contract and Agreement between Nelson and Delta Dalton and The New Jersey Zinc Company, dated August 15, 1956, which expires August 15, 1959. This agreement also grants to the Operator the right to purchase the entire surface area. The Daltons acquired this land from Cornelius Harville, et ux., et al., by deed dated February 11, 1943, and recorded in Deed Book 72, page 567.

Excluded Land

The map referred to in this Annex I shows a tract outlined in blue color, marked "Area 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 centre of the Cedar Springs road approximately 2400 feet northwest of the intersection of the Cedar Springs and Clinch Valley roads; thence N 28° 30' W, 425 feet to a point; thence S 61° 30' W, 1170 feet to a point; thence S 28° 30' E, 425 feet to a point, thence N 61° 30' E, 1170 feet to the BEGINNING, containing 11.4 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 (Section C above) 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, whichever occurs first.

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

ANNEX II

1. In Article 3, the words following the reference to Article 10 are deleted, and the following words are substituted: "shall have completed the work."

2. In Article 6(a), that part of the last sentence in the first paragraph beginning after the semicolon is deleted.

3. Categories (2) through (7) of Article 6(a) are deleted.

4. In Article 6(c), the words "Article 9" are changed to "Article 8."

5. 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."

6. 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.

7. In addition to the costs of work estimated in Exhibit "A" by categories of actual costs, the costs of work requirements specified in Exhibit "A" as "Fixed Unit Costs" are allowable costs of the project. The Government will contribute to the fixed unit costs as work units are performed. A "Fixed Unit Cost" is an agreed price for each unit of work to be performed regardless of costs incurred by the Operator. Costs set forth in Exhibit "A" include all allowable costs of the work to be performed under the contract.

EXPLORATION PROJECT CONTRACT
THE NEW JERSEY ZINC COMPANY
DOCKET NO. DMEA-4586

EXHIBIT "A"

Description of the Work

1. 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 Kingsport dolomites and limestones of the Knox group. In the area in which the project work is to be performed, the Kingsport formation outcrops near the crest of the Copper Ridge and dips southeasterly at an angle of about 35 degrees. The ore zones seem to trend roughly parallel to the strike of the beds.

2. A series of widely spaced dip fences shall be drilled, with holes spaced at between 100-and 300-foot intervals on the fences.

3. The space intervals between the various fences shall not be less than 600 feet, except with prior approval of the Government.

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

5. It is estimated that approximately 50 holes will be required, having an average depth of between 600 and 700 feet, with a maximum depth for any hole of approximately 1300 feet. 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.

6. The locations of the initial holes are tentatively shown on the attached map entitled "The New Jersey Zinc Company, Rogersville, Tennessee, Cedar Springs Area," but the actual locations, directions, inclinations, and depths of all holes are subject to prior Government approval.

7. All diamond drilling shall be done with AX size, or larger, coring bits, except where it is necessary to use an EX size bit in order to complete a hole. Drill holes shall be reamed and cased or cemented and redrilled as necessary.

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 assayed for zinc. The remaining half of all significantly mineralized core samples shall be furnished to the Government upon request.

8. All assays shall be reported monthly to the Government, together with drill logs and proper plan maps and sections, showing the progress of the work and sample locations.

9. All work of drilling and sample preparation shall be properly supervised by competent engineers and 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, 5,000 feet @ $3.00/ft.	15,000.00	
The above rates include charges for reaming, cementing, water supply, casing, changing of locations, and all other charges by the diamond drill contractor.		
Neither the cost nor the value of the casing left in drill holes at the 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 and Annex II of the Contract)

Incidental allowance for each foot of drilling completed, 35,000 feet @ $0.21/ft.	$ 7,350.00	
200 Samples assayed @ $1.00/each sample	200.00	
Core boxes - 500 @ $1.80/each box	900.00	8,450.00
Estimated Total Cost of the Project		$105,950.00
Government Participation @ 50%		$ 52,975.00

THE NEW JERSEY ZINC COMPANY
(ESTABLISHED 1848)

160 FRONT STREET

NEW YORK 38, N.Y.

OFFICE OF THE
VICE PRESIDENT

HORSE HEAD PRODUCTS ®

December 26, 1956

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

CEDAR SPRINGS 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 Defense 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 within the time indicated. Therefore, your attention to this matter at an early date would be very much appreciated.

Very truly yours,

S. S. Goodwin
Vice President

SSG/alb

for attachments see
following page.

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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
Figure 1 - MAP - Eastern Tennessee District Showing Project Area.
Figure 2 - PROPERTY MAP - Cedar Springs Area, Sector II
Figure 3 - Longitudinal 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.

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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. 4586
Metal or Mineral Zinc
Date Received 12-27-56
Estimated Cost $112,150
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, New York

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

(*c*) If a corporation, add to above statement, titles, names and addresses of officers. See Sheet #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 #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 #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 Sheet #2 and Exhibit A

(*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 #3 attached

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. See Sheet #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 #3

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See Sheet #3

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

See Sheet #3

16—66551-1

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

5. *The exploration pr* (*a*) State the mineral or minerals for w wish to explore Zinc 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. Sheet #4, attached

(*c*) The work will start within 180 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. Sheet #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:

(*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. Sheet #5, attached

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 December 26th, 1956

THE NEW JERSEY ZINC COMPANY
(Applicant)

By S. S. Goodwin
S. S. Goodwin, Vice President

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

THE NEW JERSEY ZINC COMPANY
160 Front Street
New York 38,N.Y.

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Sheet No. 1

Number 1 of Instructions

(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.

THE NEW JERSEY ZINC COMPANY
160 Front Street
New York 38, N.Y.

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Sheet No. 2

Number 3 of Instructions
Applicant's Property Rights

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

BEGINNING at a point "X" in the center of the Cedar Springs road approximately 2400 feet northwest of the intersection of the Cedar Springs and Clinch Valley roads; thence N 28° 30' W, 425 feet to a point; thence S 61° 30' W, 1170 feet to a point; thence S 28° 30' E, 425 feet to a point; thence N 61° 30' E, 1170 feet to the BEGINNING, containing 11.4 acres, more or less.

(c) Properties in the project area (see figure 2) consist of approximately 716 acres and are controlled by The New Jersey Zinc Company as follows:

(1) Approximately 17 acres are owned in fee.

(2) The mineral and mining rights to approximately 139 acres are owned.

(3) Options providing for prospecting and purchase rights on 6 tracts containing approximately 560 acres are held

Listed below are the properties included in the project area:

Property Owner	Acreage	Legal Instrument
Holt, Carl	20	Option contract
Davidson, Mrs. Forest		
Tract # 1	145	Option contract
Tract # 2	140	" "
Davidson, Woodrow	92	" "
Mallicoat, Robert	151	" "
Dalton, Nelson	12	" "
Lane, Carlie (NJZ Co. mineral & mining)	139	Warranty Deed
The New Jersey Zinc Co. (fee)	12.9	Abstractor's Certificate
" " " " " "	4.3	Final Certificate

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

THE NEW JERSEY ZINC COMPANY
160 Front Street
New York 38,N.Y.

Sheet No. 3

Number 4 of Instructions - Physical Description

(a) Prior to 1952, exploration in the project area, known generally as the Cedar Springs area, had been carried out by local prospectors and the U. S. Bureau of Mines. During 1944 the Bureau of Mines drilled 8 diamond drill holes and sampled 3 shallow pits (See Bureau of Mines Report of Investigations #4497). From 1952 to 1953, The New Jersey Zinc Company drilled 16 diamond drill holes, totalling 7652 feet, in the project area.

(b) As far as is known, there has been no production of zinc or related ores from the project area. Exploration drilling to date by The New Jersey Zinc Company is interpreted as indicating approximately 350,000 tons containing 3.5% Zn.

(c) The project area lies in the Copper Ridge Belt in Grainger County, Tennessee (see index map, Figure 1). The favorable ore horizon is found in the Kingsport dolomites and limestones of the Knox group. The Kingsport formation crops out near the crest of Copper Ridge and dips southeasterly at an angle of about 35 degrees. The ore bodies consist of unusually pure sphalerite deposited as breccia= fillings and replacements in the dolomite. In a general way, the ore bearing areas correspond to the area of high zinc content in soils derived from the weathering of the Kingsport formation (see plan, Figure 2). The ore zones appear to trend in a general strike direction.

Diamond drilling by The New Jersey Zinc Company in the area has revealed extensive zinc mineralization in the Kingsport formation (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 only the gross ore potential.

(d) The area is about 2½ miles northeast of Thorn Hill, Tennessee, a small community on U. S. Highway 25E. The road distance from Morristown, Tennessee is about 25 miles. Morristown is served by The Southern Railway and a network of state and federal highways.

(e) Ample manpower is available for exploration work. Local manpower and water are adequate for mining. Morristown, Tennessee serves as a source of supplies and materials. Electric power is available at the Flat Gap mine in Treadway, Tennessee, approximately 10 miles distant.

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Sheet No. 4

Number 5 of Instructions - The Exploration Project

(b) It is proposed to explore the project area by diamond drilling. A series of widely spaced dip fences is planned with holes spaced on the fences 100 to 300 feet apart. The initial program contemplates fences spaced along strike at 1200 foot intervals to the northeast and southwest of the excluded area and one fence downdip from the excluded area (See plan, Figure 2). Closer spacing will be used along strike in those areas indicated as most favorable by the initial drilling. The entire program anticipates 35,000 feet of drilling of which 20,000 feet will be drilled on the initial widely spaced fences. The maximum depth presently contemplated for the drilling is 1100 to 1300 feet, and the average depth of the holes should be between 600 and 700 feet.

(d) The New Jersey Zinc Company has had wide experience in large scale exploration programs in East Tennessee and 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.

THE NEW JERSEY ZINC COMPANY
160 Front Street
New York 38, N.Y.

Sheet No. 5

Number 6 of Instructions - Estimated Costs

(a) Independent Contracts

The estimated costs are based on drilling rates for the Copper Ridge Belt established by competitive bidding between the E. J. Longyear, Joy and Southeastern Companies as tabulated below:

AX Core	Longyear	Joy	Southeastern
0- 500'	$2.75/ft. ok	$2.75/ft.	No bid
500-1000'	2.75/ft. ok	3.25/ft.	"
1000-1500'	3.00/ft. ok	3.75/ft.	"
1500-2000'	3.50/ft. ok	4.25/ft.	"

Current contract charges of E. J. Longyear:

Overburden - - - - - - - - - - - - $2.75/foot ✓
AX Core
0-1000 - - - - - - - - - - - - 2.75/foot ✓ 3.00 on Putnam drill footage (actual bids)
1000-1500 - - - - - - - - - - - - 3.00/foot ✓
BX Core
0-1000 - - - - - - - - - - - - 3.05/foot

Estimated cost of the average drill holes - - $2.85/foot ✓
Estimated Contract Cost
35,000 feet @ $2.85/foot - - - - - - - - - $99,750.00

35,000 = .3x
x = 11,667
$86.00 - 2 men @
$11,667

(b) Labor, Supervision, Consultants

Supervision
1 geologist: full-time - 12 months - - - $6,000.00 ✓
Technical Service
2 surveyors: 30% time - 12 months - - - 3,500.00 ✓
1 draftsman: 30% time - 12 months

(c) Operating Materials and Supplies
Core boxes, etc. - - - - - - - - - - - - - - - 1,050.00 ✓ boxes among?

(d) Operating Equipment
Automobile Expense - 9,000 miles : $0.08 - - 720.00 ✓
30 mi/day

(e) Rehabilitation and Repairs
None

(f) New Buildings, Improvements
None

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

Sheet No. 5 - Number 6 of Instructions - Estimated Costs (Cont'd)

(g) Miscellaneous

Chemical assays, 200 @ $1.00 - - - - - - -	$ 200.00 ✓
Accounting and secretarial charges $30.00 per month - 12 months - - - - - -	360.00 ✓
Workmen's Compensation 1% x $9500.00 - - - - - - - - - - - - - - -	95.00 ✓
Insurance and payroll taxes 5% x 9500.00 - - - - - - - - - - - - - - - - -	475.00 ✓
Total Estimated Cost of the Project - - - - -	$112,150.00

Incidental Charges

Supervision (Geologist)	$ 6,000.00
Surveyors	3,500.00
Core Boxes	1,050.00
Automobile Expenses	720.00
Accounting	360.00
Compensation	95.00
Insurance + Payroll Taxes	475.00
Total	$ 12,200.00

35,000' 12,200.00 $0.3486 per foot.

$0.27 per foot allowed on 4177 with same amt. of footage

Estimate was $0.39

THE NEW JERSEY ZINC COMPANY
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EXHIBIT A

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

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CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 22th day of May, 1956, by and between [illegible] and wife, MATTIE HOLT, of Granger 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.

WITNESSETH

That for and in consideration of the sum of TEN (10.00) DOLLARS 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 exceed beyond Sept. 24, 1959, upon payment of sums of money agreed upon, the exclusive right and option to purchase all minerals, coal, oil, gas, crude ore, metals, and rocks of any kind, including limestone, in under or on the following described premises:

SITUATE in the Fourth Civil District of Granger County, Tennessee, and being the lands of L. F. Davidson, Alice Dalton and possibly others and bounded and described as follows:

[illegible] Holt and others,
[illegible] between Margaret Hockley and Joe G. Nelson;
thence South [illegible] with said Joe G. Nelson's line to
a stake in the bridge Road; thence with the meanders of the
road to the graveyard; thence around the graveyard
to a black oak; thence with the
old fence line to a stake in the Hockley line; thence with
said line to the beginning, containing 2 acres more
or less.

May 28, 1956 — May 28, 1959
Option to purchase minerals + metals
rent land rights + right to explore

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

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D.M.E.A.

[illegible] recorded in the Roster's [illegible] Book [illegible], Page [illegible].

Together with the right to prospect for, [illegible] and develop the [illegible] the right of ingress and egress [illegible] and the right of the Lessee [illegible] [illegible] [illegible]. And the grantee of the [illegible] [illegible] [illegible] the right to prospect for, develop and [illegible] all minerals, [illegible], [illegible], [illegible] and [illegible] in any kind, in, [illegible] and [illegible] all of said premises [illegible] right to [illegible] available water and to [illegible] in accordance with the terms of the last mentioned agreement. The terms of the [illegible] [illegible] [illegible] which are made a part hereof as if fully set out at length.

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

IN WITNESS WHEREOF, the Grantors and Grantee in the first part have hereunto set their signatures the day and date first above written.

Carl Hall
Carl Hall

Hattie Hall
Hattie Hall

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

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, [illegible], a Notary Public in and for said County and State, the within named bargainors, [illegible], 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 in this 26th day of [illegible], 1950.

[illegible]
Notary Public.

Commission expires: 4-16-58

Recorded in Grainger County under the provisions of Tennessee Code, Section 1-1609 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 15th day of February, 1956, by and between MRS. FOREST DAVIDSON (WIDOW), J. T. DAVIDSON and wife, ARKIE DAVIDSON, EUGENE G. DAVIDSON and wife, GLADYS DAVIDSON, HUBERT DAVIDSON and wife, ROSE DAVIDSON, JOHN DAVIDSON and wife, NANIE DAVIDSON, DONALD DAVIDSON (SINGLE), of Grainger County, Tennessee, CARSON DAVIDSON and wife, MERLENE DAVIDSON, of Franklin, Ohio, CLARA DAVIDSON BOWDEN And husband, D. H. BOWDEN, of Sneedville Tennessee, LILLIE DAVIDSON FORD and husband, CARL FORD, of Greeneville, Tennessee, ETHEL DAVIDSON COFFEY and husband, TYSON COFFEY, MARIE DAVIDSON COFFEY and husband, HAYDEN COFFEY, of Monroe Michigan, 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.

WITNESSETH

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 a further period not to extend beyond February 15, 1958, 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:

Option to Purchase minerals, ores, etc. Right to find clause expired

Feb 15, 1956 - Feb 15, 1958

SITUATE in the Fourth Civil District of Grainger County, Tennessee and being two certain tracts of land:

TRACT ONE: Known as the ~~[illegible]~~ CEDAR SPRINGS Tract, containing by estimation 145 acres, more or less and bounded generally as follows:

On the North by the top of Copper Ridge;
On the East by the lands of Carl Holt, ~~[illegible]~~ ~~[illegible]~~ and possibly others;
On the South by the lands of Seth Holt, Carlie Lane and possibly others; and
On the West by the lands of Carlie Lane.

TRACT TWO: Known as the ~~[illegible]~~ OAK HILL tract and bounded generally as follows:

On the North by the top of Copper Ridge;
On the East by Robert and Shields Mallicoat;
On the South by the Clinch Valley Road; and
On the West by the lands of B. J. Jackson, Pleas Dalton, Shields Dalton and possibly others.

There is excepted one acre of surface for family Cemetery

The Owners acquired title by descent caste as the widow and sole heirs at law of J. F. Davidson, deceased.

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

Attached

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 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.

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

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

Mrs. Forest Davidson
Mrs. Forest Davidson

J. F. Davidson
J. F. Davidson

Arkie Davidson
Arkie Davidson.

Eugene C. Davidson
Eugene C. Davidson.

Gladys Davidson
Gladys Davidson.

Hubert Davidson
Hubert Davidson.

Rose Davidson
Rose Davidson.

John Davidson
John Davidson

Lamie Davidson
Lamie Davidson

Donald Davidson
Donald Davidson

Carson Davidson
Carson Davidson

Merlene Davidson
Merlene Davidson

Clara Davidson Boldin
Clara Davidson Boldin

D. H. Boldin
D. H. Boldin

Lillie Davidson Ford
Lillie Davidson Ford.

Carl Ford
Carl Ford.

Ethel Davidson Coffey
Ethel Davidson Coffey

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

Tyson Coffey
Tyson Coffey

Marie Davidson Coffey
Marie Davidson Coffey

Hayden Coffey
Hayden Coffey

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, R. H. Wallenburger, a Notary Public in and for said County and State, the within named bargainors, MRS. FOREST DAVIDSON (WIDOW), J. F. DAVIDSON AND WIFE, ALLIE DAVIDSON, EUGENE C. DAVIDSON AND WIFE, GLADYS DAVIDSON, HUBERT DAVIDSON AND WIFE, ROSE DAVIDSON JOHN DAVIDSON AND WIFE, NANIE DAVIDSON, DONALD DAVIDSON (SINGLE), with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed. Allie Davidson, Jordie Carl Ford, Clara Davidson Dowlin, D. H. Dowlin

Witness my hand and official seal at office on this 15 day of February, 1956.

R. H. Wallenburger
Notary Public.

Commission Expires: Jan. 9, 1960

STATE OF OHIO

COUNTY OF WARREN

Personally appeared before me, Ethel Anderson, a Notary Public in and for said County and State, the within named bargainors, CAPSON DAVIDSON AND WIFE, MERLENE DAVIDSON, 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 17 day of ~~February~~ MARCH, 1956.

Ethel Anderson
Notary Public.

Commission Expires: Sept. 9, 1956

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, CLARA DAVIDSON BOLDEN and husband, D. H. BOLDEN, 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 _____ day of February, 1956.

_____
Notary Public.

Commission Expires:

STATE OF TENNESSEE

GREENE COUNTY

Personally appeared before me, _____, a Notary Public in and for said County and State, the within named bargainors, LILLIE DAVIDSON FORD AND HUSBAND CARL FORD, 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 _____ day of February, 1956.

_____
Notary Public.

Commission Expires:

STATE OF MICHIGAN

COUNTY OF MONROE

Personally appeared before me, Arnold E. Hopkins, a Notary Public in and for said County and State, the within named bargainors, ETHEL DAVIDSON COFFEE AND HUSBAND TYSON COFFEE, MARIE DAVIDSON COFFEE AND HUSBAND HAYDEN COFFEE, with whom I am personally acquainted, and who acknowledged that they executed the foregoing Contract and Agreement for the purposes therein contained and expressed. Ethel Davidson Coffee, Marie Davidson Coffee

Witness my hand and official seal at office on this 1st day of ~~February,~~ MARCH 1956.

Arnold E. Hopkins
Notary Public.

Commission Expires: Nov. 13, 1957

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 August 1952, by and between WOODROW DAVIDSON, (SINGLE), and LOUISIANA DAVIDSON (WIDOW), of Grainger 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 August 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 Fourth Civil District of Grainger County, Tennessee, being the homeplace of the Owners and where they reside, containing 92 acres, more or less, and bounded generally as follows:

August 27, 1952 to Aug. 27, 1957.
Option for purchase minerals & mineral rights
and rental of surface rights

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

On the North by the lands of Hole, Wolfenberger and Coffee;
On the East by the lands of Jernigan, Harvel, Coffee and Lane;
On the South by the lands of Hatfield; and Halliganty; and
On the West by the lands of Halliobat.

The Owners acquired title by Will of Calhoun Larkins duly probated in Grainger County, Tennessee in the County Court Clerk's office in Will Book _____, Page _____, to which reference is hereby 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 thereof, the Owners and parties of the first part have hereunto set their signatures the day and year first above written.

Woodrow Davidson
Woodrow Davidson.

Louisiana Davidson
Louisiana Davidson.

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

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, Ben S. Catlett, a Notary Public in and for said County and State, the within named bargainors, ALFRED DAVIDSON (WINNIE) AND LOUISIANA DAVIDSON, (WIDOW), 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 Grainger County, Tennessee on this 27th day of August 1952.

Ben S. Catlett
Notary Public.

Commission expires 4-6-54.

Qualified in Grainger 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.

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 28th day of January, 1956, by and between ROBERT MALLICOAT and wife, CORA MALLICOAT, of Grainger 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.

Option to purchase Jan 28, 1956 — Jan. 28, 1959
Minerals + mineral rights
1 Parcel 3½ acres of land + buildings
Paid $1.00

WITNESSETH

That for and in consideration of the sum of ONE ($1.00) DOLLAR and other good and valuable consideration in hand paid, the receipt of which is hereby acknowledged, the parties of the first part grant 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 exceed beyond January 28, 1959, 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:

SITUATED in the Fourth Civil District of Grainger County, Tennessee, and in what is known as Clinch Valley, adjoining the lands of J. H. Coffey on the South; Jack Coffey on the North, J. M. Davidson adjoins on the West, and Willis Hardell and others on the East, and more particularly described as follows:

BEGINNING on a set stone at a fence post on the North side of Clinch Valley Pike Road, in Roy Davidson's line; thence running S. 22-30' East crossing said highway or pike, 383 feet to corner with said Roy (J. R.)Davidson; thence S. 82-30' E. 216 feet; S. 65-30 E. 318 feet; S. 71' E. 30 feet; S. 54-45 East 135 feet S. 79; 30 E. 172 feet; S. 72-45' 351 feet, S. 65' E. 132 feet (the calls since last corner is along a road) to a cedar; thence N. 69-00' E. 528 feet to a cedar, corner with J. Z. Coffey; thence N. 30' E. 66 feet to a stake; thence N. 6-45' E. 83 feet to a stake; thence N. 4-30' E. 739 feet to an Ash, corner with Willis Hatfield and J. Z. Coffey; thence N. 32' W. 350 feet to a point on south side of Clinch Valley Pike; thence crossing said road or pike 42 feet, N. 22' W. 739 feet to a stake, corner with Clyde Davidson and Willis Hatfield; thence S. 60-30' W. 644 feet to a stake, corner with said Davidson; thence N. 23-30' W. 2008 feet to the center of public road on Copper Ridge; thence running with the meanders of said road, S. 58' W. 223 feet; S. 84-15' W. 152 feet; N. 84-35' W. 182 feet and S. 73' W. 206 feet to corner with said Clyde Davidson; thence N. 22' W. 1859 feet to a Dogwood and rock corner with Clyde Davidson, in Jack Coffey's line; thence S. 48-30' W. 606 feet to a set stone, corner with Roy Davidson on the North side of Copper Ridge; thence S. 23-00' E. 3359 feet to a forked cedar in Roy Davidson's line; thence S. 82-30' E. 792 feet to a cedar; thence S. 44-30 W. 241 feet to a set stone at a fence post; thence S. 22-30 E. 227 feet to the point of BEGINNING, containing 131.63 acres.

Owners acquired title to the above described premises by Deed of Lucy E. Dalton, et al., dated May 25, 1945, and Recorded in Deed Book 74, Page 213, and Deed Book 79, Page 148, Register's Office for Grainger County, Tennessee to which deeds 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 an area of approximately 3-1/2 acres of the surface 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 rock 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 [redacted]

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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 large.

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 hands, on the day and year first above written.

Robert Mallicoat
ROBERT MALLICOAT.

Cora Mallicoat
CORA MALLICOAT.

STATE OF TENNESSEE

CHAMPION COUNTY

Personally appeared before me, Ben S. Cattell, a Notary Public in and for said County and State, the within named bargainors, ROBERT MALLICOAT AND WIFE, CORA MALLICOAT, 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. Cattell
NOTARY PUBLIC.

My commission expires 4-16-58

Recorded Taylor Lawson Young
under the provisions of Tennessee
Code, Section 5-1601 et seq.

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

Aug. 15, 1956 – Aug. 15, 1957
Option to purchase carbonate & zinc
& purchase all of sulphide ore, ores

CONTRACT AND AGREEMENT

THIS CONTRACT AND AGREEMENT made and entered into on this 15th day of August, 1956, by and between Mrs. DON DALTON, and wife, DELTA DALTON, of Grainger 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.

WITNESSETH

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 three years from the date hereof, said period expiring on August 15, 1959, the exclusive right and option to purchase all minerals, metals, ores, ore-bearing minerals, and rocks of any kind, including limestone, in, under or on the following described premises:

SITUATE in the North Civil District of Grainger County, Tennessee, containing 12 acres, more or less and bounded generally as follows:

> On the North by the lands of David Hall;
> On the East by the lands of Carlie Lane;
> On the South by the lands of Carlie Lane; and
> On the West by the lands of C. J. Marville; and the New Jersey Zinc Company (formerly Ethan Coffey).

Owners acquired title to the above described property by deed of _____, dated _____ of record in the Register's Office for Grainger County, Tennessee, in Deed Book _____, Page _____.

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, 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 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.

Nelson Walker

Della Walker

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

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, [illegible] a Notary Public in and for said County and State, the within named bargainors, NELSON DALTON AND WIFE, DELTA DALTON, 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 [illegible] day of August, 1956.

[illegible]
Notary Public

Commission Expires: [illegible]

Qualified in [illegible] County
under the Provisions of Tennessee
Code, Section 16-1609, et seq.

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

THIS INSTRUMENT made and entered into on this 6th day of July, 1955, by and between CARLIE LANE and wife, LOIS LANE, of Grainger 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, the following described premises:

SITUATE in the Fourth Civil District of Grainger County, Tennessee, adjoining the lands of The New Jersey Zinc Company (formerly Alum Coffey), Nelson Dalton, and the remaining lands of Carlie Lane, on Cedar Springs Creek, and more particularly described as follows:

For Sample
A. 3 Acres

139 acres
Sold mineral rights
to N.J.Z.

BEGINNING in the center of the Old County Road opposite a 13 inch Elm, corner to Carlie Lane and to The New Jersey Zinc Company (formerly Elum Coffey); thence with the line of the remaining lands of Carlie Lane first, S. 12-53 E. 461.0 feet to a concrete marker; thence N. 57-27 E. 288.8 feet to an iron pin; thence N. 31-25 E. 299.2 feet to the center of Cedar Springs Creek opposite a 25 inch white oak corner to remaining lands of Carlie Lane and to Nelson Dalton; thence with the line of Dalton, along the center of said Creek, first, N. 51-15 W. 167.4 feet to the center of the bridge; thence N. 41-01 W. 147.4 feet to the center of the old County Road, corner to The New Jersey Zinc Company (formerly Elum Coffey) and to Nelson Dalton; thence with the center of said Road and with the line of The New Jersey Zinc Company, first, S. 61-01 W. 30.7 feet; thence S. 83-31 W. 83.3 feet; thence S. 64-18 W. 55.8 feet; thence S. 52-16 W. 65.4 feet; thence S. 04-49 W. 9.5 feet; thence S. 38-15 W. 101.0 feet to the BEGINNING containing 4.3 acres, more or less.

Being a part of the property conveyed to Carlie Lane and wife, Lois Lane by Deed of James N. Dalton and wife, dated February 26, 1948, of record in the Register's Office for Grainger County in Deed Book 77, Page 205.

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 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

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rocks of any kind, including limestone, in, under or upon the following described premises:

SITUATE in the Fourth Civil District of Grainger County, Tennessee, adjoining the tract of land above described, the lands of The New Jersey Zinc Company (formerly Elum Coffey), Nelson Dalton, David Holt, J. R. Davidson Heirs, Cedar Springs Church, Seth Holt, Tom Davidson Heirs, Willis Hatfield, Woodrow Davidson, and possibly others, and more particularly described as follows:

BEGINNING at a gate in the center of the Old County Road, corner to Woodrow Davidson and The New Jersey Zinc Company (formerly Elum Coffey); thence with the line of the New Jersey Zinc Company along the center of said road, first, N. 52-25 E. 51.5 feet; thence N. 47-56 E. 51.0 feet; thence N. 25-20 E. 56.5 feet; thence N. 35-31 E. 171.1 feet; thence N. 31-32 E. 161.6 feet; thence N. 24-26 E. 194.3 feet; thence N. 31-22 E. 102.0 feet; thence N. 38-15 E. 83.9 feet to corner to The New Jersey Zinc Company, opposite a 13 inch Elm; thence leaving said road and with the line of the tract of land above described S. 12-53 E. 461.0 feet to a concrete marker; thence N. 57-27 E. 288.8 feet to an iron pin; thence N. 81-25 E. 299.2 feet to the center of Cedar Springs Creek, opposite a 25 inch white oak corner to Nelson Dalton; thence with the line of Nelson Dalton, first, N. 21-25 E. 197.2 feet; thence N. 14-23 W. 130.1 feet to a 13 inch oak; thence N. 18-58 W. 148.6 feet to a 14 inch oak; thence N. 04-16 E. 852.3 feet to a 33 inch oak; thence N. 03-28 E. 657.9 feet to the center of the Road opposite a marked Beech, corner to Dalton and to David Holt; thence with the line of Holt N. 00-22 E. 198.7 feet to the center of the Branch; thence along said Branch N. 68-16 E. 91.8 feet to corner to Holt and to the J. R. Davidson Heirs; thence leaving said Branch and with the line of the Davidson Heirs, first S. 14-45 E. 81.7 feet

to the center of the Road; thence S. 10-49 E. 1167.9 feet to a 20 inch oak; thence S. 15-03 E. 220.6 feet to a 29 inch oak; thence S. 26-39 E. 992.9 feet to the center of a bridge; thence along the center of the Road, S. 58-14 W. 54.7 feet; thence S. 67-05 W. 68.1 feet; thence S. 50-54 W. 56.4 feet; thence S. 24-21 W. 51.9 feet to corner to the Davidson Heirs and to the Cedar Springs Church lot; thence around said Church lot N. 46-44 W. 130.6 feet to a 15 inch walnut; thence S. 55-18 W. 137.2 feet to the center of the Road; thence along the center of said road, S. 31-40 E. 43.2 feet; thence S. 38-45 E. 83.2 feet; thence S. 49-09 E. 105.6 feet to corner to said Church lot and to the J. R. Davidson Heirs; thence with the line of the Davidson Heirs, along the center of said road, first, S. 54-26 E. 243.8 feet; thence S. 37-02 E. 197.3 feet; thence S. 27-05 E. 69.9 feet, thence S. 56-16 E. 41.2 feet; thence S. 52-15 E. 124.8 feet; thence leaving said Road, N. 29-43 E. 56.9 feet to a 42 inch oak; thence along a wire fence, first, N. 45-17 E. 141.6 feet; thence N. 66-43 E. 65.5 feet; thence N. 68-01 E. 396.7 feet to a fence corner; thence with the line of the Davidson Heirs and Seth Holt, S. 21-28 E. 206.3 feet; thence S. 19-13 E. 1225.0 feet to the center of the Clinch Valley Road; thence with the line of Holt, along the center of a road, first, S. 23-16 E. 56.7 feet; thence S. 00-40 E. 17.3 feet; thence S. 04-28 W. 24.4 feet; thence S. 14-26 E. 24.5 feet; thence S. 38-01 E. 187.9 feet; thence S. 32-36 E. 40.8 feet; thence S. 21-07 E. 118.2 feet; thence S. 25-57 E. 71.5 feet; thence S. 08-01 E. 153.5 feet; thence S. 02-14 E. 30.7 feet; thence S. 01-46 W. 71.2 feet; thence S. 12-13 W. 35.9 feet; thence S. 21-29 W. 69.6 feet; thence S. 00-27 E. 37.6 feet; thence S. 12-16 E. 122.0 feet to corner to Seth Holt and to the Tom Davidson Heirs; thence leaving said Road, and with the line of the Tom Davidson Heirs, first, N. 89-45 W. 47.0 feet; thence along a wire fence, N. 89-48 W. 1203.4 feet to a fence corner, corner to the Tom Davidson Heirs and to Willis Hatfield; thence with the line of Hatfield, along a wire fence, first, N. 26-38 W. 552.5 feet to the center of Clinch Valley Road; thence N. 27-08 W. 518.7 feet; thence N. 27-22 W. 634.1 feet; thence S. 60-07 W. 891.3 feet to a fence corner, corner to Hatfield and to Woodrow Davidson; thence with the line of Woodrow Davidson, along a wire fence N. 29-05 W. 1409.1 feet to the BEGINNING, containing 139.4 acres, more or less.

Being a portion of the property conveyed to Carlie Lane and wife, Lois Lane by Deed of James N. Dalton and wife, dated February 26, 1948 and of Record in the Register's Office for Grainger County, Tennessee in Deed Book 77, Page 205.

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, 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 that portion of the above described premises, title to which the Zinc 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.

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 property, rights, and interests, that they have a good and lawful right to sell and convey the same, that the same is clear and unencumbered, 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.

Carlie Lane
Carlie Lane

Lois Lane
Lois Lane.

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, Ben S. Cattett a Notary Public in and for said County and State, the within named bargainors, CARLIE LANE AND WIFE, LOIS LANE, 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 in Grainger County, Tennessee on this ~~6th~~ 20th day of July, 1955.

Ben S. Cattett
Notary Public.

Commission Expires: 4-16-58

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

ABSTRACTORS' CERTIFICATE OF TITLE

We hereby certify to THE NEW JERSEY ZINC COMPANY, that the Warranty Deed of ELUM COFFEY and wife, MARTHA HARVILLE COFFEY, dated April 23, 1955 and of Record in Deed Book 84, Page 455, Register's Office for Grainger County, Tennessee, in our opinion, vests in The New Jersey Zinc Company fee simple title to the premises therein described, free of all encumbrances, except as follows:

ENCUMBRANCES:

1. TAXES: 1955 Taxes, not due or payable until October 1, 1955. Grantors agree to pay said taxes, under the terms of the Warranty Deed.

2. OPTION CONTRACT : Executed to The New Jersey Zinc Exploration Company, dated April 30, 1952 and appearing of Record in Grainger County, Tennessee in the Register's Office, Mis. Book 14 Page 474. EXERCISED.
3. The right of way mentioned in the Warranty Deed above in favor of G. J. Harville has not been definitely located.

In Witness Whereof we hereby certify this 2nd day of May, 1955.

_____

_____
Attorneys.

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

WARRANTY DEED

This instrument made and entered into on this 23rd day of April, 1955, by and between ELUM COFFEY and wife, MARTHA HARVILLE COFFEY, parties of the first part, of Grainger 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, 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 or assigns, the following described real estate, to-wit:

SITUATE in the Fourth Civil District of Grainger County, Tennessee, adjoining the lands of C. J. Harville, Nelson Dalton, Carlie Lane and Woodrow Davidson and more particularly described as follows:

See Dwgs.

BEGINNING on a 5 inch poplar tree, Northwest corner of the land here conveyed, and corner to the lands of Woodrow Davidson and G. J. Harville; thence with the line of G. J. Harville N. 38-31 E. 1131.7 feet to a point in the Cedar Springs Creek near a 43 inch beech tree and in the line of Nelson Dalton; thence with the Cedar Springs Creek and the line of Nelson Dalton four courses as follows: S. 14-11 E. 224.0 feet; S. 32-43 E. 40.9 feet; S. 56-26 E. 96.6 feet; S. 41-41 E. 251.5 feet to a point in the center of said creek where an old county road, known as the Ridge Road, crosses said creek, and corner to the lands of Carlie Lane, and in the line of Nelson Dalton; thence with the center of said road, and the line of Carlie Lane, thirteen courses as follows: S. 61-01 W. 30.7 feet; S. 83-31 W. 83.3 feet; S. 64-18 W. 55.8 feet; S. 52-16 W. 65.4 feet; S. 04-49 W. 9.5 feet; S. 38-15 W. 184.9 feet; S. 31-22 W. 102.6 feet; S. 24-26 W. 194.3 feet; S. 31-32 W. 161.6 feet; S. 35 31 W. 171.1 feet, S. 25-20 W. 56.5 feet; S. 47-56 W. 31.0 feet; S. 32-23 W. 31.5 feet to a point in said road in the line of Woodrow Davidson; thence with the line of Woodrow Davidson N. 29-00 W. 581.6 feet to the point of BEGINNING, containing 10 acres, more or less.

Being the same property conveyed to Blum Coffey and wife, Martha Harville Coffey by Deed of Brownlow Harville, et al, dated January 8, 1951, recorded in the Register's Office for Grainger County, Tennessee in Deed Book 81, Page 219, to which reference is here made. Martha Harville Coffey inherited a 1/7 undivided interest in the above property at the death of her father, Lemuel Harville, deceased.

There is reserved unto the Grantors the crops now growing for the 1955 crop year on the above described premises, and the right to remove any buildings located on the premises for a period of sixty days from the date hereof.

TO HAVE AND TO HOLD unto the said party of the second part, its successors or assigns, in fee simple, forever.

And the parties of the first part covenant to and with the party of the second part that they are lawfully seized and possessed of said real estate, that they have a good and lawful right to sell and convey the same, that the same is clear and unencumbered, except a right of way formerly reserved to G. J. Harville, 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.

Elum Coffey

Elum Coffey.

Martha Harville Coffey

Martha Harville Coffey.

STATE OF TENNESSEE

GRAINGER COUNTY

Personally appeared before me, J. D. Kennedy, Jr. a Notary Public in and for said County and State, the within named bargainors, ELUM COFFEY AND WIFE, MARTHA HARVILLE COFFEY, 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 28th day of April, 1955.

J. D. Kennedy, Jr.

Notary Public.

Commission expires: April 20, 1957

Qualified in Grainger 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.

FINAL CERTIFICATE

We hereby certify to THE NEW JERSEY ZINC COMPANY, that the Warranty Deed of CARLIE LANE and wife, LOIS LANE, dated July 5, 1955 and of Record in Deed Book 85, Page 14, Register's Office, Grainger County, Tennessee, in our opinion, vests in The New Jersey Zinc Company fee simple title to the property, rights and interests therein described, free of all encumbrances, except as noted herein.

REFERENCE: ABSTRACTORS' CERTIFICATE OF TITLE TO THE LANDS OF CARLIE LANE AND WIFE, LOIS LANE, DATED AUGUST 1, 1955.

SCHEDULE 'B'

ENCUMBRANCES:

ITEM 1. TAXES: 1955 Taxes which are not due or payable until October 1, 1955.

ITEM 2. VENDORS LIEN: The lien retained in the Deed of James N. Dalton and wife to the Owners, appearing on Page 1 of the abstract, is released of record by Release of Hamilton National Bank of Morristown, Tennessee, dated August 10, 1955, recorded in Release Book 3, Page 320, the original of which is attached to this certificate.

ITEM 3, OPTION CONTRACT: To the New Jersey Zinc Exploration Company, dated July 25, 1950, recorded in Misc. Book 16, Page 2. EXERCISED.

ITEM 4. See the Mineral and Mining Leases on Pages 2, 13, and 34 of the original abstract.

The abstract of title to the lands of Carlie Lane and wife, Lois Lane, dated August 1, 1955 is continued and recertified to this date, and

the statements in the certificate of title of the same date are hereby made a part of this Final Certificate by reference thereto.

This 1st day of September, 1955.

_____

_____
Attorneys.

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

THE NEW JERSEY ZINC CO.
201.68 A.

MONK
WILKINSON (mineral rights)

PARKSON

W.C STAPLETON

FIELDS-COLLINS
NJZ M&M 234 A

Tentative Drilling Pattern

Tentative Pattern

Idol Mineralized Zone

BJ JACKSON

NJZ M&M 84.1 A

FRANK KINCAID
MRS C.D. TROBAUGH
M&M 233.33 A.
Purchase Contract
NJZ

TRACT 4
NJZ M&M 22.4 A

HOLT
NJZ 2/3
M&M

T.R

PLEAS DALTON 50.14 A.
NJZ (2/3 mineral rights)

W. COFFEY
NJZ M&M 20.91

H.H. WILMOTH
NJZ M&M 6.85 A

L. WOLFENBARGER
NJZ M&M 16.71

WALTER COFFEY

TRACT 3
NJZ M&M 125.32 A

TRACT 2
NJZ M&M 46.57 A

Mrs. H.G. Stapleton

TRACT 1
NJZ M&M 14.65

Frank Kincaid
Wilkerson Mineral Rts.

PROPERTY

NJZ - under opt.on

NJZ - owned in Fee Simple

Area of Proposed Addition
to DMEA Contract
Idm #-1071

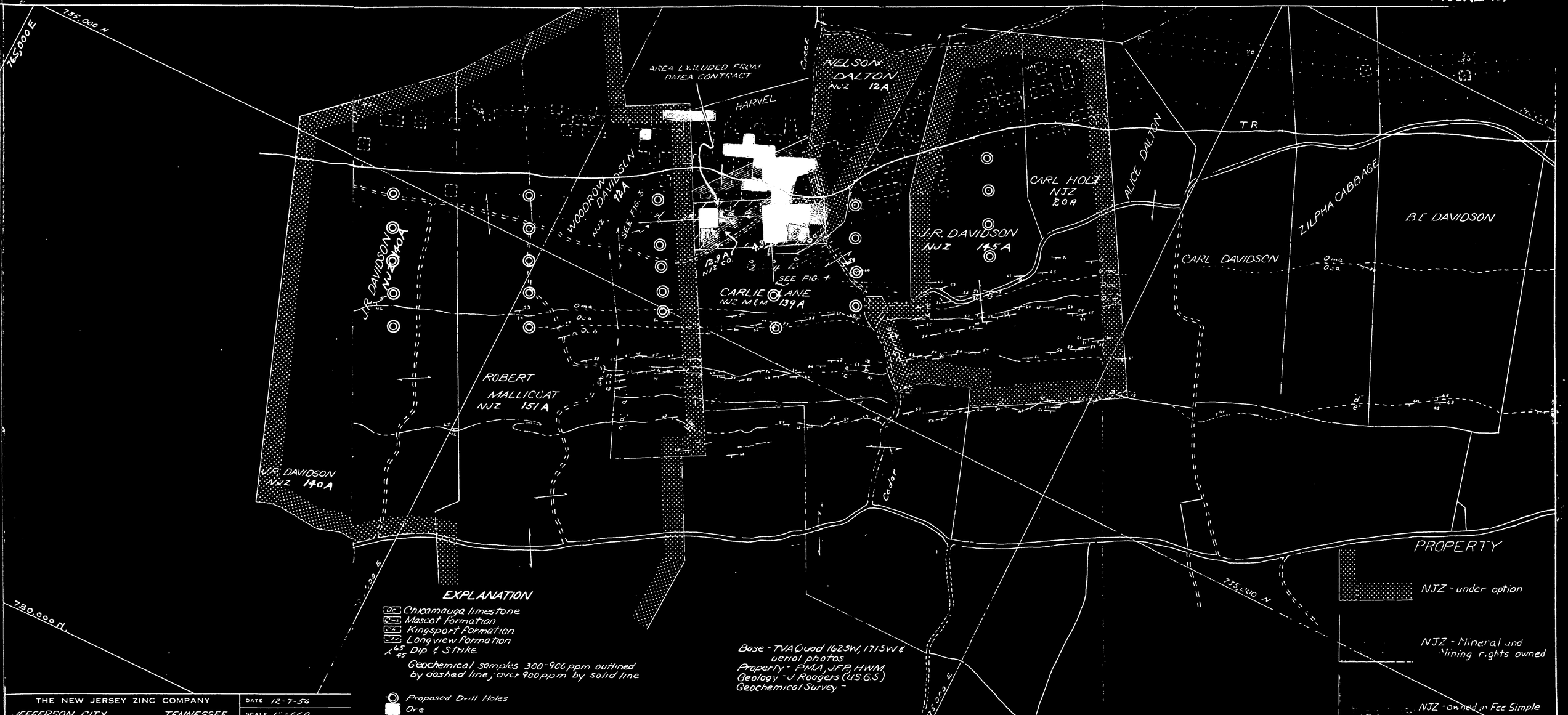
DMEA-4586

NJZ - Mineral and Mining Rights owned

Notes: Outside boundarys only are completely indicated by property status symbols.
Fractional interests are indicated by combination patterns.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN SJL, JFP DATE 2/17/53	COPPER RIDGE BELT	GRAINGER COUNTY, TENN.
5-30-53	ROGERSVILLE TENNESSEE	TRACED SCALE 1"=660'	SECTOR II SHEET 4SW	FILE NO. AX-TENN 106
7-56 TEW				
10-56 "				

FIGURE 3.



THE NEW JERSEY ZINC COMPANY
JEFFERSON CITY. TENNESSEE

DATE 12-7-56
SCALE 1" = 660

ARY OF J.R. DAVIDSON PROPERTY
RIDGE BELT SECTOR II AREA I

AX-TENN A 1227

RTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK. ALL RIGHTS OF DESIGN
T BE RETURNED TO THE NEW JERSEY ZINC COMPANY.

POSTED TO DATE
3-31-55
1-56 FEM

THE NEW JERSEY ZINC COMPANY
ROGERSVILLE DMEA-4586. TENNESSEE

DRAWN SJL, JFP DATE 2-14-52
TRACED SCALE 1" = 660'

COPPER RIDGE BELT
SECTOR II SHEET 35SW

GRAINGER COUNTY, TENN.
FILE NO. AX-TENN 105

U. S. Government Messenger Envelope

Standard Form No. 65 (Rev. 1/46)

1. Use blocks consecutively, one at
2. Void previous block.
3. Write clearly.

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
W. S. Martin Rm 3538	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP
	RUN STOP		RUN STOP

Send surplus envelopes to supply room for reissue.

Use other side

Use RUN and STOP only when messenger service between Government buildings in Washington is required. Your mail room has RUN and STOP information.

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM

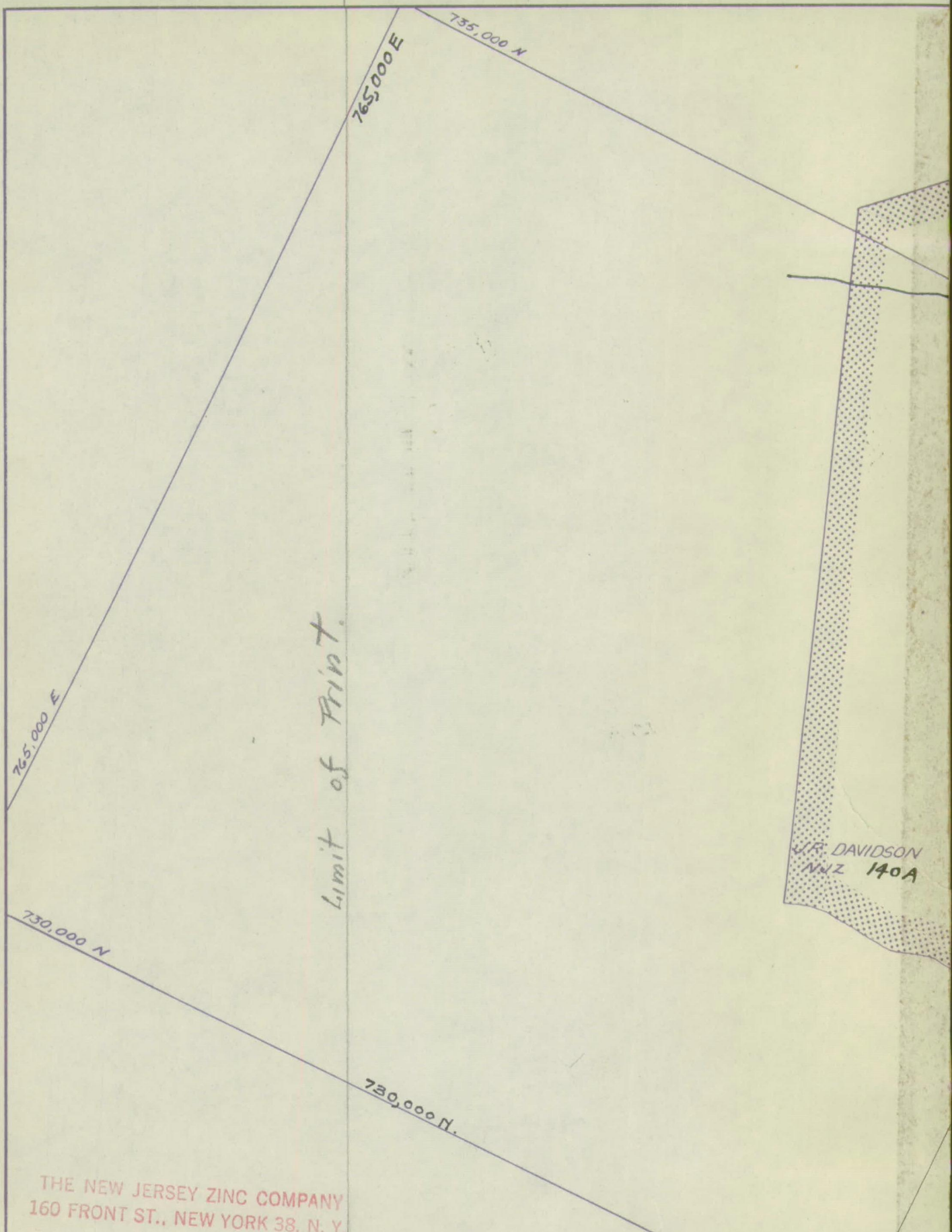
			RUN
			STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP
	RUN		RUN
	STOP		STOP

Use other side first

FIGURE 2.

POSTED TO DATE	THE NEW JERSEY ZINC COMPANY	DRAWN SJL, JFP DATE 2-14-52	COPPER RIDGE BELT	GRAINGER COUNTY, TENN.
3/31/53	ROGERSVILLE DMEA-4586. TENNESSEE	TRACED SCALE 1"=660'	SECTOR II SHEET 3SW	FILE NO. AX-TENN 105
1-56 TEW				

RECEIVED
DEC 27 1956
D.M.E.A.



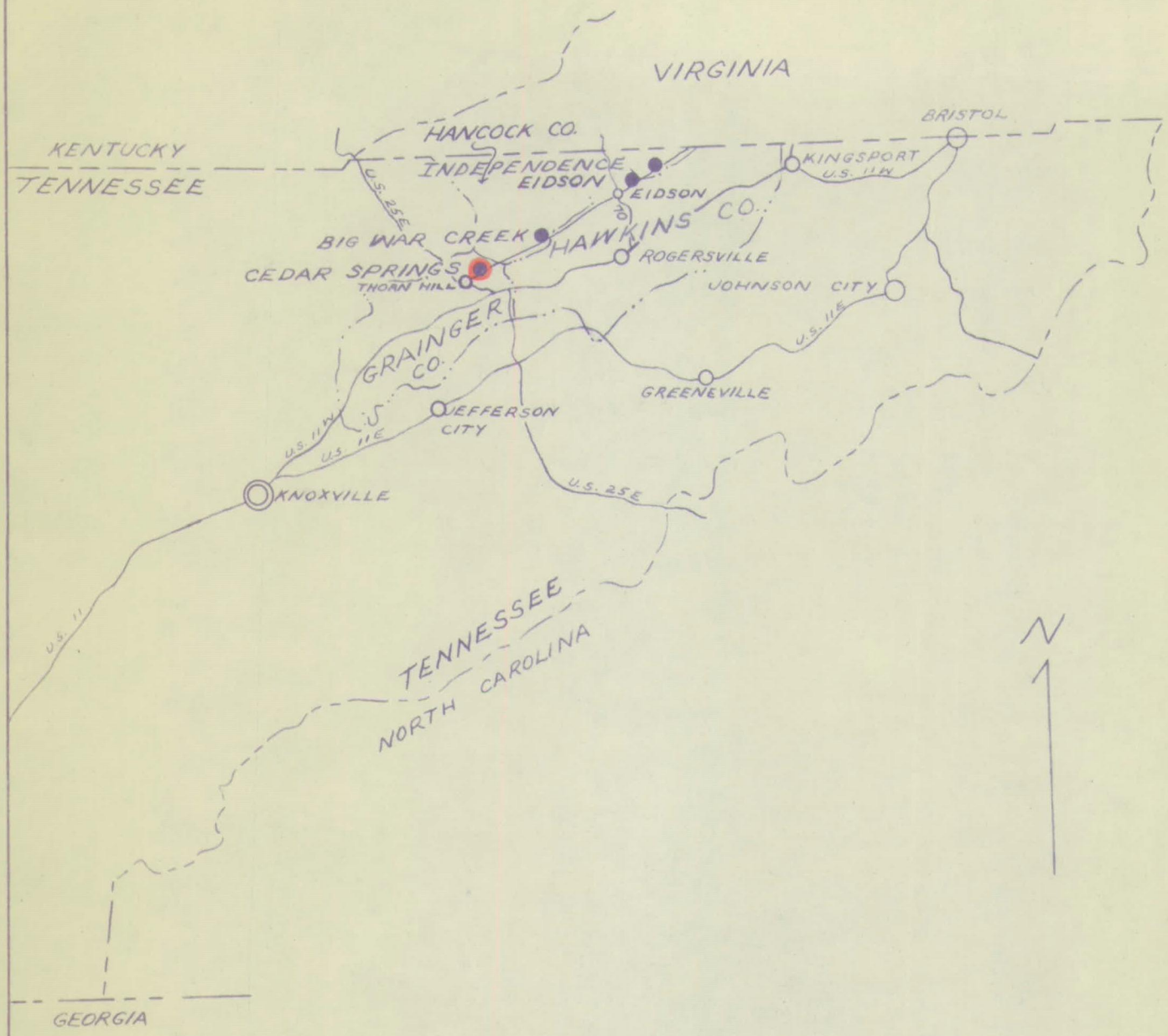
THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

DRAWN TEW	CHECKED	THE NEW JERSEY ZINC COMPANY	DATE 12-7-56
TRACED TEW	APPROVED	JEFFERSON CITY. TENNESSEE	SCALE 1" = 660
REVISED	SW BOUNDARY OF J.R. DAVIDSON PROPERTY COPPER RIDGE BELT SECTOR II AREA I		AX-TENN A 1227

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.

FULL SIZE

FIG. 1



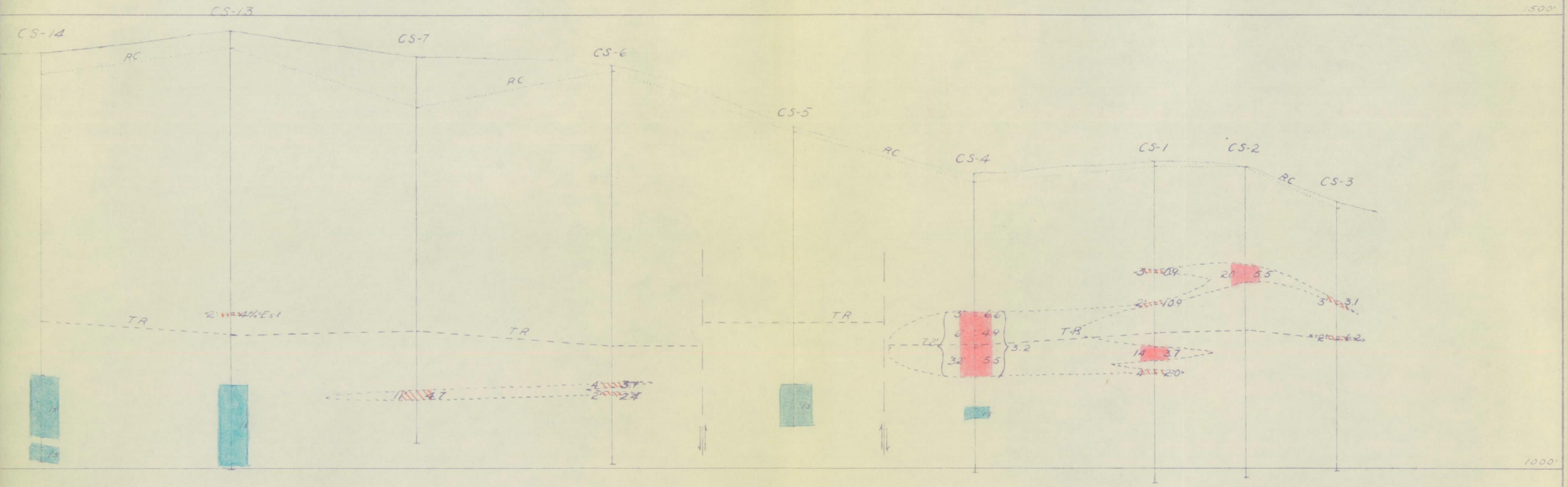
EXPLANATION

● - 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

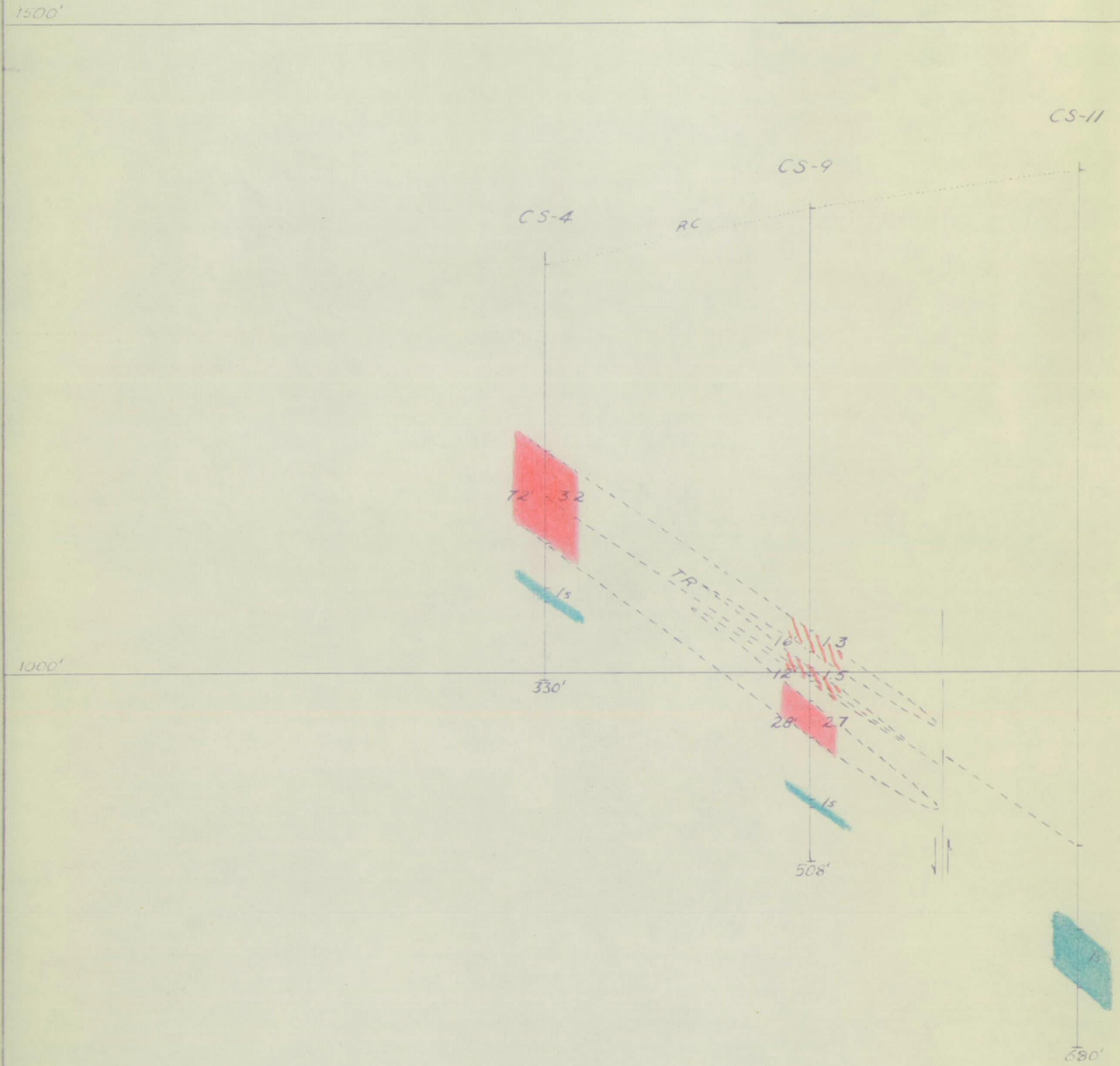


THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK 38, N. Y.

THE NEW JERSEY ZINC COMPANY
JEFFERSON CITY, TENNESSEE

DATE: 12-4-52	SCALE: 1" = 100'
LONGITUDINAL SECTION D.D. HOLES CS-14, 13, 7, 6, 5, 4, 1, 2, 3	
STATE: TENN.	SURVEY:
COUNTY: GRAINGER	GEOLOGY:
DISTRICT: COP RIDGE	DRAWN: SUL
AREA: H	TRACED:
REVISIONS:	FIG. 3
REFERENCES: AX-TENN 694	

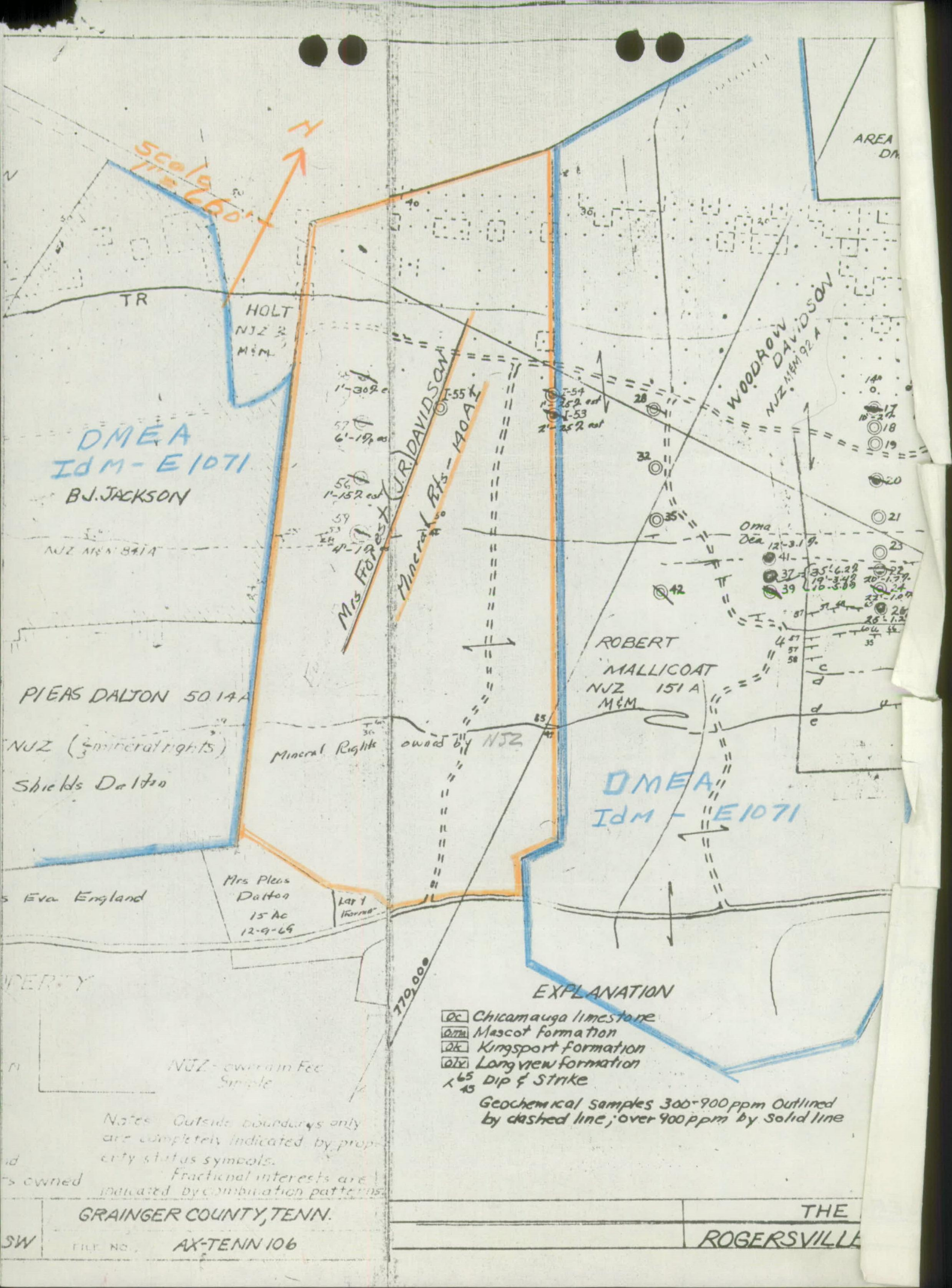
RECEIVED
DEC 27 1956
D.M.E.A.



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

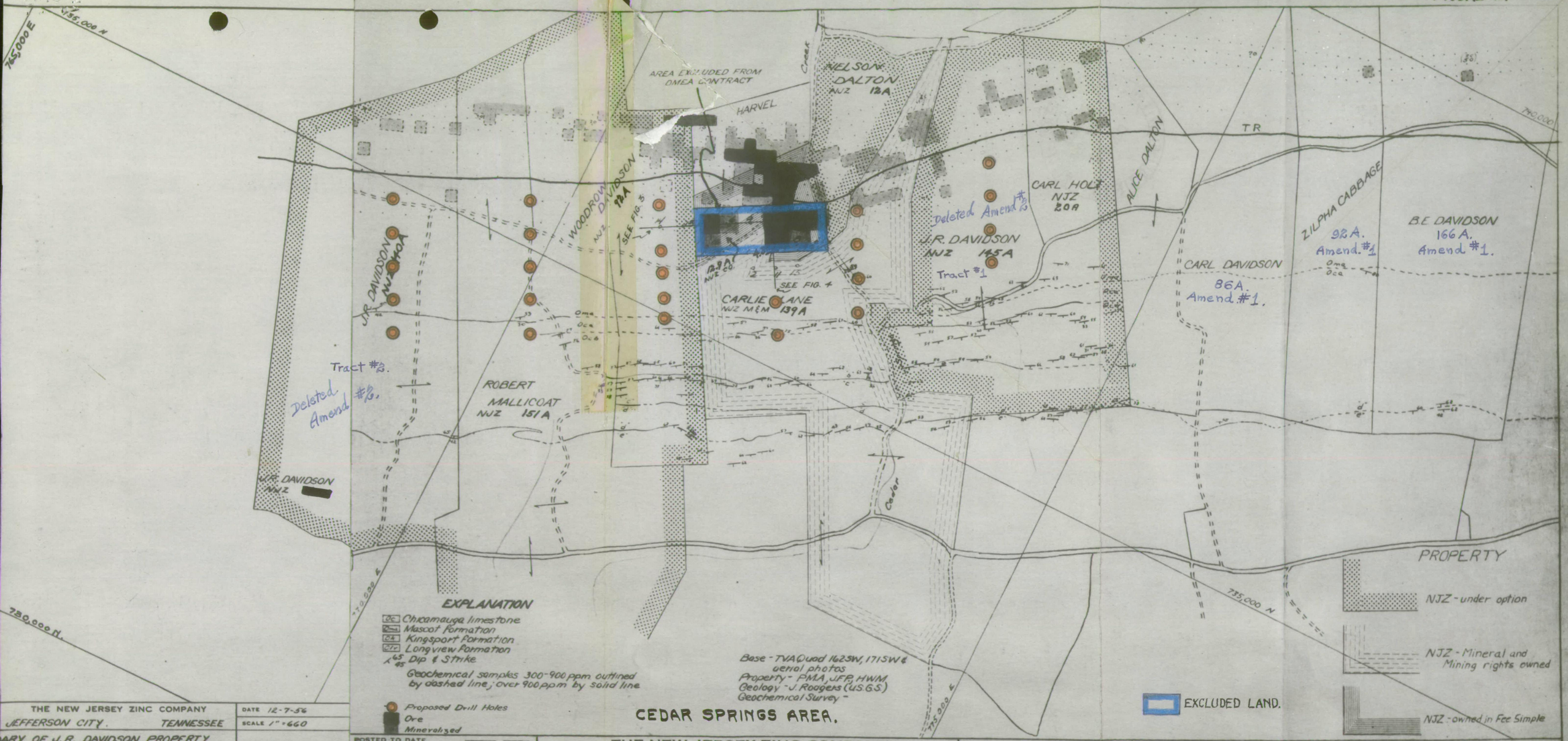
DATE: 12/17/52	SCALE: 1" - 100'
DIAMOND DRILL HOLES	
DIP SECTION	
STATE: Tennessee	SURVEY:
COUNTY:	GEOLOGY:
DISTRICT: Copper Ridge	DRAWN: S.I.I.
AREA: II - H	TRACED:
REVISIONS:	FIG. 4
REFERENCES:	

RECEIVED
DEC 27 1956
D.M.E.A.


Scale 1" = 660'
N
TR
HOLT
NJZ &
M&M
DMEA
IdM - E1071
B.J. JACKSON
NJZ M&M 84 A
Mrs Forest J.R. DAVIDSON
Mineral Rts - 140 A
WOODROW DAVIDSON
NJZ M&M 92 A
AREA
Oma Dea
ROBERT MALLICOAT
NJZ 151 A
M&M
PLEAS DALTON 50.14 A
NJZ (1/3 mineral rights)
Shields Dalton
Mineral Rights owned by NJZ
DMEA
IdM - E1071
Eva England
Mrs Pleas Dalton
15 Ac
12-9-69
770.00
EXPLANATION
Oc Chicamauga limestone
Omm Mascot formation
Ok Kingsport formation
Olv Longview formation
65/45 Dip & Strike
Geochemical samples 300-900 ppm outlined by dashed line; over 900 ppm by solid line
NJZ - owned in Fee Simple
Notes: Outside boundaries only are completely indicated by property status symbols.
Fractional interests are indicated by combination patterns.
GRAINGER COUNTY, TENN.
SW
FILE NO. AX-TENN 106
THE
ROGERSVILLE

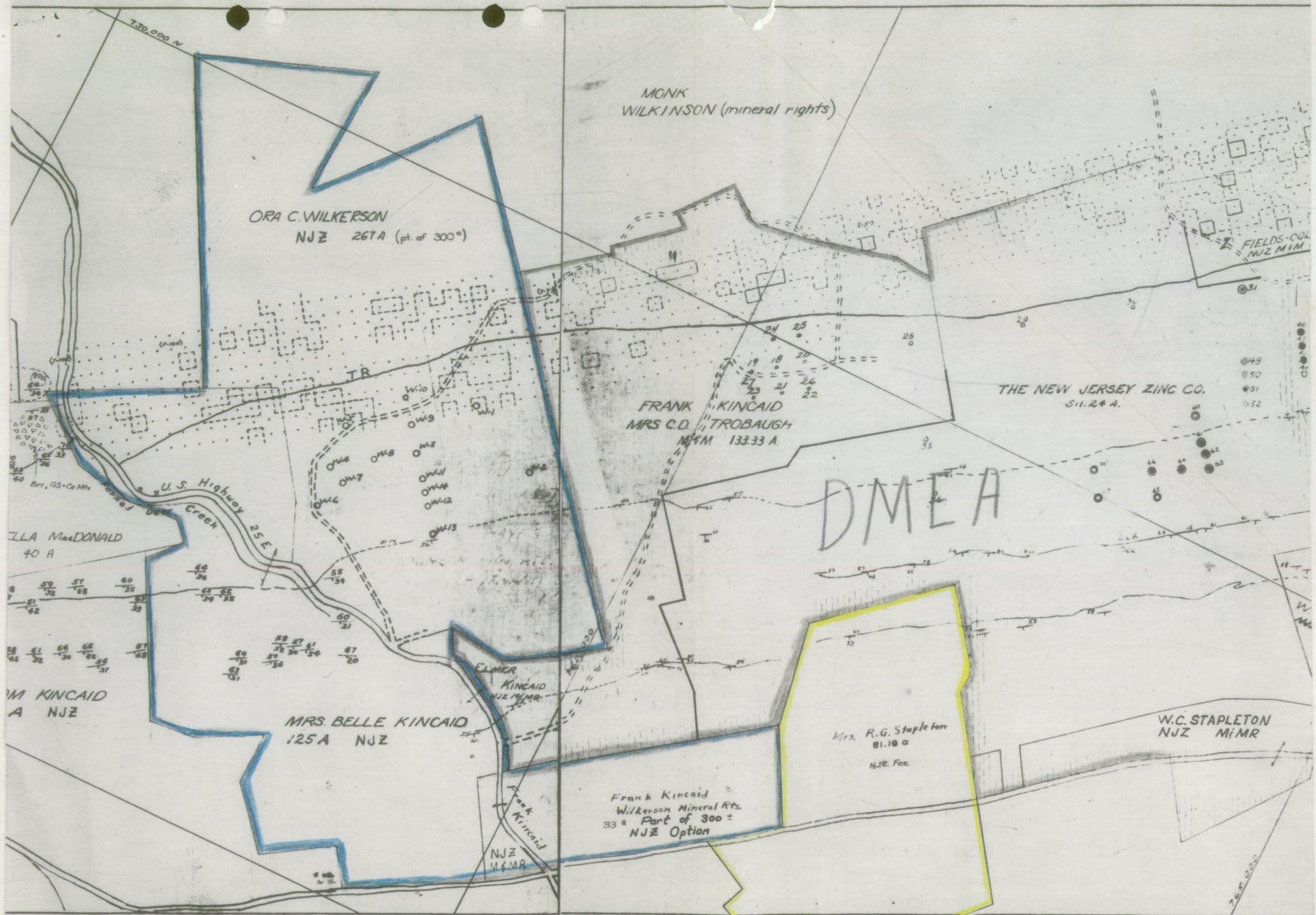
RECEIVED
MAY 13 1968
NEW JERSEY ZINC CO.
EXPLORATION DEPT.
NEW YORK

FIGURE 8.


765,000 E
735,000 N
AREA EXCLUDED FROM DMEA CONTRACT
HARVEL
Creek
NELSON DALTON NJZ 12A
TR
ALICE DALTON
CARL HOLT NJZ 20A
Deleted Amend #3
J.R. DAVIDSON NJZ 145A
Tract #1
WOODROW DAVIDSON NJZ 92A
SEE FIG. 5
J.R. DAVIDSON NJZ 40A
139A NJZ CO
SEE FIG. 4
CARLIE LANE NJZ M&M 139A
Tract #3.
Deleted Amend #3.
ROBERT MALLICOAT NJZ 151A
J.R. DAVIDSON NJZ
Cedar
CARL DAVIDSON 86A. Amend. #1.
ZILPHA CABBAGE 92A. Amend. #1
B.E. DAVIDSON 166A. Amend. #1.
780,000 N.
770,000 E
735,000 N
PROPERTY
NJZ - under option
NJZ - Mineral and Mining rights owned
NJZ - owned in Fee Simple
EXCLUDED LAND.
EXPLANATION
Oc Chickamauga limestone
Omg Mascot Formation
Ok Kingsport Formation
Olv Longview Formation
65/45 Dip & Strike
Geochemical samples 300-900 ppm outlined by dashed line; over 900 ppm by solid line
Proposed Drill Holes
Ore
Mineralized
Base - TVA Quad 16.23SW, 17.15SW & aerial photos
Property - PMA, JFP, HWM
Geology - J. Rodgers (U.S.G.S.)
Geochemical Survey -
CEDAR SPRINGS AREA.
THE NEW JERSEY ZINC COMPANY
JEFFERSON CITY. TENNESSEE
ARY OF J.R. DAVIDSON PROPERTY
RIDGE BELT SECTOR II AREA I
DATE 12-7-56
SCALE 1" = 660
AX-TENN A 1227
RTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK. ALL RIGHTS OF DESIGN
T BE RETURNED TO THE NEW JERSEY ZINC COMPANY.
POSTED TO DATE
3/31/53
1-56 TEN
THE NEW JERSEY ZINC COMPANY
ROGERSVILLE DMEA-4586. TENNESSEE
DRAWN SJL, JFP DATE 2-14-52
TRACED SCALE 1" = 660'
COPPER RIDGE BELT
SECTOR II SHEET 3SW
GRAINGER COUNTY, TENN.
FILE NO. AX-TENN 103

OFFICIAL FILE COPY
D M E A
RECEIVED APR 29 1957

DATE	INITIALS	CODE



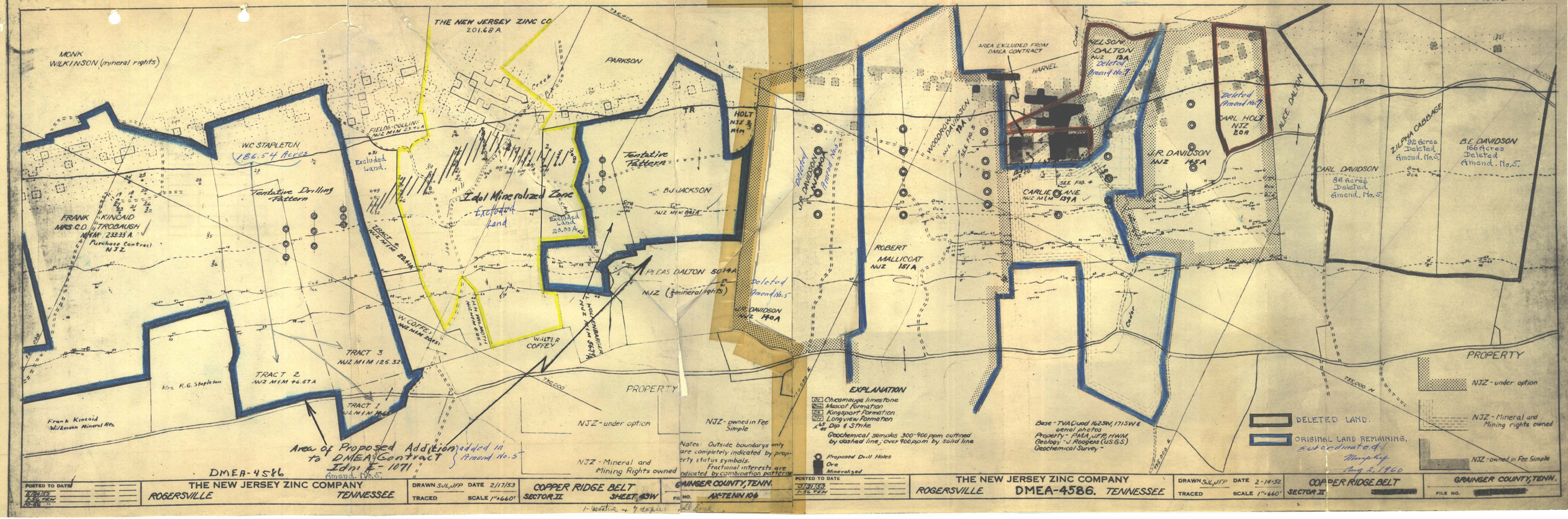
COPPER RIDGE BELT
SECTOR III SHEET 5SW

GRAINGER CO., TENN.
FILE NO. AX-TENN587

POSTED TO DATE
5/30/53
1-56 TEW
10-56 "
1/6/61

THE NEW JERSEY ZINC COMPANY
ROGERSVILLE TENNESSEE

FIGURE B.


THE NEW JERSEY ZINC CO
201.68 A.
MONK WILKINSON (mineral rights)
PARKSON
TR
HOLT NJZ ⅔ MIM
W.C. STAPLETON
186.54 Acres
FIELDS-COLLINS NJZ MIM 23.94 A
Excluded Land.
Tentative Drilling Pattern
Idol Mineralized Zone
Excluded Land
Excluded Land 23.00 A.
Tentative Pattern
B.J. JACKSON
NJZ MIM 88.1A
FRANK KINCAID
MRS. C.D. TROBAUGH
NJZ MIM 233.33 A
Purchase Contract NJZ
TRACT 4 NJZ MIM 28.4 M
PLEAS DALTON 50.14A
NJZ (⅓ mineral rights)
Deleted Amend No.5
J.R. DAVIDSON NJZ 140A
W. COFFEY NJZ MIM 24.85
WALTER COFFEY
TRACT 3 NJZ MIM 125.32
TRACT 2 NJZ MIM 46.67 A
TRACT 1 NJZ MIM 14.5
Mrs. R.G. Stapleton
Frank Kincaid Wilkinson Mineral Rts.
Area of Proposed Addition to DMEA Contract Idol E-1071 Amend. No.5
added in Amend No.5
DMEA-4586
PROPERTY
NJZ - under option
NJZ - owned in Fee Simple
NJZ - Mineral and Mining Rights owned
Notes: Outside boundarys only are completely indicated by property status symbols. Fractional interests are indicated by combination patterns
POSTED TO DATE
THE NEW JERSEY ZINC COMPANY
ROGERSVILLE TENNESSEE
DRAWN SJL, JFP DATE 2/17/53
TRACED SCALE 1"=660'
COPPER RIDGE BELT
SECTOR II
SHEET 63W
GRAINGER COUNTY, TENN.
FILE NO. AX-TENN 106
1-negative + 4 copies
AREA EXCLUDED FROM DMEA CONTRACT
HARVEL
NELSON DALTON NJZ 18A
Deleted Amend No.7
Deleted Amend No.7
CARL HOLT NJZ 20A
ALICE DALTON
TR
J.R. DAVIDSON NJZ 145A
CARLIE LANE NJZ MIM 139A
SEE FIG. 4
ROBERT MALLICOAT NJZ 161A
Deleted Amend No.5
J.R. DAVIDSON NJZ 140A
Deleted Amend No.5
CARL DAVIDSON 86 Acres Deleted Amend. No.5
ZILPHA CABBAGE 38 Acres Deleted Amend. No.5
B.E. DAVIDSON 166 Acres Deleted Amend. No.5
EXPLANATION
Chickamauga limestone
Mascot Formation
Kingsport Formation
Longview Formation
Dip & Strike
Geochemical samples 300-900 ppm outlined by dashed line, over 900 ppm by solid line
Proposed Drill Holes
Ore
Mineralized
Base - TVA Quad 162SW, 171SW & aerial photos
Property - PMA, JFP, HWM
Geology - J. Rodgers (U.S.G.S.)
Geochemical Survey -
DELETED LAND.
ORIGINAL LAND REMAINING.
Coordinated
Murphy
Aug 2, 1960
PROPERTY
NJZ - under option
NJZ - Mineral and Mining rights owned
NJZ - owned in Fee Simple
POSTED TO DATE
THE NEW JERSEY ZINC COMPANY
ROGERSVILLE DMEA-4586. TENNESSEE
DRAWN SJL, JFP DATE 2-14-52
TRACED SCALE 1"=660'
COPPER RIDGE BELT
SECTOR II
GRAINGER COUNTY, TENN.
FILE NO.